U.S. Department of Transportation
United States Coast Guard

Commandant
United States Coast Guard

2100 Second Street, S.W.
Washington, DC 20593-0001
Staff Symbol: G-MOR
Phone: (202) 267-0518

COMDTINST 16471.3

21 AUGUST 2000

COMMANDANT INSTRUCTION 16471.3

Subj: AREA CONTINGENCY PLAN ORGANIZATION, CONTENT, REVISION CYCLE, AND DISTRIBUTION

Ref:
(a) Volume IX – Marine Environmental Protection - Marine Safety Manual, COMDTINST M16000.14, Chapter 4, Preparedness
(b) Volume VI – Ports and Waterways Activities – Marine Safety Manual, COMDTINST M16000.11, Chapter 8, Coast Guard Fire Fighting Activities
(c) Contingency Preparedness Planning Manual, Volume I, Planning Doctrine and Policy, COMDTINST M3010.11B
(d) Spills of Nonfloating Oils – Risk and Response, Committee on Marine Transportation of Heavy Oils

1. PURPOSE. This Instruction provides guidance regarding the organization, content, revision cycle, and distribution of coastal and Great Lakes area contingency plans (ACPs) developed through the area committee process under the direction of Coast Guard Federal On-Scene Coordinators (FOSCs). The goal of these changes is to streamline ACPs and have them present salient response information in a consistent manner, facilitating the public and private response community members' ability to respond appropriately. The ACP's structure and organization are aligned with the Incident Command System (ICS), but designed to provide enough flexibility to accommodate local and regional needs while maintaining a level of national consistency.

DISTRIBUTION – SDL No. 136

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
A																										
B		8	10		1									2												
C					5						2			2												
D		2	1												1											
E															5											
F																										
G																										
H																										

NON-STANDARD DISTRIBUTION: * U.S. Environmental Protection Agency, Oil Program Center
* National Oceanic and Atmospheric Association, Office of Response and Restoration

2. ACTION.

a. Commandant (G-MOR), as program manager, shall coordinate the input of national level protocols and procedures and provide Area Contingency Plan guidance, clarification, and programmatic oversight as appropriate.

b. Area commanders shall ensure that district commanders review, exercise, and promulgate ACPs as per the guidance provided by this Instruction.

c. District commanders shall provide regional level ACP guidance and develop procedures for formal ACP review submissions within their jurisdictions to ensure approval by 1 October 2005, and triennially thereafter.

d. Commanding officers of national strike force units shall review and maintain on file a current copy of each ACP within their area of responsibility (AOR).

e. Commanding officers of marine safety offices (MSOs) and captains of the port (COTP) who oversee development of ACPs shall direct revision of ACPs consistent with the guidance provided in this Instruction.

3. DIRECTIVES AFFECTED. The ACP organization and revision cycle provided for in reference (a) and (c) is amended by this Instruction.

4. BACKGROUND.

f. Area contingency plans are required to contain sufficient guidance to ensure activities directed by FOSCs are conducted in compliance with applicable statutes and regulations. Area committee membership, responsibilities, and the content of ACPs are addressed in Section 311(j)(4) of the Federal Water Pollution Control Act (FWPCA), as amended by the Clean Water Act (CWA) and the Oil Pollution Act (OPA). Each area committee, under the direction of the FOSC for the area, is to prepare and submit an area contingency plan that shall —

(1) be implemented in conjunction with the National Contingency Plan (NCP), be adequate to guide actions to remove a worst case discharge, and to mitigate or prevent a substantial threat of such a discharge, from a vessel operating in or near the area, offshore facility, or onshore facility;

(2) describe the area covered by the plan, including the areas of special economic or environmental importance;

(3) describe responsibilities of an owner or operator and of federal, state, and local agencies in removing, mitigating, or preventing a substantial threat of a discharge;

(4) list the equipment (including fire fighting equipment), dispersants or other mitigating substances and devices, and personnel available to an owner or operator and Federal, State and local agencies;

(5) describe the procedures to be followed for obtaining an expedited decision regarding the use of dispersants; and,

(6) describe in detail how the plan is integrated with other area contingency plans and vessel, offshore facility, and onshore facility response plans

b. Regulations promulgating area committee responsibilities are delineated in the NCP (Title 40 Code of Federal Regulations Part 300). Response actions are to be carried out in consultation with the appropriate RRTs, Coast Guard District Response Groups (DRGs), the NSFCC, Scientific Support Coordinators (SSCs), wildlife trustees, Local Emergency Planning Committees (LEPCs), and State Emergency Response Commissions (SERCs).

5. DISCUSSION:

a. Since the publication of reference (a), plan improvements have been identified through incidents, exercises, and lessons learned. This Instruction prescribes changes to existing ACPs, and establishes the required organization, content, revision cycle, and distribution practices for coastal and Great Lakes ACPs. The objective is to improve the ACP's utility as a response tool and facilitate integration with appropriate governmental and non-governmental planning requirements. This will be accomplished through establishment of a functionally organized plan, focused on essential response information and minimizing the amount of support documentation. The functional grouping of the plan has been chosen to parallel the National Interagency Incident Management System (NIIMS) based Incident Command System (ICS) (i.e., Command, Operations, Planning, Logistics, Finance & Administration). While it is recognized that ICS is a response management structure and not a plan format, the utility of the plan as a "go to" response document will be enhanced by aligning the plan's format with the desired response management organization.

b. Portions of the plan lend themselves to development at the national and regional levels. Generally speaking, this includes the national and regional policies, procedures and protocols associated with issues that extend beyond the scope of the local area committee. The national perspective on issues such as the Commandant's policy on use of public versus private resources, compliance policy with respect to the Endangered Species Act and the protection of historic properties, fund access and cost documentation procedures, all appropriately need to be articulated to the area committees. Equally significant are regionally based responsibilities such as the approval, monitoring and decision protocols associated with disperants and *in situ* burn response alternatives. To maintain consistency and relieve some of the burden placed

on area committees to independently collect this information, input shall be distilled and provided to the field by the responsible national or regional level. Area committees may insert this response information directly into their plan, or customize it to suit their local needs so long as it is consistent with the parameters set forth in this instruction.

c. The following sub-paragraphs address specific issues related to ACP organization, content, revision cycle, publishing and distribution.

(1) Format: Enclosures (1) and (2) delineate plan content, sequence, and the desired national organizational structure of the coastal and Great Lakes ACPs. Text portions are numbered for easier identification and compatibility with electronic format. Area contingency plans shall be organized so that section names, numbers and sequence mirror enclosure (1) down through the first two hierarchical levels (i.e., the thousand and hundred series). This requirement will allow plan users to easily locate information from within coastal and Great Lakes ACPs, and permits predictable citation and reference among different coastal and Great Lakes plans. Should area committees wish to propose improvements or alternatives to this national format, they may contact Commandant (G-MOR). To improve plan management, publishing and distribution, a generic "ICS format" template will be provided in Standard Workstation III word processing software along with user instructions to aid with this format transition.

(a) *Section Names and Numbers*: The first level of plan organization divides the plan into major sections: Introduction, Command, Operations, Planning, Logistics, Finance/Administration, and Appendices. These major sections are given whole, thousand series numbers (e.g. section 1000 is Introduction, 2000 is Command, etc.). The next level below the major sections are assigned hundred series numbers (e.g., 3100 is Operations Section Organization, 3200 is Recovery and Protection). Enclosure (1) reflects the required organizationally structured plan framework. How specific information is organized below a hundred level is left to the discretion of the area committee.

(b) *Section Content*: Enclosure (2) is provided as an example Table of Contents that has been fleshed out with suggested refinements that may be expanded upon below the hundred series. Information to be placed below the hundred series must be consistent with information potentially used by that section or branch. Liberal referencing or hyper-links to pertinent source information is preferred over re-paraphrasing existing documents whenever possible.

(c) *Reserved/Open Sub-Sections*: Under every major thousand-level section, an entire hundred series section has been reserved for the area committee or the cognizant Coast Guard district's (i.e., X900) discretionary use. Information identified and placed under this reserved section shall not contain information

that would appropriately fit under any of the identified mandatory section headings. This reserved sub-section is set aside to allow flexibility for area committees and districts to accord special nuances and unanticipated circumstances.

(d) *Regional flexibility:* To accommodate the variability of local and regional circumstances, a degree of flexibility is allowed for within the plan's numeric architecture. As shown in enclosure (2), below the hundred level of the ACP's numeric format, area committees have discretionary influence over how information is exhibited, provided it is consistent with the section in which it lies.

(2) Plan Revision Schedule: Revisions required by this instruction shall be completed by the 2005 planning cycle (FY 2005). After 2005, plans will undergo a triennial plan review cycle as shown in enclosure (3). This cycle will correspond with the National Preparedness for Response Exercise Program (PREP) schedule that requires a major exercise of the entire plan every three years. After a PREP exercise, the lessons learned should be incorporated into a major update and re-promulgation of the ACP. In between PREP exercises, the ACP should be reviewed annually for minor changes, such as points of contact and phone numbers. A change should be entered for this information; however, a complete re-promulgation is not required. Training and drills carried out in between these yearly reviews should identify these changes.

(3) Plan Review, Approval and Distribution: District commanders shall receive ACPs for formal review through procedures developed by the district commander and according to the schedule established in this Instruction. The ACP review process shall verify consistency with applicable statutes in accordance with 40 CFR 300.210 (c) and relevant programmatic guidance. Prior to returning a reviewed plan, district (m) is responsible for ensuring that the NSFCC and the RRT are provided an opportunity to comment. The NSFCC shall be consulted with to ensure that identified strike force capabilities and operational procedures are accurate. RRTs should be asked to examine ACPs focusing attention on interagency coordination, use of alternate response techniques, and regional asset coordination issues. After consideration of any timely comments received from the NSFCC or RRT, district (m) shall either recommend that the district commander return the plan for implementation, or return it to the area committee, identifying specific deficiencies along with recommendations for corrective actions. In addition to distribution among area committee members and other entities designated by the area committee, a copy of each plan shall be made available to Commandant (G-MOR), the NSFCC, and the NSF team providing regional support to that coastal or Great Lake area. Electronic copies on a compact disc are acceptable. Following review, plans and/or plan changes shall be distributed by the district according to the ACP's distribution list.

(4) Electronic Versions: As plans are converted to an electronic format, they should be uploaded on Coast Guard approved server space. Posted electronic versions will be available to the public and vessel and facility response plan holders for electronic downloading and viewing through standard computer software programs. Any Coast Guard initiated ACP web page postings on the World Wide Web (WWW) shall be undertaken in conformance with Commandant (G-SIA) directives (Information and Technology Directorate, Office of Architecture and Planning). Commandant (G-MOR) will maintain the Vessel Response Plan - ACP Contact webpage with hyper-links to electronically posted ACPs. Commandant (G-MOR) shall be notified of any plan changes so the ACP Contact webpage may be updated with the latest revision date.

(5) Hazardous Substance Planning: Federal statutes mandate contingency planning for the removal of discharges for both oil and hazardous substances (FWPCA Section 311(j) and CERCLA Section 105). Relevant hazardous substance response information shall be appropriately integrated throughout the ACP.

(6) Marine Fire Fighting Contingency Planning: Reference (b) directed the revision of marine fire fighting contingency plans (MFFCP) and allowed integration of those plans within ACPs. District commanders must determine whether specific Areas within their jurisdiction may retain stand alone MFFCPs, or fully integrate marine fire response information into the ACP. If the stand-alone MFFCP option is exercised, the ACP must clearly refer users to the MFFCP where applicable. References to marine fire fighting response resources shall distinguish between public & private sources.

(7) Geographic Response Sub-plans: Some districts/area committees have determined that organization and presentation of certain area information in separate, geographically delineated, sub-sections facilitates the response-oriented utility of the plans. These geographic response sub-plans may continue to be retained as distinct components within the ACPs, provided they are listed in section 9700 – List of Response References. It will be necessary to cross-reference or hyper-link appropriate sections of the ACP to the relevant location within the geographic response sub-plans.

(8) Heavy Oil Spill Planning: Reference (d) investigated the cause and effect of nonfloating oil spills. If a substantial risk of nonfloating oil spills exists based on volume/frequency and trade patterns experienced in the area committee's AOR, the ACP should incorporate this information. ACPs in high-risk areas should include emergency regulatory issues and resources and information necessary to respond to nonfloating oil spills. For example, detailed items should include procedures for

emergency dredging permits, pre-approval protocols with the RRT, and other resources available to specifically respond to nonfloating oil spills. Other information that should be included is found in chapter 4 of reference (d), Barriers to Effective Response. A copy of this reference will be provided to each area committee.

R. C. NORTH
ASSISTANT COMMANDANT FOR MARINE SAFETY
AND ENVIRONMENTAL PROTECTION

Enclosures: (1) Format for ACP (levels 1 and 2)
(2) Format for ACP (detailed levels)
(3) ACP Revision Cycle

Area Contingency Plan

Approval Letter
Letter of Transmittal
Record of Changes
Table of Contents

1000 Introduction

- 1100 Introduction/Authority
- 1200 Geographic Boundaries
- 1300 Area Committee
- 1400 National Response System
- 1500 State/Local Response System
- 1600 National Policy and Doctrine
- 1700 Reserved
- 1800 Reserved
- 1900 Reserved for Area/District*

2000 Command

- 2100 Unified Command
- 2200 Safety
- 2300 Information
- 2400 Liaison
- 2500 Reserved
- 2600 Reserved
- 2700 Reserved
- 2800 Reserved
- 2900 Reserved for Area/District*

3000 Operations

- 3100 Operations Section Organization
- 3200 Recovery and Protection
- 3300 Emergency Response
- 3400 Air Ops
- 3500 Staging Areas
- 3600 Wildlife
- 3700 Reserved
- 3800 Reserved
- 3900 Reserved for Area/District*

4000 Planning

- 4100 Planning Section Organization
- 4200 Situation
- 4300 Resources
- 4400 Documentation
- 4500 Demobilization
- 4600 Environmental
- 4700 Technical Support
- 4800 Req. Correspondence, Permits & Consultation
- 4900 Reserved for Area/District*

5000 Logistics

- 5100 Logistics Section Organization
- 5200 Support
- 5300 Services
- 5400 Communications
- 5500 Reserved
- 5600 Reserved
- 5700 Reserved
- 5800 Reserved
- 5900 Reserved for Area/District*

* Place holder for additional information consistent with Section theme and not required to be addressed elsewhere

Area Contingency Plan (cont.)

- **6000 Finance/Admin**
  - 6100 Finance/Administration Section Organization
  - 6200 Fund Access
  - 6300 Cost
  - 6400 Time
  - 6500 Compensation/Claims
  - 6600 Procurement
  - 6700 Reserved
  - 6800 Reserved
  - 6900 Reserved for Area/District*
- **7000 Reserved**
- **8000 Fire Fighting**
- **9000 Appendices**
  - 9100 Emergency Notification
  - 9200 Personnel and Services Directory
  - 9300 Draft Incident Action Plan
  - 9400 Area Planning Documentation
  - 9500 List of Agreements
  - 9600 Conversions
  - 9700 List of Response References
  - 9800 Reserved
  - 9900 Reserved for Area/District*
- ***Glossary***
- ***Index***

* Place holder for additional information consistent with Section theme and not required to be addressed elsewhere

Area Contingency Plan Sample Format

Approval Letter

Letter of Transmittal

Record of Changes

Table of Contents

1000 - Introduction

1100 - Introduction/Authority

1200 - Geographic Boundaries
(Note- This section should also describe jurisdiction and list adjacent areas/country borders and POC's for any transboundary issues)

1300 - Area Committee
- 13XX – Purpose
- 13XX - Organization
- 13XX – Charter Members

1400 - National Response System
- 14XX - National Response Structure
  - 14XX.X - SONS
- 14XX - RRT Structure
- 14XX - Area Response Structure
  - 14XX.X - Federal/State Role in Incident Response
- 14XX - Incident Command System
- 14XX - Area Exercise Mechanism
- 14XX - Federal Response Plan
- 14XX - Federal Radiological Response Plan

1500 – State/Local Response System

1600 – National Policy & Doctrine
- 16XX - Public vs Private Resource Utilization
- 16XX - Best Response Concept
- 16XX - Cleanup Assessment Protocol (How Clean is Clean)
- 16XX - Dispersant Pre-Approval/Monitoring/Decision Protocol
- 16XX - Insitu Burn Approval/Monitoring/Decision Protocol
- 16XX - Bioremediation Approval/Monitoring/Decision Protocol
- 16XX - Fish and Wildlife Acts Compliance (Migratory Bird Act, Marine Mammal Act, Endangered Species Act, etc.)
- 16XX - Protection of Historic Properties (National Historic Preservation Act)
- 16XX - Alternative Response Technology Evaluation System (ARTES)
- 16XX - Specialized Monitoring of Applied Response Technology (SMART)

1700 - Reserved

1800 - Reserved

1900 - Reserved for Area/District

2000 - Command

2100 - Unified Command
- 21XX – Command Representatives
  - 22XX.X - Federal Representative
  - 22XX.X - State Representative
  - 22XX.X - Responsible Party (RP) Representative
- 21XX – Guidance for setting response objectives
- 21XX – General response priorities

2200 – Safety
- 22XX – Site characterization

22XX- Site Safety Plan Development

2300 - Information
- 23XX - Protocol for Access/Timing of Media Briefings
- 23XX - Joint Information Center (JIC)
- 23XX - Media Contacts

2400 – Liaison
- 24XX – Investigators
- 24XX – Federa/State/Local Trustees
- 24XX – Agency Reps
- 24XX – Stakeholders
  - 24XX.X – Environmental (*Sierra Club, Save the Bay, etc.*)
  - 24XX.X – Economic (*Port operators, tourist hotels, etc.*)
  - 24XX.X – Political (*local, state, etc.*)

2500 – Reserved

2600 – Reserved

2700 - Reserved

2800 - Reserved

2900 – Reserved for Area/District

3000 - Operations

3100 - Operations Section Organization
- 31XX – Organization Options

3200 – Recovery and Protection (*Hyperlink or reference to other sections or documents where appropriate*)
- 32XX – Protection
  - 32XX.X – Containment and Protection Options
- 32XX – On-Water Recovery
  - 32XX.X – Recovery Options
  - 32XX.X – Storage *(e.g. on board, x-fer to storage tanks, etc.)*
- 32XX – Shoreside Recovery
  - 32XX.X – Shoreline Cleanup Options
  - 32XX.X – Pre-Beach Cleanup
  - 32XX.X – Storage
- 32XX – Disposal
  - 32XX.X – Waste Management and Temporary Storage Options
  - 32XX.X – Decanting Policy
  - 32XX.X – Sample Waste Management Plan (*ref. Permits in Planning*)
- 32XX – Decon
  - 32XX.X – Sample Decon Plan
- 32XX – Dispersants
  - 32XX.X – Dispersant Options
  - 32XX.X – Dispersant Checklists
  - 32XX.X – Preauthorized Zones
  - 32XX.X – Dispersant Response Plan Worksheet(*Spreadsheet provided by HQ*)
  - 32XX.X – SMART Protocol (*incorporate by reference*)
  - 32XX.X – Types of Equipment Required (*reference Logistics Support 5300 for equipment sources*)
- 32XX – ISB
  - 32XX.X - ISB Options
  - 32XX.X - ISB Checklists
  - 32XX.X - Preauthorized Zones
  - 32XX.X – Types of Equipment Required
- 32XX - Bioremediation

3300 - Emergency Response
- 33XX – SAR
  - 33XX.X- SAR Area Resources (*reference as necessary*)
- 33XX – Salvage/Source Control
  - 33XX.X – Assessment & Survey

33XX.X – Stabilization
33XX.X – Specialized Salvage Operations
33XX.X – Types of Equipment required (*reference Logistics as necessary*)
33XX.X – Salvage Guidelines
33XX – Marine Fire Fighting *(reference section 8000 or stand-alone plan as appropriate)*
33XX – Hazmat (*reference to separate section or stand-alone plan as nec.*)
33XX.X – Initial Emergency Response Procedures
33XX.X – Evacuation Procedures
33XX.X – Hazmat POC's
33XX.X – Types of Equipment required (*reference Logistics for hazmat services*)
33XX – EMS
33XX.X – Emergency Medical Services (*reference Logistics as needed*)
33XX – Law Enforcement
33XX.X - Perimeter/Crowd/Traffic/Beach Control
33XX.X – Safety/Security Zones

3400 – Air Ops
34XX – Air Tactical
34XX.X – Aerial Surveillance
34XX.X – Aerial Dispersant Application
34XX.X – Procedures for Temporary Flight Restrictions
34XX.X – Permanent Area Restrictions
35XX – Air Support
34XX.X – Airports/Helibases
34XX.X – Helospots
34XX.X – List of Certified Helo's/Aircraft Providers
34XX.X – Fuel/Maintenance Sources
34XX.X – Air Traffic Control Procedures

3500 – Staging Areas
35XX – Pre-Identified Staging Areas
35XX - Security

3600 – Wildlife (*reference 3200 or GRP's as necessary)*
36XX – Fish and Wildlife Protection Options
36XX – Recovery
36XX.X – Wildlife Recovery Operations/Procedures
36XX.X – Recovery Processing
36XX.X – Carcass Retrieval and Processing
36XX – Wildlife Rehab
36XX.X – Wildlife Rehab Operations
36XX.X – Rehab Facilities
36XX.X –Rehab Procedures

3700 – Reserved

3800 - Reserved

3900 – Reserved for Area/District

4000 - Planning

4100 - Planning Section Organization
41XX - Planning Section Planning Cycle Guide

4200 – Situation
42XX – Chart/Map of Area
42XX – Weather/Tides/Currents (*Major seasonal patterns and sources for up to date information*)
42XX – Situation Unit Displays (*reference, or hyperlink, to the FOG as appropriate*)
42XX – On Scene Command and Control (OSC2)
42XX – Required Operational Reports *(e.g. Form 209, POLREPs, SITREPS)*

4300 – Resources
43XX – Resource Management Procedures
43XX.X – Check-in Procedures

43XX – Volunteers
- 43XX.X - Assistance Options
- 43XX.X – Assignment
- 43XX.X – Coordination
- 43XX.X – Training

4400 – Documentation
- 44XX – Services Provided (*e.g. Reproduction, FOIA)*
- 44XX – Administrative File Organization

4500 – Demobilization
- 45XX – Sample Demob Plan *(Reference or hyperlink as appropriate. Sample provided by HQ)*

4600 – Environmental
(reference and hyperlink to appropriate GRPs,, Fish & Wildlife Protection Strategies or other appropriate information)

4700 – Technical Support
- 47XX – Hazardous Materials
  - 47XX.X – Toxicologist
  - 47XX.X – Product Specialist
  - 47XX.X – Certified Marine Chemist
  - 47XX.X – Certified Industrial Hygienist
  - 47XX.X – Chemist or Chemical Engineer
  - 47XX.X – Sampling
- 47XX – Oil
  - 47XX.X – Scientific Support Coordinator
  - 47XX.X – Lightering
  - 47XX.X – Salvage
  - 47XX.X – Shoreline Cleanup Assessment
  - 47XX.X – Natural Resource Damage Assessment
  - 47XX.X – Specialized Monitoring of Applied Response Technologies (SMART)
  - 47XX.X – Response Technologies (Dispersant, ISB, Bioremediation, Mechanical)
  - 47XX.X – Decontamination
  - 47XX.X – Disposal
  - 47XX.X – Dredging
  - 47XX.X – Deepwater Removal
  - 47XX.X – Heavy Lift
- 47XX – General
  - 47XX.X – Cultural & Historic Properties
  - 47XX.X – Legal
  - 47XX.X – Chaplain
  - 47XX.X – Public Health
  - 47XX.X - Human Resources
  - 47XX.X – Critical Incident Stress Management
- 47XX – Law Enforcement
- 47XX – SAR
- 47XX – Marine Fire

4800 – Required Correspondence, Permits & Consultation
- 48XX – Administrative Orders
- 48XX – Notice of Federal Interest
- 48XX – Notice of Federal Assumption
- 48XX – Letter of Designation
- 48XX –Fish and Wildlife Permits
- 48XX – ESA Consultations
- 48XX – Disposal
- 48XX – Dredging
- 48XX - Decanting

4900 – Reserved for Area/District

5000 - Logistics

5100 - Logistics Section Organization

5200 – Support (*This section should be user friendly, like a telephone directory, where information about sources of support during a response can be found quickly. Include: What the object/service is, POC, phone number, and what they can offer. Hyperlink to more information such as web pages, etc. in electronic version as appropriate)*

- 52XX – Supply (*summarize in/out of area in each*)
  - 52XX.X - Oil Response Equipment
  - 52XX.X - Hazardous Substance Response Equipment
- 52XX – Facilities
  - 52XX.X – Incident Command Post Options
  - 52XX.X – Incident Command Post Needs (*rooms, phones, fax, copiers, tables/chairs, security, radios, etc.)*
  - 53XX.X - Berthing
  - 52XX.X - Port/Dock Facilities/Capacities
  - 52XX.X - Staging Areas
  - 52XX.X – Security Providers
  - 52XX.X - Airports/Heliports
  - 52XX.X - Temporary Storage and Disposal Facilities (TSDs)
  - 52XX.X - Maintenance and Fueling Facilities (land/water)
  - 52XX.X- Fish and Wildlife Response Facilities and Resources
- 52XX – Vessel Support
  - 52XX.X - Boat Ramps/Launching Areas
  - 52XX.X – Vessel/Boat Sources
  - 52XX.X - Maintenance
- 52XX – Ground Support
  - 52XX.X – Vehicle Sources
  - 52XX.X - Maintenance

5300 – Services

- 53XX – Food
  - 53XX.X - Catering/Messing Options
- 53XX - Medical
  - 53XX.X - Medical Facilities
  - 53XX.X – Ambulance/EMS Services

5400 - Communications

- 54XX - Communications Plan
  - 54XX.X - Incident Communications
  - 54XX.X - Communications Support
  - 54XX.X - Communication Facilities

(Note: Other Personnel and Services not listed here should be included as an appendix "pull out" or hyperlink)

5500 - Reserved

5600 - Reserved

5700 – Reserved

5800 - Reserved

5900 – Reserved for Area/District

6000 - Finance/Administration *(reference the new Finance and Resource Management Field Guide)*

6100 - Finance/Administrative Section Organization

6200 – Fund Access

- 62XX – OSC Access
- 62XX – State Access
- 62XX – Trustee Access

6300 - Cost

- 63XX - Cost Documentation Procedures, Forms & Completion Report (*reference National Pollution Fund Center Technical Operating Procedures; Finance and Resource Management Field Guide*)

6400 - Time

6500 – Compensation/Claims

6600 – Procurement
66XX - Contracting Officer Authority

6700 - Reserved

6800 - Reserved

6900 - Reserved for Area/District

7000 - Reserved

8000 – Marine Fire Fighting
(Note- This Section can include the Marine Fire Fighting Plan. As an alternative, the Marine Firefighting Plan could be referenced as a stand-alone plan or included in Section 3300.)

9000 – Appendices (*Information in this section may be referenced to or hyperlinked to a separate document as appropriate*)

9100 - Emergency Notification (*May be a one sheet LIST that can be copied, and easily updated*)
- 91XX - Initial Awareness, Assessment & Notification Sequence
  - 91XX.X - Initial Assessment Check-off List
  - 91XX.X - Initial Action Check-off List
  - 91XX.X - Notification Check-off List

9200 Personnel and Services Directory (*Include if needed with hyperlinks as appropriate. This should be a user friendly "telephone directory" and can be easily updated*)
- 92XX - Federal Resources/Agencies
  - 92XX.X - Trustees for Natural Resources
  - 92XX.X - USCG
    - 92XX.XX - USCG National Strike Force (NSF)
    - 92XX.XX - USCG District Response Assist Team (DRAT)
    - 92XX.XX - Public Information Assist Team (PIAT)
    - 92XX.XX - USCG Reserve
    - 92XX.XX - USCG Auxiliary
  - 92XX.X - NOAA
    - 92XX.XX - Scientific Support Coordinator
    - 92XX.XX - Discharge & Release Trajectory Modeling
    - 92XX.XX - Oceanic & Atmospheric Modeling
  - 92XX.X - US Navy Supervisor Salvage (SUPSALV)
  - 92XX.X - EPA Emergency Response Teams
  - 92XX.X - Agency for Toxic Substance and Diseases (ATSDR)
- 92XX - State Resources/Agencies
  - 92XX.X - Government Official Liaisons (Governor's Aide, County Executive)
  - 92XX.X - Trustees for Natural Resources
  - 92XX.X - State Emergency Response Committees (SERC)
  - 92XX.X - State Environmental Agencies
  - 92XX.X - State Historic Preservation Office
  - 92XX.X - Law Enforcement Agencies
  - 92XX.X - Hazardous Substances Response Teams
- 92XX - Local Resources/Agencies
  - 92XX.X - Trustees for Natural Resources
  - 92XX.X - Local Emergency Planning Committees (LEPC)
  - 92XX.X - Local Environmental Agencies
  - 92XX.X - Law Enforcement Agencies
  - 92XX.X - Port Authority/Harbormaster
  - 92XX.X - Fire Departments
  - 92XX.X - Hazardous Substances Response Teams
  - 92XX.X - Explosive Ordinance Detachments (EOD)
  - 92XX.X - Site Safety Personnel/Health Departments
- 92XX - Private Resources
  - 92XX.X - Clean-up Companies (BOA & Non-BOA)
  - 92XX.X - Media (Television, Radio, Newspaper)
  - 92XX.X - Fire Fighting/Salvage Companies/Divers
  - 92XX.X - Fishing Cooperatives and Fleets
  - 92XX.X - Wildlife Rescue Organizations

92XX.X - Volunteer Organizations
92XX.X - Maritime Associations/Organizations/Cooperatives
92XX.X - Academic Institutions
92XX.X - Laboratories
92XX.X - Emergency Medical Services

92XX - Stakeholders (Political/Elected, Environmental, Economic, Scientific, Cultural & Historic Interest Groups/Organizations/Individuals having potential to be a stakeholder during a response. May be set up in Matrix or Tabular Format, indicating charter/interest, expertise & way to contact)

9300 - Draft Incident Action Plan (IAP) (*i.e., for Worst Case Discharge Scenario. Site Safety Plan included in IAP. Should not be attached to plan, may be referenced or hyperlinked*)

9400 - Area Planning Documentation (Does not have to be attached to plan, may be cross referenced w/ cite where mentioned)
94XX – Discharge & Release History
94XX – Risk Assessment
94XX - Planning Assumptions - Background Information
94XX - Planning Scenarios

9500 – List of Agreements (*e.g. existing MOUs/MOAs/Programmatic and Mutual Aid Agreements related to response – Should not be attached to plan, may be referenced or hyperlinked*)

9600 - Conversions

9700 – List of Response References (*Should not be attached to plan, may be referenced or hyperlinked)*
97XX - Relevant Statute/Regulations/Authorities List
97XX - Relevant Instructions/Guidelines/Standard Procedures and Practices List
97XX – Geographic Response Plans
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95XX.X - NCP Product List
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95XX.X - CHRIS Manual
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9800 - Reserved

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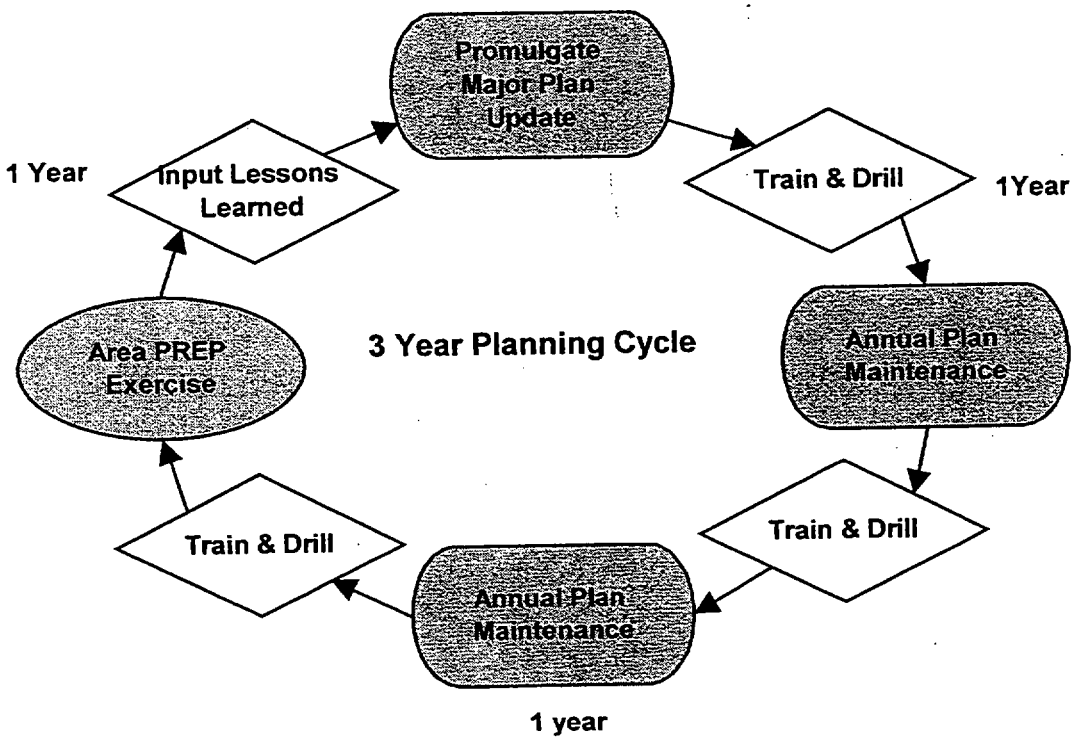
ACP User Satisfaction Survey (*to be provided by HQ*)

AREA CONTINGENCY PLAN REVISION CYCLE



U.S. Department of Transportation
United States Coast Guard

MSO/Group Philadelphia PA
United States Coast Guard

1 Washington Avenue
Philadelphia, PA 19147
Staff Symbol:
Phone: (215) 271-4800
FAX: (215) 271-4833

16600
28 July 1998

From: Federal On Scene Coordinator, Philadelphia, PA
To: Port Maritime Community

Subj: PHILADELPHIA AREA CONTINGENCY PLAN; CHANGE ONE

Ref: (a) Philadelphia Area Contingency Plan dated June 1995

1. In accordance with ref (a), enclosed is the complete Philadelphia Area Contingency Plan. Because there were extensive changes to the plan, you are receiving a complete copy that incorporates the changes. Please discard the previous edition.

2. If you have any questions, please contact the Planning Department at (215) 271-4800.

JOHN E. VEENTJER
Captain, U.S. Coast Guard
Federal On Scene Coordinator, Philadelphia, PA

Encl: (1) Philadelphia Area Contingency Plan dated July 1998

Copy: Distribution (list attached)

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PHILADELPHIA AREA CONTINGENCY PLAN

RECORD OF AMENDMENTS

Amendment No.	Amendment Date	Entered By	Date Entered

PHILADELPHIA AREA CONTINGENCY PLAN

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PHILADELPHIA AREA CONTINGENCY PLAN

ANNEX A – INTRODUCTION

GENERAL. Environmental protection is one of the most important missions of the Coast Guard and is a major concern of the public in our environmentally and energy conscious world. The potential for a major pollution incident is always present when petroleum products or hazardous materials are moved or stored in bulk quantities on or near the water. In recent years, oil shipments have increased; tank vessels have grown tremendously in size and cargo capacity; shoreside terminals are larger; and the possibility of material failure in terminals and vessels has increased, due to age and attendant fatigue.

Although the Coast Guard's primary focus is pollution prevention by thorough oversight and strict enforcement of the pollution prevention regulations (PPRs), incidents may occur which will require an effective response to mitigate and control the situation. This plan provides for the coordination and direction of immediate and effective federal, state and local government response to spills. As a result of extensive preplanning with those government agencies, this plan includes appropriate procedures that will be followed by the Federal On-Scene Coordinator (FOSC) for identifying resources, making notifications, affecting mechanical recovery, dispersal, shoreline cleanup, protection of sensitive environmental areas, and protection, rescue, and rehabilitation of fisheries and wildlife, as well as, assessing the damage to, and restoration of, natural resources. This plan also:

a. Identifies the working relationships at each level, the roles and responsibilities of all government response components, and the mechanism for activating and managing these resources.

b. Is intended to be a working document and comprehensive reference source; it will be reviewed and updated frequently.

c. Is intended to provide policies, procedures, and guidelines for response to spills of all sizes, including a worst case discharge.

d. Is expected to be used as a guide for industry response plans.

Recipients of this plan are urged to have a working knowledge of it and to provide timely updates, as new information becomes available.

Appendices:

(I)	Authority
(II)	Definitions and Acronyms
(III)	Purpose and Objectives
(IV)	Geographic Boundaries
(V)	Response System and Policies

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ANNEX A
APPENDIX I – AUTHORITY

Section 4202 of the Oil Pollution Act of 1990 (OPA 90) amended Subsection (j) of Section 311 of the Federal Water Pollution Control Act (FWPCA) (33 U.S.C. 1321 (j)) to address the development of a National Planning and Response System. As part of this system, area committees are have been established for each area designated by the president. These area committees are to be comprised of qualified personnel from federal, state, and local agencies. Each area committee, under the direction of the Federal On-Scene Coordinator (OSC) for the area, is responsible for developing an Area Contingency Plan (ACP) which, when implemented in conjunction with the National Contingency Plan (NCP), shall be adequate to remove a worst case discharge of oil or a hazardous substance and to mitigate or prevent a substantial threat of such a discharge, from a vessel, offshore facility, or onshore facility operating in or near the geographic area. Each area committee is also responsible for working with state and local officials to pre-plan for joint response efforts, including appropriate procedures for mechanical recovery, dispersal, shoreline cleanup, protection of sensitive environmental areas, and protection, rescue, and rehabilitation of fisheries and wildlife. The area committee is also required to work with state and local officials to expedite decisions for the use of dispersants and other mitigating substances and devices.

The functions of designating areas, appointing area committee members, determining the information to be included in area contingency plans, and reviewing and approving area contingency plans have been delegated by Executive Order 12777 of 22 October 1991, to the Commandant of the U.S. Coast Guard (through the Secretary of Transportation) for the coastal zone, and to the Administrator of the Environmental Protection Agency for the inland zone. The term "coastal zone" is defined in the current NCP (40 CFR 300.5) to mean all United States waters subject to the tide, United States waters of the Great Lakes, specified ports and harbors on inland rivers, and the waters of the Exclusive Economic Zone (EEZ). The Coast Guard has designated as areas, those portions of the Captain of the Port (COTP) zones, which are within the coastal zone, for which area committees will prepare area contingency plans. The COTP zones are described in Coast Guard regulations (33 CFR Part 3).

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ANNEX A
APPENDIX II - DEFINITIONS AND ACRONYMS

The following are definitions and acronyms defined by the National Contingency Plan (40 CFR 300) CERCLA, OPA '90 and the FWPCA, as amended by OPA '90:

Coast Guard Acronyms:

AOR -	Area of Responsibility
BOA -	Basic Ordering Agreement
CAA -	Commander, Atlantic Area
CAC -	Crisis Action Center
CCGD1 -	Commander, First Coast Guard District
CCGD5 -	Commander, Fifth Coast Guard District
CCGRU -	Commander, Coast Guard Group
CGC -	Coast Guard Cutter
CDO -	Command Duty Officer
COGARD -	Coast Guard
COIL -	Central Oil Identification Laboratory
COMDT -	Commandant, United States Coast Guard
COMDTINST -	Commandant Instruction
CPOD -	Chief, Port Operations Department
COTP -	Captain of the Port
d -	District Commander
dpa -	District Public Affairs Officer
DRAT -	District Response Advisory Team
LANTAREA -	Atlantic Area
M-fa -	Accounting Branch, Maintenance and Logistics Command
M-fc -	Procurement Branch, Maintenance and Logistics Command
m -	CG District Marine Safety Division
mep -	Marine Environmental Protection
mer -	Marine Environmental Response
MSO -	Marine Safety Office
MLC -	Maintenance and Logistics Command
MV -	Marine Pollution Violation Report
NSF -	National Strike Force
NSFCC -	National Strike Force Coordination Center
OCMI -	Officer in Charge Marine Inspection
OOD -	Officer of the Day
PAO -	Public Affairs Officer
PIAT -	Public Information Assistance Team
PIO -	Public Information Office
SOP -	Standard Operating Procedures
USCG -	United States Coast Guard

State Acronyms:

DE DNR&EC -	Delaware Department of Natural Resources and Environmental Control
DEMA -	Delaware Emergency Management Agency
NJ DEP -	New Jersey Department of Environmental Protection
NJ OEM-	New Jersey Office of Emergency Management
PA DEP -	Pennsylvania Department of Environmental Protection
PEMA-	Pennsylvania Emergency Management Agency

Other Acronyms:

ACOE -	Army Corps of Engineers
ADS -	Assistance Data Systems
ATSDR -	Agency for Toxic Substances and Disease Registry
CAMEO -	Computer-Aided Management of Emergency Operations
CAC -	Crisis Action Center
CERCLA -	Comprehensive Environmental Recovery Compensation and Liability Act
CHEMTREC -	Chemical Transportation Emergency Center
CHRIS -	Chemical Hazard Response Information System
DB&RC -	Delaware Bay and River Cooperative
DOC -	Department of Commerce
DOI -	Department of the Interior
DOL -	Department of Labor
EERU -	Environmental Emergency Response Unit
EOC -	Emergency Operations Center
EPA -	Environmental Protection Agency
ERT -	Emergency Response Team
ESA -	Environmentally Sensitive Area
FWPCA -	Federal Water Pollution Control Act
HACS -	Hazard Assessment Computer System
HHS -	Health and Human Services
ICW -	Intercoastal Waterway
ICS -	Incident Command System
JIC -	Joint Information Center
LEPC -	Local Emergency Planning Committee
MMS -	Minerals Management Service
MSRC -	Marine Spill Response Corporation
NCP -	National Contingency Plan

NIC -	National Incident Commander
NOAA -	National Oceanographic and Atmospheric Administration
NRC-	National Response Center
NRDA -	Natural Resource Damage Assessment
NRS -	National Response System
NSFCC -	National Strike Force Coordination Center
OCS -	Outer continental shelf
OHMTADS -	Office of Hazardous Materials Technical
OPA -	Oil Pollution Act of 1990
OSC -	On Scene Coordinator
OSHA -	Occupational Safety and Health Administration
OSLTF -	Oil Spill Liability Trust Fund
P&I -	Protection and Indemnity
POLREP -	Pollution Report
PREP -	Preparedness for Response Exercise Program
RCP -	Regional Contingency Plan
RPI -	Regional Planning Institute
RRT -	Regional Response Team
SERC -	State Emergency Response Committee
SONS -	Spill of National Significance
SUPSALV -	U. S. Navy Supervisor of Salvage
SSC -	Scientific Support Coordinator
TAT -	Technical Assistance Team
TSDF -	Treatment, Storage, and Disposal Facility
UCS -	Unified Command System
USFWS -	United States Fish and Wildlife Service
USGS -	United States Geological Survey

SEE ANNEX A, APPENDIX V, TAB H, ENCLOSURE 1, PAGE 2 FOR A LISTING OF ADDITIONAL ACRONYMS ASSOCIATED WITH A SPILL OF NATIONAL SIGNIFICANCE (SONS) RESPONSE.

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ANNEX A
APPENDIX III - PURPOSE AND OBJECTIVE

The Area Committee is a spill preparedness and planning body made up of federal, state, and local agency representatives. The OSC will coordinate the activities of the Area Committee and assist in the development of a comprehensive Area Contingency Plan that is consistent with the NCP.

This Area Contingency Plan describes the strategy for a coordinated federal, state and local response to a discharge or substantial threat of discharge of oil or a release of a hazardous substance from a vessel, offshore facility, or onshore facility operating within the boundaries of the Area of the Port of Philadelphia. This plan addresses response to a most probable discharge, a maximum most probable discharge, and a worst case discharge, including discharges from fire or explosion. Planning for these three scenarios covers the expected range of spills likely to occur in this area.

For purposes of this plan, the most probable discharge is the size of the average spill in the area based on the historical data available. The maximum most probable discharge is also based on historical spill data and is the size of the discharge most likely to occur, taking into account such factors as the size of the largest recorded spill, traffic flow through the area, hazard assessment, risk assessment, seasonal considerations, spill histories, and operating records of facilities and vessels in the area, etc. The worst case discharge for a vessel is a discharge of its entire cargo in adverse weather conditions. The worst case discharge from an offshore or onshore facility is the largest foreseeable discharge in adverse weather conditions. These scenarios are described in Annex I.

This plan shall be used as a framework for response mechanisms to evaluate shortfalls and weaknesses in the response structure before an incident, and as a guide for reviewing vessel and facility response plans required by OPA 90, to ensure consistency. The review for consistency should address, as a minimum, the economically and environmentally sensitive areas within the area, the response equipment (quantity and type) available within the area (this includes federal, state, and local government and industry owned equipment), response personnel available, equipment and personnel needs compared to those available, protection strategies, etc.

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ANNEX A
APPENDIX IV - GEOGRAPHIC BOUNDARIES

References: (a) PL 101-380, Oil Pollution Act of 1990
(b) 40 CFR 300, National Contingency Plan
(c) 33 CFR 3, Coast Guard Areas

GENERAL. As required by references (a) and (b), the geographic boundaries of this plan shall encompass the same area as that for which the designated Federal On-Scene Coordinator is responsible. For the purpose of this plan, Coast Guard Captain of the Port, Philadelphia, is that individual; and, the COTP's area of responsibility is formally described in Section 3.25-05 of reference (c), which is reprinted in its entirety in Annex E, Appendix I, "Area of Responsibility." This plan incorporates response activities and relevant response information for all coastal waters and adjacent shores described in that section.

Tabs: (A) Area, Detailed Description

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ANNEX A - APPENDIX IV
TAB A - AREA

Overview. The area of responsibility for the Captain of the Port Philadelphia includes the New Jersey Atlantic Coast from Long Branch to Cape May and the coastal zone along the Delaware Bay and Delaware River extending north to the New Jersey, New York and Pennsylvania borders, eastern Pennsylvania, and the state of Delaware. This area includes the Delaware Bay and River and its seaward approaches and the C&D Canal to the Delaware/Maryland border. Delaware Bay is centrally located in the largest megalopolis in the country and is of strategic importance in the marine transportation of crude oil, refined oil, and petrochemicals. Over 70% of all oil entering the Eastern United States comes through the Delaware Bay.

OIL AND HAZARDOUS SUBSTANCE TRANSPORTATION PATTERNS

Traffic Patterns. There is a constant flow of coastwise and foreign trade vessels that proceed offshore along the New Jersey and Delaware coastlines. For those vessels bound for the Ports of Philadelphia, two sets of shipping lanes from the Atlantic Ocean converge to a pilot transfer area at the mouth of the Delaware Bay. With a pilot on board, vessels proceed through the precautionary area to Big Stone Beach Anchorage or to the beginning of the navigable channel. The channel winds its way up river to the falls at Trenton in a series of ranges. The channel is dredged to a depth of 40 feet to Fairless, PA, and to 25 feet thereafter, varying in width from 1,000 feet in the Delaware Bay to 400 feet in the northern reaches. In many areas, vessels are moored at waterfront facilities and anchored in upriver anchorages just outside the channel.

Big Stone Beach Anchorage. Large tankers bound for upriver ports often lay over at the Big Stone Beach Anchorage, where lightering operations are conducted to bring deep-draft vessels up to the controlling draft of 39 feet saltwater or 40 feet freshwater. Vessels carrying crude oil upriver constitute 43% of the vessel traffic in the Delaware estuary. Along with crude oil, vessels arrive daily carrying a variety of finished products, including industrial chemicals and other hazardous cargoes.

The C & D Canal. The Chesapeake and Delaware Canal provides access between the Delaware and Chesapeake Bays. Finished products are transported through the canal by both tanker and barge.

Oil. Finished oil products from the area's seven major refineries are transported by a variety of transportation modes including pipeline, tank truck, rail car, barge, and tanker. The marine mode makes up a large percentage of oil movements from these refineries. Tankers and barges carry products within the port

area and to other East Coast ports. While oil products are shipped throughout the port area, the major facilities for receiving crude oil are located in Marcus Hook, PA; Philadelphia, PA; West Deptford, NJ; Paulsboro, NJ; and Delaware City, DE.

Hazardous Materials. Hazardous substances move through the Delaware Valley region by all modes of transportation. Bulk shipments of hazardous substances move by both ship and barge and go upriver as far north as Rohm & Haas Co., Croyden, PA. A potential threat is posed by the chemical tank vessels or product carriers, which carry numerous chemicals. In the event of a marine casualty, these vessels could release a mixture of hazardous substances.

Large shipments of packaged hazardous materials are also moved by ship and by barge. These cargoes are loaded and unloaded at the ports of Salem, Wilmington, Chester, Gloucester City, Camden, Pennsauken, and Philadelphia.

Bridges. Highway and rail transport of refined products constitutes a threat of pollution most acutely when crossing a bridge over the Delaware or Schuylkill River, or one of their tributaries. The Delaware River has twenty bridges from the Delaware Memorial Bridge at Wilmington, DE, north to the U. S. Route 1 Highway Bridge at Trenton, NJ. Eighteen bridges cross the navigable part of the Schuylkill River between the mouth and the dam behind the Art Museum.

Continental Shelf. To date, lightering activity off the New Jersey and Delaware coasts has been minimal. With current draft restrictions on the Delaware River ship channel and the increasing capacity of tankships, **an increase is expected over the next few years.**

TRANSFER, STORAGE, AND PROCESSING FACILITIES

A comprehensive list of all transfer, storage, and processing facilities is shown in Annex F, Appendix III, Tab Y. Generally, facilities within the COTP Philadelphia Zone can be classified as follows:

Southern New Jersey

The area from Toms River, NJ, south to Cape May, NJ, then north to Deepwater, NJ, contains mainly small refueling facilities for commercial fishing and recreational vessels. These facilities are primarily located inside the many bays and inlets and along the shores of the Inter-Coastal Waterway (ICW). The area from Deep-water, NJ, north to Trenton, NJ, contains the majority of the large transfer, storage and processing facilities. The area north of Trenton, NJ, contains mainly small recreational vessel refueling facilities.

Delaware and Eastern Pennsylvania

This area is comprised of the coastal zone from Morrisville, PA, south along the Delaware River and Delaware Bay to Cape Henlopen then south along the Delaware Atlantic Coast to Fenwick Island Light, DE, including the Schuylkill and Christina Rivers.

The area from Morrisville, PA, south to Delaware City, DE, including the Schuylkill and Christina Rivers, contains the majority of the transfer, storage, and processing facilities. The area south of Delaware City along the Delaware River and Delaware Bay to Cape Henlopen, DE, and south along the coast to Fenwick Island Light, DE, contains primarily small commercial fishing and recreational vessel refueling facilities. Big Stone Beach and Big Stone Beach Anchorages, located in Delaware Bay off Big Stone Beach, DE, are used for the lightering of oil from deep-draft tank vessels to allow passage up the restricted depth channel of the Delaware River.

HYDROLOGICAL AND CLIMATOLOGICAL CONSIDERATIONS

Hydrology. The Delaware River Valley and Coastal Plains are composed of layered sand and gravel, which allows filtration of surface waters into aquifers. South Jersey is equally divided into two drainage basins, the Delaware River Basin, and the Atlantic Coastal Basin:

a. **The Delaware River Basin** covers a drainage area of 13,628 square miles, including parts of Southern New Jersey, Eastern Pennsylvania, and Delaware. The natural hydraulic gradient is such that the aquifer discharges ground water into the Delaware River. Downstream of Trenton, the river becomes estuarine in nature. The estuary tends to be well mixed in summer and fall and somewhat stratified in winter and spring. The Delaware River widens into the Delaware Bay. This estuarian bay occupies an area of 720 square miles. It is somewhat teardrop shaped, almost 41 nautical miles long, and 24 nautical miles at its widest point. The average depth is 32 feet with a maximum depth of 150 feet. Mean tidal ranges vary between six and four feet at various locations. Tidal currents range from 0.4 to 3.0 knots between the Capes, 0.5 to 2.0 knots in the lower Bay and 0.5 to 3.0 knots in the upper Bay. Wind-induced currents have been measured up to 1.8 knots. There is a large rotary current that normally flows southward along the western edge of the bay. These flows are reinforced by the flood and ebb tides. The mean water temperature is 12.8 degrees C (55.0 degrees F) with a minimum of about -2.0 degrees C (28.4 degrees F) and a maximum of 32.2 degrees C (90.0 degrees F).

b. **The Atlantic Coastal Basin** is comprised of the eastern half of Southern New Jersey. This area is mainly low, nearly level plains, barrier islands, and lagoons drained by shallow estuaries. The Coastal Basin is divided into five drainage areas: Barnegat Bay, Great Bay, Great Egg Harbor, Absecon Bay, and Cape May County-Atlantic Coast Line.

Climatology. The sub-regional area can be characterized as between humid sub-tropical and continental. The presence of the Atlantic Ocean to the east and the Appalachians to the west significantly affects the weather, which is characterized by rapid changes and major storms. The average annual air temperature is generally moderate.
A change in wind direction can cause fairly large fluctuations in temperature. Typically, July is the hottest month, while January is the coldest. The average rainfall for the Delaware River Valley is 46 inches; wide fluctuations from the average are likely to occur. The prevailing surface winds in the sub-regional area are from a westerly direction with a shift to the northwest during winter and southwest during the summer.

LOCAL GEOGRAPHY

The COTP Philadelphia Area of Responsibility (AOR) is shown in Figure 1 and the boundaries are completely described in Annex E, Appendix I, "Area of Responsibility." This area is broken down into various regions, each with its own unique geographic characteristics.

Southern New Jersey

Long Branch to Cape May:
The coastal region along the Atlantic Ocean is made up of numerous barrier islands and coastal wetlands. The barrier islands separate the ocean from the many bays and the ICW, constituting a large part of the New Jersey seacoast. The region is predominantly a resort area.

Cape May to Camden:
The coastal region along the Delaware Bay and Delaware River is predominately marshland with limited population. The area south of Salem is completely marshlands with only small villages existing.

Camden to Trenton:
The coastal region along the Delaware River is continuing to urbanize. Most of what was marshland has been filled and developed, but a couple of small wetland areas still exist.

Delaware and Eastern Pennsylvania

Morrisville to Philadelphia:

The coastal region along the Delaware River is predominantly urbanized, with most of the shoreline covered with piers. A couple of parks still exist with natural beachfront.

Philadelphia, Schuylkill River:
The Schuylkill River is navigable up to the Fairmount Park Dam. This section of the river is highly industrialized; the banks are either covered with piers or have bulkheads.

Philadelphia to Wilmington:
The coastal region along the Delaware River is highly urbanized with the exception of the Tinicum Wildlife Refuge and several small parks.

Wilmington, Christina River:
The Christina River is highly industrialized within the city boundaries. The Port of Wilmington is situated at its mouth.

Wilmington to Cape Henlopen:
The coastal region along the Delaware River and Delaware Bay is mostly undeveloped and is protected by the State of Delaware Coastal Resources legislation.

Cape Henlopen to Bethany Beach:
The coastal region along the Atlantic Ocean is an expanding resort area with restricted development.

HIGHLY VULNERABLE AREAS

Highly vulnerable resources include water intakes, local populations, environmentally sensitive areas, and attractive or popular natural features. The Delaware Estuary is a vulnerable area simply as an estuary. Estuaries are complex zones of transition between fresh and saltwater and are the breeding or spawning grounds for many types of wildlife.

Environmentally and economically sensitive areas are described in detail Annex E, Appendix V, "Sensitive Areas" area map.

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ANNEX A
APPENDIX V - RESPONSE SYSTEM AND POLICIES

GENERAL. OPA 90 created a comprehensive prevention, response, liability, and compensation organization for dealing with vessel and facility generated oil pollution. It also required that Area Committees be established to plan for a coordinated "community" response to an oil discharge or hazardous substance release. To accomplish this, the "Act" required that the committees have cognizant federal, state, and local government agency representation.

The tabs listed below provide an overview of the systems and policies for each of the primary federal, state and local government member agencies of the Philadelphia Area Committee.

Tabs:
- (A) National Response System
- (B) National Response Policy
- (C) State Response Systems
- (D) State Response Policies
- (E) Local Response System
- (F) Local Response Policy
- (G) Responsible Party Response Policy
- (H) Role of the On-Scene Coordinator

Enclosure 1 SONS Response Structure

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ANNEX A - APPENDIX V
TAB A - NATIONAL RESPONSE SYSTEM

The National Response System (NRS) was developed to coordinate all government agencies with responsibility for environmental protection, in a focused-response strategy for the immediate and effective clean up of an oil or hazardous substance discharge. The NRS is a three-tiered response and preparedness mechanism that supports the predesignated Federal OSC in coordinating national, regional, local government agencies, industry, and the responsible party during response.

The NRS supports the responsibilities of the OSC, under the direction of the Federal Water Pollution Control Act's federal removal authority. The OSC plans and coordinates response strategy on scene, using the support of the National Response Team (NRT), Regional Response Team (RRT), Area Committees, and responsible parties, as necessary, to supply the needed trained personnel, equipment, and scientific support to complete an immediate and effective response to any oil or hazardous substance discharge.

The NRS is designed to support the OSC and facilitate responses to a discharge or threatened discharge of oil or a hazardous substance. The NRS is used for all spills, including a Spill of National Significance (SONS). When appropriate, the NRS is designed to incorporate a unified command and control support mechanism (unified command) consisting of the OSC, the State's Incident Manager, and the Responsible Party's Incident Manager. The unified command structure allows for a coordinated response effort, which takes into account the federal, state, local, and responsible party concerns and interests when implementing the response strategy. A unified command establishes a forum for open, frank discussions on problems that must be addressed by the parties with primary responsibility for oil and hazardous substance discharge removal. A unified command helps to ensure a coordinated, effective response is carried out and that the particular needs of all parties involved, are taken into consideration. The OSC has the ultimate authority in a response operation and will exert this authority only if the other members of the unified command are not present or are unable to reach consensus within a reasonable timeframe. During hazardous substance release responses in which local agencies usually assume a leading role, the local agency may assume one of the unified commander roles, when a unified command is used. During responses to oil spills, local agencies are not usually involved as part of a unified command but provide agency representatives who interface with the command structure through the liaison officer or the state representative. When a unified command is used, a Joint Operations Center and Joint Information Bureau shall be established. The Joint Operations Center should be located near and convenient to the site of the discharge. All responders (federal, state, local, and private) should be

incorporated into the OSC's response organization at the appropriate level.

A Spill Of National Significance (SONS) is that rare, catastrophic spill event, which captures the nation's attention due to its actual damage or significant potential for adverse environmental impact. A SONS is defined as a spill which greatly exceeds the response capability at the local and regional levels; and which, due to its size, location, and actual or potential for adverse impact on the environment, is so complex, it requires extraordinary coordination of federal, state, local, and private resources to contain and clean up. Only the Commandant of the Coast Guard or the Administrator of the EPA can declare a SONS.

The response to a SONS event must be a coordinated response that integrates the OSC's response organization with the SONS response organization, which is detailed in Tab H-II to this Appendix.

ANNEX A - APPENDIX V
TAB B - NATIONAL RESPONSE POLICY

Section 4201 of OPA 90 amended Subsection (c) of Section 311 of the FWPCA, to require the Federal OSC to "in accordance with the National Contingency Plan and any appropriate Area Contingency Plan, ensure effective and immediate removal of a discharge and mitigation or prevention of a substantial threat of a discharge, of oil or a hazardous substance -

(i) into or on the navigable waters;
(ii) on the adjoining shorelines to the navigable waters;
(iii) into or on the waters of the exclusive economic zone; or
(iv) that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States."

In carrying out these functions, the OSC may:

(i) remove or arrange for the removal of a discharge, and mitigate or prevent a substantial threat of a discharge, at any time;
(ii) direct or monitor all federal, state, and private actions to remove a discharge; and
(iii) recommend to the Commandant that a vessel discharging or threatening to discharge, be removed and, if necessary, destroyed."

If the discharge or substantial threat of discharge of oil or hazardous substance is of such size or character as to be a substantial threat to the public health or welfare of the United States (including, but not limited to, fish, shellfish, wildlife, other natural resources, and the public and private beaches and shorelines of the United States), the OSC shall direct all federal, state, and private actions to remove the discharge or to mitigate or prevent the threat of the discharge.

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ANNEX A - APPENDIX V
TAB C - STATE RESPONSE SYSTEM

PENNSYLVANIA:

COMMUNICATIONS AND NOTIFICATIONS

1. Availability

a. DEP maintains a twenty-four hour, seven days per week availability to receive calls regarding environmental emergencies, natural disasters, or man-made disasters.

b. The Director, Environmental Emergency Response, primary EPLO to PEMA, can be reached, when on duty, by commercial phone or pager. The secondary and tertiary EPLOs can also be reached in this manner. In addition to notification by PEMA, the director or his alternate can be notified independently during major disasters involving activation of the federal, national, or regional contingency plans.

c. Each regional office, and the central office, contracts with an answering service to receive off-hour calls. Each office shall have, at all times, someone available to receive these calls from the answering service, either by being available at a number which the answering service is made aware of or by being within pager range. Direct referral by the answering service is preferred; and, the capability to patch or forward a call directly to the DEP employ, should be a requirement of the answering service contracts where available. The DEP employee who receives these calls will have the technical expertise to evaluate the severity of the incident and will have sufficient authority to contact, form, and dispatch an emergency response team. When personnel other than the Emergency Response Program Manager or the assistant serve in this capacity, the number of such backup personnel should be minimized so that they maintain a familiarity with the emergency response program duties and responsibilities.

2. Notification

a. Notifications to the Department; Notification of environmental emergencies can come from a number of sources, including; fire services, police, emergency medical services, county emergency management agencies, PEMA, EPA, the Coast Guard, regulated industries, or the general public. Regional ERPM's are encouraged to develop personal contacts with the organizations in their regions who may be calling or DEP for assistance so that the regional personnel may be contacted directly. These regionally initiated requests are handled directly by the regions.

(1) Incidents involving potential or actual evacuations, injury or death, major road closings, or train derailment, or major spills or discharges, must be reported to the Director, Environmental Emergency.

(2) Calls referred to the regions from central office may simply be referrals on which no further reports are required or they may require continuing communications. In general, if PEMA becomes involved, the Director, EER, must be kept advised of the status of DEP's involvement until the incident is closed out. The specific requirements for call back will be transmitted with the initial discussions with the central office.

b. Notifications by the Department

(1) It is the responsibility of the Emergency Response Program Manager or the employee serving in this capacity, to initiate the information flow and assure that the appropriate DEP program staff, the Fish Commission, the County Emergency Management Agencies, the Community Relations Coordinator, the Director, EER, and other parties are notified as appropriate.

(2) DEP program staff are responsible for making their own notifications, e.g., Water Supply and Community Health notifies downstream water users, BWQM notifies affected sewer authorities, the CRC notifies the media when appropriate, and the Director, EER, notifies senior staff, PEMA, and other affected regions or states.

3. Communications

a. The department has an extensive VHF radio network that enables virtually statewide communication among technical staff in the field and the regional offices, district offices, and central office.

b. Each department facility maintains a base station console.

c. All of the emergency response vehicles and large numbers of program vehicles are equipped with mobile radios.

d. Portable radios are pooled for field assignment, should out-of-vehicle use be necessary.

e. The mobile radios assigned to the Emergency Response Teams are capable of accessing PSP, PEMA, and counties radio frequency to facilitate coordination during incidents.

f. Department EPLOs maintain current office, home, and pager phone numbers with PEMA to assure availability should the EOC be activated or some other response from the Department is requested. The EPLOs maintain a current on/off hour phone list

of Emergency Response Program Managers and senior department management.

g. The Director, EER, has direct access to the Secretary during off-hours.

h. The Director, EER, maintains two phone lines at his residence in order to more easily accommodate emergency messages.

i. The Director, the ERPMs, and Assistant ERPMs also have mobile cellular telephones installed in their vehicles.

j. In the event of activation of the National or Regional Contingency Plans, the Director, EER, or his alternate, can be contacted on a twenty-four hour basis by the RRT Coordinator.

4. ORGANIZATION AND RESPONSIBILITIES

a. Regional Emergency Response Program Manager:

(1) Receives notification of incident from PEMA, EPA, the Coast Guard, County EMA's, fire companies, state or local police, the DEP regulated community, the DEP staff, the statewide duty officer, Director EER, or the general public.

(2) Makes initial determination whether an immediate response is necessary and whether problem is under Regional Director's authority.

(3) If no immediate response is necessary, logs relevant information, and forwards to appropriate program area next business day.

(4) If problem is not under Regional Director's authority, refers to the Director, Environmental Emergency Response, or the appropriate DEP program area.

(5) If an immediate response is necessary, formulates and coordinates the response through the emergency response staff, the volunteer teams, and the appropriate program bureaus. Manages response from his home, on-site, or the regional office (if wide area radio coverage is necessary for the response).

(6) Arranges for necessary staff, equipment, and supplies on scene at the incident.

(7) Notifies the Director EER or any major incidents, any incidents involving injuries or death, major highway closings, train derailments, evacuations, or any other incidents of a politically or publicly sensitive nature.

(8) Keeps Director informed of the progress of these major incidents, as decided during initial notification.

(9) Ensures downstream water users notified of any potential impacts from pollution.

(10) Arranges for containment, mitigation, and clean-up of incident, either through the responsible party, a local fire company, or through emergency contract procedures.

(11) Serves as DEP team leader on scene at an incident.

(12) Provides technical assistance to fire, police, and county EMA's in responding to emergency incidents.

(13) Provides a liaison to a specified Area Emergency Operations Center.

b. Director, Environmental Emergency Response

(1) Receives notification of incident from EPA, the Coast Guard, County EMA's, fire companies, state or local police, the DEP regulated community, the DEP staff, the Regional Emergency Response Coordinator, the DEP regulated community, PEMA, or the general public.

(2) Refers incidents to the appropriate regional ERPM, or the appropriate program area.

(3) Notifies the Secretary and appropriate deputies of any major incidents, any incidents involving injuries or deaths, major highway closings, train derailments, evacuations, or any other incidents of a politically or publicly sensitive nature.

(4) Notifies PEMA of any of the above major incidents as soon as confirmation is received from on site or as soon as their need for involvement becomes clear.

(5) Coordinates with other commonwealth agencies to obtain needed assistance at emergency incidents.

(6) Authorizes expenditures of emergency funds to contain, mitigate, or clean-up incidents, when necessary to protect the public health.

(7) Deploys emergency response representatives to the State EOC as requested by PEMA, for the coordination of Department emergency activities.

c. Regional Emergency Response Staff.

(1) Serve as technical consultants at emergency incidents to provide consultations on the levels of concern, the potential paths of dispersion, the areas of impact, and protective actions for the public and for the responders.

(2) Provide real-time monitoring around the area of an incident to depict the area affected and assist in defining the need for various control zones.

(3) Provide assistance in acceptable methods of containment and clean-up and ensure work proceeds in an environmentally acceptable manner.

(4) Collect samples at emergency incidents to attempt to characterize the materials involved and the extent of the contamination.

(5) Assist other DEP program areas by providing needed resources and assistance during emergency situations.

d. Field Operations Programs.

(1) Air Quality Control:

(a) Provides assistance in modeling releases of hazardous materials.

(b) Provides real-time meteorological information at nineteen stations across the state on a 24-hour basis.

(2) Water Supply and Community Health.

(a) Warns downstream water users of potential contamination and recommends protective actions.

(b) Samples water supplies and emergency water supplies.

(c) Assists in providing emergency supplies of drinking water.

(d) Inspects evacuation centers, mass care centers, and temporary housing to ensure safe water and sanitary conditions.

(e) Reports any information on damage to public water supply systems to Emergency Response Program Manager or Director Environmental Emergency Response for collation and transmittal to PEMA.

(f) Supplies technical advice in the repair or replacement of public water supply systems damaged during a disaster.

(g) Supplies technical advice and assistance in air, water, food, or vector transmitted diseases.

(h) Conducts field surveys in coordination with the Department of Health of actual or potential public health hazards.

(i) Disseminates information of federal financial assistance available to the operators of publicly owned water supply systems.

(j) Provides staff assistance for the development and promulgation of water conservation orders.

(k) Coordinates emergency sources of water or interconnections with other suppliers for purveyors who are experiencing shortages due to insufficient or contaminated supplies.

(l) Provides technical assistance to water suppliers on conservation or rationing measures.

(m) Prepares and maintains the State Water Plan and other water supply plans identifying communities and water supply systems with potential drought, yield, distribution, drinking water quality, and other water supply problems.

(n) Cooperates with federal, state, county, municipal, and other agencies in planning and implementation of water supply improvements.

(o) Assures the development of appropriate drought and water supply emergency plans by water suppliers.

(p) Cooperates with basin commissions, state, and other agencies in the development and implementation of comprehensive interstate and regional drought and water supply emergency plans.

(3) Waste Management

(a) Provides assistance at spills of any materials which have a potential adverse impact on the environment or on public health.

(b) Provides spill containment and mitigation activities commensurate with degree of risk posed by the incident.

(c) Provides assistance in disposing of materials resulting from the clean up of an emergency or pollution incident.

(d) Maintains detailed records of toxic waste sites in the Commonwealth.

(e) Disseminates information of federal financial assistance available to the operators of solid waste facilities.

(4) Water Quality Management

(a) Provides assistance at spills of any materials which impact ground or surface water.

(b) Provides spill containment and mitigation activities commensurate with degree of risk posed by the incident.

(c) Conducts sampling of ground or surface water during an environmental emergency or pollution incident.

(d) Reports any damage or disruption of sewage disposal facilities to Emergency Response Program Manager or Environmental Emergency Response Director for collation and transmittal to PEMA.

(e) Supplies technical advice in the repair or replacement of sewage disposal facilities damaged in a disaster.

(f) Disseminates information of federal financial assistance available to the operators of sewage disposal systems.

DELAWARE

The Department of Natural Resources and Environmental Control (DNREC), Division of Environmental Control, maintains listings of commercially available resources in Delaware. The department will provide response assistance on oil and hazardous materials incidents, public health exposures, and information and advice concerning local habitat, wildlife, and fisheries. The department is also responsible for enforcement of the state's pollution laws.

Employees of DNREC and Environmental Control's Environmental Response Branch will initially provide personnel to staff the Unified Command System. Additional DNREC personnel will become involved as needed. The DNREC will involve additional Delaware agencies as required. The DNREC will be the primary Delaware contact to the Unified Command System.

NEW JERSEY

New Jersey is a home rule state. County, state and federal resources support local government.

Operational organization for New Jersey state-level response agencies differ from day-to-day in that regional responders from New Jersey Office of Emergency Management (NJOEM) and the New Jersey Department of Environmental Protection (NJDEP) field offices are usually the lead individuals for their respective agencies. In emergencies of extreme magnitude which justify alerting and mustering bureau, division and/or department heads, notification will be made by operational personnel. Whenever, in the opinion of the governor, the control of any disaster is beyond the capabilities of local authorities, the Governor is authorized:

1. To proclaim a "state of emergency" if he/she deems necessary.

2. To assume control of all emergency management operations.

3. To use all resources of state and local governments and commandeer and use personnel services and privately-owned property to avoid or protect against any emergency, subject to future payment of reasonable value.

In the event of a State Disaster Proclamation, the state's response efforts will be coordinated from the State Emergency Operations Center (State EOC), at State Police Headquarters, West Trenton (609) 882-4201. (Philadelphia USCG has the ability to communicate with the EOC via the New Jersey State Police 800 MHz radio, located in the office of Information Resource Management). The Superintendent of the New Jersey State Police, as Director of the New Jersey Office of Emergency Management (NJOEM), has been designated to act on behalf of the Governor in emergency situations.

NJOEM is responsible for the coordination of state, county, and municipal response efforts.

NJDEP has the overall responsibility for hazardous material pollution in the state. (New Jersey law defines oil as a hazardous material). The Chief, Bureau of Emergency Response DEP, represents the state on the RRT and is pre-designated the State On-Scene Commander.

In most cases, regional responders from NJOEM and NJDEP will be the lead for state-level personnel and command.

New Jersey State Police Marine Bureau and/or Division of Criminal Justice, county, and local law enforcement agencies have the authority to enforce the New Jersey Clean Water Enforcement Act, NJSA 58:10A-1. Whenever a hazardous material (N.J. law defines oil as a hazardous material) is discharged into the state's fresh

or tidal waters, an investigation may be initiated to determine if negligence is involved. If negligence is a contributory factor, civil or criminal proceedings may be implemented.

Operational scenarios - the below listed scenarios reflect a minimum response:

Average Most Probable Discharge

1. DEP
   A. The degree of the discharge will dictate a physical response or just notification of the various state, county, or local authorities.

2. NJOEM
   A. The degree of the discharge will dictate a physical response or just notification of the various state, county, or local authorities.

3. N.J. State Police Marine Bureau and/or the Division of Criminal Justice
   A. The degree of the discharge will dictate physical response.

Maximum Most Probable Discharge

1. DEP

2. NJOEM
   A. The degree of the discharge will dictate a physical response or just notification of the various state, county, or local authorities.

3. N.J. State Police Marine Bureau and/or the Division of Criminal Justice
   A. Most cases, physical response will be initiated.

Worst Case Discharge

1. DEP

2. NJOEM

3. N.J. State Police Marine Bureau and/or the Division of Criminal Justice

Detailed emergency operations procedures can be obtained from the New Jersey State Emergency Operations Plan.

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ANNEX A - APPENDIX V
TAB D - STATE RESPONSE POLICY

PENNSYLVANIA:

The emergencies to which DEP responds can also be divided into these groups. The first of these include those emergencies which do not pose a significant threat to the response personnel (e.g., an oil spill, a water shortage, or a food-borne illness). The second group includes those emergencies which, although they do pose a risk to the response personnel, are within the normal range of duties of the responsible program staff (e.g., a forest fire, a mine accident, or a fixed nuclear facility incident). The third group includes hazardous materials releases to the air, ground, or water, which are beyond the response capabilities of the normal program staff, due to the specialized sampling, mitigation, and personal protective equipment and training required. For the purpose of clarification in this plan, the term "emergency" shall refer to all three of the above groups; and the term ‡hazardous materials incident‡ shall refer specifically to this last group.

The Environmental Emergency Response Program's mission is to ensure prompt response to the above first two groups through coordination of the regular program staffs and to form and train emergency response teams to respond to hazardous materials incidents.

The Environmental Emergency Response Program is structured to protect the natural environment and to protect the public health and safety at the above-listed emergencies by providing timely assistance to the organization or persons primarily responsible for the control of the emergency. This might be a DEP program, a fire chief, the police, elected officials, a facility owner, or a federal agency. For the purposes of this manual, these parties, who are responsible for the response, will be called "Incident Commanders." The Environmental Emergency Program is not structured to provide those services normally under the province of these incident commanders, nor is it structured to preempt the incident commanders' prerogatives in carrying out their duties. It is a program which provides consultation in the techniques to be used for a particular situation to best protect public health and the environment and which provides coordination of DEP multi-program responses.

The Environmental Emergency Response Program will also assist in the assessment of damages resulting from natural disasters or major environmental emergencies. In carrying out this portion of the program, emergency management personnel will rely heavily on the expertise of the individual program areas within the deputates.

An important aspect of DEP's program is the tenet that the person responsible for causing the problem is responsible for all aspects of correcting the problem. In the case of spills, local elected officials, through their emergency response agencies, are generally responsible for providing immediate containment and mitigation, at least until the responsible party can take over the response. Mitigation, containment, and clean-up are generally not proper functions of the Emergency Response Program. However, all personnel involved with this program will carry, in their vehicles and in the vans, a small quantity of commonly-used containment supplies and equipment. They will use this equipment in a limited number of cases under special circumstances(e.g.,
a dire emergency, they are first on the scene, low hazard exposure to the DEP personnel). Additionally, the department's Regional Emergency Response Program Managers (ERPM's) are authorized to enter into emergency contracts on behalf of the department, when the responsible party or the first responders are unable or unwilling to act; and, immediate action is necessary to protect the public health or the environment.

STAFFING AND LINES OF AUTHORITY

The Director of DEP's Environmental Emergency Response Program has the direct authority of the Secretary of DEP in directing the department's response to environmental emergencies and natural disasters. Although this position is organizationally under the Deputy Secretary for Field Operations, it is nevertheless responsible for coordination of the entire department's response effort. The Field Operations Deputate's Regional Emergency Response Program Managers (ERPMs) have the direct authority of the Regional Directors in directing response to incidents within their respective regions. Volunteer personnel are drawn from the regular program staff to provide the manpower for the response as necessary. The ERPM's also have authority to coordinate responses in their respective regions for the other deputates under this plan.

EMPLOYEE HEALTH AND SAFETY

The health and safety of DEP emergency response personnel is of the highest importance. DEP employees shall not be permitted to participate in field activities involving hazardous materials until they receive adequate training, as defined in the training section, or otherwise demonstrate they have the knowledge to safely respond to a given incident by virtue of their work experience. The determination whether an employee without formal training has adequate experience to respond shall be made jointly by the ERPM and the employee's supervisors. Additionally, employees will not be sent into a hazardous situation without being made aware of the hazards involved, either by virtue of previous training or by a briefing by a knowledgeable person, prior to entry. And finally, DEP employees will not be sent into a hazardous situation without appropriate personnel protective equipment to provide them with adequate protection. The ERPM has ultimate authority in making sure the Health and Safety

Program is enforced at the scene of an incident, but he may delegate this authority to a health and safety officer.

COMMUNICATIONS

Communications at the scene of an incident are under the control of the DEP team leader. All communications between DEP and other operational response organizations will be made through the team leader. No communications with the press shall be made by anyone other than the team leader or his designee. In major instances, the community relations coordinator will be on scene and will serve in this capacity.

REGIONALIZATION OF PROGRAM

To be an effective program, the emergency response program must provide the quickest possible response to environmental emergencies. To this end, the field operations portion of the response program has been decentralized to the FO regional offices. Direct initial contacts are encouraged at the regional level for all incidents, except those reported by PEMA. The regions are then responsible for notifying the Director of Environmental Emergency Response of incidents, which require his attention as defined in the section on general response patterns and major organizational responsibilities.

HEADQUARTERS FOR DER RESPONSE

Major DEP responses will be run out of the DEP headquarters. Availability of DEP communications equipment, technical reference material, computer equipment, and access to program and senior management personnel necessitate this approach to managing an effective response. Regional responses will be run out of the regional headquarters. The decision to go from a regional response to a major DEP response will be made by the director of Environmental Emergency Response or the appropriate deputy secretary.

DELAWARE

Delaware Pollution Control Act of 1949: Title 7, Delaware Code, Chapters 60-64.

Provisions: General water-quality criteria are as follows: "The waters shall not contain substances attributable to municipal, industrial, agricultural, or other discharges in concentrations or amounts sufficient to be adverse or harmful to water uses to be protected, or to a human, animal, aquatic, and wildlife. The waters shall be free from unsightly and malodorus nuisances due to floating solids or sludge deposits, debris, oil, and scum."

Enforcement of the state's pollution laws is carried out by the Delaware Department of Natural Resources & Environmental Control, headquartered at Dover, Delaware.

NEW JERSEY

The New Jersey organization of government structure places on-scene control with the municipality. County, state and federal forces are to support local operations. In many cases, municipalities may not have adequate response resources. The county and/or New Jersey Department of Environmental Protection (NJDEP) and the New Jersey Office of Emergency Management (NJOEM), will assist in emergency operations.

For hazardous materials emergencies (New Jersey law defines oil as a hazardous material), all incidents must be reported to NJDEP's Emergency Hot Line, (609)292-7172. NJDEP will then notify their own regional responders and the NJOEM. Notification and activation of other agencies and levels of government, is then handled on a situation basis. A Memorandum of Understanding between NJDEP and NJOEM is located in Annex K.

Depending on the degree of the situation, NJDEP will coordinate their response activites through either the local, county, or state Office of Emergency Management.

NJOEM and DEP will monitor the decision-making regarding protectve actions, including traffice re-routing, evacuation, sheltering, and on-scene security. NJOEM's level of involvement depends on the number of jurisdiction that are effected. For small operations within one or two municipalities, local, and county forces usually can manage the situation. For multi-county or interstate emergencies, the NJOEM will participate more actively by coordinating the acquisition of resources and interagency cooperation.

NJDEP's area of expertise is in environment and personal exposure assessment and evaluation. NJOEM responders are on-scene to monitor overall coordination and to ensure that decisions are carried out as quickly and efficiently as possible. The NJOEM and DEP responders will activate any resources and agencies necessary to expedite dissemination of decisions.

While protective action decisions are the responsibility of the local command group, the NJOEM and NJDEP responders will participate in this process, along with other municipal, county, state, and federal agencies. The Incident Command System is used for all incidents; information and decision-making is coordinated by and through the Incident Commander.

Detailed emergency operations policy and procedures can be obtained from the N.J. State Emergency Operations Plan.

All hazardous material discharges into New Jersey's fresh and tidal waters are subject to the New Jersey Clean Water Enforcement Act, NJSA 58:10A-1. When a discharge occurs, an investigation may be initiated by the New Jersey State Police Marine Bureau and/or New Jersey Division of Criminal Justice, county or local law enforcement agencies. If negligence is a factor, civil or criminal proceedings may be implemented.

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PENNSYLVANIA:

County Government

Each county has an emergency management coordinator who maintains an emergency management organization. This organization provides logistics and resource support for the emergency response forces.

County Emergency Management Coordinator

a. Notify PEMA of any accident involving a spill of oil or other hazardous substance.

b. Brief emergency services personnel concerning response actions for oil spills

c. Provide access and egress control for accident-affected areas in coordination with state and municipal police.

d. Provide county hazardous materials team to assist.

e. Provide information on local conditions including road network, surface water supplies, and environmentally sensitive risk areas.

f. Coordinate the safe and efficient use of volunteers.

g. Maintain or obtain county and municipal response cost documentation for possible use in recovery action.

NEW JERSEY

There are nine New Jersey counties which border the Delaware River and Bay and the Atlantic Ocean. Each county is sub-divided with numerous municipalities within the Captain of the Port's jurisdiction:

Mercer County	3 municipalities
Burlington County	15 municipalities
Camden County	4 municipalities
Gloucester County	6 municipalities
Salem County	8 municipalities
Cumberland County	11 municipalities
Cape May County	15 municipalities
Atlantic County	13 municipalities
Ocean County	23 municipalities

Each county and municipality have an Emergency Management Coordinator available 24-hours a day. The County Coordinator has the ability to access all county and municipal resources in the event of disaster or emergency situations.

All of the counties, except Mercer, have an agent contracted by the New Jersey Department of Environmental Protection (NJDEP), under the County Environmental Health Act (CEHA). In Salem County, the County Office of Emergency Management (Co. OEM) is the contracted agent. In the remaining counties, the County Health Department is the agent.

The C.E.H.A. contract authorizes the County Agents to act in DEP's behalf in areas of: water, solid waste, spills of hazardous substances (N.J. State laws defines oil as a hazardous substance), and emergency response. The County Agents are activated by various means: DEP, NJOEM, County OEM, county communications, or direct requests from municipalities.

Mercer County has no C.E.H.A. contract Agent. Trenton City and Hamilton Township, both bordering the Delaware River, have Hazardous Material Response Units. Trenton city's unit is under the jurisdiction of the full-time, paid fire department. Hamilton Township's unit consists of volunteers and is somewhat limited in response. These units can be activated through the Mercer County Emergency Management Coordinator (EMC).

For specific county information, all the county plans are on file, and all of the County Emergency Operations Plans have the same plan format.

All of the counties have their respective Municipal Emergency Operations Plans on file, and specific municipal information can be accessed through the county EMC.

ANNEX A - APPENDIX V
TAB F - LOCAL RESPONSE POLICY

PENNSYLVANIA:

1. Political Subdivisions

Elected officials of political subdivisions exercise direction and coordination of emergency management operations through their respective emergency management organizations operating from their designated EOCs.

2. Operational Direction

Direction of emergency operations and administration of disaster relief is the responsibility of the lowest level of government affected.

3. Multiple Political Subdivisions

When two or more municipalities within a county organization will exercise responsibility for emergency management coordination and support to the area of operations. When two or more counties are involved, coordination will be provided by PEMA.

4. Reporting Channels

Emergencies occurring in a political subdivision will be reported through emergency management channels from municipal to county to PEMA. Emergencies may also be reported through state government channels when state agencies are involved.

5. 24-Hour Capability

PEMA will maintain a 24-hour communication capability; and upon notification, will monitor the development of any emergency situation which may progress to a disaster level.

6. Warnings

Warnings of imminent disaster situations received by PEMA are relayed to the counties affected by means of the PEMA teletype network or by phone.

7. Standard Operating Procedure (SOP)

PEMA will refer and alert state and county officials as appropriate in accordance with its SOP.

8. Public Information

Public information in normal day-to-day operations is generally provided directly to the news media by the respective department/agency heads of state government. When this Commonwealth Emergency Operations Plan is activated, all emergency public information will be coordinated with, and/or released, through PEMA. All requests for information concerning emergency situations will be referred to PEMA's press secretary.

NEW JERSEY

County response policy varies from each county. Specific information can be obtained from the county emergency operations plans on file. All of the counties have the same plan format.

Municipal response policy varies from each municipality. Specific information can be obtained from the County Office of Emergency Management (Co. OEM). Each county has their respective municipal emergency operations plans on file.

New Jersey is a home rule state. State law places on-scene control with the municipality. County, state and federal forces are to support local functions. In many cases, municipalities may not have adequate response resources, and the county and/or N.J. Department of Environmental Protection (NJDEP), and the N.J. Office of Emergency Management (NJOEM), will assist in emergency operations and procuring available resources.

Municipal and county agencies operate under the Incident Command System. Depending upon the magnitude of the situation, the county and/or municipal responders may elect to coordinate all responses from an Incident Command Post or support Incident Command Post activities from a local and/or county Emergency Operations Center (EOC). All of the counties and municipalities have primary and alternate EOCs and have the ability to establish Incident Command Posts in various facilities. The counties can establish mobile command posts, with the use of a mobile communications unit.

ANNEX A - APPENDIX V
TAB G - RESPONSIBLE PARTY RESPONSE POLICY

Under OPA 90, the responsible party has primary responsibility for cleanup of a discharge. The response shall be conducted in accordance with their applicable response plan. Section 4201(a) of OPA 90 states that an owner or operator of a tank vessel or facility participating in removal efforts shall act in accordance with the National Contingency Plan and the applicable response plan required. Section 4202 of OPA 90 states that these response plans shall:

(i) be consistent with the requirements of the National Contingency Plan and Area Contingency Plans;

(ii) identify the qualified individual having full authority to implement removal actions and require immediate communications between that individual and the appropriate federal official and the persons providing personnel and equipment pursuant to Clause (iii);

(iii) identify, and ensure by contract or other means approved by the President, the availability of private personnel and equipment necessary to remove to the maximum extent practicable a worst-case discharge (including a discharge resulting from fire or explosion), and to mitigate or prevent a substantial threat of such a discharge;

(iv) describe the training, equipment testing, periodic unannounced drills, and response actions of persons on the vessel or at the facility, to be carried out under the plan to ensure the safety of the vessel or facility and to mitigate or prevent the discharge, or the substantial threat of a discharge;

(v) be updated periodically; and

(vi) be resubmitted for approval of each significant change."

Each owner or operator of a tank vessel or facility required by OPA 90 to submit a response plan, shall do so, in accordance with applicable regulations. Facility and tank vessel response plan regulations, including plan requirements, are located in 33 CFR Parts 154 and 155, respectively.

Prior to conducting lightering operations at Bigstone Anchorage or upriver anchorages, the vessel's owner/operator or master shall provide the following information to COTP Philadelphia:

1. The qualified individual's name and telephone number.

2. The Oil Spill Removal Organization (OSRO) and the Oil Spill Recovery Vessel (OSRV) that will provide average most-probable discharge coverage during lightering operations at Bigstone Anchorage or upriver anchorages. The OSRO/OSRV must be capable of meeting the response and recovery-time requirements identified in 33 CFR 155.1050, specifically, the capability of deploying response equipment on-scene within one hour and the ability to commence recovery operations on-scene within two hours.

Until COTP Philadelphia has received and reviewed the information, lightering operations will not be permitted. This information may be provided via telephone, telex, or fax.
As defined in OPA 90, each responsible party for a vessel or a facility from which oil is discharged, or which poses a substantial threat of a discharge into or upon the navigable waters or adjoining shorelines or the Exclusive Economic Zone, is liable for the removal costs and damages specified in Subsection (b) of Section 1002 of OPA 90. Any removal activity undertaken by a responsible party must be consistent with the provisions of the NCP, the Regional Contingency Plan (RCP), the Area Contingency Plan, and the applicable response plan required by OPA 90. If directed by the OSC at any time during removal activities, the responsible party must act accordingly.

Each responsible party for a vessel or facility from which a hazardous substance is released, or which poses a substantial threat of a discharge, is liable for removal costs as specified in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 U.S.C. 9601 et seq.).

ANNEX A - APPENDIX V
TAB H - ROLE OF THE ON SCENE COORDINATOR

FOR STANDARD RESPONSE STRUCTURE

The On Scene Coordinator is the predesignated federal official responsible for ensuring immediate and effective response to a discharge or threatened discharge of oil or a hazardous substance. The U.S. Coast Guard designates OSCs for the U.S. coastal zones, while the EPA designates OSCs for the U.S. inland zones.

The first federal official affiliated with an NRT member agency to arrive at the scene of a discharge should coordinate activities under the NCP and is authorized to initiate, in consultation with the OSC, any necessary actions normally carried out by the OSC until the arrival of the predesignated OSC. This official may initiate federal fund-financed actions only as authorized by the OSC.

Where appropriate, the OSC shall establish a unified command consisting of the OSC, the state Incident Commander, and the Responsible Party Incident Manager. The OSC is responsible for assigning individuals from within the response community (federal, state, local or private), as necessary, to fill the designated positions in the NRS incident-level response organization. It should be noted, however, that one individual may fill several of the designated positions. These assignments will be predicated on the nature of the spill and the need for extensive manning. These positions and their responsibilities are as follows:

(1) Public Affairs Officer - Responsible for the coordination and release of all media releases and the scheduling of press conferences related to the incident. The PAO may also establish a Joint Information Center (JIC) to facilitate the coordinated release of available information.

(2) Liaison Officer - Responsible for coordinating with outside agencies, individuals, or groups involved in the response.

(3) Safety Officer - Responsible for the safety of all activities associated with the response and compliance with applicable safety laws and regulations. Also responsible for assessing hazardous and unsafe situations and developing measures for assuring personnel safety.

(4) Historian - Responsible for recording the chronology of events and documenting all pertinent activity relating to the spill. All pertinent message traffic, correspondence, etc., should be included in this documentation.

(5) Response Operations Chief - Responsible for management of the tactical response to the discharge, including containment and cleanup efforts.

(6) Planning Chief - Responsible for the development of strategies for the containment and cleanup of the discharge.

(7) Logistics Chief - Responsible for ensuring that the necessary personnel and equipment are obtained and delivered to conduct response operations.

(8) Finance Chief - Responsible for the accounting management of fund expenditures, including documentation for claims and cost recovery. This position will typically be staffed by a DRAT (see Annex F, Appendix IV, Tab C) or NPFC representative.

The OSC shall, to the extent practicable, and as soon as possible after the incident occurs, collect pertinent facts about the discharge, such as its source and cause; the identification of responsible parties; the nature, amount, and location of discharged materials; the trajectory of discharged materials; whether the discharge is a worst-case discharge; the pathways to human and environmental exposure; the potential impact on human health, welfare, safety, and the environment; whether the discharge poses a substantial threat to the public health or welfare; the potential impact on natural resources and property which may be affected; priorities for protecting human health and welfare and the environment; and appropriate resource documentation.

The OSC's efforts shall be coordinated with other appropriate federal, state, local, and private response agencies. An OSC may designate capable individuals from federal, state, or local agencies to act as her/his on-scene representatives. State and local governments, however, are not authorized to take actions under Subpart D of the NCP that involve expenditures of the Oil Spill Liability Trust Fund, unless an appropriate contract or cooperative agreement has been established.

The OSC should consult with the RRT, when necessary, in carrying out the requirements of the NCP and keep the RRT informed of activities under the NCP. The OSC is responsible for addressing worker health and safety concerns at a response scene.

In those instances where a possible public health emergency exists, the OSC should notify the Health and Human Services (HHS) representative to the RRT. Throughout response actions, the OSC may call upon the HHS representative for assistance in determining public health threats and call upon the Occupational Safety and Health Administration (OSHA) and HHS for advice on worker health and safety problems.

The OSC shall ensure that the trustees for natural resources are promptly notified of discharges. The OSC shall coordinate all response activities with the affected natural resource trustees and shall consult with the affected trustees on the appropriate removal action to be taken. Where the OSC becomes aware that a discharge may affect any endangered or threatened species or their habitat, the OSC shall consult with the appropriate Natural Resource Trustee.

The OSC shall submit pollution reports to the RRT and other appropriate agencies as significant developments occur during response actions, through communications networks or procedures agreed to by the RRT and covered in the RCP.

OSCs should ensure that all appropriate public and private interests are kept informed and that their concerns are considered throughout a response, to the extent practicable.

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COMMANDANT INSTRUCTION 16465.1

Subj: SPILLS OF NATIONAL SIGNIFICANCE RESPONSE MANAGEMENT SYSTEM

Ref: (a) National Contingency Plan (40 CFR Part 300)
(b) COMDTNOTE 16465 The Spill of National Significance Protocol, 11 March 94
(c) COMDTINST 16471.1 Adoption of NIIMS ICS, 9 Feb 96
(d) COMDTINST 16471.2 Incident Command System Implementation Plan, 23 May 97

I. PURPOSE. This Instruction contains guidance for establishing an Incident Command System (ICS) Area Command Structure for a Spill of National Significance (SONS). Reference (a), the National Contingency Plan (NCP), assigns responsibilities for emergency preparedness and response to the fifteen federal agencies that comprise the nucleus of the National Response System (NRS). The NCP was revised as a result of the Oil Pollution Act of 1990 (OPA 90) to address the responsibilities for the U.S. Coast Guard and the Environmental Protection Agency to develop a national level organization capable of responding to a SONS. The organization outlined in enclosure (1) describes this coastal zone response organization. This response management structure is based on the National Interagency Incident Management System (NIIMS) ICS and will provide the necessary strategic management and support to execute an effective response to a SONS in the coastal zone.

II. ACTION. Commanders of Areas, Districts, Groups and Activities; Commanding Officers of Marine Safety Offices and Strike Teams; and Captains of the Port shall comply with the requirements of this Instruction and ensure that all personnel involved in response actions are familiar with, and trained in, the use of the NIIMS ICS Area Command Structure.

III. DIRECTIVES AFFECTED. This Instruction replaces reference (b) and augments the guidance in references (c) and (d).

IV. DISCUSSION.

In February 1996, with the promulgation of reference (c), the Coast Guard formally adopted NIIMS ICS as its response management system for response to oil and hazardous substance releases. The Coast Guard's ICS Implementation Plan was established and laid out in reference (d), which describes how ICS will be incorporated into Coast Guard training programs and in daily operations at Coast Guard units.

A SONS is a rare, catastrophic spill which greatly exceeds the response capabilities at the local and regional levels. When responding to an incident of this type, the Coast Guard will continue to use ICS as its response management structure, with

the addition of a strategic management and support function called an ICS Incident Area Command. The ICS Incident Area Command structure described in enclosure (1) can be used in any incident of regional or national significance, or in any case where the Federal On Scene Coordinator (FOSC) or Commander Coast Guard Forces (CCGF), District Commander or Area Commander feels it would be appropriate.

The Incident Area Command structure, like the rest of the Incident Command System structure, is flexible and easily expanded. Position responsibilities are clearly established allowing for quick, efficient organization and response. The Incident Area Command structure builds on the response management system that is in place and used routinely, rather than replacing it. Although a SONS will exceed the local and regional response capabilities, (and will likely affect multiple Captain of the Port zones, Districts, and/or International borders), the Incident Area Command structure is intended to enhance the local response organization and will rely on the applicable Area Contingency Plans as the basis for strategic direction of response actions.

The Incident Area Commander's responsibilities, as described in the NCP, include communicating with affected parties and the public, and coordinating federal, state, local, and international resources at the national level. This strategic coordination will involve, as appropriate, the National Response Team (NRT), the Governor(s) of the affected state(s), and the mayor(s) or other chief executive(s) of local government(s). In addition, it is anticipated that the Incident Area Commander will coordinate with the senior corporate management of responsible parties.

5. PROCEDURES.

a. For a SONS response at Headquarters level, HQINST M1601.2C, "Headquarters Incident Staffing Procedures" will be employed.

b. Area Commanders shall ensure operational and support contingency plan(s) are maintained to manage a SONS in their respective Areas of Responsibility (AORs).

c. Captains of the Port, with the responsibility to develop and maintain coastal zone Area Contingency Plans, shall amend Annex A, Appendix V, and Tab H of these plans to incorporate the information in this notice.

d. Maintenance and Logistics Commands, Integrated Support Commands, Activities, Groups, Air Stations, and Marine Safety Offices shall coordinate efforts to provide

integrated resource capabilities and planning goals necessary to respond to a national incident.

6. TRAINING.

a. Commandant(G-MOR) will develop and conduct a biennial SONS Exercise.

b. Commandant(G-MOR) will coordinate with Area Commanders for the development and conduct of annual tabletop exercises with Incident Area Commanders and their staff.

c. Training and qualifications in Incident Area Command will be in accordance with reference (d).

Encl: (1) ICS Area Command Organization

Spill of National Significance (SONS)

Area Command Organization

1. SONS Declaration and Area Command Activation

The Commandant of the Coast Guard alone is empowered to declare a SONS in the coastal zone, taking into account environmental risks, weather conditions, response capabilities, and the amount, or potential amount, of product spilled. A Coast Guard Area or District Commander may recommend to the Commandant that a SONS be declared. Factors to be considered in declaring a SONS might include:

- Multiple OSC zones, districts, or international borders may be affected;
- Significant impact or threat to the public health and welfare, wildlife, population, economy and/or property over a broad geographic area;
- Protracted period of discharge and/or expected cleanup;
- Significant public concern and demand for action by parties associated with the event; and,
- The existence of, or the potential for, a high level of political and media interest.

Once the Commandant declares a SONS, the following actions will occur.

- An Incident Area Commander will be designated.
- Other Departments/Agencies will be notified.
- A unified Area Command will be established.
- All pre-designated ICS Area Command staff personnel will be placed on immediate alert.

The Incident Area Commander will have overall responsibility for the incident strategic management and will ensure the following:

- Incident Commanders (FOSCs) covered by the Area Command are notified that an Area Command is being established.

- The Incident Area Command team consists of the best-qualified personnel with respect to their functional areas. The functions of Area Command require personnel that have experience in, and are qualified to oversee, complex response situations.

- The Incident Area Command organization operates under the same basic principles as does the Incident Command System.

- The Incident Area Command organization is kept as small as possible. The Incident Area Command organization will typically consist of the Incident Area Commander and Incident Area Command Logistics Chief, Planning Chief, Resources Unit Leader, Situation Unit Leader, Information Officer and Liaison Officer (see Appendix A). Flexibility exists to add a Finance Chief and/or a Chief of Staff.

2. General Organization

Incident Area Command is an organization established to oversee the management of a very large incident that has multiple Incident Command Response Organizations assigned to it. If the incidents under the authority of the Incident Area Command are multi-jurisdictional, a Unified Incident Area Command should be established. This allows each jurisdiction to have representation in the Area Command. Representatives to the Incident Area Command would typically be at the highest executive levels within a responding organization such as a state governor or direct representative, and CEO or President of the affected commercial entity.

For the incident(s) under its authority, Incident Area Command has the responsibility to:

- Set the overall incident related strategic priorities.

- Allocate critical resources based on those priorities.

- Ensure that the incident is properly managed.

- Ensure that incident objectives are met, and do not conflict with each other or with agency policy.

When an Incident Area Command is established, Incident Commanders (FOSCs), will report to the Incident Area Commander. The Incident Area Commander is accountable to the Commandant.

Although the general concept for a nationally significant response involves an oil spill, major natural disasters such as

earthquakes, floods, or hurricanes create a large number of incidents affecting multi-jurisdictional areas. Due to their size and potential impact, these incidents provide an environment for the use of Incident Area Command as deemed appropriate by the lead federal agency.

In situations where multiple incidents are occurring, the use of an Incident Area Command makes the jobs of FOSCs more manageable for the following reasons:

a. Much of the inter-incident coordination normally required of each FOSC will be accomplished at the Incident Area Command level. Using an Incident Area Command organization allows the FOSCs and their response organization to focus their attention on their assigned incident.

b. Incident Area Command sets priorities between competing FOSC objectives and resource needs.

c. Incident Area Command ensures that established agency policies, priorities, constraints, and guidance are made known to the respective Incident Commanders.

It is important to remember that Incident Area Command does not replace the Incident Command level ICS organization or functions.

Incident Commanders under the designated Incident Area Commander, are responsible to and should be considered as part of, the overall Incident Area Command organization. They must be provided adequate and clear delegation of authority.

3. Suggested Composition of an ICS Area Command.

In accordance with the structure found in Appendix A, the following represents a possible staffing structure for an ICS Area Command. The Incident Area Commander, whether at the District or Area level, may add positions and personnel_to their staff as the situation dictates. It is important to note that some positions may be filled by personnel from other agencies such as GSA, FEMA, DOD, state government, or the responsible party. If the Incident Area Command is stood up at the District level, the Incident Area Unified Commander would be the District Commander and the corresponding staff would be from the appropriate District Response Group (DRG) as well as any other district resource.

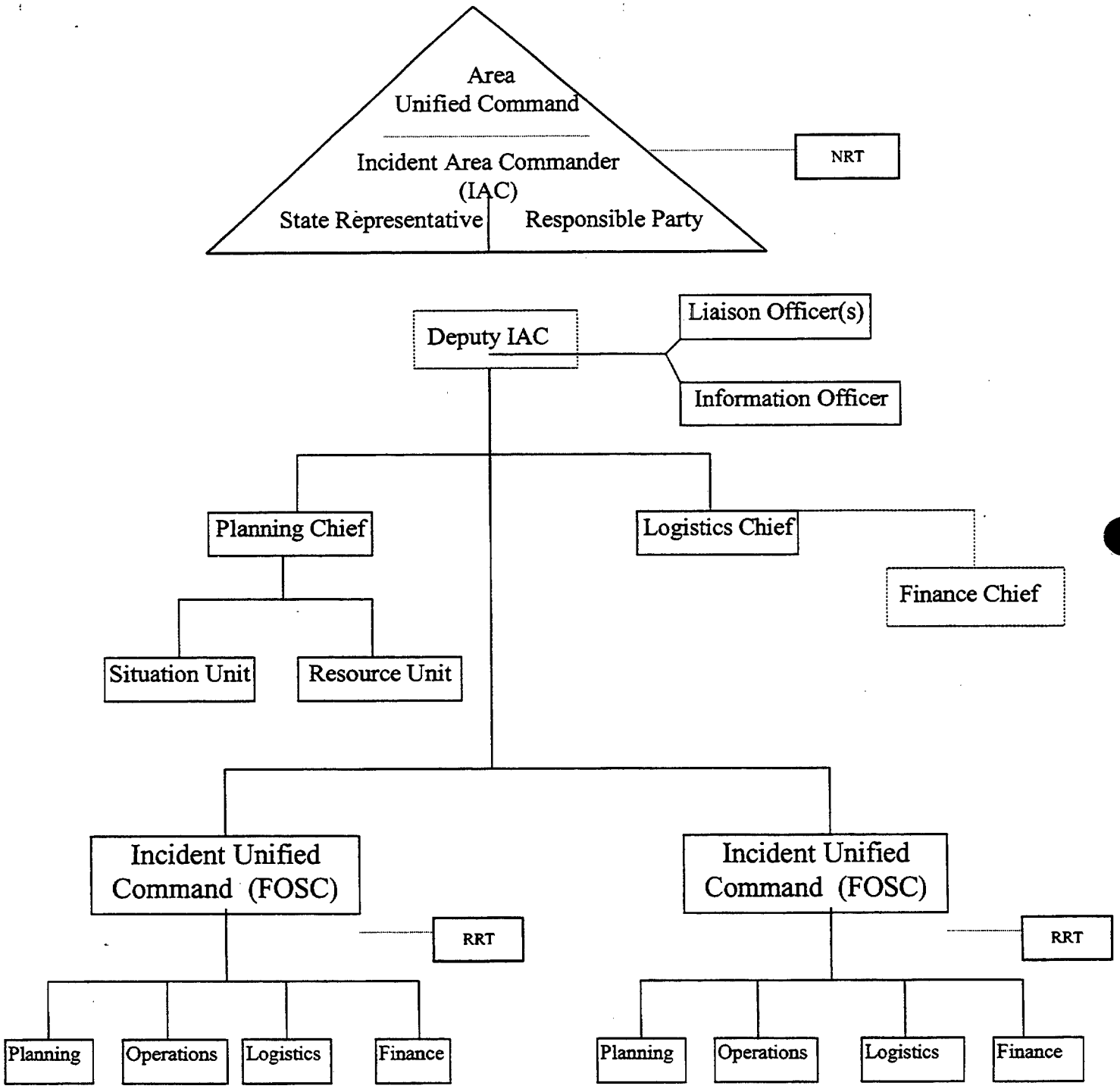
Incident Area Command Position **Suggested/Recommended Billet**

ICS Area Unified Commander	USCG Area Commander
Deputy ICS Area Commander	Lant/PacArea(m)(O-6), G-MO,(O-6) or CO NSFCC,(O-6)
Liaison Officer	District(m)/RRT Co-Chair (O-6)
Information Officer	G-CP (O-6)
Protocol Officer	G-CC (O-5)
Public Affairs Officer	LANT/PAC AREA (ACP/PCP) (O-4)
Planning Section Chief	NSFCC CO/XO (O-6/5)
Situation Unit Leader	NSFCC PREP Team Leader,(O-4)
Resource Unit Leader	NSFCC OPS,(O-4)
Logistics Section Chief	MLC Lant/PAC, (O-6)

4. Establishment of Area Command

The establishment of an ICS Area Command can occur with the District Commander filling the role of Incident Area Commander. This organization would be particularly useful for incidents which are challenging to the local commanders but do not demand national attention. At this level most billets would be drawn from district level resources, District Response Groups, and aimed at reducing the overhead to be managed by the Incident Commander. Further, Incident Management Teams can be called upon to augment the Incident Commander's staff. This ability to project a flexible response facilitates an expanding or contracting response effort, drawing upon one of the strengths of ICS.

Suggested Incident Command System Area Command Organization



ANNEX B - ORGANIZATION

Reference: (a) 33 U.S. Code 1321, Federal Water Pollution Control Act (FWPCA)
(b) Public Law 101-380 of August 18, 1990, The Oil Pollution Act of 1990 (OPA 90)
(c) 40 CFR 300, National Oil and Hazardous Substances Pollution Contingency Plan (NCP)

GENERAL. As designated chairman for the Area Committee organization the Captain of the Port has far-reaching authority and jurisdiction for carrying out the responsibilities attendant to this position. It should be noted that the Captain of the Port in Philadelphia is uniquely charged with the additional responsibilities of Commanding Officer, MSO/Group Philadelphia, which further broaden this scope of authority.

a. Commander, Group Philadelphia (Group Philadelphia). Commander, Coast Guard Group Philadelphia, is responsible for all Group assets under his operational command. His immediate superior is Commander, Fifth Coast Guard District. Commander, Coast Guard Group Philadelphia, is also designated Commander, Coast Guard Forces Philadelphia, when operating under the Maritime Defense Zone concept (MARDEZ). This organization is responsible for supporting defense mobilization and gives the Commander authority over several other commands, reserve, and active duty, when activated. This authority could prove useful during spills of national significance.

b. Captain of the Port, Philadelphia (COTP Philadelphia). Commanding Officer, MSO/Group Philadelphia is also designated as the Captain of the Port (COTP). COTP Philadelphia is the predesignated federal OSC. The Port Operations Department of MSO/Group Philadelphia administers the regulatory programs assigned to the COTP.

c. Federal On-Scene Coordinator (FOSC). Reference (a) as amended by reference (b), requires the establishment and designation of the FOSC, as well as, national, regional, and local response and consultative groups to help the FOSC carry out prescribed responsibilities. Specific responsibilities of the FOSC are listed in Section 300.120 of reference (c).

COMMAND AND CONTROL. Available to the FOSC, but not under the direct command of the COTP Philadelphia, are advisory groups established by references (b) and (c). Those groups are described in the following Appendices.

Appendices: (I) Planning Organization
(II) Response Organization

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ANNEX B
APPENDIX I - PLANNING ORGANIZATION

GENERAL. Planning is an essential element of preparing for, and responding to, the discharge of oil or hazardous materials. By identifying sensitive areas, developing strategies to protect them, and identifying equipment, personnel, or training shortfalls, the Area Committee can better prepare for oil spills.

The Captain of the Port Philadelphia, as the designated Federal OSC, has several resources available for planning and responding to spills of oil or hazardous substances within the COTP's area of responsibility. The following Tabs outline many of these resources, which include (but are not limited to) the federal, state, and local agencies which are members of the Area Committee.

Tabs: (A) National Response Team
(B) Regional Response Team
(C) Area Committees

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ANNEX B - APPENDIX I
TAB A - NATIONAL RESPONSE TEAM

The NRT's membership consists of fifteen federal agencies with responsibilities, interests, and expertise in various aspects of emergency response to pollution incidents. The EPA serves as chair; and the Coast Guard serves as vice-chair of the NRT, except when activated for a specific incident. The NRT is primarily a national planning, policy, and coordination body and does not respond directly to incidents. The NRT provides policy guidance prior to an incident and assistance as requested by an FOSC via an RRT during an incident. NRT assistance usually takes the form of technical advice, access to additional resources/equipment, or coordination with other RRTs. The following is a list of NRT members and their functions:

Environmental Protection Agency (EPA): The EPA chairs the NRT, co-chairs the standing RRT's, provides predesignated Federal On-Scene Coordinators for the inland zone, provides Remedial Projects Managers (RPM's) for remedial actions, and generally provides Scientific Support Coordinators for the inland zone. The EPA provides expertise on environmental effects of releases and on environmental pollution control techniques. The EPA provides legal expertise on the interpretation of CERCLA and other environmental statutes. The EPA may enter into a contract or cooperative agreement with the appropriate state to implement response actions.

United States Coast Guard (USCG): The USCG provides predesignated Federal On-Scene Coordinators for the coastal zone, co-chairs the standing RRT's, and serves as the NRT vice-chair. The USCG staffs and administers the National Response Center; maintains continuously-manned facilities that can be used for command, control, and surveillance of releases in coastal waters; and serves as fund manager for the OSLTF. The Coast Guard's National Strike Force is especially trained and equipped to respond to major pollution incidents. In water pollution incidents, in which the USCG has financial responsibility jurisdiction, the USCG ensures the responsible parties, both U.S. and foreign, are able to compensate the U.S. and other impacted parties through the Certificate of Financial Responsibility Program.

Federal Emergency Management Agency (FEMA): FEMA provides guidance, policy, and program advice, and technical assistance in hazardous materials and radiological emergency preparedness activities (planning, training, and exercising) to state and local governments. During responses, FEMA provides advice and assistance to the lead agency on coordinating relocation assistance and mitigation efforts with other federal agencies, state, and local governments, and the private sector. FEMA may

enter into an agreement with the appropriate political entity to implement relocation assistance during responses.

Department of Defense (DOD): The DOD must take all action necessary with regard to releases of hazardous substances where the release is on, or the site source of the release is from, a facility or vessel under jurisdiction, custody, or control of the DOD. The DOD may also, consistent with its operational requirements and at the request of the Federal On-Scene Coordinator, provide locally deployed U.S. Navy oil spill equipment and provide response assistance to other federal agencies upon request. The U.S. Navy (USN) also has an extensive array of specialized equipment and personnel available for use in ship salvage, shipboard damage control, and diving. The U.S. Army Corps of Engineers has specialized equipment and personnel for removing navigation obstructions and accomplishing structural repairs.

Department of Energy (DOE): Except as otherwise provided in Executive Order 12580, the DOE provides Federal On-Scene Coordinators/RPM's that are responsible for taking all response actions with respect to releases of hazardous substances where either the release is on, or the sole source of the release is from, any facility or vessel under its jurisdiction, custody, or control. In addition, under the Federal Radiological Emergency Response Plan (FRERP), the DOE provides advice and assistance to other Federal On-Scene Coordinators/RPMs for emergency actions essential for the control of immediate radiological hazards.

Department of Agriculture (USDA): The USDA has scientific and technical capability to measure, evaluate, and monitor, either on the ground or by use of aircraft, situations where natural resources including soil, water, wildlife, and vegetation have been impacted by hazardous substances. The USDA may be contacted through Forest Service emergency staff officers who are the designated members of the RRT. Agencies within USDA with relevant expertise are: the Forest Service, the Agriculture Research Service, the Soil Conservation Service, the Food Safety and Inspection Service, and the Animal and Plant Health Inspection Service.

Department of Commerce (DOC): Through the National Oceanic and Atmospheric Administration (NOAA), the DOC provides scientific support for responses and contingency planning in coastal and marine areas, including assessments of the hazards that may be involved, predictions of movement and dispersion of oil and hazardous substances through trajectory modeling, and information on the sensitivity of coastal environments to oil or hazardous substances. NOAA provides scientific expertise on living marine resources it manages and protects. It also provides information on actual and predicted meteorological, hydrologic, ice, and oceanographic conditions for marine, coastal, and inland waters, as well as, tide and circulation data.

Department of Health and Human Services (HHS): The HHS is responsible for providing assistance on matters related to the assessment of health hazards at a response and protection of both response workers and the public's health. The HHS is delegated authorities under CERCLA relating to a determination that illness, disease, or complaints may be attributable to exposure to a hazardous substance, pollutant, or contaminant. Agencies within HHS that have relevant responsibilities, capabilities, and expertise are the Agency for Toxic Substances and Disease Registry (ATSDR) and the National Institutes for Environmental Health Sciences (NIEHS).

Department of the Interior (DOI): The DOI has expertise on and jurisdiction over a wide variety of natural resources and federal lands and waters as well as certain responsibilities for native Americans and U. S. Territories. The DOI may be contacted through Regional Environmental Officers (REO), who are the designated members of RRTs. Bureaus and offices with relevant expertise are: Fish and Wildlife Service, Geological Survey, Bureau of Indian Affairs, Bureau of Land Management, Minerals Management Service, Bureau of Mines, National Park Service, Bureau of Reclamation, Office of Surface Mining and Reclamation Enforcement, and Office of Territorial Affairs.

Department of Justice (DOJ): The DOJ provides expert advice on complicated legal questions arising from discharges or releases, and federal agency responses. In addition, the DOJ represents the federal government, including its agencies, in litigation relating to such discharges or releases.

Department of Labor (DOL): The Occupational Safety and Health Administration (OSHA) and the state' operating plans approved under the Occupational Safety and Health Act of 1970, have authority to conduct safety and health inspections of hazardous waste sites to assure that employees are being protected and to determine if the site is in compliance with safety and health standards and regulations. On request, OSHA will provide advice and assistance regarding hazards to persons engaged in response activities.

Department of Transportation (DOT): The DOT provides response expertise pertaining to transportation of oil or hazardous substances by all modes of transportation. Through the Research and Special Programs Administration (RSPA), DOT offers expertise in the requirements for packaging, handling, and transporting regulated hazardous materials. RSPA promulgates and enforces the Hazardous Materials Regulations. RSPA provides technical assistance in the form of Emergency Response Guidebooks and, in a joint effort with FEMA, has developed Hazardous Material Information Exchange (HMIX). RSPA also provides planning support in the development of protective action decision strategies and exercise scenarios.

Department of State (DOS): The DOS takes the lead in the development of international joint contingency plans. It also helps to coordinate an international response when discharges or releases cross international boundaries or involve foreign flag vessels. Additionally, DOS coordinates requests for assistance from foreign governments and U.S. proposals for conducting research at incidents that occur in waters of other countries.

Nuclear Regulatory Commission (NRC): The Commission responds, as appropriate, to releases of radioactive materials by its licensees, in accordance with the NRC Incident Response Plan (NUREG-0728). In addition, the NRC will provide advice to the FOSC/RPM when assistance is required in identifying the source and character of other hazardous substances releases where the commission has licensing authority for activities utilizing radioactive materials.

ANNEX B - APPENDIX I
TAB B - REGIONAL RESPONSE TEAM

There are thirteen RRTs, one for each of the ten federal regions and Alaska, the Caribbean, and the Pacific Basin. Each RRT has federal and state representation. EPA and the Coast Guard cochair the RRTs. Like the NRT, RRTs are planning, policy and coordinating bodies, and do not respond directly to incidents. The RRTs develop Regional Contingency Plans for their regions. These plans address region specific issues and provide guidance to the OSCs for developing their area plans. The RRTs also provide one level of review for the Area Contingency Plans. The RRTs may be activated for specific incidents when requested by the OSC. If the assistance requested by an OSC exceeds an RRT's capability, the RRT may request assistance from the NRT. During an incident, the RRT may either be alerted by telephone or convened. The cognizant RRTs will also be consulted by the OSC on the approval/disapproval of the use of chemical countermeasures, when that decision has not been preapproved.

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ANNEX B - APPPENDIX I
TAB C - AREA COMMITTEES

The primary role of the Area Committee is to act as a preparedness and planning body. Area Committees are made up of experienced environmental/response representatives from federal, state, and local government agencies with definitive responsibilities for the area's environmental integrity. Each member is empowered by their own agency to make decisions on behalf of the agency and to commit the agency to carrying out roles and responsibilities as described in this plan. The predesignated Federal On-scene Coordinator for the area will serve as chairman of the committee. He/she will designate the vice-chairman, select the committee members, and provide general direction and guidance for the committee. The OSC should solicit the advice of the RRT to determine appropriate representatives from federal and state agencies. The Area Committee is encouraged to solicit advice, guidance, or expertise from all appropriate sources and establish subcommittees, as necessary, to accomplish the preparedness and planning tasks. Subcommittee participants may include facility owners/operators, shipping company representative, cleanup contractors, emergency response officials, marine pilots associations, academia, environmental groups, consultants, response organizations, and concerned citizens. The OSC will appoint the subcommittee members. The OSC directs the Area Committee's development and maintenance of the Area Contingency Plan.

SEE ANNEX E, APPENDIX II FOR A COMPLETE LISTING OF AREA COMMITTEE MEMBERS

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ANNEX B
APPENDIX II - RESPONSE ORGANIZATION

The Unified Command System (UCS) provides an organization capable of anticipating and responding to pollution response emergencies. UCS is based on the Incident Command System (ICS) and is intended to provide a "common ground" to jointly coordinate command and control for a large number of response agencies. UCS is designed to bring together continuous decision-making input from response groups at every level: city, county, state, federal, and the commercial community.

Each response agency and group is responsible to participate in UCS at the appropriate decision-making level. The UCS is designed to develop proactive consensus building in anticipation of response requirements, making liaison and direct communication between key response decision-makers, an integral and continuous part of the emergency response process. Each agency retains its own organizational identity, chain of command, and direct control of personnel and resource tasking.

Each response organization is expected to employ and fully understand the Incident Command System. Under the Area Plan, the individual ICS's are drawn together and their efforts coordinated by the Unified Command System (UCS). The Unified Command is comprised of the FOSC, the designated representatives of the state of Delaware, New Jersey, and Pennsylvania, and the designated knowledgeable representative of the PRP's Spill Management Team, e.g., the QI. Jointly, the Unified Command determines objectives, strategy, and priorities. In the event that the Unified Command cannot agree on objectives, strategy, or priorities, the FOSC has the authority and responsibility to make any final decision.

The staff elements of the various incident command systems are expected to exercise command and control through their own ICS. Under UCS, the counterpart staff elements in the various ICS systems are encouraged to communicate and coordinate their efforts, e.g., the safety coordinators jointly show information of safety hazards and precautions. The command and control structures shown as Figure 2 are not intended to limit communications and the exchange of information between various staff elements.

In the Philadelphia area, the Unified Command initially meets at MSO Philadelphia. After the initial meetings of the Unified Command and a thorough assessment of the situation, the Unified Command may decide to shift its location. Figure 3 is an example of this situation. The move must be agreed upon by the Unified Command.

Field Command Post Allocation: Field Command Posts (as illustrated by Figure 3) are normally established;

a. Aboard each vessel involved in a casualty that involves a spill or release;

b. At the facility where the spill or release occurred,

if safe;

c. As close to the incident as possible;

d. Typically, in each state with shoreline impact to facilitate coordination with the state ICS.

Each Field Command Post should initially;

a. Establish command and coordination on-scene, outside the impacted area;

b. Rapidly assess the situation and report;

c. Rapidly assess safety concerns and implement safety precautions;

d. Establish communications and implement the communications plan;

e. Rapidly develop and implement a tactical plan;

f. Identify potential staging areas.

It is essential that the QI contact the FOSC, or his/her representative on-scene, as soon as possible. Based on the size or complexity of the incident, the FOSC will determine whether a full or partial activation of the Unified Command System will occur and whether or not the QI or a proper representative, should report to MSO Philadelphia to participate in the Unified Command.

The command and control organizational charts in this plan and the descriptions of duties that follow in Tabs A-E of this Annex, are intended to represent the general concept of operations under this plan. Depending on the size and complexity of the incident, the staff elements and duties described may reside with a single individual, a few individuals, or to several individuals. Similarly, the geographic location of the individuals and staff elements may vary and may be facilitated by communications. Several examples are offered below to illustrate these concepts.

Figure 4 shows the organizational structure where each of the major Unified Command entities, i.e., federal, state, and PRP, have the physical and organizational support of considerable organizations. Physically, each entity may operate their individual ICS organizations from different locations, with the Unified Command members, command post elements, and other key elements co-located. An example of the arrangement is when
a facility establishes its ICS at its facility; the federal ICS and Unified Command are at MSO Philadelphia, and the state activates a county EOC.

Figure 4 also shows the organizational structure where the PRP does not have the physical and organizational support mentioned above,

e.g., a small out-of-town barge operator, a freight ships operator. In this situation, the Unified Command may chose to integrate the PRP's ICS personnel with the FOSC structure at MSO Philadelphia, pending the PRP's establishment of a full physical and organizational support structure. Because of space and equipment limitations, the FOSC's ability to accommodate such arrangements is limited.

Figure 5 shows the organizational structure that is typical for small incidents and serves as the starting point for a discussion of scale up procedures for larger incidents. When a spill or release is reported, the respective response organizations dispatch personnel to the scene. On-scene at a small incident, the Coast Guard's FOSC representative, the state representative(s), and the PRP/QI represent their respective ICS structures. Each may be fully empowered to fulfill all necessary staff element rules and duties, i.e, logistics, finance, planning, operations, and public affairs; or they may rely partially on their supporting ICS structure. On scene, they may completely represent the UCS for a small, routine incident.

As personnel on-scene realize that the incident is larger or more complex than they can handle, each representative is expected to inform their respective ICS support structure, which, in turn, is expected to activate and delegate the appropriate staff elements and responsibilities. Figures 6-12 represent activation of the Coast Guard Incident Command. The Port Operations Department will activate the necessary portions of the ICS to deal with the incident. Initially, this department will address all aspects of the response, i.e., operations, planning, logistics, finance, and public affairs. If the response grows, the Port Operations Department Chief (ICS Operations Office) will delegate staff functions, e.g., logistics, to dedicated staff elements so that effective span of control is not overcome by the size or complexity of the response. Experience has shown that operations and planning staff elements are essentially the same while the response organizations mobilize during the "emergency" phase of a major incident. After the first 24-48 hours, the operations and planning elements may become discrete entities, if appropriate.

The scale up described above is typical of ICS, i.e, as the size or complexity of the response increases, the organizational elements become more discrete and the span of control of supervisors is reduced so that effective command and control can be maintained. Each response organization in the UCS is expected to "scale up," as appropriate. As with all matters under UCS, the FOSC, in consultation with the Unified Command, will determine if the degree of organizational development and "stage up" is adequate and appropriate for the incident response.

The FOSC's federal ICS will respond to an incident with the understanding that it must evaluate the adequacy of the PRP's response, and with the understanding that the federal ICS may have to assume the response and cleanups if the PRP's response is judged inadequate.

Tabs A through G to this Appendix, detail the planned UCS organization. The command level of the UCS and each of the section chiefs in planning, operations, logistics, finance and communications, are tasked with proactively evaluating organizational requirements and implementing changes to the UCS organization in anticipation of the requirements of specific response conditions.

UCS Organization. The Philadelphia Port Area Committee UCS is made up of the following six functional areas:

a. Command Level: Unified Command (Tab A) and Command Staff (Tab B);

b. Planning Section (Tab C);

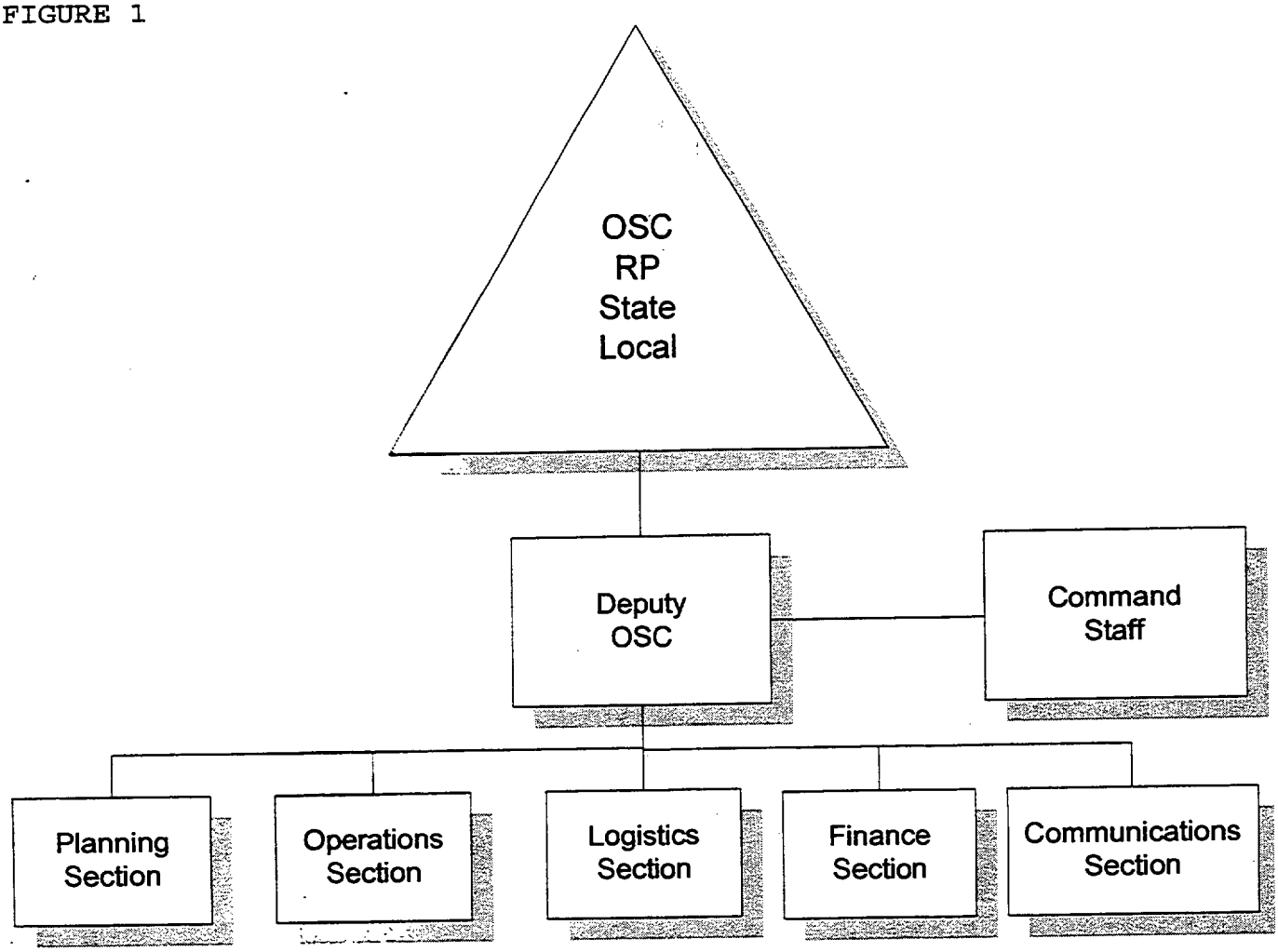
c. Operations Section (Tab D);

d. Logistics Section (Tab E);

e. Finance Section (Tab F);

f. Communications Section (Tab G).

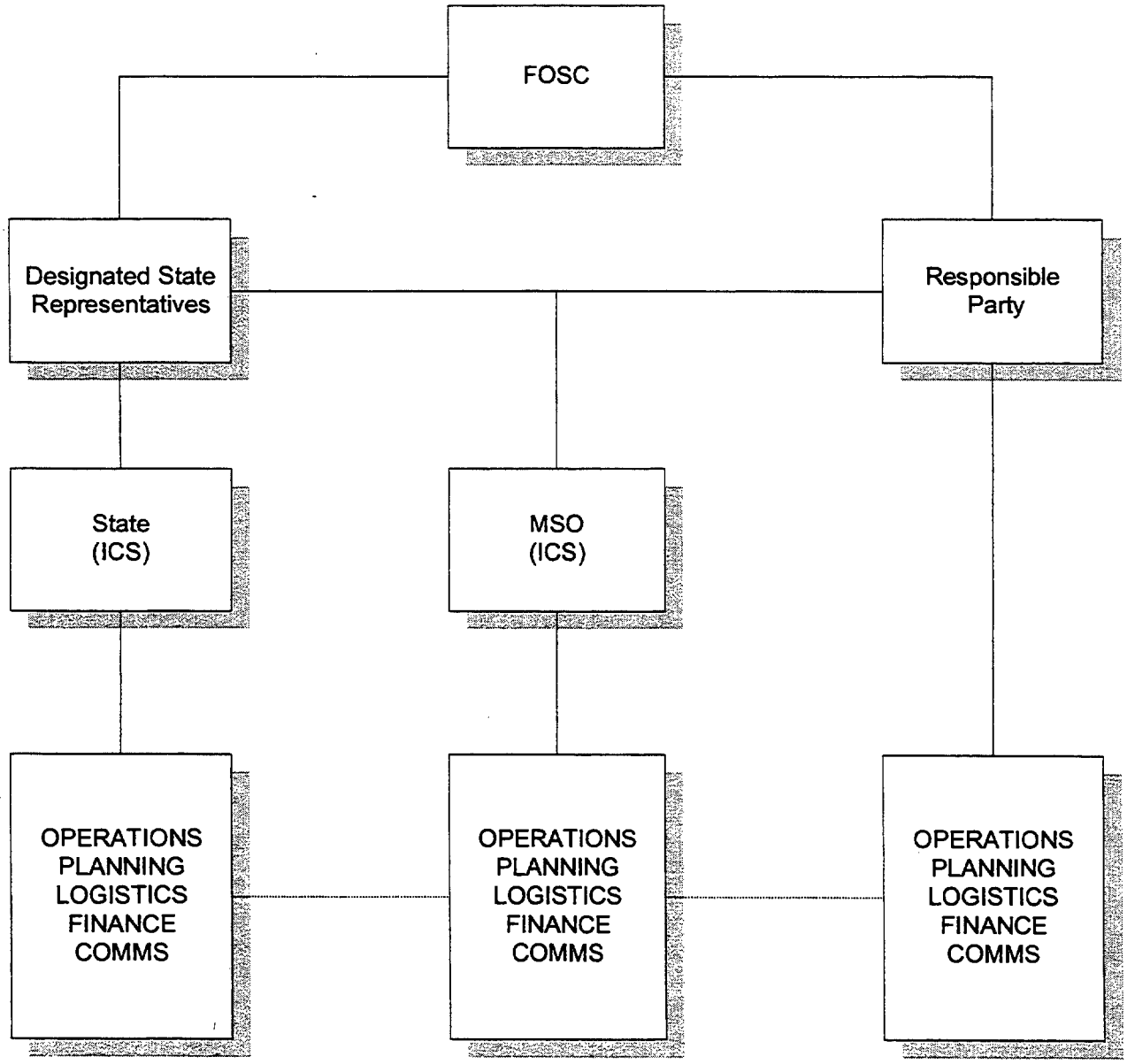
FIGURE 1



UNIFIED COMMAND SYSTEM (UCS)

FIGURE 2

USCG PHILADELPHIA
Federal On Sceene Coordinator
Unified Command System Stucture
Expanded



* Responsible Party (RP) has plan to respond to large incident. USCG and State Reps will liason at RP's Command Post to ensure that all parties have same information and plans of action are carried out per UCS decisions that are made at MSO.
* RP and State will still maintain a representative at the MSO that can make final decisions.

FIGURE 3

USCG PHILADELPHIA
Remote ICS Structure

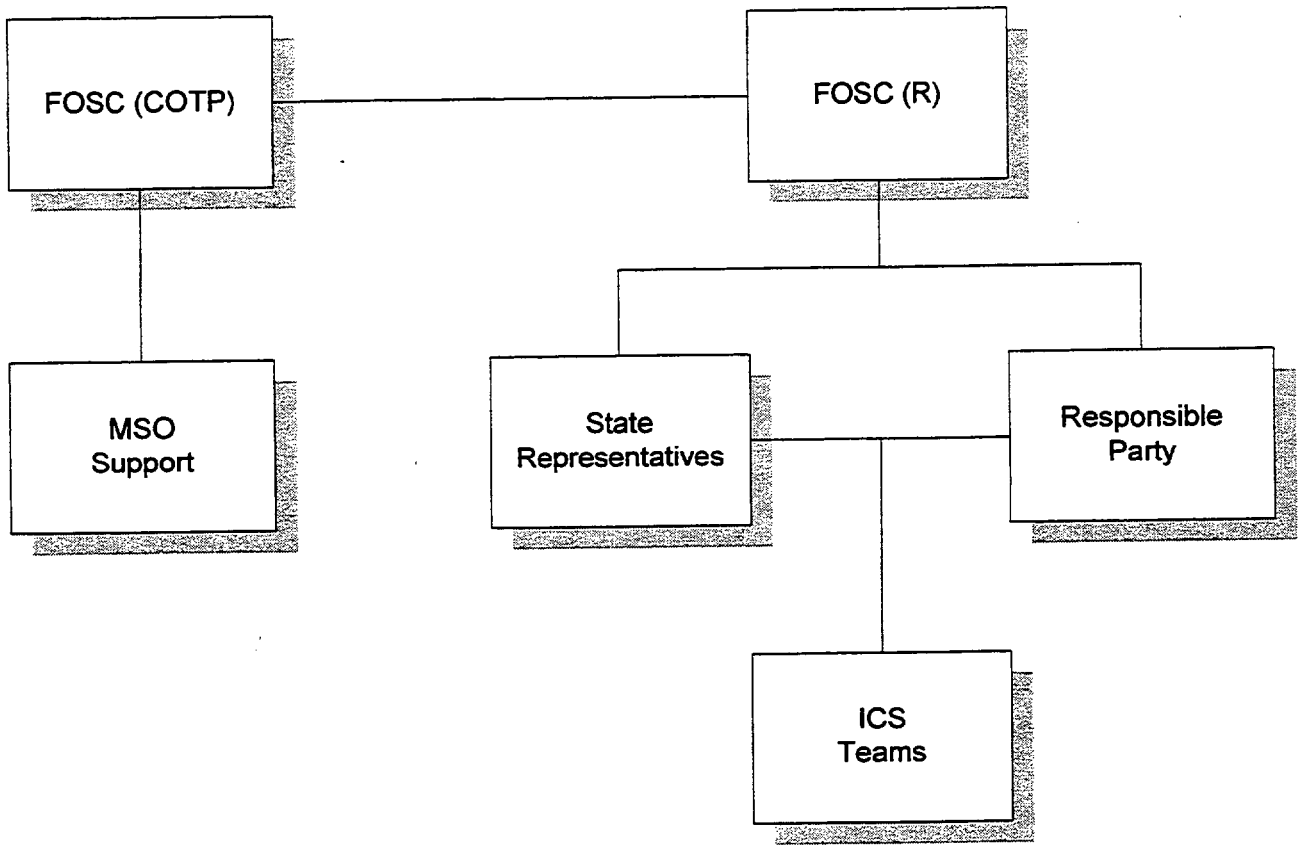
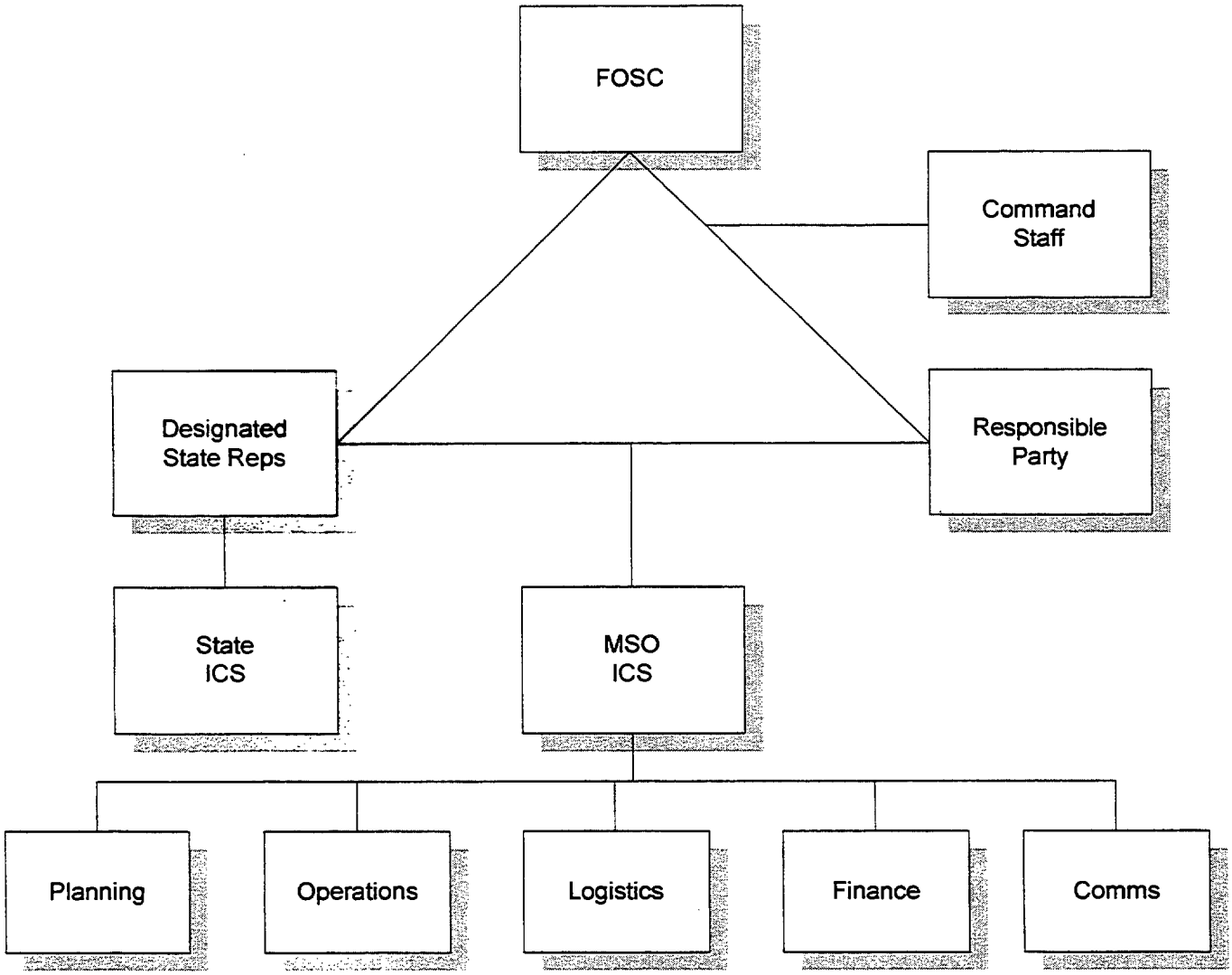


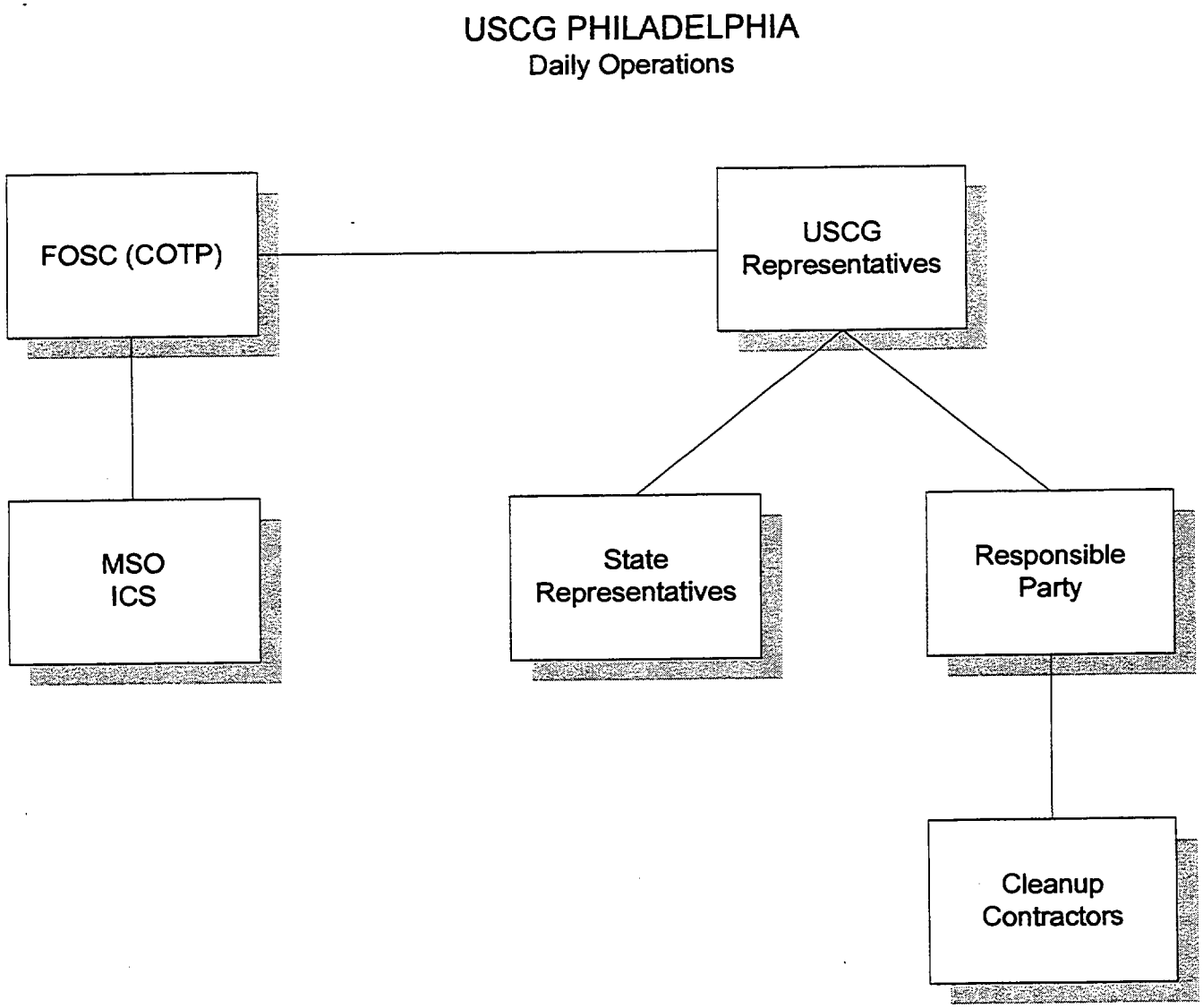
FIGURE 4

USCG PHILADEPHIA
Federal On Scene Coordinator
Unified Command System Structure



* Initial Structure if no Responsible Party (RP) or RP cannot respond to large incident.
* RP always reports to MSO or verbally verifies actions.
* FOSC can require expanded operations based on situation.

FIGURE 5


USCG PHILADELPHIA
Daily Operations
FOSC (COTP)
USCG Representatives
MSO ICS
State Representatives
Responsible Party
Cleanup Contractors

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ANNEX B - APPENDIX II
TAB A - UNIFIED COMMAND

The Unified Command for an oil discharge in the marine environment includes:

a. OSC - the predesignated Federal On Scene Coordinator;

b. the qualified individual or Incident Commander representing the responsible party; and

c. the predesignated State Incident Commander (state IC) representing state and local response agencies.

Responsibilities

a. Mobilize, implement, and manage the UCS organization structure needed to anticipate and proactively accomplish response requirements.

b. Assess incident priorities.

c. Determine strategic goals and tactical objectives.

d. Develop or approve the Incident Action Plan and ensure each agency implements and accomplishes those actions for which they are responsible.

e. Approve access to the Oil Spill Liaibility Trust Fund (OSLTF), and/or the Comprehensive Environmental Recovery Compensation and Liability Act (CERCLA) fund, and set response funding ceilings.

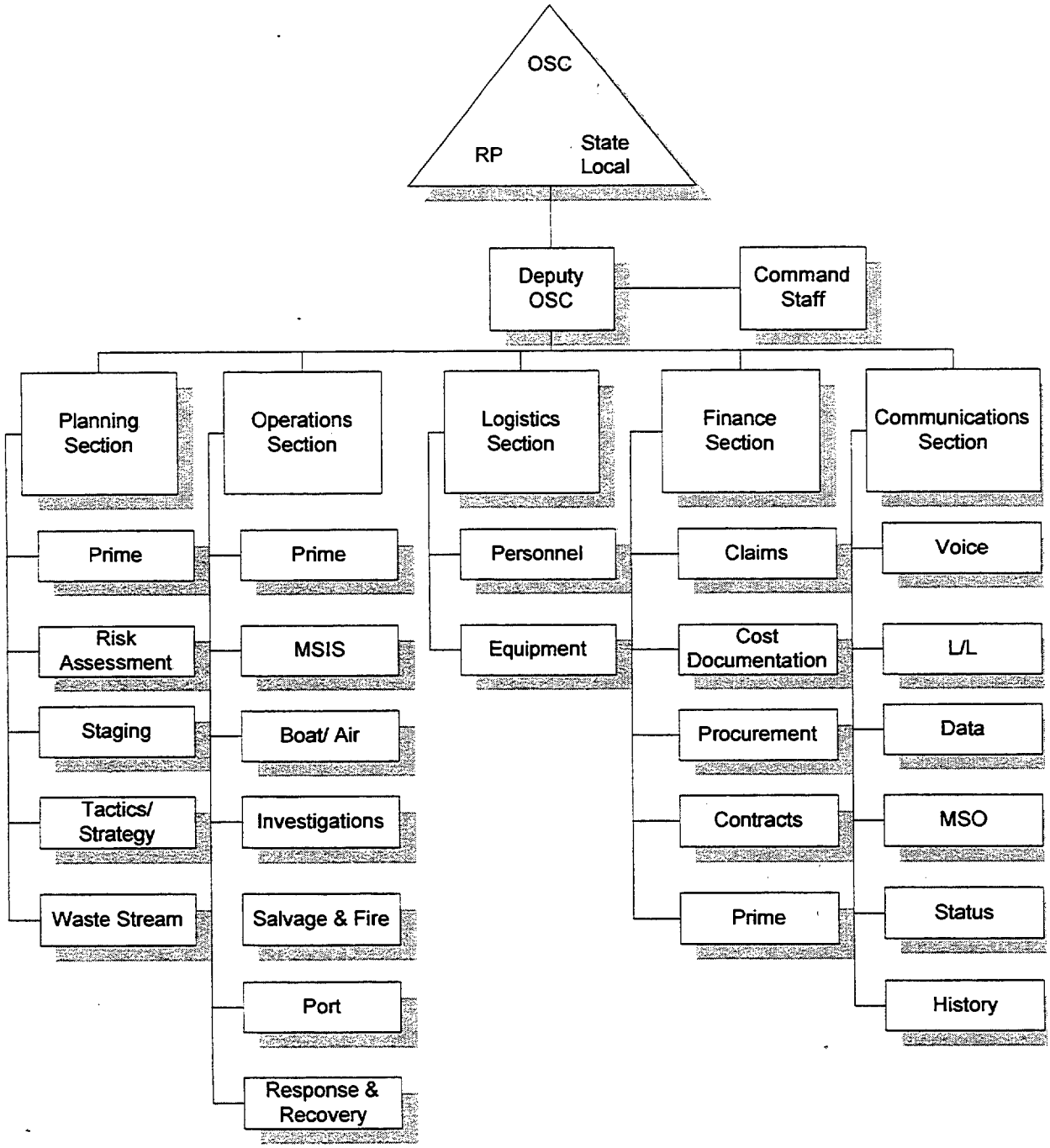
f. Anticipate response needs and authorize the ordering, deploying, and demobilization of response resources.

g. Serve as the ultimate safety authority, approve the Site Safety Plan, and ensure the maximum achievable level of worker health and safety for all responders.

h. Authorize information releases to the media and participate in scheduled press conferences.

I. Monitor organizational adequacy, span of control and information exchange.

FIGURE 6



UCS Organization

ANNEX B - APPENDIX II
TAB B - COMMAND STAFF

The Command Staff includes:

a. Deputy OSC;

b. Command Duty Officer;

c. Safety Staff;

d. Joint Information Center;

e. Legal Staff.

Responsibilities

a. Deputy OSC

(1) Monitor and direct the Command Staff and the Section Chiefs to accomplish the strategic goals and tactical strategies defined in the Incident Action Plan.

(2) Serve as the OSC, in the absence of the OSC.

(3) Identify and establish priorities related to the internal management and organizational structure of the UCS.

b. Command Duty Officer

c. Safety Staff

(1) Identify and evaluate safety and health hazards that may impact both response workers and the public, designate exclusion zone boundaries, and determine levels of personal protective equipment required.

(2) Write and update the Site Safety Plan in accordance with Annex H of this Area Committee Plan.

(3) Implement and manage the safety staff needed to continuously monitor and evaluate safety and health conditions and to prevent unsafe conditions.

(4) Insure that all responders have adequate skills to safely perform assigned tasks and that required levels of training are documented.

(5) Provide or coordinate health and safety training and regular safety briefings required to perform response activities.

(6) Correct unsafe acts or conditions through the normal chain of command, although emergency action may be taken when an immediate and severe threat is identified. Recommend to the UCS actions to coordinate with public, government, and industry health and safety officials regarding public health concerns, including evacuations, limiting access to public areas, beach closures, marina closures, and fisheries restrictions.

(7) Resolve and identify to the Unified Command significant safety and health issues.

(8) Conduct air monitoring, as necessary.

(9) Emergency Medical Services (EMS)

(a) Prioritize EMS missions and respond to medical emergencies as directed by the operations section chief.

(b) Manage dedicated EMS resources and coordinate with other EMS systems.

(c) Identify EMS resource and logistics needs.

(d) Report on the status of EMS operations.

d. Joint Information Center

(1) Serve as the central clearing point for the dissemination of official information representing the UCS to the media.

(2) Implement and manage the Joint Information Center (JIC) as the central location for disseminating official information.

(3) Receive and coordinate all calls from public and private entities offering assistance or requesting information.

(4) Resolve and identify to the Unified Command, public and private concerns related to the status and effectiveness of the response.

(5) Provide tours and briefings for VIPs.

(6) Schedule, organize, and conduct UCS media briefings, interviews, and tours.

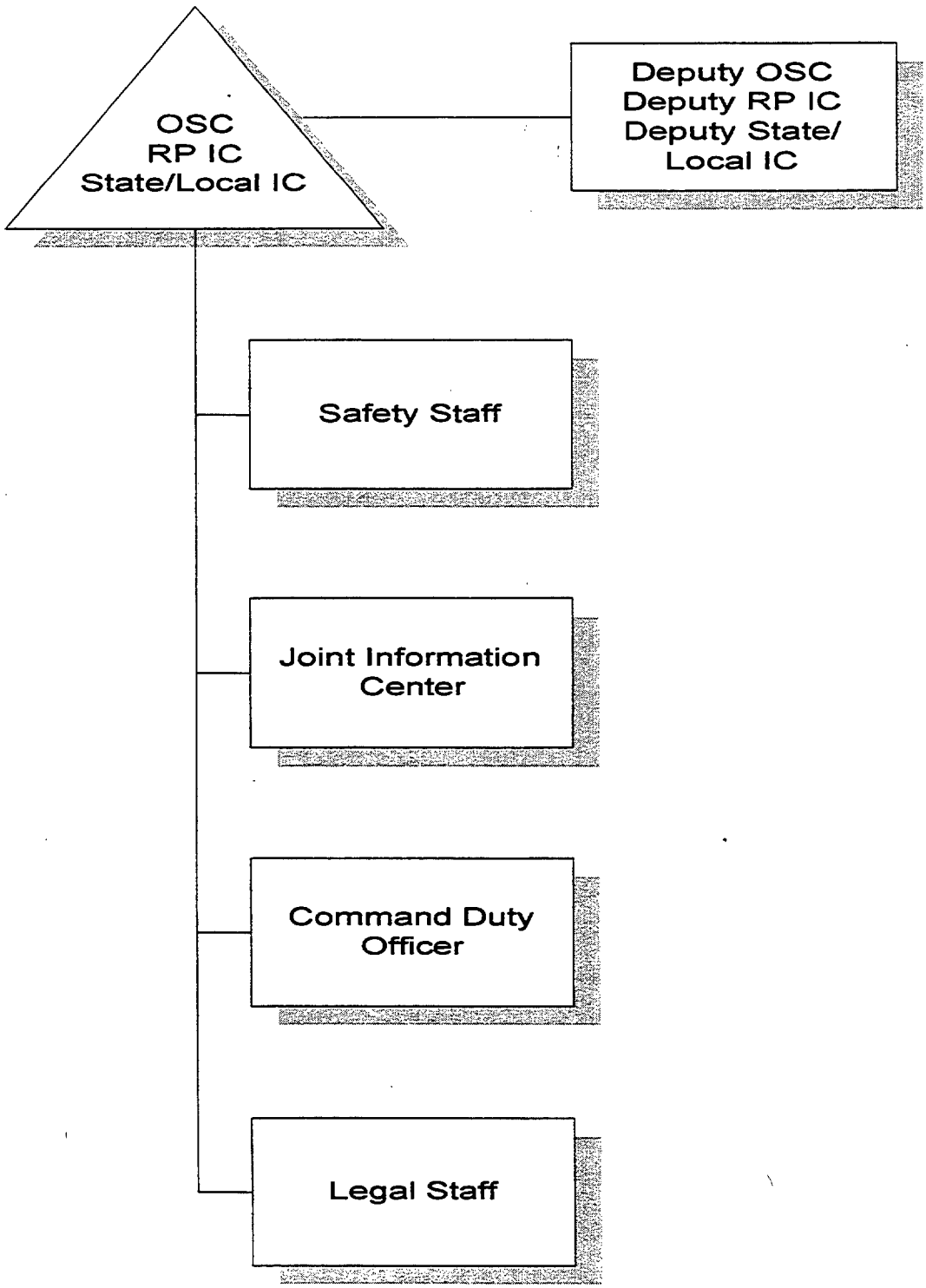
(7) Develop presentation documentation such as charts, maps, and graphics to support both response operations and media briefings.

(8) Resolve conflicting information and identify media concerns to the Unified Command.

(9) Implement and manage the public affairs staff needed to proactively accomplish public affairs tasking.

e. Legal Staff

(1) Provide legal advice to the Unified Command in support of response decison making.



UCS Organization: Command Staff

ANNEX B - APPENDIX II
TAB C - PLANNING SECTION

The Planning Section includes:

a. Planning Section Chief;

b. Risk Assessment Branch;

c. Staging Branch;

d. Tactics & Strategy Branch;

e. Waste Stream Branch.

f. Prime Contractor

Responsibilities

a. Planning Section Chief

(1) Implement and manage the Planning Section branches and units needed to proactively accomplish Planning Section actions.

(2) Collect, evaluate, and use information regarding development of the incident; anticipate the need for information describing the status of the response; and manage the system required to collect and disseminate response information.

(3) Provide detailed incident action plans, based on projected response needs, to the Unified Command.

(4) Support the Unified Command by evaluating alternative strategies and tactical operation plans that anticipate changing requirements.

(5) Forward critical information to affected staff element; recommend changes to the UCS organization in anticipation of response requirements.

b. Risk Assessment Branch

(1) Collect, analyze, and disseminate information about the situation as it progresses, including:

(a) casualty information;

(b) discharge information, observations, and forecasts;

(c) environmental observations and forecasts;

(d) compile and track weather and tide data, and assess impact.

(e) the status of response operations; and

(f) impacts to natural and economic resources.

(2) Develop natural resource protection priorities and protection strategies.

(a) Wildlife Recovery and Rehabilitation: Predict potential impacts on natural resources and analyze actual impacts to provide:

(i) the type and number of wildlife that may require recovery and rehabilitation based upon species, sensitivity to oil, and mobility.

(ii) wildlife recovery and rehabilitation protocols based upon species, location, availability of care facilities, and natural resource trustee relationships.

(iii) resource and logistics requirements to accomplish hazing, capture, triage, care, transport, rehabilitation, and release of wildlife.

(iv) the information required to document natural resource damages.

(b) Natural Resource Damage Assessment (NRDA):

(i) Coordinate Natural Resource trustees to forecast, identify, and assess natural resource damages.

(ii) Provide the planning section chief with forecasts and analysis of natural resource damages to directly support strategic response planning and assist in the prioritization of removal actions.

(iii) Identify to the planning section chief, changes in protection priorities or response activities that could prevent, reduce, or minimize impacts to natural resources.

(iv) Coordinate the NRDA protocols that will be used to evaluate and assess natural resource damages and ensure their consistent application.

(v) Identify the lead administrative Natural Resource trustee and coordinate NRDA issues with all Resource trustees.

c. Staging Branch

(1) Collect, analyze, and disseminate information about the status of current and projected response resources, including:

(a) personnel;

(b) equipment;

(c) vessels;

(d) aircraft;

(e) vehicles;

(f) facilities;

(g) materials and supplies.

(2) Ascertain the availability of resources from off-site locations.

(3) Develop a plan for the demobilization of resources committed to an incident and assist in the implementation of that plan.

d. Tactics & Strategy Branch

(1) Develop and update strategic response goals and tactical objectives in anticipation of each phase of the response.

(2) Develop and modify detailed incident action plans based on projected response needs.

(3) Prepare and update alternative response strategies and tactical operations plans that anticipate changing requirements.

(4) Identify response agencies, groups, individuals, or resources that need to be incorporated into the UCS.

(5) Provide scientific and technical information and analysis to support response planning and operations.

(6) Evaluate appropriate opportunities to effectively use Alternative Response Technology (ART), including dispersants or other chemical counter measures, in situ burning, bioremediation, or other alternative response technologies.

(a) Conduct the planning and consultation required to apply a specific ART to the response.

(b) Identify environmental trade offs associated with application of a specific ART.

(c) Provide the Planning Section Chief with detailed recommendations and plans regarding the applicability of a specific ART.

e. Waste Stream Branch

(1) Disposal

(a) Provide the Planning Section Chief with a Disposal Plan that details the collection, temporary storage, transportation, recycling, and disposal of all anticipated response wastes.

(b) Direct the collection, temporary storage, tranportation, recycling, and disposal of recovered wastes.

(c) Estimate the volume of waste that may be recovered and ensure adequate resources and logistics support are provided.

(d) Manage temporary storage sites and prevent secondary discharges or cross contamination.

(e) Confirm the laboratory results characterizing the wastes as hazardous or non-hazardous and prepare required RCRA manifests as required.

(f) Confirm the capacities of recycling or disposal sites.

(2) Decontamination

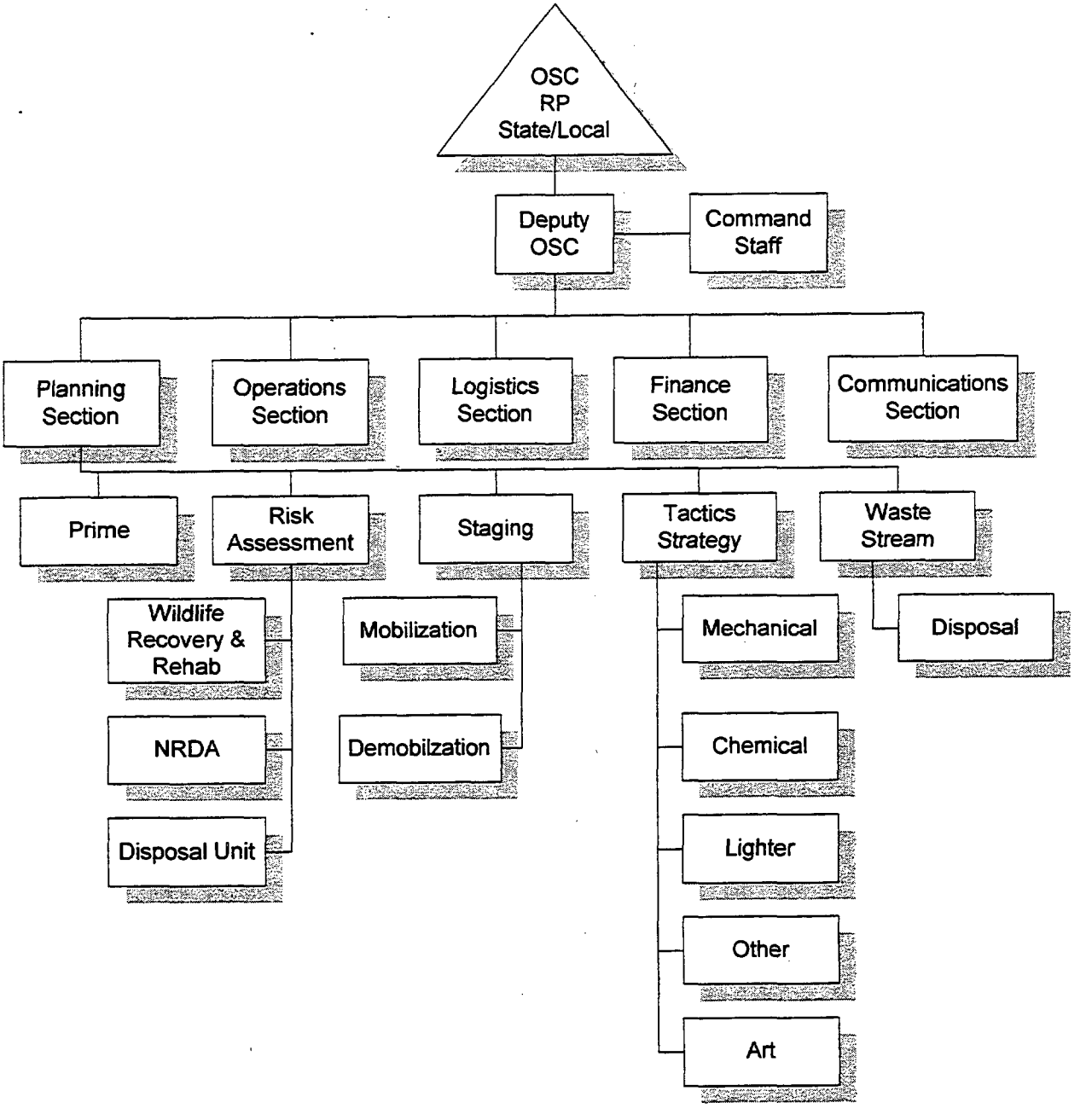
(a) Identify decontamination needs and provide resources to accomplish required cleaning and decontamination of personnel and equipment.

(b) Identify resource and logistics needs to accomplish decontamination requirements.

f. Prime Contractor

(1) Prime contractor liaison for federally assumed response.

FIGURE 8



UCS Organization: Planning Section

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ANNEX B - APPENDIX II
TAB D - OPERATIONS SECTION

The Operations Section includes:

a. Operations Section Chief;

b. MSIS

c. Boat/Air

d. Investigation

e. Response & Recovery

f. Port Activity

g. Salvage & Fire

h. Prime Contractor

Responsibilities

a. Operations Section Chief

(1) Serve as the coordinating section throughout the incident response; implement and manage the operations section branches and units needed to proactively accomplish operations section actions.

(2) Develop and implement tactics; assist the planning section in defining strategic response goals and tactical operational objectives detailed in the Incident Action Plan.

(3) Develop detailed mission assignments, sortie schedules, duty lists, and operational assignments to accomplish the strategic response goals, and tactical operational objectives.

(4) Identify additional response resources required or recommend the release of resources to the Unified Command; identify the need to delegate organizational duties during scale up and establish distinct staff elements.

(5) Evaluate and report on response counter measure efficacy; evaluate success of operations and implement changes, as necessary.

b. Marine Safety Information System (MSIS)

c. Boat & Air Branch

(1) Direct and coordinate boat/air operations missions to conduct oil spill tracking, observation, and remote sensing.

(2) Coordinate mission tasking with scientific and technical observers.

(3) Identify additional resources and logistics needs.

(4) Report oil spill tracking, observation, and remote sensing results and coordinate observations to direct operational activities.

(5) Search and Rescue (SAR)

(a) Prioritize SAR missions and coordinate SAR mission assignments with the Operations Section Chief.

(b) Manage dedicated SAR resources and coordinate SAR mission resource requirements with platforms of opportunity.

(c) Conduct SAR mission planning.

(d) Direct and coordinates SAR missions.

(6) Air Traffic Coordination

(a) Direct and coordinate air operations as required by the Incident Operations Plan and Annex J of this Area Contingency Plan.

(b) Prioritize and assign air ops missions.

(c) Request additional aircraft resources and release aircraft when authorized.

(d) Coordinate ground services and aircraft support.

(e) Identify additional resources and logistics needs.

(f) Report on the status of air operations.

(g) Conduct air operations missions to apply dispersants, chemical countermeasures, bioremediation, or other alternative response technologies, as directed by the operations section chief.

d. Investigation Staff

(1) Identify and document the source of a discharge and the responsible party.

(2) Secure statements, physical evidence, and samples necessary to establish the cause of a discharge, identify the responsible party, and document the elements of an FWPCA or other violation.

(3) Gather other information that may be required from the scene of an incident that may be required by the UCS, including:

(a) the quantity of the discharge;

(b) the status of vessels, facilities, or personnel involved in the incident; and

(c) evidence of impact, damage, or loss.

(4) Coordinate concurrent investigations and conduct cooperative investigations, where appropriate.

(5) Manage the availability of evidence that may be required by separate or divergent investigation.

(6) Inform the Unified Command of the status of investigations.

(7) Implement and manage the investigation staff needed to proactively accomplish investigation tasking.

e. Response & Recovery Branch

(1) Response/Protection

(a) Deploy and maintain booms, dikes, or other protection devices, as directed, to accomplish protection, diversion, or containment strategies, and modify planned strategies, as required by actual field conditions.

(b) Provide estimates of protection completion times.

(c) Report on the effectiveness of booming to the operations section chief.

(d) Maintain booms and mooring systems and ensure that product which has been contained, diverted, or captured, is recovered.

(e) Identify protection resource and logistics needs, including boom types, lengths, mooring systems, and vessel support requirements.

(f) Propose alternative protection strategies based on field results and environmental conditions.

(g) Report on the efficacy of alternative response technology applications.

(h) Identify additional resources and logistics needs.

(2) On Water Recovery

(a) Direct the delivery, deployment, and operation of skimmers.

(b) Provide a field status of skimming operations to the operations section chief.

(c) Maintain estimates of product recovered.

(d) Identify field conditions related to the effectiveness of skimming operations.

(e) Identify logistics support needs of skimming operations.

(f) Ensure recovery and holding containers operate efficiently.

(3) Shoreside Recovery

(a) Manage the personnel and equipment necessary to accomplish shoreside recovery and cleanup objectives established in the Incident Action Plan.

(b) Report on the efficiency of shoreside recovery and cleanup methods.

(c) Identify resource and logistics support needs.

(d) Project cleanup completion dates.

(e) Request Natural Resource trustees sign off on shoreline cleanup activities.

(f) Direct, coordinate, and conduct wildlife recovery and capture operations.

(g) Maintain a central clearing point to direct recovered wildlife to appropriate rehabilitation facilities.

(h) Maintain an evidence, tagging, and storage procedure for all wildlife recovered.

(i) Manage the capture, triage, first aid, and transportation of recovered wildlife.

(j) Provide training and briefing on actions and notifications required when response workers or members of the public encounter distressed wildlife.

(k) Identify resources and logistics support requirements.

(l) Report on wildlife recovery operations.

(m) Establish wildlife rehabilitation centers and conduct rehabilitation operations.

(n) Maintain documentation on wildlife delivered for rehabilitation.

(o) Store, document, coordinate laboratory analysis and necropcies, and properly handle deceased wildlife.

(4) Hazardous Materials

(a) Direct and manage HAZMAT resources to accomplish tactical operational objectives as directed by the Operations Section Chief.

(b) Conduct HAZMAT situation investigations, site surveys, air monitoring, and analyze HAZMAT problems.

(c) Identify safety hazards that may be present and report observations to the safety officer.

(d) Designate HAZMAT exclusion zones and report designations to the safety officer.

(e) Plan and carry out HAZMAT operations.

(f) Identify HAZMAT resource and logistics support needs.

(g) Report on the status of HAZMAT operations.

f. Port Activity

(1) Coordinate and conduct waterways management and vessel traffic control missions as directed by the Operations Section Chief.

(2) Develop safety zones, security zones, and vessel traffic management alternatives for approval by the Captain of the Port (COTP).

(3) Coordinate and implement enforcement of safety zones, security zones, and vessel traffic management systems.

(4) Manage and direct dedicated Waterways Unit resources and coordinate Waterways Unit missions with resources of opportunity.

(5) Identify additional resources and logistics needs.

(6) Report on the status of waterways management operations.

g. Salvage & Fire Branch

(1) Salvage

(a) Direct and manage salvage resources to accomplish tactical operational objectives as directed by the Operations Section Chief.

(b) Conduct situation investigations, grounding surveys, and analyze salvage problems.

(c) Plan and carry out salvage operations.

(d) Plan and carry out emergency lightering operations.

(e) Identify salvage resources and logistics support needs.

(f) Report on the status of salvage operations.

(2) Firefighting

(a) Establish liaison with Fire Chief having jurisdiction.

(b) Direct and manage resources in support of the fire department ICS.

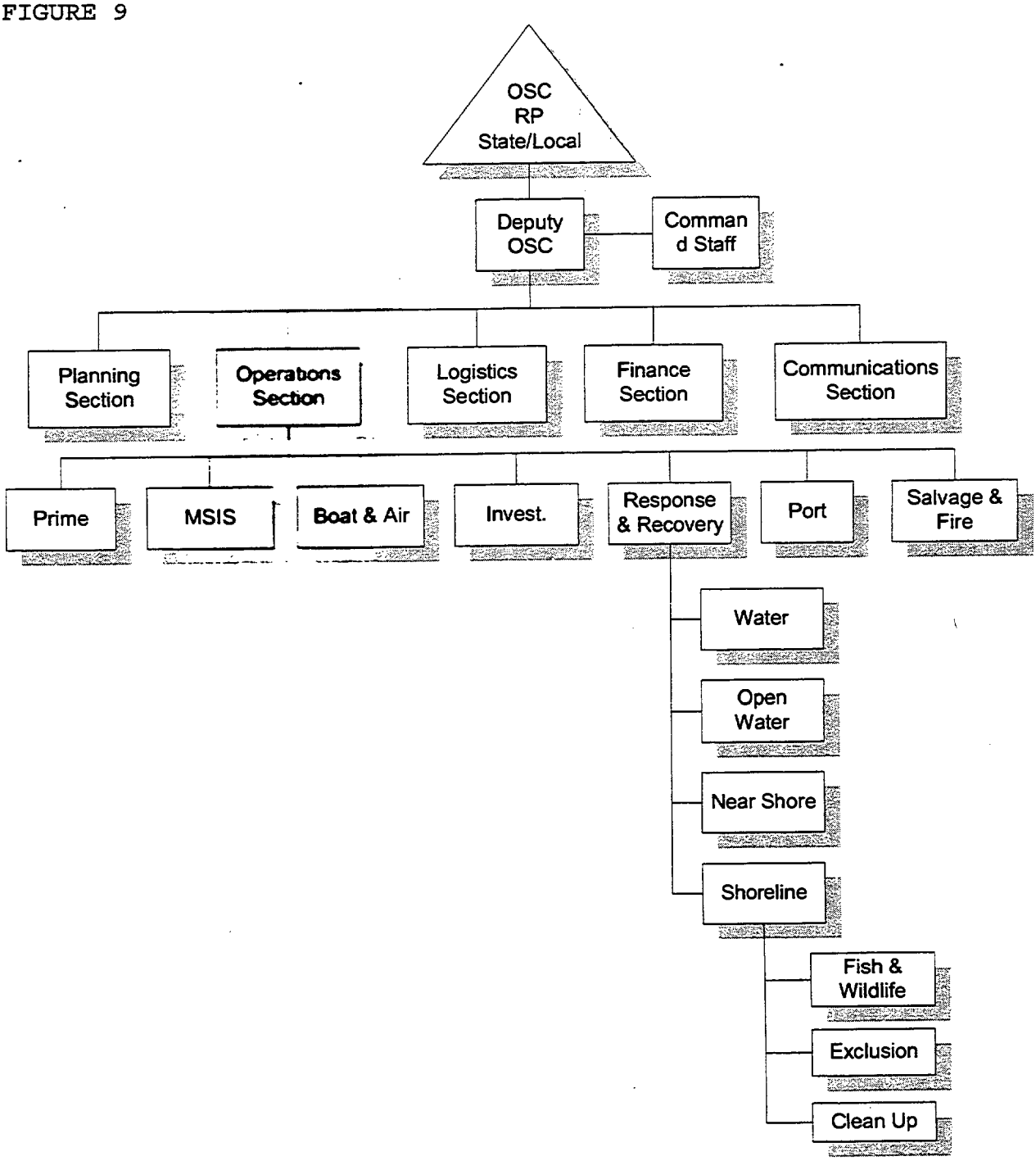
(c) Implement Port Marine Firefighting Contingency Plan.

Note: The jurisdiction having responsibility for firefighting will become part of the Unified Command via the state. Firefighting will become a top priority for the UCS.

h. Prime Contractor

(1) Prime contractor liaison for federally assumed response.

FIGURE 9



UCS Organization: Operations Section

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ANNEX B - APPENDIX II
TAB E - LOGISTICS SECTION

The Logistics Section includes:

a. Logistics Section Chief

b. Equipment Branch

e. Personnel Branch

Responsibilities

a. Logistics Section Chief

(1) Implement and manage the logistics section branches and units needed to proactively accomplish logistics section actions.

(2) Ensure the prompt delivery of resources to support response operations. Early emphasis on the delivery of heavy response equipment and personnel, providing communications resources, and the continuous need for support services are the highest priorities of the logistics section.

(3) Manage, document, support, and anticipate the need for response resources, equipment, personnel, and services.

(4) Anticipate, coordinate and proactively manage all requests for additional resources and logistics support.

(5) Develop logistics alternatives to support planning and operation sections missions.

(6) Report on logistics section operations.

(7) Coordinate the release and demobilization of resources with planning and operations input.

b. Equipment Branch

(1) Deliver and coordinate the delivery of response equipment, material, and supplies.

(2) Maintain stocks of expendable supplies ready to be issued.

(3) Plan, document, and account for response supplies and materials.

(4) Issue personal protective equipment, ready gear bags, and expendable personal supplies to response personnel.

(5) Coordinate the ordering and delivery of spare parts, supplies, materials, and other resources to meet response needs.

(6) Report on response equipment delivery time tables, inventories of available supplies, and the status of Supply Unit services.

(7) Staging

(a) Identify staging sites needed to the Operations Section Chief.

(b) Prepare designated staging sites and facilitate the movement of response resources into operation. Develop clear sites, where equipment and personnel that is not yet committed, may be assembled to await instructions.

(c) Identify additional resources and logistics needs.

(d) Report on the status of equipment ready-for-operations.

(e) In conjunction with the safety staff, identify and establish rest and rehabilitation areas in the field.

(8) Facilities

(a) Provide and coordinate response facility locations, including Command Posts, incident operations bases, staging sites, piers, warehouses, communications facilities, Joint Information Center, berthing, messing, and sanitary facilities, and other response facilities.

(b) Plan, document, and account for response facilities needed.

(c) Manage and support facility utility and maintenance services.

(d) Provide portable hygiene and restroom facilities to support remote operation locations.

(e) Identify additional facility resources and logistics support needs.

(f) Report on the status of response facilities.

9) Transportation

(a) Provide, prioritize, schedule, and coordinate response transportation services.

(b) Plan, document, and account for response transportation services.

(c) Manage and maintain dedicated transportation resources and coordinate transportation using resources of opportunity.

(d) Operate and manage the "motor pool" of dedicated ground transportation vehicles, including cars, vans, buses, and trucks.

(e) Assign and coordinate duty driver schedules.

(f) Identify additional transportation resources and logistics support needed.

(g) Report on the status of response transportation services.

c. Personnel Branch

(1) Assignment Processing

(a) Coordinate and document the assignment of UCS personnel to meet response organization needs.

(b) Coordinate requests for additional response personnel.

(c) Coordinate the processing of arriving response personnel.

(d) Plan, document, and account for response assignments made to individuals, agencies, groups, and commercial personnel.

(e) Manage the Personnel Locator system to track the assignment and location of individual responders.

(f) Identify additional resources and logistics support needed to support personnel processing and tracking.

(g) Report on the status of response personnel assignments and processing.

(2) Medical

(a) Provide and coordinate emergency and routine medical services to response personnel.

(b) Manage dedicated Medical Unit resources and coordinate additional medical services.

(c) Identify resources and logistics support needs.

(d) Report the status of Medical Unit Services.

(3) Messing

(a) Provide and coordinate meals and subsistence support to response personnel.

(b) Plan, document, and account for the number and type of meals required.

(c) Establish kitchens, galleys, canteens, and other food services support locations.

(d) Establish and manage sources of supply to support meal and subsistence requirements.

(e) Provide potable drinking water, coolers, and other beverages required to support response operations.

(f) Identify additional resources and logistics support needs.

(g) Report on the status of food and subsistence services.

(4) Berthing

(a) Provide and coordinate berthing facilities assigned to response personnel.

(b) Plan, document, and account for the number and type of berthing facilities required.

(c) Maintain hotel contracts, berthing quarters, barracks vessels, and remote location camps to provide living, sleeping, hygiene, and restroom facilities for response personnel.

(d) Identify additional resources and logistics support needs.

(e) Report on the status of Berthing Unit services.

(5) Volunteer Unit

(a) Manage and coordinate the processing of private individuals and public groups volunteering to perform response operations.

(b) Plan, document, and account for volunteer coordination and processing.

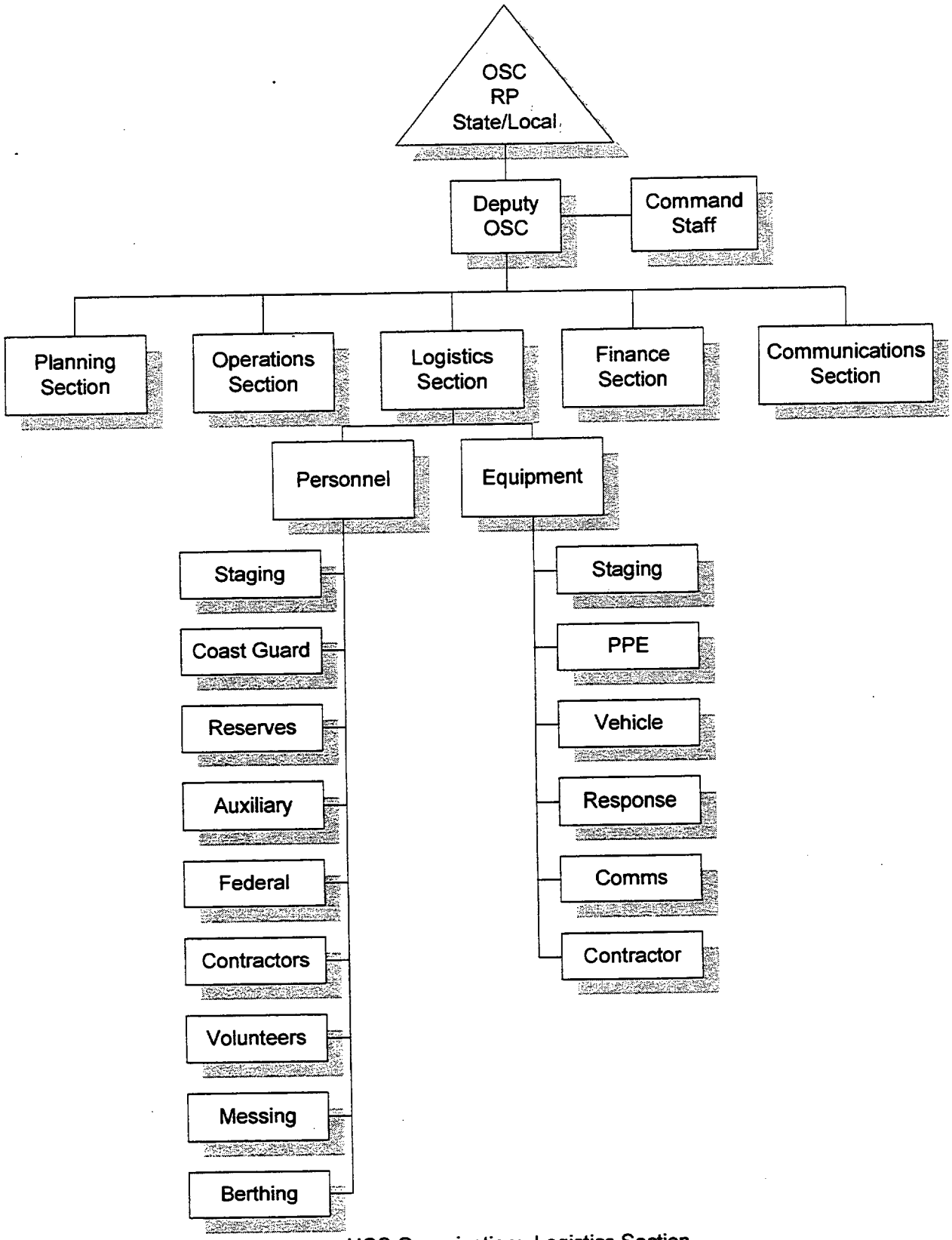
(c) Manage the training, qualification, and certification process needed to convert private volunteers into qualified emergency response workers.

(d) Establish and manage volunteer processing sites needed to inform potential volunteers of response requirements.

(e) Coordinate authorized response assignments made to qualified emergency response workers.

(f) Identify additional resources and logistics support needed to support volunteer processing.

(g) Report on the status of volunteer processing.



UCS Organization: Logistics Section

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ANNEX B - APPENDIX II
TAB F - FINANCE SECTION

The Finance Section Includes:

a. Finance Section Chief

b. Contract Branch

c. Cost Branch

d. Procurement Branch

e. Claims Branch

f. Prime Contractor

Responsibilities

a. Finance Section Chief

(1) Implement and manage the Finance Section branches and units needed to proactively accomplish Finance Section actions.

(2) Provide, manage, coordinate, document, and account for access to response funding sources, including the Oil Spill Liability Trust Fund (OSLTF), Natural Resources Damage Assessment Fund (NRDA), State of California funding sources, and other sources of response funding.

(3) Coordinate and ensure the proper completion of response cost-accounting documention.

(4) Coordinate and manage response ceilings, budgets, and cost estimates.

(5) Provide financial support for contracting services, purchases, and payments.

(6) Serve as the primary contact to the National Pollution Fund Center (NPFC) and the NPFC Case Officer to coordinate response cost-recovery actions.

(7) Identify additional financial services resources or logistics support needed.

(8) Report on the status of Finance Section services.

b. Contract Branch

(1) Negotiate, coordinate, document, and manage all contracts needed to support response operations.

(2) Manage, coordinate, document, and account for all payments made to support response operations.

(3) Identify additional resources and logistics support needed to accomplish contracting and procurement services.

(4) Report on the status of contracting, procurement, and payment services.

c. Cost Branch

(1) Manage, coordinate, and perform cost documentation in accordance with OSLTF and state requirements to account for response costs.

(2) Plan, coordinate, document, and account for response costs based on the time, personnel, equipment, and other resources accountable to the response.

(3) Identify additional resources and logistics support needed to perform cost documentation and time keeping services.

(4) Report on documented response costs and projected response costs.

d. Procurement Branch

(1) Manage, coordinate, document, and account for all procurement orders needed to support response operations.

e. Claims Branch

(1) Receive, coordinate, document, and process claims against the OSLTF, NRDA, or State funding sources.

(2) Coordinate evaluation of personal property damage claims.

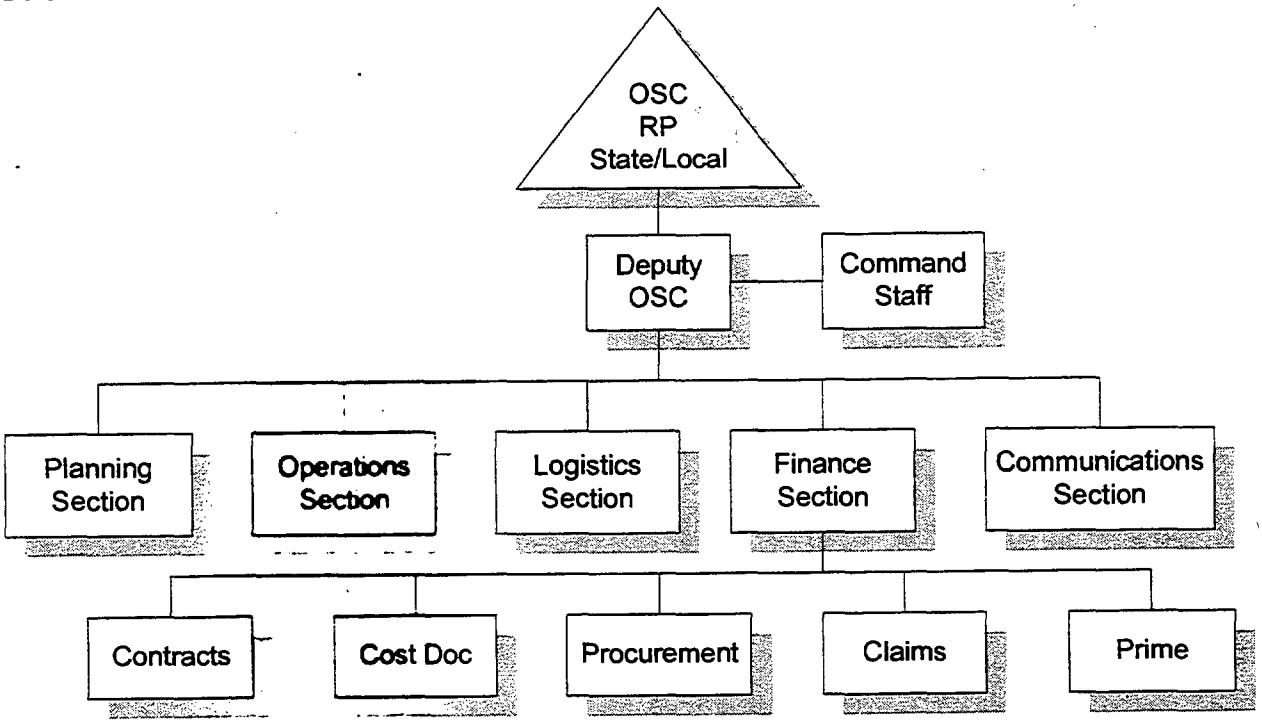
(3) Identify additional resources and logistics support needed to process claims.

(4) Report on the status of claims processing.

f. Prime Contractor

(1) Prime contractor liaison for federally assumed response.

FIGURE 11



UCS Organization: Finance Section

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ANNEX B - APPENDIX II
TAB G - COMMUNICATIONS SECTION

The Communications Section Includes:

a. Communications Section Chief

b. Voice Branch

c. Landline Branch

d. Data Branch

e. Message Traffic Branch

f. Status Branch

g. History Branch

Responsibilities

a. Communications Section Chief

(1) Develop, implement, and coordinate the Incident Communications Plan.

(2) Deliver, issue, track, maintain, support and recover communications resources, telephones, radios, base stations, repeaters, and other communications facilities.

(3) Identify additional communications resources or logistics needs.

(4) Report on the status of communications capabilities and operations.

(5) Collect information for incident history, pollution reports, and situation reports.

(6) Implement and manage the Information Managment Staff needed to facilitate the availability of response information in the UCS.

(7) Coordinate the information management system of the UCS to ensure the proper routing and availability of response information in the UCS.

(8) Coordinate standard information display systems, status boards, summary forms, and other methods to effectively manage response information.

(9) Security

(a) Coordinate and conduct physical security missions as directed by the Operations Section Chief.

(b) Develop and implement the Incident Security Plan.

(c) Identify additional resources and logistics needs.

(d) Report on the status of security operations.

(10) Record and protect all documents relevent to the incident.

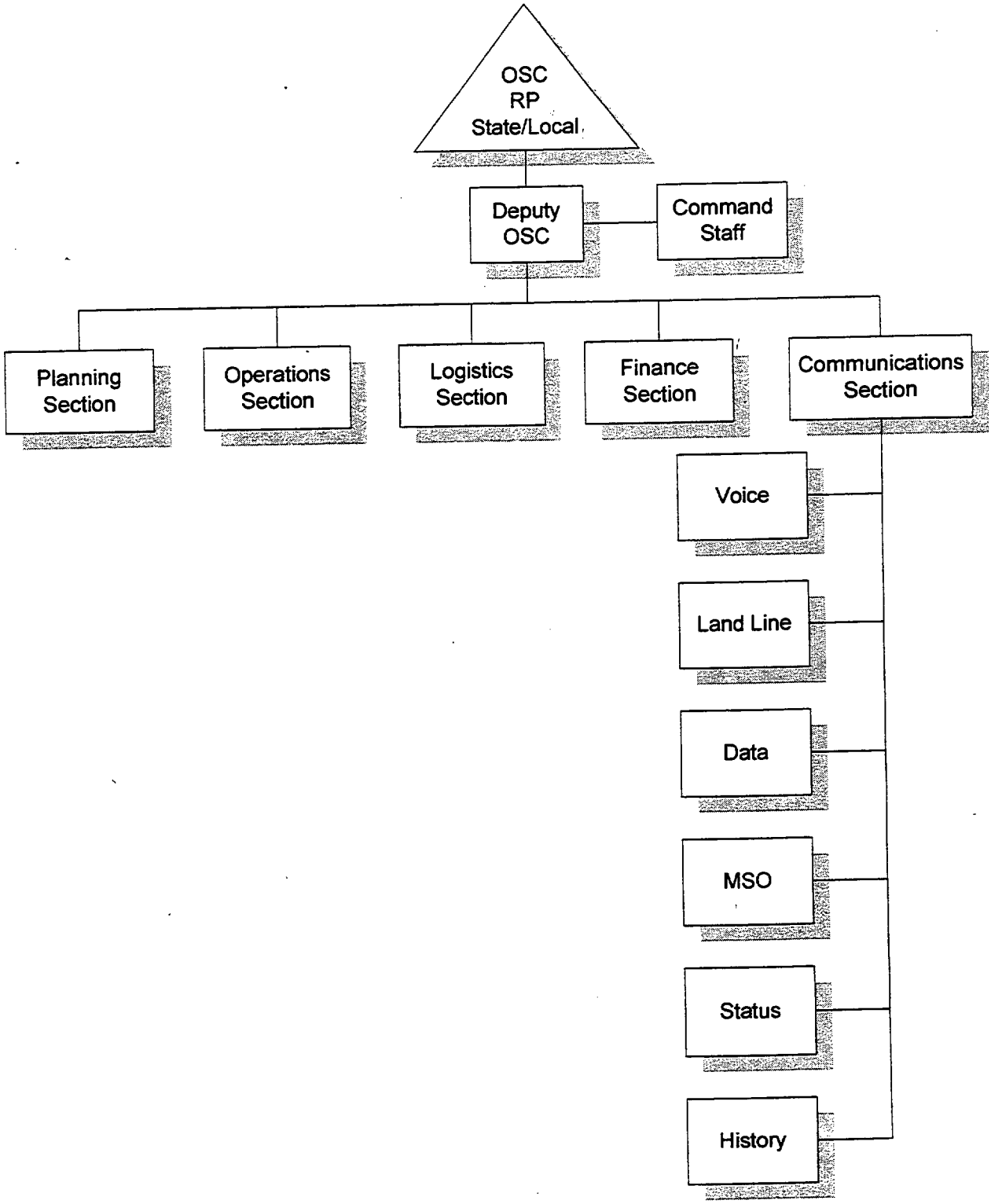
(a) Logs;

(b) Incident reports;

(c) Press releases;

(d) Any historically significant material, etc.

(11) Ensure each section is maintaining and providing appropriate documents.



UCS Organization: Communications Section

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ANNEX C - OPERATIONAL ADMINISTRATION

References:
(a) Oil Pollution Act of 1990
(b) Federal Water Pollution Control Act
(c) National Contingency Plan, 40 CFR Part 300
(d) Marine Safety Manual Vol VI, COMDTINST M16000.11
(e) COMDTINST 16000.31

General. It is the policy of the Coast Guard to ensure that timely and effective response action is taken to control and remove discharges of oil and releases of hazardous substances, including substantial threats of discharges and releases in the coastal zone. The Coast Guard has a variety of administrative tools at its disposal that can be used to assess the impact of a discharge, ensure a proper cleanup from a responsible party (RP), or arrange for cleanup if the discharger fails to take proper action or is unknown. Reasonable efforts should be made to identify RPs, so that they may begin prompt removal activities and avoid a federally-funded cleanup. However, the reasonableness of the efforts to locate dischargers is tempered by the severity and urgency of the spill's threat. Generally, the Coast Guard maintains a "shoot first, ask questions later" response posture to ensure minimal environmental impact. Essentially, this means that only a minimal degree of latitude will be given to RP's to fulfill their response obligations. If RP's are slow at responding, ineffective, or cannot be identified, the Coast Guard will immediately initiate a federally-funded cleanup and may recover up to three times the costs from the RP later.

Administrative Actions. During the assessment phase of a response, the OSC shall present Notices of Federal Interest to every suspected discharger, which inform them that they may be in violation of the FWPCA, as amended, and may be liable for a civil penalty up to $25,000 per day per violation, or up to three times the costs incurred by the OSLTF. Once the discharger is identified, depending on the impact of the discharge, the RP may be required to advertise for possible claims to compensate third parties for, among other things, loss of commerce and damage to property caused by the spill. If the RP fails to take adequate response measures, the cleanup activities can be "assumed" by issuing the responsible party a Letter of Federal Assumption. The funds for such a cleanup will come from the OSLTF or the CERCLA account, as applicable, and the National Pollution Funds Center. The manager of the OSLTF will seek to recover the funds from the RP through litigation, if necessary. Throughout significant incidents, a detailed chronicle of events and response activities is maintained, some of which is included in Pollution Reports (POLREPS) that are sent to federal, state, and local government agencies involved in the cleanup efforts or that have a vested interest in the spill. POLREPS are written as

events change that warrant advisement, but tend to be sent daily during ongoing significant events. At the conclusion of an incident, the spill response procedures and diagrams, POLREPS, lessons learned, etc., may be summarized in an OSC Report, as requested by the NRT or RRT. These reports have typically been reserved to document major incidents.

Appendices: (I) Spill Funding Procedures
(II) Required Letters and Reports

ANNEX C

APPENDIX I - SPILL FUNDING PROCEDURES

References: (a) Oil Pollution Act of 1990
(b) Federal Water Pollution Control Act
(c) National Contingency Plan, 40 CFR Part 300
(d) Marine Safety Manual Vol VI, COMDTINST M16000.11
(e) COMDTINST 16000.31

1. **POLLUTION FUNDS**

a. General. Funding for cleanup of pollution incidents is the responsibility of the polluter. Federal removal activities are instituted when the responsible party (1) is unknown or (2) does not act promptly, or (3) does not take appropriate removal action. "Direct" costs incurred for this purpose are chargeable to the fund. If and when the identity of the discharger is established, the Coast Guard bills these "indirect" costs. There are two funds to which the OSC has access:

(1) Oil Spill Liability Trust Fund for clean-up costs under the Federal Water Pollution Control Act (FWPCA), as amended by the Oil Pollution Act of 1990 (OPA 90).

(2) Comprehensive Environmental Response, Compensation, and Liability Act Trust Fund (Superfund).

(3) Detailed requirements, procedures, and policies of the operation and management of the pollution funds are available in references (a) through (e).

b. Oil Spill Liability Trust Fund (OSLTF). This revolving fund known as the OSLTF, is used for cleanup of oil spills, as defined in Section 1001 of the OPA '90. The FOSC should make requests for OSLTF funds by telephone to CCGDFIVE (mep) during normal working hours, CCGDFIVE (cc) after hours and weekends. Once funding is identified, an authorization to proceed letter will be issued to the contractors by OSC. This authorization to proceed must be followed up with a message to MLCA (fcp) with information copy to CCGDFIVE (mep) within twenty-four hours. A Contracting Officer is available at MLCA (fcp).

(1) Criteria for use of the OSLTF under Section 1012 of the OPA '90. Subject to the availability of appropriations, the OSLTF is available for all removal costs consistent with the NCP. That is, provided that the oil has been discharged or there is substantial threat of such discharge into or upon the navigable waters of the United States, adjoining shorelines, or into the waters of the contiguous zone and that removal is not being conducted properly by the owner or operator of the vessel, or facility from which the discharge is occurring. The OSLTF is also available to pay for the mitigation and cleanup costs of discharges or threatened discharges from unknown sources or responsible parties.

(2) Reimbursable Expenditures. Federal agencies or states political subdivisions will be reimbursed from the OSLTF for expenditures authorized by the FOSC, which were financed from agency funds and which were incurred in removal operations.

(3) Removable Activities Chargeable to the Fund. The types of activities that are charged to the OSLTF in response to a discharge vary. Discovery, notification, and initial assessment expenses are considered operating expenses. Monitoring, control, recovery and disposal expenses are chargeable to the OSLTF.

(4) Limits on the Use of the Fund. The OSLTF may be used only during Phase III and Phase IV response activities. Personnel and equipment costs, which are funded by other appropriations and which would have been incurred during normal operations, are not reimbursable as out-of-pocket costs.

c. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Trust Fund (Superfund). The CERCLA Trust Fund i used for cleanup of the hazardous substances. Access to the CERCLA Trust Fund is authorized by FOSCs when response activities pursuant to CERCLA are undertaken. To access the Superfund, an account number must be obtained through the NPFC Team I Case Manager during normal business hours; after hours, contact CCGDFIVE (cc).

(1) Criteria for use of the CERCLA Trust Fund. The CERCLA authorizes the response to releases or threats of releases into the environment of hazardous substances, or pollutants or contaminants whic may present an imminent and substantial danger to the public health or welfare. Those hazardous substances are listed in 40 CFR Section 302. When the hazardous substance is listed under both 40 CFR 302 and 116, Coast Guard policy requires the use of the CERCLA fund for response activities. The CERCLA superfund will be used for costs incurred for such response in accordance with Executive Order 12580 of 23 January 1987, the Memorandum of Understanding between the USCG and EPA of 4 January 1982 and current EPA guidelines.

Tabs:
- (A) Use of the Oil Fund vs the CERCLA Fund
- (B) OSC Access to the Fund
- (C) States Access to the Fund
- (D) Natural Resource Damage Assessment Procedures
- (E) Lead Administrative Trustee Access to the Fund

ANNEX C - APPENDIX I
TAB A - USE OF THE OIL FUND VERSUS THE CERCLA FUND

The Marine Safety Manual (MSM), Volume VI, provides guidance on when to use the Oil Fund and when to use the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Fund. The CERCLA Fund is administered by the Environmental Protection Agency (EPA) for hazardous substance releases. If the material is unknown, the CERCLA Fund should be used to initiate the cleanup activities. If the material appears to be a petroleum product, the Oil Spill Liability Trust Fund (OSLTF) should be accessed for cleanup costs. If analysis shows the material to be a hazardous substance, the OSLTF should be closed at that point and a CERCLA account opened to fund the remainder of the response and cleanup activities. Conversely, if a cleanup is initiated using CERCLA funds and analysis determines that the product is an oil or petroleum product, the CERCLA Fund should be closed; and, the remainder of the response should be conducted using monies from the OSLTF.

The nature of pollution response sometimes involves mobilizing more resources than will actually be required for a particular spill. These situations may result in removal costs, which later appear excessive when presented to the responsible party (RP). The OSC must be allowed the discretion to make those decisions, but there should be a mechanism to minimize the impact to the RP of cost incurred before a complete assessment of the situation for a particular incident can be made. The OSLTF and CG operating expense appropriations are available to ensure rapid and effective response to pollution incidents in the face of unknown factors; however, fairness suggests that not all these costs must be recovered. A standing capability for aggressive response is a goal of the nation as a whole and should be financed from a broader base than cost recoveries from individual RP's.

In order to accomplish the above goals, the Federal OSC shall use the following criteria when conducting response and subsequent documentation and cost-recovery actions under the OSLTF:

a. Coast Guard OSC's shall no longer document and report costs for the assessment phase of oil pollution removal activities, except as provided in paragraph c below.

b. The assessment phase is the phase between notification of a discharge, or substantial threat of discharge, by whatever means, and the determination by the OSC that either nothing beyond initial assessment needs to be done or that further action or presence is required. The assessment phase includes those actions described in the National Contingency Plan (NCP), Section 300.305, which fall under

Phase I - Discovery and Notification, and Phase II - Preliminary Assessment and Initiation of Action.

c. Where "out-of-pocket" costs, such as, travel costs or contractor costs, are necessary to allow the OSC to assess the incident, those "assessment phase" costs should be charged to a Federal Project Number (FPN). These types of costs will be documented for the purpose of charging the costs to the OSLTF and not-for-cost recovery from the RP.

d. When the OSC's assessment determines that a continued presence is required to ensure proper removal actions or mitigating of a substantial threat of discharge (e.g., the hiring of an oil spill removal organization, the monitoring of RP removal actions, and/or periodic monitoring of the scene), the cost-recovery process will then be conducted as follows:

1. When the total out-of-pocket costs plus the CG personnel and equipment costs are expected to exceed $500, the OSC shall obtain an FPN and corresponding ceiling,

2. The OSC shall then document and report all costs incurred from the time that the continued presence was determined necessary to the end of the removal action, including CG personnel and equipment costs

e. If after the initial assessment the OSC determines that no further actions are necessary or that the costs total less than $500, the OSC may close the FPN.

f. Questions have arisen about charging costs from dual purpose activities, such as, SAR, firefighting, or similar efforts. If the purpose for the presence/use of CG resources is primarily related to SAR or other CG missions, those costs should not be charged to the OSLTF or billed to the RP. If the primary purpose of the CG asset is related to pollution response, those costs may be charged to the OSLTF. In any case, the OSC shall document those costs while clearly identifying them as also relating to other CG mission activities and indicate why they should or should not be charged to the OSLTF.

DOCUMENTATION AND COST RECOVERY PROCEDURES

The National Pollution Fund Center has developed a three-level system for case documentation, based on the complexity of the case in question. The OSC is considered to be the best judge of the factors involved in an event and is tasked with selecting the level of documentation appropriate for the circumstances. Some of the factors to be used in determining the complexity and subsequent documentation requirements are listed below.

Level I - Routine

Routine incidents represent approximately 85% of all spills. A routine incident is one where:

a. Total removal costs to the government will not exceed $50,000.
b. Removal activities will probably be completed within one to two weeks.
c. Removal activities are localized.
d. Primarily unit resources are involved.

Level II - Moderately Complex

Moderately complex incidents represent approximately 10-15% of the spills. A moderately complex incident is one where:

a. Total removal costs are between $50,000 and $200,000.
b. Removal activities take place in several locations.
c. There are several external resources, such as, strike team, a state agency, or other government units involved.
d. Removal activities will take longer than two weeks to compete.

Level III - Significantly Complex

The significantly complex cases represent less than 5% of the spills. A significantly complex incident is one where:

a. Total removal costs are greater than $200,000.
b. Removal activities involve numerous contractors.
c. Removal activities take place at several locations.
d. There are a number of external resources involved.

Figure C-1 represents the typical documentation flow for a Level I incident. Figure C-2 represents the typical documentation flow for Level II and Level III incidents.

Figure C-1

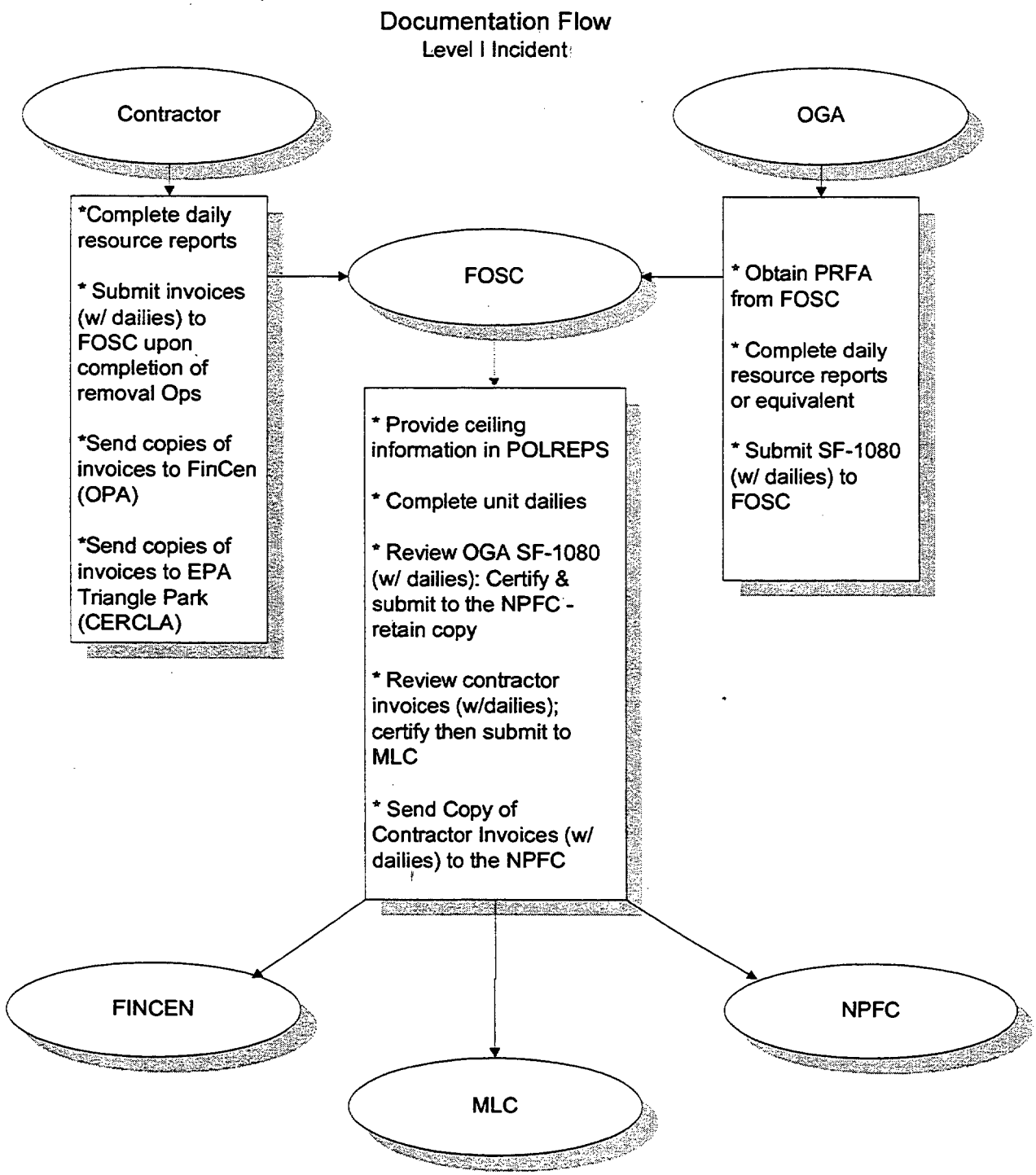
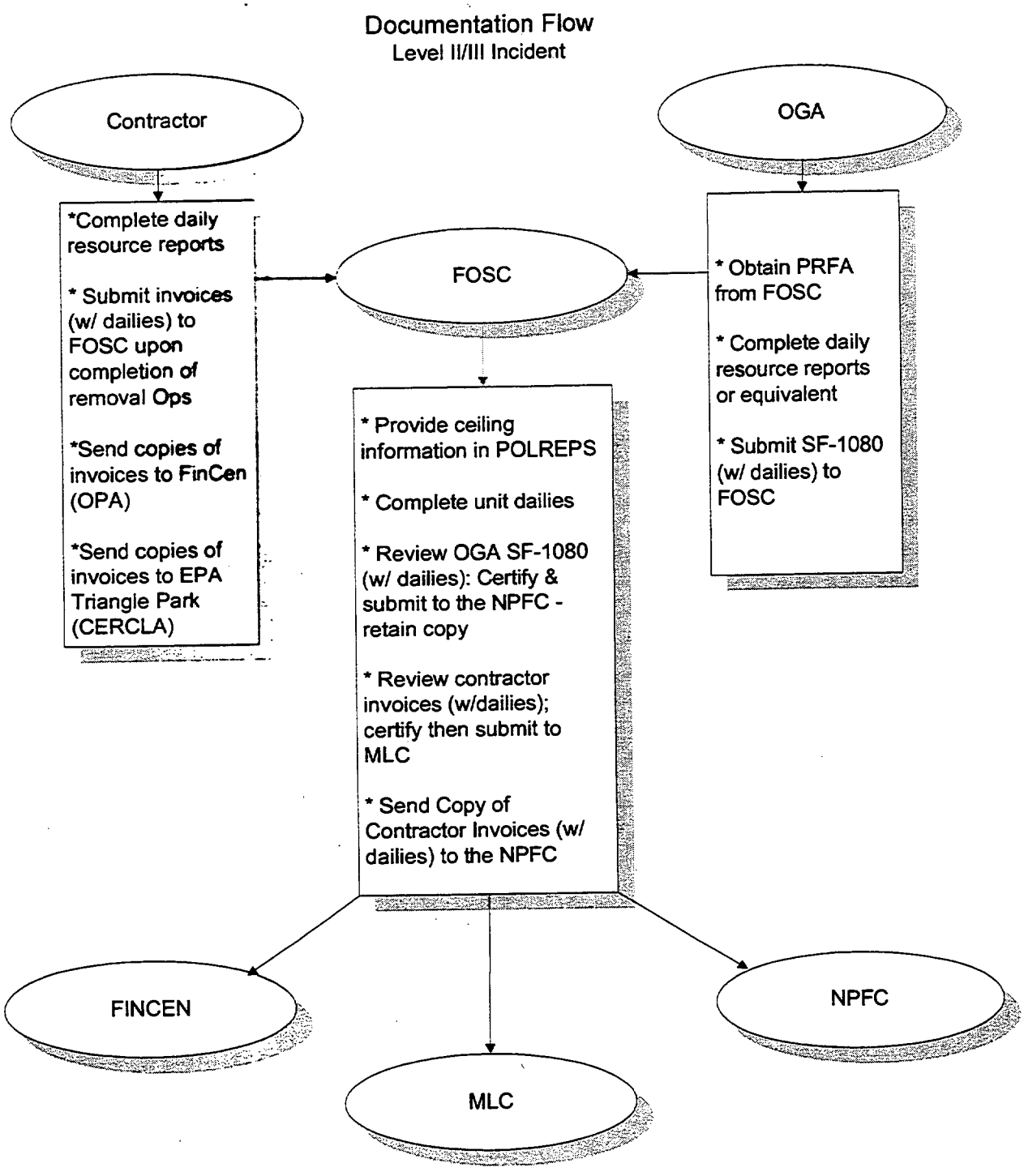

Documentation Flow
Level I Incident
Contractor
OGA
*Complete daily resource reports
* Submit invoices (w/ dailies) to FOSC upon completion of removal Ops
*Send copies of invoices to FinCen (OPA)
*Send copies of invoices to EPA Triangle Park (CERCLA)
FOSC
* Obtain PRFA from FOSC
* Complete daily resource reports or equivalent
* Submit SF-1080 (w/ dailies) to FOSC
* Provide ceiling information in POLREPS
* Complete unit dailies
* Review OGA SF-1080 (w/ dailies): Certify & submit to the NPFC - retain copy
* Review contractor invoices (w/dailies); certify then submit to MLC
* Send Copy of Contractor Invoices (w/ dailies) to the NPFC
FINCEN
NPFC
MLC

Figure C-2


Documentation Flow
Level II/III Incident
Contractor
OGA
*Complete daily resource reports
* Submit invoices (w/ dailies) to FOSC upon completion of removal Ops
*Send copies of invoices to FinCen (OPA)
*Send copies of invoices to EPA Triangle Park (CERCLA)
FOSC
* Obtain PRFA from FOSC
* Complete daily resource reports or equivalent
* Submit SF-1080 (w/ dailies) to FOSC
* Provide ceiling information in POLREPS
* Complete unit dailies
* Review OGA SF-1080 (w/ dailies): Certify & submit to the NPFC - retain copy
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* Send Copy of Contractor Invoices (w/ dailies) to the NPFC
FINCEN
MLC
NPFC

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ANNEX C - APPENDIX I
TAB B - OSC ACCESS TO THE FUND

BACKGROUND

Legislation mandating the cleanup of oil and hazardous substances has often included within it, a mechanism to fund these types of operations. Section 300.58 of the NCP outlines the types of funds available to federal response organizations.

FUNDING A FEDERAL RESPONSE TO A DISCHARGE OF OIL

Introduction. The Oil Pollution Act of 1990 established the Oil Pollution Trust Fund. The Trust Fund replaced the "Revolving Fund" established by Section 311(k) of the FWPCA. The guidelines concerning specific uses of the new fund are still being developed. Until the new guidelines have been established, the OSC may rely on Draft D5INST 16450.1. The instruction provides guidance on the appropriate use of the fund and the procedures for reimbursement of costs incurred during any potential or actual oil spill. Further guidance may also be obtained by contacting CCGD5 (mep).

Criteria for Use of the Oil Fund. The use of the fund should be considered when:

a. There is a potential or actual discharge of oil into a navigable water of the United States or adjoining shorelines and the responsible party is unknown or not taking adequate mitigating action.

b. Government out-of-pocket expenses are in excess of $500 during a response to any actual or potential spill whether or not the responsible party is known.

c. The responsible party is known and government expenses, excluding out-of-pocket cost, exceed $1,000. Government expenses should be calculated using standard rates, COMDTINST 7310.1 (series).

d. The OSC uses reservists to assist with response efforts.

If the spiller is known, the OSC will issue a Letter of Federal Assumption to the responsible party prior to hiring a cleanup contractor. The spiller should also be notified of his/her liability pertaining to government costs, even if the cleanup is not federally funded. This notification is accomplished by issuing the Notice of Federal Interest.

Opening the Oil Pollution Fund. Once the decision has been made to open the fund, the OSC should take the following actions:

a. Estimate the cost of the response prior to opening the fund.

b. Once the approximate cost of the response has been established, the OSC may open the fund by contacting CCGD5 (mep) at (804) 398-6381. CCGD5 OPCEN should be contacted after working hours or on holidays at (804) 398-6231. The fund will be opened by the duty officer, who will provide the OSC with a Pollution Incident Control Number (PICN) and the maximum dollar amount obligated to that number. CCGD5 may pre-commit up to a maximum of $2,000,000 for the incident; however, the OSC must seek contracting assistance from Commander, MLC LANT, if contracting costs exceed or are expected to exceed $25,000.

c. Once the OSC has been issued a PIC number, a commercial cleanup contractor may be hired.

Selecting and Hiring a Cleanup Contractor. The OSC has final approval of the selection of a clean up contractor, which is based on a balance of the following factors:

a. The ability of the contractor to provide adequate personnel and materials for the response, considering the magnitude of the problem;

b. The location of the contractor in relation to the site and his ability to respond in a timely fashion. Contractors may be engaged in another project which could hamper equipment availability or response time;

c. The cost of the contractor's services. Although some contractors may charge more for their services, they could be less expensive in the long run if that particular contractor is known to be conservative with resources and can complete the job in a shorter time period.

d. Whether the contractor has a BOA with the USCG. Contractors with BOA's are preferred.

Authorization to Proceed. The OSC should immediately hire a contractor with a verbal agreement and then follow up with an authorization-to-proceed letter. The authorization-to-proceed gives the contractor permission to proceed under the PICN, insures that the conditions set forth in the BOA are complied with, and sets an expenditure ceiling for the cleanup. The OSC must notify CCGD5, via message, of the conditions delineated on the authorization-to-proceed and request the transmittal of an accounting data message to MLCLANT and the Coast Guard Finance Center to facilitate payment authority.

Purchase Orders. Normally, purchase orders will be issued by Commander, MLC LANT; however, if a contractor refuses to proceed

without a purchase order, the OSC may issue purchase orders for projects which are not expected to exceed $25,000 in contractual costs.

Supervising a Federal Cleanup. For all federal projects, the OSC must provide at least one supervisor for each operation. The supervisor should fully document the activities of the contractor as described in ANNEX J, Tab G. The supervisor also insures site safety and directs the cleanup contractor to use the most efficient and cost effective cleanup techniques available. The OSC may have to rely on the Strike Team and the augmentation by reserve personnel to ensure that each site is properly supervised.

Allowable Expenditures. Fund expenditures which pertain directly to Phase III activities(see ANNEX J), such as, contractor costs for removal and disposal, are allowed at the OSC's discretion. If the OSC has questions about funding contractor activities which are undefined, he should consult CCGD5 (mep), MLCLANT (fcp), or the National Pollution Fund Center. The use of Coast Guard, federal, state and local resources are also at the OSC's discretion. Reimbursement for cost incurred as result of using Coast Guard or other agencies should be in accordance with CCGD5INST 16450.1.

Items Covered. The Oil Fund may be authorized for the following expenditures:

a. All contractor equipment and personnel necessary to complete the cleanup, including per diem and travel costs, if applicable;

b. Reimbursement of the OSC's "out-of-pocket expenses" during an actual or potential oil spill, even if the responsible party is funding the cleanup.

c. Studies to assess the extent of the environmental impact;

d. Sample analyses to determine the properties of the pollutant so that the most viable cleanup and disposal techniques can be determined;

e. Salary reimbursement for personnel from other federal agencies, who do not normally assist the OSC in response activities, when their assistance is specifically requested by the OSC; and

f. Replacement or repair of any contractor or Coast Guard equipment damaged during cleanup operations.

Items Not Covered. The Oil Fund will not cover the cost of the following:

a. A response to a pollutant which is not oil;

b. Personnel, materials, equipment or services which are not authorized and certified by the OSC as necessary for removal actions for that particular response.

FUNDING A FEDERAL RESPONSE TO A DISCHARGE OF HAZARDOUS SUBSTANCES

Introduction. The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) was enacted to provide the means for federal response activities to clean up releases of hazardous substances. This program and the corresponding funding is administered by the EPA.

Criteria for Use of Federal Funds. Similar to funding a federal response to a discharge of oil, CERCLA funds may be used to perform a federal cleanup when there is a pollution release and the responsible party is unknown or not taking adequate mitigating action. The difference is that the release is of a hazardous substance as classified under CERCLA rather than oil.

Opening the Fund. A memorandum of understanding between the USCG and the EPA allows the USCG to access the Hazardous Substance Response Trust Fund. An account number must be obtained from EPA Headquarters by calling the EPA Emergency Response Division at (202) 260-2188. After hours, the fund may be accessed by calling the NRC at (800) 424-8802, or (202) 267-2675.

Billing. When cleanup of oil or hazardous substances is being conducted utilizing federal funds, bills will be submitted to the OSC for certification. Once verified correct and certified, the bills are forwarded to the appropriate offices for payment. Invoices pertaining to the OPA Trust Fund will be submitted to the Coast Guard Finance Center, Chesapeake, VA, via CCGD5 (mep) and MLCA (fcp-1). The OSC will forward invoices pertaining to the Hazardous Substance Response Trust Fund to EPA Accounting Operations, Durham, NC.

ANNEX C - APPENDIX I
TAB C - STATE ACCESS TO THE FUND

State access to the Fund provides a new avenue for states to receive federal funds for immediate removal costs resulting from their response to actual or threatened discharges of oil. State access does not supersede or preclude the use of existing federal payment regimes. The states access to the fund is limited to $250,000. The state should not seek and will not receive payments for the same costs from more than one payment regime. Generally, there are two other payment regimes which the states may initiate to obtain federal funding for oil spill incident removal actions:

-ACTING AS THE FOSC CONTRACTOR. The state agencies may perform removal actions under the direct supervision of the FOSC. In these situations, the FOSC issues an Oil Spill Response Authorization to the state to establish a contractual relationship and obligate the fund. With this method of funding, the state is not limited to $250,000 per incident, and the FOSC is actively directing the state's response actions.

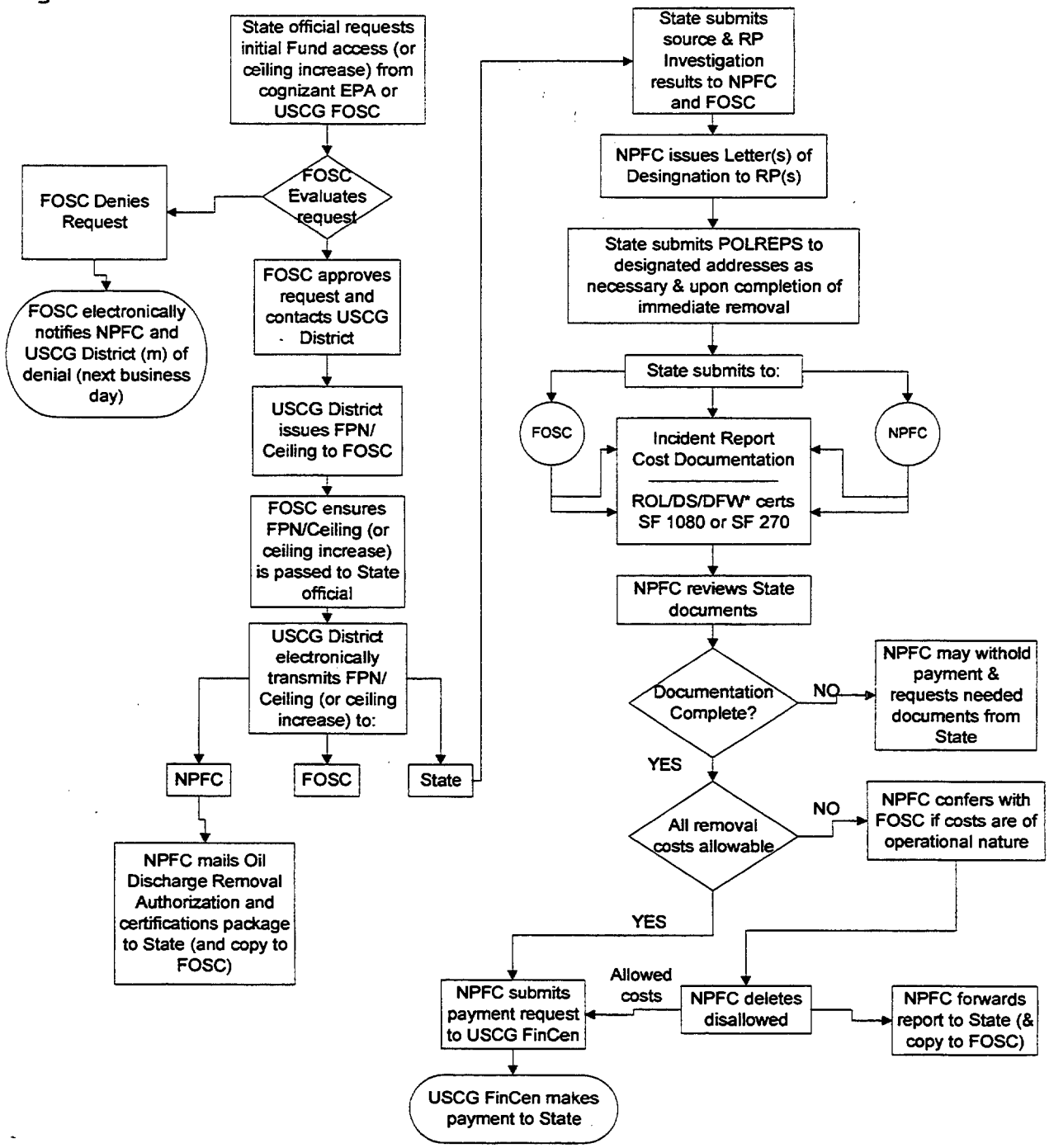
-CLAIMS. Section 1012(a)(4) of OPA 90 authorizes use of the fund for "the payment of claims in accordance with Section 1013 for uncompensated removal costs determined by the President to be consistent with the National Contingency Plan (NCP) or uncompensated damages. States may submit claims for uncompensated removal costs, which may include those salaries, equipment, and administrative costs directly related to a specific incident. A state may submit claims for removal costs directly to the fund, even if the responsible party is known. Claims other than for removal costs must first be submitted to the designated responsible party. Claim payments are not limited to $250,000 per incident.

Points of Contact: Mr. Lance R. Miller -- New Jersey
Mr. John Mohrman -- Delaware
Mr. Charles High -- Pennsylvania

The above individuals are the designated officials for the states and are authorized to request an FPN or initiate a state access request for OSLTF funding.

Figure C-3 depicts the process for state access to the fund.

Figure C-3



* NPFC may deobligate Fund if all documentation is not received by NPFC within 90 days following completion of immediate removal.

* ROL = Restrictions On Lobbying
DS = Debarment/Suspension
DFW = Drug Free Workplace

ANNEX C - APPENDIX I
TAB D - NATURAL RESOURCE DAMAGE ASSESSMENT (NRDA) PROCEDURES

INTRODUCTION

Oil spill incidents of significance initially lead to two primary actions: a response to contain and cleanup the spilled petroleum product(s) and an assessment of the injuries to natural resources caused by the pollutant. Congress enacted the Oil Pollution Act (OPA 90) in 1990. The act authorizes federal resource trustees (Department of Agriculture, Department of Commerce, Department of Defense, Department of Energy, Department of the Interior), state resource trustees (designated by the governor of each state), federally recognized Indian tribes, and foreign trustees, to seek compensation for injuries to natural resources caused by a discharge of oil. The National Oceanic and Atmospheric Administration (NOAA) is in the process of promulgating regulations for natural resource damage assessment (NRDA), resulting from discharge of oil. These regulations will supersede the Department of the Interior (DOI) NRDA regulations for oil spills. Any assessment of damages prepared in accordance with the regulations being promulgated by NOAA, shall have the force and effect of a rebuttable presumption on behalf of the trustees. The responsible parties (RP) then have the initial burden of disproving the assessment.

In the states of NJ, PA, and DE, spillers are liable for damages, including natural resource damages, resulting from a discharge of oil into marine waters of the state. Natural resources damages can be sought through federal or state law or both, but may be claimed only once. Double recovery is not permitted; and it is imperative in spills of significance, that federal and state trustees coordinate claims for natural resource damages. The monetary damages are compensatory rather than punitive in nature.

The Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. 9601, et seq.) (CERCLA) was enacted in 1980. CERCLA authorizes federal and state governments and federally recognized Indian tribes to act as trustees of natural resources and pursue damages from the RP for injuries to natural resources caused by release of a hazardous substance. The law also authorizes the trustees to assess damages to natural resources for the purpose of Section 1321 of the Clean Water Act (33 U.S.C. 1251, et seq.). Pursuant to CERCLA, the DOI promulgated the first NDRA regulations (the "DOI Rules") establishing procedures that trustees may follow. The procedures, as modified in accordance with decisions from two key cases involving the states of Ohio and Colorado, provide guidance for measuring injuries to natural resources and quantifying damages (dollars) for the injuries. The overall scheme set forth in the DOI Rules is the basis for NOAA's pending NRDA

regulations. It is also important to understand the procedures set forth in the DOI Rules because CERCLA shall still apply to oil spills in which the oil is mixed with a hazardous substance.

The assessment procedures set forth in the DOI Rules are not mandatory. They must be used by federal or state natural resource trustees to obtain a rebuttable presumption that a specific assessment of damages is correct. The DOI Rules set out two types of assessments procedures. The "Type A" procedure uses a computer model to calculate damages and is a simplified assessment process intended for coastal and marine environments. The "Type B" procedure is more comprehensive and time consuming but may be tailored for individual cases. Five steps are described in the DOI Rules for determining injury and translating quantified amounts of injury into monetary damages. The steps include:
(1) conducting an initial preassessment; (2) conducting a preassessment screen; (3) preparing an assessment plan; (4) conducting the assessment following either the "Type A" or "Type B" rules; and (5) preparing a post-assessment report. Although the regulations provide the option for the trustees to use either the "Type A" or "Type B" procedures in a given case, in practice, both may be employed. The speed of the "Type A" procedure may prove especially useful during the initial preassessment; whereas, the "Type B" procedure may be employed if a full assessment is conducted.

The overall goals of the NRDA process are to restore the injured environment and its components, as much as is possible, to pre-spill conditions and obtain compensation for all documented losses. The initial steps in the process require documentation of a pathway for the spilled oil, demonstration of oil contact with specific resources along the pathway, and quantification of the injuries caused by the spilled oil. Natural resources and the services provided by such resources may be injured or disrupted through direct or indirect exposure to released substances. The methods used to assess the injuries arise largely from current scientific practices and best professional judgment. The DOI Rules provide guidance on specific types of biological injuries (e.g., death, physiological malfunctions, such as, decreased reproductive capacity) that may be used to claim damages. The scope of possible injuries extends beyond impacts to single organisms and may include effects on populations, habitats, and ecosystems. In all instances, however, injuries must be related to the loss of service(s) provided by the injured resource. The "services" include physical and biological functions provided by the natural resources to the ecosystem, as well as, other functions related to human use of the resources. Although services lost through injuries to specific resources, may be qualitatively described with relative ease, quantitative assessment of losses and subsequent translation into monetary damages is often difficult.

Expected damages should be calculated as soon as possible to determine the scope of the case and the prudence of undertaking certain types of studies. Damage estimates should include (1) the reasonable costs of injury assessment, (2) the cost of restoring, rehabilitating, replacing, or acquiring the equivalent of the damaged resources, and (3) the value of interim losses of both direct use (e.g., commercial, recreational) and indirect or passive use (e.g., existence value) resources pending restoration or natural recovery.

Successful pursuit of NRDA actions, either by the natural resource trustees alone or in cooperation with the RP, is a complex process comprising numerous tasks involving the interaction of scientists, economists, lawyers, and administrators. The DOI Rules reduce some of the complexity by establishing an assessment process and providing a mechanism for determining the merits of going forward with the decisions. Other advantages to following the pre-defined assessment process warrant its use. The rebuttable presumption afforded by following the DOI Rules makes claims less vulnerable to criticism and more likely to succeed should litigation occur. Additionally, the DOI Rules provide a set of national standards to define certain types of injuries and describe methods for translating natural resource injuries into monetary values. The rules being promulgated for NRDA by NOAA will provide further guidance on economic methods to estimate both direct and passive use damages resulting from oil spill injuries. The NOAA Rules will have similar advantages to the DOI Rules but will be more specific to oil-related injuries and the dynamics following an oil spill incident.

Some NRDA tasks may be accomplished during pre-spill planning, although the majority of work begins following a spill. Actions initiated immediately after the spill, such as, collection of samples or gathering information pertinent to measuring actual or potential changes to natural resources, need to be coordinated with the response effort. This requires integration with the Unified Command in the Incident Command System (ICS). It is important to note that the RP is part of the Unified Command but may not necessarily be part of the trustees' coordinated NRDA activities. For this reason, the NRDA Team must coordinate all communication with the Unified Command through a NRDA liaison to the Planning Unit of the ICS. The natural resource trustees retain the option of inviting the RP to participate in all or part of the damage assessment process. A cooperative damage assessment could greatly minimize costs by eliminating parallel assessments by the natural resource trustees and the RP. Due to the statutory responsibilities of natural resource trustees, the trustees must maintain management and oversight of any cooperative damage assessment activities.

The following are the steps involved in the NRDA process:

1. Notification of the affected trustees.

2. Establish NRDA network within the Incident Command System (ICS)

3. Appoint a Lead Administrative Trustee (LAT)

4. LAT requests access to the Fund.

1. NOTIFICATION PROCESS FOR INITIATING NRDA ACTIONS.

In the event of a spill, each agency is responsible for notifying its own members of the NRDA Team. Individual federal and state agencies may be notified through various channels, depending on the size and location of the spill. In all incidents potentially requiring NRDA actions, the Federal OSC will attempt to notify representatives from each of the Trustee Agencies expected to participate in a NRDA process.

2. INITIATING NRDA WITHIN THE INCIDENT COMMAND SYSTEM (ICS).

The ICS is an organizational scheme designed to efficiently and effectively manage personnel and resources during emergency incidents. The system is designed to be adaptable to any size event and can be changed in structure to conform to the needs of the response. One objective of the ICS is to reduce or eliminate the duplication of efforts by the numerous response agencies, while attempting to control or contain the spill and mitigate possible impacts of the spilled oil. A small group consisting of the federal on-scene coordinator (OSC), the state on-scene coordinator (SOSC), and a representative of the RP, form the Unified Command (UC), which coordinates and directs the actions of the response. For additional details on the ICS, consult Annex A, Appendix V, Tab H.I in this Area Contingency Plan.

Decisions about Natural Resource Damage Assessment generally involve several trustee agencies working together to form a NRDA Team. The RP may be invited to participate with the NRDA Team activities. The focus of the NRDA Team is to document a pathway for the spilled oil, measure levels of injuries resulting from the spill, and determine damages. The UC, in contrast to the NRDA Team, focuses primarily on response, cleanup, and mitigation or injuries. Although the UC and NRDA Team differ in their activities, many of their activities overlap and require coordination. Some examples of activities to be coordinated immediately following a spill include collection of samples (e.g., access to restricted sites, sampling prior to cleanup), use of equipment (boats, helicopters, etc.), communications, forecasting spill trajectories, surveying spill sites, and selecting cleanup strategies.

It is important that the NRDA Team provide input to the decision-making process to ensure that response strategies selected by the UC minimally obstruct the efforts and needs of the NRDA Team. Information concerning potential injuries to

natural resources caused by oiling or response techniques, must be identified and made available to the Planning Section, prior to implementation of response strategies by the Operations Section.

The ICS organization chart currently used by the United States Coast Guard (USCG) aligns NRDA under the Planning Section. As mentioned previously, the RP is part of the Unified Command but may not necessarily be part of the trustees' coordinated NRDA activities. For this reason, the NRDA Team must remain separate from the ICS to ensure that statutory responsibilities of the natural resource trustee are not compromised. Some NRDA activities, however, are best coordinated through the UC. The NRDA liaison to the Planning Section of the ICS will present the needs of the NRDA Team to the UC. The liaison will also act as historian or recorder of information critical for a complete assessment of spill damages.

3. IDENTIFICATION OF LEAD ADMINISTRATIVE TRUSTEE (LAT)

The natural resource trustee will notify the Coast Guard of the LAT as soon as possible after an oil spill. As required by E.O. 12777 (October 22, 1991), the federal natural resource trustee must select a LAT. Depending on the resources at risk and other relative factors, it might be appropriate for the LAT to be as non-federal agency. In such cases, the federal natural resource trustees would still select a federal LAT for the purpose of coordination with the representatives of the Oil Spill Liability Trust Fund to initiate the damage assessment. The non-federal LAT will coordinate all other damage assessment activities.

The natural resource trustees intend to execute a general Memorandum of Agreement (MOA) to coordinate their damage assessment and restoration activities. Among other things, the MOA will identify trustees, establish criteria for selecting a LAT, and provide procedures for decision-making and handling any monetary recoveries.

4. FUNDING ISSUES

(A) Oil Spill Liability Trust Fund (OSLTF; OPA Oil Fund)

The federal LAT will contact the representative of the NPFC to secure a funding obligation to initiate the assessment of natural resource damages following an oil spill. The federal LAT will provide an outline of studies for which funding is sought and the allocation of such funding among the participating natural resource trustees. Each participating natural resource trustee will provide documentation of all expenditures, costs, and activities. The federal LAT is responsible for coordinating all such documentation to the representatives of the NPFC.

In order for the trustee agencies to be funded for their activities all operations must be conducted in compliance with the procedures set forth by the National Pollution Fund Center (NPFC) in the Technical Operating Procedures (TOPS) for Resource Documentation - Guidelines for Natural Resource Trustees.

(B) State Spill Response Fund (If available)

If federal funds are not available or will not be available in an adequate period of time, and a RP does not exist or is unable or unwilling to provide adequate and timely payment for cleanup and damages, the state administrator for oil-spill response may access the state spill response fund. Money from that fund may be used to cover state damage assessment costs. For additional details on spill funding procedures consult Appendix I of Annex C of this plan.

(C) Contacts with Responsible Party(ies)

The trustees will need the early access to representatives of the RP to determine the availability of funding, personnel, and equipment for damage assessment activities. The LAT will first notify the appropriate USCG representative and request that the Coast Guard arrange a meeting between the natural resource trustees and the RP's representative. Should the USCG fail to arrange a meeting in a timely fashion, the natural resource trustees will establish contact directly with the RP's representative.

5. SUPPORTING REFERENCES

Regulations

1) 40 CFR 300.600 (Identification of Federal Trustees; CERCLA)

2) 40 CFR 300.605 (Identification of State Trustees; CERCLA)

3) 43 CFR Part 11 (DOI Rules)

Statutes

1) 33 USC 1251, et seq. (Clean Water Act)

2) 33 USC 2701 et seq. (Oil Pollution Act of 1990)

3) 42 USC 9601, et seq. (CERCLA)

ANNEX C - APPENDIX I
TAB E - LEAD ADMINISTRATIVE TRUSTEE ACCESS TO THE FUND

Background: Section 1012 of OPA 90 established that the OSLTF may be used for "the payment of costs incurred by federal, state, or Indian tribe trustees in carrying out their functions under Section 1006 for assessing natural resource damages... ." The Coast Guard interpreted Section 1012 to mean that the OSLTF is available for the initiation phase of damage assessment, which is generally interpreted to mean the pre-assessment phase of the natural resource damage assessment (NRDA) regulations (43CFR Part 11, 15CFR Part 990).

Access to the OSLTF for this purpose is accomplished through a Federal Lead Administrative Trustee (FLAT) and does not require approval of the FOSC. When approved by the NPFC, the participating trustees will have a conditional reimbursement commitment from the OSLTF pending submission of the documentation of expenses consistent with the scope of initiation activities. The most current NPFC guidance on trustee access is provided in the Draft (January 25, 1995) Technical Operating Procedures for Providing Funding to Natural Resource Trustees to Conduct an Initiation of Assessment of Natural Resource Damages.

Although the FLAT does not require FOSC approval for the initiation of NRDA, it is important that the trustees keep the FOSC informed through the trustee-FOSC liaison or similar mechanism to avoid conflicts in field activities and minimize communication problems.

Designation of Trustees:

(1) In General - The President, or the authorized representative of any state, Indian tribe, or foreign government, shall act on behalf of the public, Indian tribe, or foreign country as trustee of natural resources to present a claim for and to recover damages to natural resources (Subpart G of the NCP).

(2) Federal Trustees - The President shall designate the federal officials who shall act on behalf of the public as trustees for specified natural resources. The Secretary of Commerce, the Secretary of the Interior, and the Secretary for the land managing agencies (principally DOD, DOE, and USDA) are currently designated as federal trustees.

(3) State Trustees - The governor of each state shall designate state and local officials, who may act on behalf of the public for specified natural resources.

(4) Indian Tribe Trustees - The governing body of any Indian tribe shall designate a tribal official, who may act on

behalf of the tribe or its members as trustee for specified natural resources.

It is important to note that in virtually all NRDA actions, there will be multiple trustees with co-trusteeship for the natural resources affected by a discharge. The FLAT concept is designed to provide
a coordination point between the trustees and the NPFC in matters related to OSLTF use for NRDA.

ANNEX C

APPENDIX II - REQUIRED LETTERS AND REPORTS

References:
(a) Oil Pollution Act of 1990
(b) Federal Water Pollution Control Act
(c) National Contingency Plan, 40 CFR Part 300
(d) Marine Safety Manual Vol VI, COMDTINST M16000.11
(e) COMDTINST 16000.31

GENERAL

a. Requirements. Documentation for enforcement and cost recovery is an essential part of any pollution response. The legal requirements are strict as thousands, possible millions of dollars are involved. General and detailed guidelines can be found in references (a) through (e). The pollution investigator must establish that all elements of the violation [Section 311(b)(3) of the FWPCA] are present and that for all elements of the evidence is well documented. Examples of the types of evidence which may support each element are samples, photographs and statements of witnesses. The elements of the violation are:

(1) There was a discharge;

(2) of oil or hazardous substance;

(3) upon the Navigable Waters of the U. S., the adjoining shorelines or into or upon the waters of the Contiguous Zone; or in connection with activities under the Outer Continental Shelf Lands ACT or the Deepwater Port/Act of 1974; or which may affect natural resources belonging to, pertaining to, or under the exclusive management authority of the United States;

(4) in a harmful quantity;

(5) by the facility or vessel suspected.

Tabs:
(A) Letters
(B) OSC Report
(C) Pollution Reports - POLREPS

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ANNEX C - APPENDIX II
TAB A - LETTERS

1. Notice of Federal Interest for an Oil Pollution Incident (Form CG-5549)

2. Letter of Federal Assumption

3. Letter of Designation of Source

   - The OSC is responsible for notifying the NPFC of the source of a discharge, actual or potential. The NPFC must also be notified if the source is not identified. Notification may be made by letter, Rapidraft, or message (POLREP or SITREP). The NPFC should be contacted for guidance on procedures, or with any questions relating to this.

4. Letter of Undertaking

5. Administrative/Directive Order (To be distributed under separate cover)

On Scene Activities. The investigators on scene are an extension of the OSC. They must relay an accurate picture of the scene and recommend appropriate actions. Figure 7 lists specific questions they should ask.
In addition, they are responsible to:

a. Make a determination as to whether or not cleanup is feasible. If cleanup is feasible, insure proper action is being taken;

b. Gather and relay all pertinent information about the spill, which will help the OSC formulate response plans;

c. Report the current on-scene weather;

d. Take samples from all possible sources;

e. Take photographs, as applicable, showing the path of entry, if possible;

f. Interview the parties involved, getting signed statements, if possible; and

g. Issue, check, and collect any of the following official documents as applicable:

   (1) Notice of Federal Interest (Figure C-4)

   (2) Letter of Assumption (Figure C-5)

(3) Letter of Undertaking (Figure C-6)

(4) Certificate of Financial Responsibility (COFR).

LEGAL NOTICE FOR SUSPECTED DISCHARGERS OF OIL

Notice of Federal Interest. Section 300.55 of the NCP requires that
a suspected discharger of oil be notified of the federal interest in his pollution incident. The Letter of Federal Interest, shown in Figure 15, informs the suspected discharger of his possible financial obligations under either the FWPCA or CERCLA. The letter shall be prepared and delivered to every suspected discharger, who should sign it to acknowledge receipt. If the responsible party refuses to sign, but verbally acknowledges the contents of the letter, the OSC representative on scene should sign the letter and another witness should sign, acknowledging that a copy of the letter was issued to the alleged discharger.

Letter of Federal Assumption. As soon as the OSC determines that a federal project will be initiated, a Letter of Federal Assumption should be served to the suspected discharger or their representative. This letter, shown in Figure 16 informs them of the OSC's intentions and their potential liability for expended costs.

Letter of Undertaking. This letter is a guarantee from the owner of a vessel suspected of discharging to pay any fines imposed under the FWPCA or CERCLA. This bond is not intended to cover cleanup costs, which is covered by the Certificate of Financial Responsibility (see 33 CFR 130). If the discharger is a foreign vessel, a Letter of Undertaking for $10,000 must be secured from the P&I Club representative, usually through the ship's agent, prior to departure. It is often very difficult to collect civil penalties from foreign owners without this letter. **Figure 17** shows a sample Letter of Undertaking. The original copy of this letter should be included as an enclosure with the MV Report.

Commanding Officer
U.S. Coast Guard
Marine Safety Office

1 Washington Ave.
Philadelphia Pa.
19147-4395
(215) 271-4800

NOTIFICATION OF FEDERAL INTEREST FOR AN OIL POLLUTION INCIDENT

_____
_____
_____
_____

Date_____

Gentlemen:

On or about _____, a pollution incident occurred or threatens to occur at _____. You may be financially responsible for this incident. Under Federal Statutes, the United States Government may take action to minimize or mitigate damage to the public health or welfare that is threatened or that may be caused by this incident.

Under the Oil Pollution Act of 1990, the responsible party is liable for, among other things, removal costs and damages resulting from this incident. The failure or refusal of the responsible party to provide all reasonable cooperation and assistance requested by the Federal On-Scene Coordinator (OSC) will eliminate any defense or entitlement to limited liability which otherwise might be available under the Act.

You are advised that your failure to properly carry out the removal of the discharge as ordered by the OSC or to comply with any administrative orders necessary to protect the public health and welfare, may subject you to additional penalties. For such failure, owners, operators, or persons in charge of the vessel or facility from which the oil is discharged are subject under the Federal Water Pollution Control Act (FWPCA), as amended, to a civil penalty of up to $25,000 per day of violation or up to 3 times the costs incurred by the Oil Spill Liability Trust Fund. Should you require further information concerning this matter, please contact Captain of the Port Philadelphia at the above address and telephone number.

As long as the OSC determines that you are taking adequate actions in this matter, Federal removal action will usually be limited to monitoring the progress of your actions and providing guidance as necessary. Under the FWPCA, as amended, your response actions may be taken into account in determining the amount of any penalty assessed as a result of the discharge.

Sincerely,

_____ _____
OSC or Representative Signature — Printed Name

Received and Acknowledged: _____ _____

Signature Printed Name

Witness: _____ _____

Signature Printed Name

Commanding Officer
U.S. Coast Guard
Marine Safety Office

1 Washington Ave.
Philadelphia Pa.
19147-4395
(215) 271-4800

16450

PIN: _____
MC: _____
FPN: _____

NOTICE OF FEDERAL ASSUMPTION OF CLEANUP ACTIVITIES

Date/Time: _____

Address: _____
_____
_____
_____

Gentlemen:

My letter of _____ notified you of federal interest in a water pollution incident for which you are presently considered responsible.

You are hereby given notice that your actions to remove the pollutant and mitigate its effects have been evaluated as unsatisfactory. Effective _____ hours, _____ , the United States Coast Guard initiated cleanup activities under the authority of the Federal Water Pollution Control Act, as amended (33 USC 1321). Removal will be effected in accordance with the National Oil and Hazardous Substance Pollution Contingency Plan and federal regulations. You may then be billed for all actual costs incurred by the federal government.

Should you require further information concerning this matter, please contact my on site representative.

Sincerely,

P. L. RANDALL
Commander
U. S. Coast Guard
Captain of the Port (Acting)

FIGURE-C-5

LETTER OF UNDERTAKING

Date

U.S. Coast Guard
1 Washington Ave.
Philadelphia, PA 19147

Attention:

Re: Vessel Name

Dear Sir:

We understand that you allege that on or about _____, oil was spilled in violation of the laws of the United States from the vessel ___ while at _____. The undersigned Association hereby agrees:

1) To file or cause to be filed upon your demand and appearance on behalf of the owners of the vessel _____ in any action which is commenced by the United States in the United States District Court for the Eastern District of Pennsylvania for statutory civil penalties, and also to file or cause to be filed in such action by the United states a claim of ownership to the vessel _____;

2) In the event a civil penalty or final judgment after appeal, if any, be entered in favor of the United States against the vessel _____ and/or her owner and/or claimant, in the aforesaid hearing or action, to pay and satisfy up to and not exceeding $10,000 the said final penalty or judgment, or any lesser amount adjudged by the court or settled between the parties without final judgment being rendered;

3) Upon written demand to cause to be filed in such an action a bond with approved corporate surety, in the amount to be agreed upon or fixed by the court but not to exceed $10,000 to secure your claim against the vessel in said action described in Paragraph 1, above. In the event that the bond referred to in this paragraph is filed, the undersigned Association shall have no further obligation under Paragraph 2, above.

Yours truly,

ANNEX C - APPENDIX II
TAB B - OSC REPORT

OSC Reports. An OSC report is required by the National Contingency Plan after every major discharge or release or upon the specific request of the RRT. The report should be submitted to the RRT and NRT within one year of the cleanup completion date. For more information on OSC Reports, see 40 CFR 300.40.

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ANNEX C - APPENDIX II
TAB C - POLLUTION SITUATION REPORTS (POLREP)

Initial OSC notification to the CCGD5 Operations Center may be made by telephone and followed up by a teletype message (POLREP). POLREPS must be submitted in a timely manner as significant developments occur and at least once daily prior to 1600 for the duration of the response. The initial POLREP must be sent within three hours of the initial spill notification. The following situations require the submission of a POLREP:

a. All medium or major oil spills; (high, medium or low probability)

b. All potential medium or major oil spills;

c. All chemical releases;

d. Any incident involving medical waste;

e. Any incident which involves other Coast Guard resources other than those of MSO/Group Philadelphia;

f. Any incident that receives extensive media coverage or which poses special political or environmental concerns;

g. Any incident involving unusual circumstances, such as, personnel error, failure of inspected equipment, or a reportable marine casualty; or

h. Whenever there is doubt whether a POLREP is required.

An example POLREP from a recent major oil spill is included as **Figure C-7**. Request for additional resources or assistance, and special situations or requirements, such as, safety zones, should also be included in the POLREP. **Figure C-8** is a sample safety broadcast establishing a safety zone.

P051845Z APR 94
FM COGARD MSO PHILADELPHIA PA
TO NC/CCGDFIVE PORTSMOUTH VA//M/OPC//
INFO COGARD NATIONAL RESPONSE CENTER WASHINGTON DC//G-TGC-2//
COGARD BRIDGE BRANCH NEW YORK NY
ZEN/EPA REGION II
ZEN/EPA REGION III
ZEN/DE STATE DNR&EC
ZEN/NJ STATE DEP
ZEN/PA STATE DER
ZEN/US FISH AND WILDLIFE SERVICE
ZEN/US DEPT OF INTERIOR
BT
UNCLAS //N16465//
SUBJ: POLREP 1, POTENTIAL MAJOR, (LOW PROBABILITY), T/V XXXXX, 05P-04140-94, MC98001111, 500,000BBLS CRUDE OIL O/B.

1. SITUATION:
   A. 050750R APR 94. NOTIFIED BY VESSELS AGENT THAT VESSEL HAD GROUNDED IN THE NEW CASTLE RANGE AND WAS TAKING ON WATER IN FORE PEAK AND EMERGENCY FIRE PUMP ROOM E/R SUN MARCUS HOOK 3C DOCK. VSL HAS 500,000 BBLS BRENT CRUDE O/B.
   B. OWNER: SOUTHWEST TANKER INC., VSL MGR WELLEM SHIP MGMT.
   C. O/S WX: FOG, VIS LESS THAN 1 MILE, TEMP 55 DEG F., WIND: CALM.
2. ACTION TAKEN:
   A. 050750R VSL AGENT NOTIFIED MSO/GROUP CDO OF SITUATION.
   B. 0800R PILOT NOTIFIED I/O'S OF PROB WITH VESSEL.
   C. 0815R NOTIFIED BY JOE SMITH (OOPS - 504-368-9845), QI FOR VESSEL, THAT MASTER WAS SOUNDING TANKS, DNV AND DIVERS TO BE NOTIFIED . VESSEL DRAFT WAS 39'. VESSEL TO BE BOOMED OFF UPON ARRIVAL AT SUN DOCK.
   D. 0820R PORTOPS TM, INSPECTORS, IO E/R
   E. 0845R NOTIFIED OPC
   F. 0850R TOM SMITH (SUN TRANSPORT) NOTIFIED THAT SPILL TEAM AT SUN ACTIVATED, VSL TO BE BOOMED.
   G. 0855R QI CALLED: WALLEM SHIP MGMT IS SHIP MGR. MR ZINGH IS REP, MR. GEORGE IS PORT ENGR. VSL SALVAGE FIRM ON STBY. MASTER RPTS 3 METERS OF WATER IN FOREPEAK.
   H. 0900R MR ZINGH ADVISED THAT VSL IS DOWN BY THE HEAD, BUT BALLAST PUMPS ARE MAKING HEADWAY. WATER BEING PUMPED TO RIVER, DIVERS O/S. NO POLLUTION REPORTED.
   I. 0910R BRIEFED D5 DRAT/MEP.
   J. 0940R PORTOPS TEAM O/S.
   K. 1045R PORTOPS TEAM RPTS NO WATER IN CARGO TANKS.
   M. 1050R VSL COMMENCED DISCHARGE OF CARGO TANKS.
   N. 1055R PORTOPS TEAM O/S RPTS THAT THERE WAS NO POLLUTION
   O. 1100R D5 MEP UPDATED.
3. FUTURE PLANS AND RECOMMENDATIONS:
   A. CLASS SOCIETY TO PROVIDE REPORT OF DAMAGE AND INTENDED REPAIRS PRIOR TO VESSEL DEPARTING.
   B. MONITOR OPERATIONS TO ENSURE NO POLLUTION.
4. CASE PENDS

BT
NNNN

FIGURE C-7

P 25 Z JUL 91
FM COMCOGARDGRU PHILADELPHIA PA
TO CCGDFIVE PORTSMOUTH VA//OAN//
INFO AIG ONE ONE NINE ONE TWO
BT
UNCLAS //N16502//
SUBJ: REQUEST BROADCAST NOTICE TO MARINERS
QUOTE: NEW JERSEY, CAPE MAY HARBOR
1. THE CAPTAIN OF THE PORT PHILADELPHIA HAS ESTABLISHED A SAFETY ZONE IN CAPE MAY HARBOR FROM THE AREA BETWEEN DEVIL'S BEACH, THE LOBSTER HOUSE MARINA AND SOUTH JERSEY MARINA AND EXTENDING TO FERROW'S CUT BY CAPE MAY CANAL AND THE MOUTH OF SCHELLINGERS CREEK. THIS ZONE IS IN EFFECT FROM 0028 LOCAL, 24 JULY 1990 TO 0830 LOCAL, 25 JULY 1990. THE ZONE IS NECESSARY TO PROTECT MARINERS AND THE ENVIRONMENT FROM POTENTIAL HAZARDS ASSOCIATED WITH A POLLUTION INCIDENT IN THE AREA. NO VESSEL MAY TRANSIT THE SAFETY ZONE WITHOUT PERMISSION OF THE OFFICER IN CHARGE OF THE COAST GUARD VESSEL ENFORCING THE SAFETY ZONE. VESSELS WISHING TO TRANSIT MAY CONTACT THE COAST GUARD VESSEL ON SCENE ON VHF-FM CHANNEL 13 OR 16 FOR PERMISSION TO TRANSIT.
2. REQUEST NTM.
BT

FIGURE C-8

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ANNEX D - PLAN REVIEW

GENERAL. Plan review and maintenance is a process designed to keep the plan as up-to-date as possible. When this plan was originally published, it was considered to be adequate and workable. However, real-world conditions are constantly changing, especially in data gathering techniques and response technology; and, the longer the plan sits on the shelf, the less likely it is to remain current. The objective of plan review and maintenance is to reduce the amount of change needed to adapt the plan to a form that can be used when it is actually implemented.

PHILADELPHIA ACP. For the purposes of this plan, review and maintenance will be conducted and changes incorporated using the schedule listed in the appendices to this annex. Generally, the following forms of input will be used for subsequent updates:

a. As promulgator of the plan, the Captain of the Port, Philadelphia, will periodically review and distribute updates to the plan in accordance with the schedule listed in Appendix I of this Annex.

b. All plan holders are strongly encouraged to submit additions or corrections or changes to the plan to the Captain of the Port for incorporation and publication.

c. Any lessons learned from exercises or actual incidents that contradict or enhance information contained in the plan will be thoroughly reviewed by the Area Committee or designated subcommittee and incorporated, if appropriate.

Appendices: (I) Revision/Update Requirements
(II) Exercises and Evaluations
III) Training

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ANNEX D
APPENDIX I - REVISION/UPDATE REQUIREMENTS

Area Contingency Plans shall be reviewed and updated annually by the Area Committee until 1997. After 1997, the plans will be updated every five years. Plans shall be reviewed to ensure all information is current, and in particular, the following areas shall be looked at: emergency notification list, response equipment information (type and amount of equipment available), sensitive areas, hazard/risk assessment of the area, response strategies (changes based on new technology, new equipment, etc.), dispersant approval. Any changes to the plan must be noted on the record of changes page.

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ANNEX D
APPENDIX II - EXERCISES AND EVALUATIONS

References: (a) 40 CFR Part 300.212, National Contingency Plan
(b) National Preparedness For Response Exercise Program (PREP) Guidelines, August 1994

General: Reference (a) requires that, "The OSC periodically shall conduct drills of removal capability (including fish and wildlife response capability), without prior notice, in areas for which ACP's are required..." to assess the effectiveness of such plans and relevant tank vessel and facility response plans. These drills may include participation by federal, state, and local agencies, the owners and operators of vessels and facilities in the area, and private industry. The National Strike Force Coordination Center (NSFCC) will act as a clearinghouse for these exercises, participating in the development, execution, and evaluation to the fullest extent practicable, with the cognizant program managers of the USCG and EPA.

Spill response exercises are a vital part of the preparation and training for actual cleanup operations. Whether on a small or grand scale, these exercises serve to:

a. Open lines of communication and establish good working relationships with special forces, state, and local response groups, and other members of the response organization;

b. Manifest problems with response schemes and plans to continuously hone response methods;

c. Exercise the decision processes of the response organization; and

d. Familiarize personnel with the storage, deployment, and working of pollution response equipment.

National Preparedness for Response Exercise Program (PREP): The PREP was developed to establish a workable exercise program, which meets the intent of OPA 90 for spill preparedness. The PREP was developed to provide a mechanism for compliance with the exercise requirements, while being economically feasible for the government and oil industry to adopt and sustain. The PREP is a unified federal effort and satisfies the exercise requirements for all federal agencies which adheres to its guidelines. The PREP represents the **minimum** guidelines for ensuring adequate response preparedness. Guidelines for PREP participation are contained in reference (b) and became effective January 1, 1994.

Commercial vessel and waterfront facility response plan holders are required to meet the pollution response exercise requirements under OPA 90. Although participation in the PREP satisfies these requirements, **PREP is a strictly voluntary program**. Plan holders are not required to follow the PREP guidelines and, if they choose not to, may develop their own exercise program that complies with the regulatory exercise requirements. However, Area Contingency Plan holders (USCG/EPA) are required to follow PREP guidelines.

At this time, PREP addresses the exercise requirements for oil pollution response only. Regulations for hazardous materials substance releases are currently under development; and once completed, the hazardous substance exercise requirements will be incorporated into PREP.

[NOTE: The NSFCC is responsible for executing the National Response System Pollution Exercise Program (NRSPEP). All Coast Guard participation in exercises will be coordinated with and/or through the NSFCC.]

ANNEX D

APPENDIX III - TRAINING

References: (a) 29 CFR 1910.120
(b) 49 CFR Parts 172 and 176
(c) Training Reference for Oil Spill Response, August 1994

General: The Oil Pollution Act of 1990 (OPA) amended the Clean Water Act to require tank vessel and facility response plans. The plans are intended to prepare the owner of a vessel or facility to respond to an oil or hazardous substance discharge. Response plans must describe the training of persons to ensure the safety of the vessel or facility and to mitigate or prevent a discharge of oil or a hazardous substance.

In addition to OPA required response training, there are other federal and state response training requirements. Vessel and facility owners or operators are responsible for ensuring that all private response personnel, which they employ, are trained to meet the Occupational Safety and Health Administration (OSHA) standards for emergency response operations promulgated in reference (a). These requirements, commonly referred to as HAZWOPER regulations, were established to ensure the health and safety of personnel employed in hazardous substance response and cleanup operations. Personnel employed at facilities which transfer or store products in bulk, classified as hazardous substances by OSHA, must also comply with HAZWOPER regulations. Crude oil, petroleum oil, and petroleum distillates are considered hazardous substances by OSHA. In addition to the HAZWOPER regulations, employers must comply with the federal requirements of reference (b) to train hazmat employees.

Reference (c) provides a foundation of suggested subject material for training personnel with responsibilities identified in response plans, and is intended to assist companies in meeting their regulatory responsibility to develop training programs for their employees. Numerous additional references are listed in Annex M of this contingency plan.

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ANNEX E - AREA ASSESSMENTS

Reference: (a) PL 101-380, Oil Pollution Act of 1990
(b) 40 CFR 300, National Oil and Hazardous Substances Pollution Contingency Plan

SITUATION

a. General. In the recent past, numerous significant spills have occurred in the coastal waters of the United States. These incidents include the EXXON VALDEZ oil spill in Prince William Sound, the chronic spillage experienced in New York and New Jersey during 1989 and 1990, and several other major incidents which resulted in extensive damage to the marine environment. As a result, the President signed into law reference (a) which establishes new federal authority to direct responses, and requires across-the-board improvements in preparedness and capabilities.

b. Purpose. This Annex and attached Appendices contain a risk assessment for the Ports of Philadelphia. It includes a description of the area, an historical overview of activities, a listing of economically and environmentally sensitive areas, a risk assessment of the area concerned, and describes the response activities required to mitigate a spill.

Appendices:
(I) Area of Responsibility
(II) Area Committee Organization
(III) Area Spill History
(IV) Strategies
(V) Sensitive Areas
(VI) Disposal

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ANNEX E
APPENDIX I - AREA OF RESPONSIBILITY

This plan is effective for the coastal areas and waters of the United States within the Captain of the Port, Philadelphia AOR as defined below, and for waters of the contiguous zone as appropriate. The Captain of the Port Philadelphia is the predesignated Federal On-Scene Coordinator within his area, which includes parts of federal Regions II within the state of NJ, and Region III within the states of PA and DE, and is completely within the boundaries of the Fifth Coast Guard District.

GEOGRAPHIC BOUNDARIES

CAPTAIN OF THE PORT PHILADELPHIA AREA OF RESPONSIBILITY

As defined in Title 33 Code of Federal Regulations Section 3.25-05, the Philadelphia Captain of the Port area of responsibility (AOR) starts at the New Jersey shoreline at 39-57.0N latitude; thence westward to 39-57.0N latitude, 74-27.0W longitude; thence north-northwesterly to the junction of New York, New Jersey, and Pennsylvania boundaries at Tri-state; thence north following the course of and including the waters of, the Delaware River until it meets the New York boundary; thence west along the New York-Pennsylvania boundary to 78-55.0W longitude; thence south to 41-00.0N latitude; thence west to 79-00.0W longitude; thence south to the Pennsylvania-Maryland boundary; thence east to the junction of the Maryland-Delaware boundary; thence south and then east along the Maryland-Delaware boundary to the sea including Fenwick Island Light, but not including that portion of the Delaware containing the reaches of the Nanticoke River and the Chesapeake and Delaware Canal. This is shown in Figure 10.

COASTAL-INLAND BOUNDARIES

The COTP Philadelphia area contains portions of both EPA Region II and EPA Region III. EPA Regions II and III are separated by the New Jersey state line in this area. The EPA will provide the OSC for inland areas in both EPA Region II and III. The USCG and the EPA have agreements defining the boundary between inland and coastal regions within the COTP Philadelphia zone as shown in Figure 11A-B. Information contained in the agreements are included below along with the offices of the inland OSC.

EPA Region II. For pollution response purposes in New Jersey, the boundary between EPA and USCG starts at the U. S. Highway 1 bridge between Morrisville, PA, and Trenton, NJ, and follows eastward along US 1 to its intersection with US 206 in Trenton, NJ, and follows southward along US 206 to its junction with US 130 in the vicinity of Bordentown, NJ; thence southward

following US 130 to the junction of US 130 and State Highway 49 in the vicinity of Deepwater, NJ; thence following State Highway 49 southward and eastward to its junction with State Highway 47 at Millville, NJ; thence following State Highway 47 southward to its junction with the Garden State Parkway in the vicinity of Rio Grande, NJ; thence following the Garden State Parkway northward to the south bank of the Toms River. The EPA will respond to spills inland of and on the highway boundaries described above, with the exception of the following areas where the USCG will respond:

- Rancocas Creek, from the Delaware River to the I-295 Bridge
- All of the Cooper River
- All of Newton Creek and its tributaries
- All of Little Timber Creek (Gloucester City-Brooklawn, NJ)
- Big Timber Creek from the Delaware River to the State Highway 42 bridge
- Tuckahoe River from Egg Harbor to the draw bridge at State Highway 50
- Great Egg Harbor River from Great Egg Harbor to Mays Landing, NJ.
- Mullica River from Great Bay to the bridge at County Road 563 (Annex IV, Region II Coastal Plan)

In addition, EPA will assume the OSC responsibility for spills involving the following:

- Salem River: upstream from the first bridge at Salem, NJ; and

EPA Region III. For pollution response purposes in Pennsylvania and Delaware, the boundary between EPA and USCG starts at the US Highway 1 bridge between Morrisville, PA and Trenton, NJ, and follows westward along US 1 to its intersection with US 13; thence southward on US 13 to the intersection with I-95 in the Croyden-Bridgewater area; thence southward along I-95 to its intersection with US 40 in Wilmington, DE; thence eastward along US 40 to its intersection with Delaware State Route 9; thence along State Route 9, southward, to its intersection with US 113; thence along US 113, southward, to the Delaware-Maryland border. The EPA will respond to spills inland of the line described above with the exception of the Schuylkill River where the USCG will respond to all spills below the dam at Fairmount Park. (Annex IV, Region III Inland Plan). MSO Baltimore will provide pollution response along the C&D canal west of the State Route 9 Bridge.

ANNEX E

APPENDIX II - AREA COMMITTEE ORGANIZATION

References: (a) Federal Water Pollution Control Act, 33 U.S.C. 1321 et seq
(b) Oil Pollution Act of 1990, P.L. 101-380

ORGANIZATION. The structure and function of the Area Committee (AC) is found in Subsection (j) of reference (a) as amended by reference (b). Although the AC has only a planning and preparedness role, the individual members may have two roles: planning and response. The planning role is required by the FWPCA, as amended, which tasks the Area Committee to prepare and submit for approval an Area Contingency Plan. The FOSC is chairman of the AC and appoints a vice-chairman to help in the direction and coordination of the planning effort. The membership of the AC comes from qualified federal, state and local government personnel and are appointed by the FOSC in consultation with the RRT. The members of the AC may fill individual functional roles in the area response organization.

Tabs: (A) Area Committee Members
(B) Subcommittee Titles and Members

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ANNEX E - APPENDIX II
TAB A - AREA COMMITTEE MEMBERS
EXECUTIVE COMMITTEE MEMBERS

Mr. Peter Knight
EPA Region III

LT Louis Mascioli
Coordinator Southern Reg. NJSP
Office of Emergency Management

Mr. Mac McCreary
NJ DEP

Mr. James Hoffman, Director
Delaware Emergency
Management Agency

Mr. Dennis Carney
EPA Region III
RRT Co-Chair

Mr. Mike Chezik
U.S. Dept Of Interior

Mr. Steve Jarvela
EPA Region III
OSC

Mr. Ed Levine
NOAA SSC

Mr. Bruce Spraig
Branch Chief OSC
EPA Region II

Mr. Dominic A Petrilli
Delaware Emergency Management
Agency

Mr. Brian Mulvenna
Emergency Ops Chief
ACOE, Philadelphia

Mr. Steve O'Neill, Mgr
Water Quality Branch Penna.
Dept Environmental Resources

Mr. Phillip Retallick
Delaware DNR & EC

Ms. Linda Ziegler
EPA Region III

Mr. Bennett Anderson
Environmental Specialist
Delaware DNR & EC

Mr. Donald H Batipps
Pennsylvania DEP

Mr. Stanley Sneath
Assistant Counsel Dept
Of Envir. Response

Captain Peter Martinasco
NJ State Police
Emergency Mgmt Office

Mr. Stanley Delikat
Chief, Response Bureau
NJ DEP

Mr. Steven R Touw
EPA Region II

Mr. John Mohrman
Program Manager, Env Response
Delaware DNR & EC

Ms. Mickey Mulvenna
ACOE Representative

Mr. Dick Nugent
Mgr, Tinicum Refugee
U.S. Fish & Wildlife Svc

Mr. Don Henne
Regional Mgr
Dept of Interior

Mr. Bob Long
Environmental Emer Specialist
PEMA

ASSOCIATE MEMBERS OF THE AREA COMMITTEE

Mr. Bill Gallagher
Dept Head Environmental Branch
Philadelphia Naval Shipyard

Ms. Peggy Porter
ACOS Operations
Philadelphia Naval Base

Mr. William Harrison
President Port Of Philadelphia
Maritime Exchange

Mr. Paul Stella
Battalion Chief
Aviation Marine Ops
Philadelphia Fire Dept.

Mr. Dennis Rochford
President Port Of Philadelphia
Maritime Exchange

Ms. Cynthia Poten
Watershed Assn Of The Delaware

Mr. Robert S Hudson
J.E. Brenneman Company

Ms. Lynn Frink
Tri-State Bird Rescue
And Research Inc.

Mr. Mike Nucci
Philadelphia Office of
Emergency Management

Mr. Eugene Johnson
Manager
Delaware Bay and River COOP

Mr. Bob Umbdenstock
Operations Manager,NE Region
MSRC

Mr. Adam M Cloud,
Verner, Liipfert, Bernard
Mcpherson and Hand

ANNEX E - APPENDIX II
TAB B - SUBCOMMITTEE TITLES

Subcommittee

Sensitive Areas

Response Countermeasures

Operations

Training & Exercises

Hazardous Materials

Information Management

Outreach

Inlet Protection

Natural Resource Damage Assessment

Prevention

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ANNEX E
APPENDIX III - AREA SPILL HISTORY

High risk areas. Experience indicates that major pollution incidents can occur at any location where quantities of pollutant materials are stored, processed, or transported. In general, high-risk areas are where the greatest concentration of petroleum and chemical facilities are located.

The following areas are considered particularly high-risk areas by the COTP Philadelphia:

Schuylkill River, PA, area;
Darby Creek, PA, area;
Mantua, NJ, area;
Paulsboro, NJ, area;
Marcus Hook, PA, area;
Chesapeake and Delaware Canal Easterly approach area;
Port Mahon, DE, area;
Big Stone Beach Anchorage; and
Delaware Bay and the approaches.

The largest spill. The largest spill occurring in the Delaware River was the T/V GRAND EAGLE spill in 1986. Approximately 462,000 gallons of crude oil was spilled when that ship grounded in Marcus Hook.

The most complex spill. The most complex spill occurring in the Delaware River was T/V PRESIDENTE RIVERA spill in 1989. Approximately 307,000 gallons of #6 oil spilled when the PRESIDENTE RIVERA grounded in Marcus Hook Range. The #6 oil had a pour point of 95 degrees. As the air and water temperatures were consistently below 95 degrees, this created many problems in oil clean up. The oil had a tar-like or asphalt consistency in the water, but when stranded on shore, the black oil absorbed radiant heat and became liquid. The complexity of the clean up was a result of the changing physical state of the oil - when it was in the water or when the temperature was cool, it had one form of behavior; but when it was removed from the water (e.g. stranded on shorelines, in wetlands, on rocks) and subject to isolation, it changed physical characteristics, requiring entirely different clean up equipment and methods.

Unconventional cleanup methods, such as, dragging a net behind a fishing boat to snag oil globs and scooping oil and debris with clam shell dredges were attempted and proved successful.

Maximum Most Probable Considerations

Maximum most probable scenarios for oil spills in the Delaware River have been identified. In each case, a certain time of the year has been identified as the worst possible time for a spill.

This does not mean that the other times of the year would not be bad times for a spill. In most cases, spring has been identified as the worst time of the year due to migratory birds and spawning fish. Summer would also be a bad time of the year to have a spill in the Bay and offshore because of the socioeconomic and political impact that would result because of a spill. The heat from the hot summer sun would also affect the ability of contractors to conduct a safe and speedy clean up. The winter season would create a tremendous problem in the ability of clean up contractors to conduct an effective clean up because of ice concentrations and cold weather. It is entirely possible that there would be no clean up operations conducted during the winter months. Generally stated, there is never a good time to have a spill.

The Delaware River was broken down into several areas that have been identified for possible maximum most probable scenarios. This was based on traffic patterns, pipeline, and tank farm locations, and their locations near environmentally sensitive areas. After an analysis of these areas, COTP Philadelphia determined the following types of incidents would be the maximum most probable spills that could occur:

a. Delaware Bay and Approaches:

The most likely event would involve a collision between a freight vessel and a tank vessel carrying crude oil with no more then two tanks being compromised. The total contents of not more than one complete tank would be lost. The total amount spilled is estimated at 1.6 million gallons of crude oil. The total impact would be in Delaware Bay and the approaches, as well as, the shorelines and river banks of New Jersey and Delaware. NOAA spill trajectories show that a spill occurring in Big Stone Beach Anchorage would be influenced to a large extent by the direction and force of the prevailing winds. With winds out of the southwest, New Jersey would be heavily impacted. With winds out of the northeast, Delaware would be heavily impacted.

The spring season, when millions of migratory shorebirds are feeding on horseshoe crabs and their eggs to double their weight for their northern flight, is the most critical time for an impact in this area. Shore impact would contaminate not only the birds but also their food source, the horseshoe crabs. Ninety percent of the Red Knot (a migratory shore bird) population is present at this time. Sea trout breeding is also occurring during this period and would be affected by a large spill. The summer season is also a bad time of the year, as any oil spillage just inside the Bay would affect the beaches of New Jersey and Delaware. A spill occurring during this time would certainly have a socioeconomic impact on the tourist trades that the shore communities depend upon. The fall season also is a time when migratory birds are returning south and stopovers in the Delaware Bay can be expected. Anadromous fish movements (adults, juveniles, and young of the

year) can be expected in the fall. Winter time of reduced activity in the bay; but even then, resident populations of fish, birds, and mammals may be susceptible to oil/hazardous material spill(s).

b. Port Mahon, DE:

There are several large four-million gallon JP4 storage tanks located just on the edge of the grassy and marsh vegetation area. A catastrophic tank rupture from one of these tanks could release approximately two million gallons of JP4 into the wetlands.

Spring is the most sensitive time of the year for a release in this area. The toxic contamination of JP4 would have a lethal affect on benthic (bottom dwelling) organisms, such as, crabs, clams, and other bottom feeders of the Delaware Bay. Snow geese and red knots would also be impacted, particularly the snow geese, which would be rafting in inland areas at this time. There would be a greater toxic effect on the birds with JP4 than with crude oil or #6 oil. The total shoreline impact would most likely be in Delaware.

c. Chesapeake and Delaware Canal:

A tank vessel collision in this area would have a major impact not only on waterfowl and wildlife, but on the economies of New Jersey and Delaware, as well. The predominate westerly current flow in the canal would carry the spilled product into Maryland and the Elk River and upper Chesapeake Bay water areas. The most likely product to be spilled would be 1.25 million gallons of gasoline. Gasoline was selected because of the proximity of a refinery at Delaware City, DE, and because gasoline is often transported through the C & D Canal. The two seasons identified as being the worst time for a spill are spring and fall.

The spring season would be a particularly bad time to have an incident in this area due to a heavy concentration of birds in the Delaware, Pea Patch Island, and New Jersey marsh areas. Eggs and larvae from striped bass, oysters, and clams will be affected by the toxicity of the light ends. In the fall, juvenile striped bass, oysters, and crabs would be affected by the lighter ends. Birds are not as much of a problem as the lighter ends would only have a short-term affect on them. Juvenile or larval forms of organisms using the top few feet of water are likely to be most affected by the toxic effects of the lighter oil. The lighter ends are particularly lethal to benthic organisms, such as, clams, crabs, or other bottom dwellers, which are in the intertidal zone.

A spill in this area during any time of the year will affect operations at the Salem and Hope Creek nuclear powered generating stations located at Artificial Island in Lower

Alloways Township, NJ. These facilities, which draw large amounts of cooling water for their operations, may have to shut down resulting in disastrous socioeconomic impacts for New Jersey and Delaware.

d. Marcus Hook, PA:

This area has had the most major pollution incidents during the past ten years. It combines a high volume of traffic, a narrow navigable channel, and a hard, rocky bottom. Based on this, the most likely incident would be a tank vessel grounding with two to three cargo tanks holed resulting in a loss of 1.25 millions gallons of crude oil. This would be equivalent to the entire contents of one cargo tank.

Spring is the most critical time of the year as the Delaware River and area tributaries host abundant wildlife activity. Diving birds, shorebirds, waterfowl, and spawning fish, including the endangered shortnose sturgeon, would be most affected by a spill in this area. Specific tributaries affected by a spill in this area would be Raccoon Creek, Oldman's Creek, and Darby Creek. The spill would also effect Pea Patch Island, where there are a number of endangered species, such as, the great blue heron and the yellow crowned night heron.

e. Paulsboro, NJ:

The most likely event would be a collision between a freight ship and a tank vessel ship, which is moored at a facility, that results in two cargo tanks being holed. This could result in a loss of 1.6 million gallons of either crude oil or #6 oil. This estimate is based on information that the largest tank ship (260,000 DWT) traversing the Delaware River moors at a facility here. The amount spilled represents the equivalent of the contents of one tank. An area from Philadelphia, PA, to Wilmington, DE, would be impacted.

Environmental impact would be similar to the Marcus Hook, PA scenario, except different tributaries (Mantua Creek, Darby Creek, and Woodbury Creek) would be affected.

f. Darby Creek, PA:

There is a tank farm located several miles up from the mouth of Darby Creek. There are two very large tanks capable of storing eleven-million gallons each of crude oil or #6 oil. A sudden catastrophic rupture from one of the two tanks could result in 5.5 million gallons of oil being released.

Spring has been identified as the most crucial time of the year for a spill because the endangered shortnose sturgeons arrive, and because striped bass and shad are spawning. A spill of this magnitude will also affect migratory birds, such as, wading birds, and waterfowl, and will impact the freshwater tidal wetlands of the John Heinz National Wildlife Refuge at Tinicum, a national wildlife refuge. In the winter season, waterfowl, and ducks would be affected.

g. Mantua, NJ:

There is a large storage tank located approximately 1,000 feet from the Delaware River capable of holding twenty million gallons of waste oil. A catastrophic release from this tank could result in upwards of ten million gallons of oil escaping to the river.

Again, the spring season has been identified as the most crucial time of the year for reasons similar to those discussed above. An oil spill in this area would probably extend from Philadelphia to Marcus Hook.

Potential Spill Considerations.

Actual major oil spills on the Delaware River have been of significantly less volume than the maximum, most-probable releases discussed above. The history of spills on the Delaware River indicates that no more than 200,000 to 500,000 gallons of oil would be released. These amounts are much less than indicated in the previous section.

There is no known history of tank failures in this port, although there have been some that had fires or explosions. A fairly recent incident involved a six-million gallon tank in Wilmington, DE, that developed a valve problem. 40,000 gallons of No. 6 oil escaped. However, only 1,000 gallons of the product entered the river. The Ashland oil spill in Pittsburgh, PA, was the result of a rebuilt tank that collapsed. Pennsylvania has enacted tougher legislation to ensure that all tanks are inspected once every ten years.

Average Most Probable Spill Considerations

Most spills that occur in the Delaware River are less than 10,000 gallons. In fact, there were over 1,000 minor spills from 1986 to the summer of 1990 averaging approximately 150 gallons per spill. Less than 1% of all spills in this port are greater than 10,000 gallons.

ANNEX E
APPENDIX IV - STRATEGIES

(1) Response Priorities
  (a) Protect human life and health
  (b) Minimize ecological impacts
  (c) Minimize economic and public impacts
(2) Determination of protection priorities
(3) Determination of appropriate countermeasures
(4) Determination of natural collection areas and boom sites throughout the area
(5) Determination of containment techniques
(6) Determination of removal techniques
(7) Determination of shoreline cleanup techniques/strategies

GENERAL

This Appendix provides general guidelines and useable techniques for Phase III oil response activities, as delineated in Annex J of this plan. The first actions taken should be to safeguard life and property. Second, the source of the discharge should be determined and an attempt made to stop any additional discharge. Third, the material must be recovered and removed.

The EPA has published a response-oriented manual for the protection and cleanup of coastal areas. This manual is very helpful in the preliminary assessment of a spill and its threat to the shoreline. Due to the number of training manuals and training organizations available (listed in Annex M), specific containment and recovery techniques will not be illustrated in this plan

POLLUTION ABATEMENT THEORY

In the event of an oil spill, the OSC's primary concern should be locating the source and preventing further discharge. Once the discharge has been stopped, the cleanup effort begins with containing the oil. Oil spreads on water due to the high surface tension of water. The spreading force (F) of the oil is equal to the surface tension of the water (Yw) minus the sum of the surface tension of the oil (Yo) and the interfacial surface tension of the oil and water (Yow): ($F = Yw - Yo + Yow$). An oil with a low-surface tension tends to spread more rapidly than an oil with a high-surface tension. The knowledge of oil characteristics is crucial to determine the hazards present, to predict the trajectory of the spill, and the effectiveness of chosen abatement techniques.

Initial cleanup efforts (Phase III Activities) can best be subdivided into containment, recovery, and removal phases. The success of pollutant recovery is dependent on how successfully a discharge is contained or herded into an area where the oil can be recovered. Tide, current, wind, and shore topography data should be collected as soon as possible in order for the OSC to determine the proper

containment or herding techniques. These phases must be coordinated to ensure an effective response.

CONTAINMENT

Containment systems are used primarily to prevent the further spread of the pollutant. They may also be used to herd the pollutant to aid in recovery activities, to deflect oil away from environmentally-sensitive areas, or to protect areas of economic or public interest.

The most common containment systems consist of floating items, such as, booms or physical earthen barriers--dikes, dams and berms.

Floating Items. Floating items are items to be used when a commercial boom is not immediately available. The use of available floating items is left to the responder's imagination. Items that may commonly be found on scene are logs, telephone poles, boards, lines, hawsers or fire hoses.

Booms. Commercial booms are available in a variety of sizes and shapes. However, they all will contain some common components. The boom will always consist of a flotation device with a certain amount of freeboard, a tension line, a skirt under the flotation device, some type of ballast to keep the boom upright, and a connection device to modify the length of the boom.

Boom selection and deployment should take into consideration the following factors:

a. Type of pollutant to be contained: Will the material sink? Is the material flammable?;

b. Conditions ,such as, wind, tidal ranges, current velocities of the current associated with tide change, and shore topography (i.e. natural collection points along the shore);

c. Linking compatibility with different types of booms available;

d. Locations of access points for deployment and recovery; and

e. Boom anchoring conditions: Is shore-to-shore booming feasible?.

Booms create hazards to navigation and tend to restrict the flow of vessel traffic. They should be properly marked in accordance with 33 CFR 88.15 to warn boaters of their presence.

Commercial booms are divided into three general categories: heavy-duty offshore booms, river and harbor booms, and sorbent booms. Heavy-duty offshore booms are used in high sea, offshore environments. They are generally found in limited quantities and are difficult to deploy and recover. River and harbor booms are more common than heavy-duty offshore booms are considerably less expensive and are easier to deploy. Sorbent booms or sausage booms are generally used to support final cleanup operations or to protect environmentally-sensitive areas subject to low energy tidal actions. They are also commonly used to catch entraining with river or harbor booms to aid in the recovery of oil.

Currents, tides, and waves greatly affect the deployment and effectiveness of the boom. These natural factors must always be considered:

a. Current speed exceeding 0.7 knots (perpendicular to the boom) will result in entrainment of oil regardless of the depth of the skirt.

b. Tides and tidal currents are semi-diurnal in the COTP Philadelphia AOR and should be taken into consideration prior to deployment of complex boom schemes. Additional booms may have to be deployed to account for tidal changes and retaining anchors should be deployed so they do not have to be repositioned during tide changes.

c. Waves effect the performance of booms. Wave height and frequency in relation to construction and flexibility of the boom should be considered prior to deployment. Long periods between crests and low wave heights require the deployment of a highly flexible boom. High frequency and high wave heights will result in oil escaping of or splashing over the apex of the boom regardless of its flexibility.

Dikes, Dams and Other Barriers. The use of dikes, dams, and other barriers, often take a great deal of time to construct and are generally not feasible in environments exposed to high energy tides and currents. These are most effective for small creeks and land-based spills.

RECOVERY AND REMOVAL

Regulations in 33 CFR 153 outline objectives for removal techniques. These regulations give the OSC the authority to direct the type of equipment and methodology to be used for removal, stressing that removal methods should minimize secondary pollution to the maximum

extent practicable. Further, they establish the precedence of (1) mechanical, (2) manual, and (3) chemical methods for removal.

Chemical Methods. See ANNEX G

SHORELINE CLEANUP METHODS

Once the oil impacts the shore, additional cleanup methods come into play, considering the type of shoreline involved.

Heavy Equipment. Motor graders, elevating scrapers, front-end loaders, etc., are used primarily on sand and gravel beaches with substrate contaminations greater than 3 cm or for tarball removal. Fair to good trafficability of the impacted area is needed to operate such equipment. The use of heavy equipment for recovery usually requires a large staging area for contaminated soils. Staging areas should be planned prior to deployment of such equipment.

Hydroblasting. High pressure water streams are used to remove oil from boulders, rocky areas, or man-made structures. Light vehicular access and additional recovery equipment are needed to utilize this method.

Steam Cleaning. High-pressure steam is used to remove oil from boulders, rocky areas, or man-made structures. This method has a more adverse environmental impact than hydroblasting. Environmental considerations should be a deciding factor prior to use. Light vehicular access and additional recovery equipment are needed to utilize this method.

Low Pressure Flushing. A low-pressure water stream is used to remove light, non-sticky oils from substrates with light contamination. Light vehicular access and additional recovery equipment are needed.

Manual Sorbent Application. Sorbent pads and snares are deployed by hand to remove light non-sticky oils from mud flats, boulders, rocky areas, or man-made structures. They are generally deployed during low tide and recovered after the following high-tidal period. Sorbent boom backup is recommended when this techniques is deployed. Foot or small boat access is needed to use this method, as well as, multiple disposal containers stationed on scene.

Manual Cutting. Manual cutting is utilized for removing oiled vegetation. Foot or small boat access, as well as, multiple disposal containers are required. The states, and where federal lands are involved, the federal trustees, should be consulted prior to cutting.

Mechanical Methods. Title 33 CFR 153 establishes that mechanical methods will be given first priority in the removal process because they do not contribute to secondary pollution. As much oil as possible should be consolidated using booms and other devices to permit more effective use of mechanical skimming devices. A major portion of an oil spill can be recovered by this method.

Skimmers. Skimmers are used in areas of heavy oil contamination. There are five basic types of skimmers:

a. Suction units;
b. Floating weirs;
c. Oleophillic disks, drums, and belts;
d. Hydrodynamic planes; and
e. Vortex or cyclone skimmers.

There are two primary factors that will govern the efficiency of skimming operations, and they should be considered prior to deployment:

a. Viscosity: Vortex or cyclone skimmers and oleophillic disks skimmers are not effective on a highly viscous oil.

b. Concentration or thickness: All skimmers work on the principle that oil floats on water. Utilizing a skimmer on thin oil layers will cause high-water intake and will result in a great deal of time being spent on decanting activities.

Other factors that should be considered in skimming operations include:

a. On-scene weather conditions;
b. Sea conditions;
c. Amount of debris or solids at the recovery point;
d. Water depth; and
e. Degree of emulsification of the product to be recovered.

No skimmer will be 100% effective in oil recovery. Most skimmers lose efficiency in environments exposed to high energy tides or currents. All skimmers will collect some water, and some time should be spent planning decanting operations prior to deployment. Storage of the recovered pollutant should also be taken into consideration. Some pollutants with high pour point temperatures may cause time-consuming problems when transferring the recovered product to a storage tank. All skimmers require constant monitoring and intake maintenance.

Manual Methods. After the major part of the oil has been removed by mechanical methods, sorbent material is either spread out on the slick area or sorbent boom may be used to sweep the slick area. Material that has been spread on a slick can be removed from the water by hand-operated rakes, scoops, forks, etc, as it becomes saturated. Sorbents come in many sizes and forms and have different applications. In general, the large size sorbents (booms and pads) should be used in preference to the smaller particle sorbents (granular sorbents, rice hulls, straw) in open water areas because they are easier to retrieve.

Sorbents. A sorbent is any material that will recover oil through either absorption or adsorption. Absorption occurs when oil penetrates the pores of a material. Adsorption occurs when oil is attracted to surface of a material but is not absorbed.

Sorbent materials are broken down into three basic categories:

a. Inorganic sorbents are mineral-based materials, such as, vermiculite, perlite, or volcanic ash. They are not reusable in most cases. An inorganic sorbent may recover 4-8 times its own weight. They are non-biodegradable and should always be recovered. These products are often disposed of in landfills.

b. Organic sorbents are organic materials, such as, peat moss, straw, hay, or saw dust. They are not reusable in most cases. An organic sorbent may recover 3-6 times its own weight. The material is biodegradable, but should be recovered, as they have a high oxygen demand during biodegradation. Organic materials are generally disposed of by incineration or in landfills.

c. Synthetic sorbents are usually of a petrochemical origin, such as, polyethylene, polypropylene, or polyurethane. They are usually treated to be hydrophobic and oleophillic. Synthetics may recover up to 25 times their own weight. They are non-toxic and non-biodegradable. The material is easy to deploy yet may be difficult to recover, as they dramatically increase in weight when they become saturated. Synthetic sorbents are reusable as they may be rung out and used again on scene. Synthetic sorbent come in many forms: snares, sorbent booms, sweeps, and pads. They may be disposed of in a landfill or by incineration.

Inorganic and organic sorbents are easily distributed from a broadcasting machine or simply poured from a bag. They should be chemically treated to be hydrophobic to prevent water saturation which may lead to sinking. Both types of materials are difficult to recover from water as they tend to clog pumps and have an abrasive effect on machinery.

FIGURE 1

LIST OF CRUDE OILS

PRODUCT	TYPICAL API GRAVITY	TYPICAL POUR POINTS	COMMENTS
ADANGA (Nigeria)	35.0		
AMNA	36.1	+ 75	
ARAB HVY	28.2	- 30	
ARAB MED	30.8	+ 5	
ARAB LIGHT	33.4	- 30	
ARJUNA	37.7	+ 80	
ARZEW	44.3	- 6	
ATTAKI	43.3		
BUATTIFEL	40.6	+ 80	
BELATI	30.0	+ 40	
BERRI	38.8	- 30	
BONNY LIGHT	37.6	+ 36	
BONNY MED	26.0	- 5	
BOSCAN	10.0	+ 90	
BRASS RIVER	43.0	- 5	
BREGA	40.4	+ 30	
BRENT	37.0	+ 30	
BURGAN	23.3	- 5	
CABINDA	32.9	+ 65	
DUBAI	32.5	- 5	
DJENO	28.0	+ 37	High H2S
EKOFISK	35.8	+ 15	
ESSIDER	37.0	+ 30	
ESCRAVOS	36.2	+ 50	
EOCENE	17.8	- 30	
FELDA	25.3	Low Pour	High Sulphur 3.3%
FORCADOS	30.5	+ 5	
FORTIES	36.6	+ 30	
GAMBA	31.8	+ 73	
GIPPSLAND	44.8	+ 60	
HANDIL	34.0	+ 90	
HOUT	34.1	0	
IRAN HVY	30.8	- 5	
IRAN LIGHT	33.5	- 20	
ISTHMUS	33.0	+ 10	High Sulphur
KOLE	32.0	+ 5	
KHAFTI	28.7	- 31	2.85% Sulphur
KUWAIT	31.2	0	
LORETTO	34.0	+ 34	
LOGO MED	33.0	- 15	

LUCINDA	39.0	+ 65	
MANDJI	29.0	+ 48	
MAYA	22.5	+ 35	High H2S
MEREY	17.2	- 10	
MINAS	35.2	+ 90	
NINIAN	35.1	+ 45	
NORTH SLOPE	26.8	- 5	
OMAN	34.7	- 11	
ORIENTE	30.4	+ 20	
PALANCA	38.6		
PENNINGTON	35.1	+ 40	
QATAR	42.0	- 10	
QUA IBOE	37.4	+ 50	
RATAWI	23.5	+ 15	
RAS GHARIB	26.2		High Sulphur
SAHARAN BLEND	46.0	+ 25	
SARIR	36.5	+ 79	
SUNNYLAND	25.2		High Sulphur 3.5%
TIA JUANA PESADO	12.0		High Sulphur/High Vis
TIA JUANA LIGHT	31.9	- 30	
TIA JUANA MED	24.5	- 40	
TIA JUANA HVY	18.2	- 35	
TAKULA	32.1	+ 65	
TACHING	33.0	+ 95	
TAPIS	45.0		
ZARZAITINE	42.0	+ 16	
ZUEITINA	39.6	+ 55	
ZAIRE	36.5	+ 70	

More information about the properties of certain oils is available from the American Petroleum Institute at (202) 682-8000 or from the facility receiving the product.

ANNEX E
APPENDIX V - SENSITIVE AREAS

HIGHLY VULNERABLE AREAS

Highly vulnerable resources include water intakes, local populations, environmentally-sensitive areas, and attractive or popular natural features. The Delaware Estuary is a vulnerable area simply as an estuary. Estuaries are complex zones of transition between fresh and saltwater and are the breeding or spawning grounds for many types of wildlife.

Southern New Jersey

There are recreational beaches all along the New Jersey shoreline. Recreational boating is a large and growing pastime in this area, as well as, in the Delaware Bay, River, and its tributaries. Recreational boating is especially heavy inside the barrier beaches along the New Jersey Atlantic shore. There are shellfish beds along the entire New Jersey shoreline. Most of the Bay area inside the barrier beaches support shellfish beds. Commercial fishing in the Delaware Bay and River area is highly seasonal. During the spring, shad, striped bass, white perch, and sea trout compose the bulk of the catch. During the spring and summer, oyster, clams, and hard crabs are taken. During the fall, eels are taken by inshore traps. There are six gill net fisheries on the New Jersey side of the Bay, as well as, several menhaden reduction plants. There are numerous wildlife management areas along the New Jersey side of the Delaware Bay, including the Cape May and Supawna Meadows National Wildlife Refuges. The Forsythe National Wildlife Refuge is located on the Atlantic Coast, north of Atlantic City. Both coasts of the Delaware Bay and the area inside the barrier beaches along the New Jersey coast are predominantly tidal flats, wetlands, and marshes. These coastal types are the most sensitive types of shoreline and support a variety of fauna and flora. In particular, these areas provide a habitat for waterfowl nesting as a nursery ground for numerous fish species.

Delaware and Eastern Pennsylvania

Along the Delaware River, several wildlife preserves exist. Tinicum National Environmental Center, a large wildlife preserve just south of the City of Philadelphia, is located between two of the largest oil receiving facilities on the river. Another preserve, Bombay Hook National Wildlife Refuge, is located on the lower reaches of the Delaware River. Prime Hook National Wildlife Refuge is located on the shores of the Delaware Bay just northwest of Cape Henlopen. All three of these areas are primarily marshes or wetlands and support a variety of waterfowl, wading birds, shorebirds, raptors, and shellfish, including some species on the U. S. Endangered Species List. The state of Delaware has designated most of its coastline as Delaware Seashore State Park.

Fish & Wildlife Protection, and Resource Conservation

General. A primary concern in oil and hazardous substance spill response must be the conservation and protection of fish and wildlife and their ecosystems. Migratory birds, such as, waterfowl, shorebirds, and wading birds are especially susceptible to endangerment when oil is spilled into any waterway. They are a highly visible symbol to the general public of the spill's impact. Wildlife conservation is most critical when those species already in danger of extinction become impacted by the oil or hazardous substance spill.

Priorities. Critical and sensitive areas of the river are very important considerations during a pollution incident. Since we cannot provide adequate protection for all the environmentally sensitive areas along the Delaware River and tributaries, responders must work with the appropriate states to develop a priority list of environmentally sensitive areas and their order of importance. For major spills, it is expected that all highest priority critical or sensitive areas should have protection within eighteen hours. For minor spills, impacting a smaller area, it is expected that this could be accomplished within six hours. Time will become critical, and the equipment takes much time to deploy. Therefore, in all cases, critical and sensitive areas need to be prioritized so that the maximum amount of protection can be achieved in the shortest amount of time.

Reference Resources. There are several publications that help identify environmentally sensitive areas. A complete listing is shown in ANNEX M. Some specific examples:

a. At the request of the DB&RC and COTP Philadelphia; NOAA conducted a study with concerned federal, state, local agencies, as well as, experts from area universities and industry, to determine and prioritize areas of environmental, economic, and social sensitivity. Sensitivity maps were produced in a series of seasonal charts depicting the entire Delaware Bay. The sensitivity maps show those areas that will be sensitive to oil spills during the various seasons of the year. These sensitivity maps will give the big picture, and other charts will be needed to narrow the scope of sensitive areas. Results of this study can be obtained from the NOAA SSC.

b. June Lindstedt-Siva, Ph.D., wrote a report called "Oil Spill Response Planning for the Delaware River Estuary" for the Atlantic Richfield Company. This contains specific and timely information on biologically sensitive areas in the Delaware River Estuary.

c. Research Planning Institute prepared "An Atlas of Coastal Resources" for NOAA. This is also an excellent tool for analyzing sensitive areas in the entire coastal COTP Philadelphia AOR.

d. Inventory maps published by the USF&WS are a valuable tool in spill response, showing the variety and number of species that congregate and use environmentally sensitive areas.

e. Additional agencies (e.g., DOI, NOAA) that can supply more information on vulnerable areas, waterfowl conservation, and endangered species are listed in ANNEX M and in Appendix II of this Annex.

Booming Guidelines

For spills within the Delaware River, one of the highest priorities is protection of the following five tributaries which each lead to large areas of environmentally-sensitive wetlands:

a. Mantua Creek
b. Darby Creek
c. Raccoon Creek
d. Oldman's Creek
e. Big Timber Creek

The DB&RC has equipment staged and personnel trained to deploy boom on these creeks. The DB&RC Contingency Plan further describes the various staging points. The following booming guidelines shall be followed for any spills north of the Delaware Memorial Bridge:

a. Major spill (100,000 gallons or more) - from Walt Whitman Bridge to Chester - immediately boom all five creeks starting with the ones closest to the origin of the spill. For major spills between Chester - Bridgeport area, boom all creeks within a radius of ten miles north and all creeks south of the spill.

b. Medium Spill (10,000 to 100,000 gallons) - Immediately boom all creeks within a ten-mile area north and south of the spill. Boom Darby Creek at the mouth regardless of distance of the spill north. Prepare to boom the additional creeks within one hour depending on containment, type of product, and movement of the pollutant.

c. Minor Spill (less than 10,000 gallons) - Prepare to boom all creeks which may be affected, considering the type of product and anticipated movement.

Special Considerations: Delaware River

There are several naturally occurring factors, which must be taken into account for response actions within the Delaware River:

a. The rivers are tidal in nature and pollutants will spread upstream and downstream depending upon the state of the tide. Generally, pollutants in the Delaware River will travel approximately four miles upstream during the flood cycle and five miles downstream during the ebb. Wind direction and speed play a critical role while free-floating oil remains on the water.

b. The river's natural flow will cause high current velocities, which will have a drastic effect on any booming efforts. Deflective booming will be most effective, deflecting oil away from environmentally sensitive areas or corralling it into the river's natural collection points.

c. Since the river is long and narrow, any medium or major spill is likely to affect both banks for several miles up and down the shorelines.

d. Heavy traffic along the Delaware River will require the control of vessel traffic in the area of the discharge.

Special Considerations: Delaware Bay

Discharges into the Delaware Bay are more likely to occur from vessels lightering at Big Stone Beach Anchorage. Wind and sea conditions make it unlikely that large amounts of pollutants will be contained by booms deployed in the Bay. The use of boom as a protective measure to prevent the pollutants from reaching the shoreline will be maximized. The rotary current, which flows through the Bay, is likely to disperse pollutants throughout the Bay. Some quantity of the pollutants will be taken out to sea. The success of skimming operations in the Bay may be greatly effected by the sea state.

Special Considerations: Offshore

The major emphasis for offshore spill response is source control. Salvage and other efforts to minimize the discharge will be initiated promptly. Source control efforts will be assigned highest priority until either efforts are no longer feasible due to safety considerations or source control is no longer required.

Due to the nature of the offshore currents, it is anticipated that most small discharges occurring offshore will not significantly impact the coastal beaches of the New Jersey or Delaware. Response actions will primarily consist of spill movement plots in attempts to predict the migration of the pollutant. If movement plots indicate a threat of shoreline impact, an organized response will be initiated and

mitigating shoreline impact will become the priority. Field command posts will be established in the threatened areas, and the spill will be monitored until the threat has passed. The use of chemical agents for an offshore spill should be considered. (SEE ANNEX G)

It is anticipated that public interest during an offshore spill will be high, as the economies of shoreside communities may be greatly effected if shore impact occurs during the months of summer tourism. The OSC will request public affairs assistance as necessary.

HIGH RISK AREAS

The high-risk areas are those areas in the port area that are most susceptible to medium and major pollution incidents. These areas also include some of the most sensitive areas in the port. These areas include Delaware Bay, Salem Cove, and Pea Patch Island area, Marcus Hook area including the tributaries, Tinicum Island, Darby Creek, and the Paulsboro area including the area tributaries.

Tabs:
- (A) Natural Collection Sites
- (B) Environmentally Sensitive Areas
- (C) NOAA Chartlets
- (D) Sensitive Area Summaries

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ANNEX E - APPENDIX V
TAB A - NATURAL COLLECTION SITES

NATURAL COLLECTION AREAS

Natural collection areas are those places where surface material naturally collects due to prevailing conditions. These are excellent areas to work with nature to corral floating pollutants. The following areas are listed below by statute miles (SM) and nautical miles (NM) from the Delaware River demarcation line. For reference, MSO/Group Philadelphia is located at mile 98.8 SM/85.85 NM.

New Jersey

SYMBOL	LOCATION	SM	NM
1.	Salem River just west of Route 49	59.1	51.4
2.	Old Canal Cedar Swamp	82.6	71.4
3.	Thompson Point - Monds Is. and Monds Is. Ditch	85.5	74.3
4.	Crab Point Basin E.I. Dupont	86.7	75.3
5.	Cove by Mobil Oil Co., Paulsboro	87.8	76.3
6.	Kaighn Point	98.5	85.6
7.	Delair RR Bridge with filter fence and vacuum trucks	103.3	89.8
8.	Fisher Point southwest of Texaco Inc., Paragon Oil Div.	104.3	90.6
9.	Dredge Harbor Riverside NJ, Plum Pt.	110.2	95.8
10.	Behind Newbold Island	124-126.3	107.8-109.8

Pennsylvania

11.	Basin, U. S. Steel Fairless Works, Morrisville, PA	108.9	125.2
12.	Sand Dredging Cove, Pennsburg Manor	124.6	108.3

13.	Franklin Basin, Meenan Oil Co., Tullytown, PA	121.7	105.8
14.	Lagoon Cornwall Heights	113.7	98.8
15.	Cove, Northern Metals, Philadelphia	108.7	94.5
16.	Frankford Creek, Bridesburg, Philadelphia	92.4	80.3
17.	Penn's Landing, Philadelphia with boom	99.9	86.8
18.	Naval Yard Reserve Basin, Philadelphia	81.51	70.8
19.	Girard Point - Docks and basins of Chevron Oil and Independent Piers	81.54	70.8
20.	B & O Railroad bridge, 49th St., Philadelphia with filter fence and vacuum trucks	85.4	74.2
21.	Cove, Penrose Ave. Bridge, Philadelphia	81.9	71.2
22.	Fort Mifflin, Corps of Engineers Dock, Philadelphia	91.3	79.3
23.	Old Dock at Chevron Hog Island, Philadelphia	89.5	77.8
24.	Tinicum Island in River	76.8	74.8
25.	Cove Philadelphia Thermal Energy Co., Eddystone Station	82.1	71.3
26.	Dike by Commodore Barry Bridge, Chester PA	82.1	71.3
27.	Cove, Middle Creek by Sun Oil, Marcus Hook, PA	78.6	68.3

Delaware

28.	Namans Creek, Claymont, DE	69.1	60.0

29.	Mouth of Brandywine Creek, on Christina River, Wilmington, DE	71.53	62.2
30.	Newcastle Battery Park, Dragon Creek, Delaware City, DE	60.8	52.8

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ANNEX E - APPENDIX V
TAB B - ENVIRONMENTALLY SENSITIVE AREAS

THE FOLLOWING INFORMATION IS REPRODUCED FROM THE APRIL 7, 1994, DRAFT "SENSITIVE ENVIRONMENTAL RESOURCES ANNEX" OF THE PHILADELPHIA AREA CONTINGENCY PLAN. IT IS INTENDED TO BE AN INTRODUCTION TO TABS C AND D OF THIS APPENDIX WHICH ARE ALSO IN A DRAFT FORM. QUESTIONS CONCERNING THIS INFORMATION OR CORRECTIONS/ADDITIONS, SHOULD BE ADDRESSED TO THE CHAIRMAN OF THE SENSITIVE AREAS SUBCOMMITTEE LISTED IN APPENDIX II OF THIS ANNEX.

1. Purpose and Objective

The purpose of this document is to create an "Environmentally Sensitive Areas" (ESA) annex to the Area Contingency Plan (ACP). The intent of the format of the annex is to maintain a "living" document that is to be updated as necessary. This document was also designed in light of the fact that all of the parties involved are in the process of computerizing all of the areas using Geographic Information Systems (GIS). The objective of this annex is to graphically identify "Environmentally Sensitive Areas" and classify them for priority and ease of protection in response to a discharge in or near the area identified in Part 3 of this preamble.

2. Authority and Applicability

The ESA annex to the ACP was written and compiled under congressional mandate, to support the intent of the ACP, as required by Title IV, Section 4202 of the Oil Pollution Act of 1990 (OPA), which amends Subsection (j) of Section 311 of the Federal Water Pollution Control Act (FWPCA) (33 U.S.C. 1321 (j)) as amended by the Clean Water Act (CWA) of 1977 (33 U.S.C. 1251 et seq). This annex was written to be used in conjunction with the National Contingency Plan (NCP) (40 CFR 300) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, 42 U.S.C. 9601), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). The annex only applies to the areas designated in Part 3 of this preamble. The authors of the annex are duly appointed representatives of the states of Delaware, New Jersey, and Pennsylvania, U.S. Department of Transportation (U.S. Coast Guard, Marine Safety Office-Philadelphia), the U.S. Department of Interior (Fish and Wildlife Service), U.S. Department of Commerce (National Oceanic and Atmospheric Administration), U.S. Environmental Protection Agency (Regions 2 and 3), and private organizations (such as, Delaware Bay and River Cooperative and Sun Oil Company).

3. Designated Area

The designated area encompassed by this annex is as follows:

The Delaware River: from the "U.S. Highway #1 Bridge" south to the Delaware breakwater east of Interstate-95 in Pennsylvania and Delaware and west of U.S. Highway #206 southward to the U.S. Highway #130 intersection in Bordentown, N.J., along U.S. #130 to the N.J. State Highway #49 at Deepwater, N.J., then southward along N.J. State Highway #47 at Millville, N.J., to the junction with the Garden State Parkway at Rio Grande, N.J.

The Atlantic Ocean and adjacent waterbodies: from the south bank of the Toms River east of the Garden State Parkway south to Rio Grande, N.J., then north along Delaware River (see Delaware River description). From Rio Grande, N.J., to Cape May Point, N.J., to Cape Henlopen, DE, south to the Delaware/Maryland border east of Interstate-95.

The Delaware Bay: Sensitive environmental resources for this portion of the designated area have been identified in the "Oil Spill Response Plan Appendices" that were produced by Delaware Bay and River Cooperative. Until the information provided in these "appendices" can be updated, oil-spill response and damage assessment personnel should refer to these appendices for incidents occurring in the Bay portion (south of the area defined for the "Delaware River") of the designated area.

Some of the information used to identify sensitive environmental resources in the geographic areas covered by this annex is antiquated. The sources of this information are currently working on major upgrades to computerized systems, which will contain more recent and accurate data. These data were not available at the time of this publication but will be incorporated into future revisions of this document.

4. Environmentally Sensitive Areas Identified:

EPA regulation provides five categories of environmentally sensitive areas. These are:

1) Specified areas of Federal Management Authority
2) Critical Habitats and Endangered Species
3) Marine Sanctuaries and Estuarine Reserves
4) Aquatic Ecosystems
5) Aquatic Habitats

This annex concentrates on identifying Categories 2, 4, and 5, with an emphasis on intertidal shoreline habitats. Environmentally sensitive areas that fall under Category 1 have not been specifically identified by this annex, although an identified sensitive resource may be located on a property that is managed by a federal agency. As for

Category 3, two sites in the Delaware Estuary have been designated as Delaware National Estuarine Research Reserve sites. These sites are the St. Jones River and Blackbird Creek. Both of these tributaries are identified in the DBRC Appendices. Otherwise, this annex does not address Category 3.

5. Caution in Using the Resource Information:

Users of the resource information provided in this annex are expected to realize that the information itself is, like the ecosystems described, dynamic and subject to variations within seasons. It is extremely important that anyone considering protection and response decisions affecting these resources first consult the listed state, federal, and other resource specialists to "ground truth" and refine this general information. Consultation with these specialists is the most effective way of obtaining incident-specific information on the abundance, locations, and condition(s) of the resources at risk. Good examples are the seasonal movements or gatherings of fish and wildlife populations that are affected within a season by weather and other environmental variables. **Therefore, it is not within the scope of this document, for example, to prioritize one sensitive marsh over another (see "Initial Ranking of Resource Sensitivity"). These decisions must be made at the time of a spill at the Unified Command level, in consultation with resource specialists.** Contact with the recommended specialists should ensure that the best network of current information sources can be utilized to assist decision makers.

The maps within this annex do not identify things, such as, access roads, reference points, possible boom deployment, and command post sites. As these maps are improved, an attempt will be made to include these types of things. Until then, maps showing these things will be provided to the Unified Command by appropriate agencies at the time of a spill.

GENERAL CONTACT LIST FOR CURRENT INFORMATION ON RESOURCES

Pennsylvania Department of Environmental Resources:
Bureau of Forestry, Forest Advisory Services, (717)787-3444

Pennsylvania Fish and Boat Commission:
Bureau of Fisheries and Engineering, (814)359-5113

Pennsylvania Game Commission
Bureau of Wildlife Management, (717)787-5529

U.S. Fish and Wildlife Service: An "*" indicates endangered species biologists and environmental contaminants specialists are at these offices:

* Delaware River Fisheries Coordinator, (717) 894-1275
* John Heinz Memorial National Wildlife Refuge at Tinicum, (610)521-0662, 24 HR (emergencies) - (609)845-9414
Delaware Bay Estuary Project, (302)653-9152
Bombay Hook National Wildlife Refuge, (302)653-9345 or 653-9478, 24 HR (emergencies) - (302)653-4435
Prime Hook National Wildlife Refuge, (302)684-8419, 24 HR (emergencies) (302)684-0220 Supawna Meadows National Wildlife Refuge, (609)935-1487, 24 HR (emergencies) (609)935-5307

Edwin B. Forsythe National Wildlife Refuge,
Barnegat Division, (609)698-1387, 24 HR (emergencies) (609)971-1199
Brigantine Division, (609)652-1665
* Absecon Field Office, (609)646-9310
Cape May National Wildlife Refuge, (609)463-0994
* Chesapeake Bay Field Office, (410) 573-4500
State College Field Office, (814)234-4090
Division of Law Enforcement:
In New Jersey, (201)645-5910 or (FTS)341-5910
In Maryland, (410)962-7980

Delaware Department of Natural Resources and Environmental Control:
Division of Fish and Wildlife, (302)739-5295
* Aquatic Resource Education Center, (302)653-2882
Division of Parks and Recreation, (302)739-5285

New Jersey Division of Fish, Game and Wildlife
Endangered and Nongame Species Program, (609)628-2103
New Jersey Division of Parks and Forestry, Office of Natural Lands Management, (609)984-0097

National Marine Fisheries Service, Northeast Region, (508)281-9291
* Tri-State Bird Rescue and Research, (302) 737-7241 or 737-9543 FAX 737-9562, 24HR (215) 347-0180

ENDANGERED SPECIES AUTHORITIES CONTACT LIST

PROTECTION OF ENDANGERED SPECIES

The sensitive environmental resources data maintained by the Area Committee include information on species that are protected by the Federal Endangered Species Act or by parallel laws at the state level. Although these species could become exposed to spilled oil and/or oil cleanup activities, only the **general** locations of known occurrence of these species will be noted on documents available to the public. Information on the specific locations of nests and similar vulnerable locations will be maintained by the responsible state and federal resource agencies and brought into the response decisions at the earliest possible time. The following would be contacted to ensure that these species are recognized and receive protection priorities in a timely manner:

PENNSYLVANIA

PLANTS and PA Natural Diversity Inventory - general	Plant Program Manager Pa. Dept. of Environmental Resources Bureau of Forestry Forest Advisory Services P.O. Box 8552 Harrisburg, PA 17105-8552 (717)787-3444
FISH, REPTILES, AMPHIBIANS, AQUATIC ORGANISMS	Endangered Species & Herpetology Coordinator Pennsylvania Fish and Boat Commission Bureau of Fisheries and Engineering 450 Robinson Lane Bellefonte, PA 16823 (814)359-5113
BIRDS and MAMMALS	Pennsylvania Game Commission Bureau of Wildlife Management 2001 Elmerton Avenue Harrisburg, PA 17110-9797 (717)787-5529

For information on species listed under the federal Endangered Species Act of 1973, occurring in Pennsylvania, contact:

Endangered Species Biologist:
U.S. Fish and Wildlife Service
315 So. Allen Street, Suite 322
State College, PA 16801
(814)234-4090

For specific information on short-nosed sturgeon, contact:

Delaware River Fisheries Coordinator
U.S. Fish and Wildlife Service
P.O. Box 7360
West Trenton, New Jersey 08628
(609)883-9500,extension 268

For specific information on short-nosed sturgeon, marine mammals and sea turtles, contact:

National Marine Fisheries Service
Northeast Region
(508)281-9291

DELAWARE

Non-game Wildlife Biologist:
Delaware Division of Fish and Wildlife
Aquatic Resource Education Center
R.D. 1, Box 81
Smyrna, DE 19977
(302)653-2882

Delaware Natural Heritage Inventory
Division of Parks and Recreation
89 Kings Highway, P.O. Box 1401
Dover, DE 19903
(302)739-5285

Endangered Species Specialist
U.S. Fish and Wildlife Service
1825 Virginia Street
Annapolis, MD 21401
(410)269-5448

NEW JERSEY

Principal Zoologist:
New Jersey Division of Fish, Game and Wildlife
Endangered and Nongame Species Program
Tuckahoe WMA, P.O. Box 236
Tuckahoe, NJ 08250
(609)628-2103

Natural Heritage Program
New Jersey Division of Parks and Forestry
Office of Natural Lands Management
CN 404
Trenton, NJ 08625-0404
(609)984-0097

Endangered Species Specialist:
U.S. Fish and Wildlife Service
927 North Main Street, Bldg. D
Pleasantville, NJ 08232
(609)646-0352

CULTURAL AND HISTORICAL AUTHORITIES CONTACT LIST

PROTECTION OF CULTURAL RESOURCES

The sensitive environmental resources data maintained by the Area Committee include information on cultural resources that are protected by various State and Federal statutes. Although these resources could become exposed to spilled oil and/or oil cleanup activities, only the **general** locations of these sites will be noted on documents available to the public. Information on the specific locations of these sites will be maintained by the responsible State and Federal resource agencies and brought into the response decisions at the earliest possible time. The following would be contacted to ensure that these sites are recognized and receive protection priorities in a timely manner:

PENNSYLVANIA

Bureau of Historic Sites and Museums
Director - (717)787-2723

Bureau of Historic Preservation
Director - (717)783-5321

DELAWARE

Bureau of Archeology and Historic Preservation:
Administrator - (302)739-5685

NEW JERSEY

NJ DEPE Division of Parks and Forestry, Office of NJ Heritage:
Historic Preservation Specialist - (609)292-2028

Initial Ranking of Resource Sensitivity

The Sensitive Environmental Resources Sub-committee decided early on to assign general rankings to the various types of sensitive resources that would be covered by this annex. These rankings were intended as general guidance for placing protection priorities on these resources in the absence of more specific information relating to a particular resource. These rankings are presented below on a per-season basis. Factors, such as, sensitivity, recovery time, and ease of cleanup were considered

in assigning these rankings. Again, these are only general rankings that do not consider information on specific resources, such as, nesting birds or shorebird use. There is an exception to this "rule" in that the categories "shallow-water nearshore habitat" and "deep water, water column" included sub-categories, such as, "fish/shellfish habitat" and "spawning, nursery grounds." This is an inconsistency that will be addressed at a future update. It will be important to revisit these categories and rankings in the future. For resources, such as, beaches and wetlands, importance as habitat-to-wildlife resources was not included in the category descriptions.

A = most sensitive B = sensitive C = least sensitive

Environmental	Winter	Spring	Summer	Fall
Wetlands				
marshes	A	A	A	A
swamps, tidal fresh	A	A	A	A
riverine tidal	A	A	A	A
Intertidal Flats				
exposed	A	A	A	A
sheltered	A	A	A	A
Shallow-water nearshore habitat				
fish/shellfish habitat	A	A	A	A
spawning, nursery grounds	A	A	A	A
benthic invertebrate communities	A	A	A	A
Deep water, water column				
fish reefs, natural/artificial	C	A	A	B
fish spawning/nursery, shellfish	C	A	A	B
Shorelines				
sand beaches - ocean	C	B	A	B
sand beaches - bay	C	A	A	A
gravel beaches	C	B	C	B
riprap				
bare, uncolonized	C	C	C	C
colonized, flora and/or fauna	B	A	A	A
industrial				
bulkheads, piling, piers, etc.	C	C	C	C
Recreational - water dependent				
Marinas-public, private, community, commercial	C	C	C	C
Primary contact-swimming, water skiing, etc.	C	B	B	B
Harvesting-clamming, oystering, crabbing, lobstering	A	A	A	A
Fishing - boating, piers, shoreline	C	B	B	B
Wildlife management areas, wildlife refuges and sanctuaries	A	A	A	A
Picnic areas, public recreation, access areas/sites	C	C	C	C

Commercial-water dependent	Winter	Spring	Summer	Fall
Harvesting areas/activities				
fish, shellfish	A	A	A	A
recreational/commercial fishing boat fleets	C	A	A	A
aquaculture	A	A	A	A
Water intake structures				
drinking water supply	A	A	A	A
industrial	B	B	B	B
aquaculture	A	A	A	A
Anthropological resources				
Historical	B	B	B	B
Cultural	A	A	A	A

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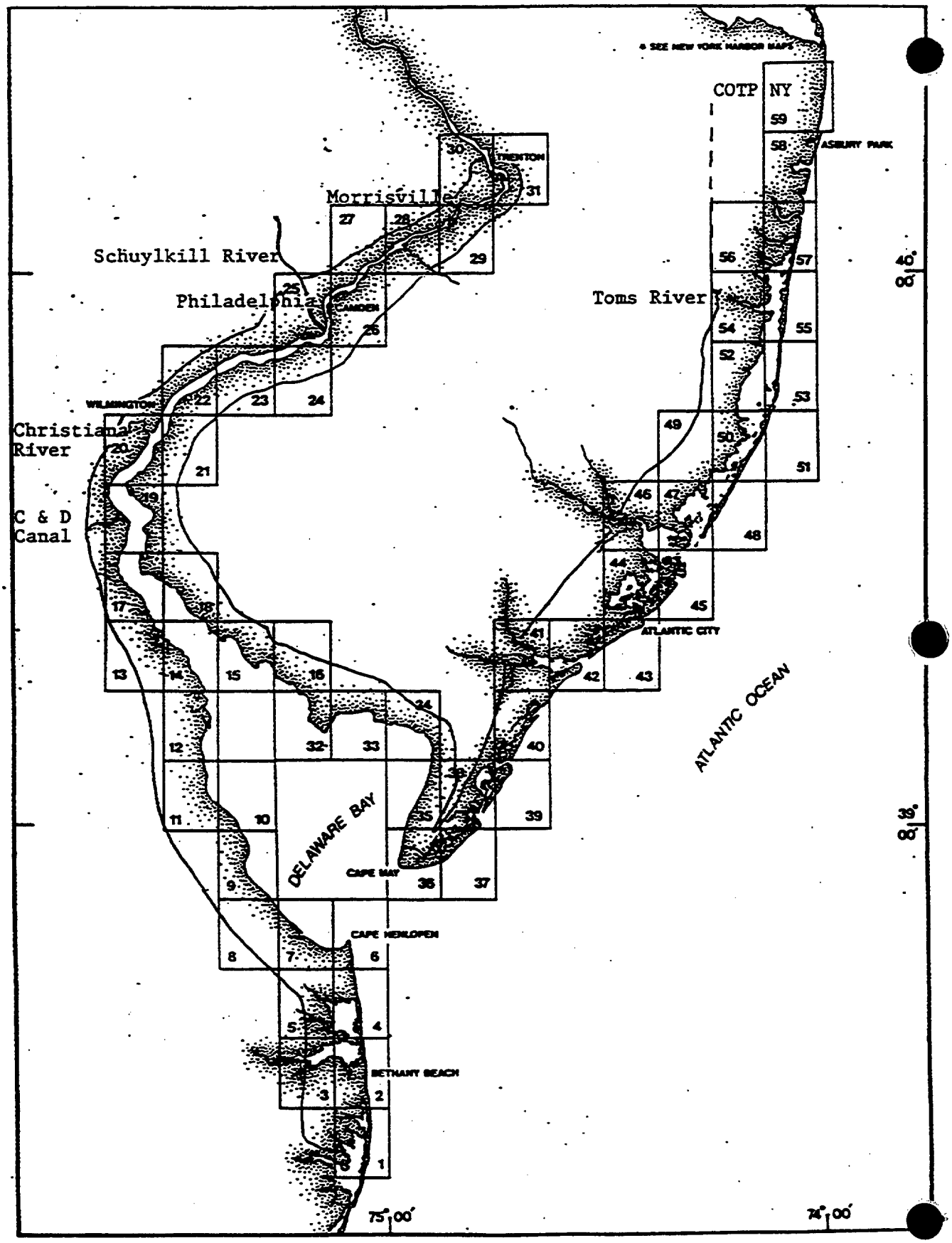
ANNEX E - APPENDIX V
TAB C - NOAA CHARTLETS

The NOAA GIS chartlet system is a graphic representation which allows data input for display. These chartlets, once completed, will show environmental response and protection information, such as, water intakes, pipeline locations, boat ramps, staging areas, temporary waste storage sites, collection points, access roads, as well as, information of sensitive wildlife.

PHILADELPHIA AREA CONTINGENCY PLAN



ANNEX E - APPENDIX V
TAB D - SENSITIVE AREA SUMMARIES

The following sensitive area summaries represent the first stage of transferring data to the GIS format. All recipients of this plan are encouraged to provide input to the Sensitive Areas Subcommittee to improve on this product. The "Map Number" listed at the top of each summary refers to the NOAA chartlets described in Tab C of this Appendix. As noted in Tab C, these chartlets will eventually depict considerable data in support of response and protection activities (collection points, boat ramps, staging areas, temporary waste storage sites, access roads, etc.).

All sensitive area summaries follow the numerical sequence shown on the map in Tab C.

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A PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. D022.2A Map No. 1 Name FENWICK ISLAND STATE PARK, DE

USGS Quad Assawomen Bay, DE NOAA Chart 12214 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 1 Lat. 38°29'00" N Long. 075°04'00" W

Agency/Contact

DNR&EC, Fenwick Island State Park (302) 539-9060

DNR&EC, Delaware Seashores State Park (302) 227-2800

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: 3.7 ft Max Currents: kts

GEOGRAPHIC LOCATION: South of South Bethiny, north of Fenwick Island..

PHYSICAL DESCRIPTION: Medium and coarse sand beaches, with large primary and secondary dunes,

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [X] 3. Fine Sand Beaches
- [X] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [ ] Su [ ] F [ ] W [ ]

WILDLIFE: Large concentration of shorebird feeding on beach spring and fall Beach nesting by Piping Plover, Gulls, Terns, Skimmers, oystercatchers, and Shorebirds. spring & summer. Osprey nesting throughout dunes spring and aummer. Seaducks just offshore. Occasional dolphins, whales,

HABITAT: Medium to coarse sand beachs, with large primary and secondary dune habitat, Nearshore and Intertidal habitat

THREATENED/ ENDANGERED: PIPING PLOVER nest among the dunes.

OTHER: SEE "ENDANAGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership: Delaware, DNREC/Parks

ACCESS:

- [X] Vehicle 4x4 Cross over
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

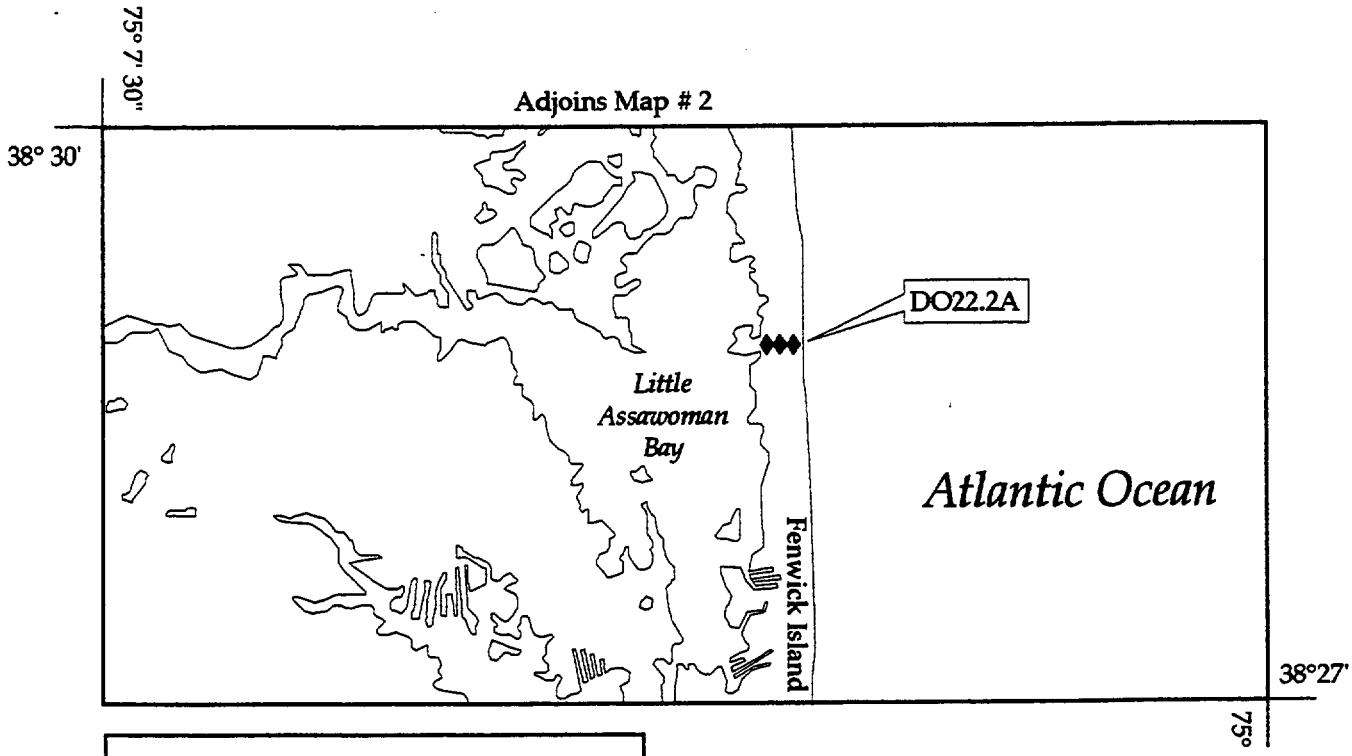
Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover Minimum Boom Length: ft

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



♦♦♦ A areas. Protect prior to oil impact

♦♦ B areas. Protect after A areas

♦ C areas. Protect after B areas

Marinas

Oil collection and recovery areas

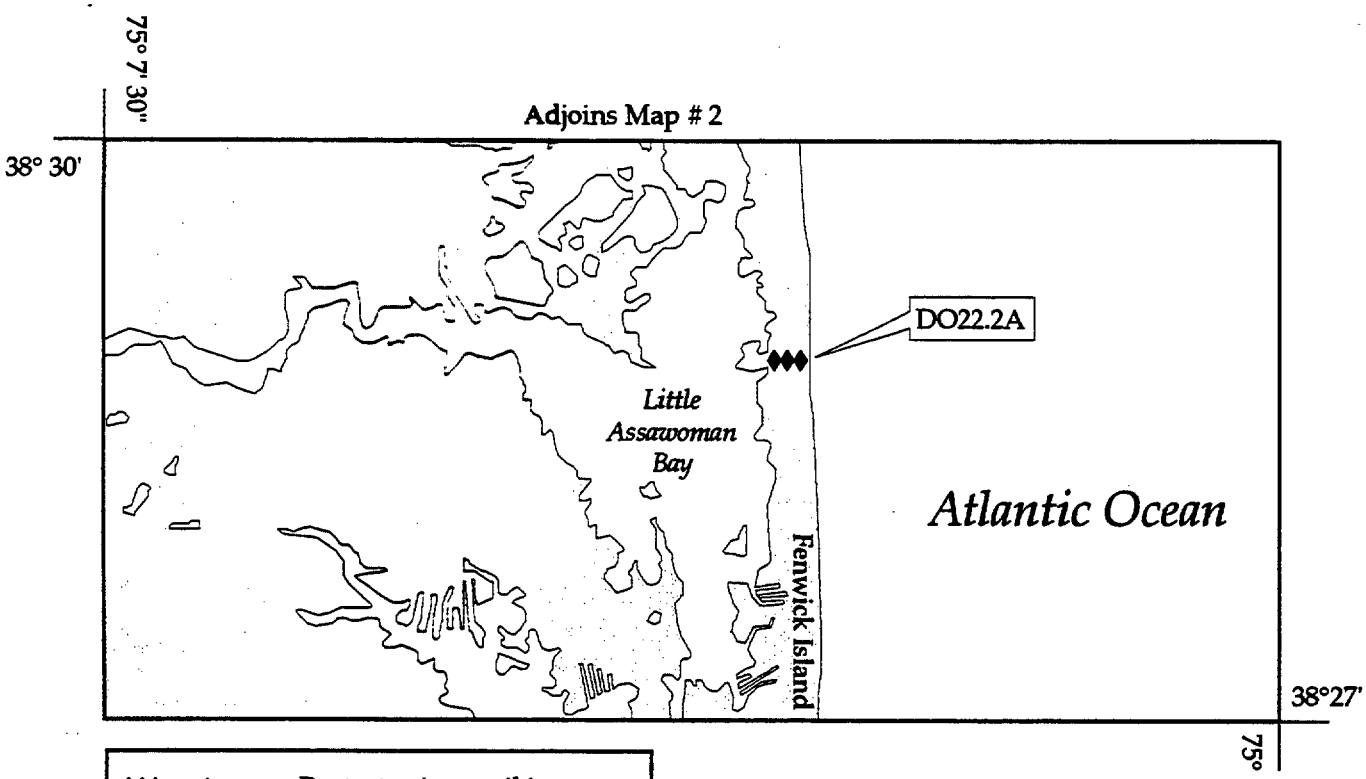
Water Intakes (Sensitivity scale A. Protect prior to oil impact)

1 in = 1.11 mi

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



♦♦♦ A areas. Protect prior to oil impact

♦♦ B areas. Protect after A areas

♦ C areas. Protect after B areas

Marinas

Oil collection and recovery areas

Water Intakes (Sensitivity scale A. Protect prior to oil impact)

1 in = 1.11 mi

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M

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DE Map No. _____ Name Nanticoke River

USGS Quad SEAFORD E. & W. NOAA Chart _____ Other _____

NOAA ESI Atlas _____ ESI Map # 2 Lat. 38°36'17" N Long. 075°39'08" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: _____ Tidal Range: _____ ft Max Currents: _____ kts

GEOGRAPHIC LOCATION: NANITCOKE RIVER
WESTERN SUSSEX COUNTY, DELAWARE

PHYSICAL DESCRIPTION: This portion of the Nanticoke River and it's tributaries are tidal, is nearly or completely oligohaline, and includes large areas of tidal vegetated wetlands.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Very important striped bass spawning/nursery area spring and summer; American shad, alewife, blue back herring, and yellow perch spawning and nursery area spring and summer; white perch spawning in spring; woodduck nesting along river; pied-billed grebes, which are very rare, nesting in the tidal marsh; the extremely rare little blue heron nest in adjacent forested

HABITAT: There are over 1000 acres of forested wetlands that are flooded irregularly by tides and seasonally by river overflow; there are diverse freshwater tidal marshes; and there are scrub/shrub and emergent wetlands that are flooded irregularly by tides and seasonally by river

THREATENED/ ENDANGERED: Bald eagles nest along along the river and also use it during migration; there over 50 plants ranging from rare to extremely rare, that have been found in the wetlands along this section

OTHER: of river and its tributaries; bank swallows, considered very rare in delaware, nest along the river; blackbilled cuckcoos an redheaded woodpeckers, extremely rare in delaware, nest in the adjacent forested and scrub/shrub wetlands; yellow throated warbler, very rare, nest .

RESPONSE CONSIDERATIONS

Ownership: _____

ACCESS:

- ☒ Vehicle
- ☒ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☒ Recover

Minimum Boom Length: _____ ft

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[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DO15.3 Map No. 5 Name Delaware Seashore State Park

USGS Quad Bethany Beach, DE NOAA Chart 12214 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 2 Lat. 38°36'00" N Long. 075°03'45" W

Agency/Contact

DNR&EC, Delaware Seashores State Park (302) 227-2800

DNR&EC, Cape Henlopen State Park (302) 645-8983

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: 3.8 ft Max Currents: kts

GEOGRAPHIC LOCATION: South of Indian River inlet, along Del. Route 1

PHYSICAL DESCRIPTION: Medium and coarse sand beaches, with large primary and secondary dunes,

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [X] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [ ] Su [ ] F [ ] W [ ]

WILDLIFE: Large concentration of shorebird feeding on beach spring and fall Beach nesting by Piping Plover, Gulls, Terns, Skimmers, oystercatchers, and Shorebirds. spring & summer. Osprey nesting throughout dunes spring and aummer. Seaducks just offshore. Occasional dolphins, whales, loggerhead, and leatherback turtles.

HABITAT: Medium to coarse sand beachs, with large primary and secondary dune habitat, Nearshore and Intertidal habitat

THREATENED/ ENDANGERED: PIPING PLOVER nest among the dunes.

OTHER: SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership: Delaware, DNREC/Parks

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

4x4, Heavy Equipment.

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

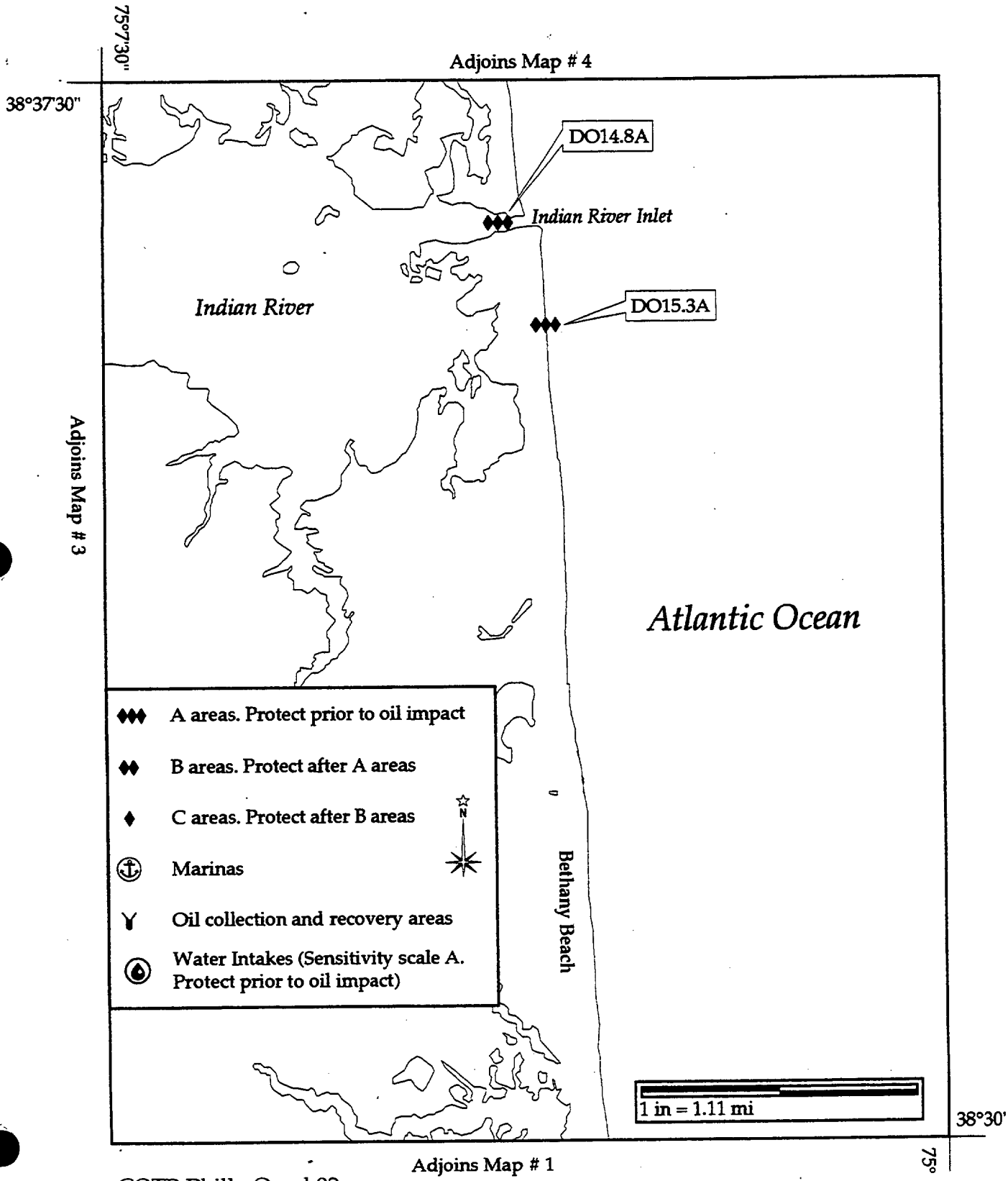
BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 02

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DO14.8 Map No. 5 Name Indian River Inlet & Bay, DE

USGS Quad Bethany Beach, DE NOAA Chart 12214 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 2 Lat. 38° 36'30" N Long. 075°03'48" W

Agency/Contact

DNR&EC, Delaware Seashores State Park (302) 227-2800

DNR&EC, Cape Henlopen State Park (302) 645-8983

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION Area: Tidal Range: 2.7 ft Max Currents: 2.1 kts

GEOGRAPHIC LOCATION: South of Dewey Beach, North of Betheny Beach, only route to it is via Del. Rt 1.

PHYSICAL DESCRIPTION: Medium and coarse sand beaches, with large primary and secondary dunes, an inlet with jetties and riprap on both sides, two large bays with 93 miles of shoreline, salt marshes.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [X] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Wading bird use Middle Island rookery for nesting and feeding in spring & summer, beach nesting by Piping Plover, Gulls, Terns, Skimmers, Shorebirds. spring & summer. Osprey, gulls, shorebirds, wading birds nesting throughout area spring and summer. Waterfowl use fall, winter & early spring. Marine mammals, estuarine finfish, shellfish breeding and nursery, crustaceans

HABITAT: HIGH SENSITIVITY: Salt marshs,>93 miles of tidal shoreline, bird breeding rookeries, intertidal sand/mudflats, colonized rip-rap shoreline, shellfish habitat, clam and crab beds, colonial bird nesting - esp middle island.

THREATENED/ ENDANGERED: PIPING PLOVER nesting area, Bald Eagles.

OTHER: SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"
Island Bays National Estuary Program.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

Boat ramps at both north & south shore bay marinas. Vehicles have beach access.

STAGING AREAS: Boat ramps at both north & south shore bay marinas. Potential adequate staging areas on state park property.

COLLECTION POINTS: Collection can be attemped with adequate booming with product pickup along the beach, however, riprap shoreline is treacherous, and will make collection difficult. Vehicle have beach access.

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover Minimum Boom Length: ft

Priority protection plan should emphasize importance of not allowing oil to enter inlet. Use deflection boom to prevent oil from entering inlet on the incoming tide. Use back-up booming on inside of inlet. Booming difficult, inlet width 500 to >1,500 feet. Current in excess of 3 to 4 knots, turbulent current, with many eddys.

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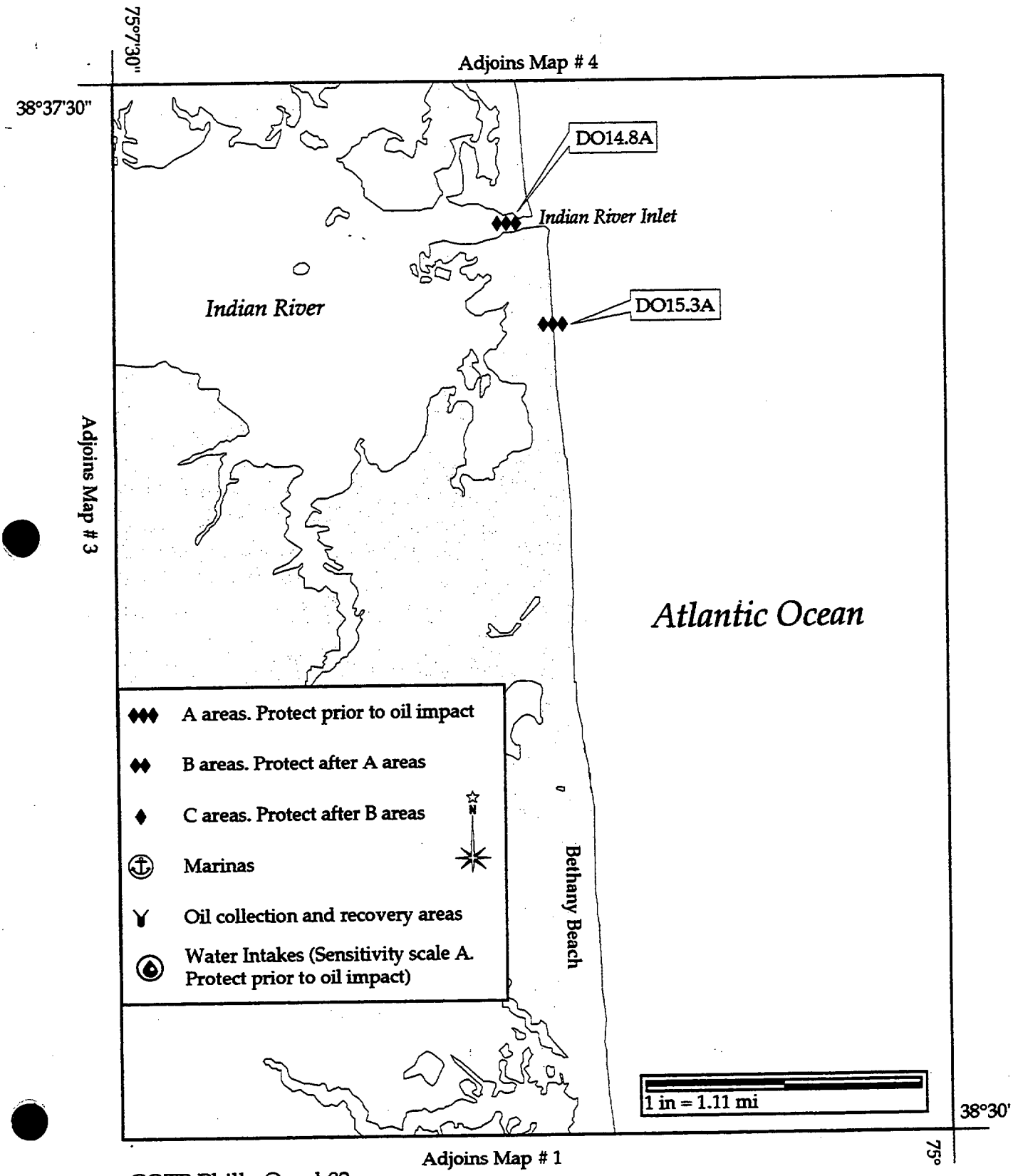

COTP Philly Quad 02

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DO12.3 Map No. 5 Name DELAWARE SEASHORE STATE PARK

USGS Quad Rehoboth Beach, DE NOAA Chart 12214 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 4 Lat. 38°39'00" N Long. 075°03'42" W

Agency / Contact

DNR&EC, Delaware Seashores State Park (302) 227-2800

DNR&EC, Cape Henlopen State Park (302) 645-8983

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION Area: Tidal Range: 3.8 ft Max Currents: kts

GEOGRAPHIC LOCATION: North of Indian River inlet, South of Dewey Beach, along Del. Route 1

PHYSICAL DESCRIPTION: Medium and coarse sand beaches, with large primary and secondary dunes,

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [X] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Large concentration of shorebird feeding on beach spring and fall. Beach nesting by Piping Plover, Gulls, Terns, Skimmers, oystercatchers, and shorebirds spring & summer. Osprey nesting throughout dunes spring and summer. Seaducks just offshore. Occasional dolphins, whales, loggerhead, and leatherback turtles.

HABITAT: Medium to coarse sand beachs, with large primary and secondary dune habitat, Nearshore and Intertidal habitat

THREATENED/ ENDANGERED: PIPING PLOVER nest among the dunes.

OTHER: SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS Ownership: STATE PARK

ACCESS:

- [X] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS: BEACH ACCESS IS PROVIDE FOR 4 X 4 VEHICLES, AND HEAVY EQUIPMENT.

COLLECTION POINTS:

OTHER: SAND DUNES ARE PROTECTED, AVOID USING VEHICLES ON THEM.

PROTECTION STRATEGIES Degree of Protectability: High [ ] Medium [ ] Low [X]

BOOMING METHOD: [ ] Deflect [ ] Protect [X] Recover Minimum Boom Length: ft

BEACH RECOVERY ONLY.

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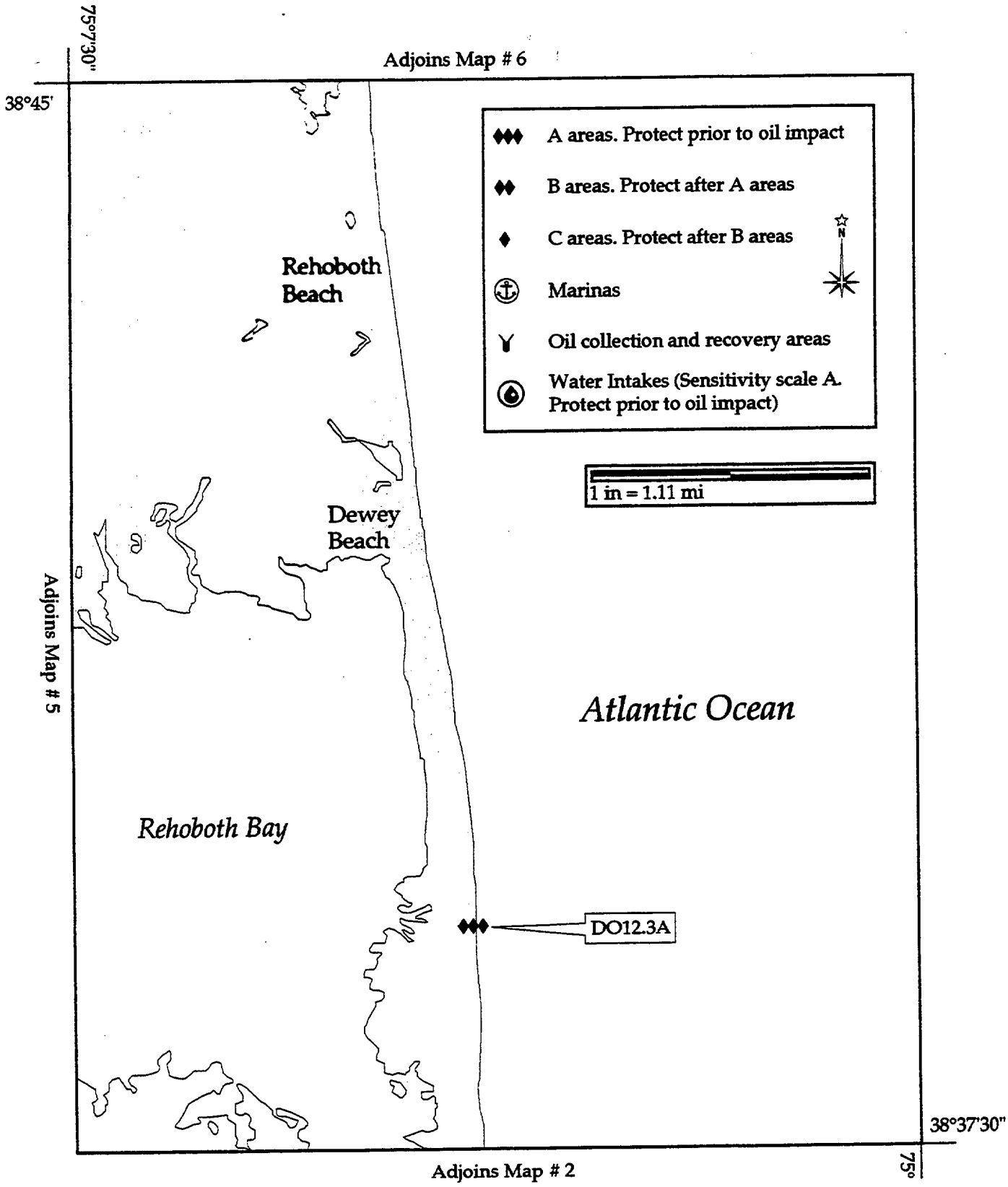

COTP Philly Quad 04

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DO4.2 Map No. 5 Name Cape Henlopen State Park, DE

USGS Quad Cape Henlopen, DE NOAA Chart 12214 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 6 Lat. 38°47'00" N Long. 075°05'00" W

Agency / Contact

DNR&EC, Cape Henlopen State Park (302) 645-8983

DNR&EC, Delaware Seashores State Park (302) 227-2800

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION Area: Tidal Range: 4.1 ft Max Currents: 2 kts

GEOGRAPHIC LOCATION: Starting at the tip of Cape Henlopen and extending south 4.5 miles, just south of Lewis, Delaware.

PHYSICAL DESCRIPTION: Medium to coarse sand beaches, with large primary and secondary dunes,

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Large shorebird concentration feeding on beach in spring & fall, with some wintering over, beach nesting PIPING PLOVER, Gulls, Terns, Skimmers, oystercatchers, shorebird, spring & summer. Sea Duck offshore in winter (scoters, oldsquaw,etc), Ospreys nesting among the dunes, spring & summer, dolphins, and occasional whales, loggerheads, and leatherback turtles.

HABITAT: Medium to coarse sand beaches, with large primary and secondary dune habitat, nearshore and Intertidal habitat.

THREATENED/ ENDANGERED: PIPING PLOVER, AND PEREGRINE FALCON nest among the dunes.

OTHER: SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS Ownership: Delaware, DNREC/Parks

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

4 x4 Cross over

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [X] Recover Minimum Boom Length: ft

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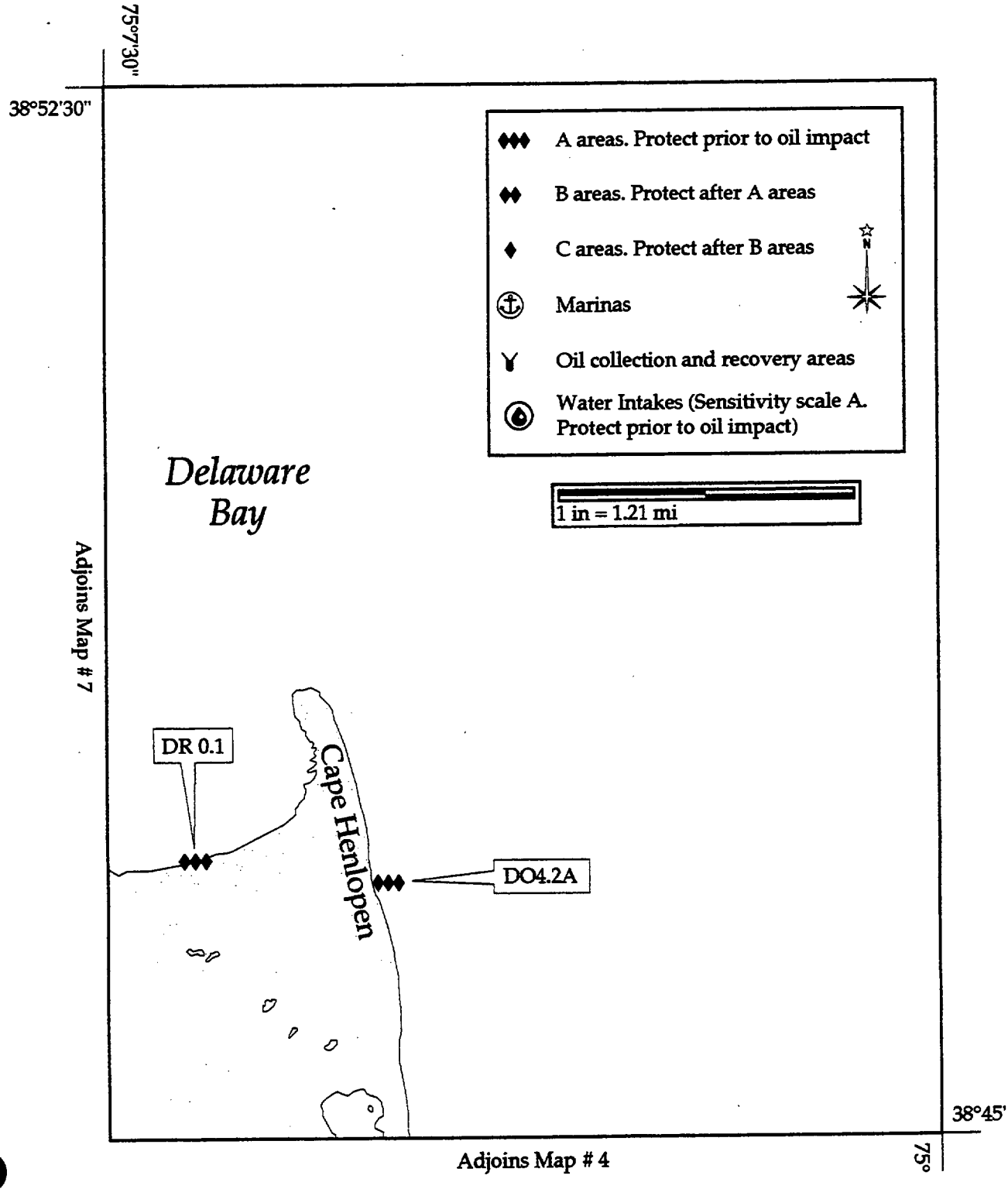

COTP Philly Quad 06

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DE Map No. 7 Name Roosevelt Inlet

USGS Quad Lewes NOAA Chart 12304 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 6 Lat. 38°47'25" N Long. 075°09'50" W

Agency/Contact

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

DNR&EC, Cape Henlopen State Park (302) 645-8983

SITE DESCRIPTION

Area: Tidal Range: 4.1 ft Max Currents: kts

GEOGRAPHIC LOCATION: Inlet is North of Lewes.

PHYSICAL DESCRIPTION: Medium to Coarse sandy beaches, mixed sand and gravel beaches, marshes inside the inlet, also piers, and bulkheads inside inlet.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [X] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Riverine and anadromous fish spawning area, waterfowl and shorebird, fall, winter, and summer; gulls, and terns spring, summer, and fall. Wadingbirds all seasons; Ospreys spring and summer.

HABITAT: Some beaches, spawning habitat, marshes inside of inlet, use by numerous species of waterfowl and wadingbirds.

THREATENED/ ENDANGERED: Bald eagles, spring, summer and fall using wetlands inside inlet and adjacent refuge, Peregrine falcons spring and fall, possible piping plover use of beach and dune areas.

OTHER: Loggerhead and Diamond-back terrapins occur here.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [X] Recover

Minimum Boom Length: ft

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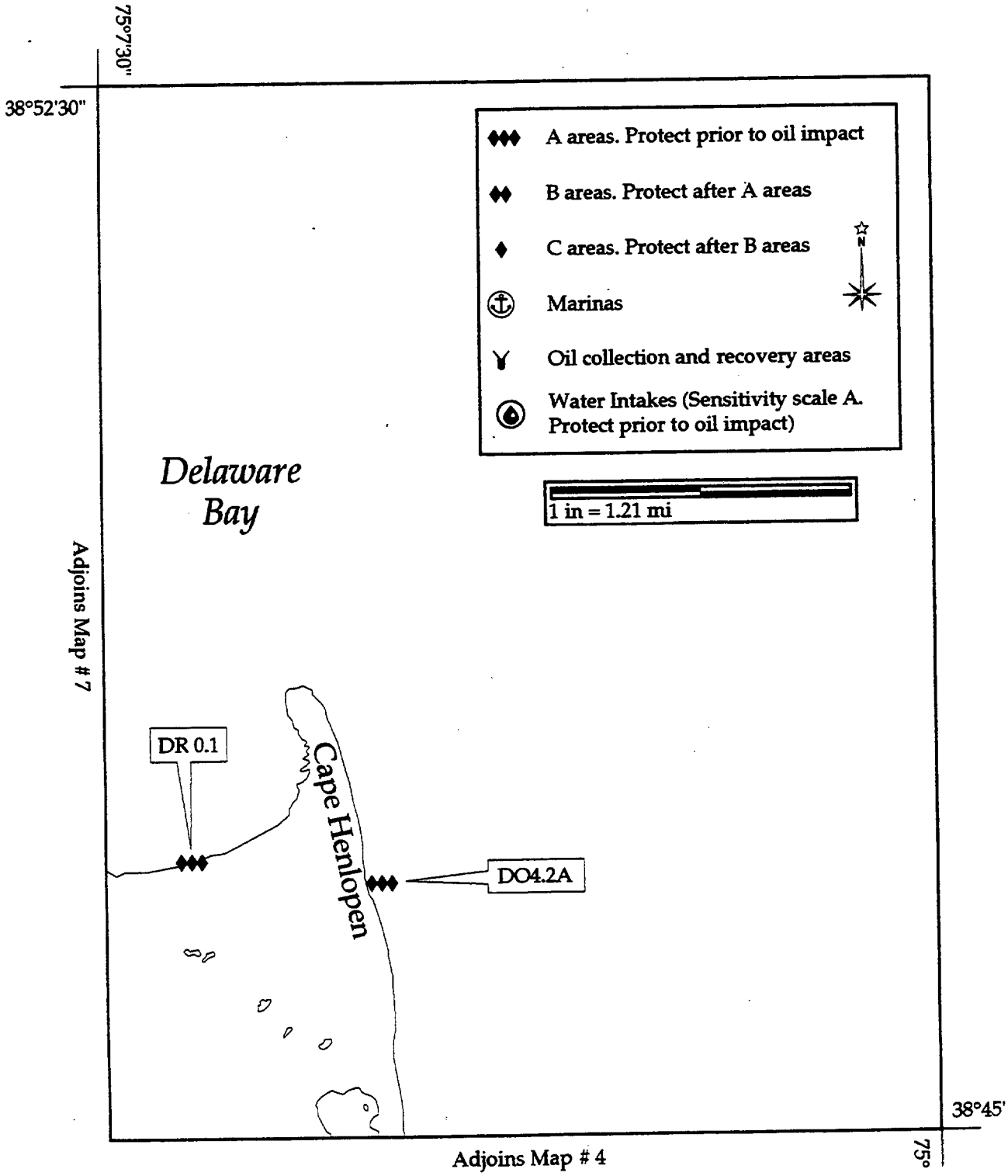

COTP Philly Quad 06

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR 0.1 Map No. 6 Name Beaches East of Lewes

USGS Quad Cape Henlopen NOAA Chart 12214 / 12304 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 6 Lat. 38°47'10" N Long. 075°09'50" W

Agency/Contact

DNR&EC, Cape Henlopen State Park (302) 645-8983

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

SITE DESCRIPTION Area: Tidal Range: 4.1 ft Max Currents: kts

GEOGRAPHIC LOCATION: Starting at the tip of Cape Henlopen and extending Northwest to Lewes Beach.

PHYSICAL DESCRIPTION: Medium to coarse sand beachs

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☒ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Shorebirds, terns, hard clams offshore inside the breakwater, Lobsters outside the breakwater. Gulls, terns and skimmers nesting on nearby cape, wading birds and waterfowl also on cape foraging Osprays in area.

HABITAT: Medium to Coarse sand beaches, shollow water, tidal flats.

THREATENED/ ENDANGERED: Possibly some Piping Plover use. CHECK with STATE.

OTHER: Heavy shorebird use early May to Mid-June. See Shorebird Concentration Map appendix

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☒ Vehicle — Cape Henlopen State Park
- ☐ Helicopter
- ☐ Boat

STAGING AREAS: Cape Henlopen State Park

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☒ Recover Minimum Boom Length: ft

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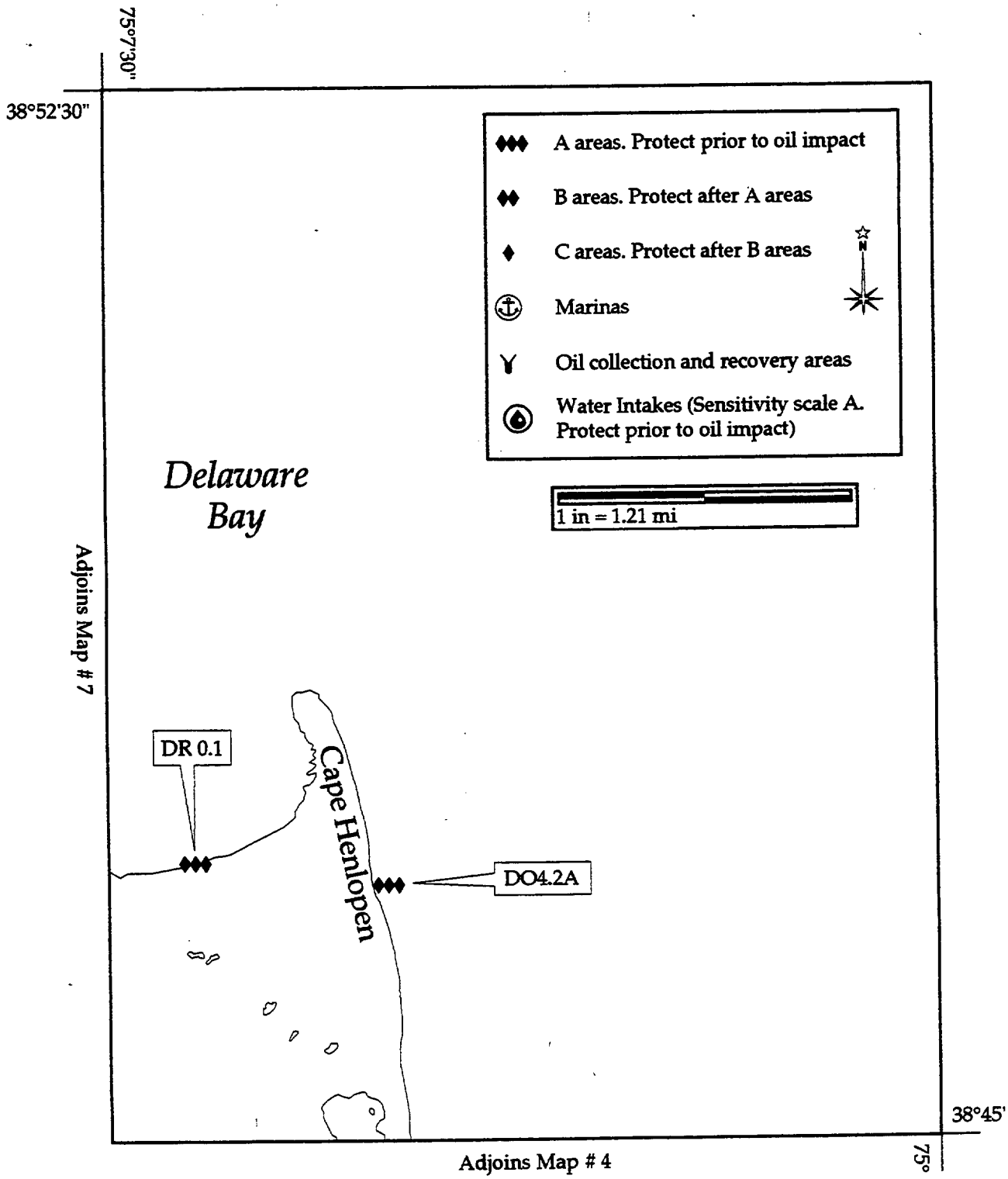


COTP Philly Quad 06

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DE Map No. 6 Name Lewes Beach/Breakwater Harbor Bch

USGS Quad Cape Henlopen NOAA Chart 12304 / 12214 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 6 Lat. 38°47'00" N Long. 075°11'00" W

Agency/Contact

DNR&EC, Cape Henlopen State Park (302) 645-8983

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

SITE DESCRIPTION Area: Tidal Range: 4.1 ft Max Currents: kts

GEOGRAPHIC LOCATION: Beach East of Roosevelt Inlet, North of Lewes.

PHYSICAL DESCRIPTION: Medium to Coarse sand Beaches.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☒ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Heavy shorebird use in spring, gulls, and terns, hard clams, just offshore; several species of riverine, estuarine and marine fish, mostly during spring summer and fall, just offshore. Foraging Opsrays in area.

HABITAT: Medium to Coarse sand beaches, shollow water.

THREATENED/ ENDANGERED: Possibly some Piping Plover use. CHECK with STATE.

OTHER: Heavy shorebird use early May to Mid-June. See Shorebird Concentration Map appendix

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

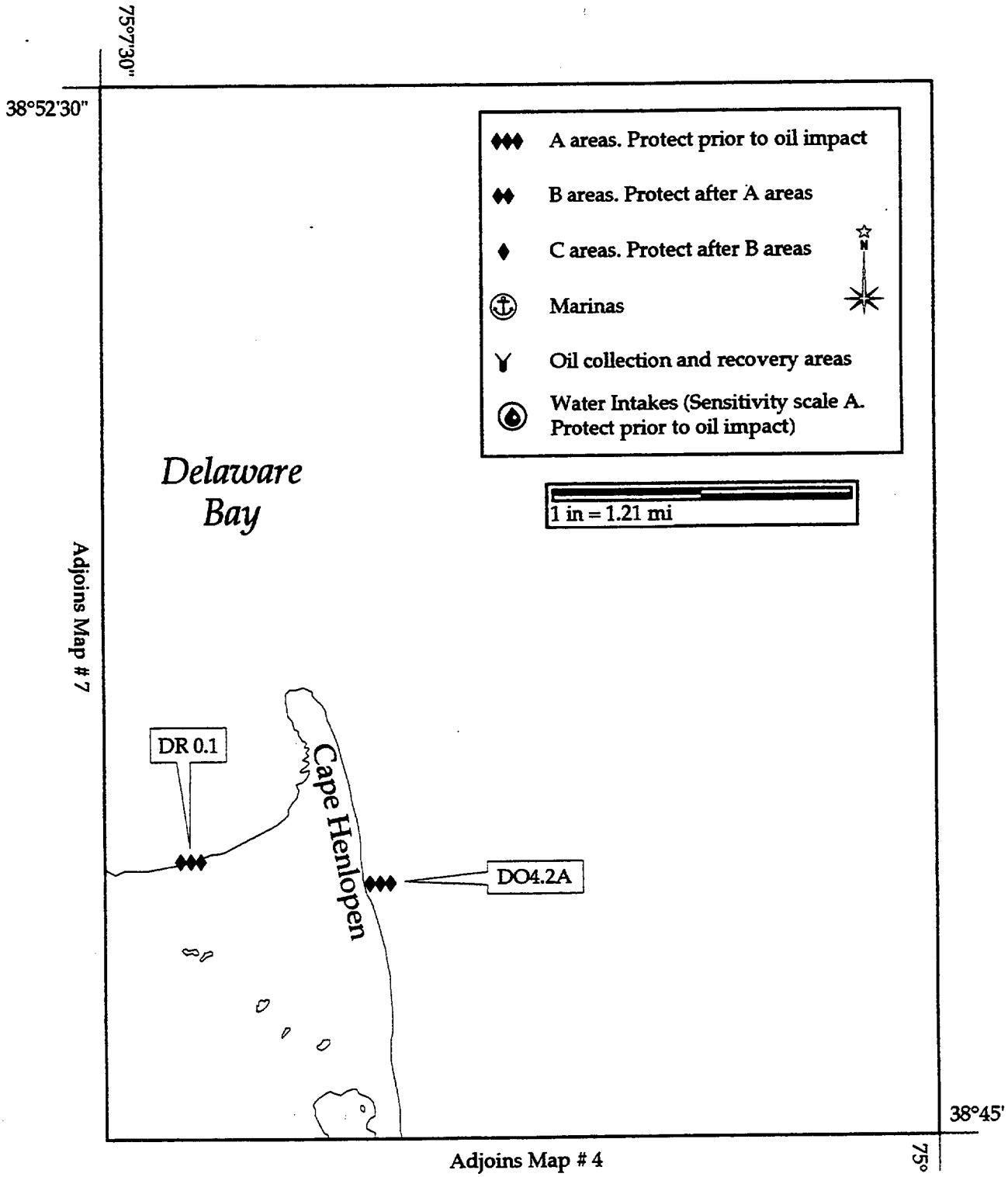
STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: ft


75°7'30"
38°52'30"
A areas. Protect prior to oil impact
B areas. Protect after A areas
C areas. Protect after B areas
Marinas
Oil collection and recovery areas
Water Intakes (Sensitivity scale A. Protect prior to oil impact)
N
1 in = 1.21 mi
Delaware Bay
Adjoins Map # 7
DR 0.1
Cape Henlopen
DO4.2A
38°45'
Adjoins Map # 4
75°

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR4.0 Map No. 07 Name PRIMEHOOK BEACH &BROADKILL

USGS Quad Lewes, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 07 Lat. 38°50'28" N Long. 075°13'20" W

Agency/Contact

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

SITE DESCRIPTION

Area: Tidal Range: 4.4 ft Max Currents: kts

GEOGRAPHIC LOCATION: Primehook Beach and Broadkill Beach extending about 4.5 miles.

PHYSICAL DESCRIPTION: Comprised of medium to coarse sand beaches also some tidal flats.

SHORELINE TYPES: (ESI Rank)

- [X] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [X] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid July.

HABITAT: Medium to coarse sand beaches. Some tidal flats.

THREATENED/ ENDANGERED: Occasional loggerhead turtle use, Peregrine falcons foraging, spring and fall, also possible Piping Plover use.

OTHER: See shorebird map at end of appendix.

RESPONSE CONSIDERATIONS

Ownership: U.S. Fish & Wildlife Service

ACCESS:

- [X] Vehicle
- [ ] Helicopter
- [ ] Boat

4x4 Cross over.

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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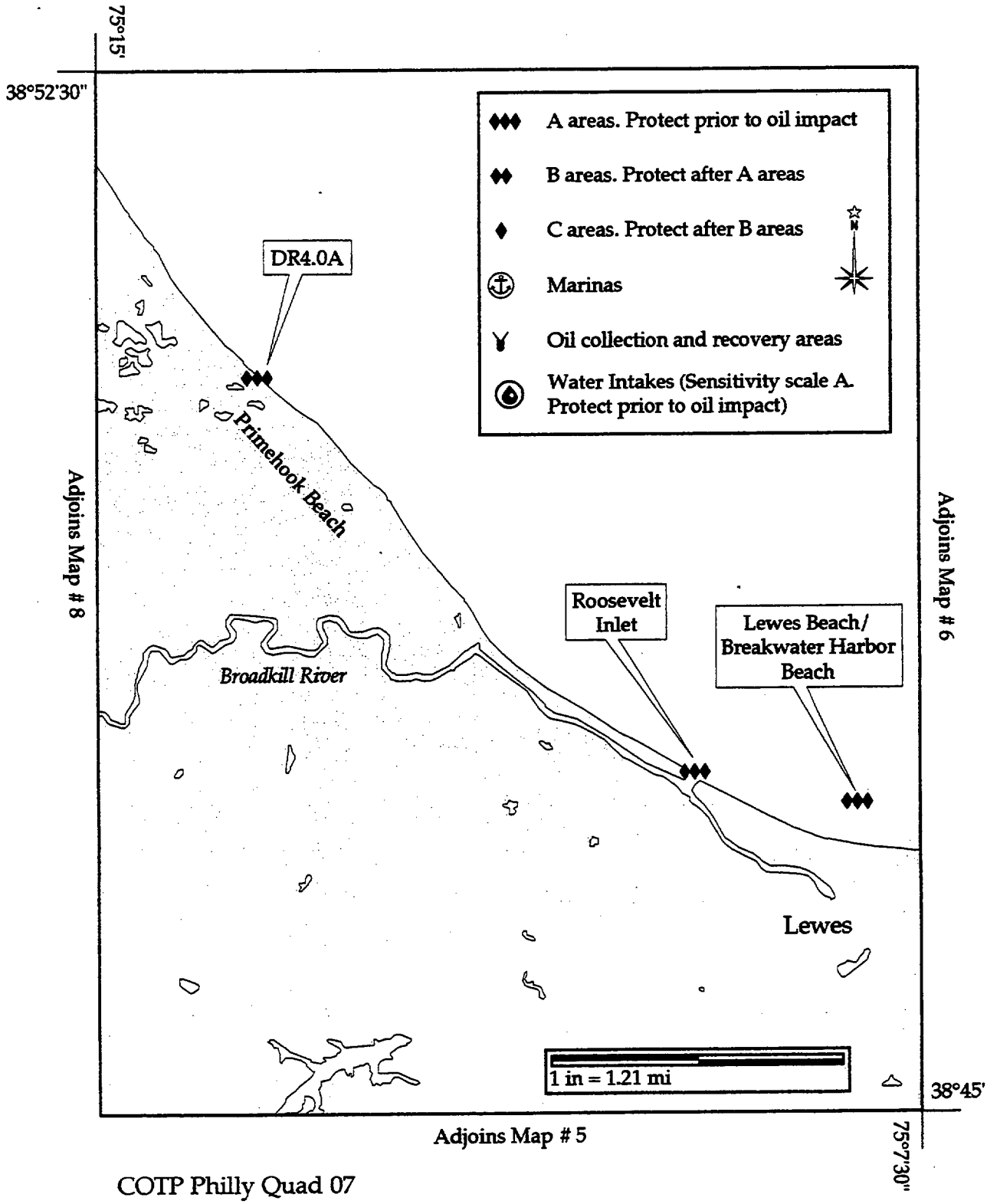

COTP Philly Quad 07

M

A PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR4.5 Map No. 08 Name PRIMEHOOK NWR-SOUTH

USGS Quad Milton, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 08 Lat. 38°52'50" N Long. 075°15'54" W

Agency/Contact

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: Just south of Fowler Beach.

PHYSICAL DESCRIPTION: Medium to coarse sand beach and tidal flats backed by marshes

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [X] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Large concentration of horseshoe crabs and migrating shorebirds use this and adjacent beaches during early May to mid June. Also gulls and terns. Waterfowl and wading birds in marshes.

HABITAT: Medium to coarse sand beaches backed by marshes.

THREATENED/ ENDANGERED: Bald eagles sp,su, and f. Peregrine falcons sp and f. Sea turtles, including loggerheads occasionally on beaches in sp. Possible piping plover nesting.

OTHER: See shorebird map at end of appendix. Also diamond-back terrapins occur here.

RESPONSE CONSIDERATIONS

Ownership: U.S. Fish & Wildlife Service

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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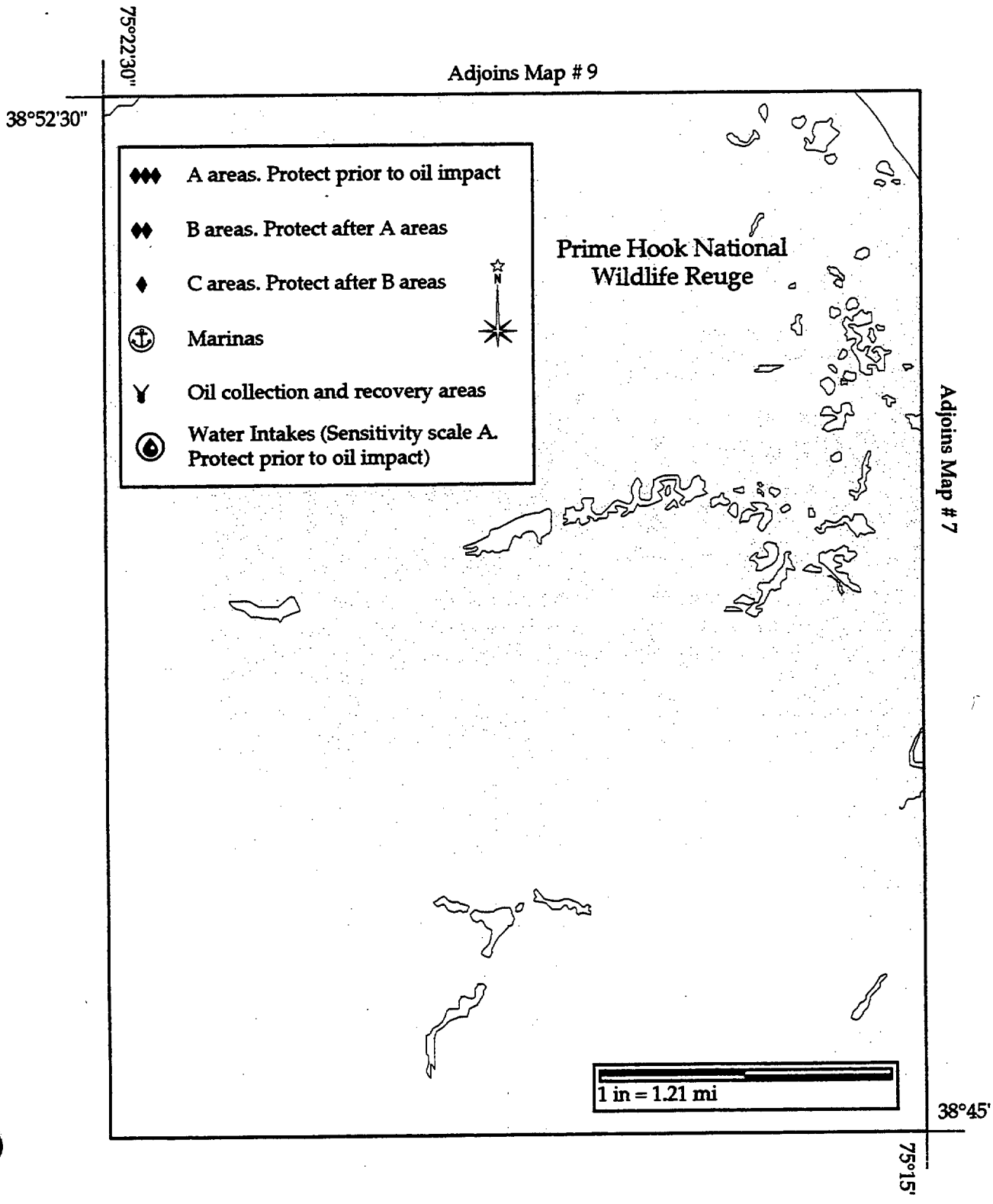

M

A PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR5.5 Map No. 09 Name PRIMEHOOK NWR-NORTH

USGS Quad Mispillion River, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 09 Lat. 38° 53' 41" N Long. 075° 16' W

Agency / Contact

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: Small section of shore line between Slaughter Beach and Fowler Beach.

PHYSICAL DESCRIPTION: Sand and gravel

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Large concentration of horseshoe crabs and migrating shorebirds use this and adjacent beaches during early May to mid June. Also gulls and terns. Waterfowl and wading birds in marshes.

HABITAT: Sand and gravel beaches backed by marshes.

THREATENED/ ENDANGERED: Bald eagles sp,su, and f. Peregrine falcons sp and f. Sea turtles, including loggerheads occasionally on beaches in spring. Possible piping plovers nesting.

OTHER: See shorebirds map at end of appendix. Also, diamond-back terrapins occur here.

RESPONSE CONSIDERATIONS

Ownership: U.S. Fish & Wildlife Service

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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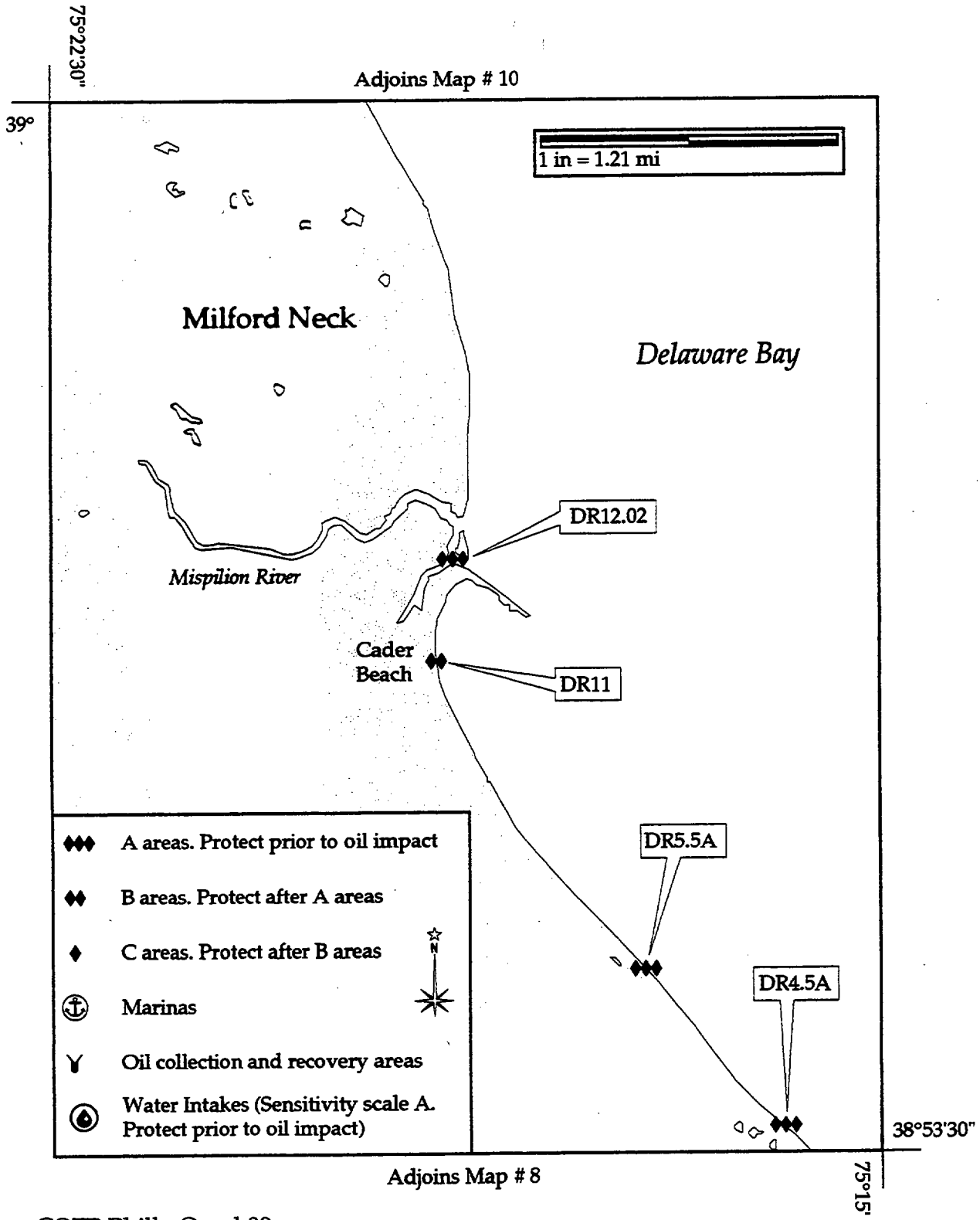

COTP Philly Quad 09

M

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR 11 Map No. 9 Name CADER BEACH

USGS Quad Mispillion River NOAA Chart 12304 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 9 Lat. 38°56'00" N Long. 075°19'00" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: Just south of Mispillion River, Cedar Creek, Slaughter Creek Inlets.

PHYSICAL DESCRIPTION: Mixed sand and gravel beaches, shelter tidal flats. and marshes.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☒ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Large concentrations of shorebirds and horseshoe crabs from early May to Mid-June. See Shorebird Map at end of appendix. Wading birds and waterfowl in marshes. Gulls and terns spring, summer, and fall.

HABITAT: Mixed sand and gravel beaches, shelter tidal flats. and marshes.

THREATENED/ ENDANGERED: Foraging Peregrine Falcons, spring and fall. Possible loggerhead turtles using beach.

OTHER: Diamond back terrapins.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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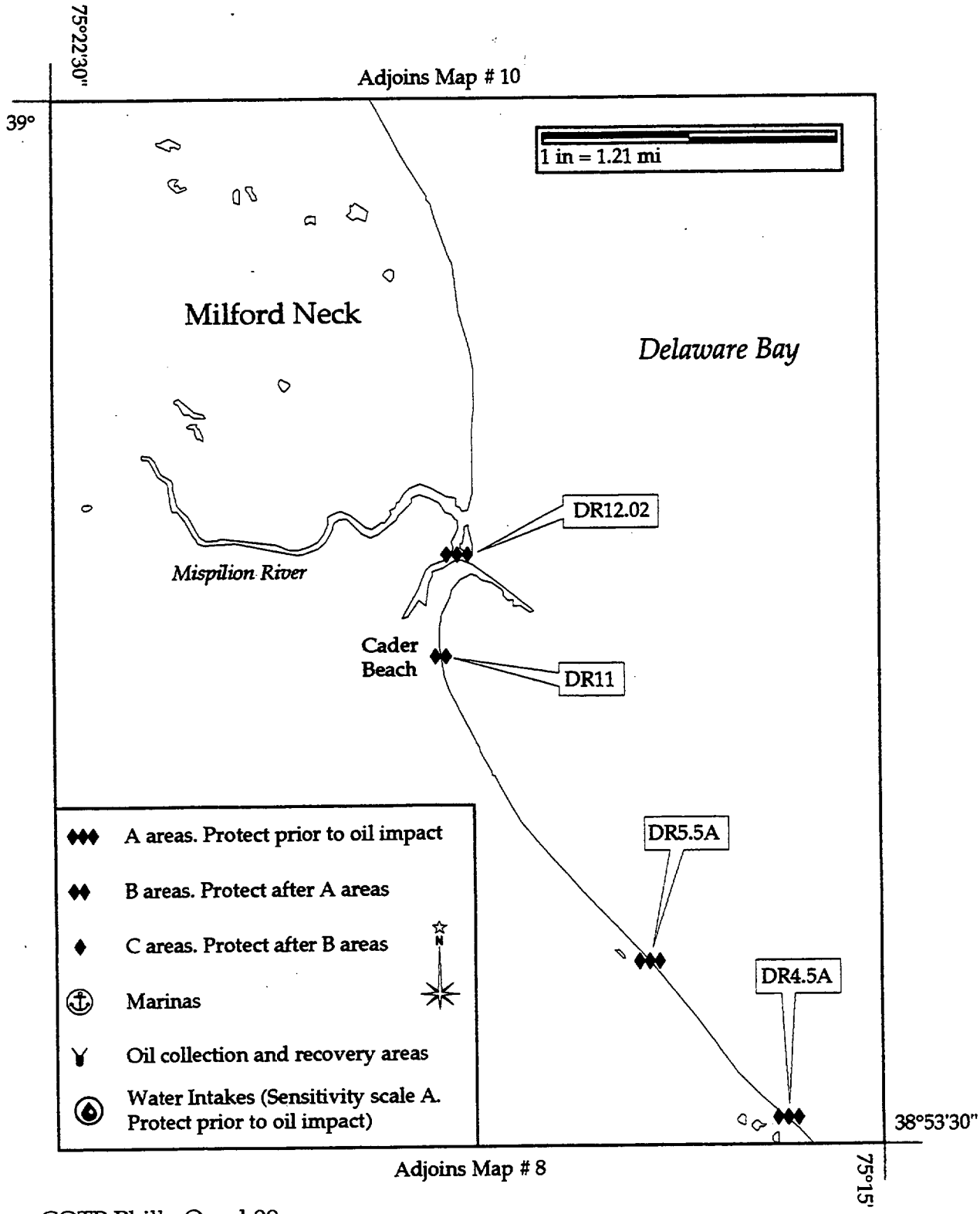

COTP Philly Quad 09

M

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR12.02 Map No. 9 Name Mispillion River Inlet & Area

USGS Quad Mispillion River NOAA Chart 12304 Other

NOAA ESI Atlas ESI Map # 9 Lat. 38°56'09" N Long. 075°18'06" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: Slaughter Beach Delaware, the mouths of the Mispillion River, Cader creek and Slaughter Creek.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous species of waterfowl using marshes spring and fall; shorebirds, gulls, terns, wadingbirds, and Ospreys using marsh and tidal flats spring, summer and fall. Riverine , and anadromous fish spawning at mouth of inlets spring and summer, and using Mispillion River all season; hard clams, blue crabs, and numerous fish species just off shore.

HABITAT: Vast tidal marshes inside inlets, to north and south within Prime Hook nwr, and Milford Neck Wildlife Area, tidal flats.

THREATENED/ ENDANGERED: Foraging Peregrine Falcons, spring and fall. Bald Eagles spring, summer, and fall

OTHER:

Diamond back terrapins.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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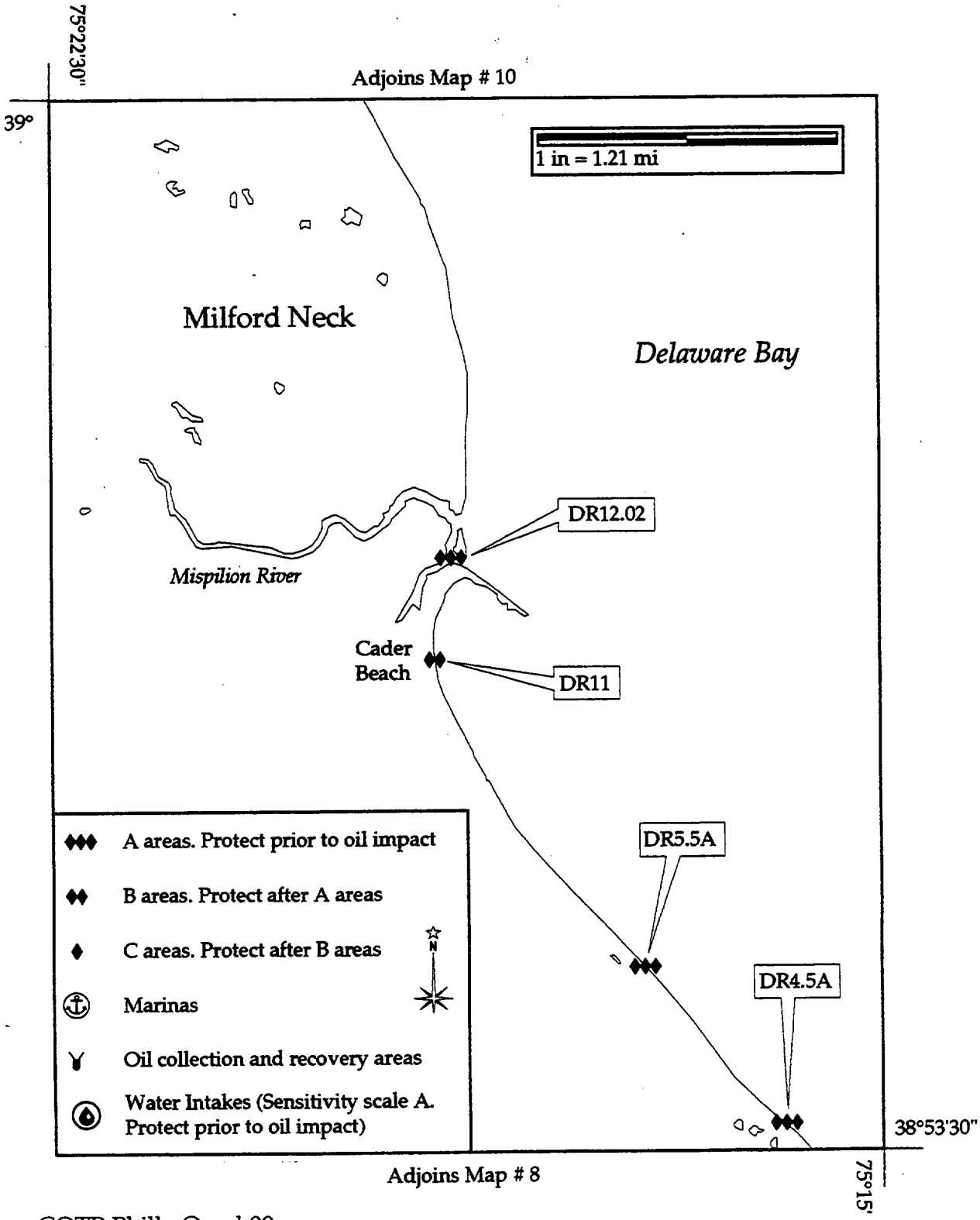

COTP Philly Quad 09

M

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DE Map No. 10 Name BIGSTONE BEACH AND BOWERS BEACH

USGS Quad MISPILLION RIVER NOAA Chart 12304 Other

NOAA ESI Atlas ESI Map # 10 Lat. 39°02'00" N Long. 75°21'00" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: Long segment of shoreline (10 miles) from river mile 12.5 to river mile 23.

PHYSICAL DESCRIPTION: Mixed sand and gravel beaches , and tidal flats, some marshes.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☐ Su ☐ F ☐ W ☐

WILDLIFE: Large concentration of shorebirds and horseshoe crabs in spring and fall (see maps at the end of the appendix). Numerous waterfowl and wading birds in marshes.

HABITAT: Mixed sand and gravel beaches, tidal flats, backed by and including marshes.

THREATENED/ ENDANGERED: Foraging perigrine falcons in spring and fall. Bald eagles using marshes in spring and fall. Loggerhead turtles may use the beaches.

OTHER: Diamond Back turtles possible.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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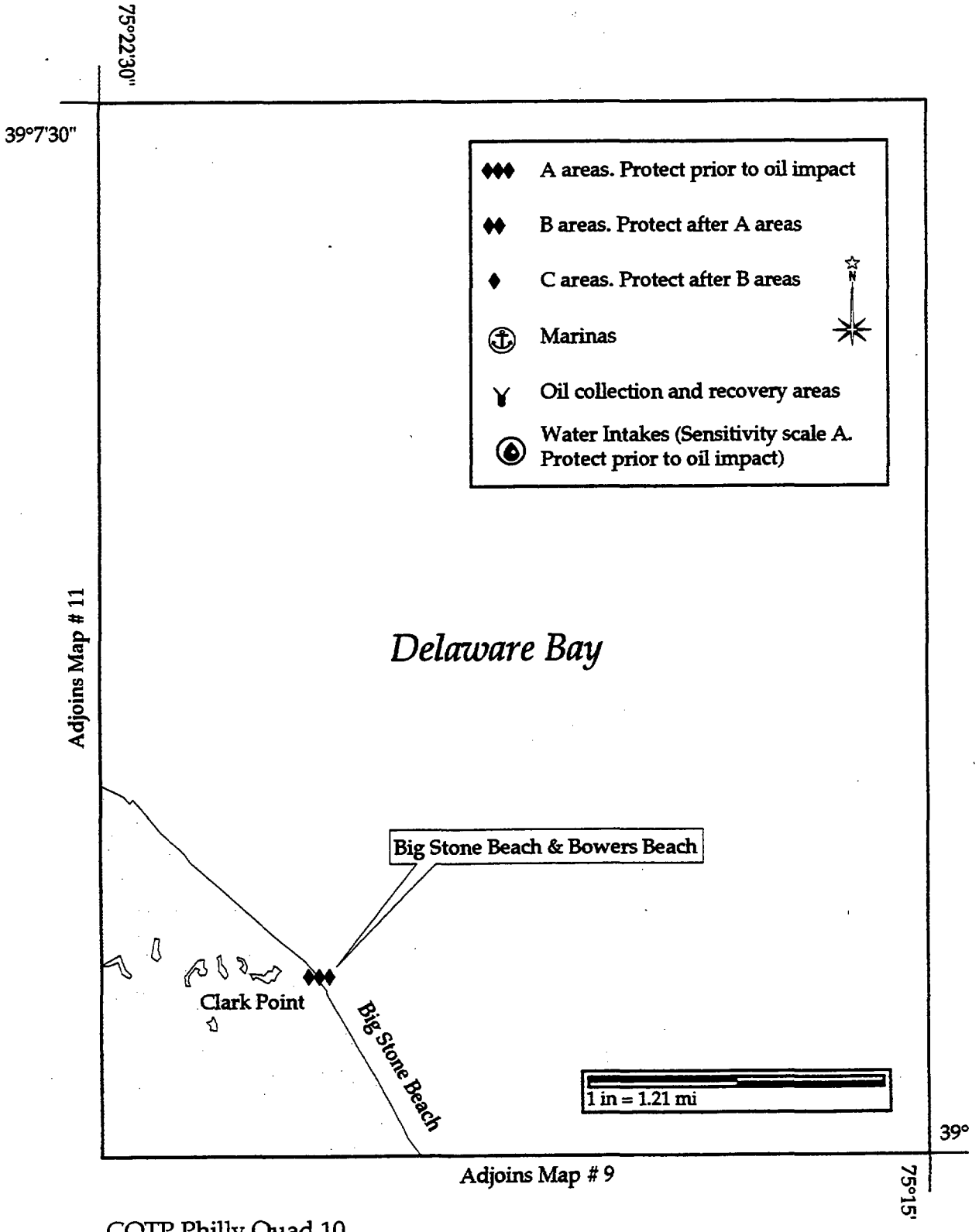

COTP Philly Quad 10

A PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR23.70 Map No. 11 Name ST. JONES RIVER

USGS Quad Frederica, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 11 Lat. 39° 03'58" N Long. 075°24'09" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION Area: Tidal Range: 4.8 ft Max Currents: kts

GEOGRAPHIC LOCATION: .6 Miles North of Bowers Beach, De.,

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [X] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Numerous species, waterfowl and shorebirds f,w, and sp. Wading birds all seasons; gulls and terns sp,su,and f. River otters and muskrats also present.

HABITAT: Tidal creeks, irregularly and regularly flooded marshes, flats, and ponds; some tidal scrub-shrub wetlands.

THREATENED/ ENDANGERED:

OTHER: Large concentrations of horseshoes crabs and shorebirds - early May to mid June. See map at end of appendix.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover Minimum Boom Length: ft

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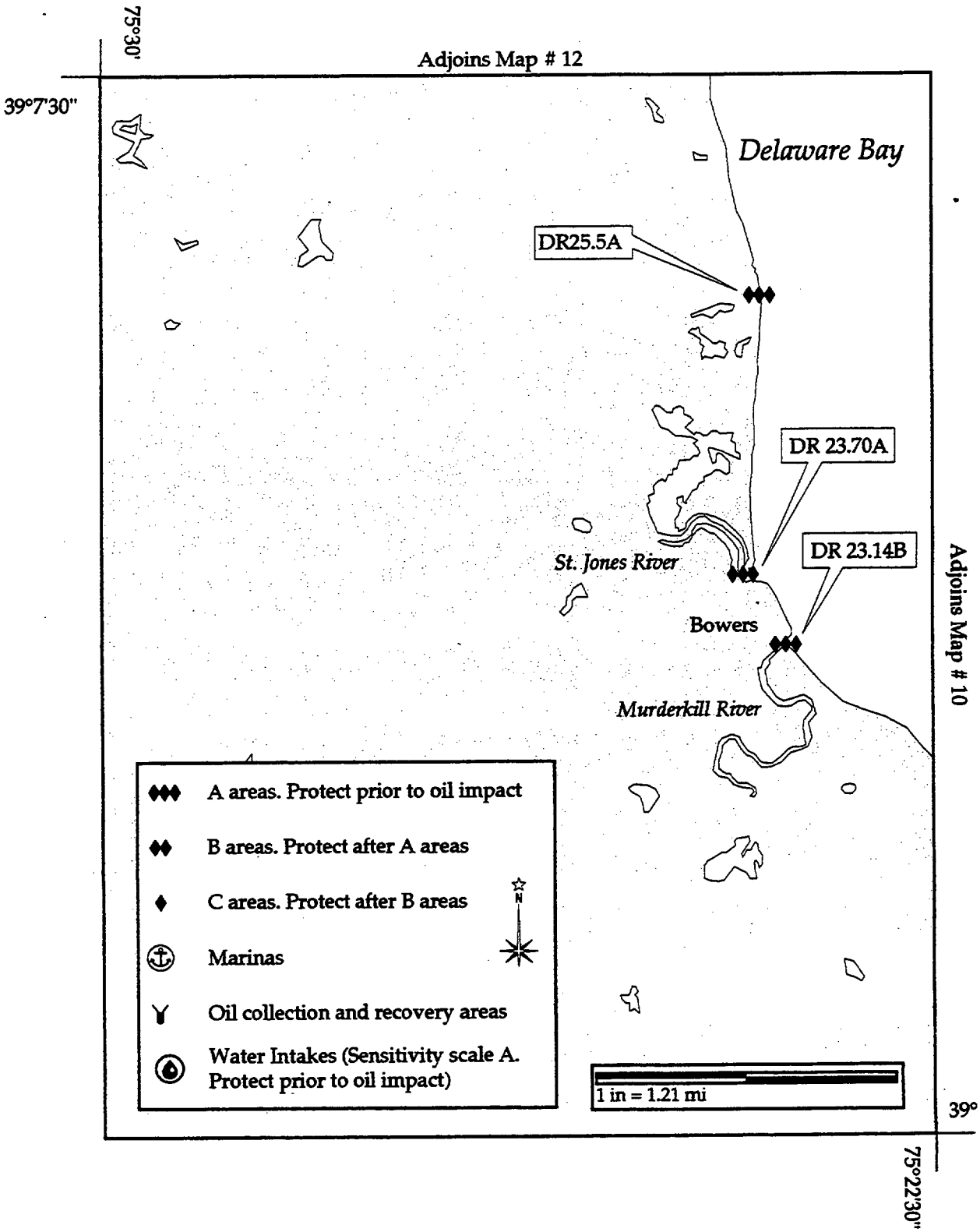

M

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR23.14 Map No. 11 Name Murderkill River

USGS Quad Frederica, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 11 Lat. 39° 03'42" N Long. 075° 23'53" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION Area: Tidal Range: 5.1 ft Max Currents: kts

GEOGRAPHIC LOCATION: The mouth of the river is located between North Bowers and South Bowers, the goes inland and splits just west of the US 113 Highway bridge near Frederica.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: RIVERINE AND ANADROMOUS FISH SPAWNING AT RIVER MOUTH SPRING AND SUMMER, STRIPED BASS AT MOUTH ALL SEASONS. LARGE CONCENTRATIONS OF SHOREBIRD AND HORSESHOE CRABS USING ADJACENT BEACHES EARLY MAY TO MID-JUNE-SEE MAP AT END OF APPENDIX. NUMEROUS SPECIES OF WATERFOWL AND WADING BIRDS USING MARSHES INSIDE MOUTH.

HABITAT: MIXED SAND AND GRAVEL BEACHES, REGULARY AND IRREGULARY TIDAL MARSHES INSIDE MOUTH, PONDS, AND SOME TIDAL SCRUB-SHRUB WETLANDS..

THREATENED/ ENDANGERED:

OTHER: BLUE CRABS, HARD CLAMS AND OYSTERS OUTSIDE MOUTH-OFFSHORE.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover Minimum Boom Length: ft

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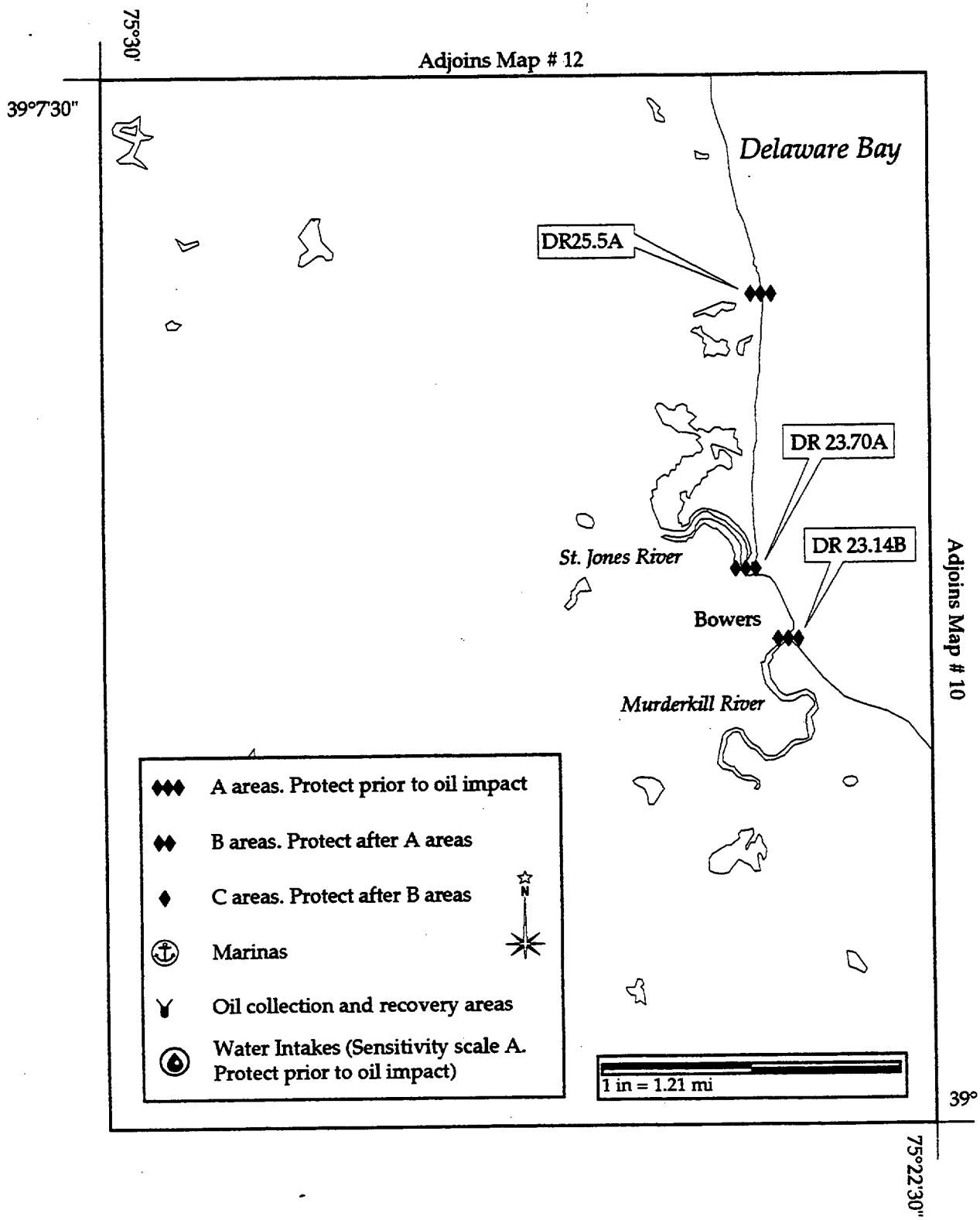

M

A PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR25.5 Map No. 11 Name Kitts Hummocks & Adj. Shorelines

USGS Quad Frederica, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 11 Lat. 39° 06'00" N Long. 075° 24'00" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: 5.1 ft Max Currents: kts

GEOGRAPHIC LOCATION: From Lewis Ditch south, along Kitts Hummock and south to St. Jones River.

PHYSICAL DESCRIPTION: Sand and gravel beaches and tidal flats.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [ ] Su [ ] F [ ] W [ ]

WILDLIFE: Large population of horseshoe crabs and migrating shorebirds use this and other sites during early May to mid June.

HABITAT: 2 mile section of shoreline comprising marshes, riprap, sand and gravel beaches and tidal flats.

THREATENED/ ENDANGERED:

OTHER: Large concentrations of shorebirds and horseshoe crabs - early May to mid July. See map at end of this appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

M

A PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR25.5 Map No. 11 Name Kitts Hummocks & Adj. Shorelines

USGS Quad Frederica, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 11 Lat. 39° 06'00" N Long. 075° 24'00" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: 5.1 ft Max Currents: kts

GEOGRAPHIC LOCATION: From Lewis Ditch south, along Kitts Hummock and south to St. Jones River.

PHYSICAL DESCRIPTION: Sand and gravel beaches and tidal flats.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [ ] Su [ ] F [ ] W [ ]

WILDLIFE: Large population of horseshoe crabs and migrating shorebirds use this and other sites during early May to mid June.

HABITAT: 2 mile section of shoreline comprising marshes, riprap, sand and gravel beaches and tidal flats.

THREATENED/ ENDANGERED:

OTHER: Large concentrations of shorebirds and horseshoe crabs - early May to mid July. See map at end of this appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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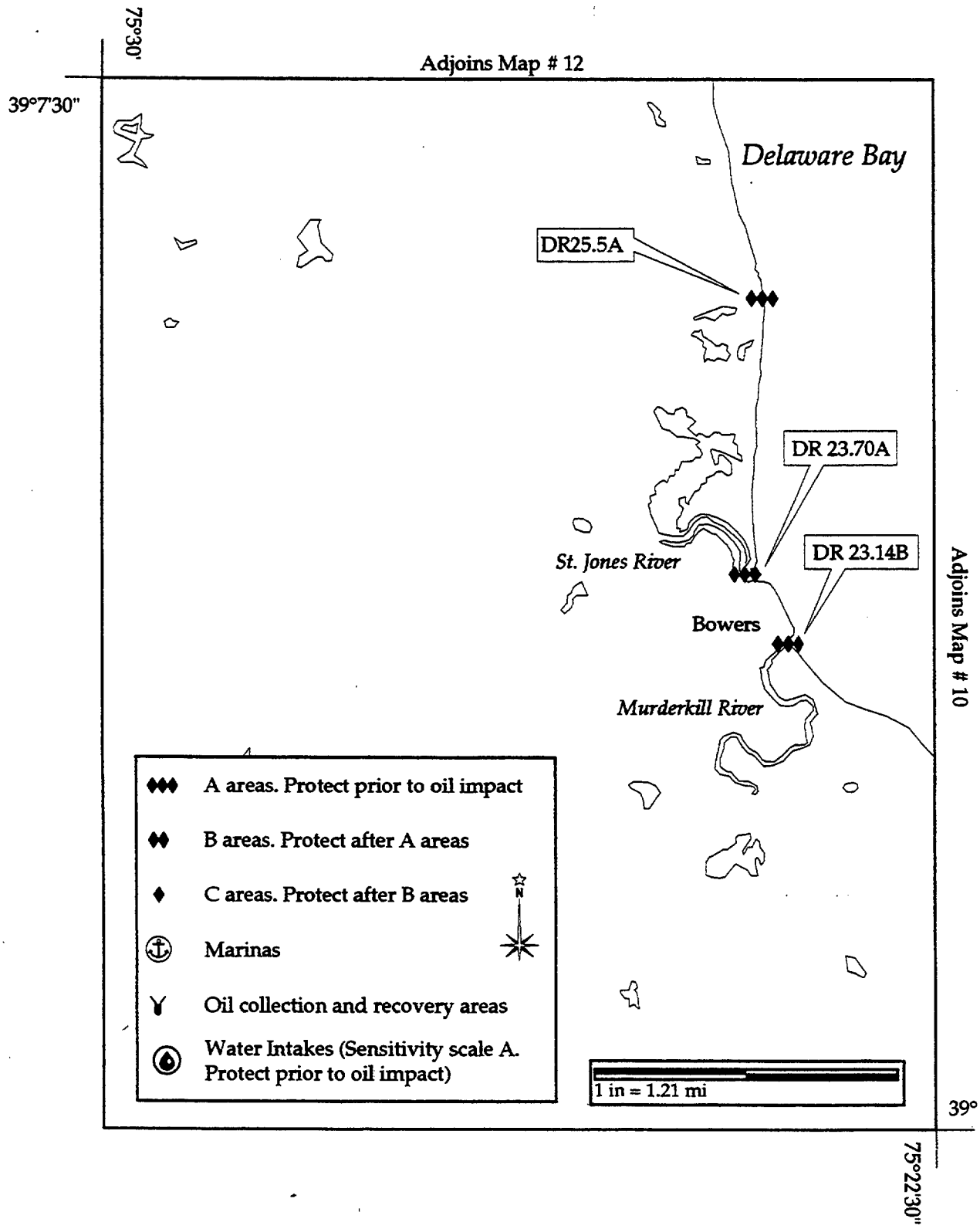

M

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR34.40 Map No. 12 Name Leipsic River

USGS Quad Little Creek, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 12 Lat. 39 14.67' N Long. 075 24.21' W

Agency/Contact

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: >1000' across Tidal Range: 6 ft Max Currents: 3 kts

GEOGRAPHIC LOCATION: Western side of Bay, south of Goose Point.

PHYSICAL DESCRIPTION: Tidal river with oyster beds around mouth, and adjacent marshes.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Oyster beds inside mouth, numerous species of waterfowl in f,w, sp, and breeding in summer including black duck. Wading birds, gulls, and terns all seasons, including large numbers of glossy ibis in spring. Shore birds all seasons, with heavy concentrations spring. Fish spawning just inside mouth during spring and fall. Striped bass present all seasons.

HABITAT: Marshes, tidal creeks, and ponds, some tidal flats.

THREATENED/ ENDANGERED: Peregrine falcons in spring and fall. Bald Eagles in spring, summer and fall.

OTHER: Large concentrations of shore birds in spring. Oyster beds inside of mouth. Riverine/anadromous fish spawing area. Dowitchers in late summer/early fall. See shorebird map at end of appendix.

RESPONSE CONSIDERATIONS

Ownership: U.S. Fish and Wildlife Service

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS: Boat ramps at Port Mahon, Whitehall landing (at Bombay Hook), and Woodland Beach.

COLLECTION POINTS:

OTHER: State has jurisdiction below mean high tide along bay front. Tidal current is a factor.

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [X]

BOOMING METHOD: [X] Deflect [X] Protect [ ] Recover Minimum Boom Length: >1000 ft

Scenario 1 - Use a 200ft shore seal and 1700 ft inland curtain boom, with 2 attachments, 3 anchors, a work boat and small boat to deflect outside mouth.

Scenario 2 - Use a 600ft inland curtain boom with 2 attachments and 1 small boat to delect where mouth becomes narrow.

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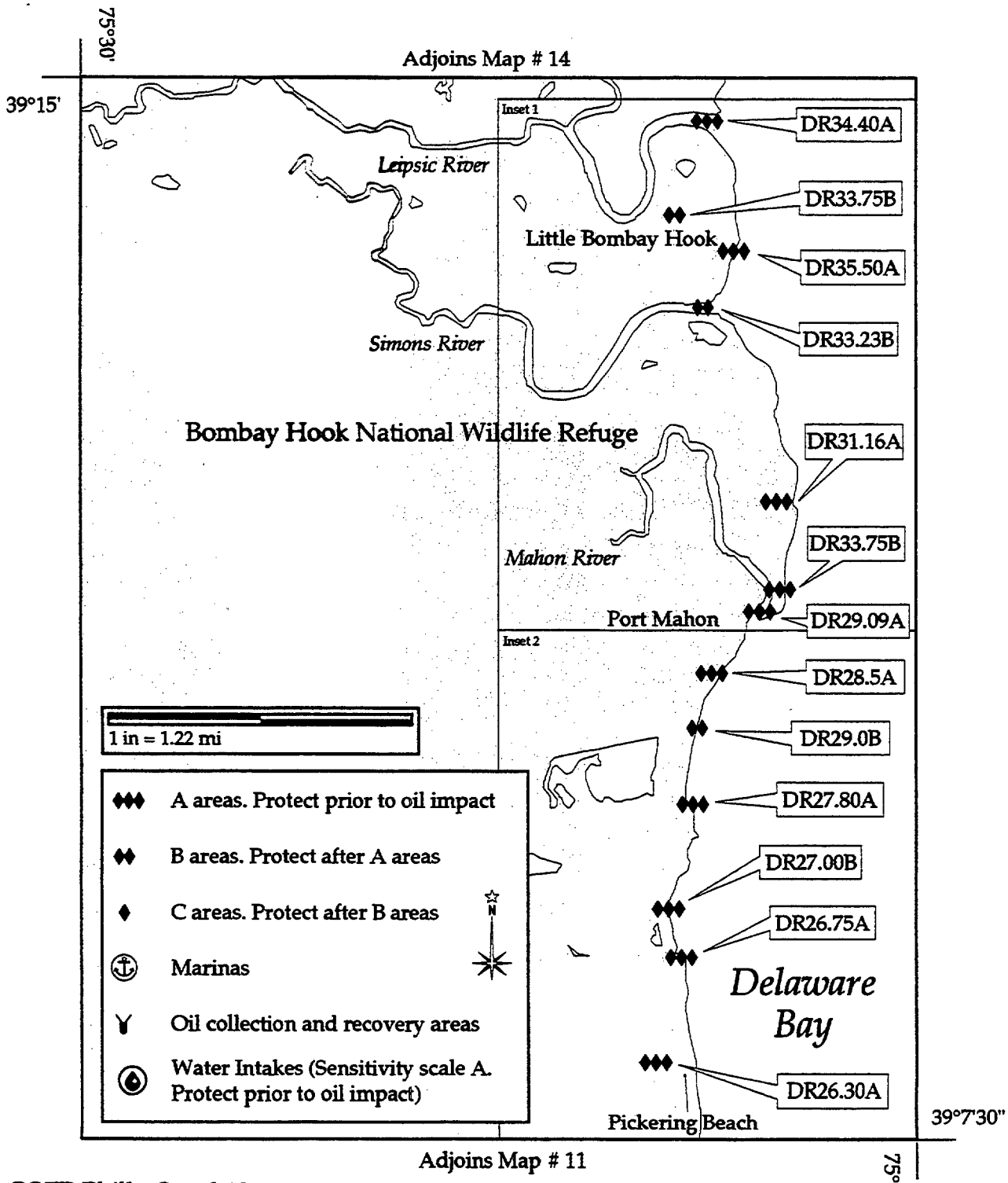

COTP Philly Quad 12

Captain of the Port Philadelphia

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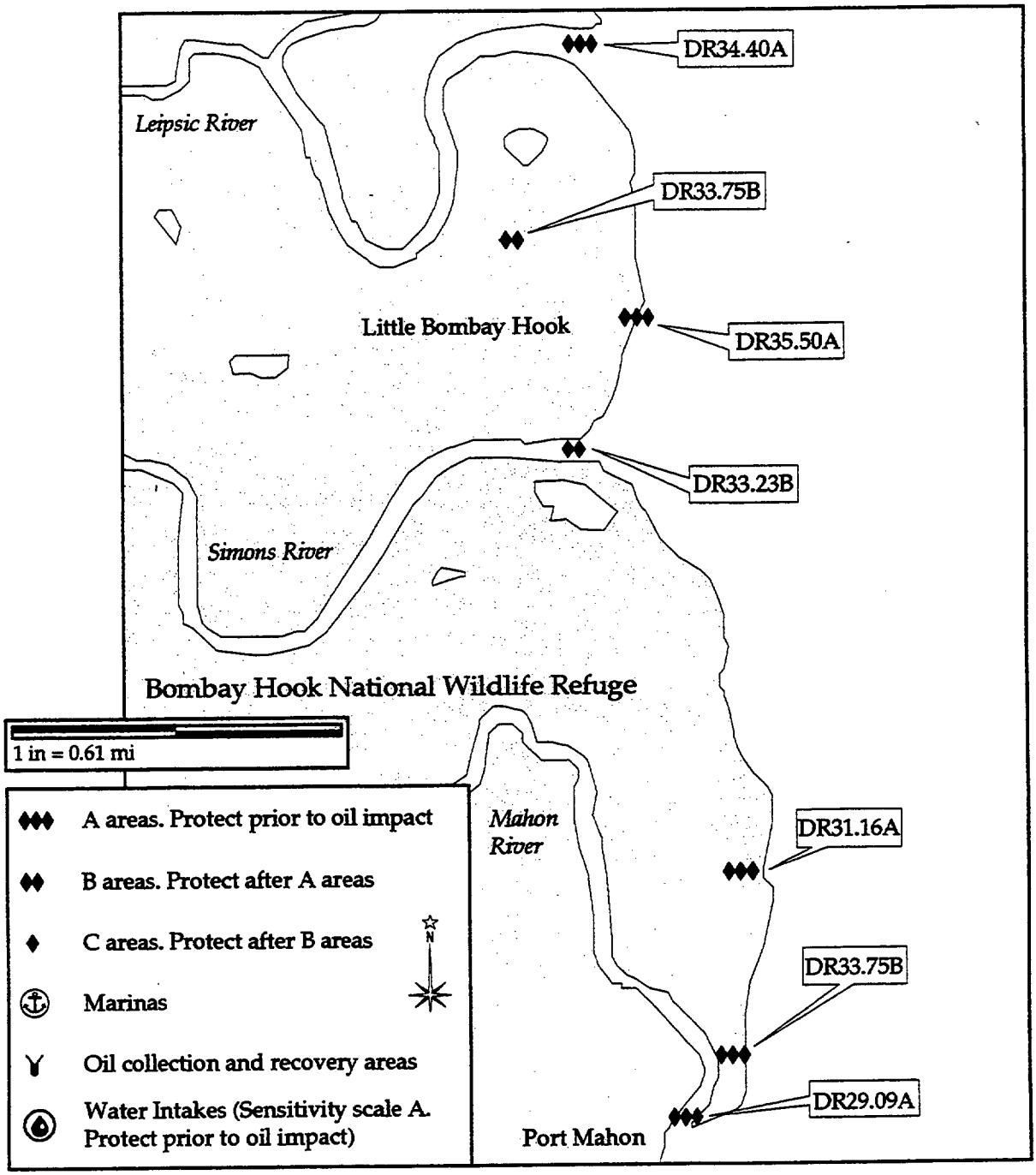
Inset 1 from Map # 12



Quad 12 inset 1

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B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR33.75 Map No. 12 Name Kent Island

USGS Quad Little Creek, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 12 Lat. 39°14'00" N Long. 075°24'00" W

Agency/Contact

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: 1.17 linear miles Tidal Range: 6 ft Max Currents: 3 kts

GEOGRAPHIC LOCATION: Western side of Bay, south of Leipsic River, north of Simons River.

PHYSICAL DESCRIPTION: Marsh dominated shoreline, some tidal flats and creeks.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Numerous species of waterfowl in f,w,sp, and some breeding in summer including black duck. Wading birds, gulls, and terns all seasons, including large numbers of glossy ibis in spring. Shore birds all seasons, with heavy concentrations in spring. Horseshoe crabs in spring.

HABITAT: Marshes, tidal creeks, ponds, and tidal flats.

THREATENED/ ENDANGERED: Peregrine falcons in spring and fall. Bald eagles in spring, summer, and fall.

OTHER: Large concentrations of shore birds in spring. Large concentrations of horseshoe crabs in spring. See shorebird map at end of appendix.

RESPONSE CONSIDERATIONS

Ownership: U.S. Fish & Wildlife Service

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS: Boat ramps at Port Mahon landing (at Bombay Hook), and Woodland Beach.

COLLECTION POINTS:

OTHER: State has jurisdiction below mean high tide along bay front.

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [X]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: _____ f

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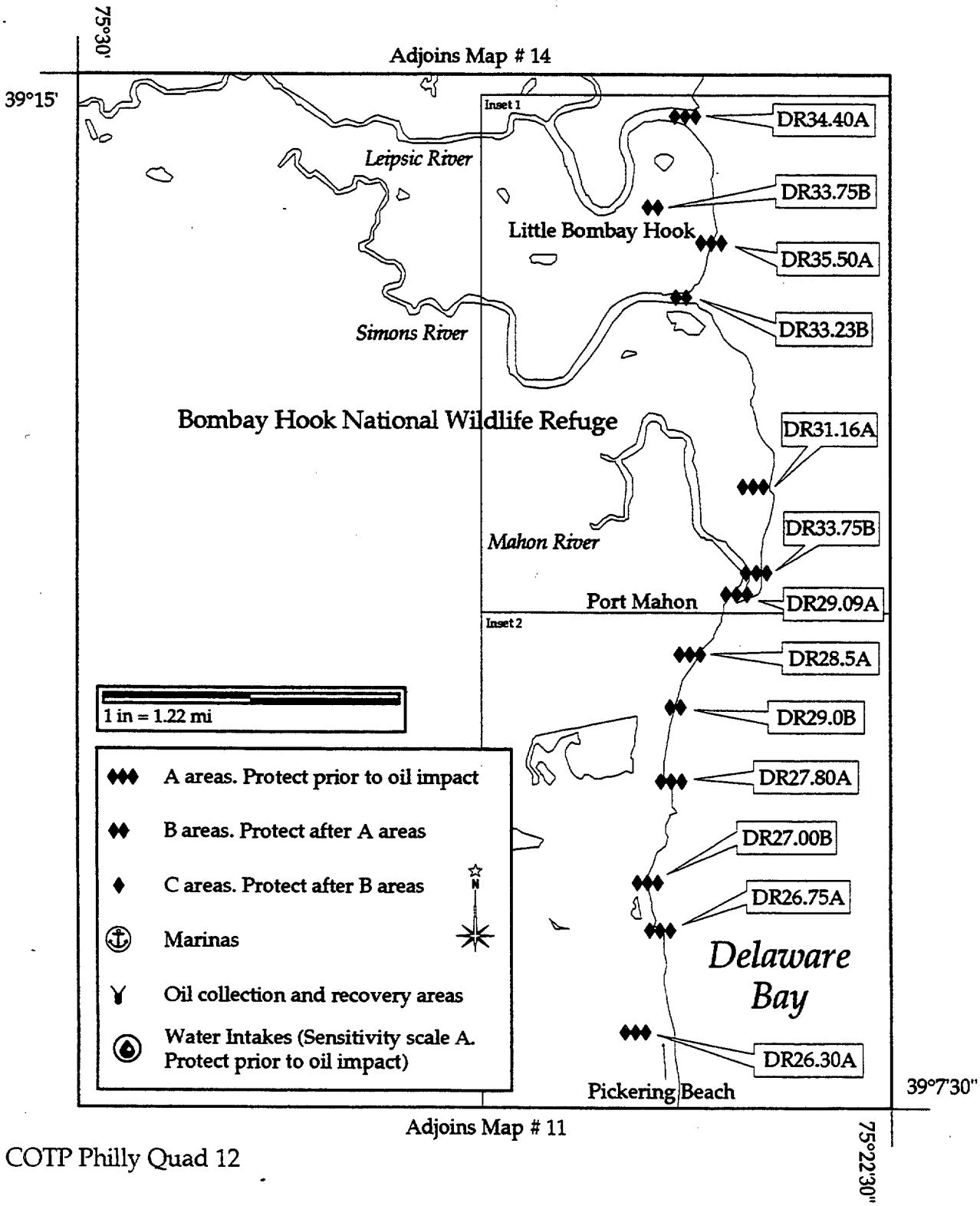

COTP Philly Quad 12

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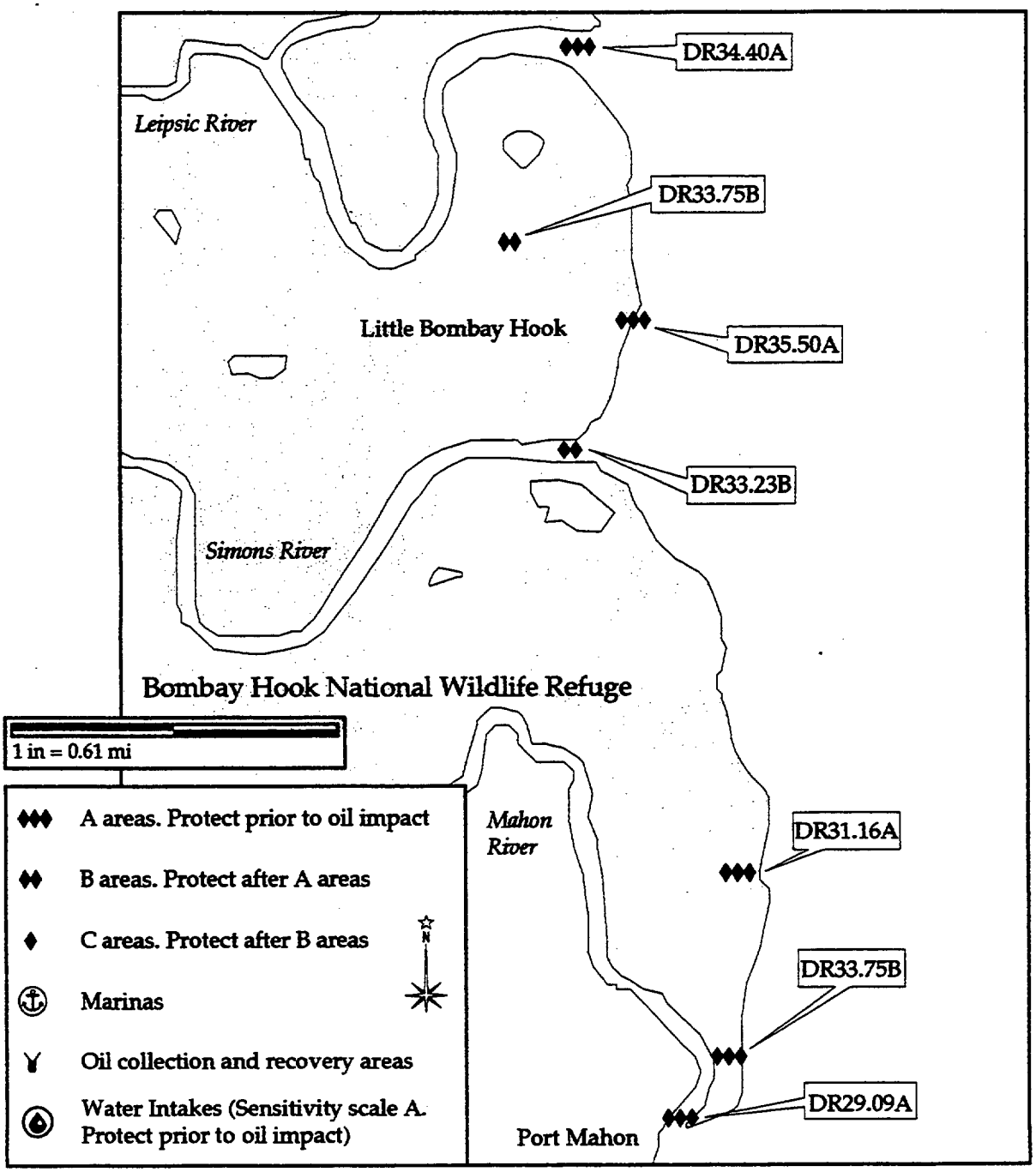
Inset 1 from Map # 12



Quad 12 inset 1

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[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR31.16 Map No. 12 Name Kelly Island

USGS Quad Little Creek, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 12 Lat. 39°12.27' N Long. 075°23'49" W

Agency/Contact

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: 4 linear m shore Tidal Range: 6 ft Max Currents: 3 kts

GEOGRAPHIC LOCATION: North of Mahon River and south of Simons River.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Large numbers of shore birds using beaches in spring, present in smaller numbers in fall, and some extent other seasons. Waterfowl all seasons in interior marshes, tidal creeks and salt ponds. Gulls, terns, and wading birds all seasons. Horseshoe crabs in spring.

HABITAT: Mixed sand and gravel beaches, sheltered tidal flats, and marshes, mouths of small tidal creeks, also along this section of shoreline, not seen on most maps, but vulnerable. Salt ponds important to all waterfowls.

THREATENED/ ENDANGERED: Peregrine falcons in spring and fall. Bald eagles in spring, summer, and fall.

OTHER: Large concentrations of shore birds, especially ruddy turnstoners and red knots, in spring. Large concentrations of horseshoe crabs in spring. See shorebird map at end of appendix.

RESPONSE CONSIDERATIONS

Ownership: U.S. Fish and Wildlife Service

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS: Boat ramps at Port Mahon, Whitehall landing (at Bombay Hook), and Woodland Beach.

COLLECTION POINTS:

OTHER: State has jurisdiction below mean high tide along bay front.

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover Minimum Boom Length: ____ ft

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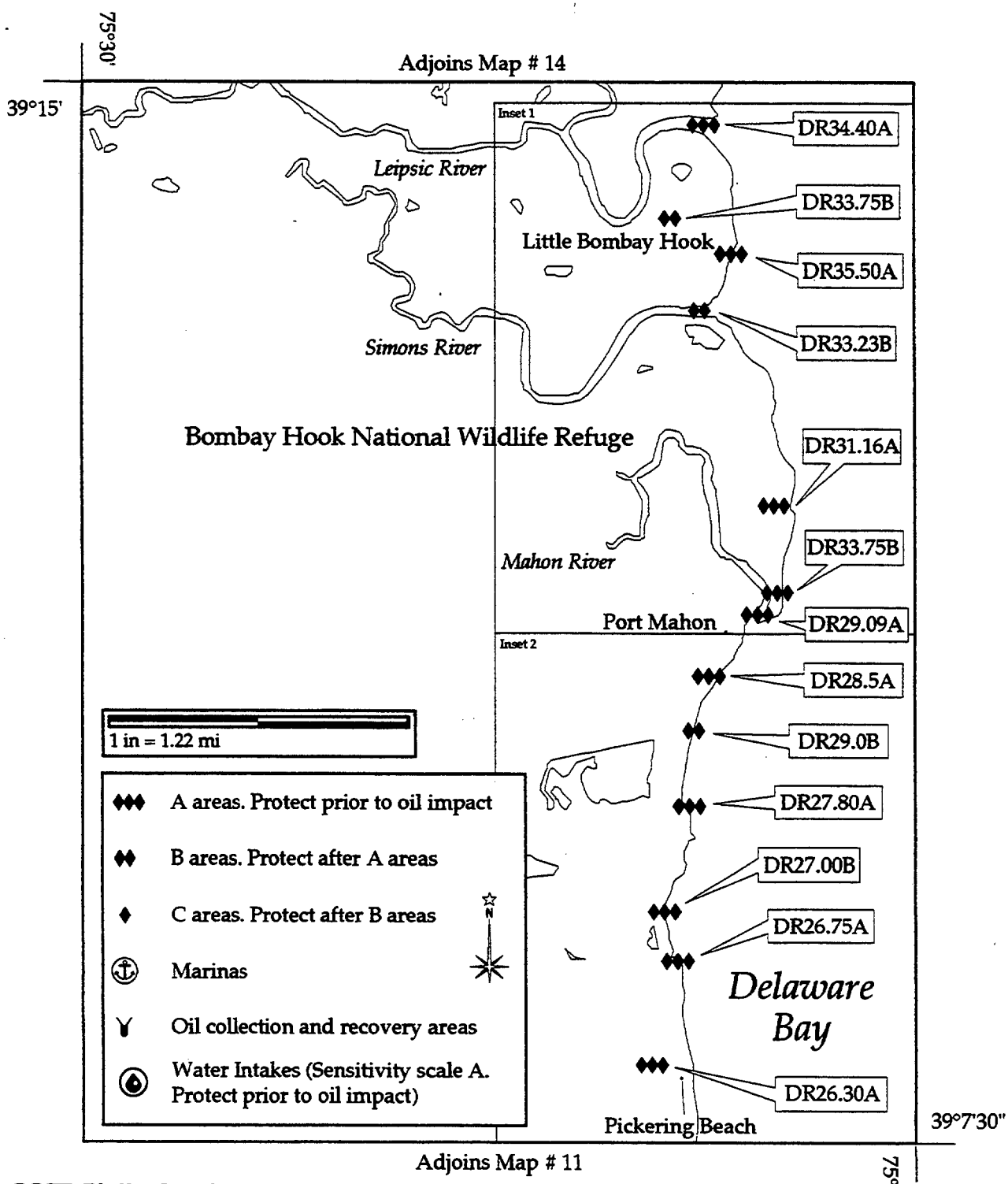

COTP Philly Quad 12

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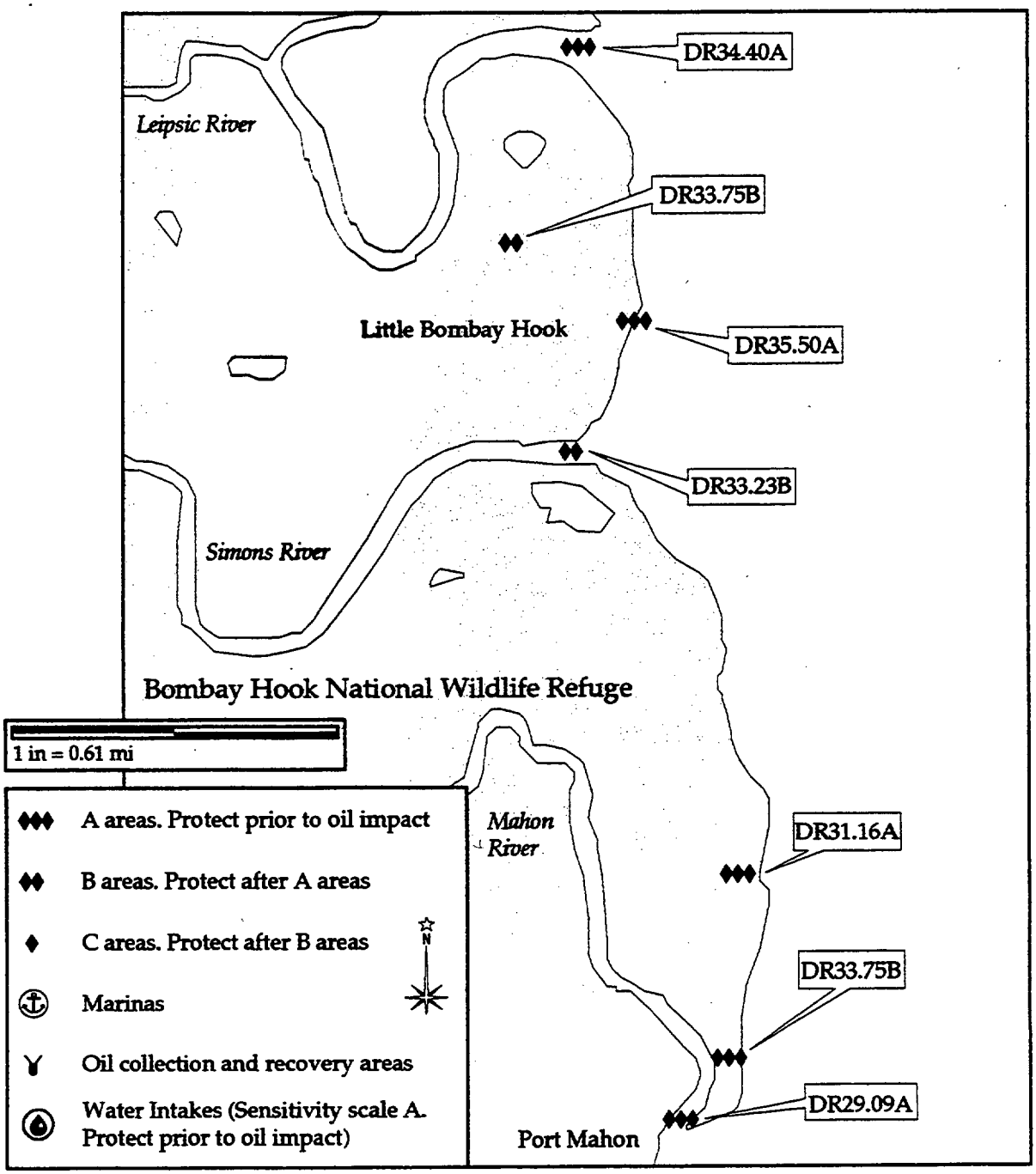

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M

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR27.00 Map No. 12 Name PICKERING BEACH-GUT NORTH

USGS Quad Little Creek, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 12 Lat. 39°08'98" N Long. 075°24'42" W

Agency / Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION Area: Tidal Range: 5.1 ft Max Currents: kts

GEOGRAPHIC LOCATION: About 3/4 mile south of Little River.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp [ ] Su [ ] F [ ] W [ ]

WILDLIFE: Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June. See maps at the end of the appendix.

HABITAT:

THREATENED/ ENDANGERED:

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover Minimum Boom Length: ft

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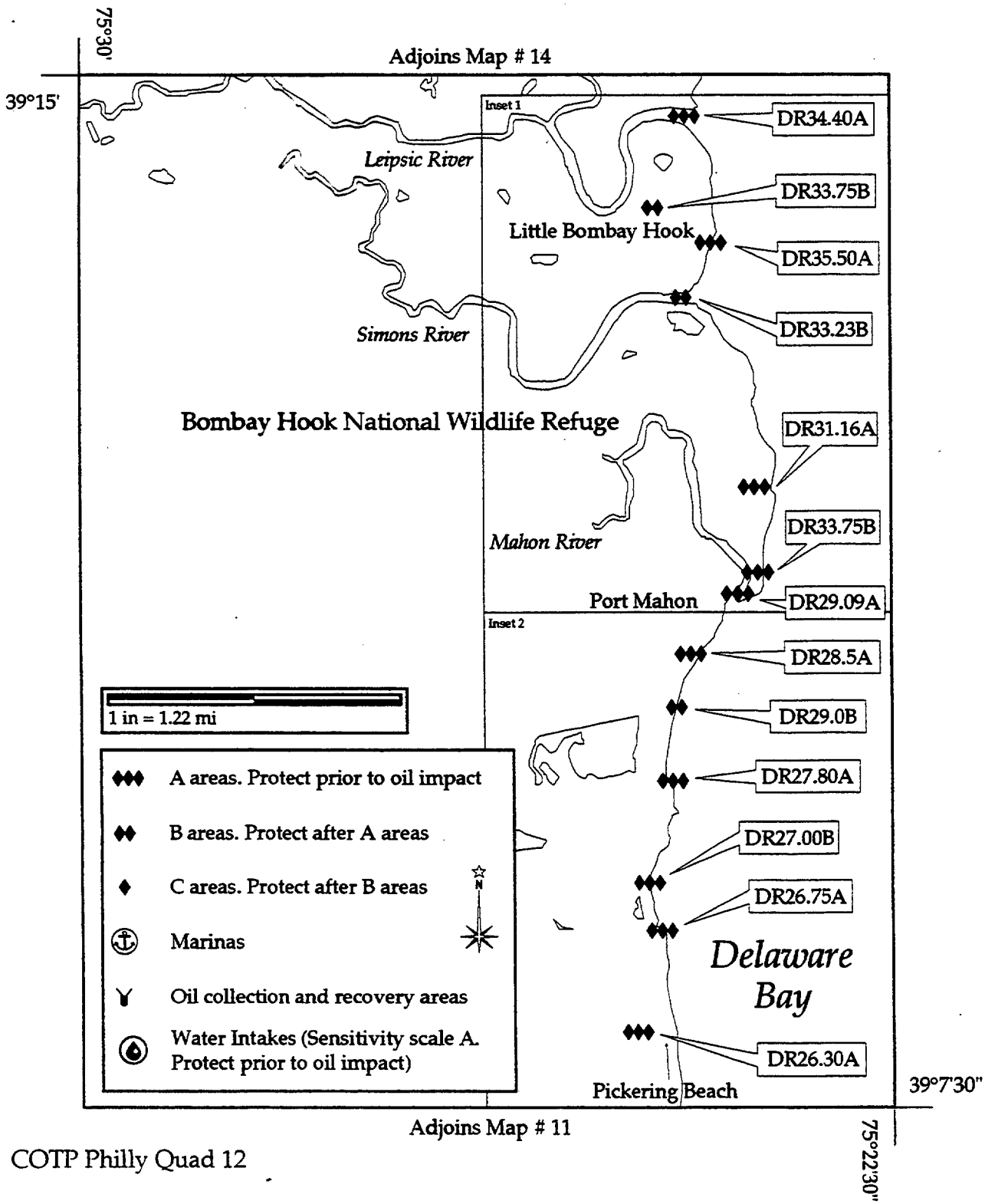

COTP Philly Quad 12

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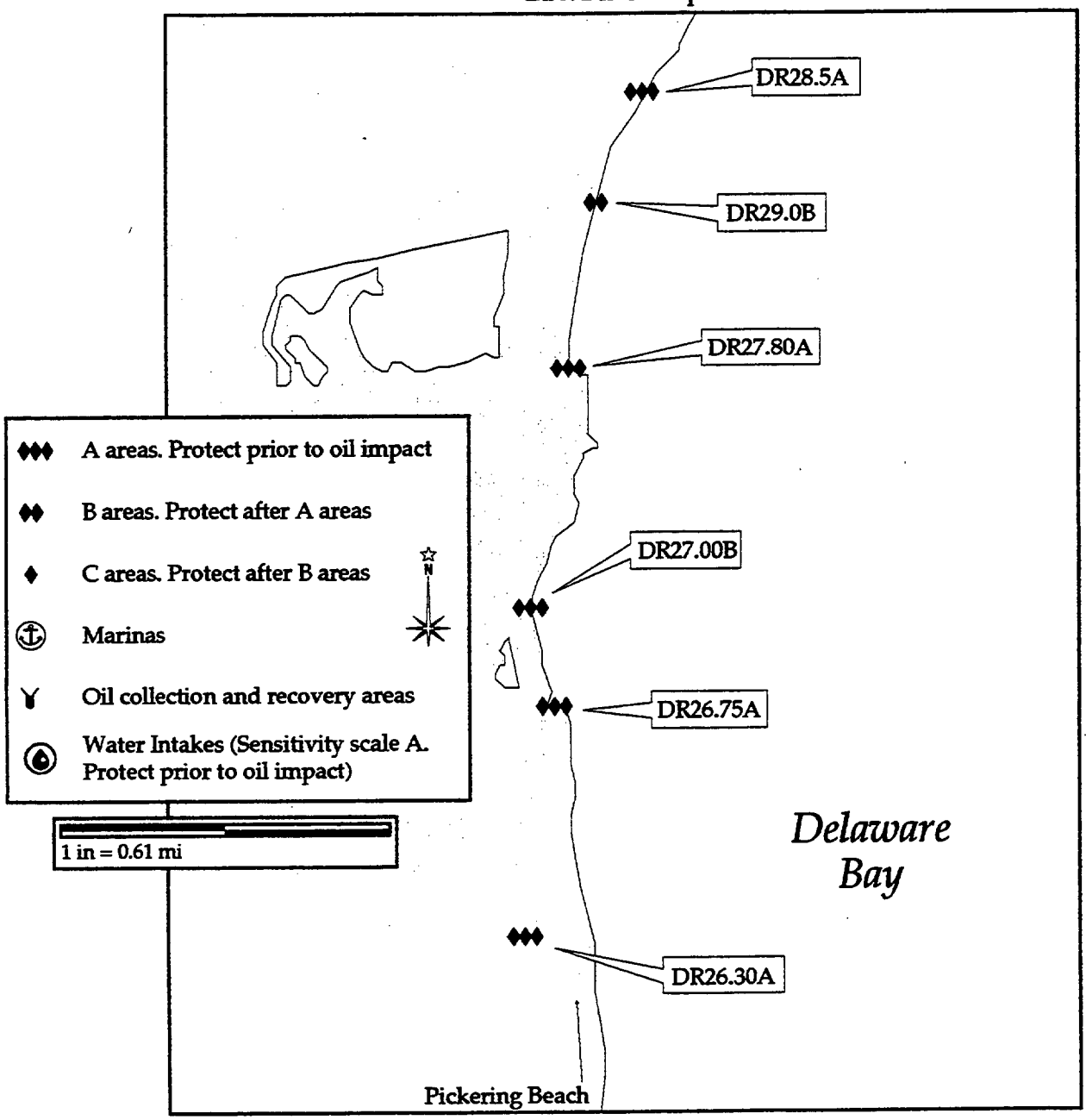

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[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR35.50 Map No. 12 Name Old Creek

USGS Quad Little Creek, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 12 Lat. 39 13.72' N Long. 075 24.00' W

Agency/Contact

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: app. 100' wide Tidal Range: 6 ft Max Currents: 3 kts

GEOGRAPHIC LOCATION: Western side of Bay, 0.27 mile north of Simons River

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Numerous species of waterfowl in f,w,s, and some breeding in summer including Black Duck. Wading birds, gulls, and terms all seasons, including large numbers of glossy ibis in spring. Shore birds all seasons, with heavy concentrations in spring.

HABITAT: Marshes, tidal creeks, ponds, and some tidal flats.

THREATENED/ ENDANGERED: Peregrine falcons in spring and fall. Bald Eagles in spring, summer and fall.

OTHER: Large concentrations of shore birds in spring. Dowitcher concentrations in late summer/early fall. See shorebird map at end of appendix.

RESPONSE CONSIDERATIONS

Ownership: U.S. Fish and Wildlife Service

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS: Boat ramps at Port Mahon, Whitehall landing (at Bombay Hook) and Woodland Beach.

COLLECTION POINTS:

OTHER: State has jurisdiction below mean high tide along bay front. Tidal current not a serious factor.

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover Minimum Boom Length: 200 ft

Scenario 1 - Use a 200 ft shore seal Inland curtain boom with 2 shoreline attachments and 1 small boat to deflect oil.

Scenario 2 - Use a 200 ft Inland curtain boom to deflect oil. Also requires a 2 shore line attachments and a small boat.

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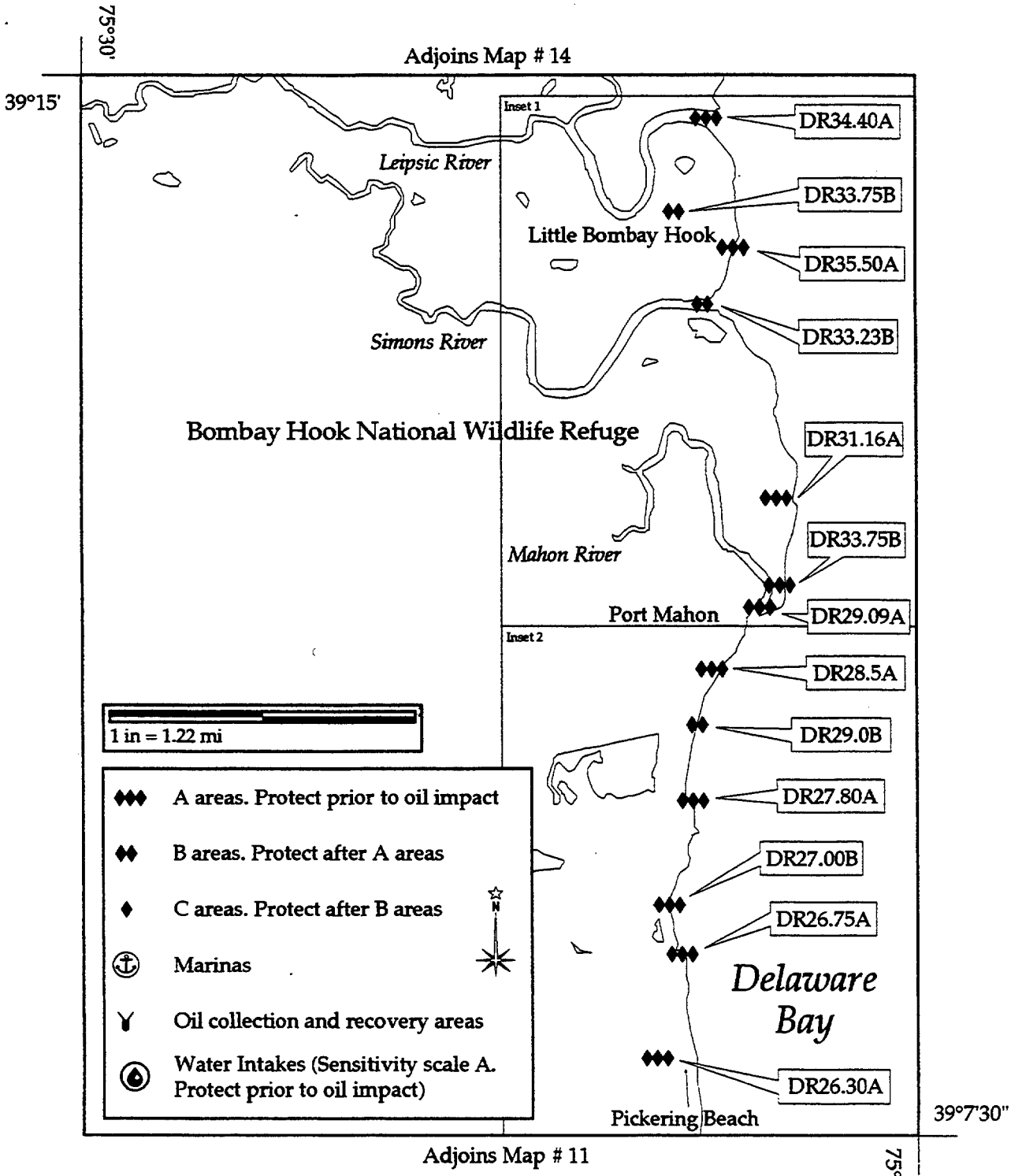

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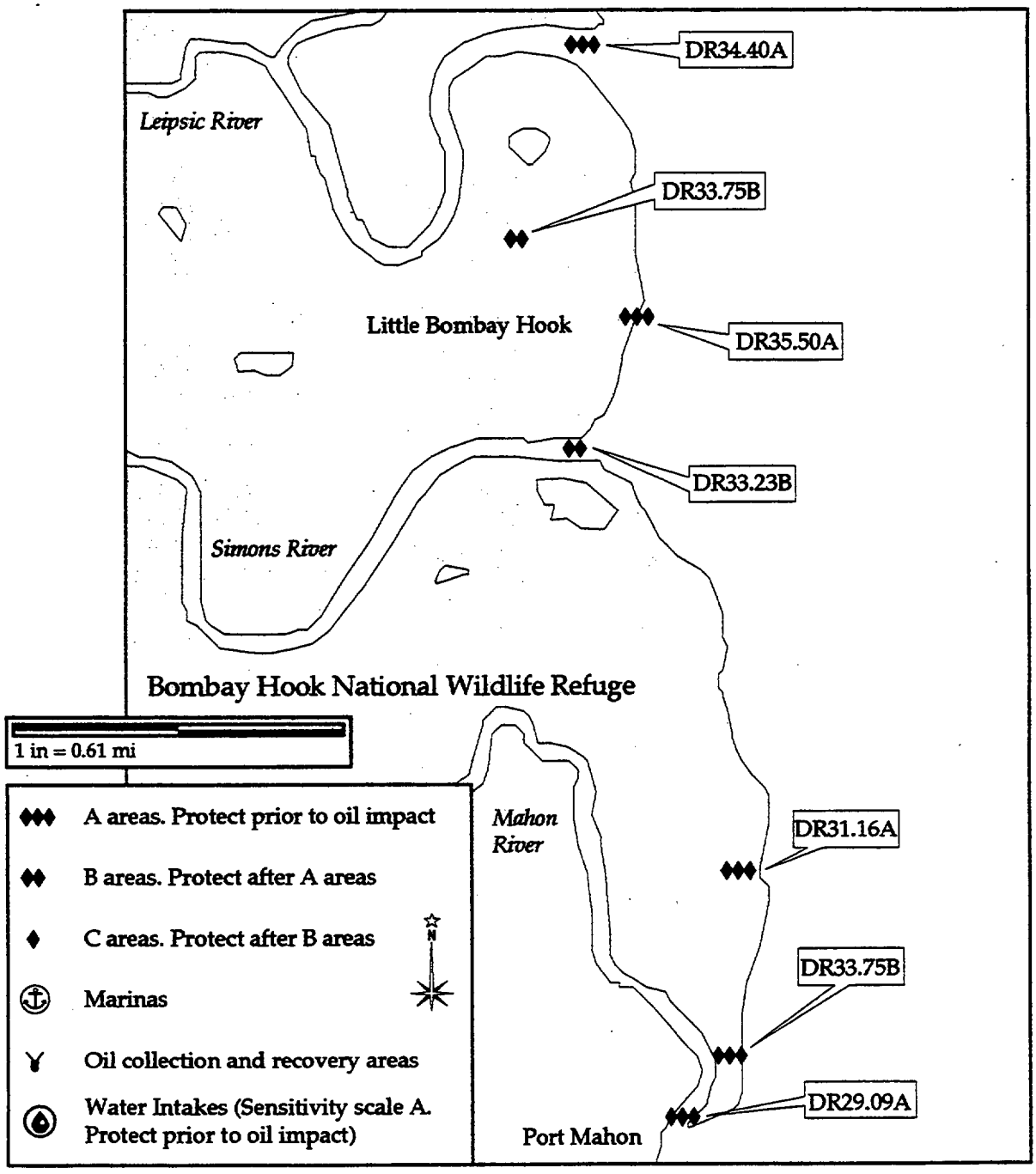

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[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR29.09 Map No. 12 Name Mahon River

USGS Quad Little Creek, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 12 Lat. 39°11'07" N Long. 075°23'58" W

Agency/Contact

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: 6 ft Max Currents: 3 kts

GEOGRAPHIC LOCATION: Mouth of Mahon River, southern end of Kelly Island and Bombay Hook NWR.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Marine fish spawning area just outside of mouth. Oyster one mile out into Bay. Numerous species of waterfowl in f,w,sp, and some species breeding in summer, including black duck. Wading birds, gulls and terns all seasons. Shore birds all seasons, with heavy concentrations in spring. Horseshore crabs in spring.

HABITAT: Marshes, tidal creeks and ponds, and some tidal flats.

THREATENED/ ENDANGERED: Peregrine falcon in spring and fall. Bald eagles in spring, summer, and fall.

OTHER: Large concentrations of shore birds in spring, especially red knots and ruddy turnstones. Dowitchers in late summer/early fall. Large concentrations of Horseshoe crabs in spring. See shorebird map at end of appendix.

RESPONSE CONSIDERATIONS

Ownership: U.S. Fish and Wildlife Service

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

State has jurisdiction below mean high tide along bay front. Tidal current is a factor. By road to Port Mahon from Little Creek.

STAGING AREAS: Boat launch at Port Mahon, Whitehall landing (at Bombay Hook), or Woodland Beach.

COLLECTION POINTS:

OTHER: N side of Mahon R. a combination of state & priv (TNC) on S side of Mahon R.

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: 700 ft

Scenario 1 - Use a 100ft shore seal Inland boom and 1100ft Inland curtain boom, 2 anchors, 2 shore attachments, a work boat and a small boat, to deflect oil outside of mouth.

Scenario 2 - Use a 700ft Inland curtain boom with 2 attachments and a small boat to deflect oil where the mouth becomes narrow.

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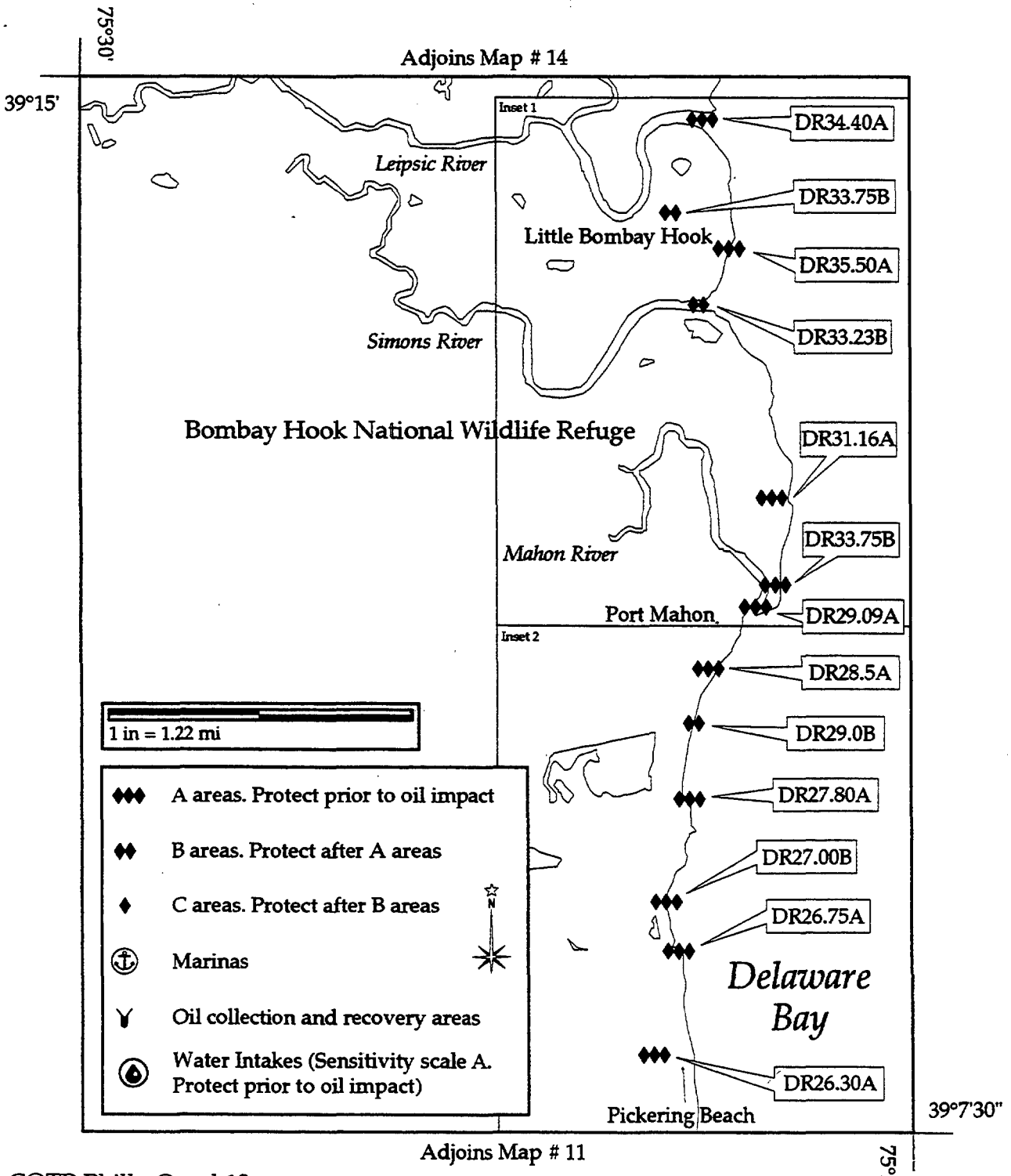

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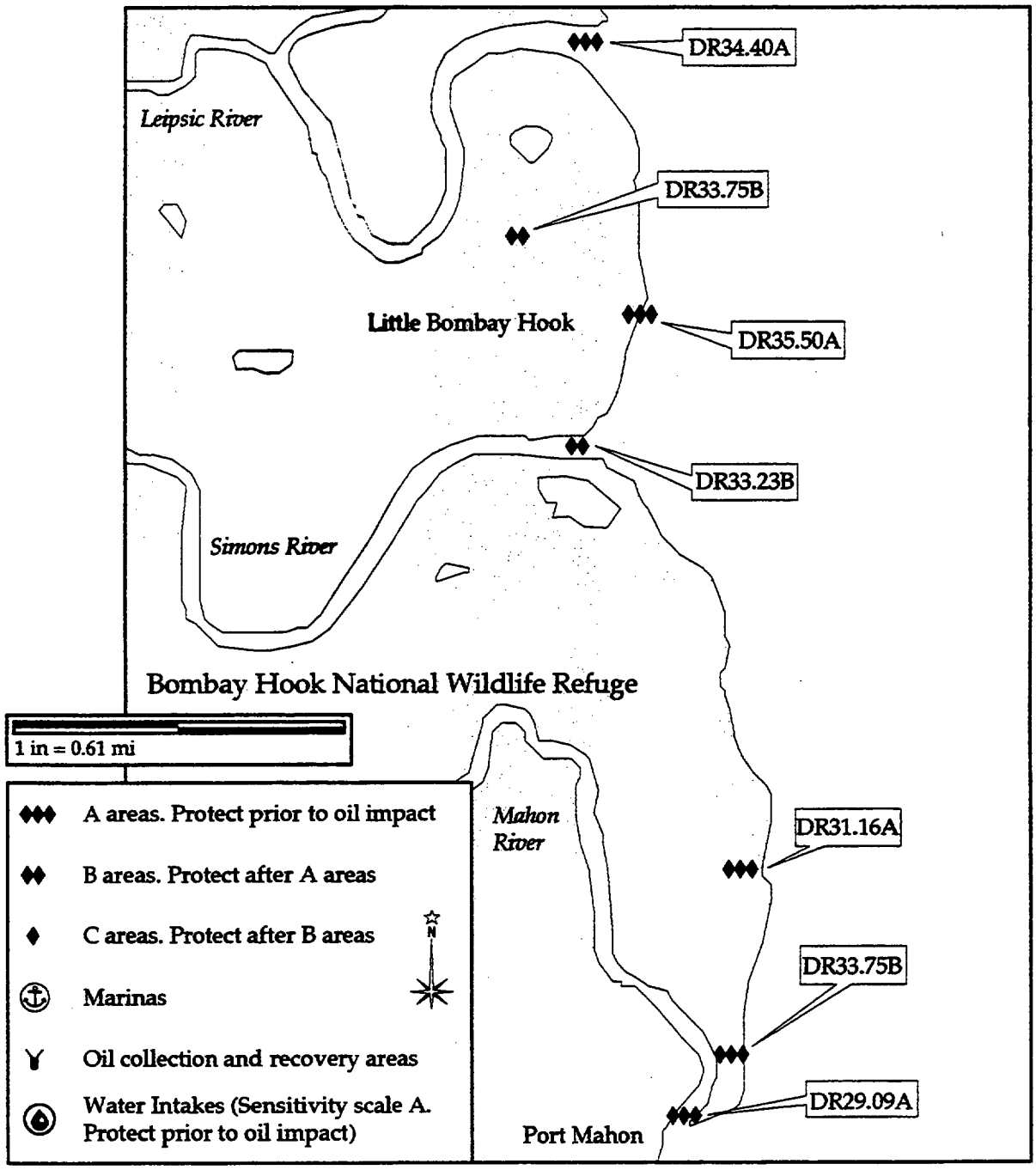

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[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR27.80 Map No. 12 Name Little River

USGS Quad Little Creek, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 12 Lat. 39°09'53" N Long. 075°24'30" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: About 2 miles south of Mahon River.

PHYSICAL DESCRIPTION: Tidal river and wetlands.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Numerous species, waterfowl and shorebirds f,w,, and sp. Wading birds all seasons; gulls and terns sp,su, and f. River otters and muskrats also present.

HABITAT: Tidal creeks, irregularly and regularly flooded marshes, flats, and ponds; some tidal scrub-shrub wetlands.

THREATENED/ ENDANGERED:

OTHER: *Large concentrations of horseshoe crabs and shorebirds early May to mid June. See map at end of appendix

RESPONSE CONSIDERATIONS

Ownership: Delaware Div. Fish & Wildlife

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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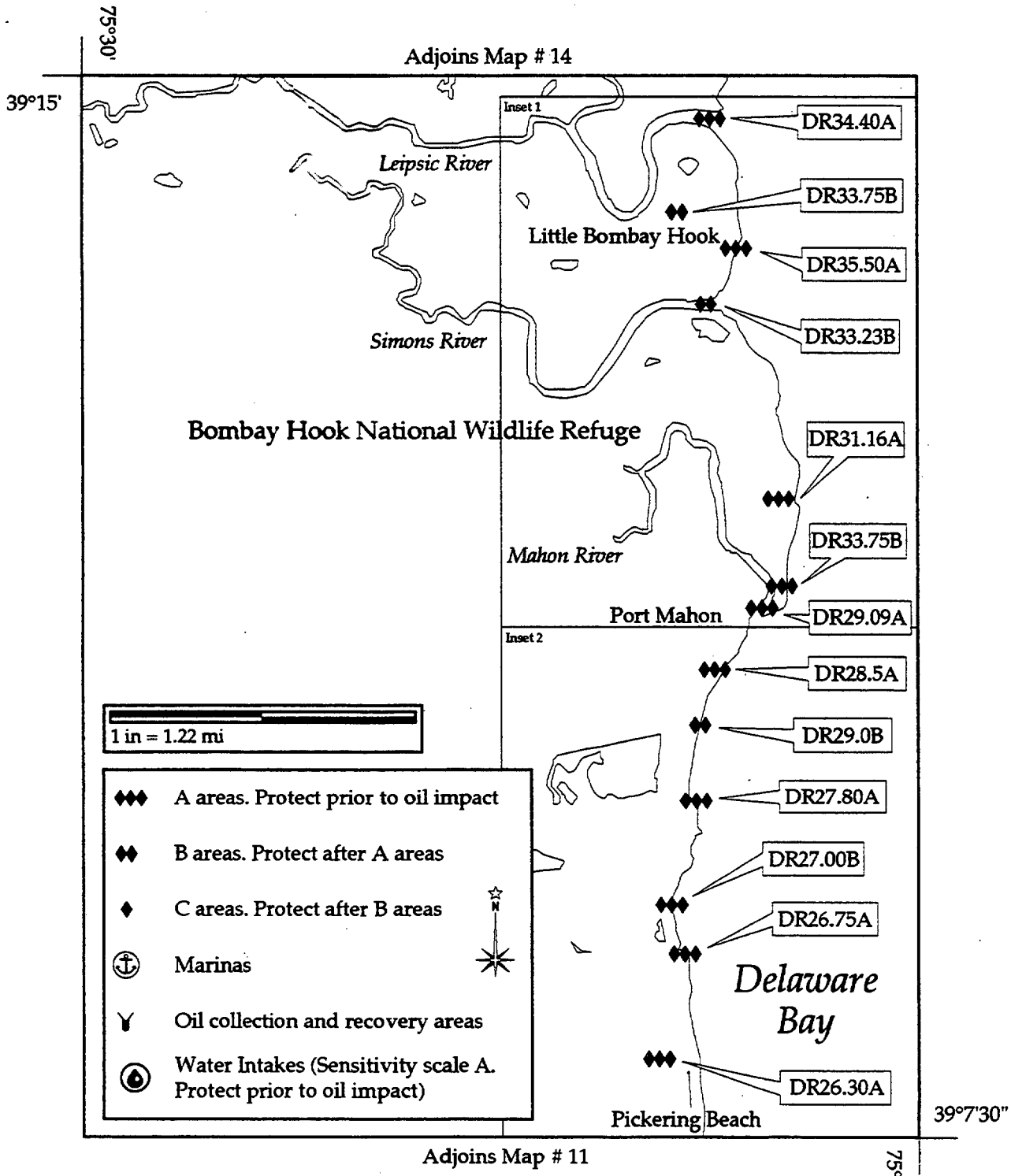

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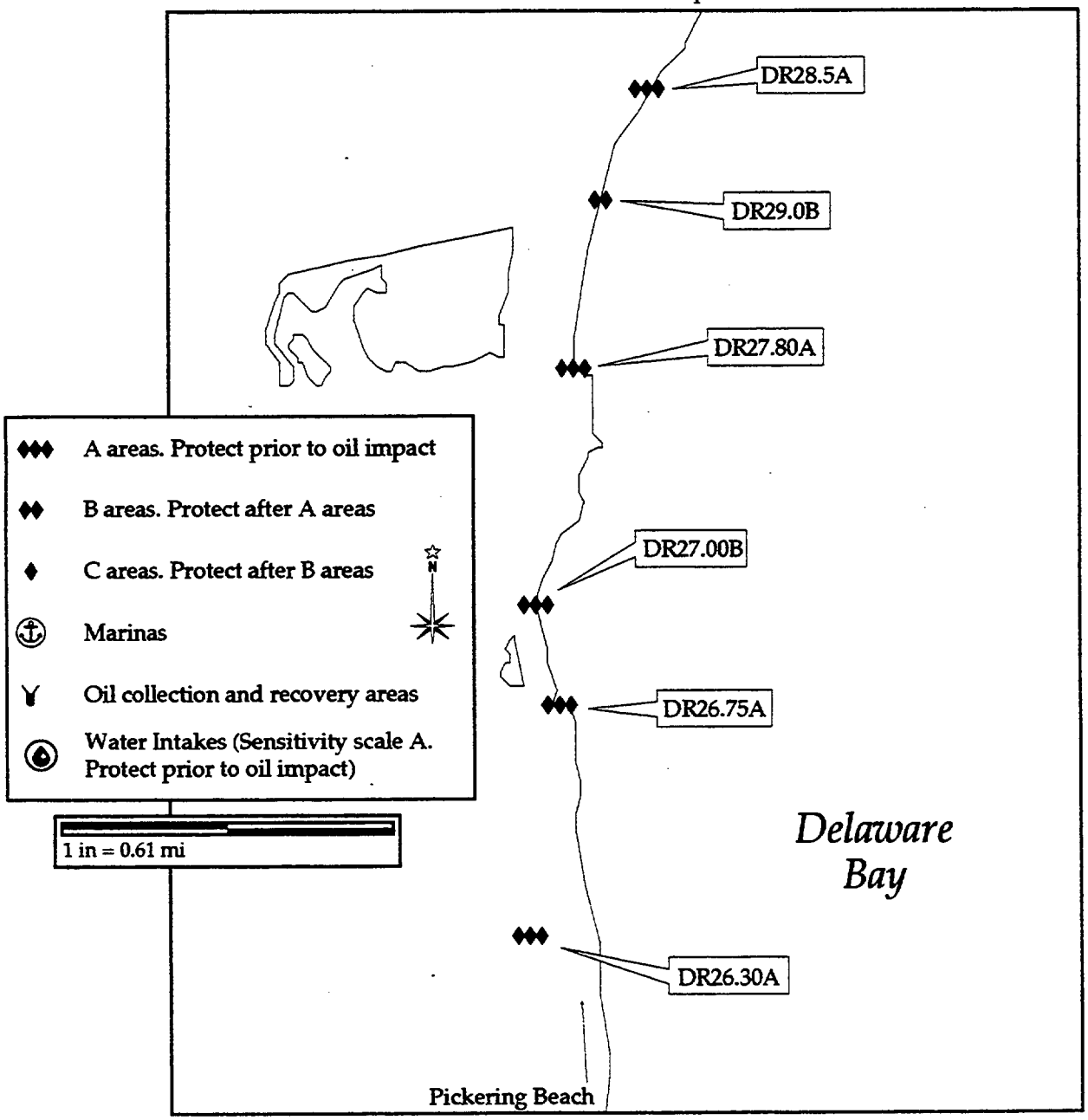

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M

[B] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR33.23 Map No. 12 Name Simons River

USGS Quad Little Creek, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 12 Lat. 39°13'30" N Long. 075° 24'30" W

Agency/Contact

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: 1.17 linear mile Tidal Range: 6 ft Max Currents: 3 kts

GEOGRAPHIC LOCATION: Western side of Bay, southern end of Kent Island.

PHYSICAL DESCRIPTION: Marsh dominated shoreline, some tidal flats and creeks.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Oyster beds near and inside mouth. Numerous species of waterfowl in f,w,sp, and some breeding in summer including black duck. Wading birds, gulls, and terns all seasons, including large numbers of glossy ibis in spring. Shore birds

HABITAT: Marshes, tidal creeks and ponds, and some tidal flats.

THREATENED/ ENDANGERED: Peregrine falcons in spring and fall. Bald ealges in spring, summer, and fall.

OTHER: Large concentrations of shore birds in spring, oyster beds inside mouth and just offshore. Dowitchers in late summer/early fall. See shorebird map at end of appendix.

RESPONSE CONSIDERATIONS

Ownership: U.S. Fish and Wildlife Service

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS: Boat ramps at Port Mahon, Whitehall landing (at Bombay Hook), and Woodland Beach.

COLLECTION POINTS:

OTHER: State has jurisdiction below mean high tide along bay front. Tidal currents are a factor.

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover Minimum Boom Length: 600 ft

Scenario 1 - Use an Inland boom with 200ft shore swal boom and 1300ft curtain boom, using 2 anchors, 2 shore attachments, 1 work boat and 1 small boat to deflect oil outside of mouth.
Scenario 2 - Use a 600ft inland curtain boom with 2 attachments and 1 small boat to deflect oul where mouth becomes narrow, inside the cove.

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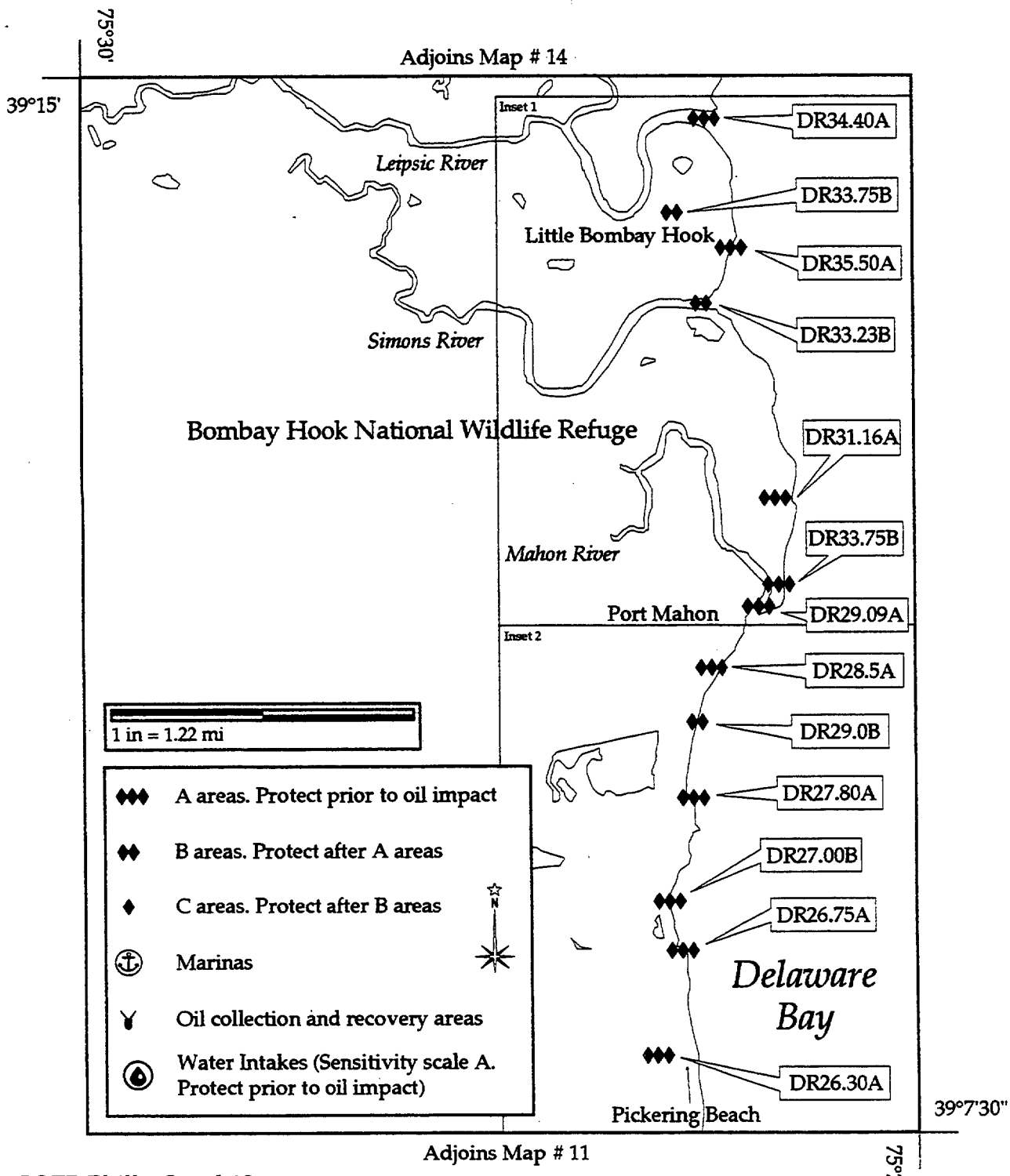

COTP Philly Quad 12

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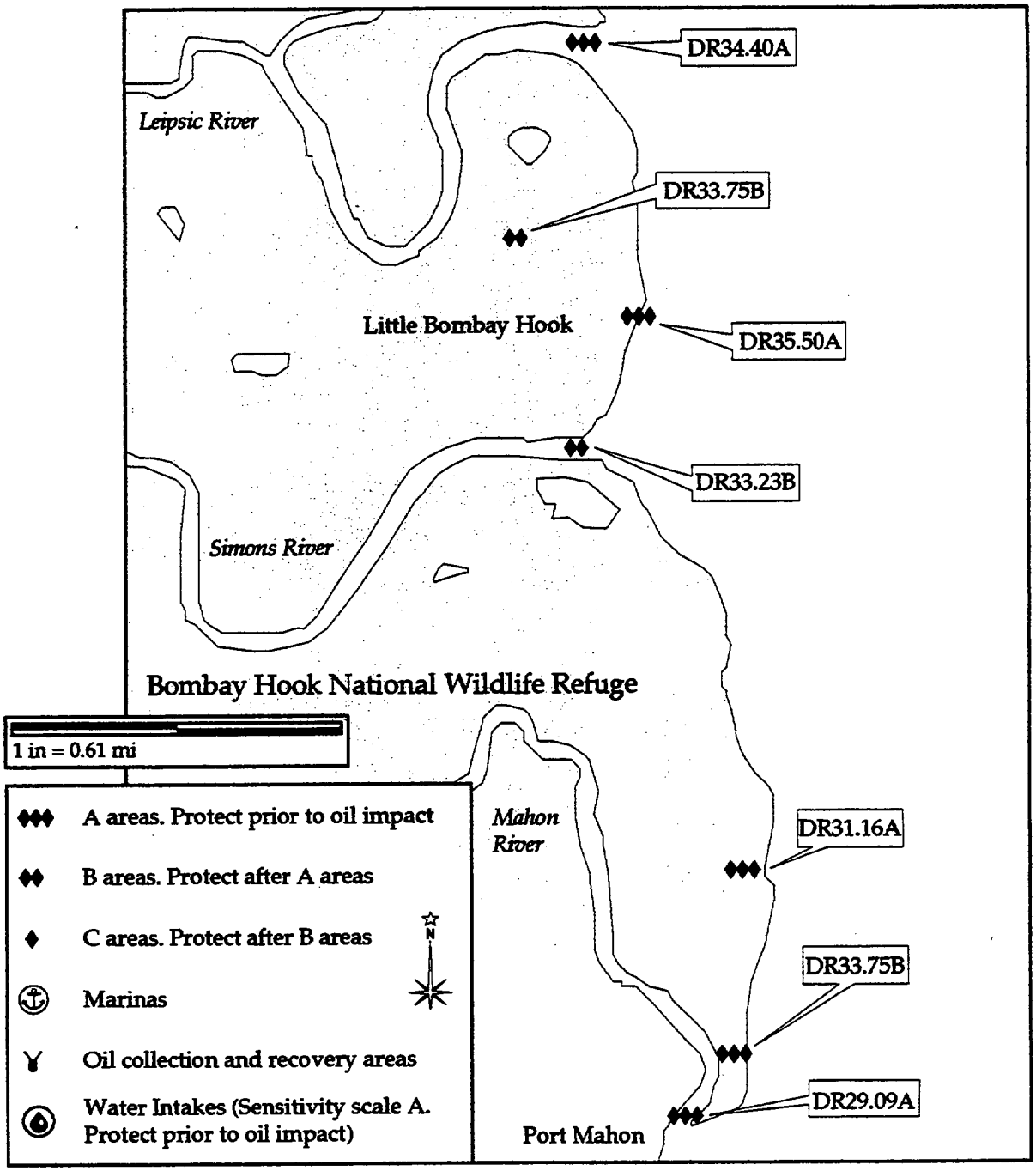

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M

A PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR26.30 Map No. 12 Name Lewes Ditch

USGS Quad Little Creek, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 12 Lat. 39°08'04" N Long. 075°24'48" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: 5.1 ft Max Currents: kts

GEOGRAPHIC LOCATION: Southern end of Pickerion Beach, 2 miles south of Little River.

PHYSICAL DESCRIPTION: Tidal gut, tidal marshes, flats and ponds.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Numerous species, waterfowl and shorebirds f,w, and sp/ Wading birds all seasons; gulls and terns sp, su, and f. River otters and muskrats also present.

HABITAT: Tidal creeks, irregularly and regularly flooded marshes, flats, and ponds; some tidal scrub-shrub wetlands.

THREATENED/ ENDANGERED:

OTHER: Large concentrations of horseshoe crabs and shorebirds early May to mid June. See map at end of appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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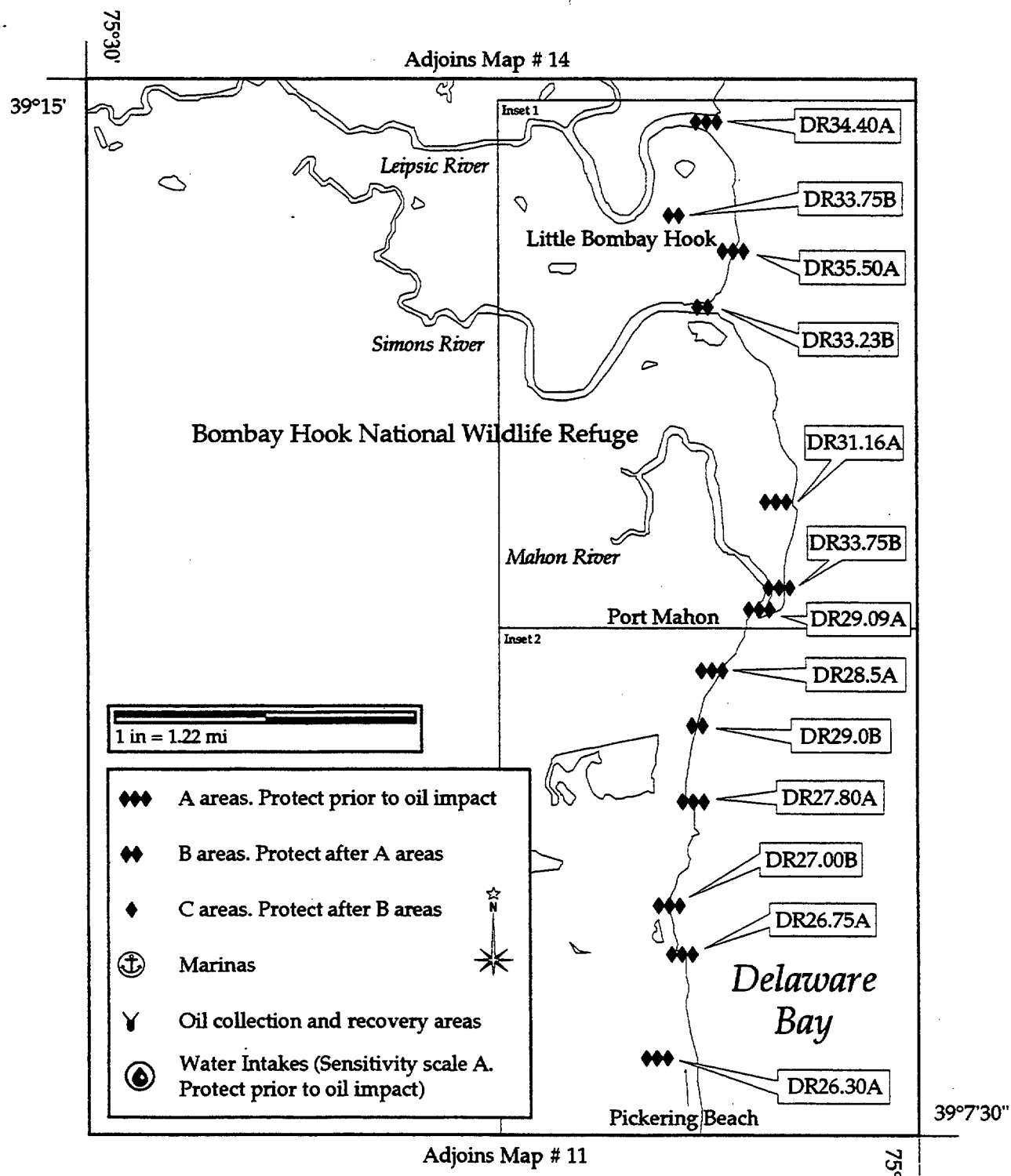

COTP Philly Quad 12

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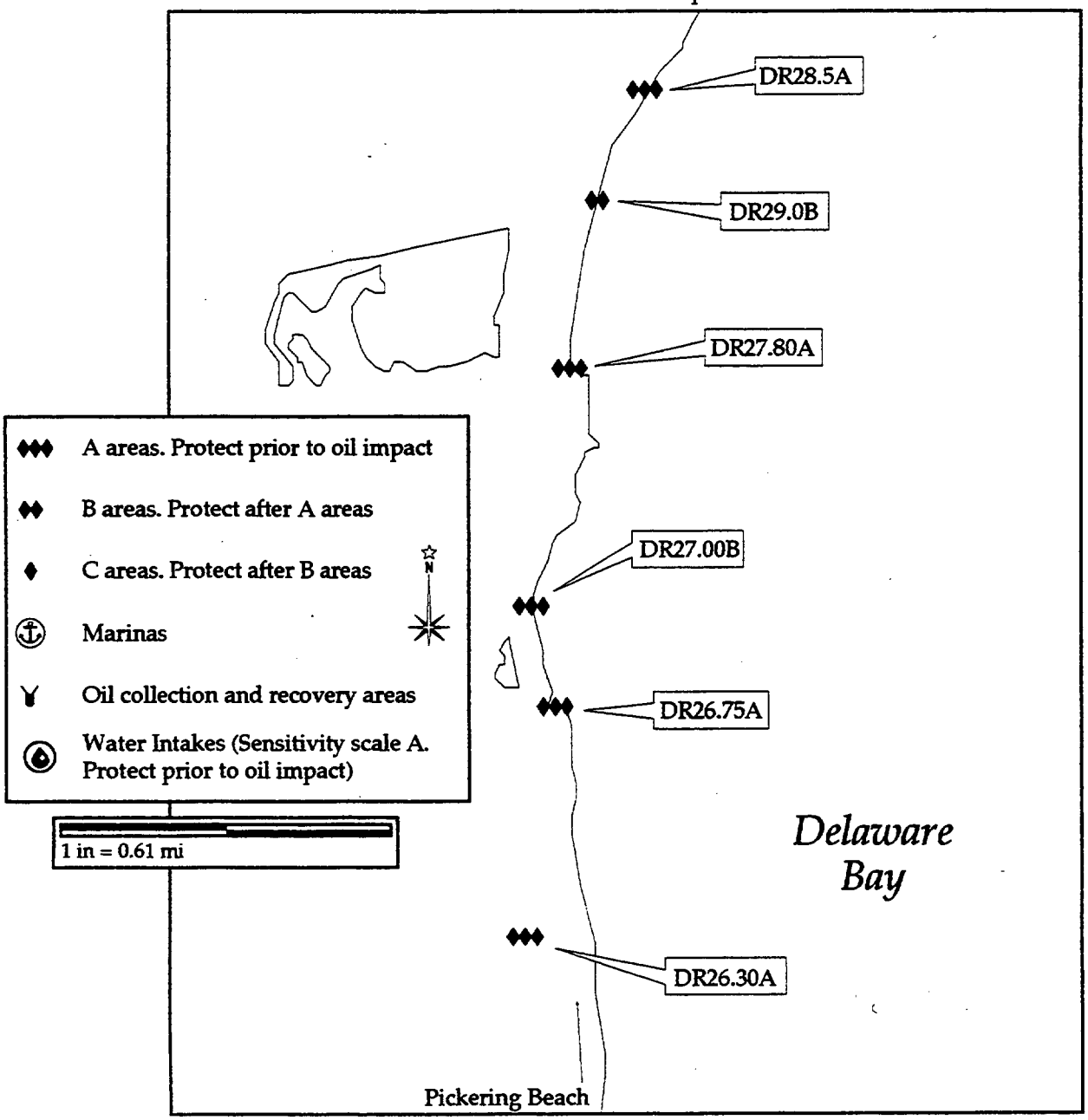

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M

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR28.5 Map No. 12 Name BEACH FM MAHON RV S. TO LITTLE RV

USGS Quad Little Creek, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 12 Lat. 39°10'20" N Long. 075°24'51" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: Shoreline section extending from the Mahon River mouth south to the Little River, about 2 miles.

PHYSICAL DESCRIPTION: Comprised of marshes, riprap, mixed sand and gravel beaches and mud flats.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: World's largest population of horseshoe crabs and second largest population of migration shorebirds in western hemisphere use this and other sites during early May and mid June.

HABITAT: 2 mile section of shoreline comprision marshes, riprap, sand and gravel beaches and tidal flats.

THREATENED/ ENDANGERED:

OTHER: *Large concentrations of shorebirds and horseshoe crabs - early May to mid June. See map at end of this appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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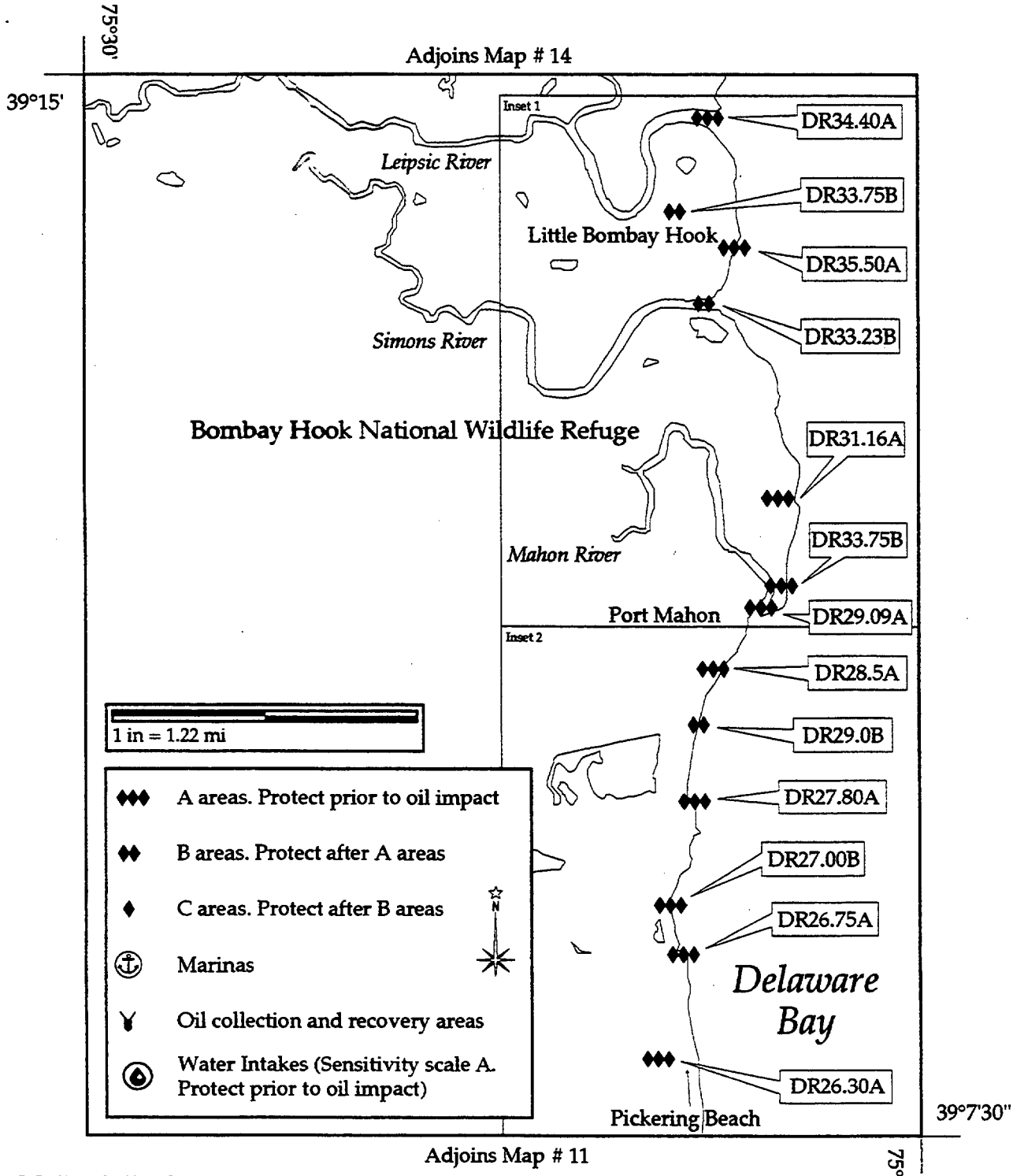

COTP Philly Quad 12

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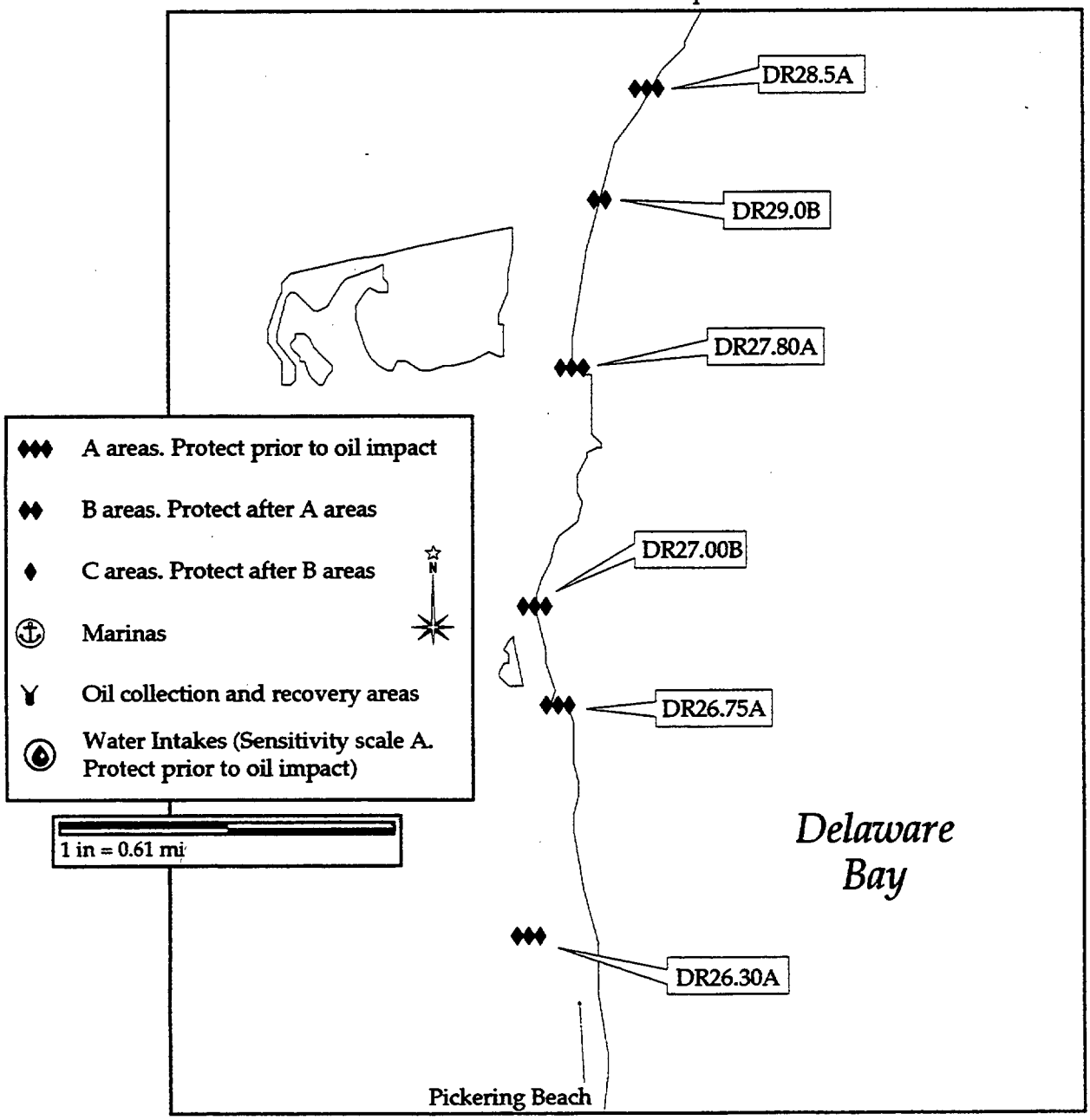

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M

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR29.0 Map No. 12 Name AUDUBON GUT

USGS Quad Little Creek, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 12 Lat. 39°10'45" N Long. 075° 24'48" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: At curve on Port Mahon Road, about one mile south of Mahon River mouth.

PHYSICAL DESCRIPTION: Tidal gut and wetlands that could be impacted by very hightides.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Wading birds all seasons, numerous waterfowl and shorebirds f,w, and sp; gulls and terns sp,su, and f.

HABITAT: Regularly flooded and irregularly flooded tidal marshes, flats, and ponds.

THREATENED/ ENDANGERED:

OTHER: Numerous shorebirds and horseshoe crabs in sp.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover Minimum Boom Length: ft

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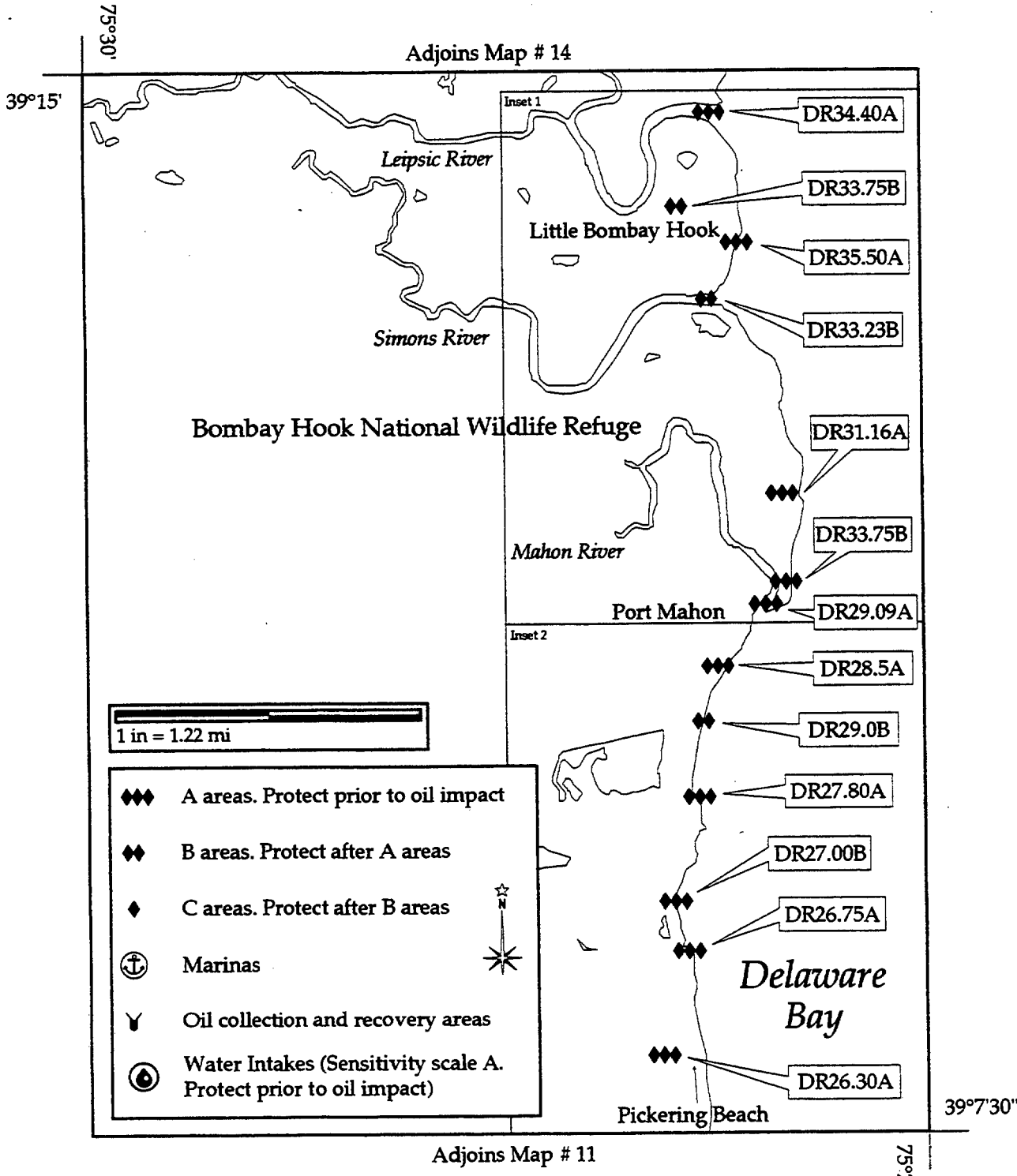

COTP Philly Quad 12

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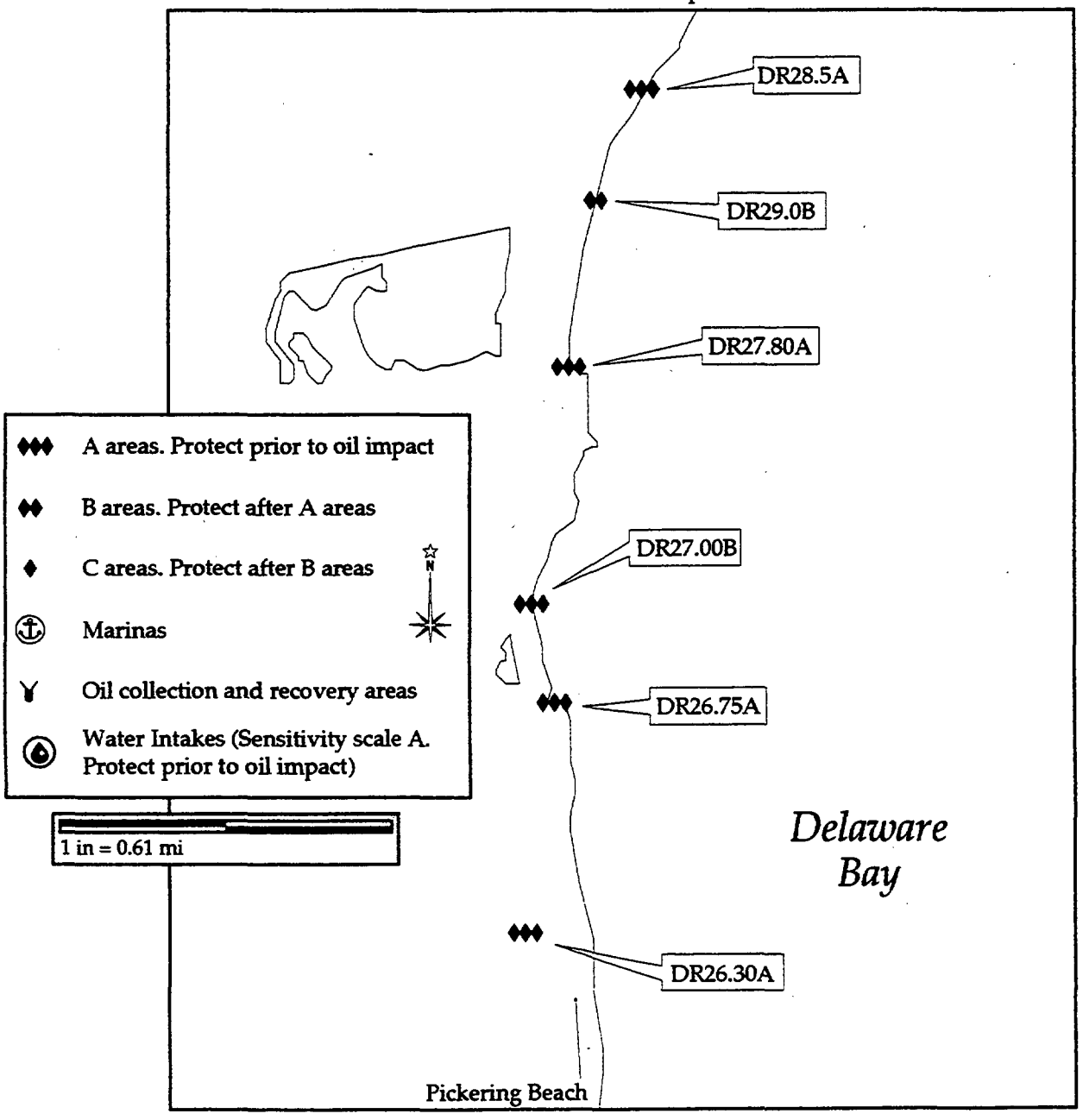

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A PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR26.75 Map No. 12 Name PICKERING BEACH & ADJ SHORELINE

USGS Quad Little Creek, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 12 Lat. 39°08'58" N Long. 075°24'51" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION Area: Tidal Range: 5.1 ft Max Currents: kts

GEOGRAPHIC LOCATION: From Little River south, along Pickering Beach to just south of Lewis Ditch.

PHYSICAL DESCRIPTION: Comprising marshes, sand, and gravel beaches and tidal flats.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: World's largest population of horseshoe crabs and second largest population of migration shorebirds in western hemisphere use this and other sites during early May and mid June.

HABITAT: 2 mile section of shoreline comprising marshes, riprap, sand, and gravel beaches and tidal flats.

THREATENED/ ENDANGERED:

OTHER: Large concentrations of shorebirds and horseshoe crabs, early May to mid June. See map at end of of this appendix.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover Minimum Boom Length: ft

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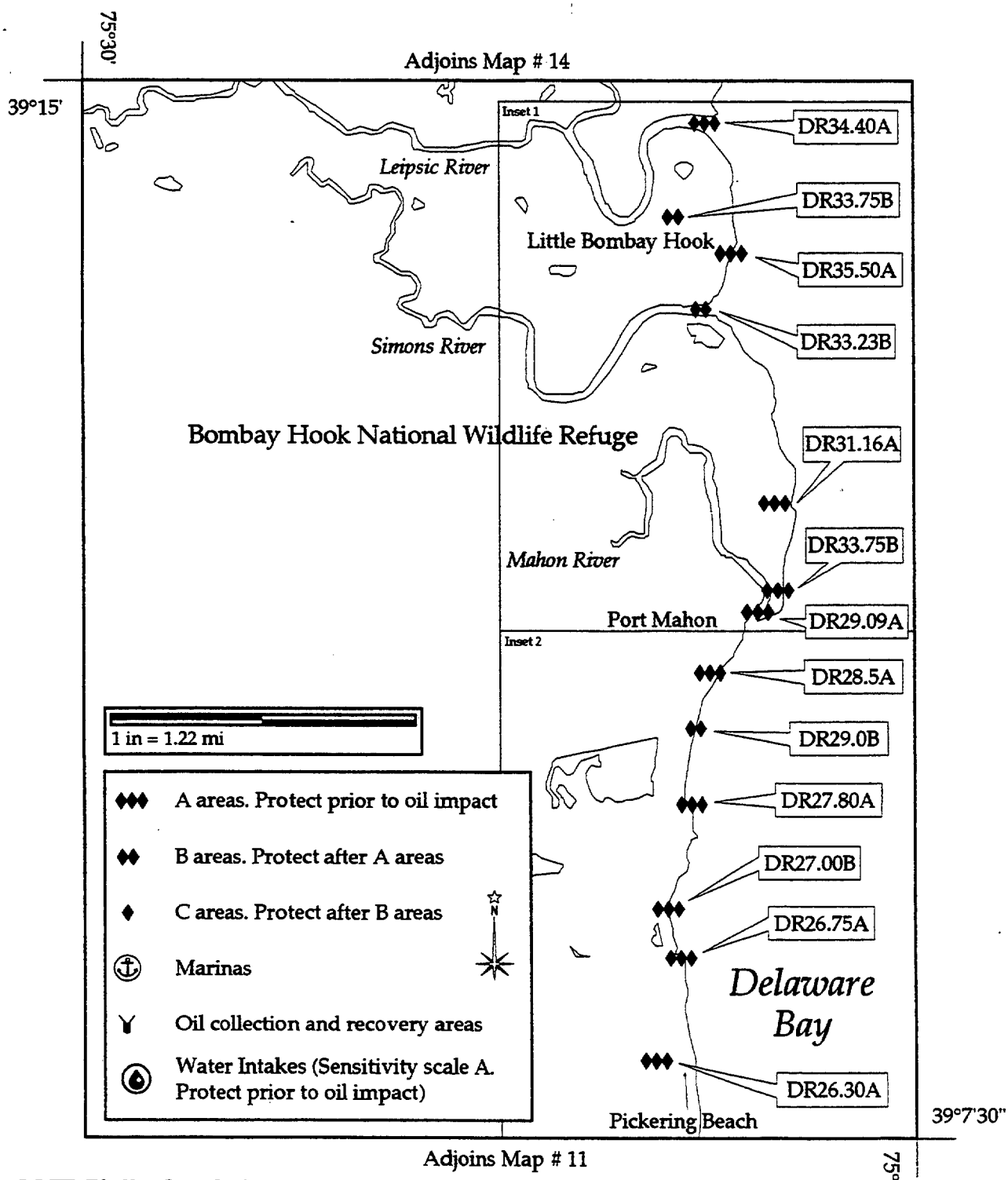

COTP Philly Quad 12

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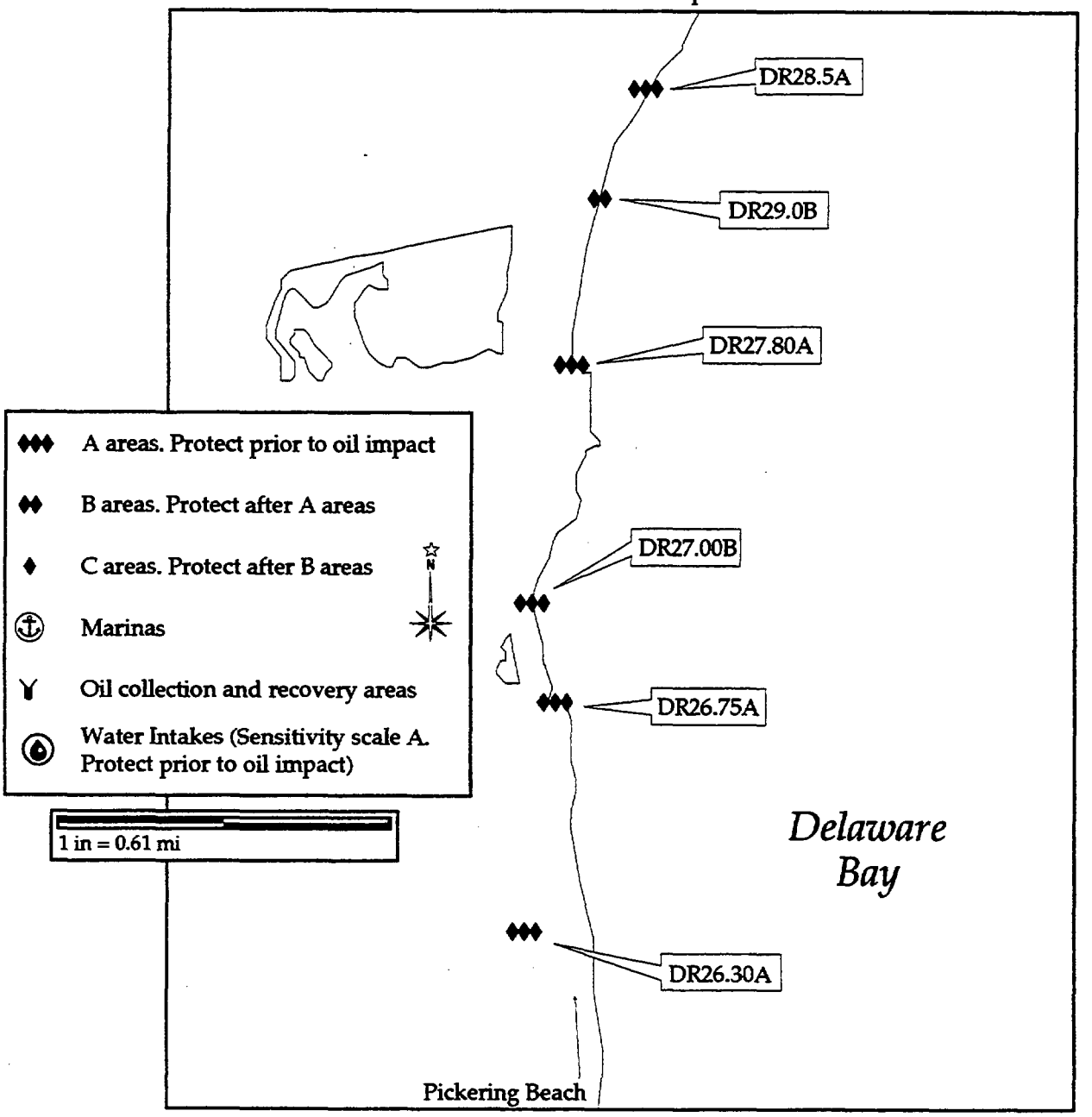

Quad 12 inset 2

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[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR44.56 Map No. 13 Name SMYRNA RIVER

USGS Quad Smyrna, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 13 Lat. 39°21'56" N Long. 075°30'47" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: 5.9 ft Max Currents: kts

GEOGRAPHIC LOCATION: About 1.75 miles south of Cader Swamp inlet, about one mile south of Delaware Point, just north of Woodland Beach Wildlife Area.

PHYSICAL DESCRIPTION: Jetties on either side of mouth, extensive marshes inside mouth, large tidal flats outside jetties.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [ ] Su [ ] F [ ] W [ ]

WILDLIFE: Numerous waterfowl and shorebirds species f,w, and sp. Raptors, gulls and terns sp, su , and f. Wading birds all seasons. Riverine/anadromous fish spawning at mouth sp and su, numerous other fish and oysters just outside mouth north of jetties. River otters and muskrats also present.

HABITAT: Large tidal flats outside jetties, extensive irregularly flooded marshes inside mouth, some regularly flooded marshes, and tidal ponds and flats inside mouth.

THREATENED/ ENDANGERED: Bald eagles and peregrine falcons sp,su, and f.

OTHER: Wading birds, shorebirds , gulls and terns using tidal flats outside of jetties.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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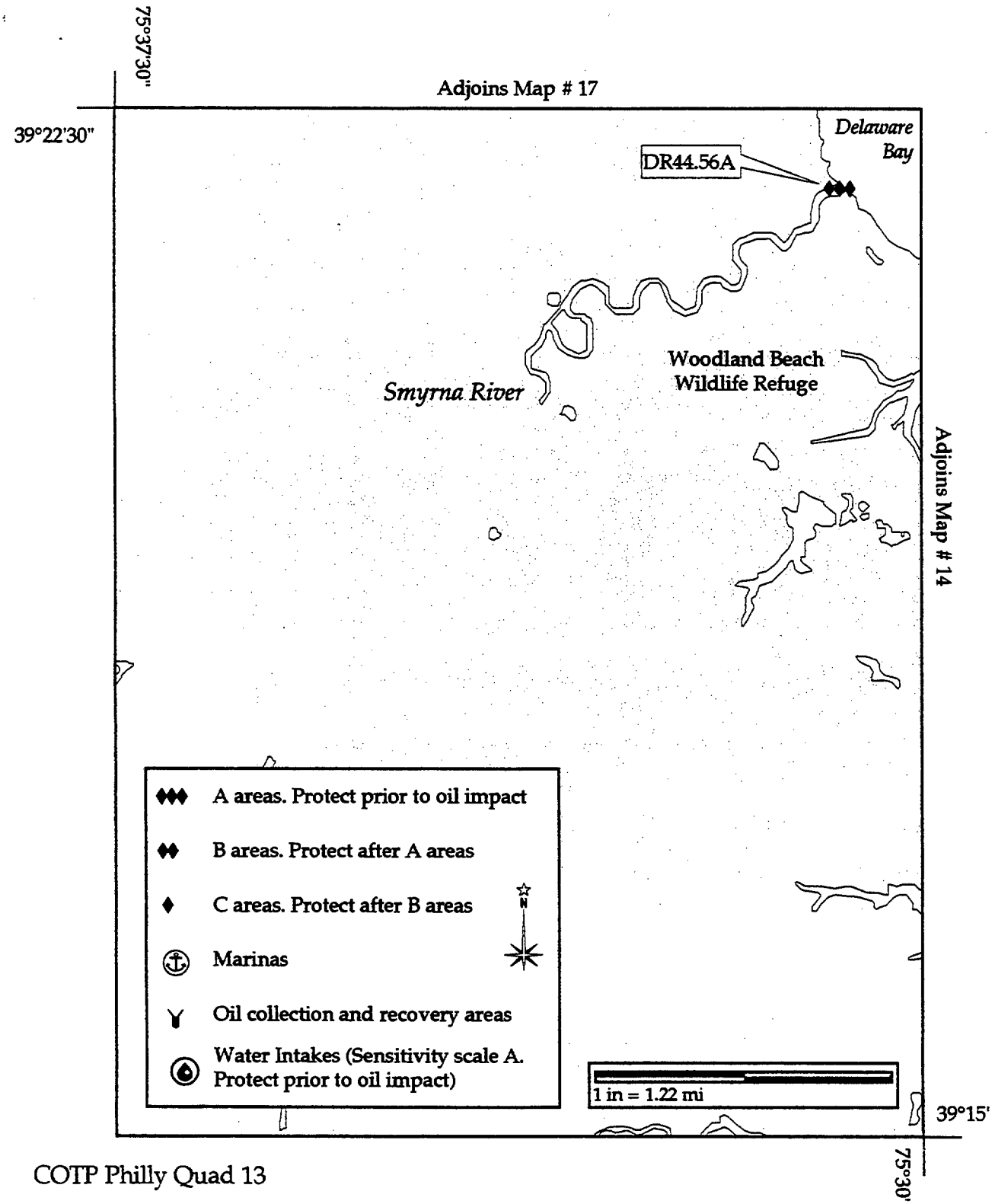

COTP Philly Quad 13

9/23/98 3:02 PM

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR39.00 Map No. 14 Name WOODLAND BEACH /FRALAND BEACH

USGS Quad Bombay Hook,DE-NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 14 Lat. 39°18'48" N Long. 075°26'33" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION Area: Tidal Range: 5.9 ft Max Currents: kts

GEOGRAPHIC LOCATION: From Woodland Beach southeast through Fraland Cove, along Fraland Beach, south to Sluice Ditch, about 3 miles.

PHYSICAL DESCRIPTION: Beach section comprised of mostly mixed sand and gravel with some tidal flats included

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Large concentrations of shorebirds and sone horseshoe crabs from early May to mid June. *See maps at end of this appendix.

HABITAT: Mixed sand and gravel beaches and tidal flats.

THREATENED/ ENDANGERED:

OTHER: Shorebirds concentrations represent 2nd largest concentration of migrating shorebirds in western hemisphere in early May to Mid-June. See maps at the end of the appendix.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover Minimum Boom Length: ft

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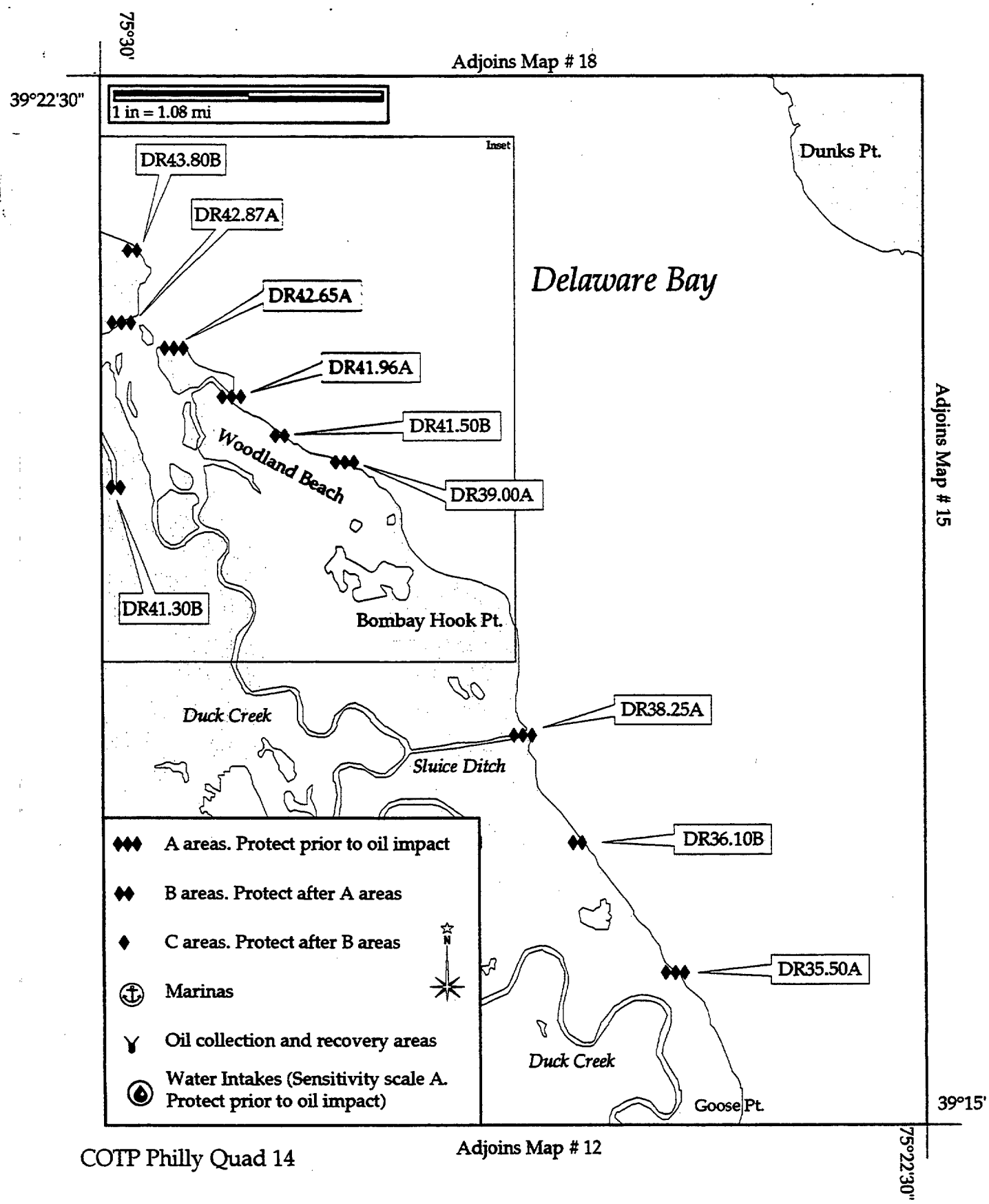

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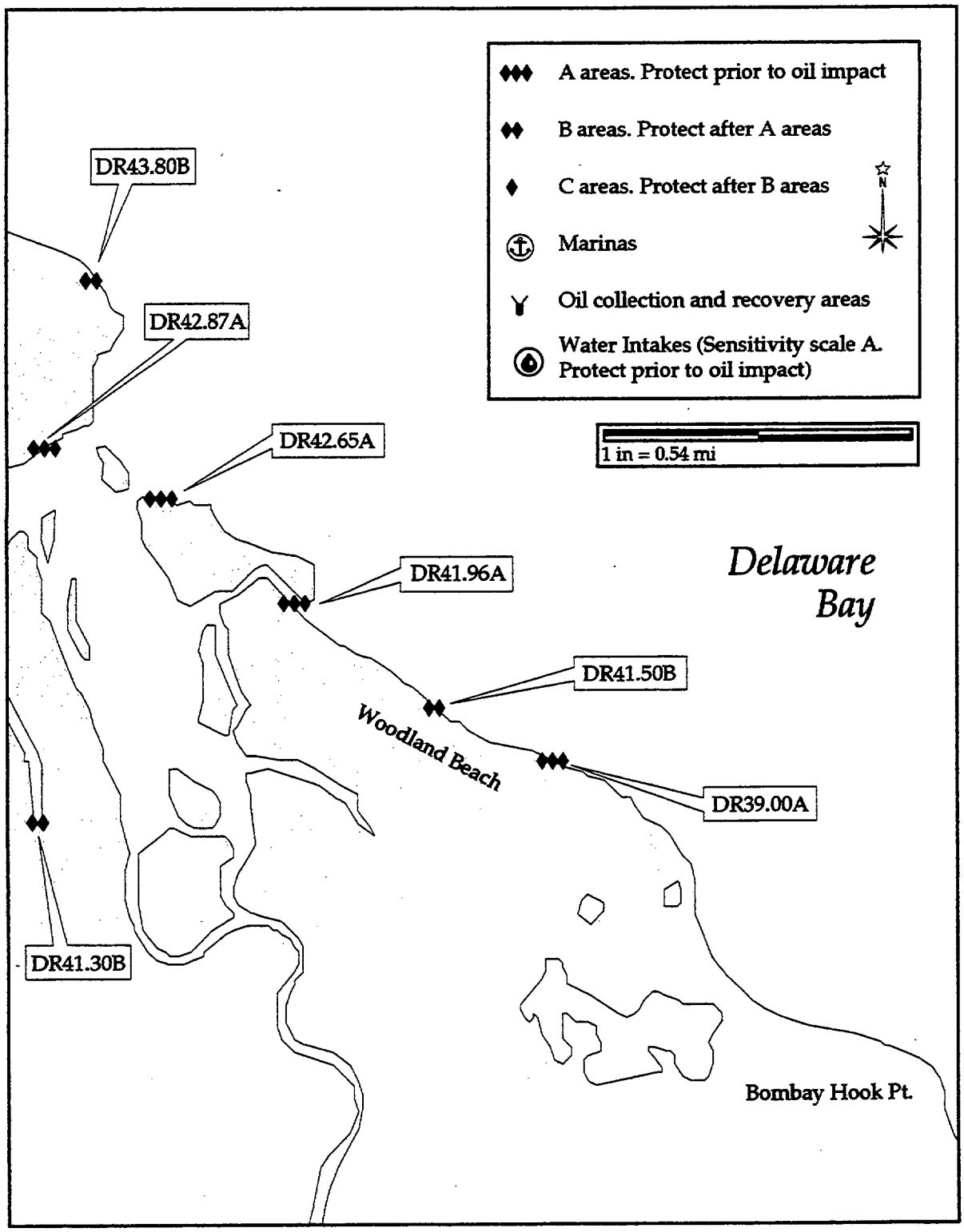

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[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR38.25 Map No. 14 Name Sluice Ditch

USGS Quad Bombay Hook, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 14 Lat. 39°17'52" N Long. 075°26'02" W

Agency/Contact

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: approx 100' Tidal Range: 6 ft Max Currents: 3 kts

GEOGRAPHIC LOCATION: Western side of Bay, one mile south of Bombay Hook Point.

PHYSICAL DESCRIPTION: Mouth of tidal ditch surrounded by marsh, tidal flats.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Numerous species of waterfowl in f,w,sp, and some breeding species in summer including black duck. Wading birds, gulls, and terns all seasons, including large numbers of glossy ibis in spring. Shore birds all seasons, with heavy concentrations in spring. Large numbers of dowitchers in late summer/early fall.

HABITAT: Marshes, tidal creeks, sand, and gravel beaches, sheltered tidal flats, and a sand bar extending from shore just south of ditch which is used by numerous species of birds.

THREATENED/ ENDANGERED: Peregrine falcons in spring and fall. Bald eagles in spring, summer, and fall.

OTHER: Large concentrations of shore birds in sping. Sand bar just south of Sluice Ditch supports numerous water birds. See shorebird map at end of appendix.

RESPONSE CONSIDERATIONS

Ownership: U.S.F.&W SERVICE owns property on s. side

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS: Boat ramps at Port Mahon, Whitehall landing (Bombay Hook), and Woodland Beach.

COLLECTION POINTS:

OTHER: William Dupont owns n. side of ditch. State has jurisd. below mean high tide along bay front.

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [X]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover Minimum Boom Length: 300 ft

Scenario 1 - Use a 300ft shore seal inland boom to deflect. This will also require 2 shore line attachments and a work boat.

Scenario 2 - Use a 300ft inland curtainment boom, with 2 attachments and 1 small boat.

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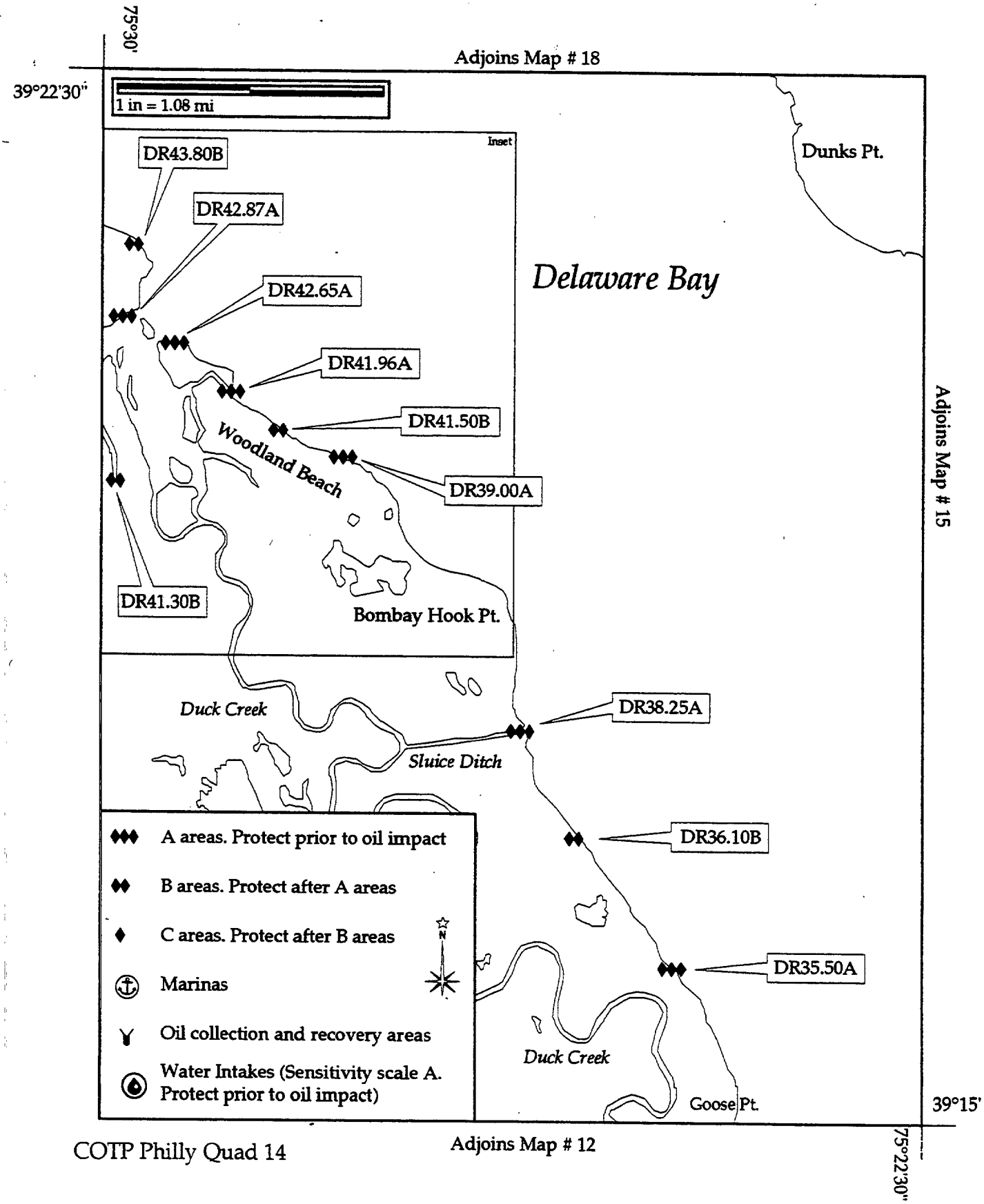

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR35.50 Map No. 14 Name Hay Ditch

USGS Quad Bombay Hook, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 14 Lat. 39°16'12" N Long. 075°24'43" W

Agency/Contact

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: 6 ft Max Currents: 3 kts

GEOGRAPHIC LOCATION: Western side of Bay, south of Bombay Hook Point and Sluice Ditch, north of Goose Point.

PHYSICAL DESCRIPTION: Tidal Creek with surrounding marshes, beaches, tidal flats, and ponds.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Diamond back terrapins use Hay Ditch heavily. Numerous species of waterfowl in f,w,sp , and some breeding in summer including black duck. Wading birds, gulls and terns all seasons, including glossy ibis in spring. Shore birds all seasons, with heavy concentrations in spring.

HABITAT: Marshes, tidal flats, sand and gravel beaches, tidal creeks and ponds,

THREATENED/ ENDANGERED: Peregrine falcons in spring and fall. Bald eagles in spring, summer, and fall.

OTHER: Heavy use by Diamond Back Terrapins. Large concentrations of shore birds in spring. Dowitcher concentrations in late summer/early fall. See shorebird map at end of appendix.

RESPONSE CONSIDERATIONS

Ownership: U.S. Fish & Wildlife Service

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS: Boat ramps at Whitehall landing (on Bombay Hook), Port Mahon and Woodland Beach.

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [X] Protect [ ] Recover Minimum Boom Length: ft

Keep oil out of Hay Ditch.

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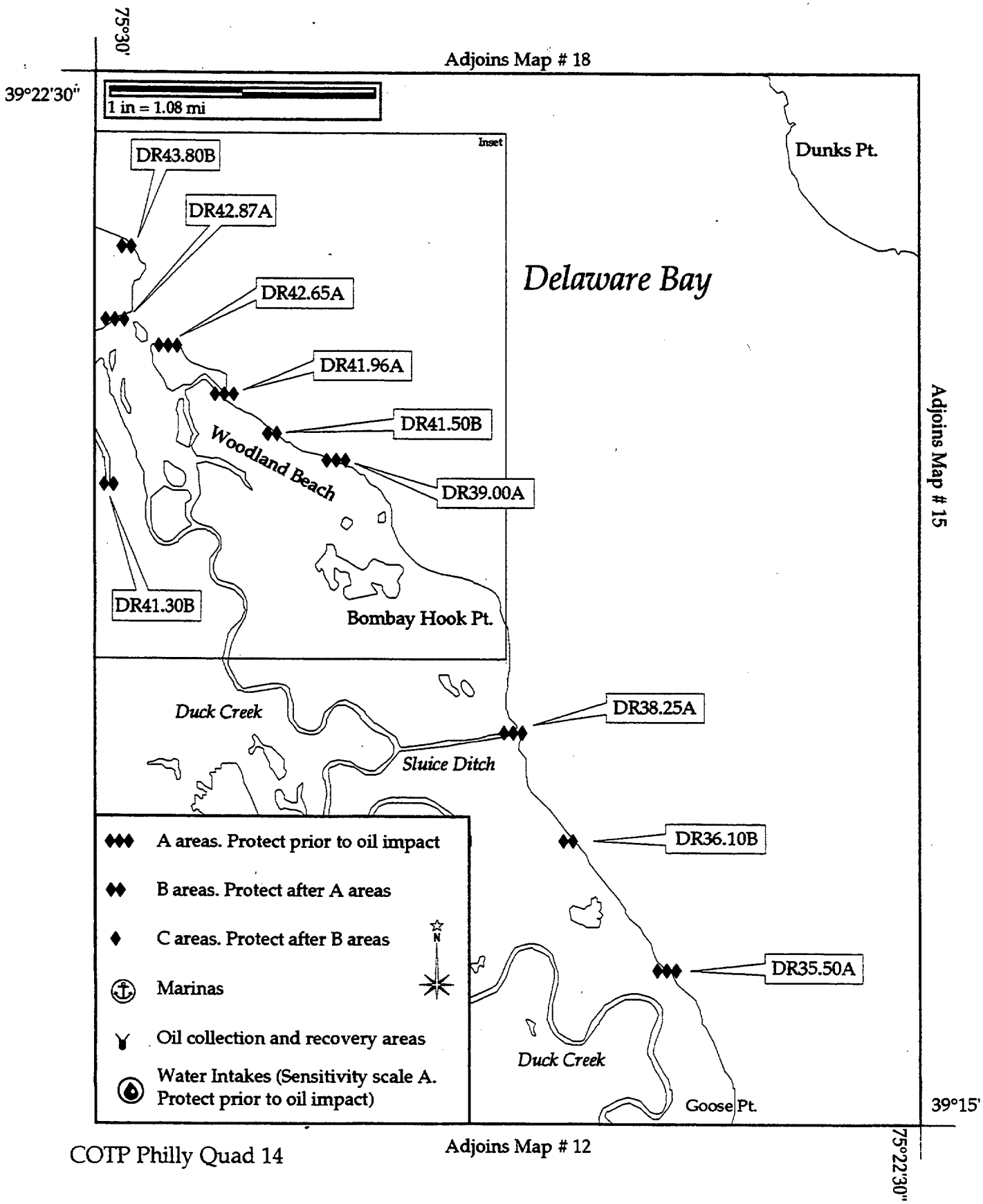

COTP Philly Quad 14

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR41.30 Map No. 14 Name WOODLAND BEACH-SOUTH GUT

USGS Quad Bombay Hook, DE-NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 14 Lat. 39°19'37" N Long. 075°29'45" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: 5.9 ft Max Currents: kts

GEOGRAPHIC LOCATION: Second gut southeast of boat ramp at Woodland Beach

PHYSICAL DESCRIPTION: Small tidal gut, mixed sand and gravel beaches around mouth, regularly and irregularly flooded wetlands.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Waterfowl and wading birds all seasons. Shorebirds f,w,and sp. Raptors, gulls, and terns sp,su, and f.

HABITAT: Tidal creek with mixed sand and gravel beaches around mouth. Irregularly and regularly flooded tidal marshes, flats, and ponds.

THREATENED/ ENDANGERED: Bald eagles sp,su, and f. Peregrine falcons sp and f.

OTHER: Large shorebirds concentrations during sp. (see maps in back of this appendix)*

RESPONSE CONSIDERATIONS

Ownership: Delaware Div of Fish & Wildlife

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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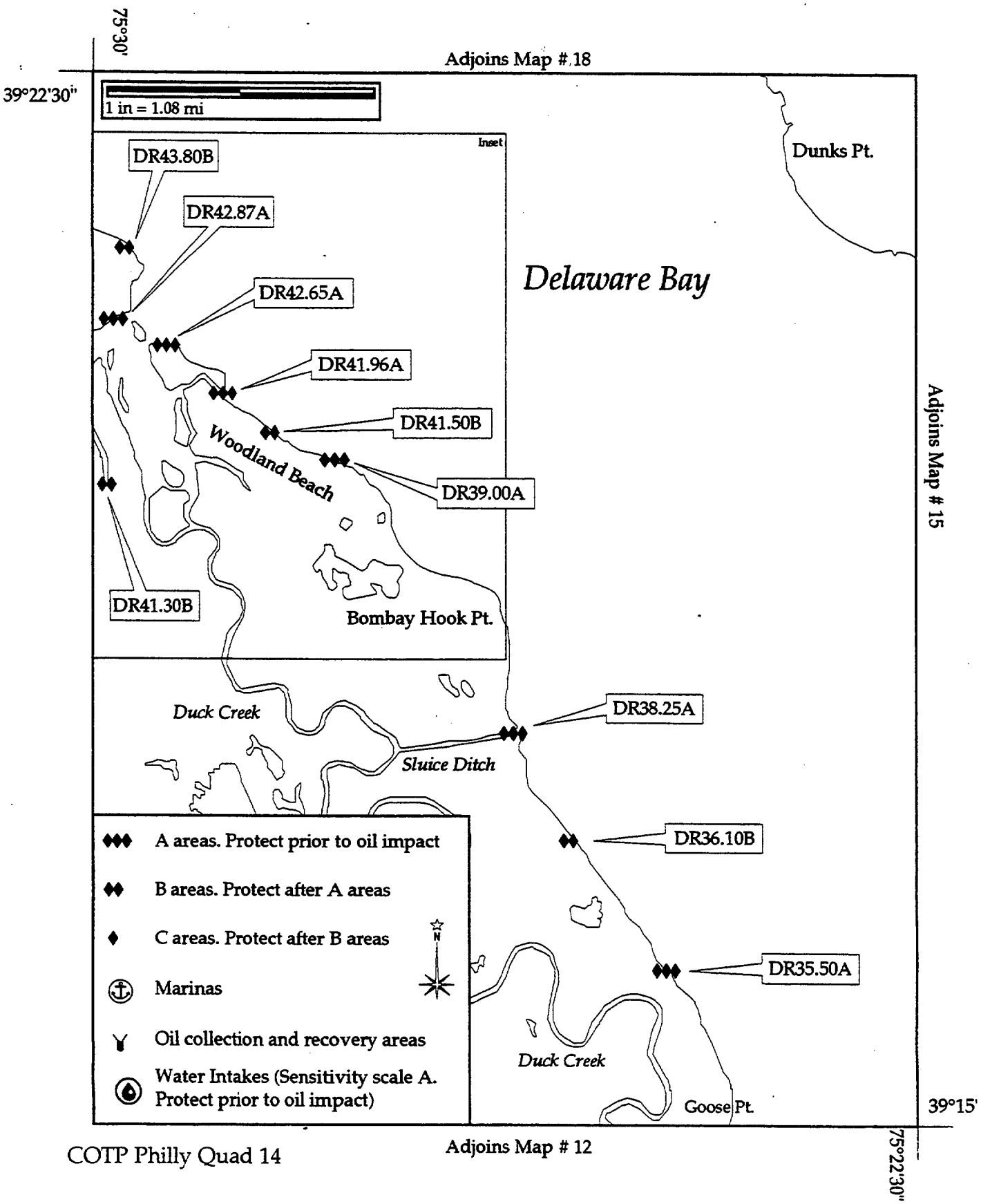

COTP Philly Quad 14

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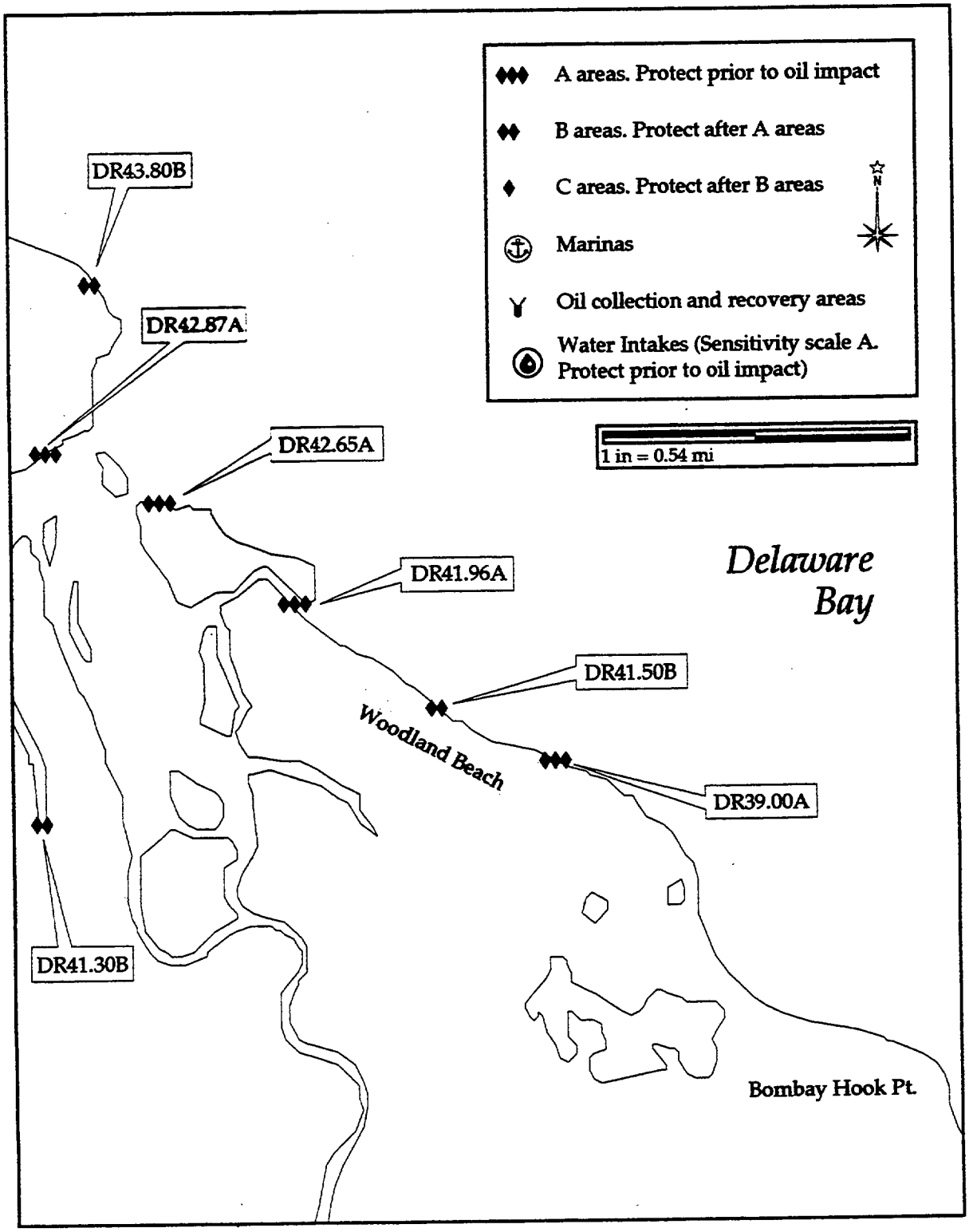

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B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR36.10 Map No. 14 Name Bombay Hook Island

USGS Quad Bombay Hook, DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 14 Lat. 39°16'58" N Long. 075°25'43" W

Agency/Contact

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

U.S. Fish & Wildlife Service, Prime Hook National Wildlife Refuge (302) 684-8419

SITE DESCRIPTION

Area: 3.85 linear miles Tidal Range: 6 ft Max Currents: 3 kts

GEOGRAPHIC LOCATION: Western side of Bay, south of Bombay Hook Point.

PHYSICAL DESCRIPTION: Marshes, beaches, mud flats, and tidal creeks

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Numerous species of water fowl in f,w,sp, and some breeding in summer including black duck. Wading birds, gulls, and terns all seasons, including large numbers of glossy ibis in spring. Shore birds all seasons, with heavy concentrations in spring. Horseshoe crabs in spring.

HABITAT: Marshes, sand, and gravel beaches, tidal falts, tidal creeks, and ponds. Sand bar extending from shore just south of Sluice Ditch is used heavily by shore birds, and by waterfowl in the fall.

THREATENED/ ENDANGERED: Peregrine falcons in spring and fall. Bald eagles in spring, summer, and fall.

OTHER: Large concentrations of shore birds in spring. Large concentrations of horseshoe crabs in spring. See shorebird map at end of appendix.

RESPONSE CONSIDERATIONS

Ownership: U.S. Fish and Wildlife Service

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS: Boat ramps at Port Mahon, Whitehall landing (on Bombay Hook), and Woodland Beach.

COLLECTION POINTS:

OTHER: State has jurisdiction below mean high tide along bay front.

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [X]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover Minimum Boom Length: ____ ft

Keep oil out of marshes and tidal creeks.

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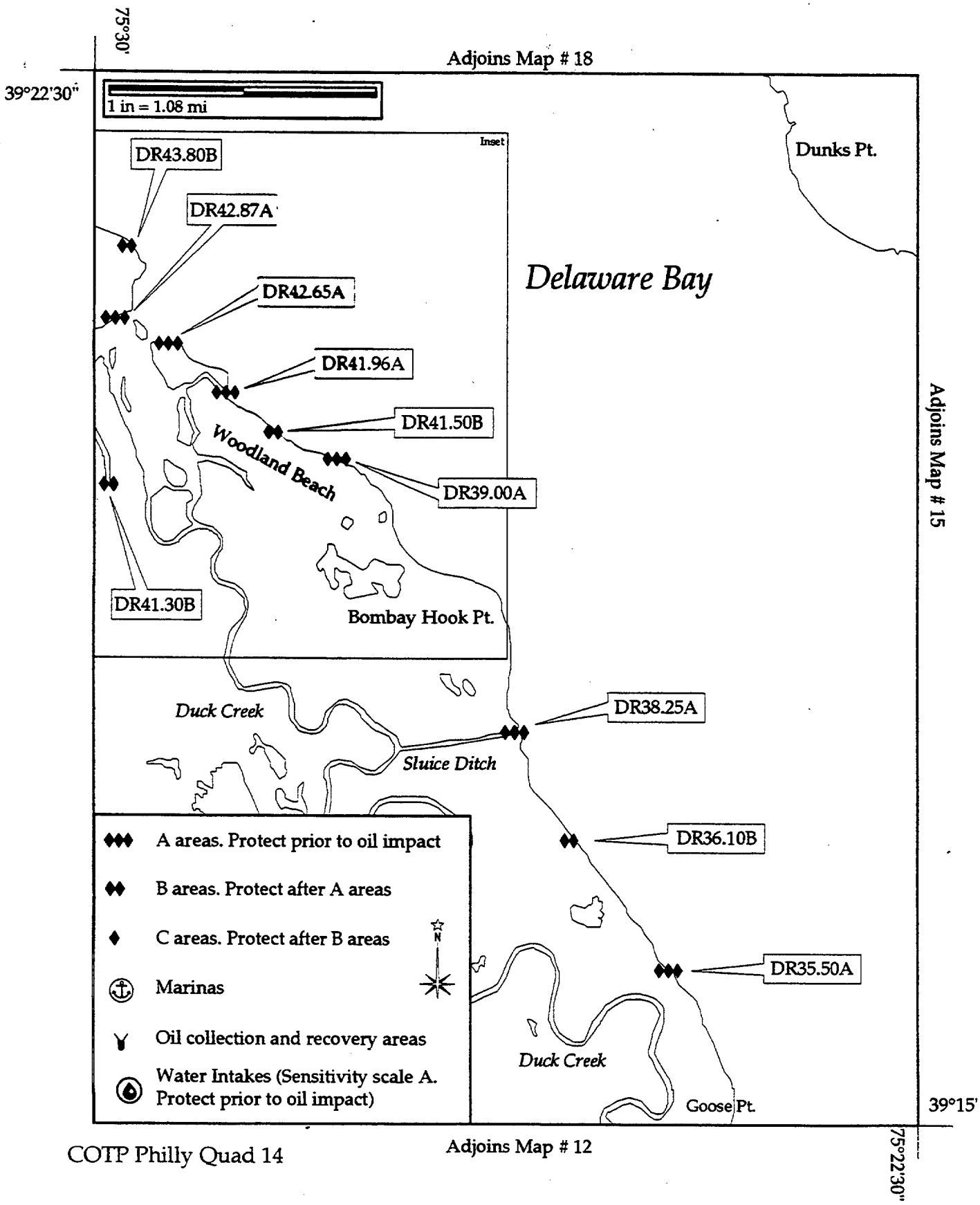

COTP Philly Quad 14

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR41.50 Map No. 14 Name WOODLAND BEACH-NORTH GUT

USGS Quad Bombay Hook, DR-NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 14 Lat. 39°19'54" N Long. 075°28'23" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: 5.9 ft Max Currents: kts

GEOGRAPHIC LOCATION: Just southeast of Woodland Beach boat ramp.

PHYSICAL DESCRIPTION: Small tidal gut, mixed sand and gravel beaches around mouth, regularly and irregularly flooded wetlands.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Waterfowl and wading birds all seasons. Shorebirds f,w, and sp. Raptors, gulls and terns sp,su,and f.

HABITAT: Tidal creek with mixed sand and gravel beaches arpund mouth. Irregularly and regularly flooded tidal marshes, flats and ponds.

THREATENED/ ENDANGERED: Bald eagles sp,su, and f. Peregrine falcons sp and f.

OTHER: Large shorebird concentrations during spring (see maps in back of this appendix)*

RESPONSE CONSIDERATIONS

Ownership: Delaware Div of Fish & Wildlife

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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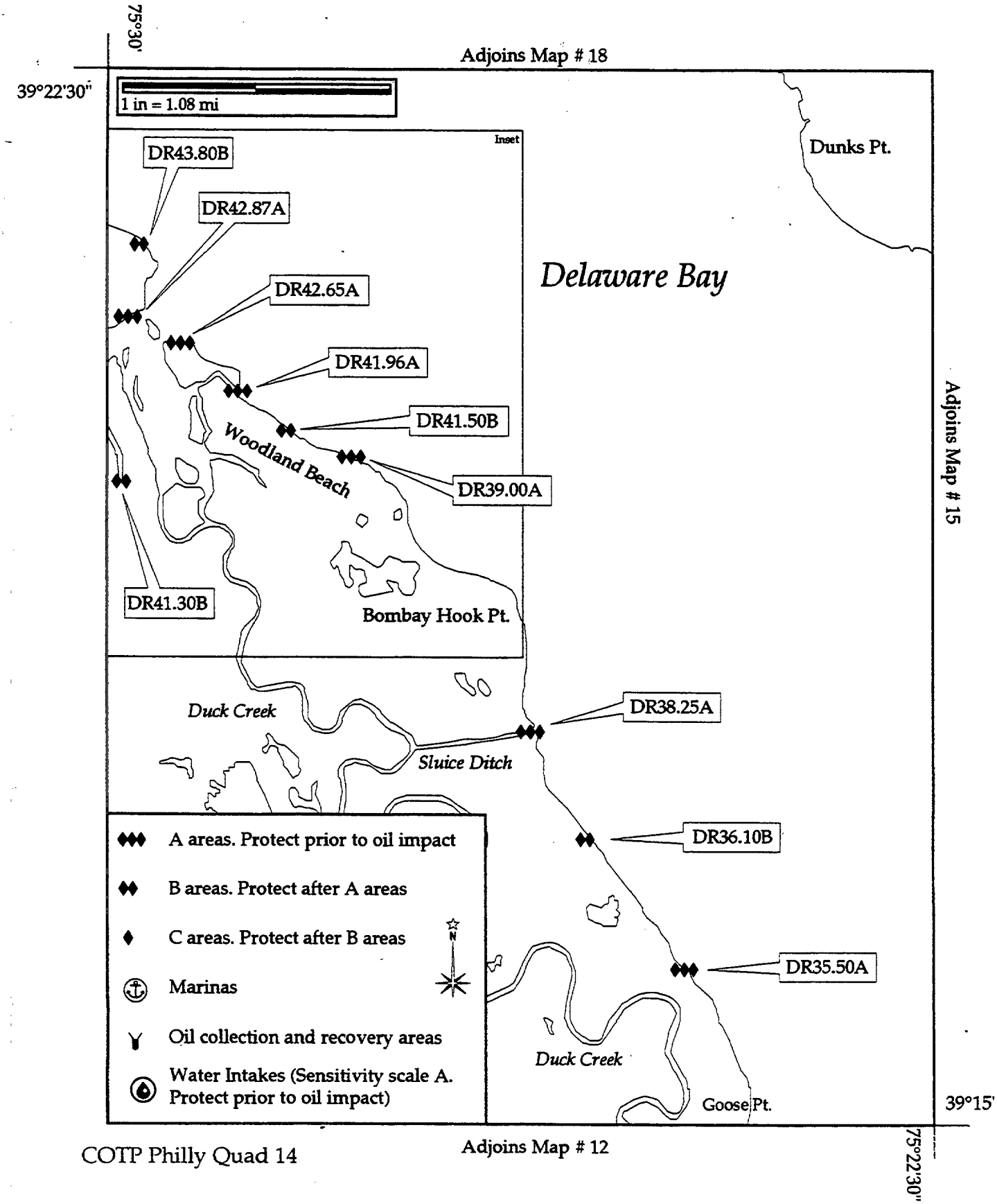

COTP Philly Quad 14

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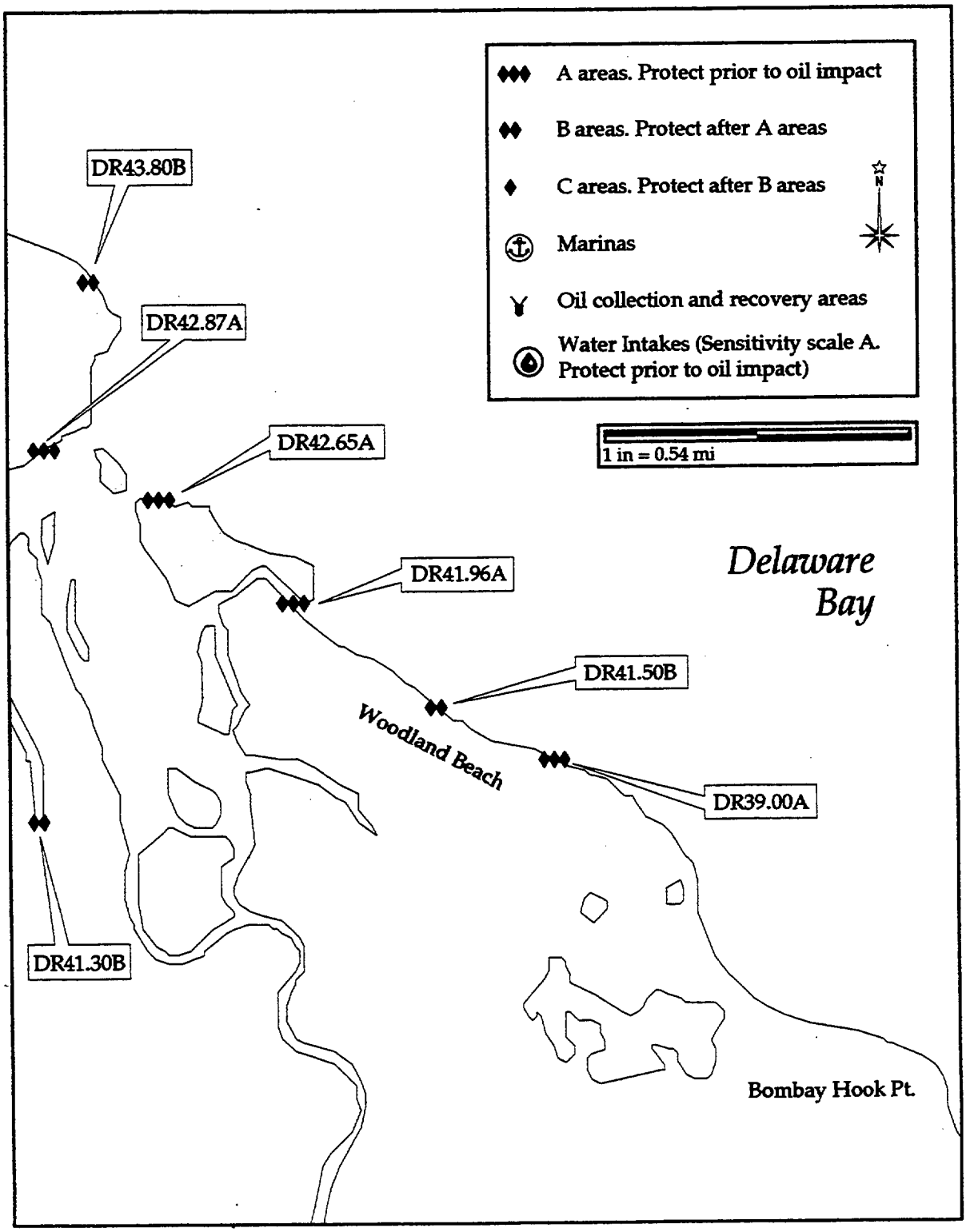

Quad 14 inset

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[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR42.65 Map No. 14 Name SLUICE RACE

USGS Quad Bombay Hook, DE-NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 14 Lat. 39°20'58" N Long. 075°29'50" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: 5.8 ft Max Currents: kts

GEOGRAPHIC LOCATION: Just south of Badkeoven Point and Big Break, and north of Persimmon Hummock.

PHYSICAL DESCRIPTION: Wide mouth opening into cove with mixed sand and gravel beaches; regularly and irreglularly flooded marshes, flats and ponds inside mouth

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Numerous waterfowl and wading bird species all seasons. Shorebirds f,w,and sp. Raptors, gulls and terns sp,su, and f. Oyster spawning area just outside mouth. River otters and muskrats also present.

HABITAT: Extensive regularly and irregularly flooded tidal marshes, flats ponds, and lagoons; mixed sand and gravel beaches just outside mouth-inside cove.

THREATENED/ ENDANGERED: Bald eagles sp,su, and f. Peregrine falcons sp and f.

OTHER: Part of Woodland Beach Wildlife Area, a Critical Natural Area.

RESPONSE CONSIDERATIONS

Ownership: Delaware Div of Fish & Wildlife

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

Captain of the Port Philadelphia

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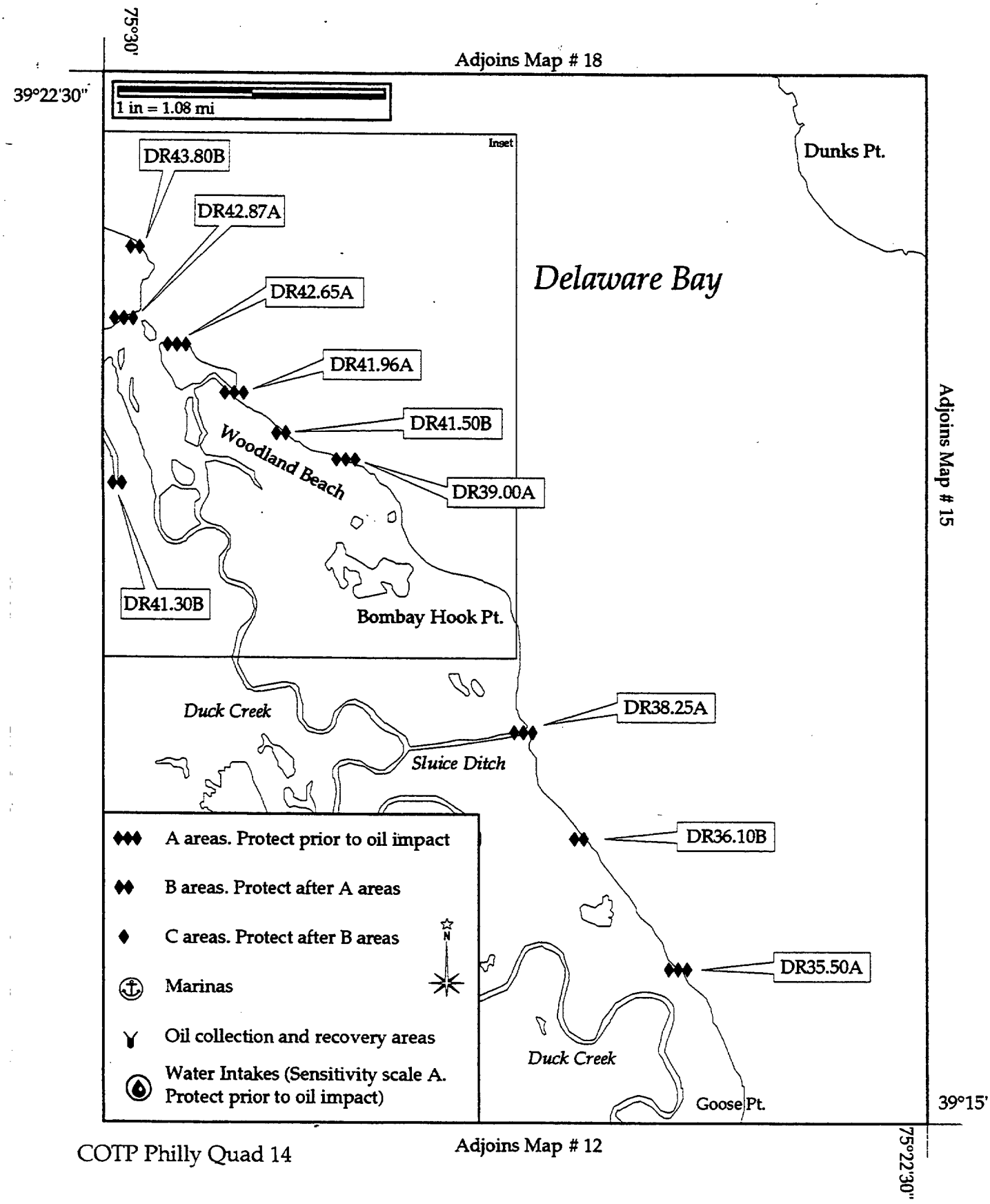

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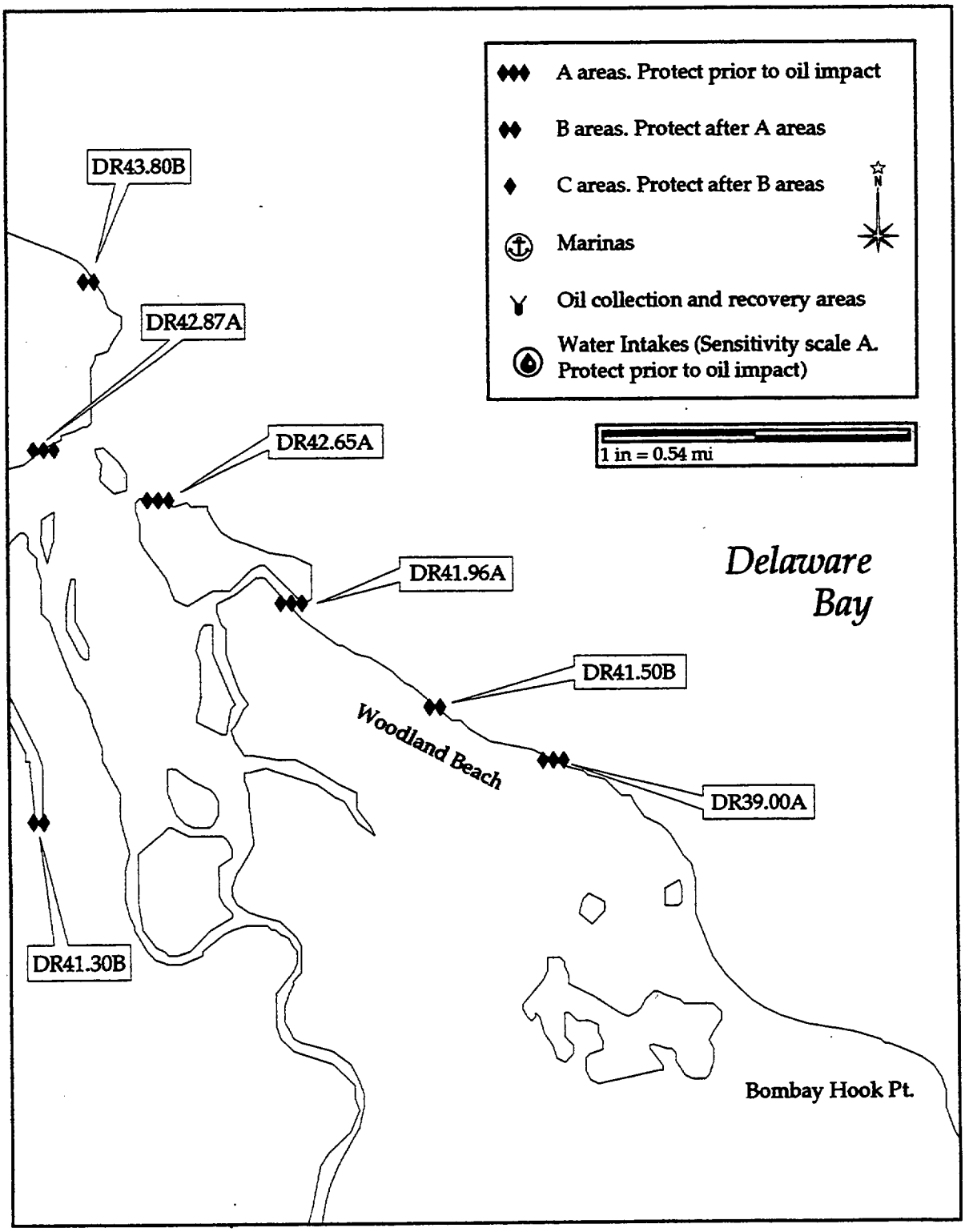

Quad 14 inset

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[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR42.87 Map No. 14 Name BIG BREAK

USGS Quad Bombay Hook, DE-NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 14 Lat. 39°20'76" N Long. 075°29'39" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: 5.8 ft Max Currents: kts

GEOGRAPHIC LOCATION: Just south of Bakeoven Point, north of Persimmon Hummock.

PHYSICAL DESCRIPTION: Wide mouth opening into cove with mixed sand and gravel beaches; regularly flooded and irregularly flooded marshes, flats and ponds inside mouth.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Numerous waterfowl species and wading birds all seasons. Shorebirds f,w,and sp. Raptors, full and terns sp,su, and f. Oyster spawning area just outside of mouth. River otters and muskrats also present.

HABITAT: Extensive regularly flooded and irregularly flooded tidal marshes, flats, ponds and lagoons; numerous tidal creeks and islands, mixed sand and gravel beaches just outside mouth-inside cove.

THREATENED/ ENDANGERED: Bald eagles sp,su,and f. Peregrine falcons spp and f.

OTHER: Part of Woodland Beach Wildlife Area, a Critical Natural Area.

RESPONSE CONSIDERATIONS

Ownership: Delaware Div of Fish & Wildlife

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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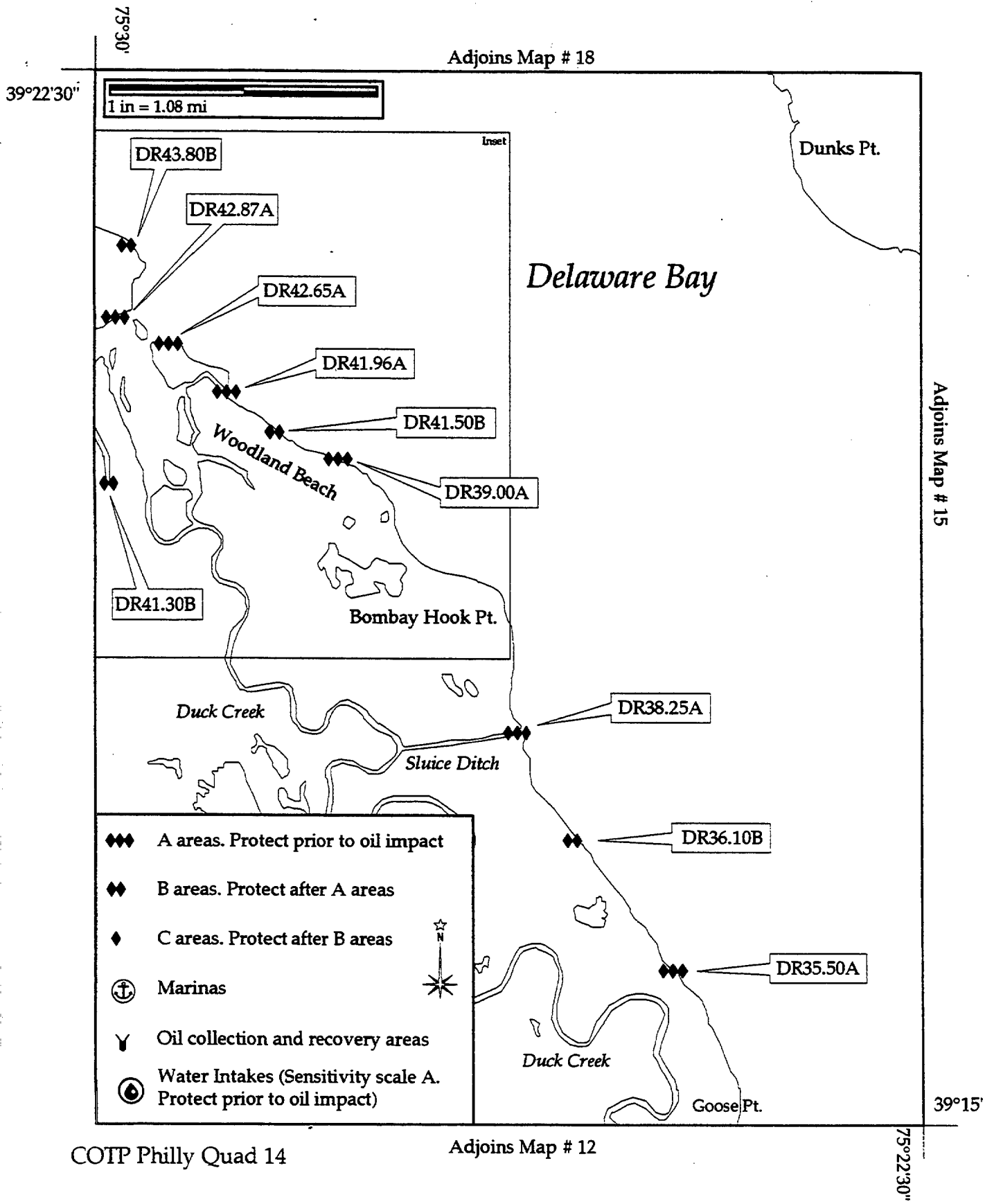

COTP Philly Quad 14

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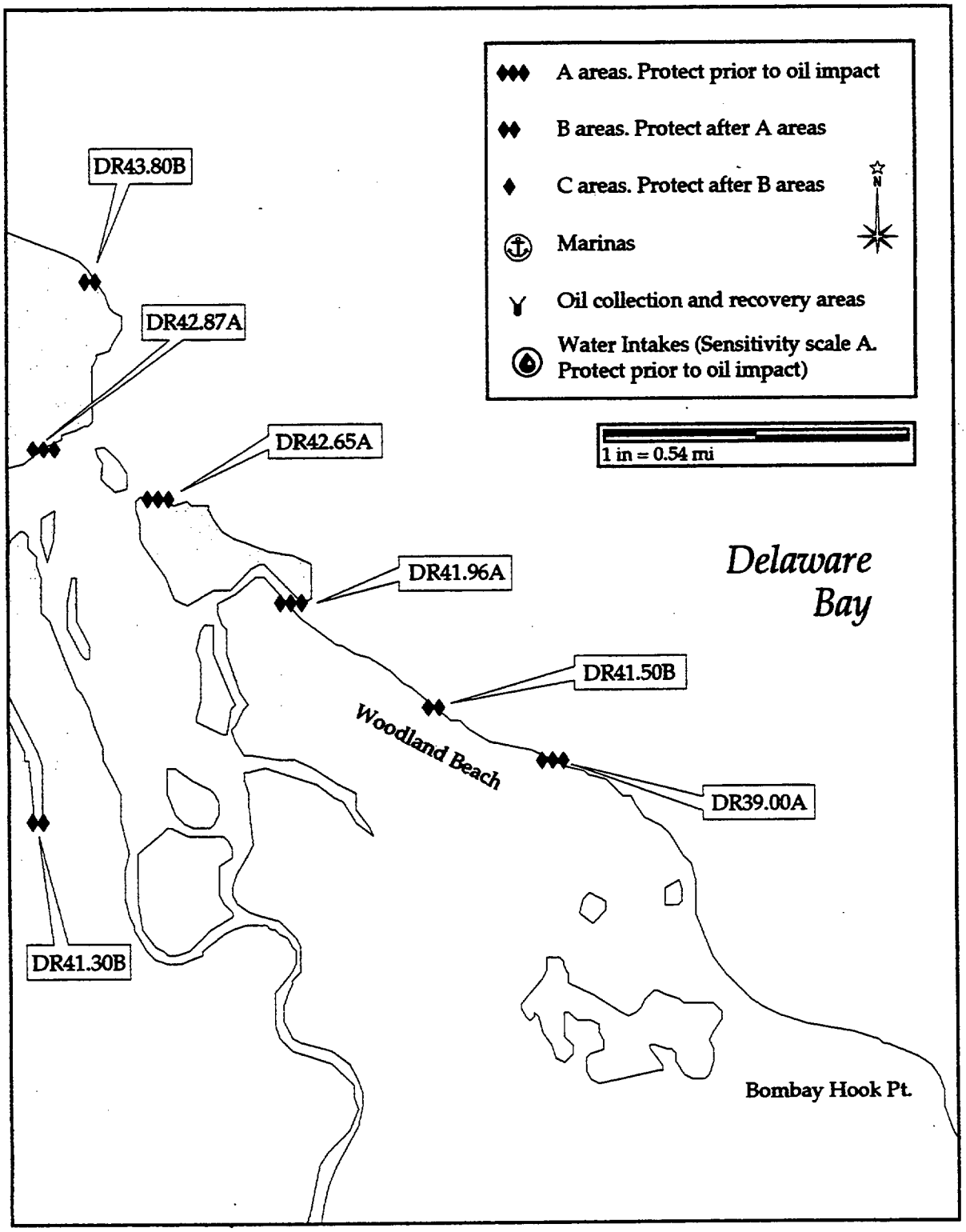

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[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR41.96 Map No. 14 Name Little Break/Pierson Cove

USGS Quad Bombay Hook NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 14 Lat. 39°20'21" N Long. 075°28'49" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: 5.9 ft Max Currents: kts

GEOGRAPHIC LOCATION: South end of Persimmon Hummock, just north of Woodland Beach.

PHYSICAL DESCRIPTION: Small tidal creek inside cove, marshes, mixed sand and gravel beaches.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Numerous waterfowl and wading bird species all seasons. Shorebirds f,w, and sp. Raptors, gulls, and terns sp,su, and f. Oyster spawning area just outside mouth. River otters and muskrats also present.

HABITAT: Extensive regularly and irregularly flooded tidal marshes, flats, ponds, and lagoons; numerous tidal creeks and islands; mixed sand and gravel beaches just outside mouth-inside cove.

THREATENED/ ENDANGERED: Bald eagles sp,su, and f. Peregrine falcons sp and f.

OTHER: Part of Woodland Beach Wildlife Area, a Critical Natural Area.

RESPONSE CONSIDERATIONS

Ownership: Delaware Div of Fish and Wildlife

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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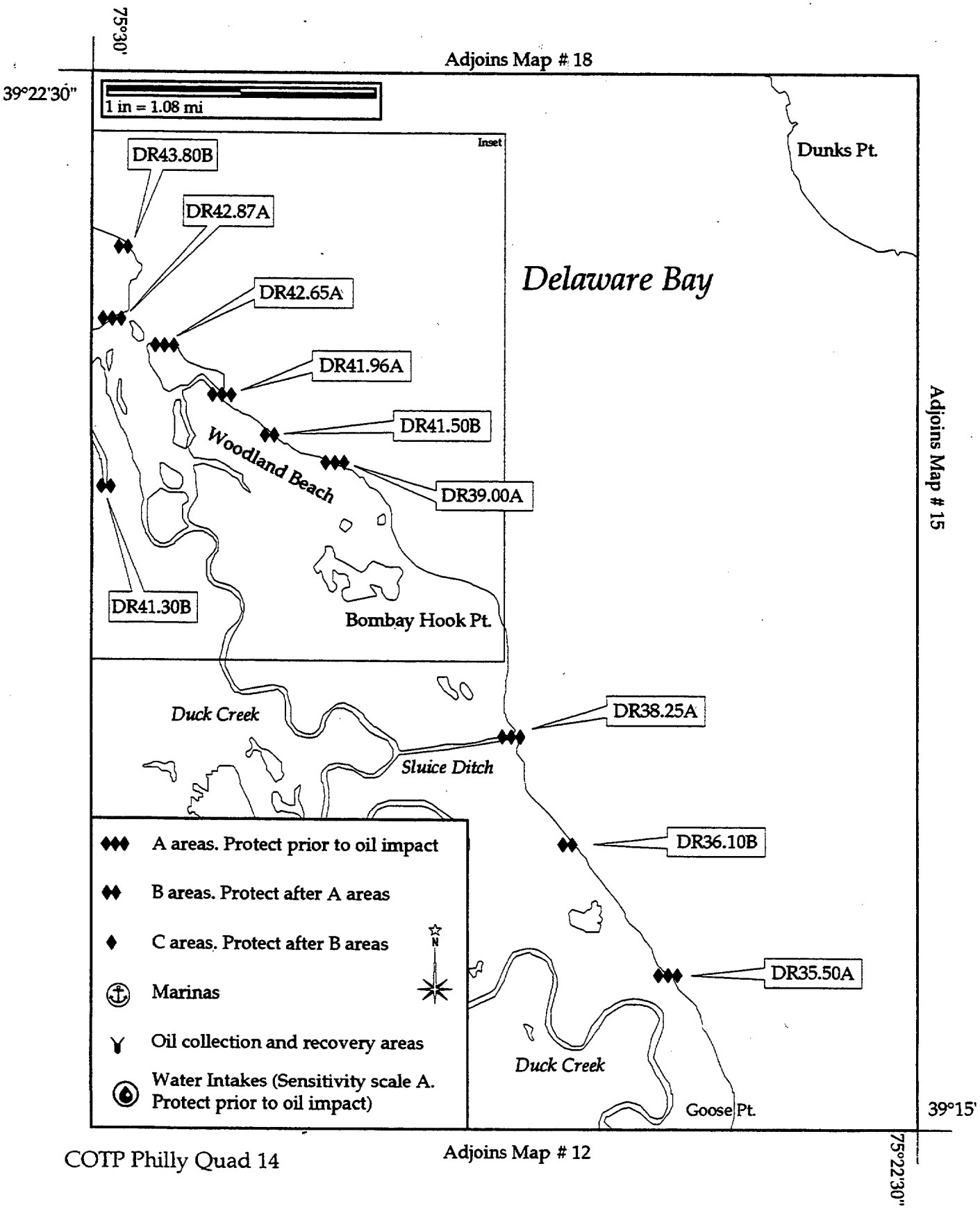

COTP Philly Quad 14

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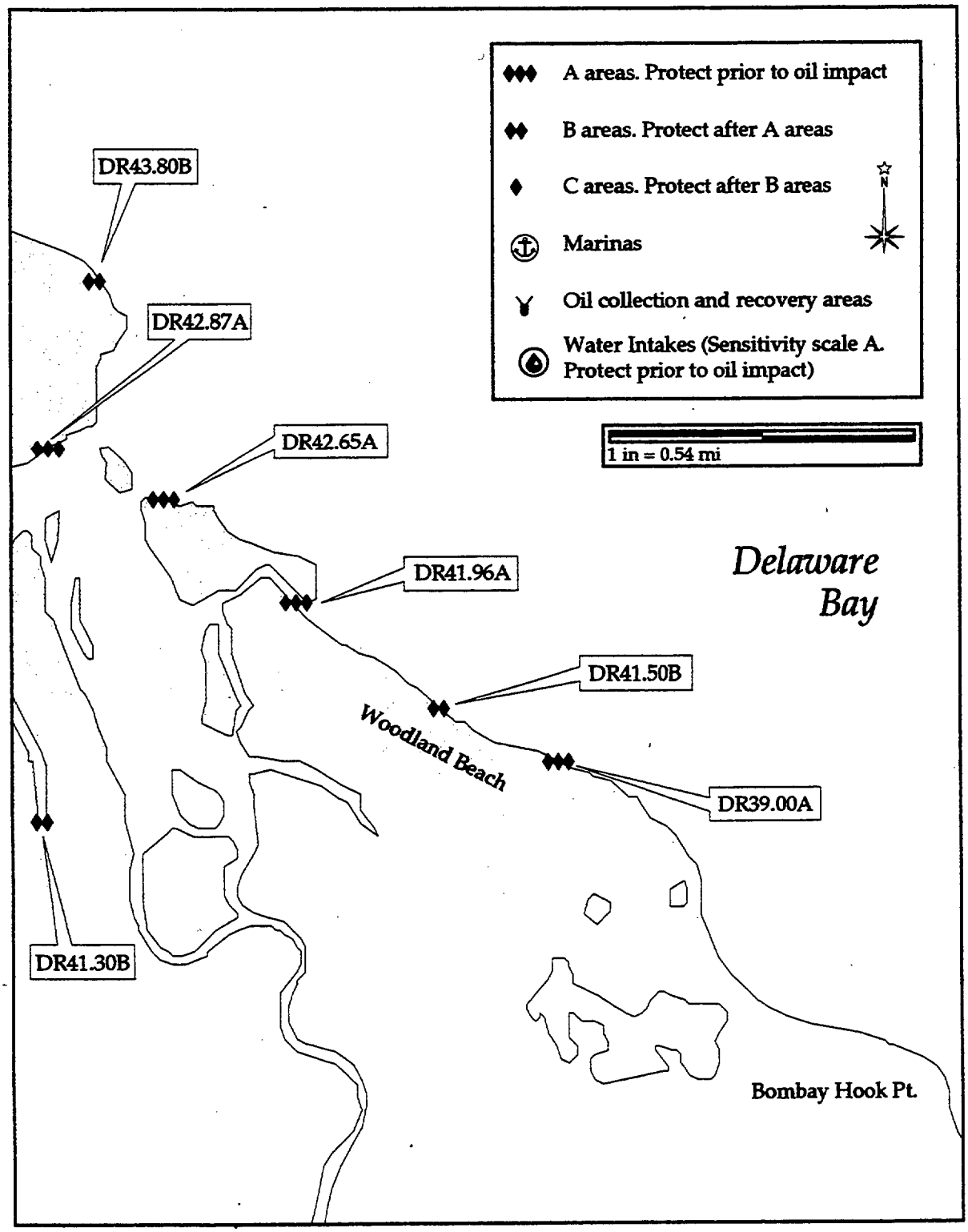

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B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR43.80 Map No. 14 Name BAKEOVEN POINT

USGS Quad Bombay Hook, DE-NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 14 Lat. 39°21'11" N Long. 075°29'50" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: 5.8 ft Max Currents: kts

GEOGRAPHIC LOCATION: About 1.25 miles southeast of Smyrna River, just north of Big Break, Sluice Run and Persimmon Hummock.

PHYSICAL DESCRIPTION: Small tidal creek on point that drains irregularly flooded tidal marshes.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Numerous waterfowl species all seasons, shorebirds f,w,and sp. Raptors, gulls, and terns sp,su, and f. Wading birds all seasons.

HABITAT: Irregularly flooded tidal marshes, small tidal ponds.

THREATENED/ ENDANGERED: Bald eagles sp,su, and f. Peregrine falcons sp and f.

OTHER:

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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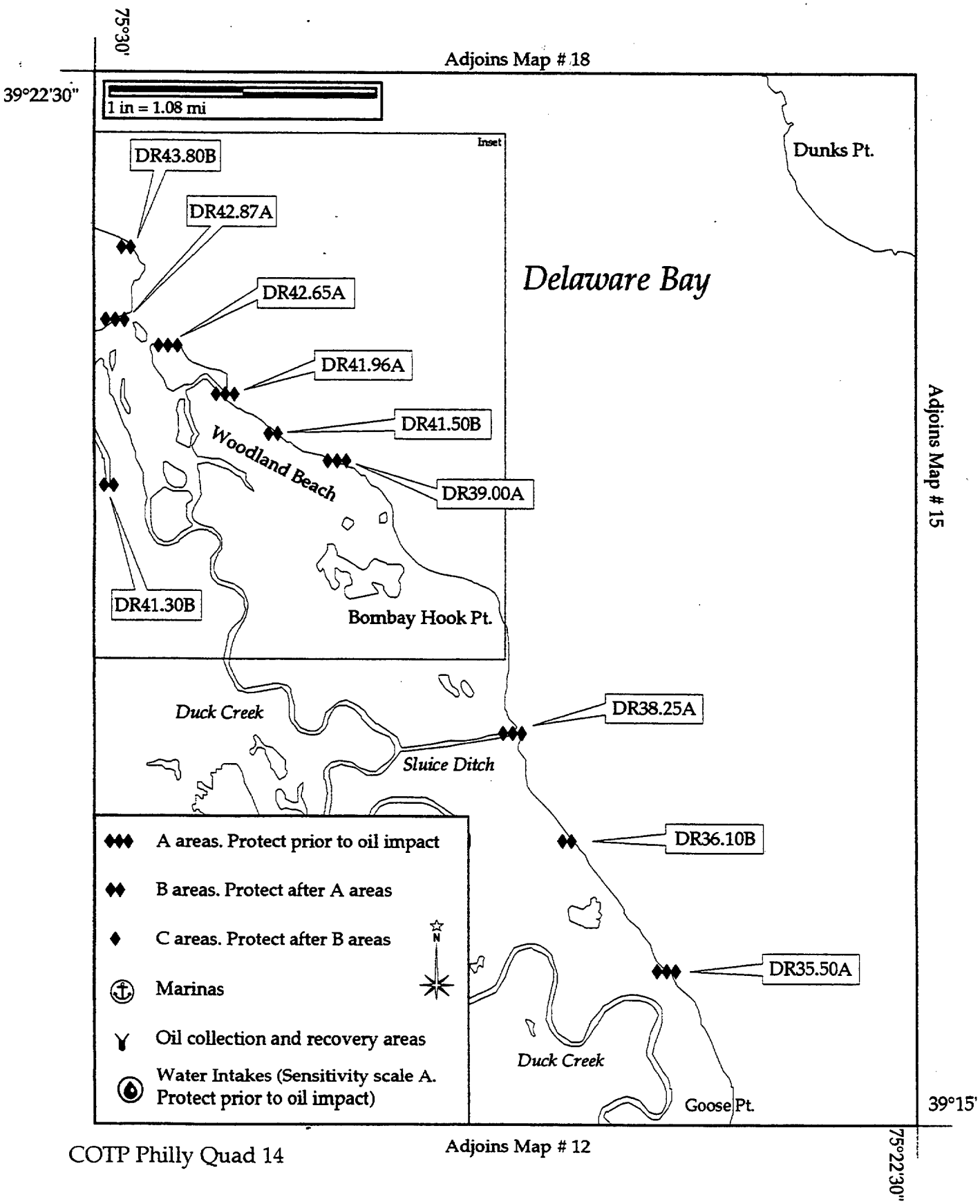

COTP Philly Quad 14

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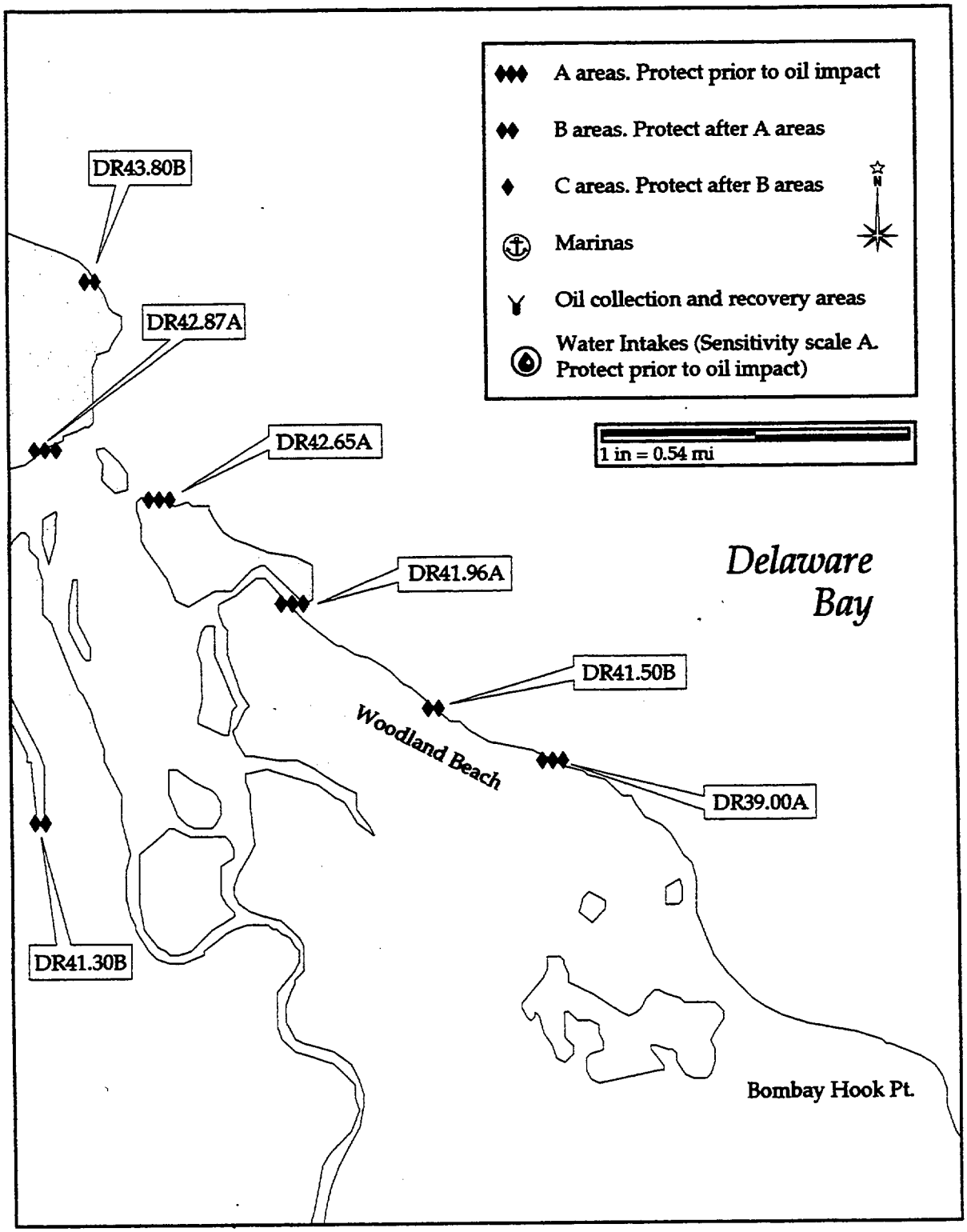

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR Map No. 15 Name DRUMBO CREEK

USGS Quad Ben Davis Point NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 15 Lat. 39°20'55" N Long. 075°20'54" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Black ducks, wading birds, otters, and muskrats

HABITAT: Tidal salt marsh w/cord grass

THREATENED/ ENDANGERED: Bald eagles and northern herriers

OTHER: Commercial watermen

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: ft

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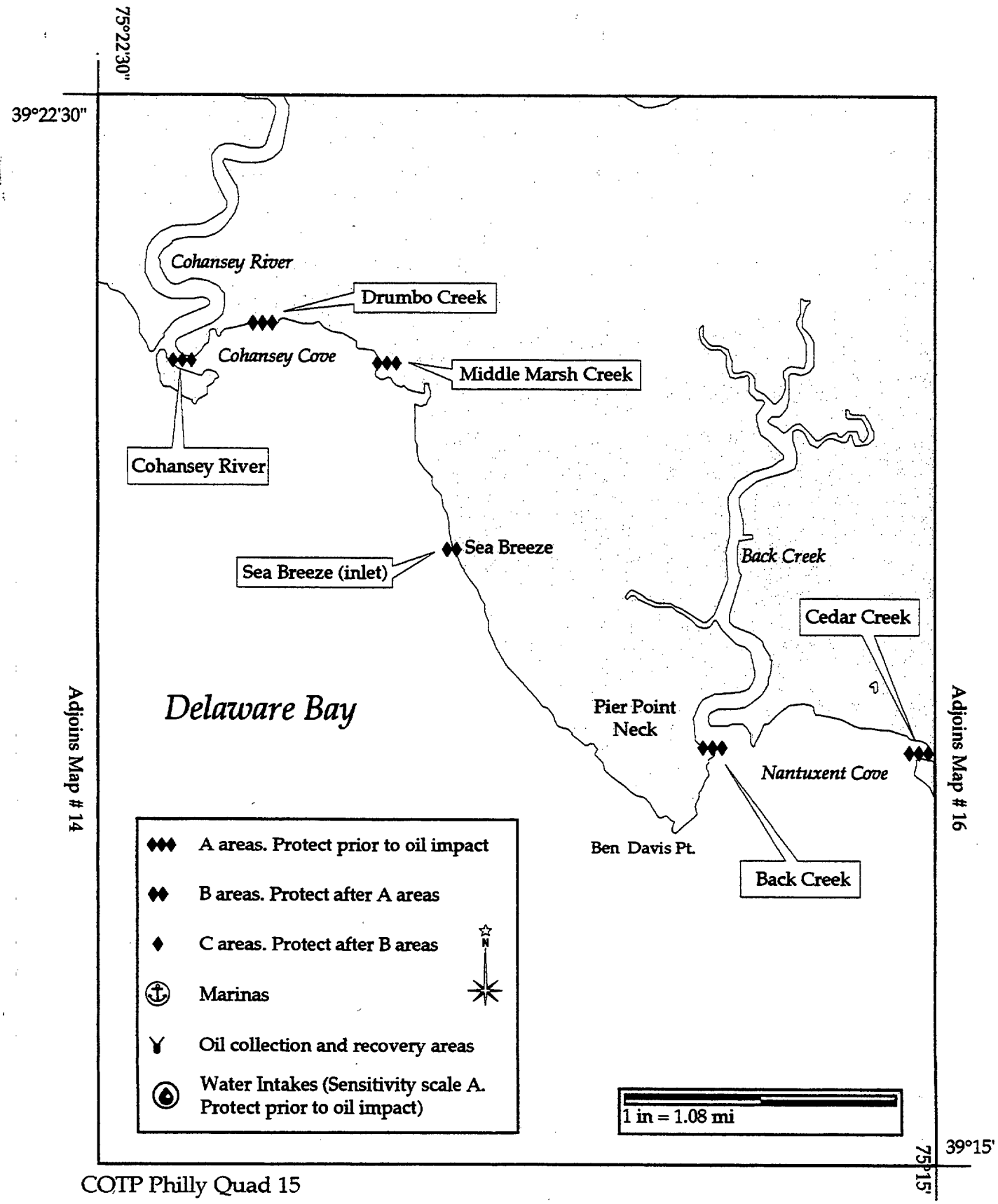

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 15 Name SEA BREEZE (INLET)

USGS Quad Ben Davis Point, NJ-DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 15 Lat. 39°19'18" N Long. 075°19'25" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Snow geese, black duck, wading birds, otters, and muskrats

HABITAT: Tidal salt marsh w/ cord grass

THREATENED/ ENDANGERED: Bald eagles and norther herriers

OTHER: Commercial watermen

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: f

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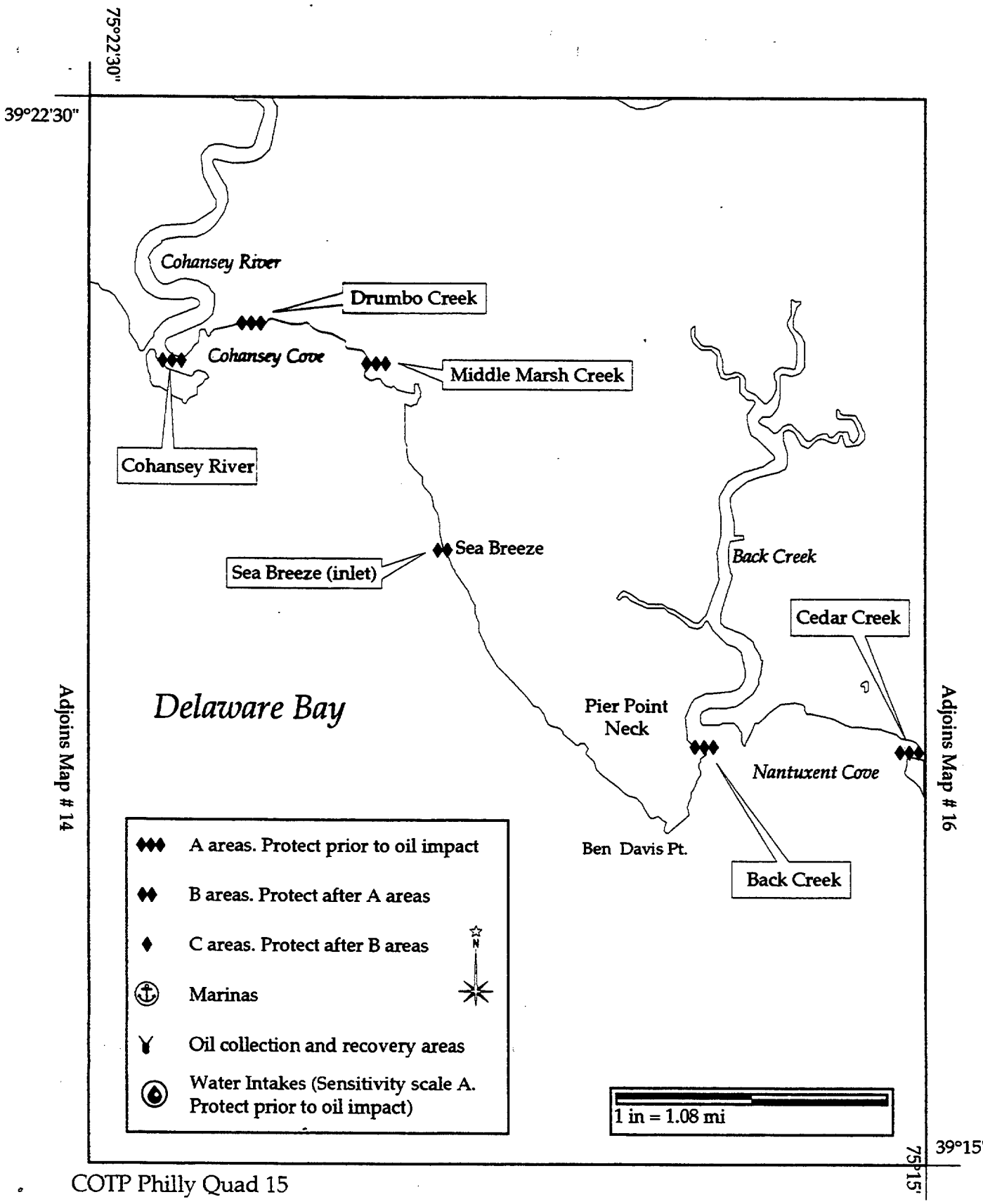

COTP Philly Quad 15

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 15 Name Middle Marsh Creek

USGS Quad Ben Davis Creek NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 15 Lat. 39°20'43" N Long. 075°19'58" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Black duck, wading birds, otter, muskrats

HABITAT: Tidal marsh w/cord grass

THREATENED/ ENDANGERED: Bald eagles and northern herriers

OTHER: Commercial watermen, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover Minimum Boom Length: f

SEE DBRC BOOMING STRATEGIES.

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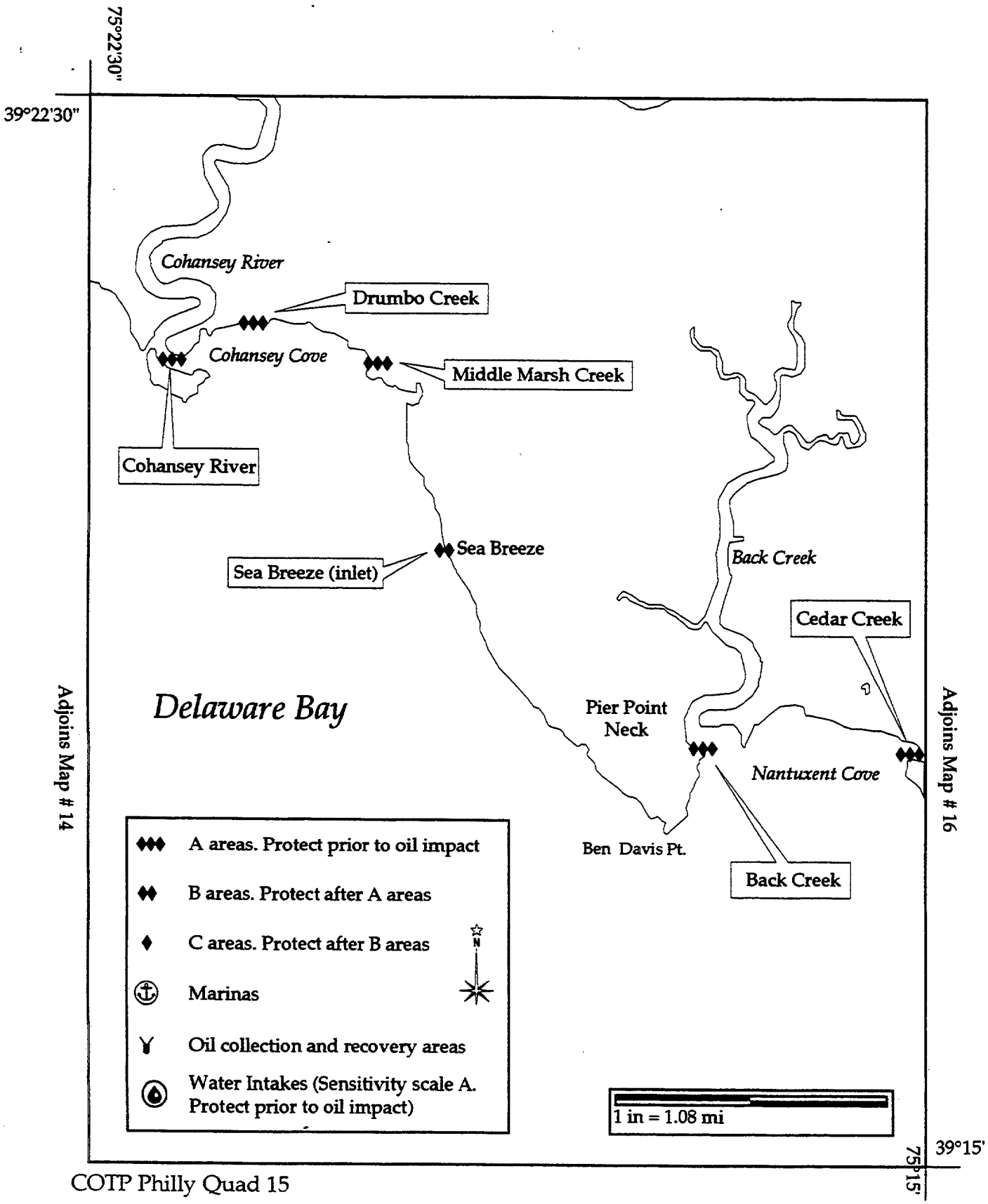
Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 15

M

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 15 Name COHANSEY RIVER

USGS Quad Ben Davis Point NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 15 Lat. 39°20'38" N Long. 075°21'46" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: ' Tidal Range: 5.98 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl, wading birds, otter, and muskrats

HABITAT: Tidal salt marsh w/ phragmites and cord grass

THREATENED/ ENDANGERED: Bald eagles (Dec to Aug) and northern harriers year round.

OTHER: Commercial watermen

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☒ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

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Prepared by NOAA

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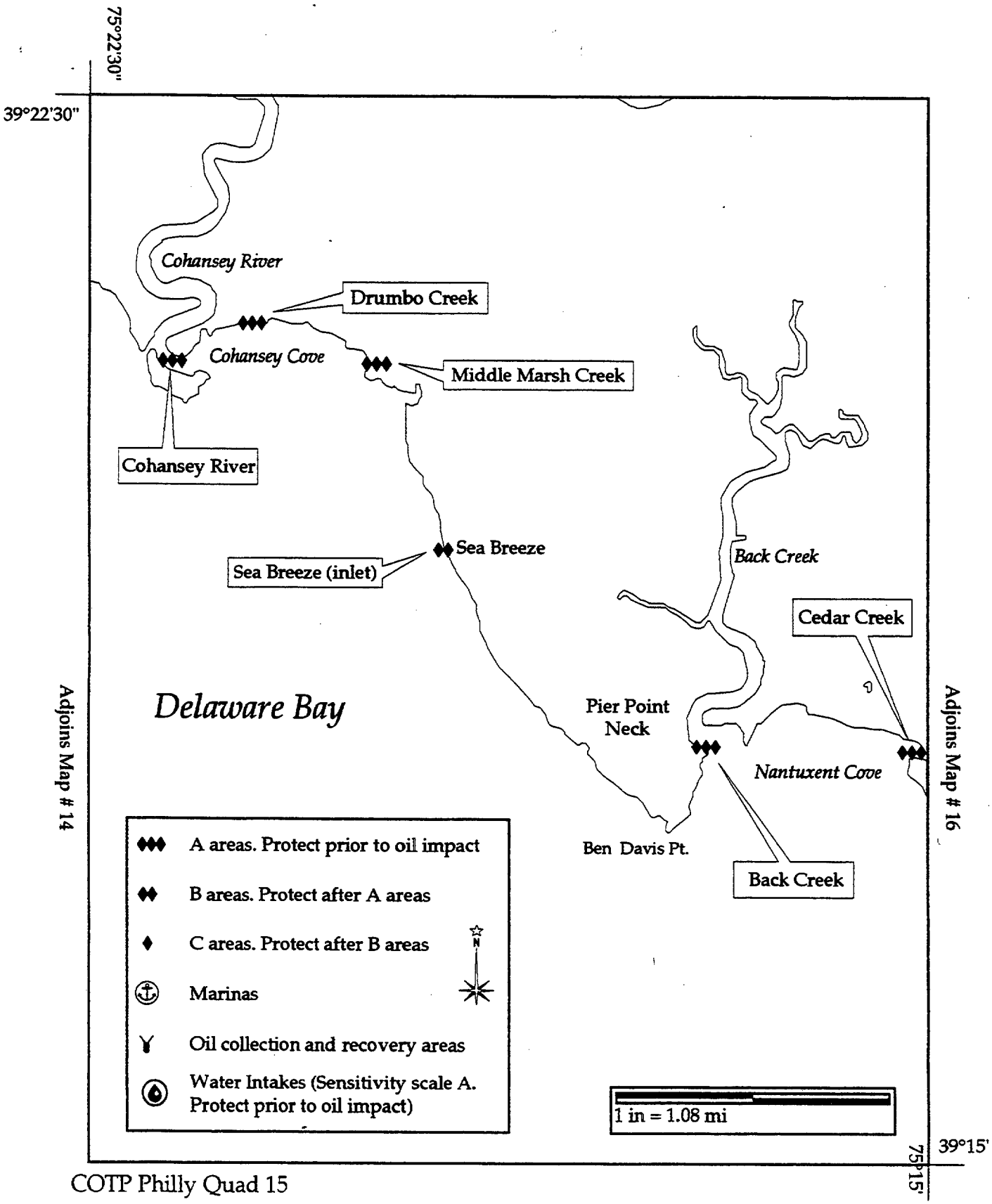

COTP Philly Quad 15

M

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 15 Name BACK CREEK

USGS Quad Ben Davis Point, NJ-DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 15 Lat. 39°17'56" N Long. 075°16'57" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: 5.91 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Snow geese, black ducks, otter and maskrats

HABITAT: Tidal salt marsh w/ cord grass

THREATENED/ ENDANGERED: Northern herrier and bald eagles

OTHER: Commercial watermen

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

Captain of the Port Philadelphia

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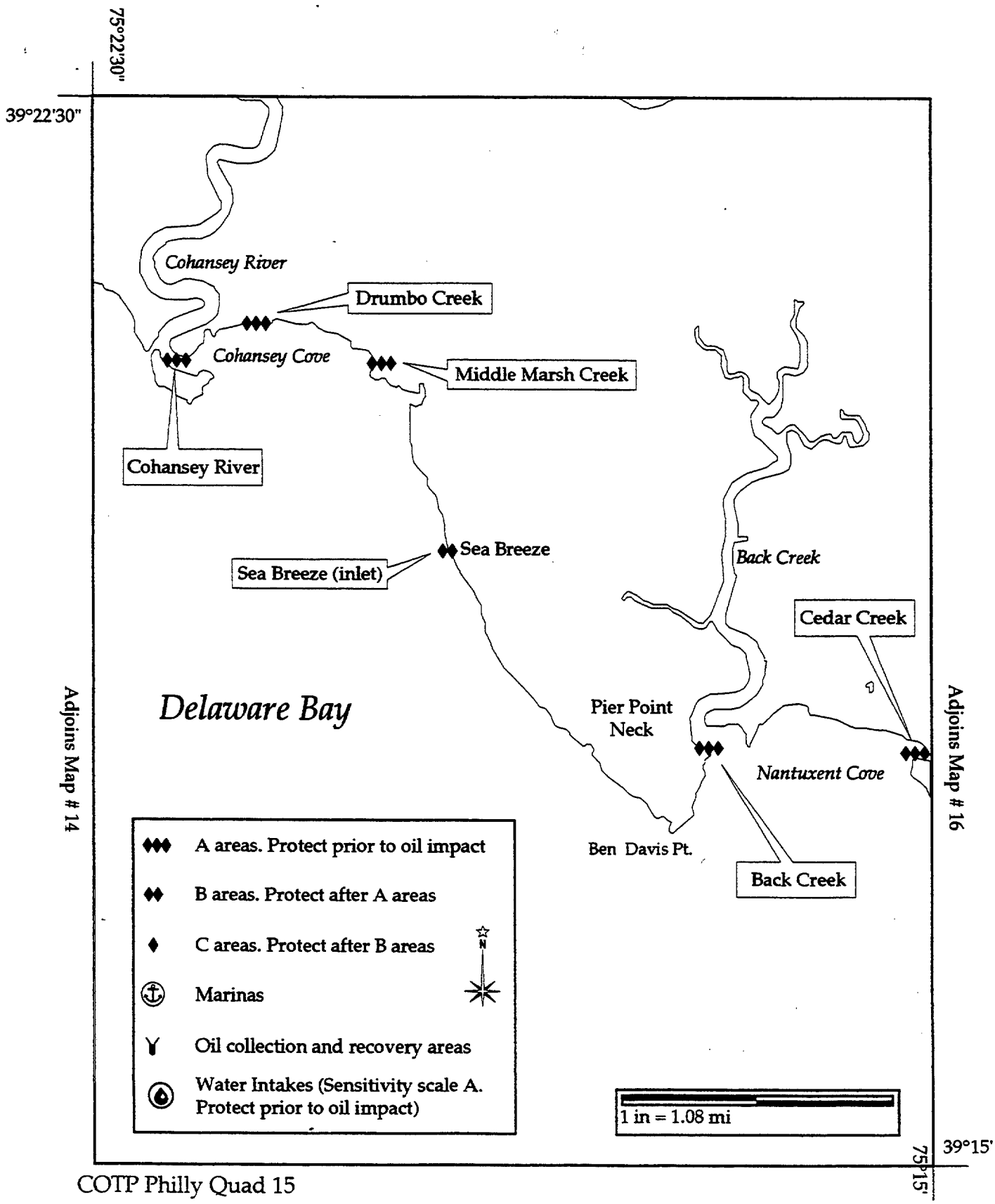

COTP Philly Quad 15

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 16 Name Nantuxent Creek

USGS Quad Cedarville, NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 16 Lat. 39°17'05" N Long. 075°14'34" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: 5.96 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Snow geese, black duck, otter, and muskrat, shorebird concentrations

HABITAT: Tidal marsh w/ cord grass

THREATENED/ ENDANGERED: Bald eagles and northern herriers

OTHER: Commerial watermen, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June, See maps at the end of the appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

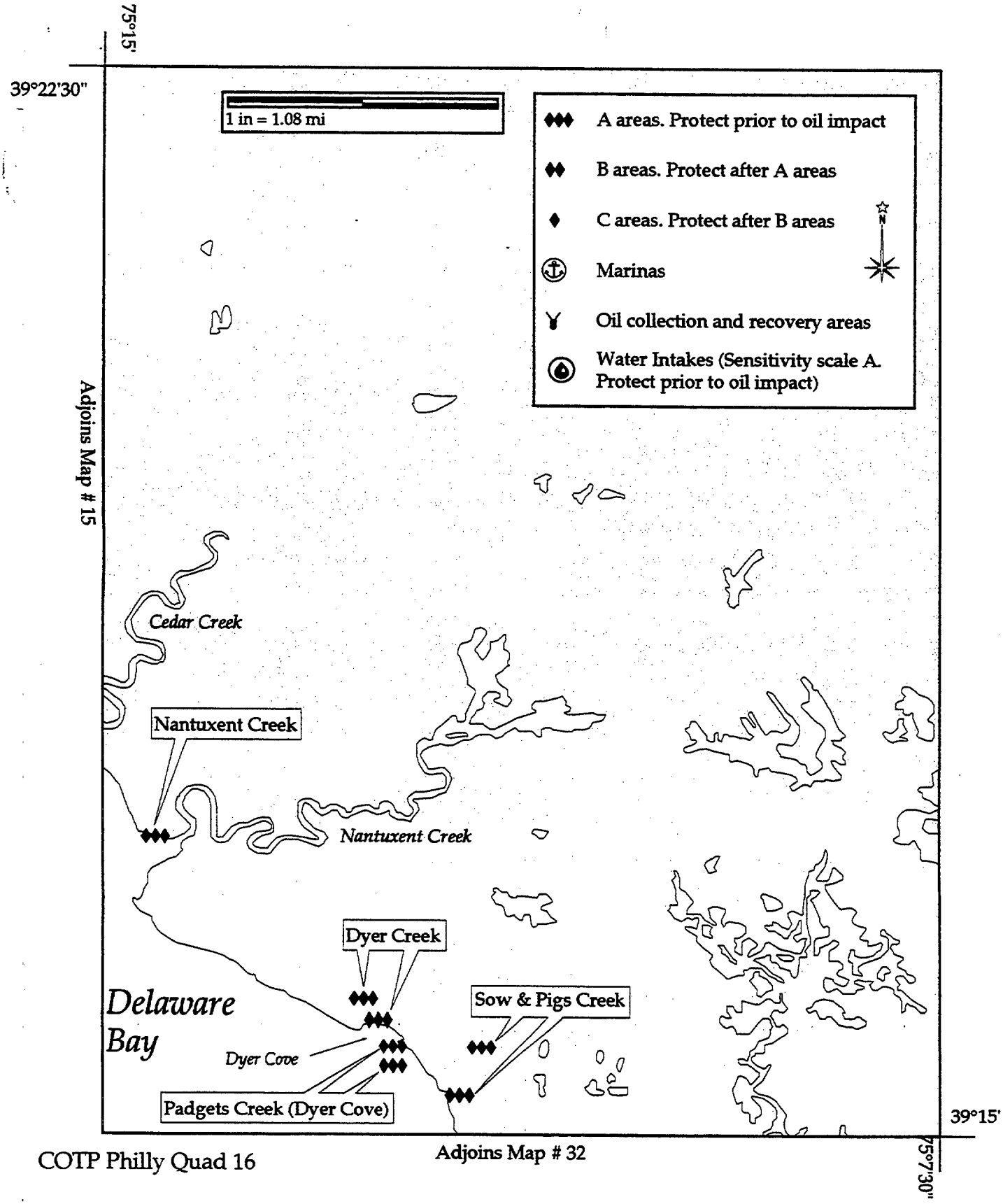
BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: ft

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 16 Name PADGETS CREEK(DYER COVE)

USGS Quad Cedarville, NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 16 Lat. 39°15'42" N Long. 075°12'29" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Snow geese, black duck, shorebirds

HABITAT: Tidal salt marsh w/cord grass

THREATENED/ ENDANGERED: Bald eagles and norther herriers

OTHER: Commercial watermen, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover Minimum Boom Length:

SEE DBRC BOOMING STRATEGIES.

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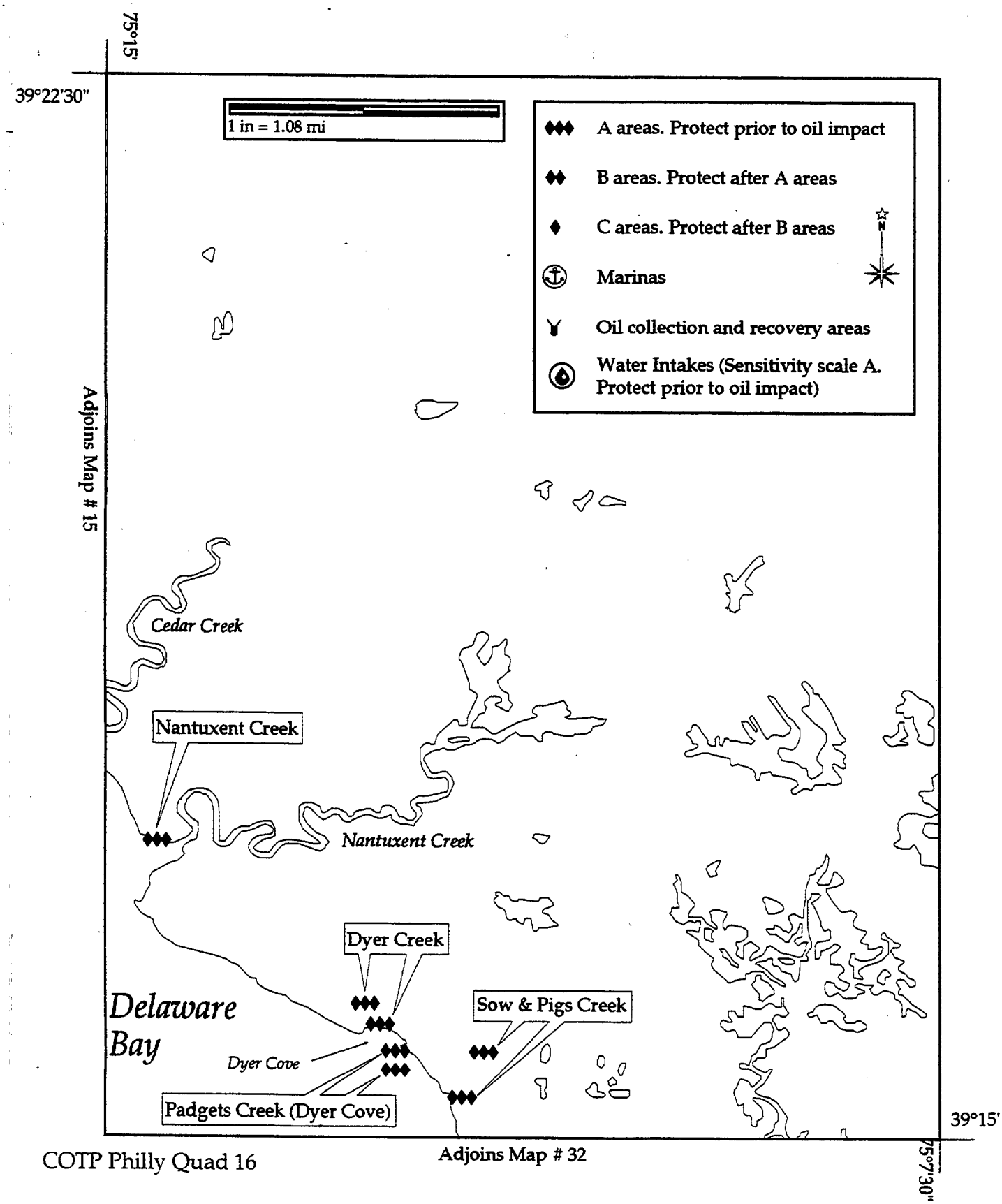

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 16 Name DYER CREEK

USGS Quad Cedarville, NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 16 Lat. 39°15'47" N Long. 075°12'40" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Shorebirds, snow geese, and black duck

HABITAT: Sand beaches and tidal marsh

THREATENED/ ENDANGERED: Norther herrier and bald eagles

OTHER: Commercial watermen, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☒ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

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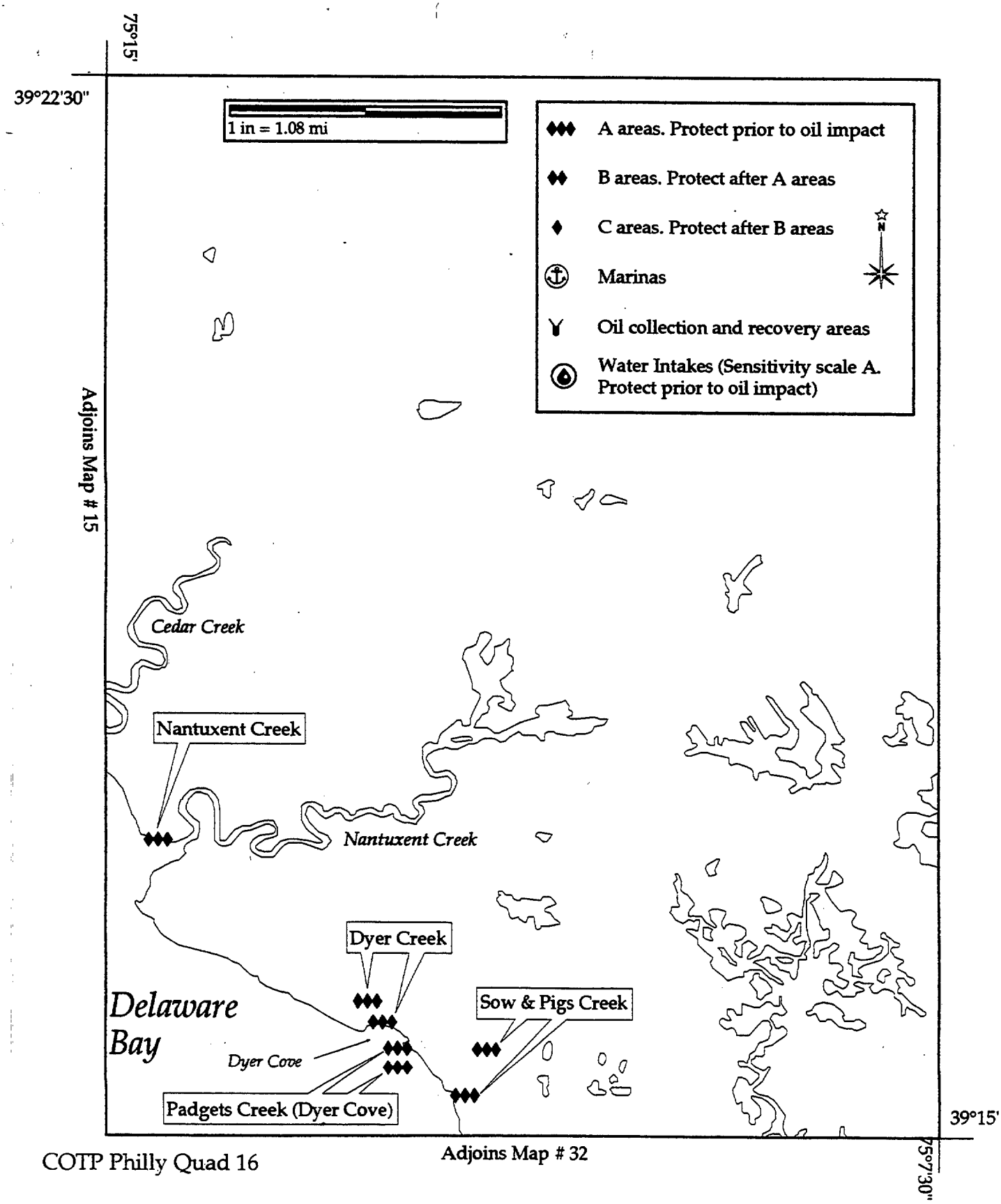

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 16 Name SOW & PIGS CREEK

USGS Quad Cedarville, NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 16 Lat. 39°15'31" N Long. 075°11'53" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Snow geese, black duck, otter, and muskrats, shorebirds

HABITAT: Tidal salt marsh w/ cord grass

THREATENED/ ENDANGERED:

OTHER: Commercial watermen, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June, See maps at the end of the appendix.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover Minimum Boom Length: ft

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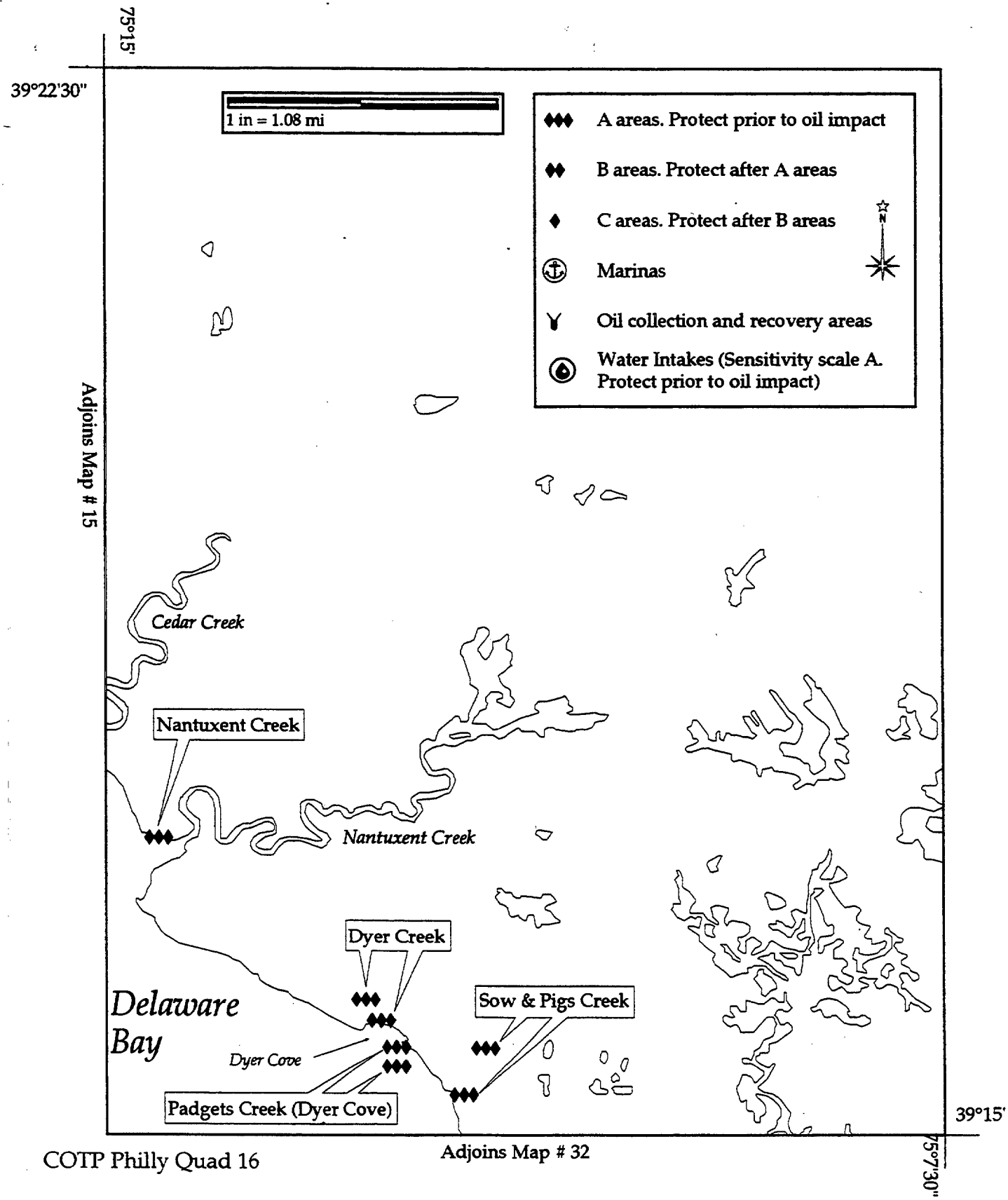

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 16 Name CEDAR CREEK

USGS Quad CEDARVILLE, NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 16 Lat. 39°17'55" N Long. 075°15'12" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: 5.96 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Snow geese, black duck, otter, and muskrats

HABITAT: Tidal salt marsh w/ cord grass

THREATENED/ ENDANGERED: Bald eagles, northern herriers

OTHER: Commercial watermen, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June, See maps at the end of the appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

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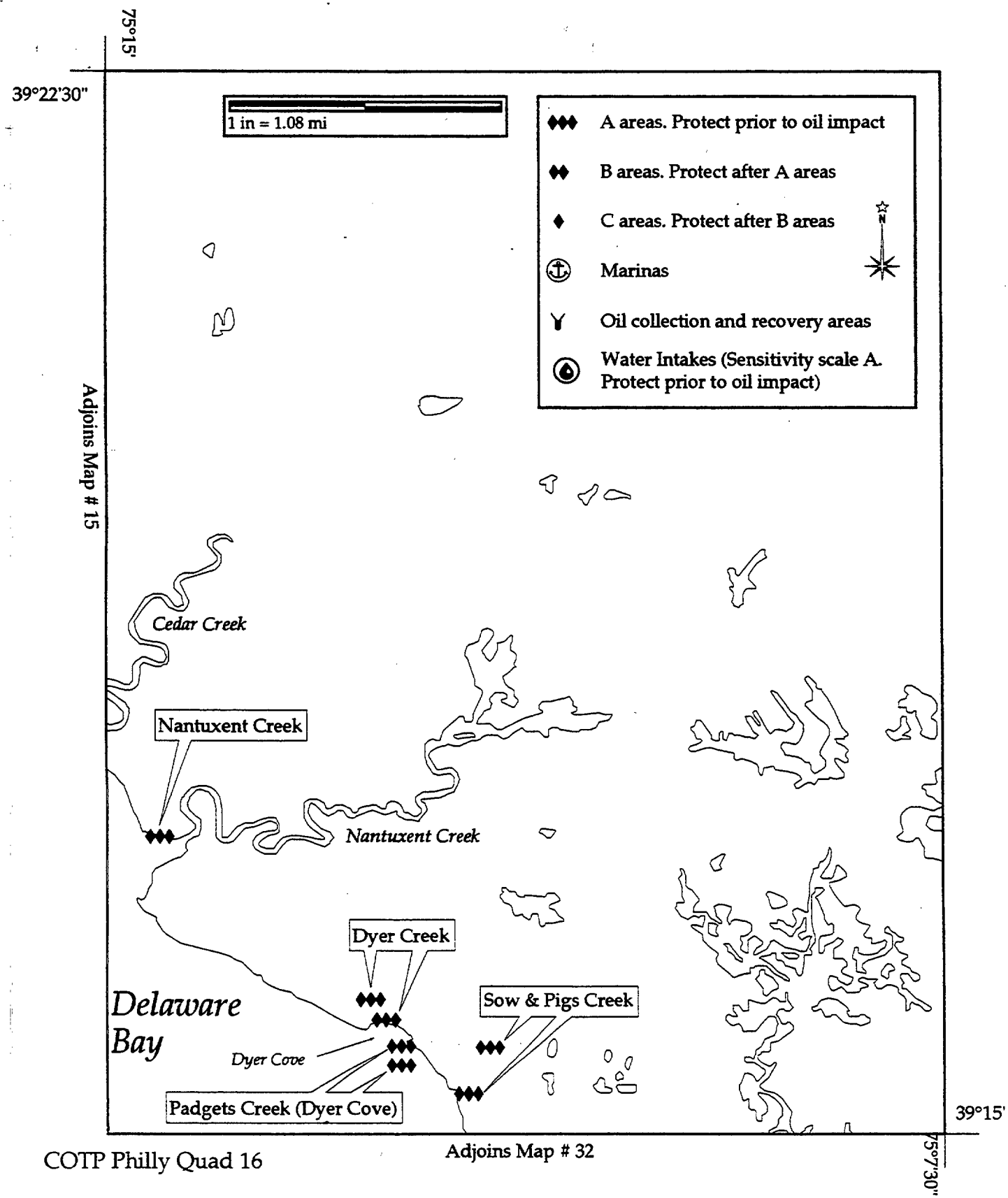

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR47.83 Map No. 17 Name Middle Drain Ditch

USGS Quad Taylors Bridge, DE-NJ NOAA Chart 12311/12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 17 Lat. 39° 24'42" N Long. 075°32'12" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: Just south of Liston Point, about 2.5 miles southeast of Blackbird Creek, 1.75 miles north of Cedar Swamp inlet.

PHYSICAL DESCRIPTION: Tidal flats and sand and gravel beaches north and south of mouthy irregularly flooded marshes.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☒ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl and shorebirds f, w, and sp; wading birds all seasons.

HABITAT: Tidal flats, and sand and gravel beaches north and south of mouth, irregularly flooded tidal marshes inside mouth.

THREATENED/ ENDANGERED:

OTHER: Wading birds, shorebirds, gulls and terns may use beaches and tidal flats outside of mouth.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: f

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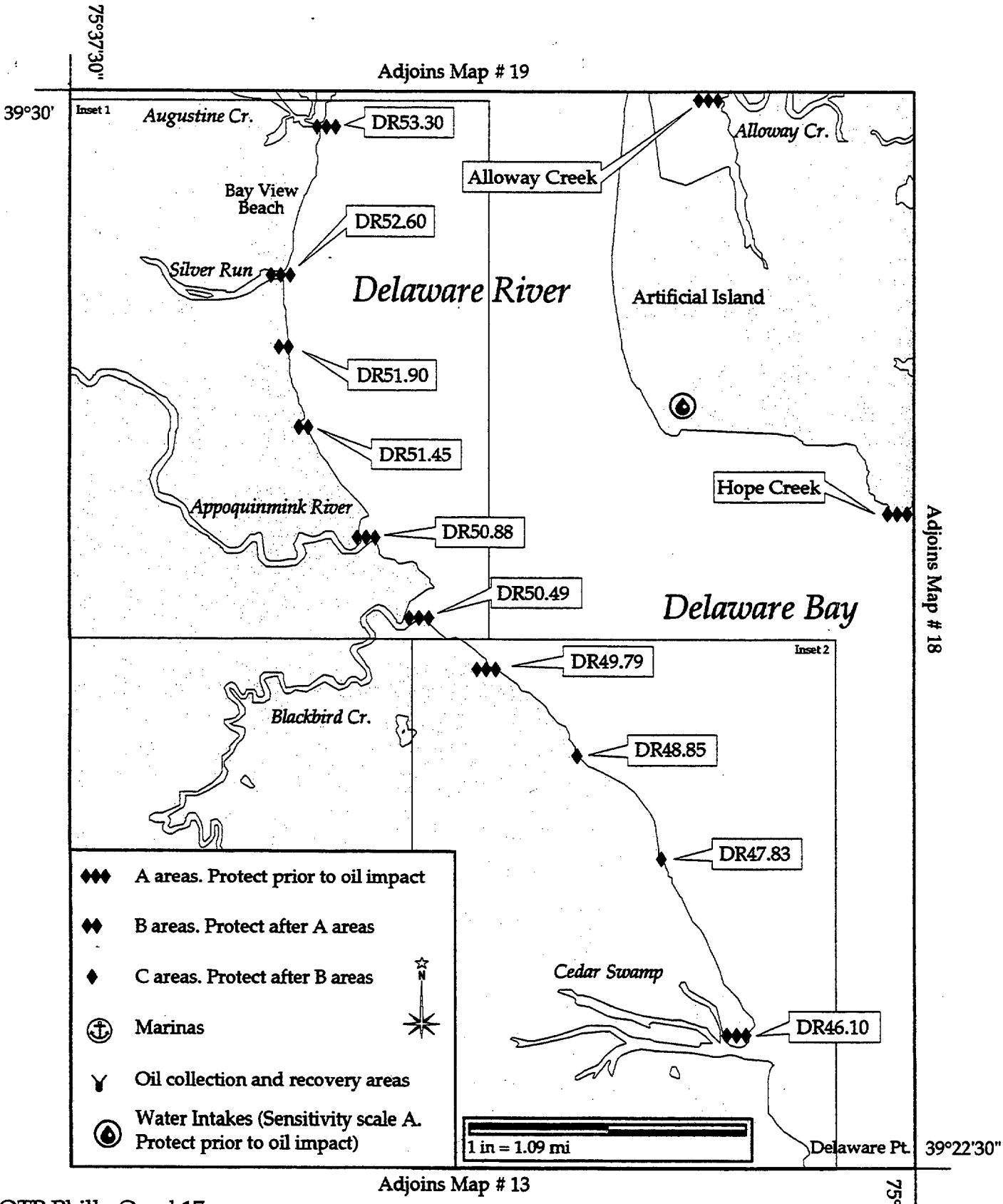

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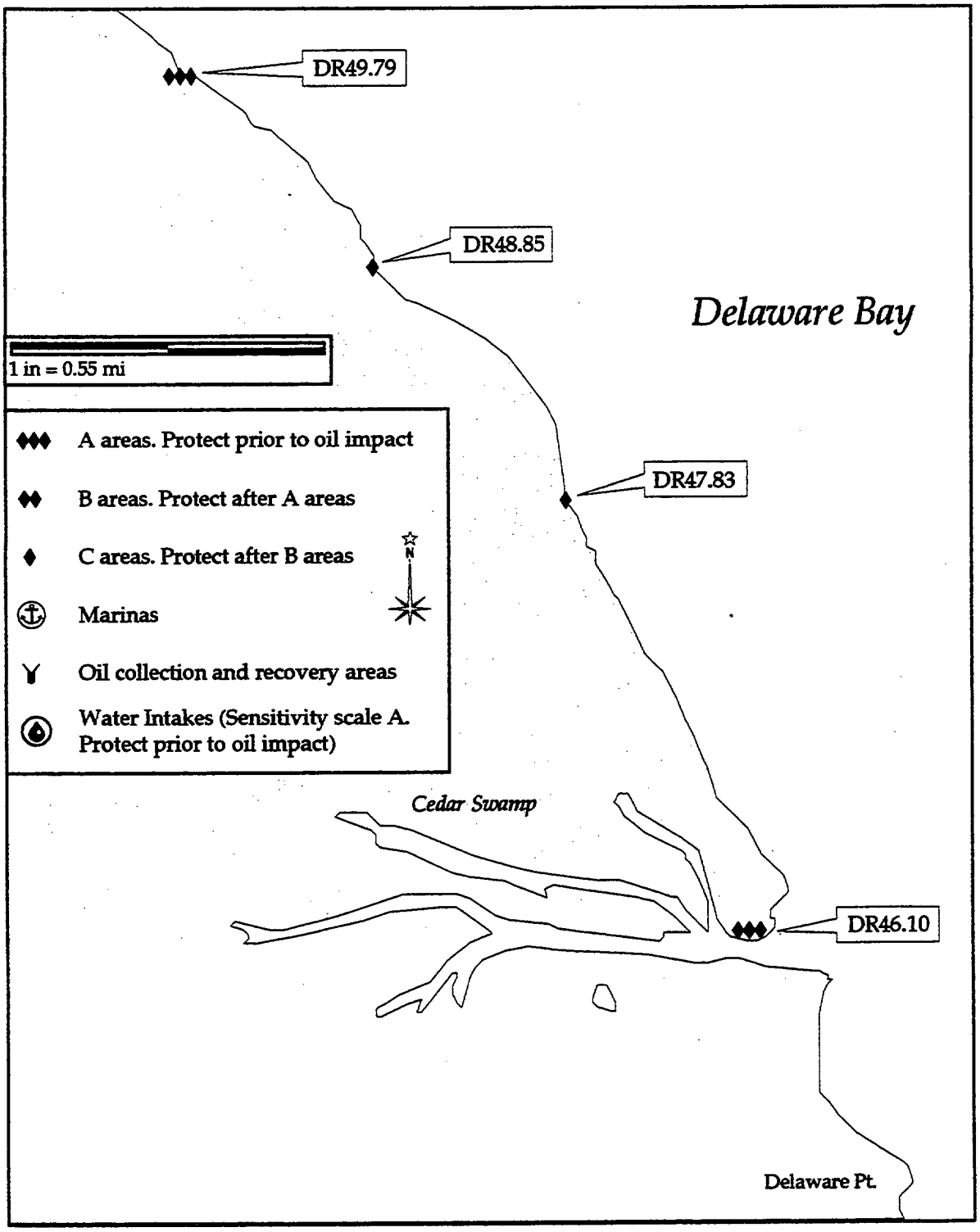

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR51.90 Map No. 17 Name UPPER BREAK

USGS Quad Taylors Bridge, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 17 Lat. 39°28'15" N Long. 075°35'51" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: About 3/4 mile south of Silver Run, across from Artificial Island.

PHYSICAL DESCRIPTION: Mixed sand and gravel beaches and sandy tidal flats outside of mouth, irregularly flooded tidal marshes inside mouth.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl and shorebirds f,w,and sp; gulls and terns sp, su, and f, wading birds all seasons.

HABITAT: Sandy tidal flats and mixed sand and gravel beaches around mouth, irregularly flooded tidal marshes inside mouth. Inlet is silted, so only irregularly flooded.

THREATENED/ ENDANGERED:

OTHER: Wading birds, shorebirds, gulls, and terns may be using tidal flats and beaches around the outside of mouth.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: ft

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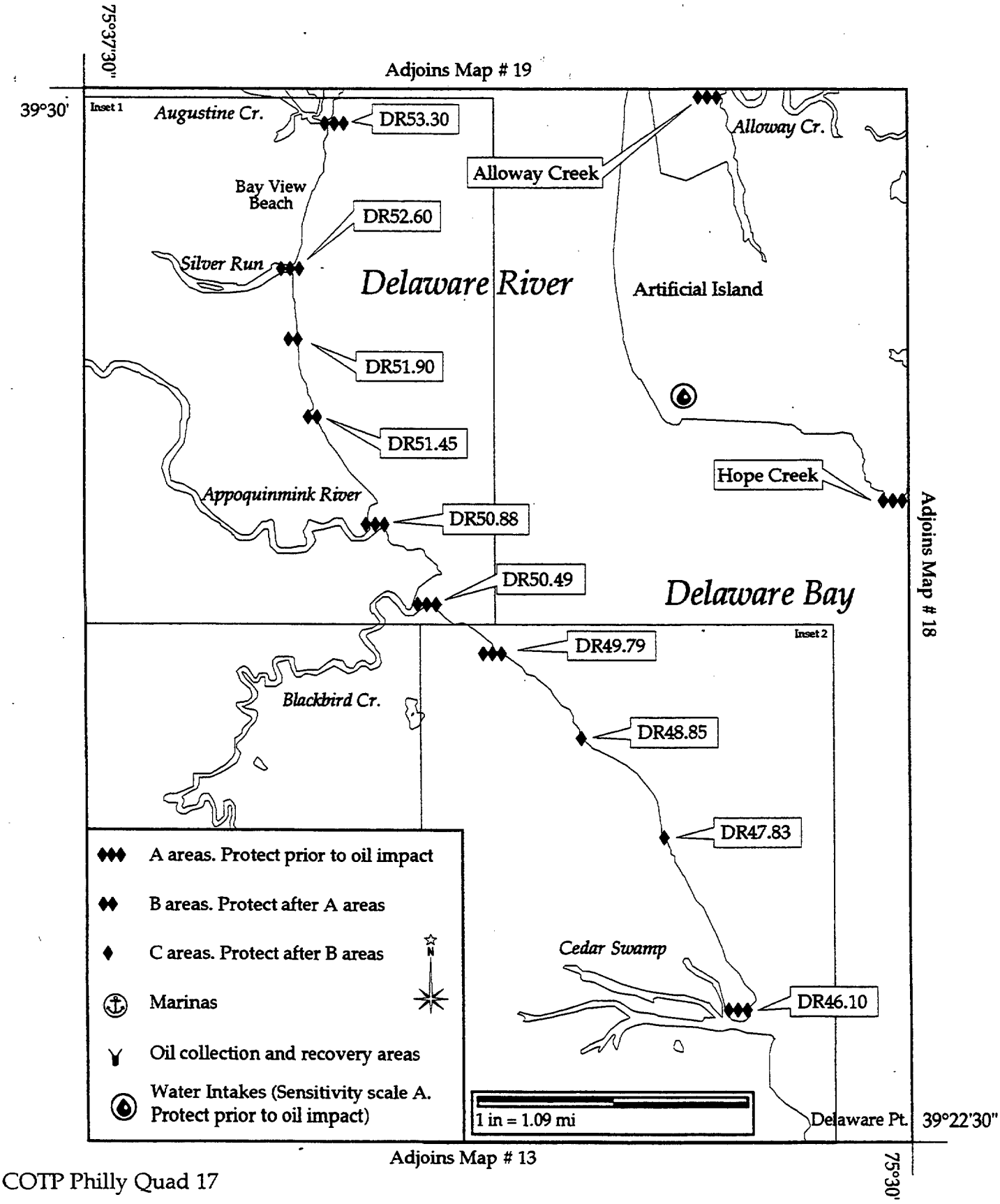

COTP Philly Quad 17

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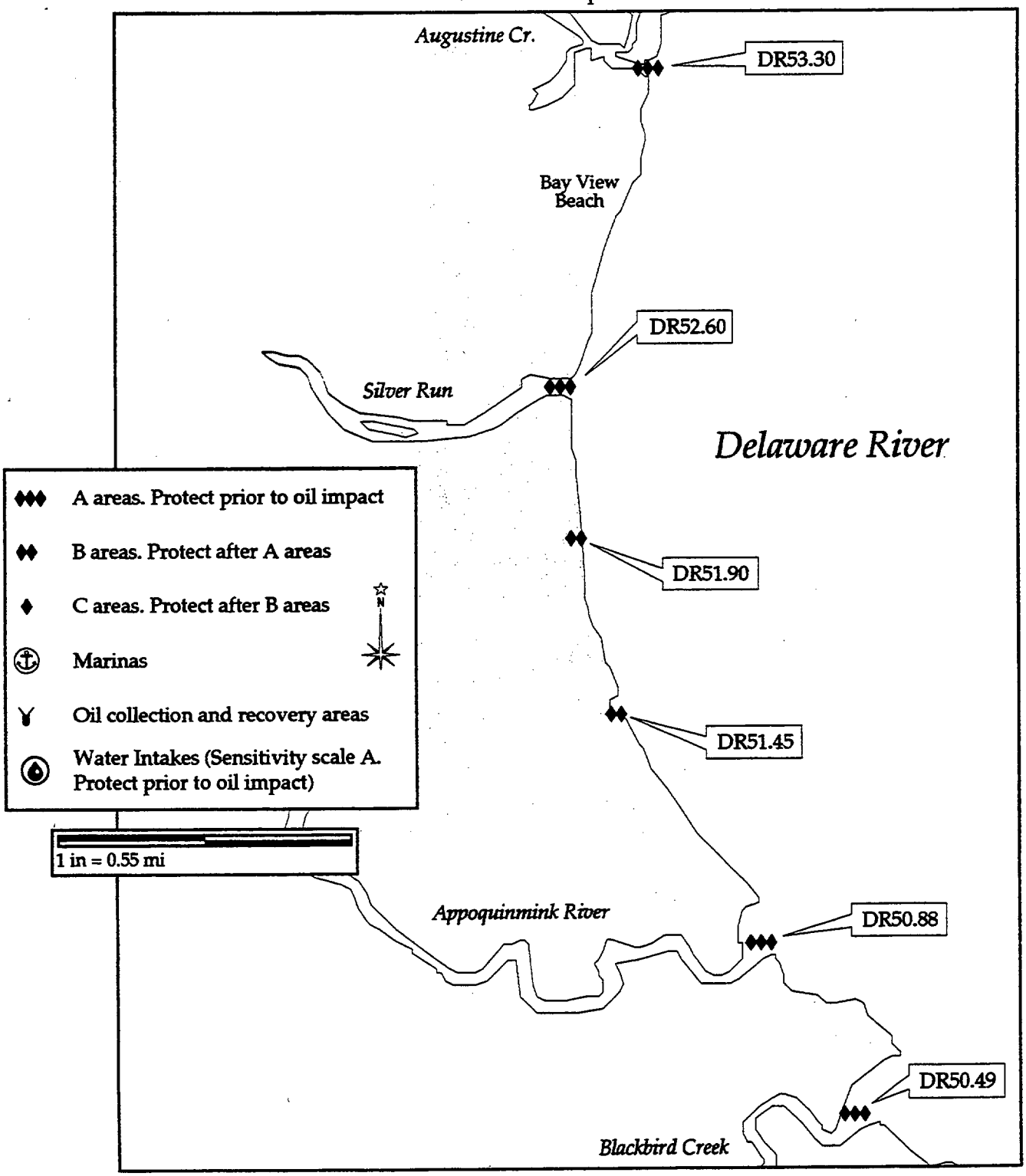

Quad 17 inset 1

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR52.60 Map No. 17 Name SILVER RUN

USGS Quad Taylors Bridge, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 17 Lat. 39°28'42" N Long. 075°35'58" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: About 1.25 miles south of Augustine Creek, across from Artificial Island.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous species of waterfowl and shorebirds f,w,and sp. Gulls, terns and raptors sp,su,and f. Wading birds from Pea Patch Island all seasons. Fish spawning area, muskrats and river otters also occur here.

HABITAT: Tidal creek, regularly flooded marshes and flats around mouth, irregularly flooded tidal marshes and scrub-shrub wetlands inside mouth, sand and mud-flats throughout.

THREATENED/ ENDANGERED: Bald eagles sp,su,and f.

OTHER:

RESPONSE CONSIDERATIONS

Ownership: Delaware Div of Fish & Wildlife

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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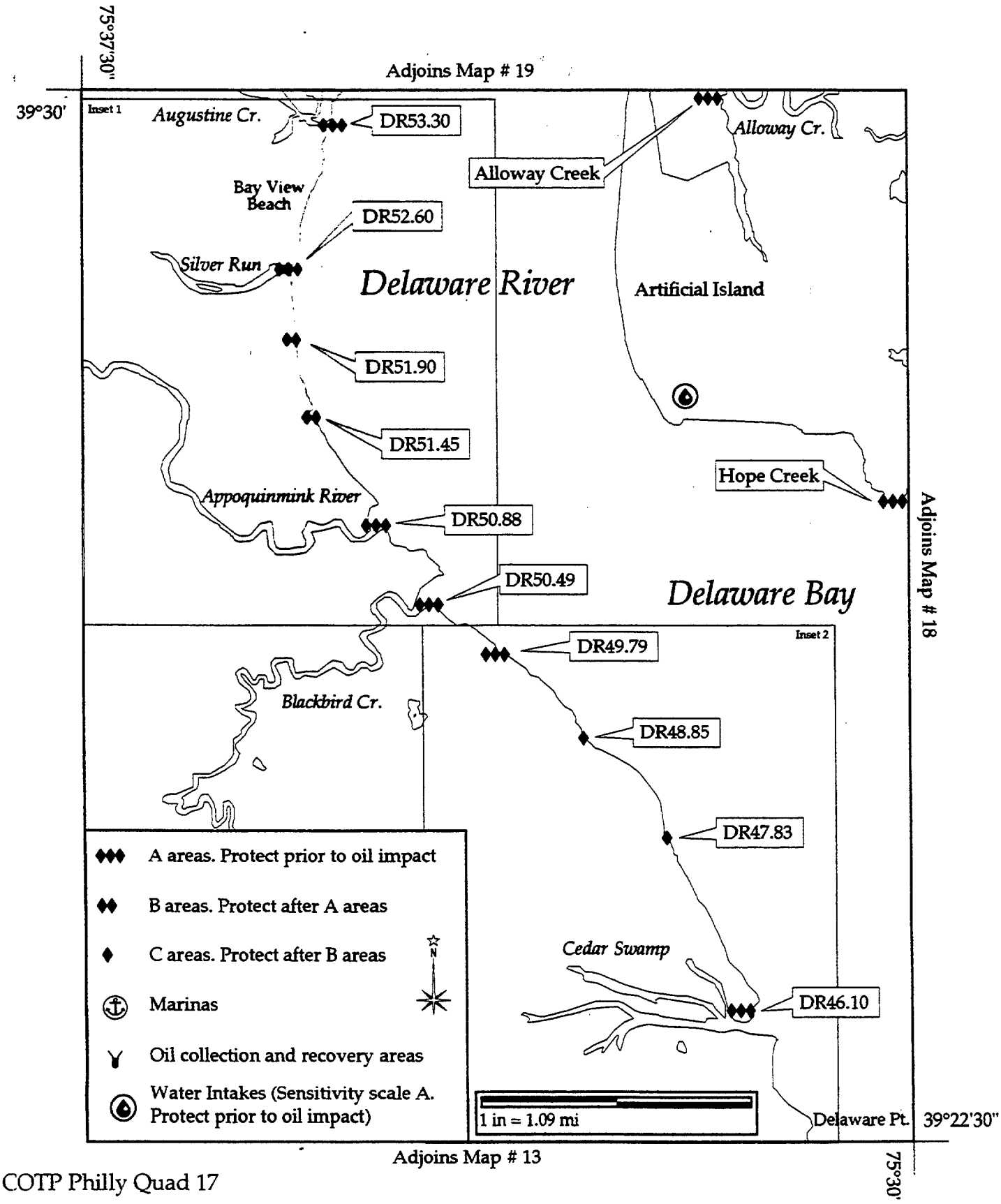

COTP Philly Quad 17

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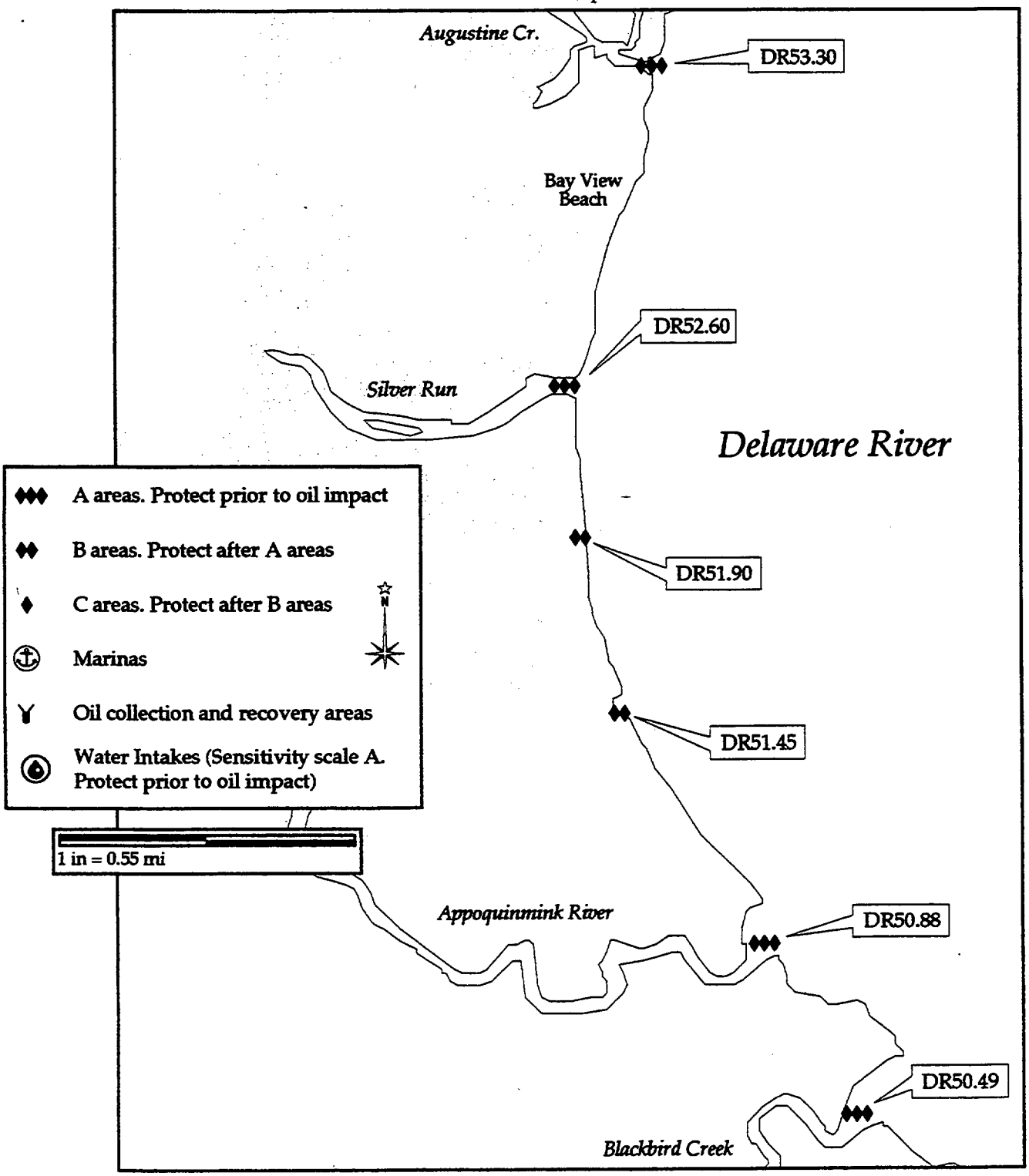

Quad 17 inset 1

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SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR48.85 Map No. 17 Name PEACH HOUSE DITCH

USGS Quad Taylors Bridge, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 17 Lat. 39° 25'41" N Long. 075° 32'57" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: About 1.5 miles southeast of Blackbird Creek, one mile southeast of Rays Ditch, 3/4 mile northwest of Delaware River and Bay/

PHYSICAL DESCRIPTION: Gravel beach and structure south side of mouth, irregularly flooded tidal marshes.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl and shorebirds f, w, and sp; wading birds all seasons.

HABITAT: Irregularly flooded tidal marshes.

THREATENED/ ENDANGERED:

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: ft

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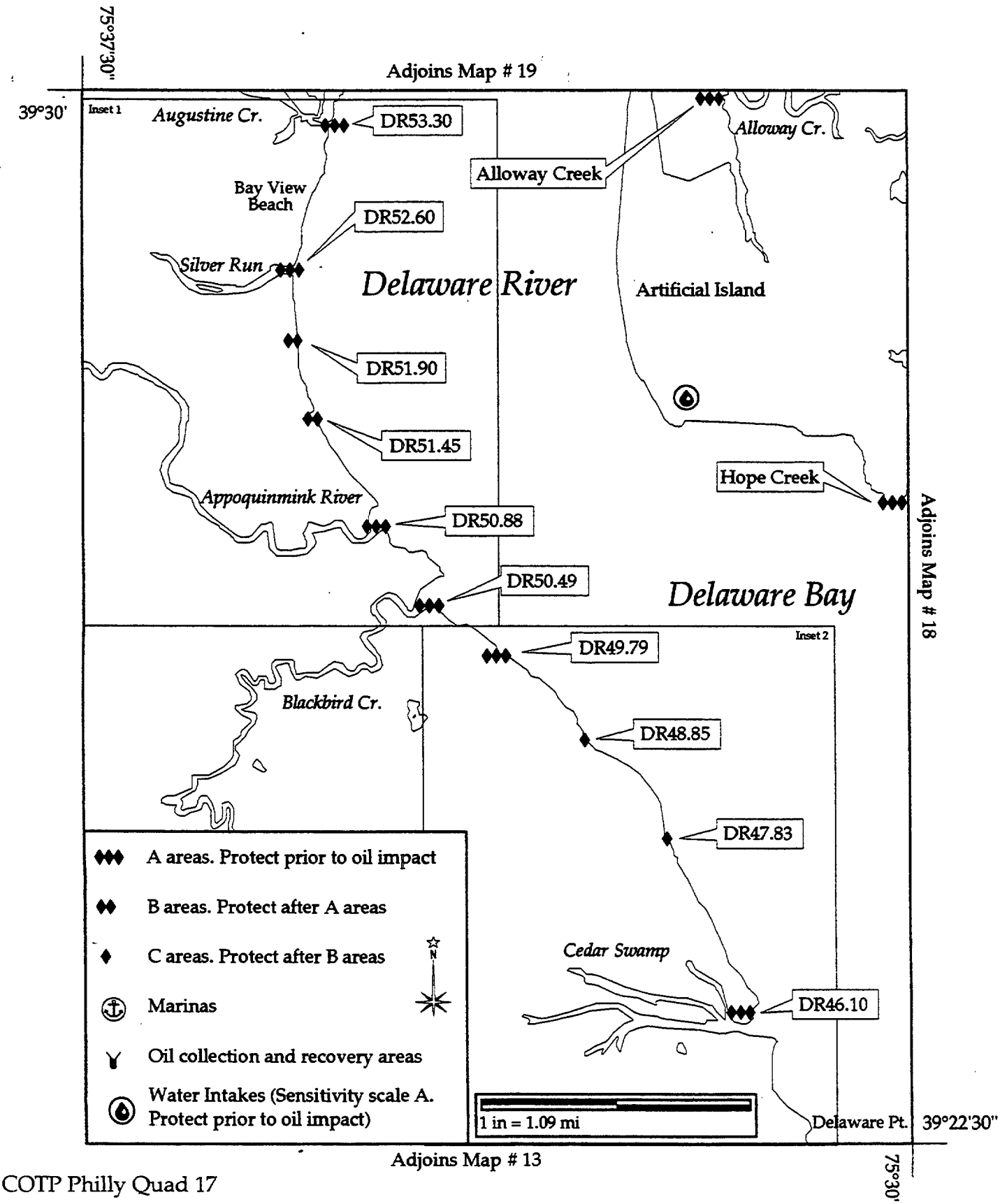

COTP Philly Quad 17

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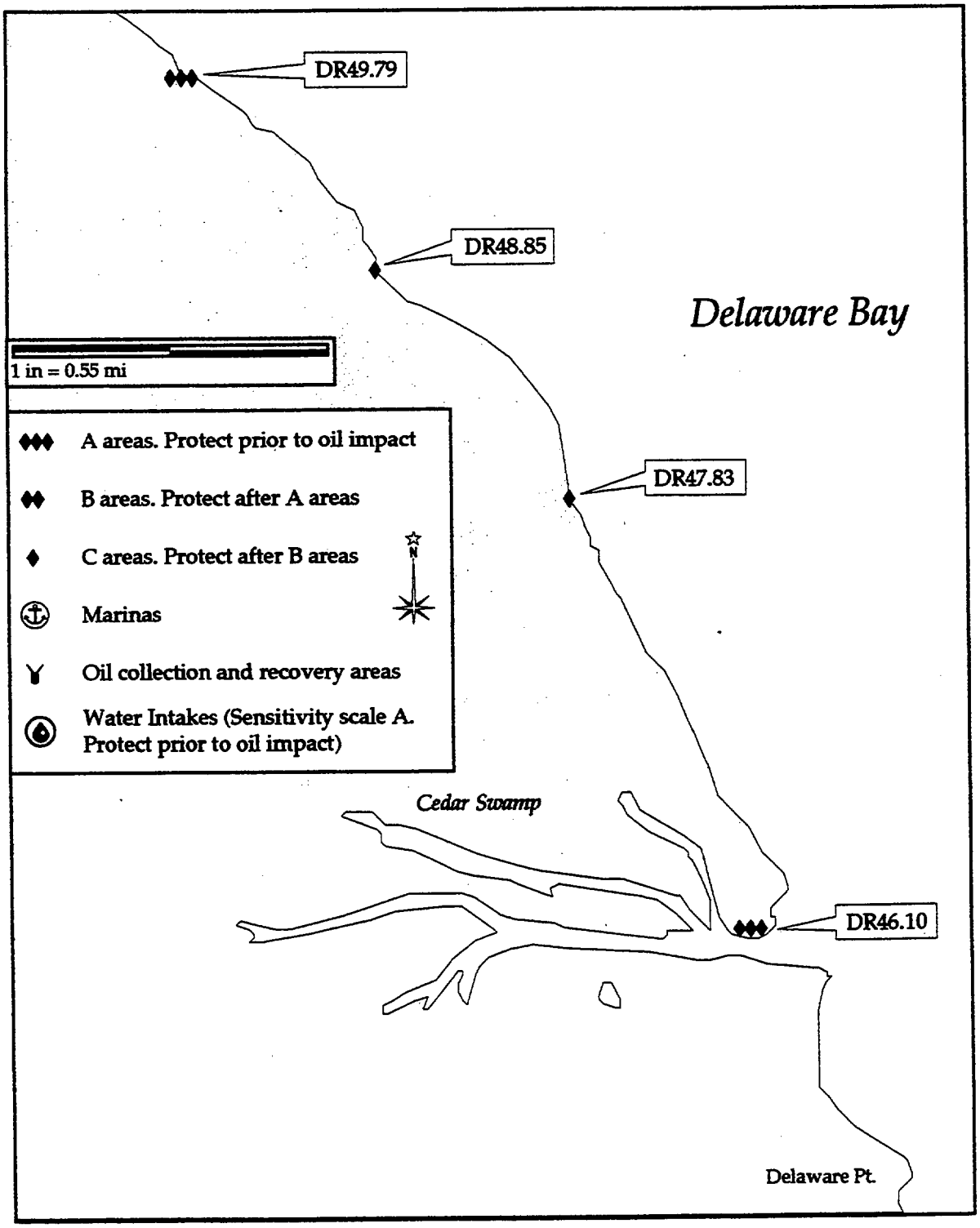

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR49.79 Map No. 17 Name RAYS DITCH

USGS Quad Taylors Bridge, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 17 Lat. 39°26'02" N Long. 075° 33'44" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: About one-half mile southeast of Blackbird Creek.

PHYSICAL DESCRIPTION: Gravel beaches outside mouth, irregularly and regularly flooded tidal marshes.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☐ Su ☐ F ☐ W ☐

WILDLIFE: Numerous waterfowl and shorebird species f,w,and sp; gulls, terns and raptors sp,su, and f; wading birds all seasons. River otters and muskrats also present.

HABITAT: Tidal creek, irregularly and regularly flooded tidal marshes, gravel beaches outside of mouth.

THREATENED/ ENDANGERED: Bald eagles sp, su, and f.

OTHER: Wading birds, shorebirds, gulls and terns may be using gravel beaches outside of mouth.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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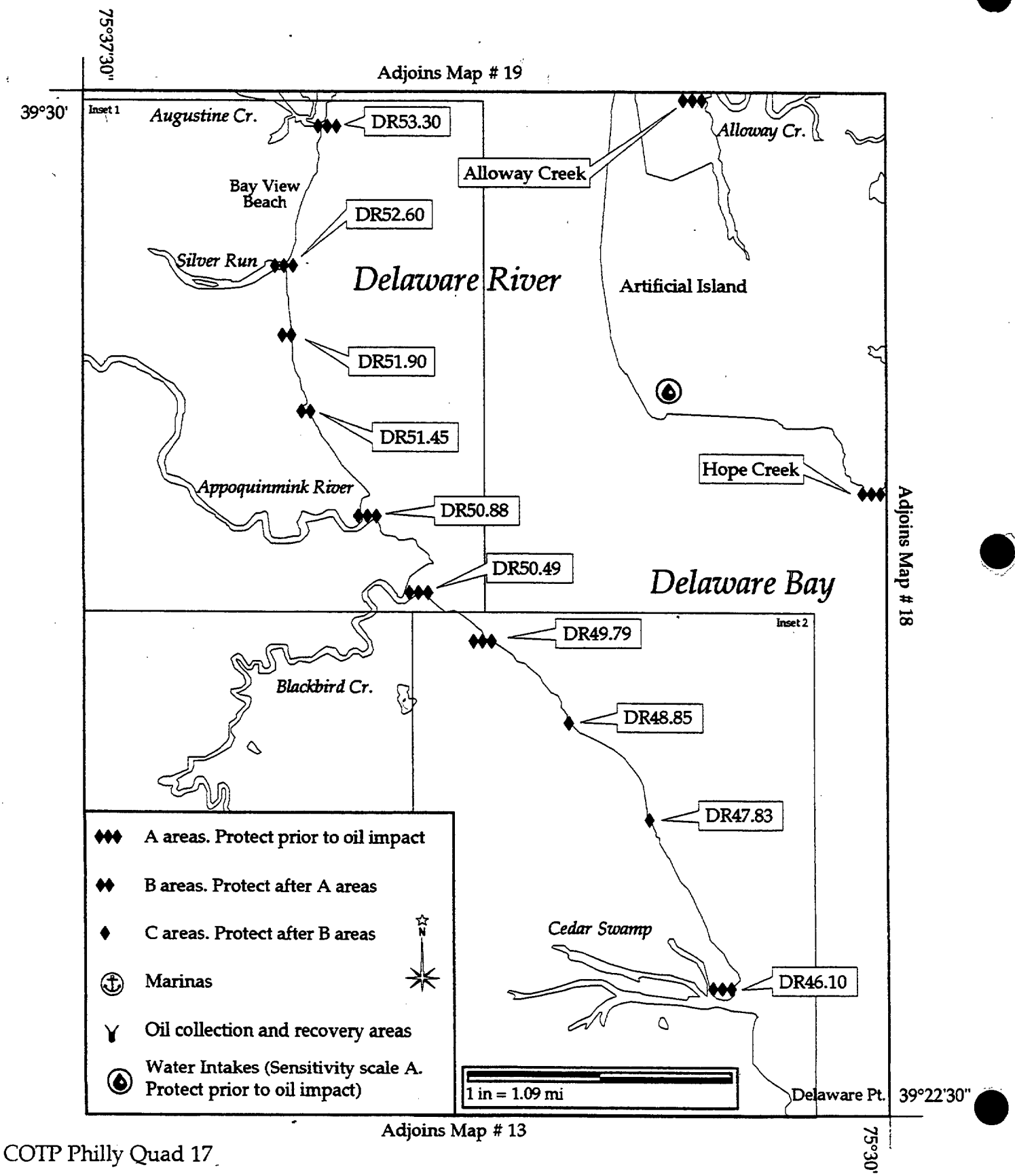

COTP Philly Quad 17

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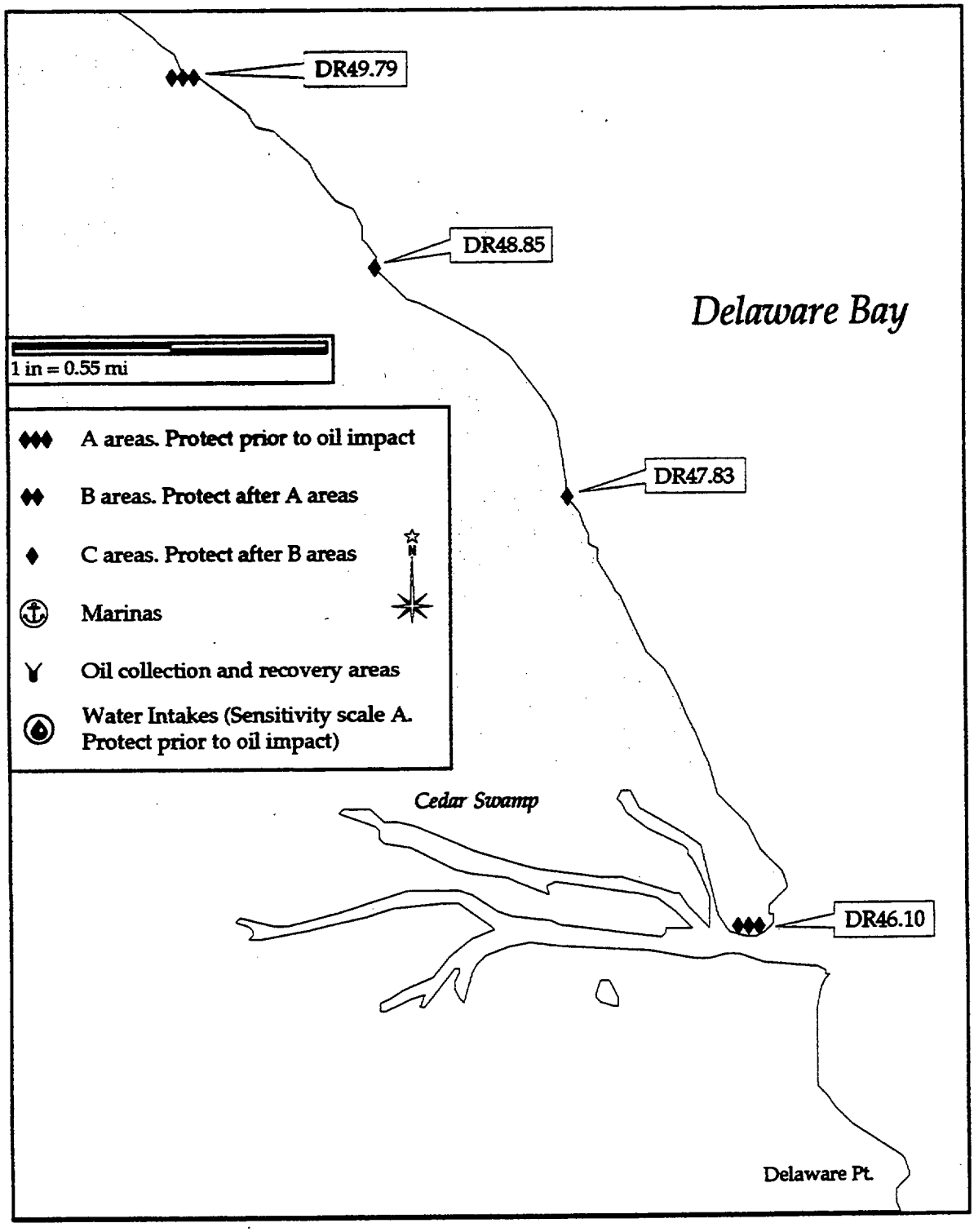

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR51.45 Map No. 17 Name Lower Break

USGS Quad Taylors Bridge, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 17 Lat. 39° 27'41" N Long. 075° 35'40" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: About one mile south of Silver Run, one mile north of Appoquinimink River, across from Artificial Island.

PHYSICAL DESCRIPTION: Mixed sand and gravel beaches and tidal flats around mouth, irregularly flooded tidal marshes inside mouth.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl and shorebirds f,w,and sp; gulls and terns sp,su,and f. Wading birds all seasons.

HABITAT: Mixed sand and gravel beaches and tidal flats around mouth, irregularly flooded tidal marshes inside mouth.

THREATENED/ ENDANGERED:

OTHER: Wading birds, shorebirds, gulls and terns may be using beaches and tidal flatts around and just inside mouth.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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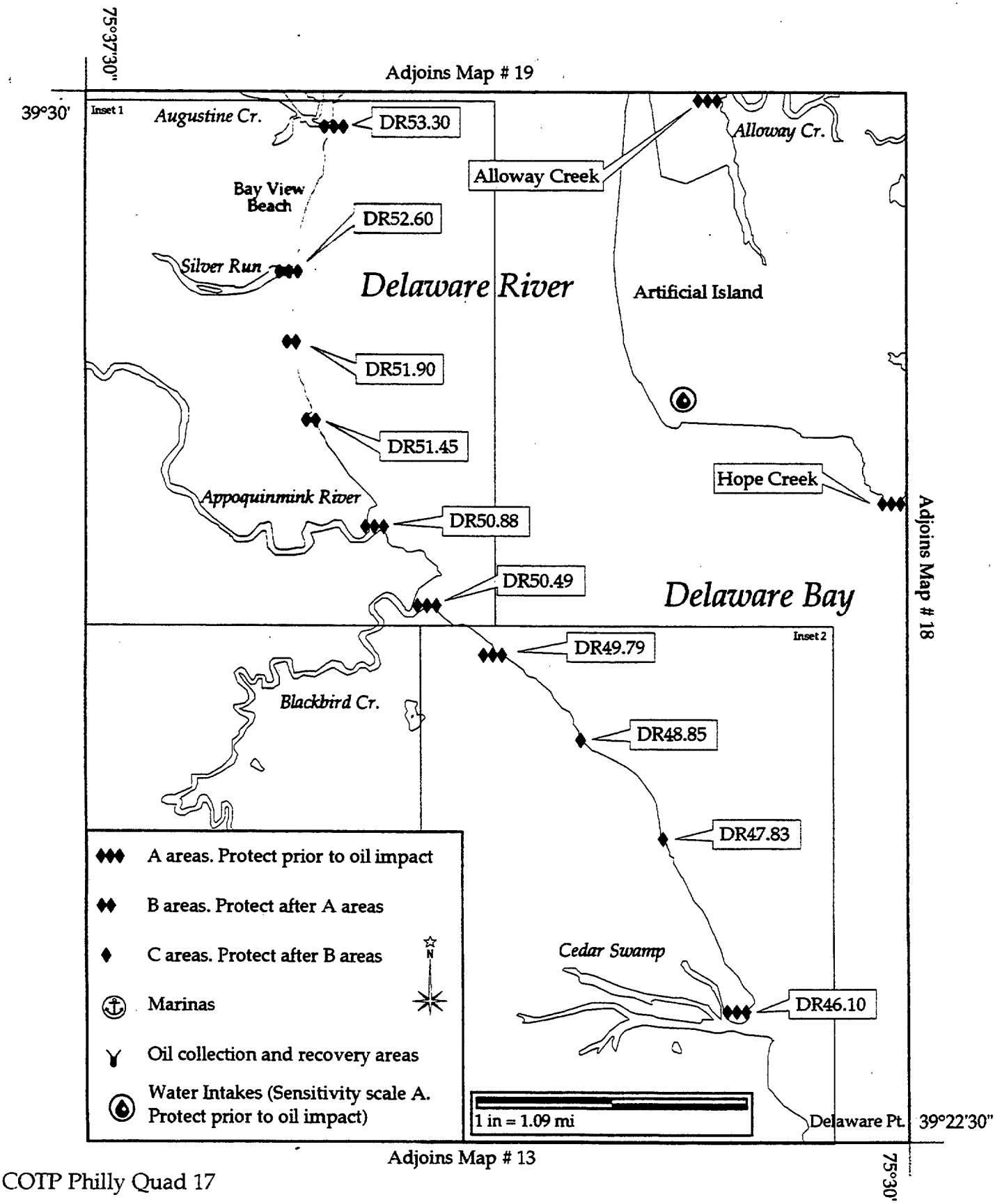

COTP Philly Quad 17

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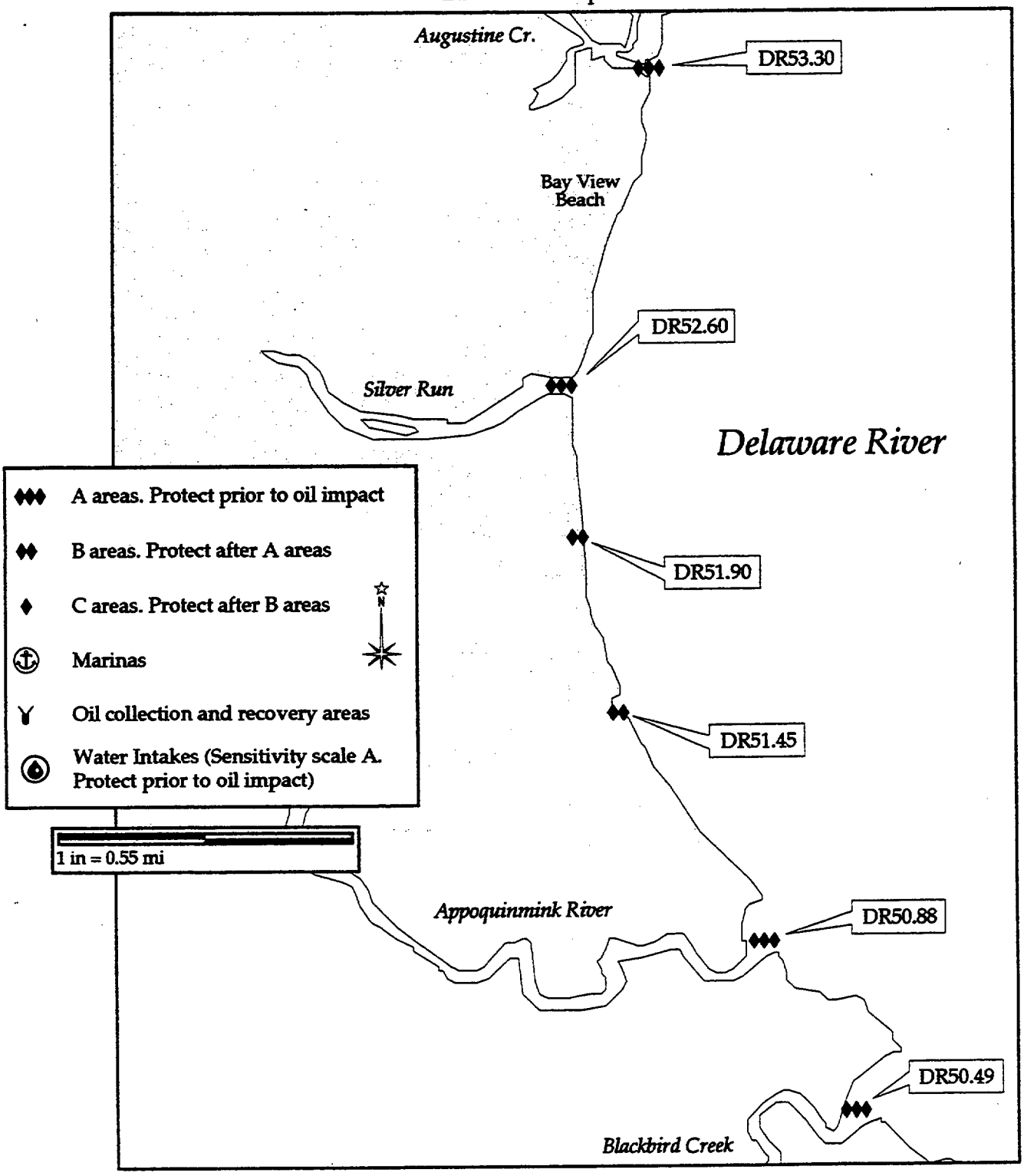

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SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR50.49 Map No. 17 Name BLACKBIRD CREEK

USGS Quad Taylors Bridge NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 17 Lat. 39° 26'39" N Long. 075° 34'38" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: 5.6 ft Max Currents: kts

GEOGRAPHIC LOCATION: About one mile south fo Appoqunimink River.

PHYSICAL DESCRIPTION: Gravel beaches on southern side of mouth, irregularly and regularly flooded marshes tidal creeks and flats.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous waterfowl and shorebird species f, w, and sp. Gulls, terns and raptors sp,su,and f. Wading birds all seasons. Riverine/anadromous fish spawning inside mouth sp and su. River otters and muskrats also occur here.

HABITAT: Tidal creeks and flats, extensive irregularly and regularly flooded tidal marshes, gravel beaches on southern side of mouth.

THREATENED/ ENDANGERED: Bald eagles sp,su, and f.

OTHER:

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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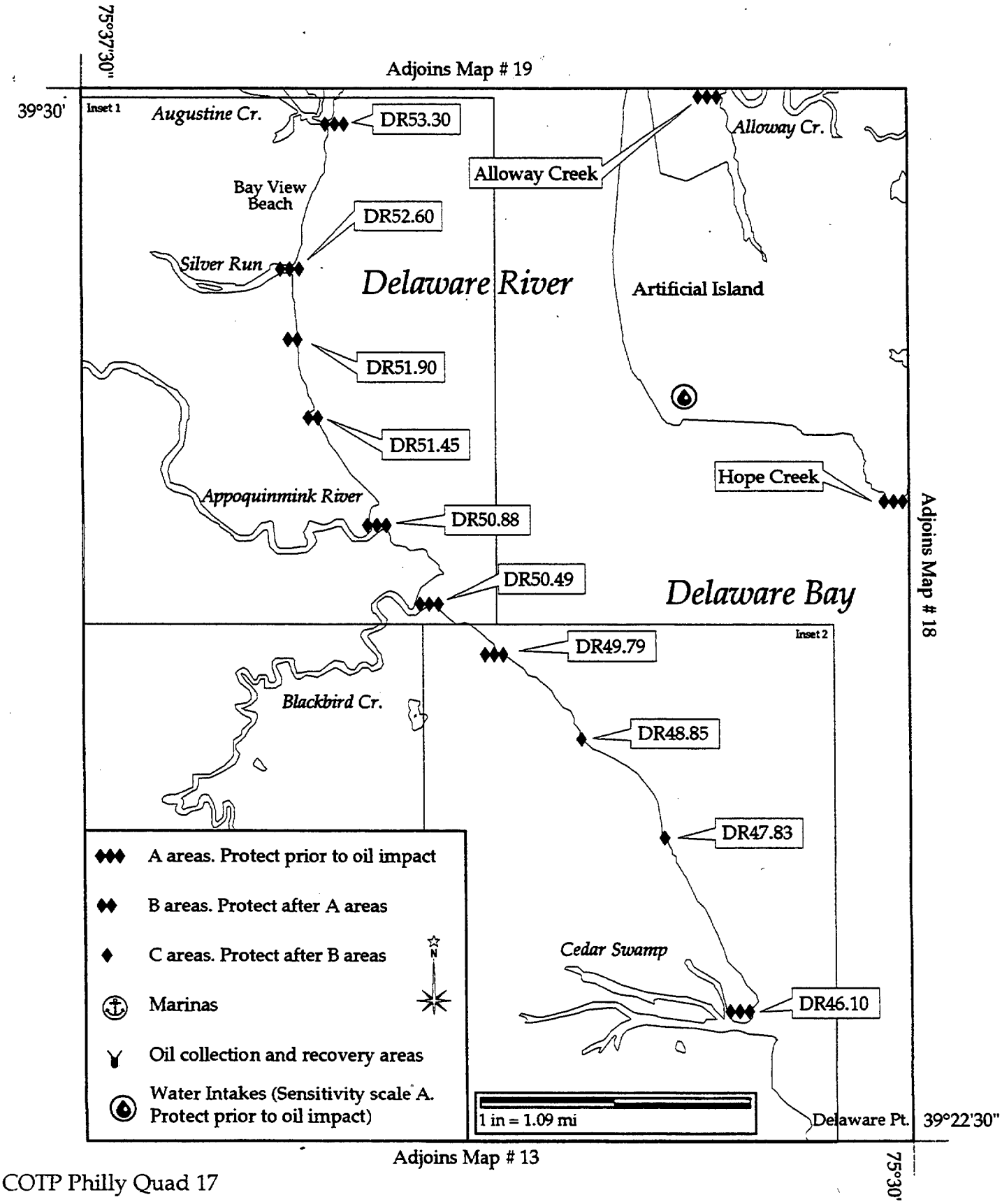

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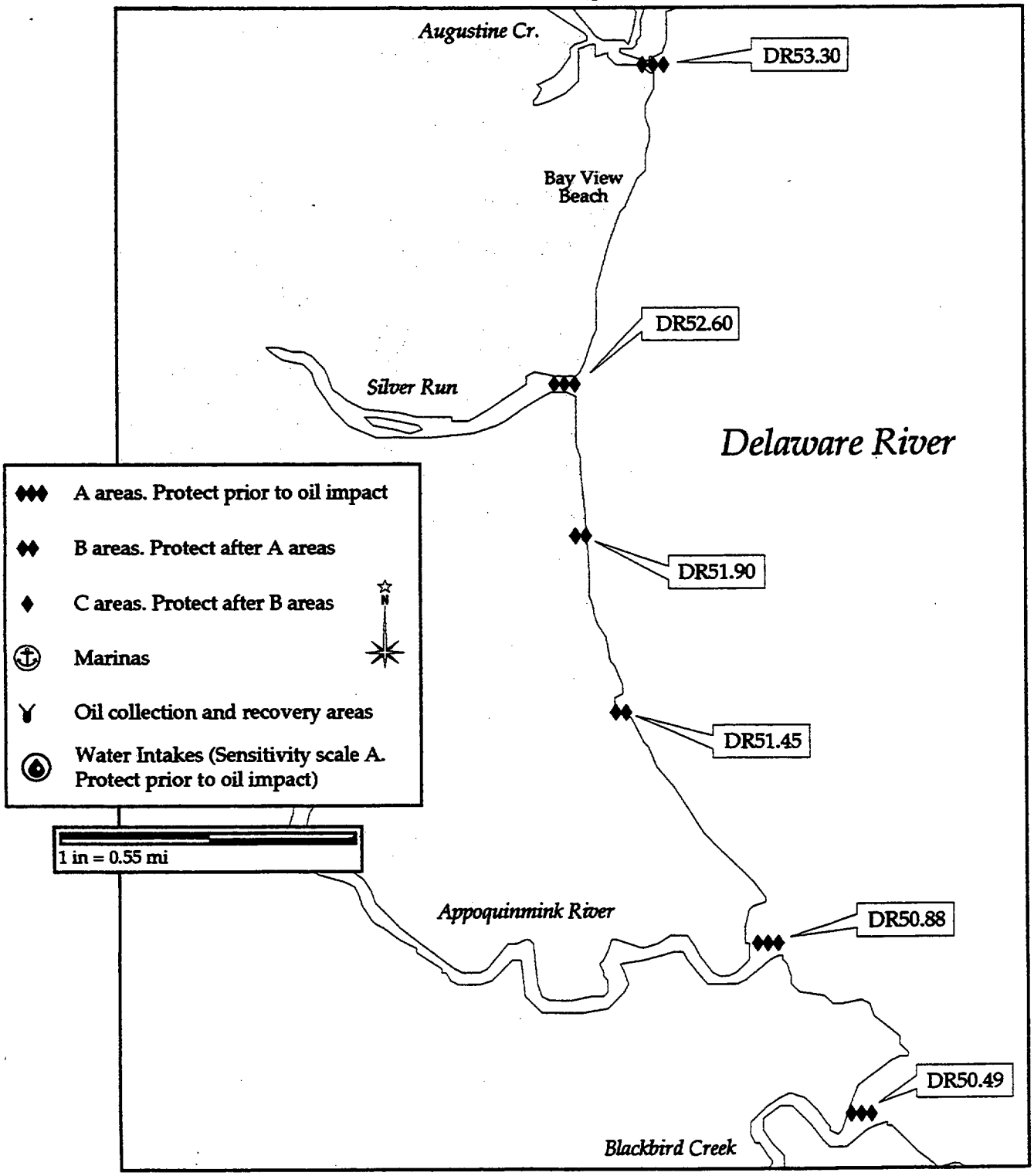

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SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR46.10 Map No. 17 Name CEDAR SWAMP/COLLINS BEACH

USGS Quad Taylors Bridge, DE-NJ NOAA Chart 12311/12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 17 Lat. 39° 23'35" N Long. 075°31'38" W

Agency / Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: About one mile north of Delaware Point.

PHYSICAL DESCRIPTION: Wide mouth containing irregularly flooded marshes and mixed sand and gravel beaches, extensive marshes and creeks

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☒ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous waterfowl and shorebird species f,w,and sp. Raptors, gulls and terns sp, su, and f. Wading birds all seasons. River otters and muskrats also present.

HABITAT: Extensive irregularly and regularly flooded tidal marshes, many tidal creeks, flats and lagoons, and numerous small islands. Mixed sand and gravel beaches around mouth.

THREATENED/ ENDANGERED: Bald eagles sp,su,and f.

OTHER:

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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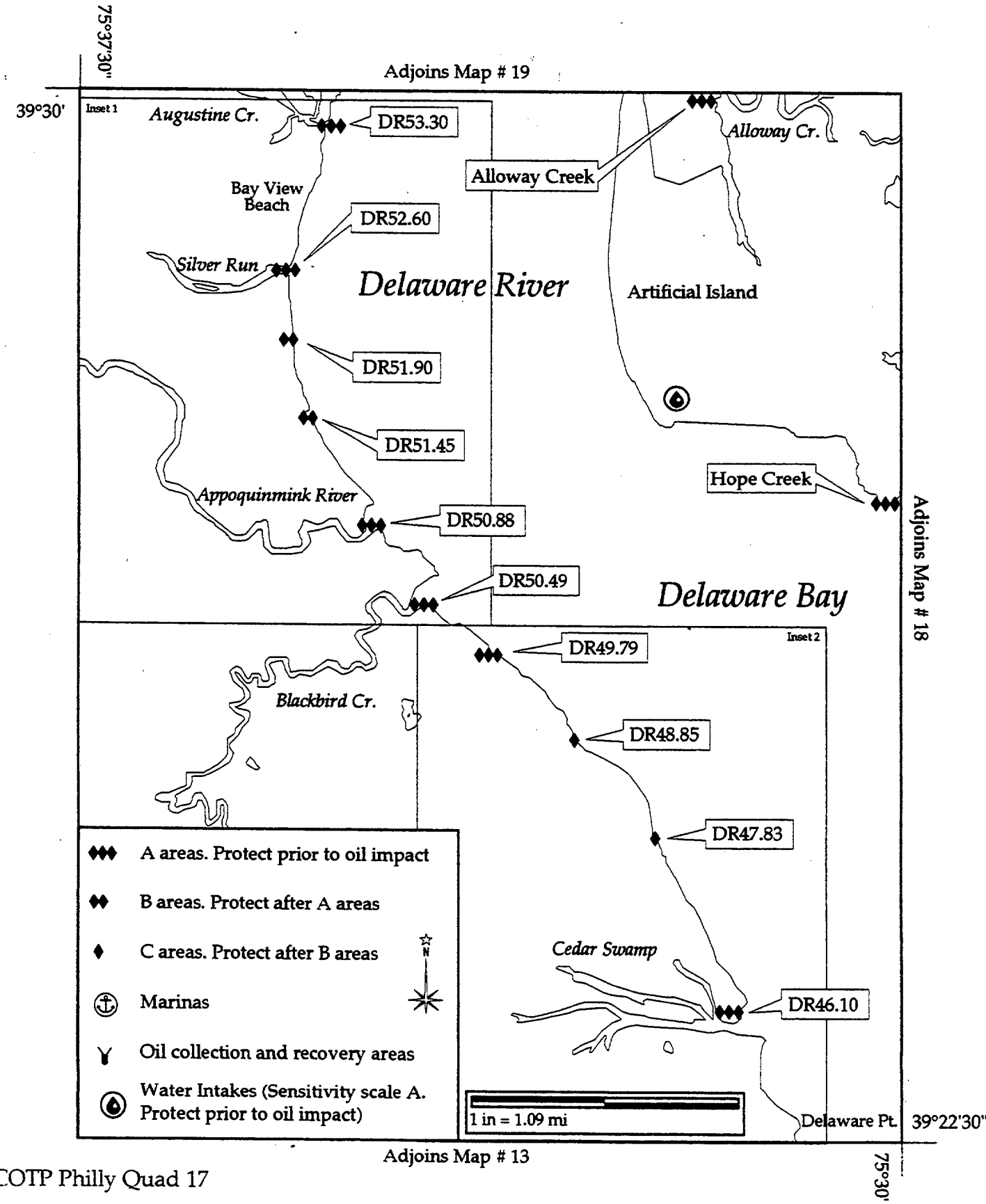

COTP Philly Quad 17

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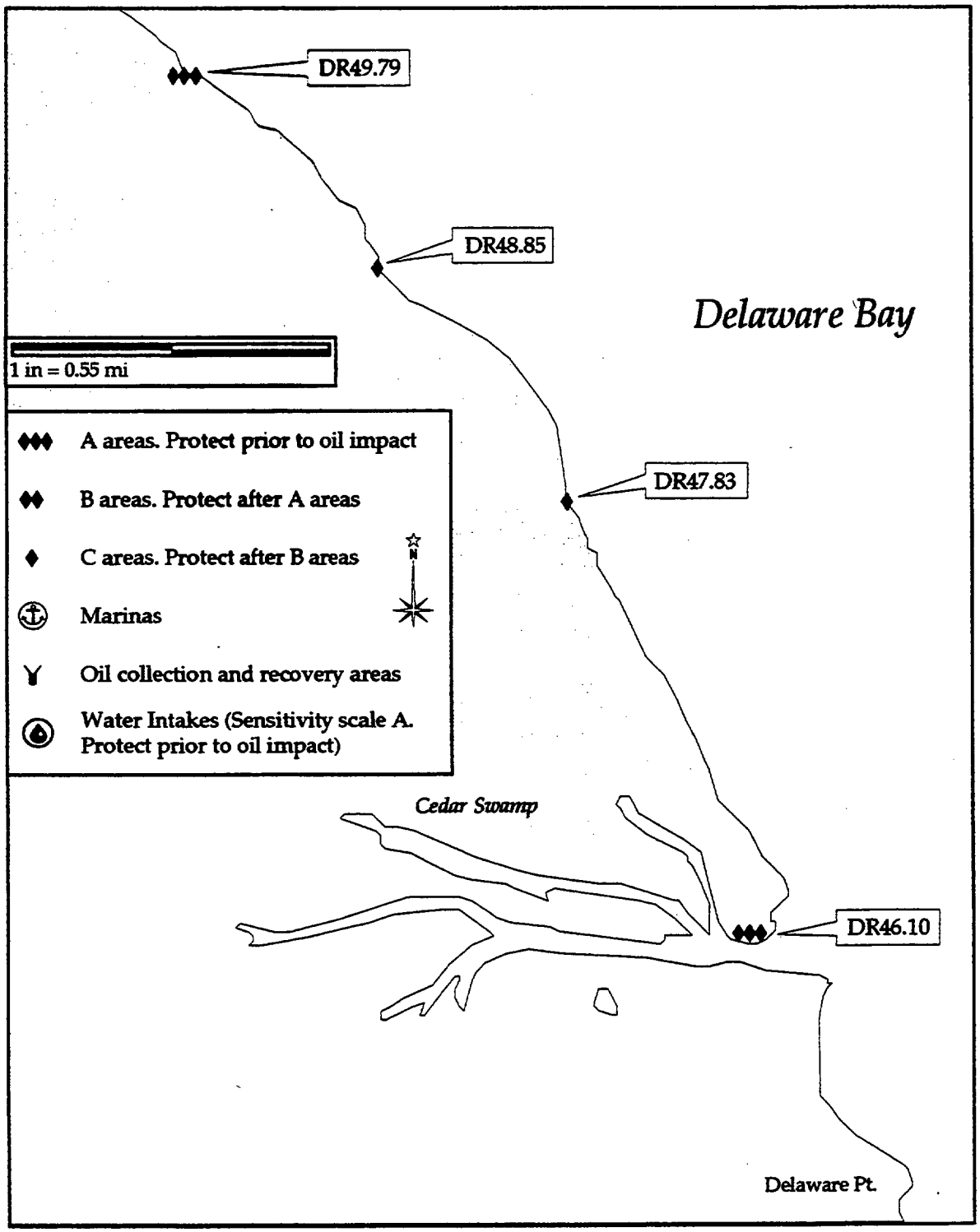

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR53.30 Map No. 17 Name AUGUSTINE CREEK

USGS Quad Taylors Bridge, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 17 Lat. 39°29'44" N Long. 075°35'23" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: 1.5 miles south of Port Penn, across from Artificial Island.

PHYSICAL DESCRIPTION: Tidal creek with tide gate, regularly flooded marshes and flats outside gate, irregularly flooded marshes inside gate.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous species of waterflowl and shorebirds f,w,and sp; gulls, terns, and raptors sp, su, and f, and wading birds from Pea Patch Island all seasons. River otters, and muskrats also occur here.

HABITAT: Regularly flooded tidal marshes and flats around mouth outside tide gate, impounded open water and irregularly flooded marshes inside tide gate.

THREATENED/ ENDANGERED: Bald eagles sp, su,andf.

OTHER: Spawning and nursery area for marine and estuarine fish.

RESPONSE CONSIDERATIONS

Ownership: Delaware Div of Fish & Wildlife

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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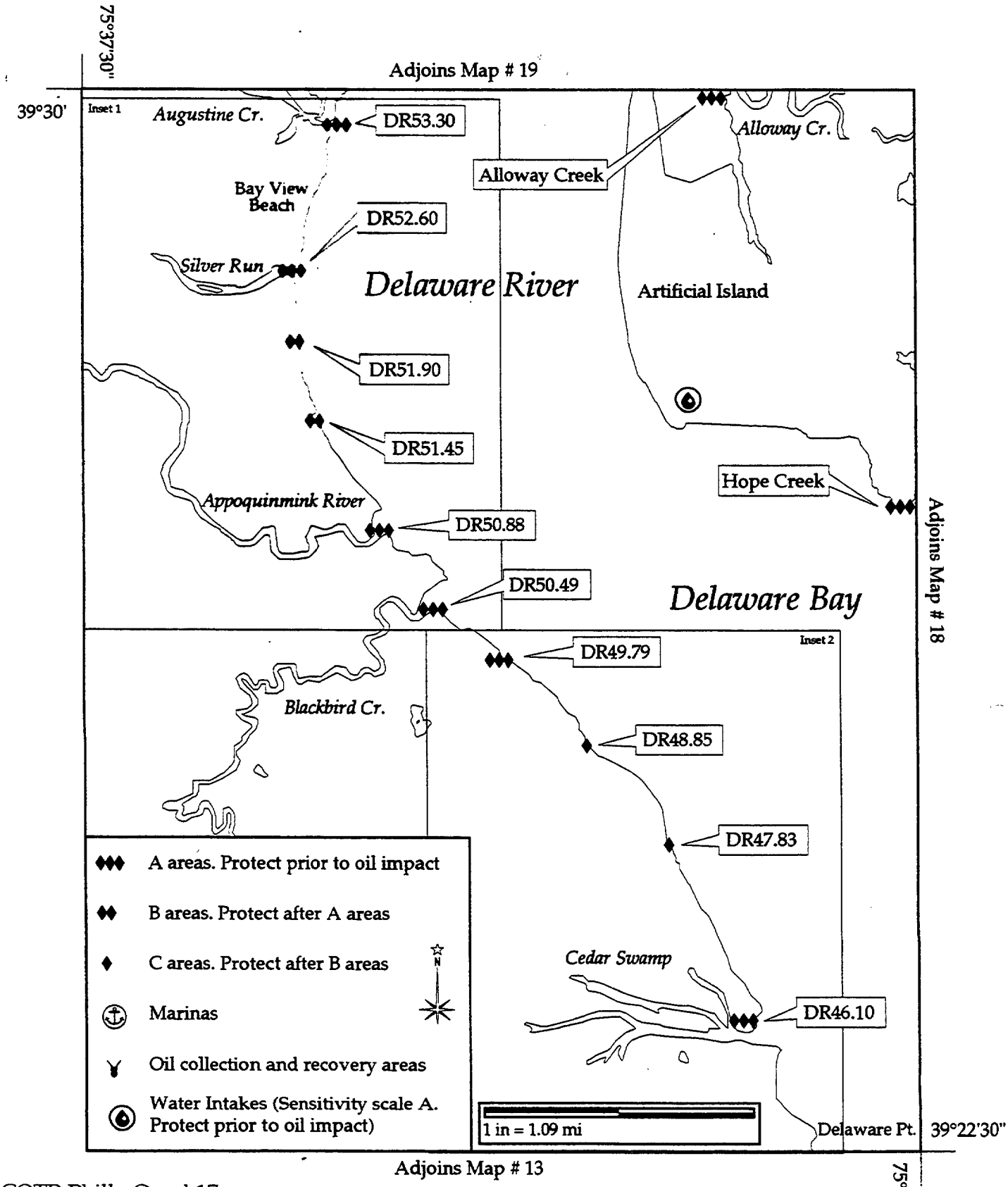

COTP Philly Quad 17

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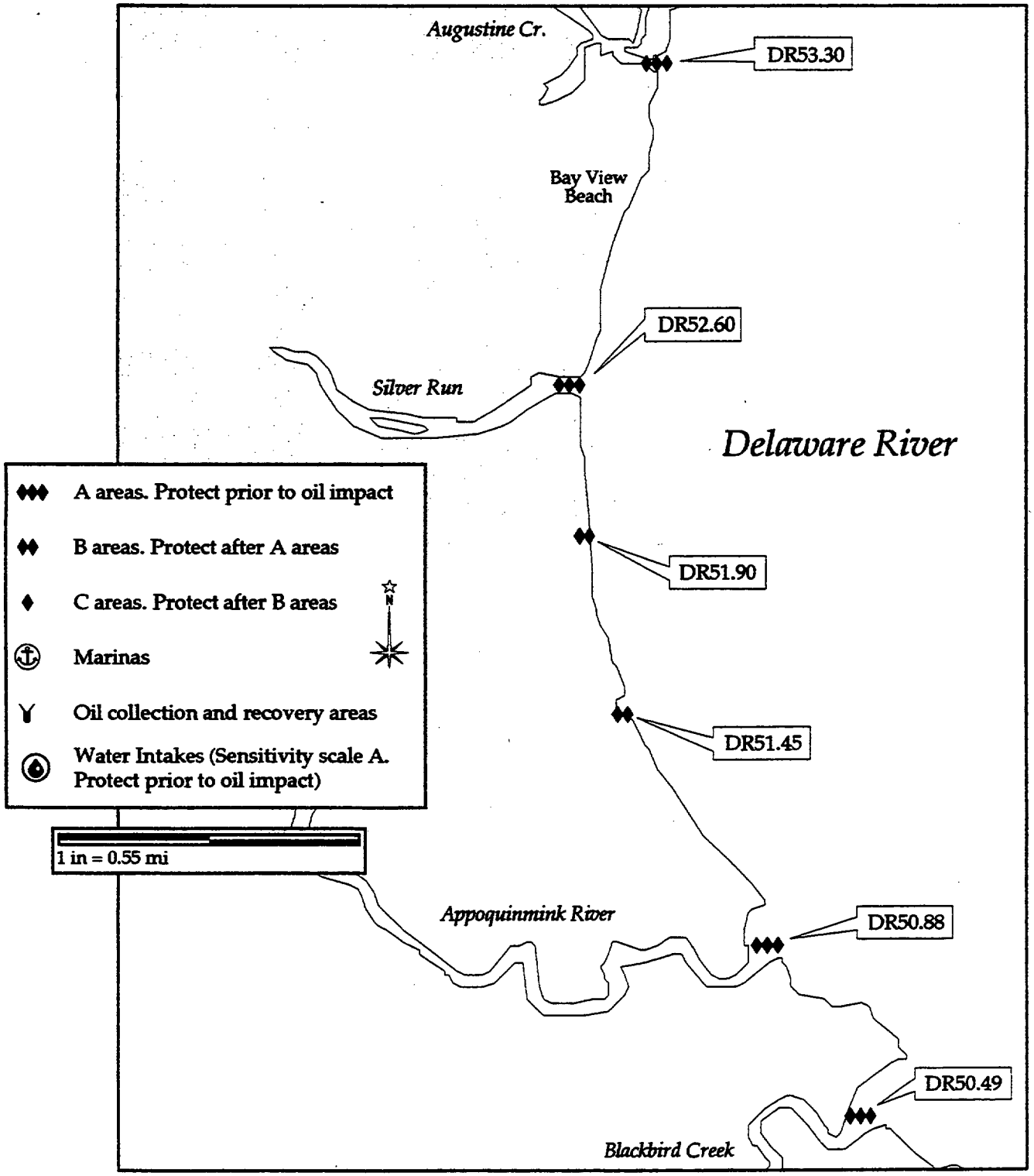

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 17 Name ALLOWAY CREEK

USGS Quad Taylors Bridge, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 17 Lat. 39°30'00" N Long. 075°31'58" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: 5.44 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Heavy waterfowl population and wading birds, otters and muskrats

HABITAT: Tidal salt marsh of phragemites and marsh cordgrass

THREATENED/ ENDANGERED: Osprey

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER: Hope Creek Nuclear Generating Station water intakes.

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

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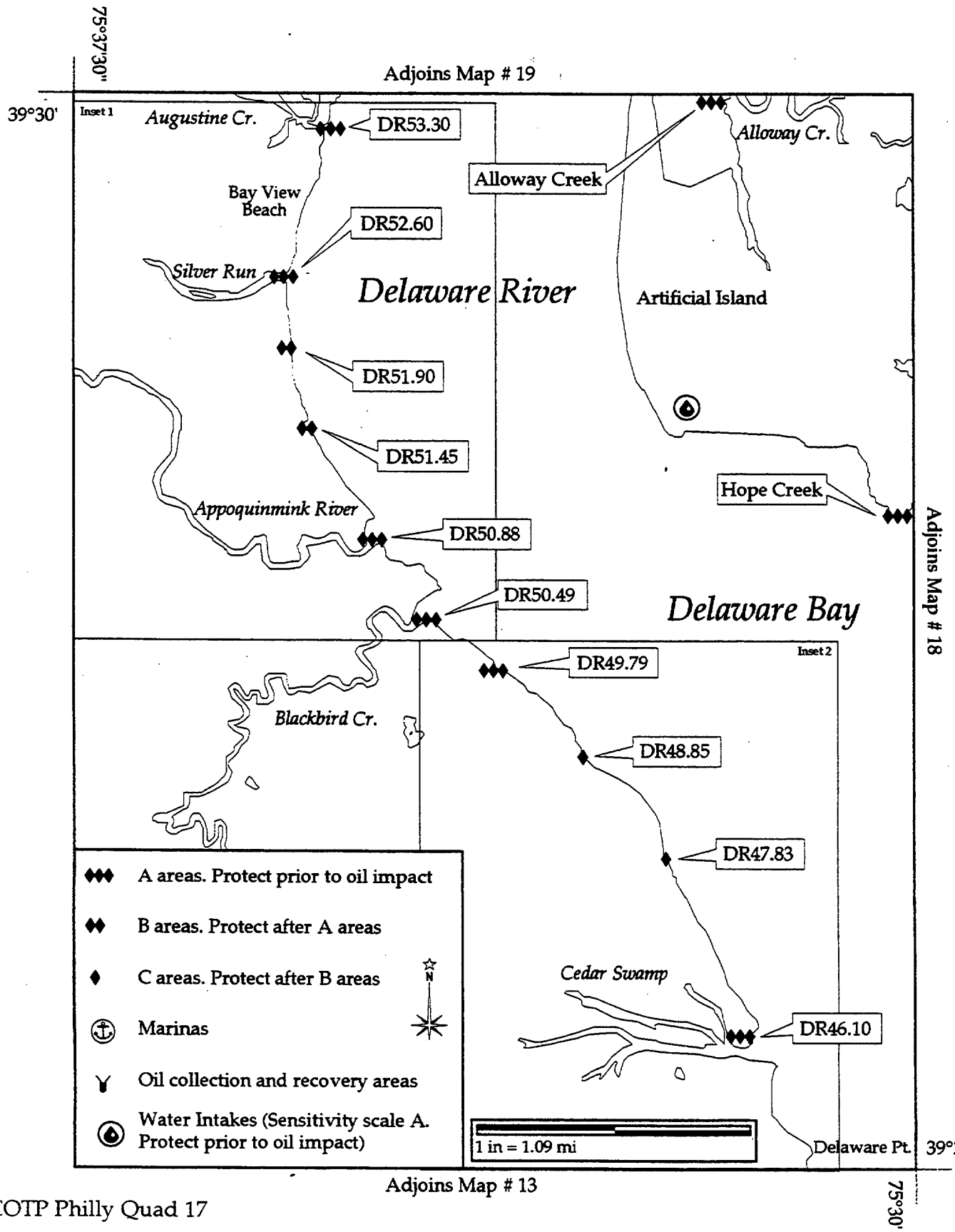

COTP Philly Quad 17

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR50.88 Map No. 17 Name APPOQUINIMINK RIVER

USGS Quad Taylors Bridge, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 17 Lat. 39° 26'58" N Long. 075° 34'50" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: About 2 miles south of Silver Run, one mile north of Blackbird Creek.

PHYSICAL DESCRIPTION: Tidal flats/gravel beaches around mouth, irregularly flooded and regularly flooded tidal marshes inside mouth.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous species of waterfowl and shorebirds f,w, and sp. Gulls, terns and raptors sp,su, and f. Wading birds all seasons. Riverine/anadromous fish spawning inside mouth in sp and su. River otters and muskrats also occur here. White perch all seasons.

HABITAT: Extensive irregularly and regularly flooded tidal marshes, tidal creeks and flats.

THREATENED/ ENDANGERED: Bald eagles sp, su, and f.

OTHER:

RESPONSE CONSIDERATIONS Ownership: Delaware Div of Fish and Wildlife

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: ft

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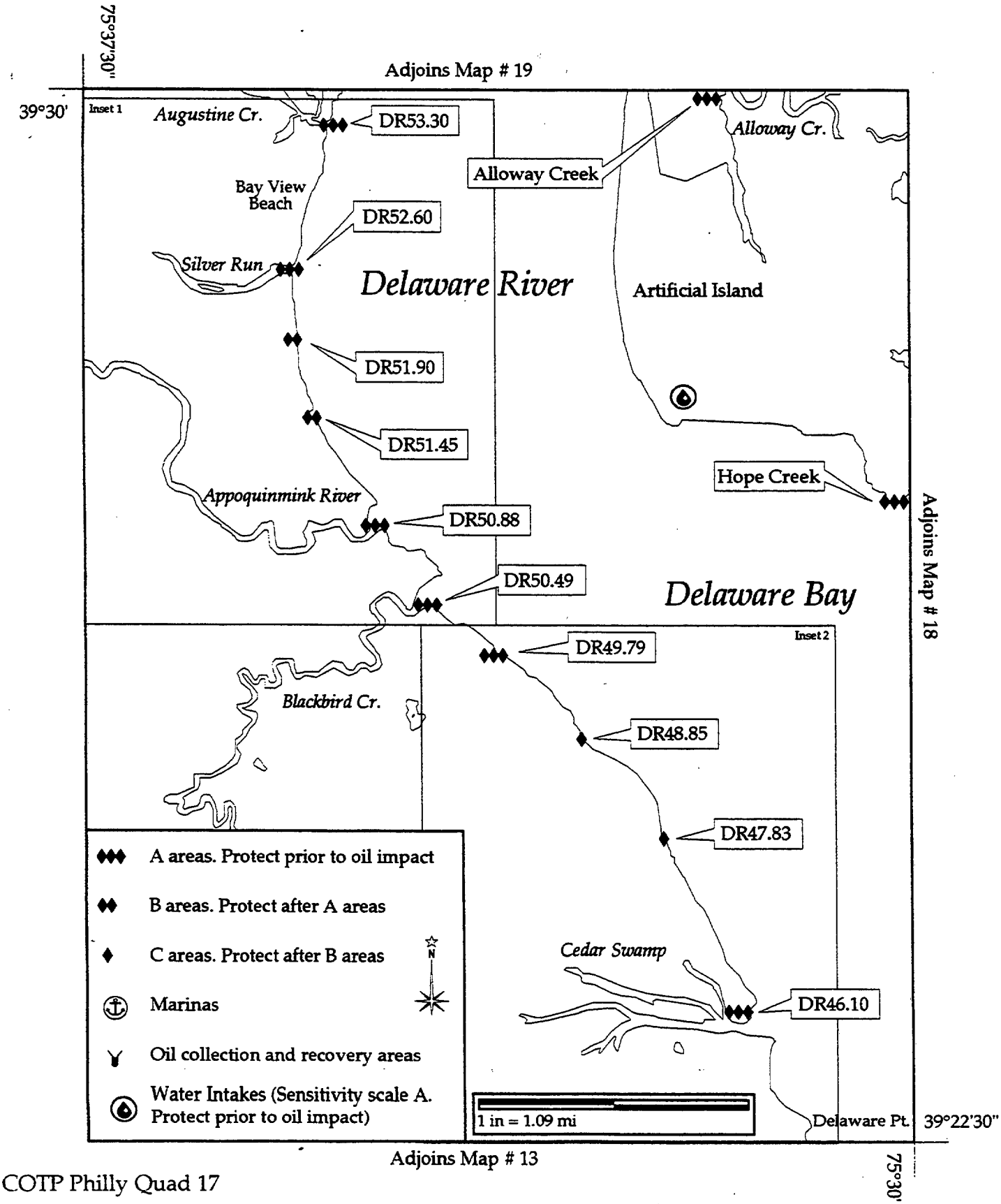

COTP Philly Quad 17

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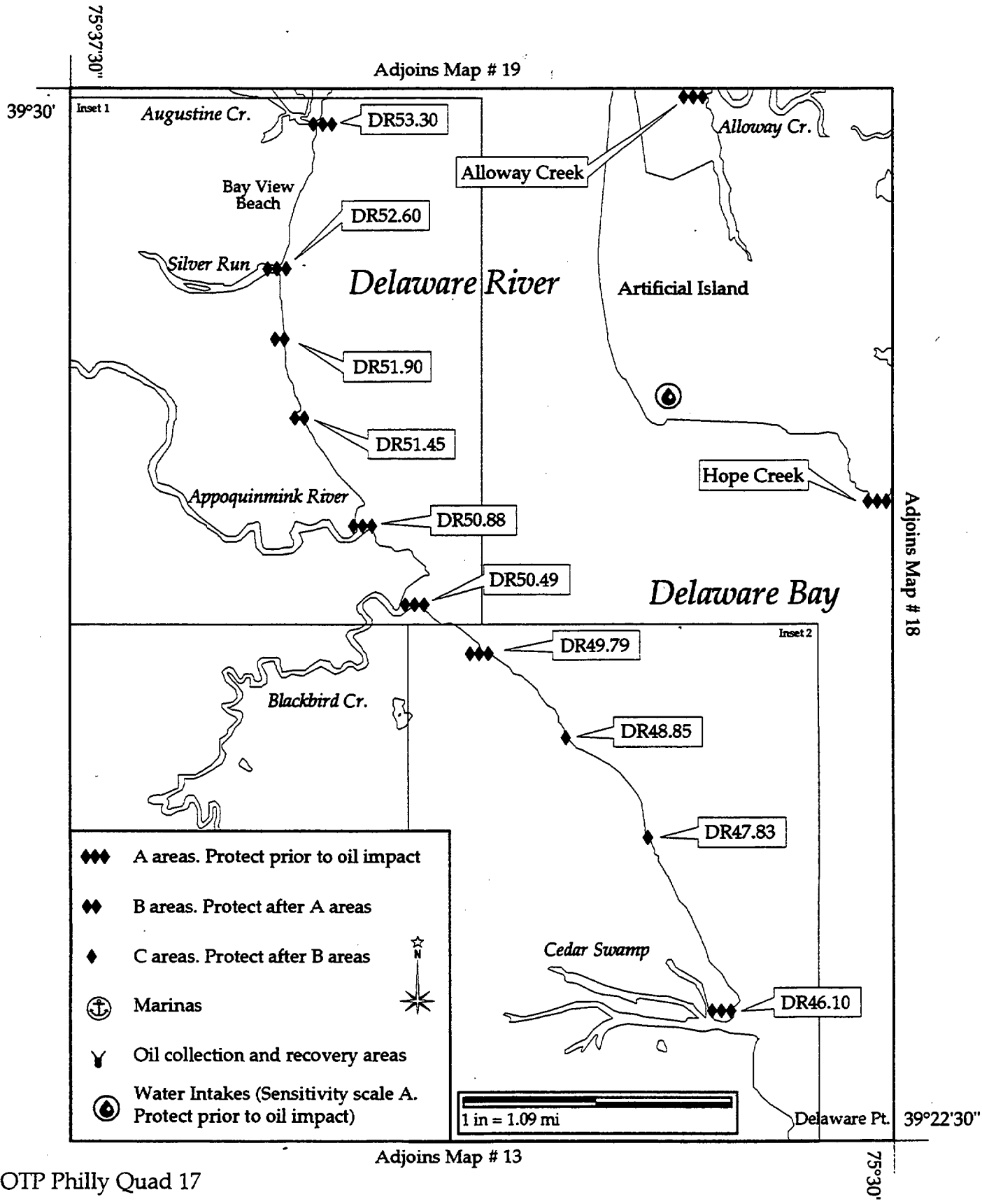

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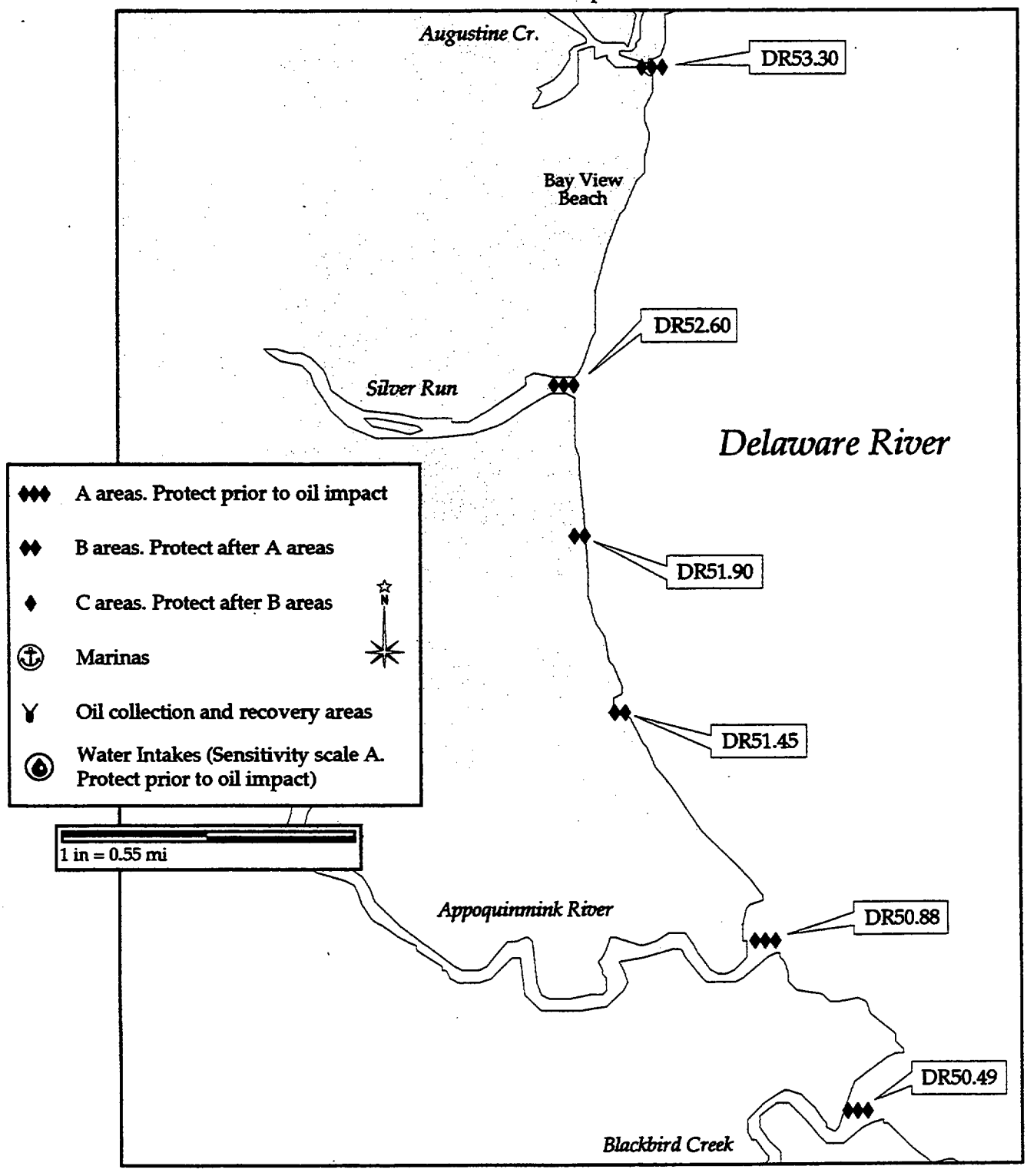

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 18 Name STOW CREEK

USGS Quad Canton, NJ-DE NOAA Chart 12311/12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 18 Lat. 39° 23'12" N Long. 075° 24'58" W

Agency / Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: 4.85 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl, waders, otters, and muskrats

HABITAT: Tidal salt marsh of phragmites and cordgrass

THREATENED/ ENDANGERED: Osprey and bald eagles(winter,spring & summer)

OTHER: Commerial watermen

SEE Shore Bird Appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

Captain of the Port Philadelphia

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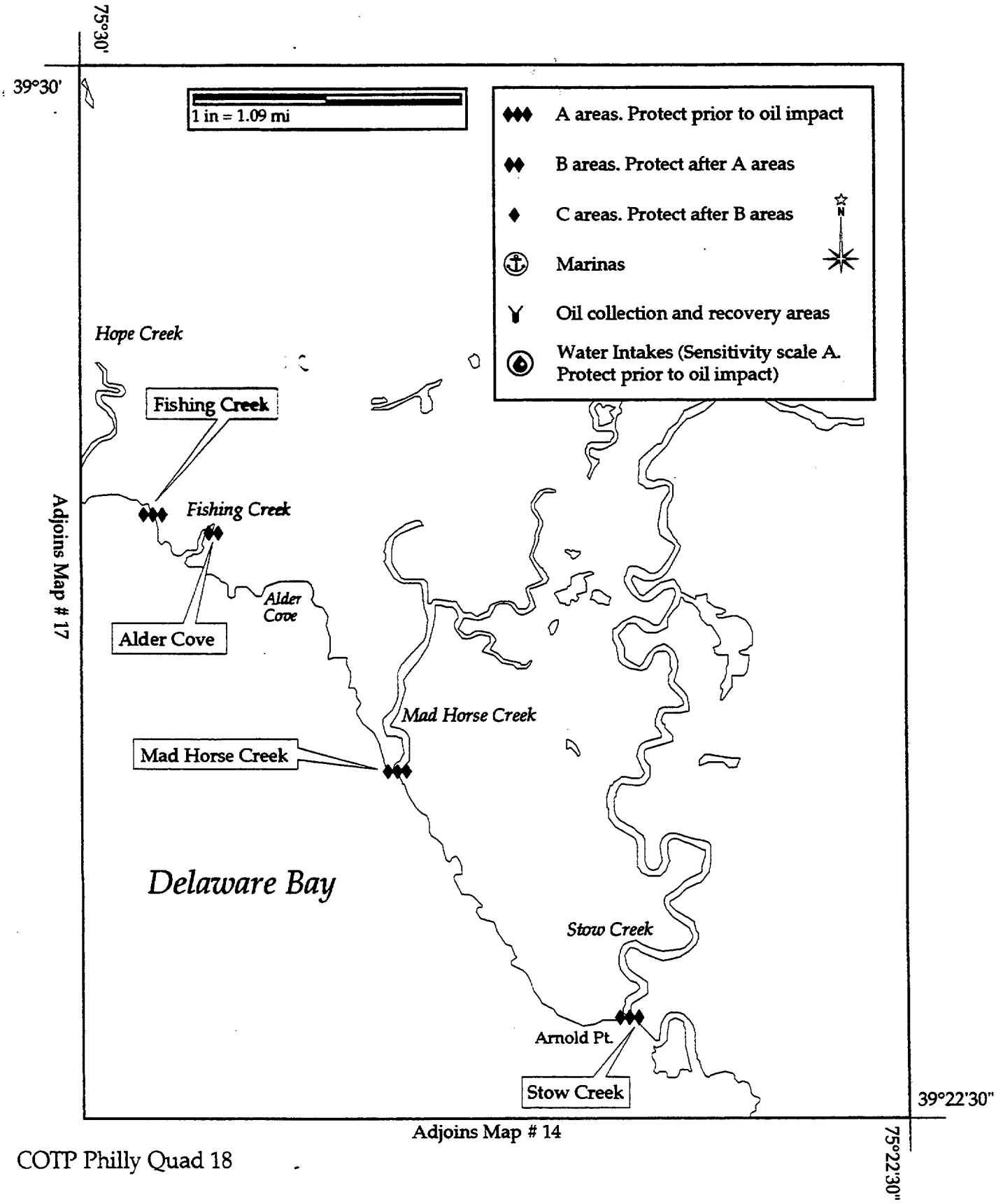

COTP Philly Quad 18

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 18 Name Mad Horse Creek

USGS Quad Canton, NJ-DE NOAA Chart 12311/12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 18 Lat. 39° 24'59" N Long. 075° 27'16" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: 5.86 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl , waders, otters, muskrats

HABITAT: Tidal salt marsh at phragmites and cord grass

THREATENED/ ENDANGERED: Osprey and bald eagles

OTHER: Commercial netters, crabbers, and eelers
SEE Shore Bird Appendix.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover Minimum Boom Length: f

SEE DBRC BOOMING STRATEGIES.

Captain of the Port Philadelphia

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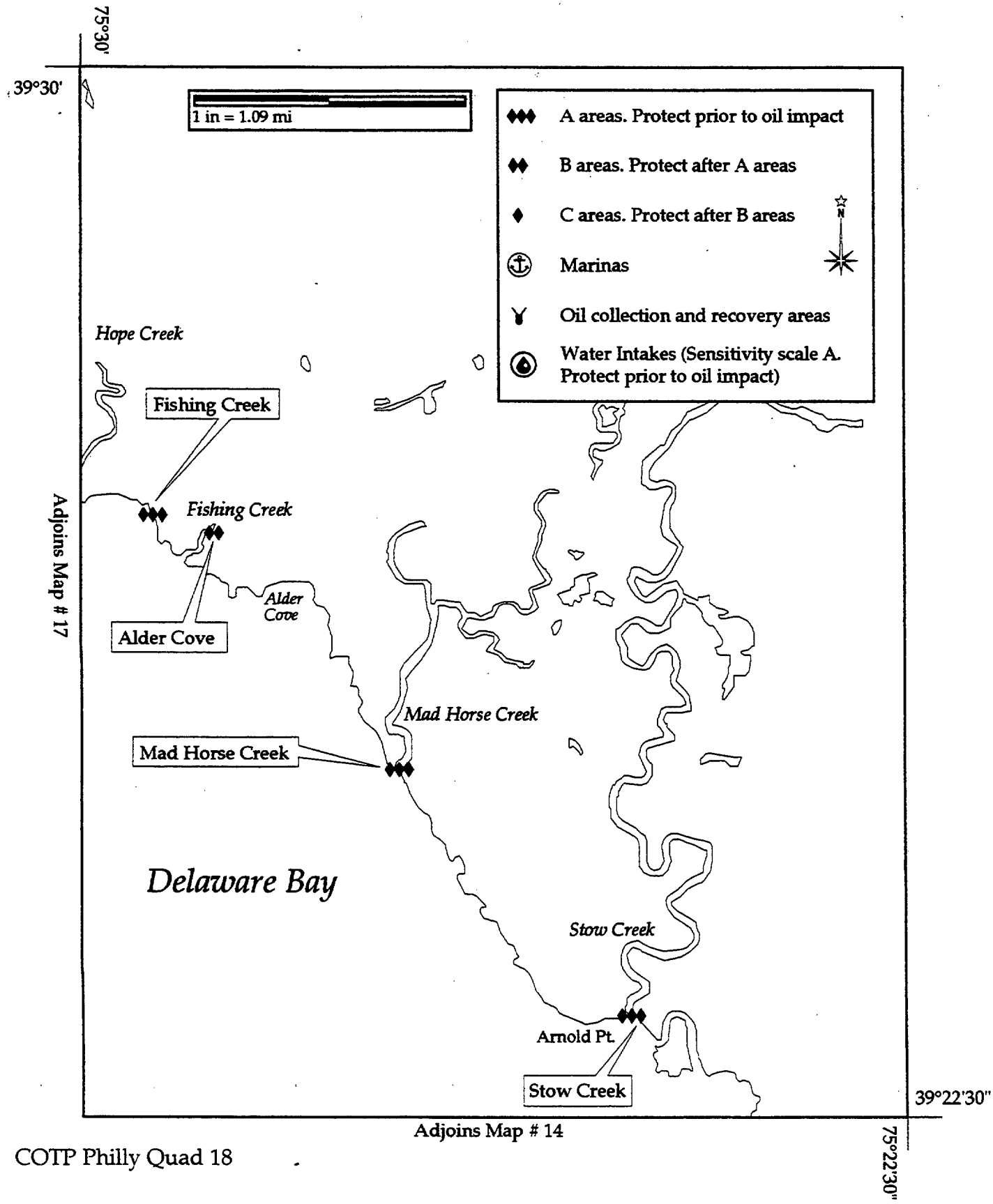
USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 18

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 18 Name FISHING CREEK

USGS Quad Canton, NJ-DE NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 18 Lat. 39°26'50" N Long. 075°29'09" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

SITE DESCRIPTION

Area: Tidal Range: 5.63 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Canada geese, black duck, teal and mallards, otters and muskrats, anadromons fish

HABITAT: Tidal salt marsh of phragmites and marsh cord grass

THREATENED/ ENDANGERED: Osprey and bald eagles

OTHER: Commercial crabbers, eelers and netters

SEE Shore Bird Appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

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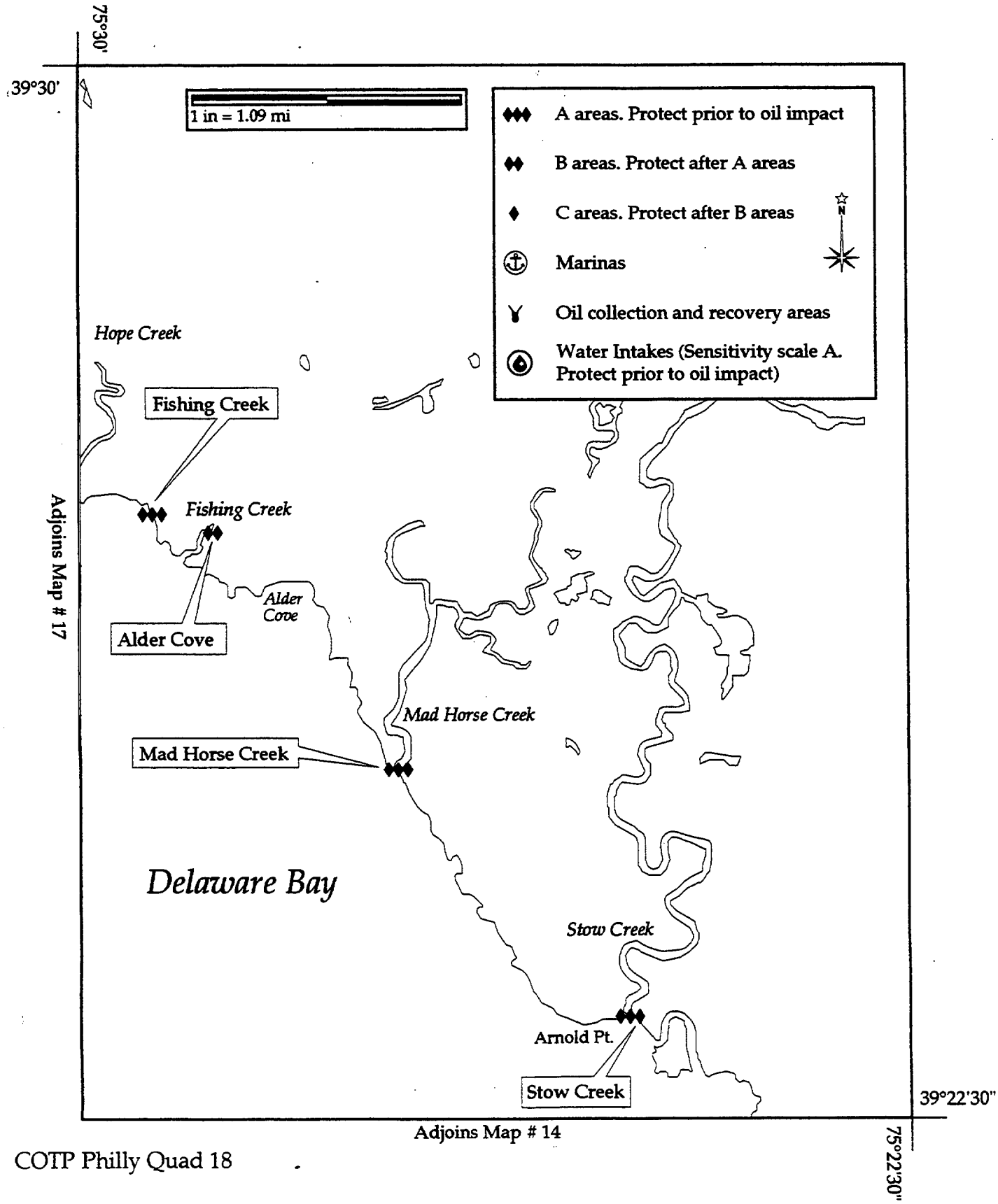

COTP Philly Quad 18

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 18 Name HOPE CREEK

USGS Quad Canton, NJ-DE NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 18 Lat. 39°27'11" N Long. 075°30'03" W

Agency / Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: 5.78 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Black duck, mallards, and teal and canada geese, wading birds, otters, and muskrats.

HABITAT: Tidal salt marsh and marsh cordgrass and phragamites

THREATENED/ ENDANGERED: Osprey and bald ealges

OTHER: Commercial crabbers, eelers, and netters

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☒ Recover

Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

Captain of the Port Philadelphia

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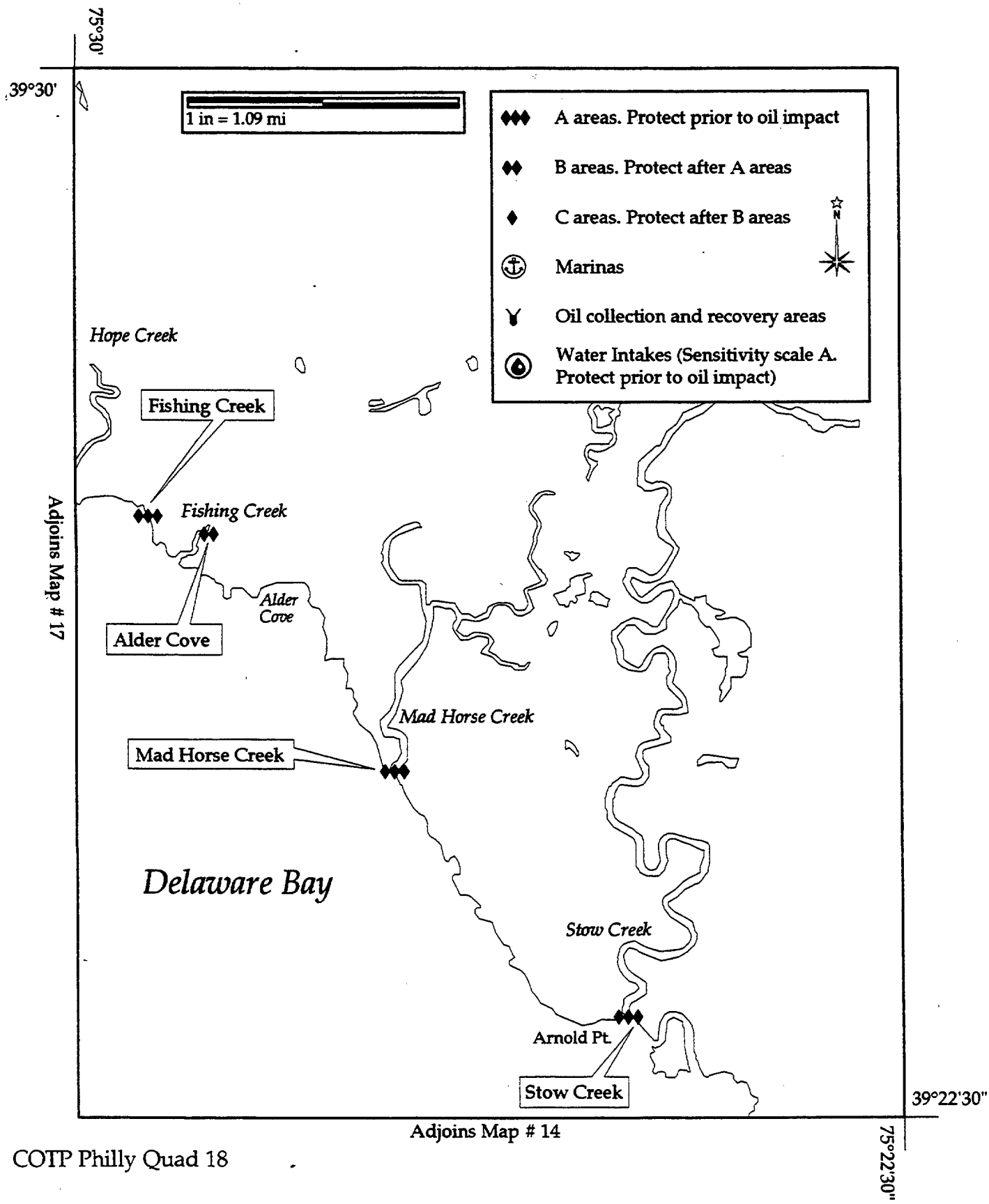

COTP Philly Quad 18

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR54.60 Map No. 19 Name PORT PENN-SOUTH

USGS Quad Delaware City, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°30'59" N Long. 075° 34'55" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: Port Penn South, southern end of Reedy Island.

PHYSICAL DESCRIPTION: Small tidal gut south of Port Penn.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☐ Su ☐ F ☐ W ☐

WILDLIFE:

HABITAT:

THREATENED/ ENDANGERED:

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: f

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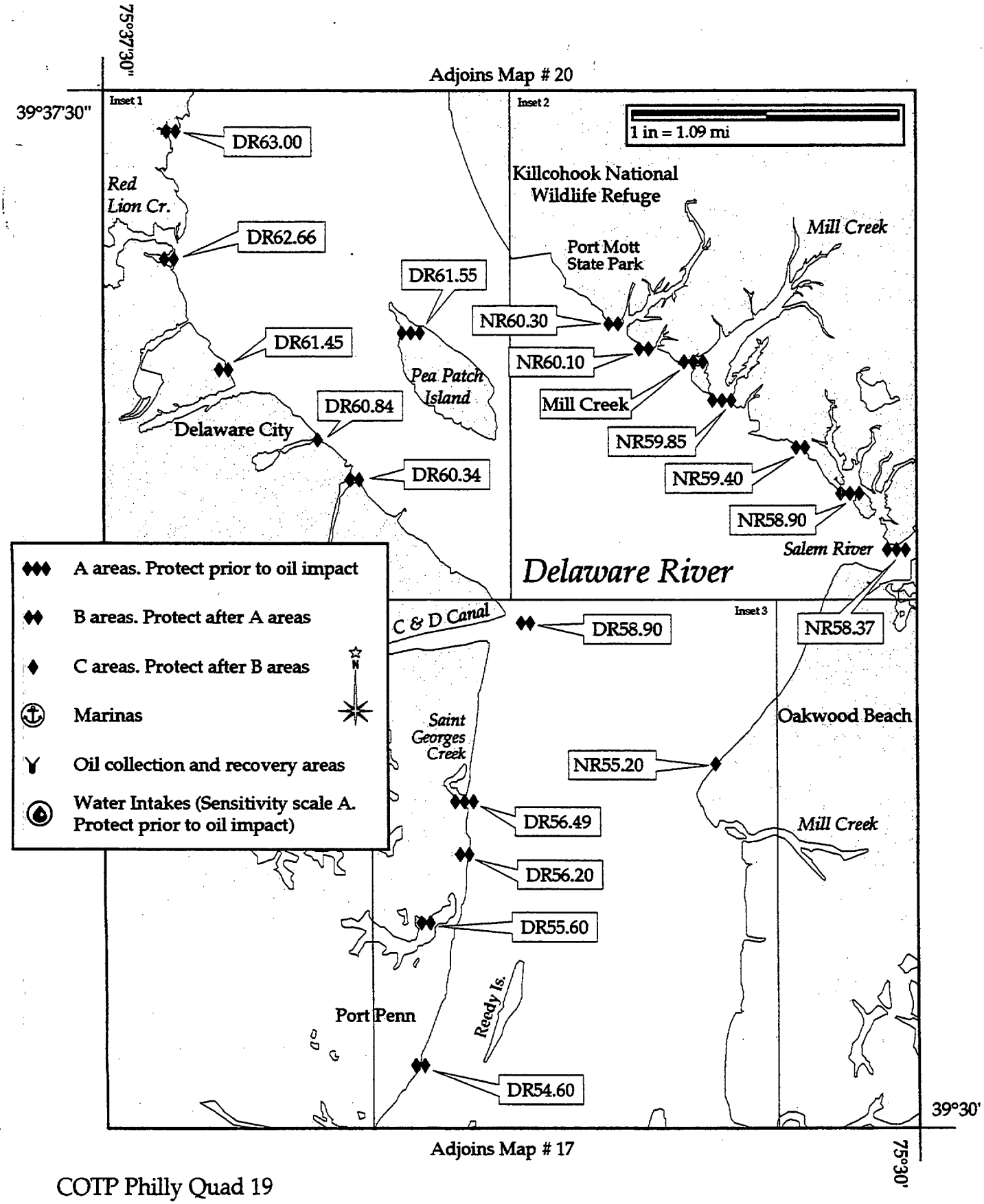

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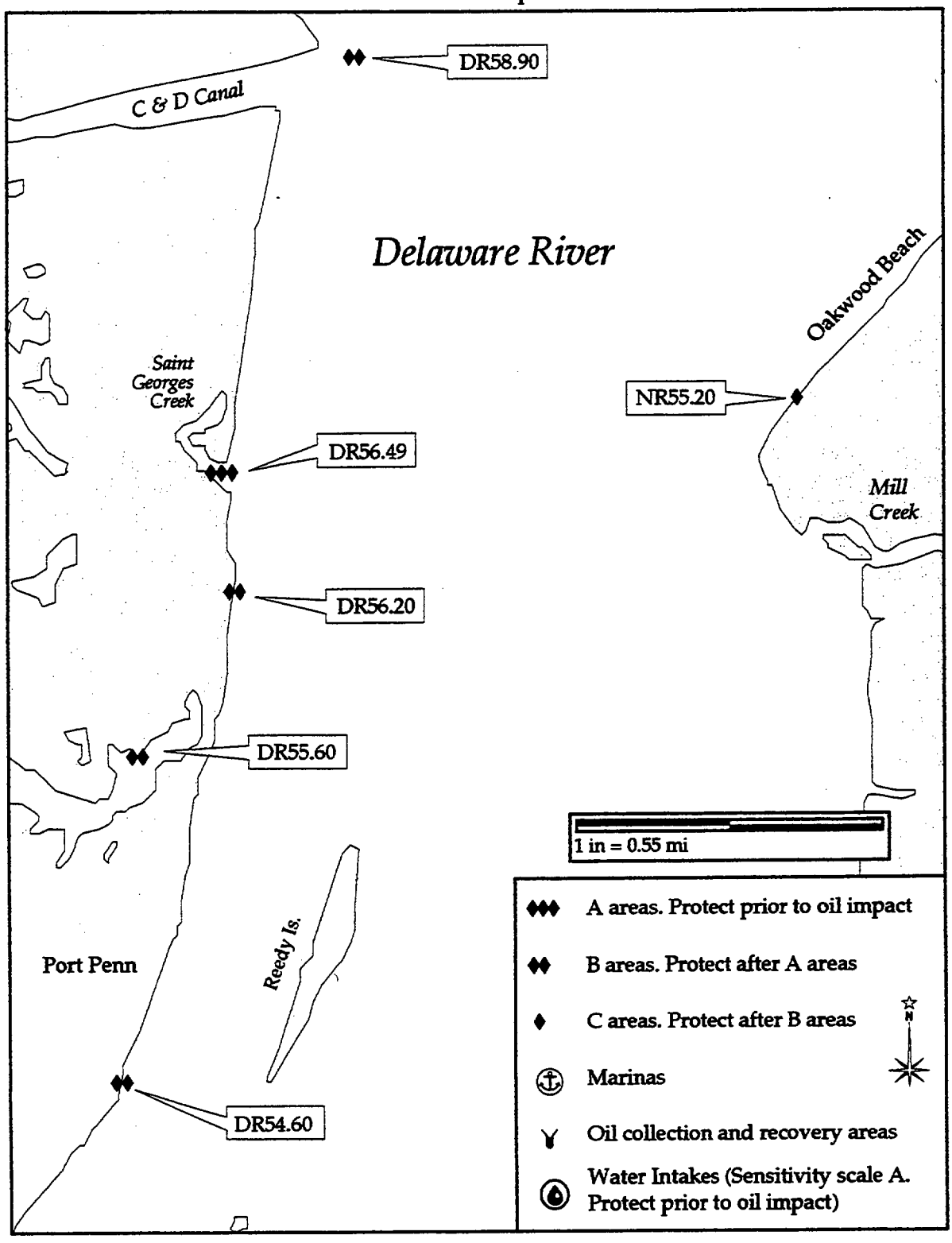

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR62.66 Map No. 19 Name Red Lion Creek

USGS Quad Delaware City, DE- NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°36'15" N Long. 075° 36'50" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: Southern end of Hamburg Cove, about one mile north of Reybold Cove, northwest of Pea Patch Island.

PHYSICAL DESCRIPTION: Essentially no tidal exchange at Red Lion Creek. The creek is diked at the mouth. There is an extensive tidal flat outside of the mouth.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Tidal flat outside of mouth serves as a spawning area for riverine/anadromous fish during sp and su. Wading birds from adjacent Pea Patch Island may forage on this tidal flat. Shorebirds may also use this tidal flat during low tide in the sp.

HABITAT: Extensive tidal flat outside of mouth.

THREATENED/ ENDANGERED:

OTHER: Striped bass spawning area in adjacent river, and nursey area around Pea Patch Island in the fall.

RESPONSE CONSIDERATIONS

Ownership: Star/Delmarva/Occid/Standard Chlorine of DE

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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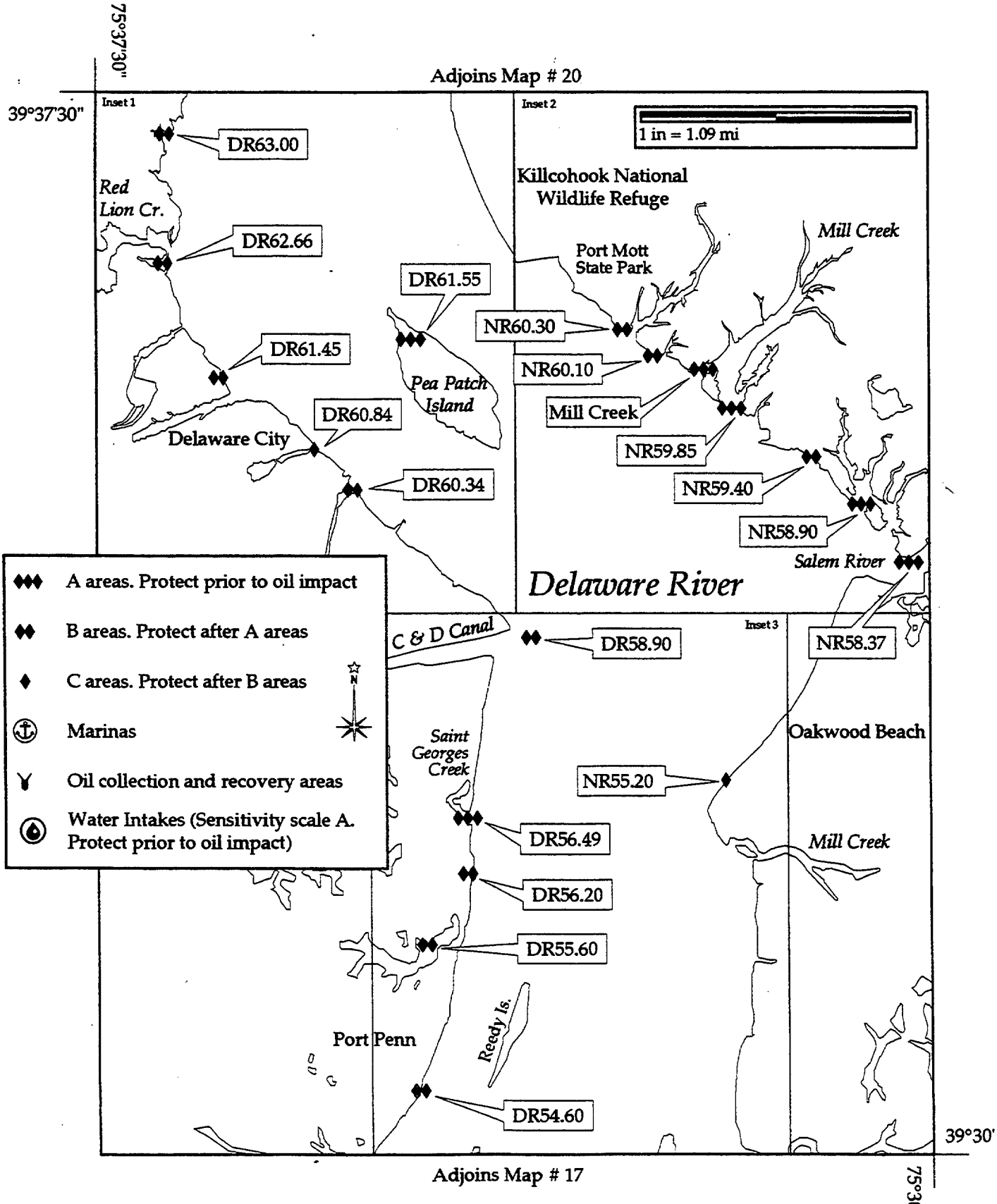

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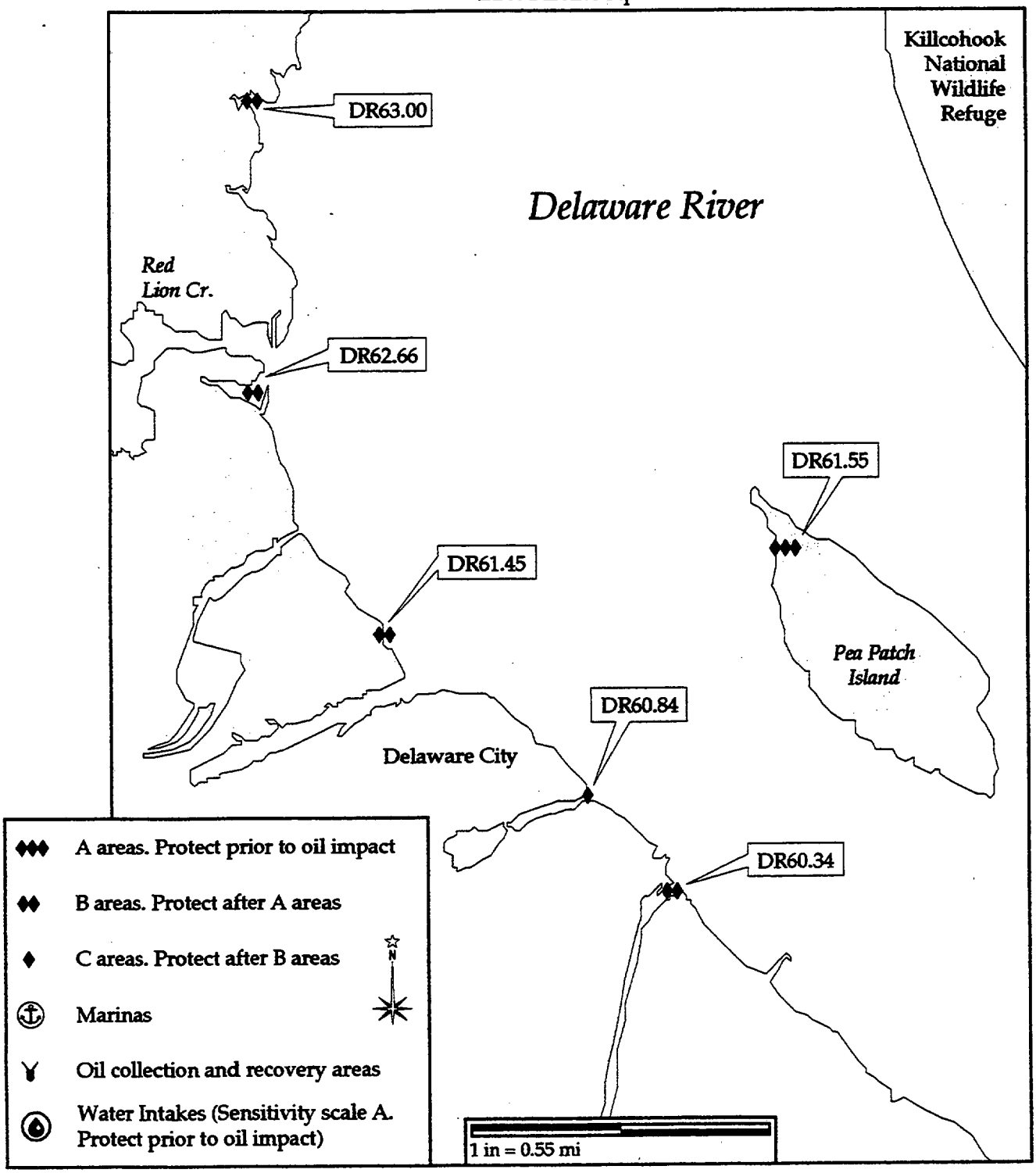

Quad 19 inset 1

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR61.45 Map No. 19 Name Reybold Cove

USGS Quad Delaware City, DE -NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°35'30" N Long. 075°36'15" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: 5.62 ft Max Currents: kts

GEOGRAPHIC LOCATION: At Star Enterprise property, Delaware City access area, across trom Pea Patch Island

PHYSICAL DESCRIPTION: Tidal flat at mouth of creek that ends less than one mile inland.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Riverine and anadromous fish spawning area in cove at mouth of Cedar Creek. Wading birds from Pea Patch Island may forage on tidal flat.

HABITAT: Regularly flooded tidal flat and Phragmites dominated irregularly flooded tidal marsh.

THREATENED/ ENDANGERED:

OTHER: Striped bass spawning in adjacent river.

RESPONSE CONSIDERATIONS

Ownership: Star Enterprise

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: f

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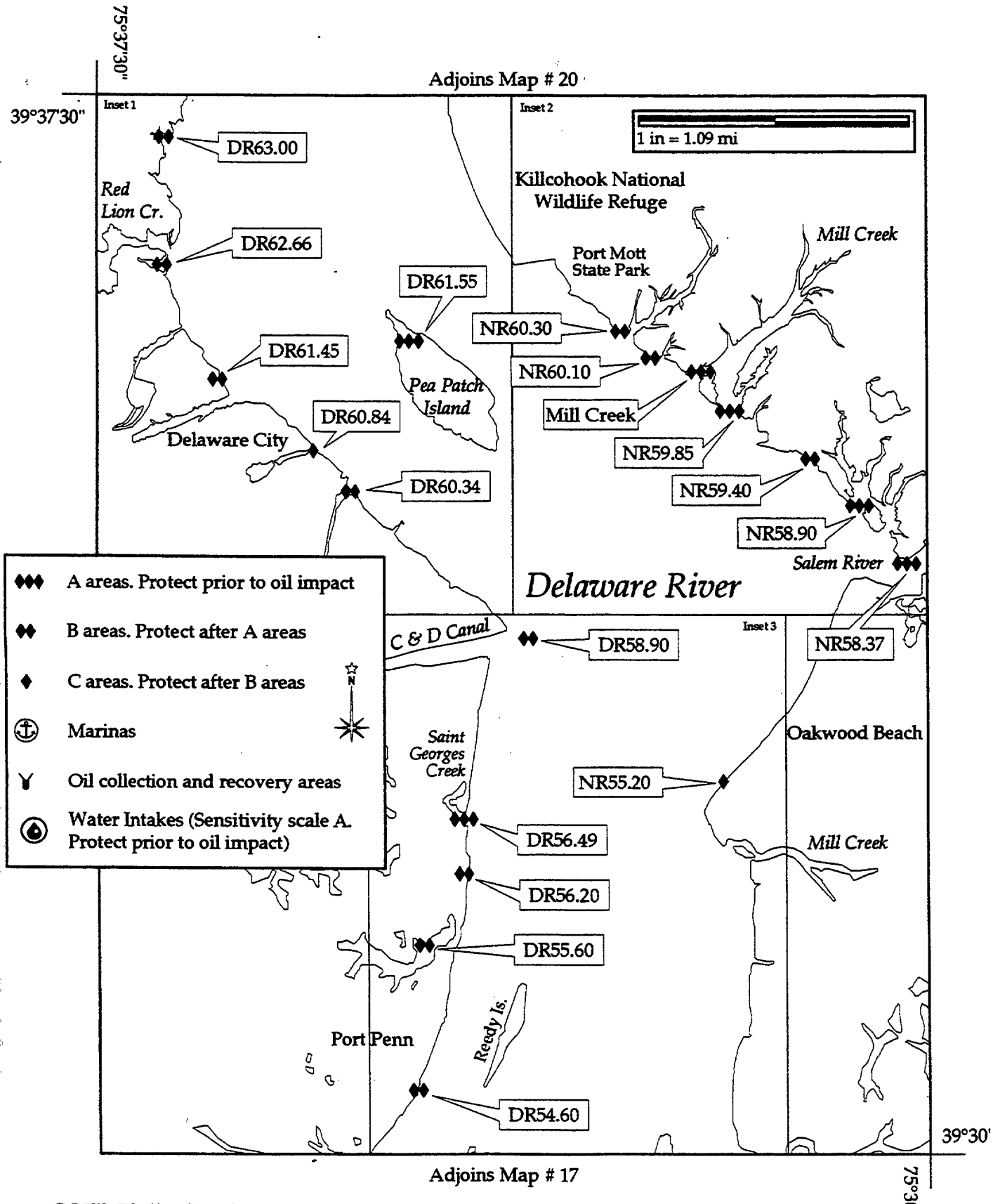

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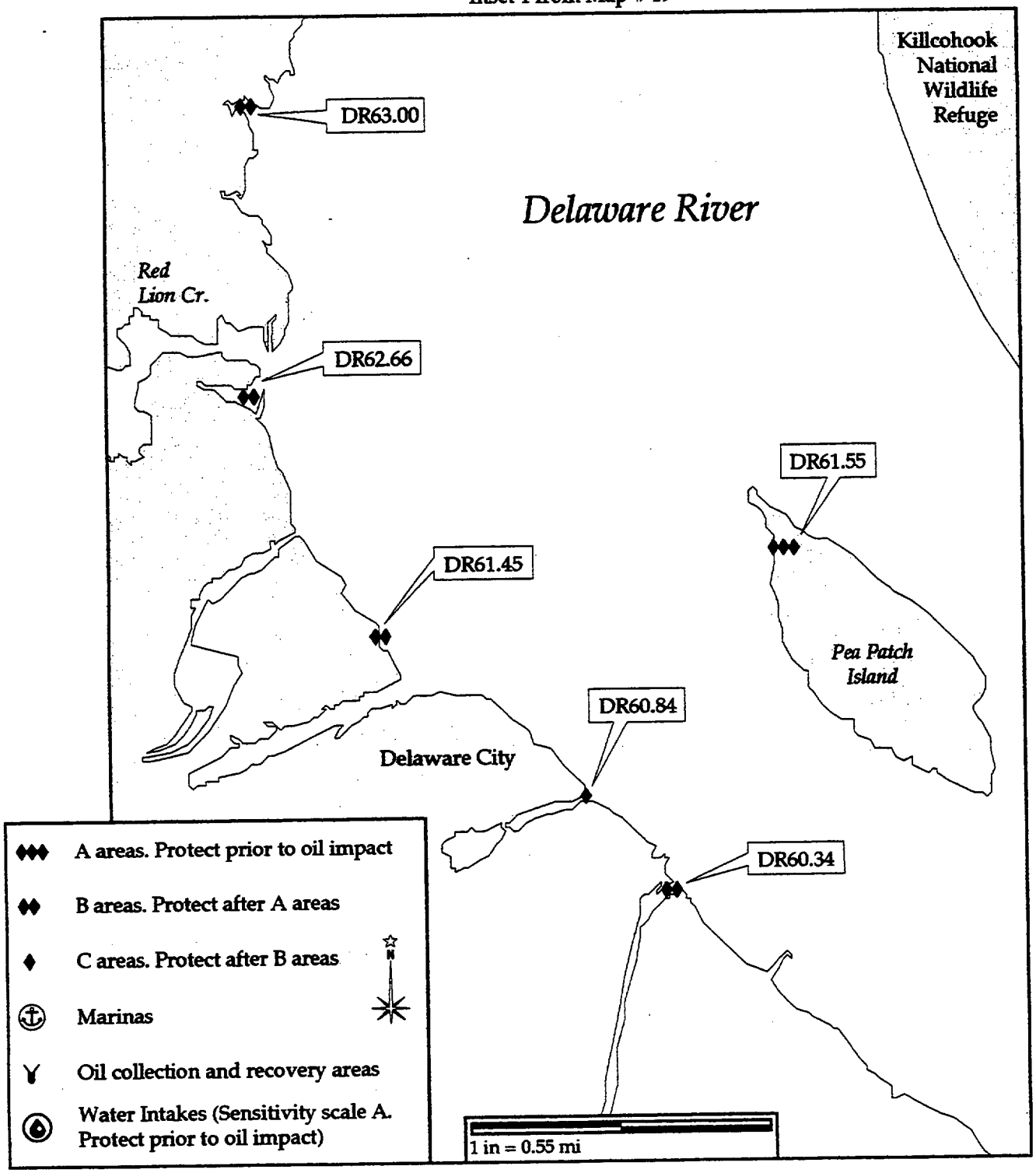

Quad 19 inset 1

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. N60.10 Map No. 19 Name Second Creek S FtMott Park

USGS Quad Delaware City, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°35'36" N Long. 075° 32'42" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

SITE DESCRIPTION Area: Tidal Range: 5.5 ft Max Currents: kts

GEOGRAPHIC LOCATION: About one mile south of Fort Mott State Park, across from Pea Patch Island.

PHYSICAL DESCRIPTION: Regularly flooded tidal flats and adjacent irregularly flooded tidal marshes.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☒ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl f,w, and sp, some breeding in su. Wading birds from Pea Patch Island may use tidal flats in sp, su, and f. Shorebirds sp and f, Blue crabs.

HABITAT: Regularly flooded tidal flats, and irregularly flooded tidal marshes possibly dominated by Phragmites.

THREATENED/ ENDANGERED: Bald eagles, Peregrine falcons, and state threatened ospreys may use this area, but are more likely to use the Mill Creek and Salem River areas to the southeast.

OTHER: Diamond-back terrapins may occur here.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS: Ft Mott State Park

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover Minimum Boom Length: f

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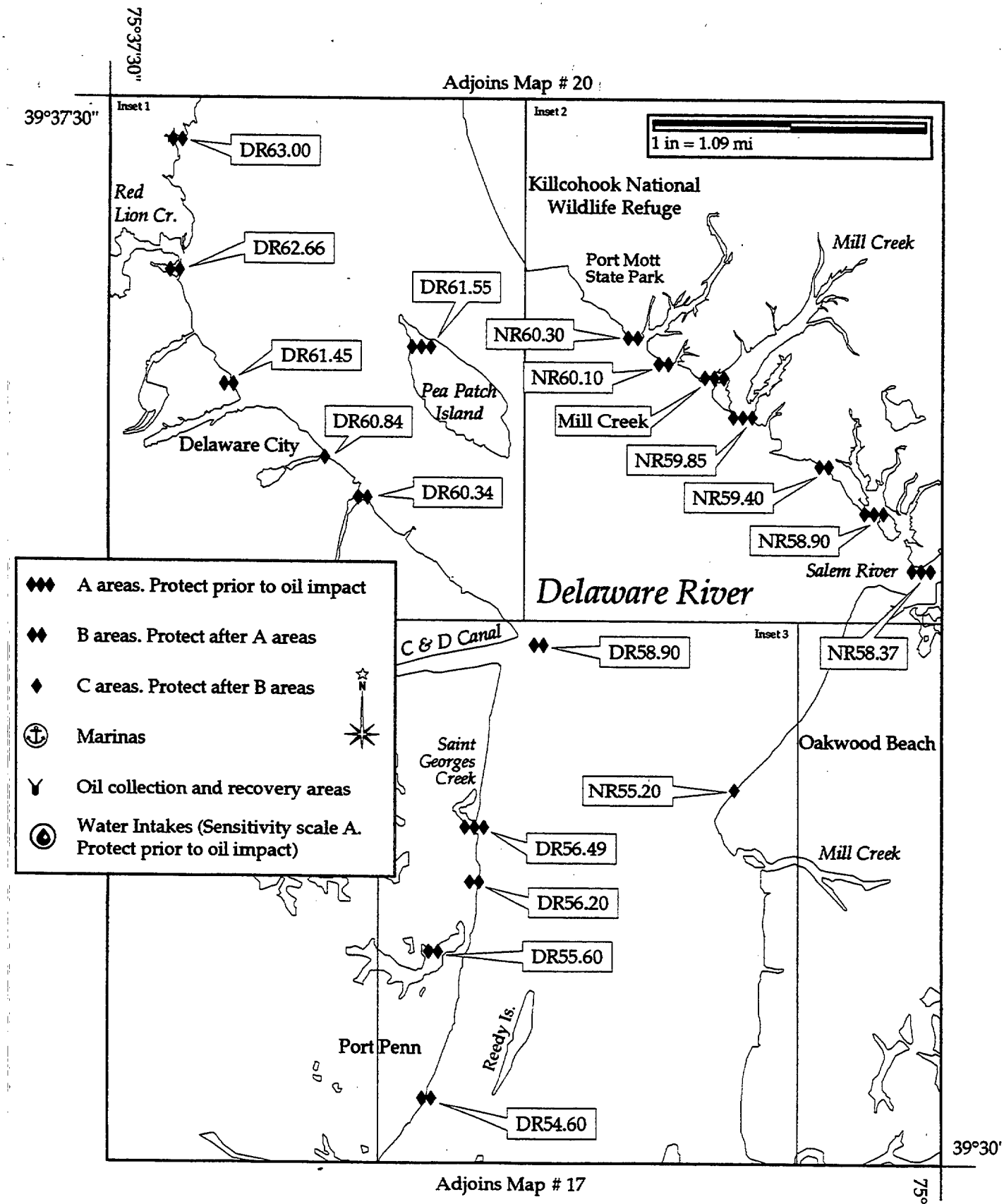

COTP Philly Quad 19

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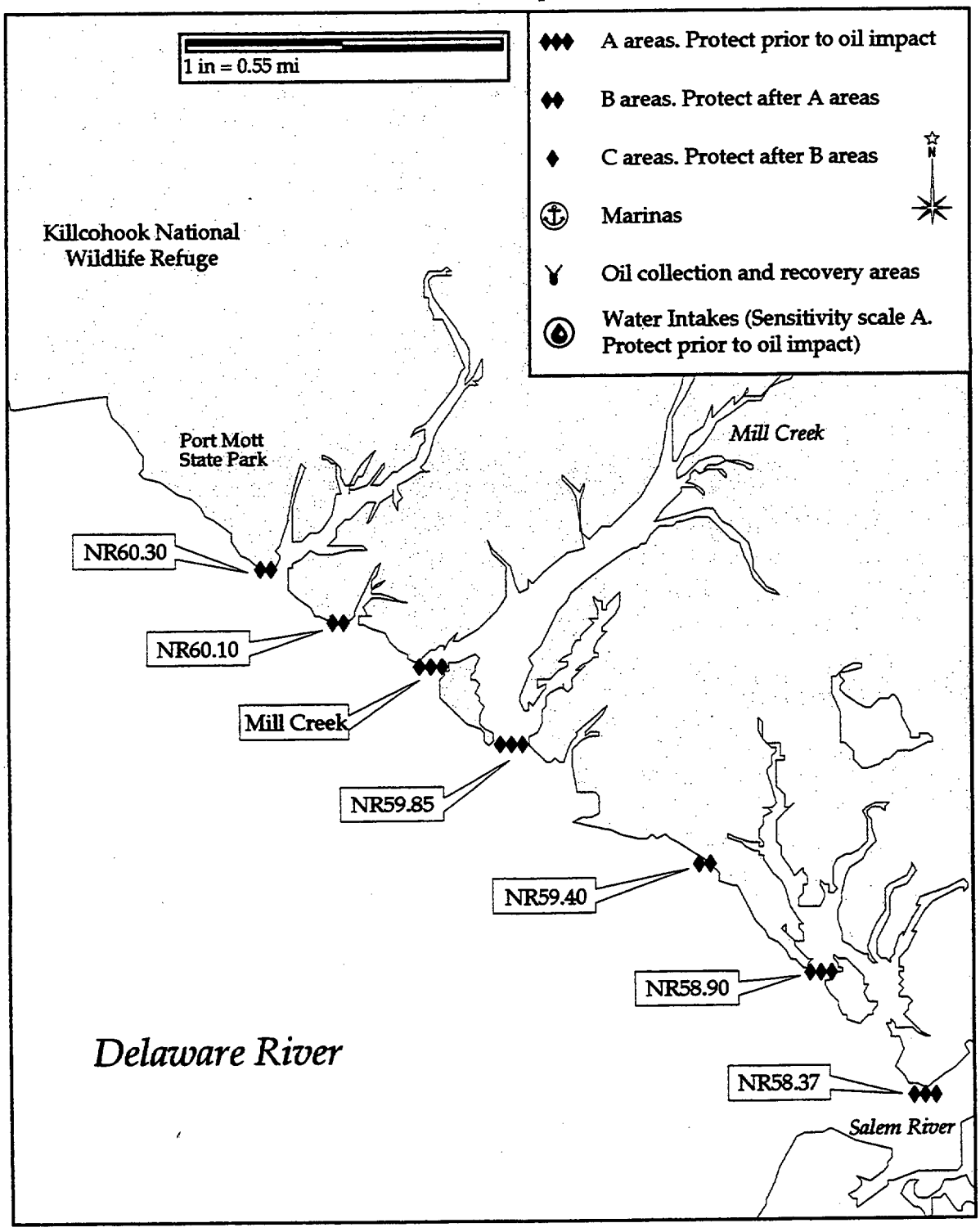

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR59.40 Map No. 19 Name Shoreline S. Mill Cr. & Marsh Pt.

USGS Quad Delaware City, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39° 34'55" N Long. 075°31'05" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

U.S. Fish & Wildlife Service, Supawna Meadows National Wildlife Refuge (609) 935-1487

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: Just Southeast of Marsh Point and Northwest of Salem River Cove and Baldridge Creek.

PHYSICAL DESCRIPTION: Beaches, flats and marshes along bayshore.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☒ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Wading birds from Pea Patch Island sp,su, and f, some waterfowl use of marshes f,w,and sp, possible shorebird use of tidal flats and beaches spring and fall. Diamond-back terrapins may also occur here.

HABITAT: Beaches, tidal flats, irregularly and regularly flooded tidal marshes along bay shore.

THREATENED/ ENDANGERED:

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: f

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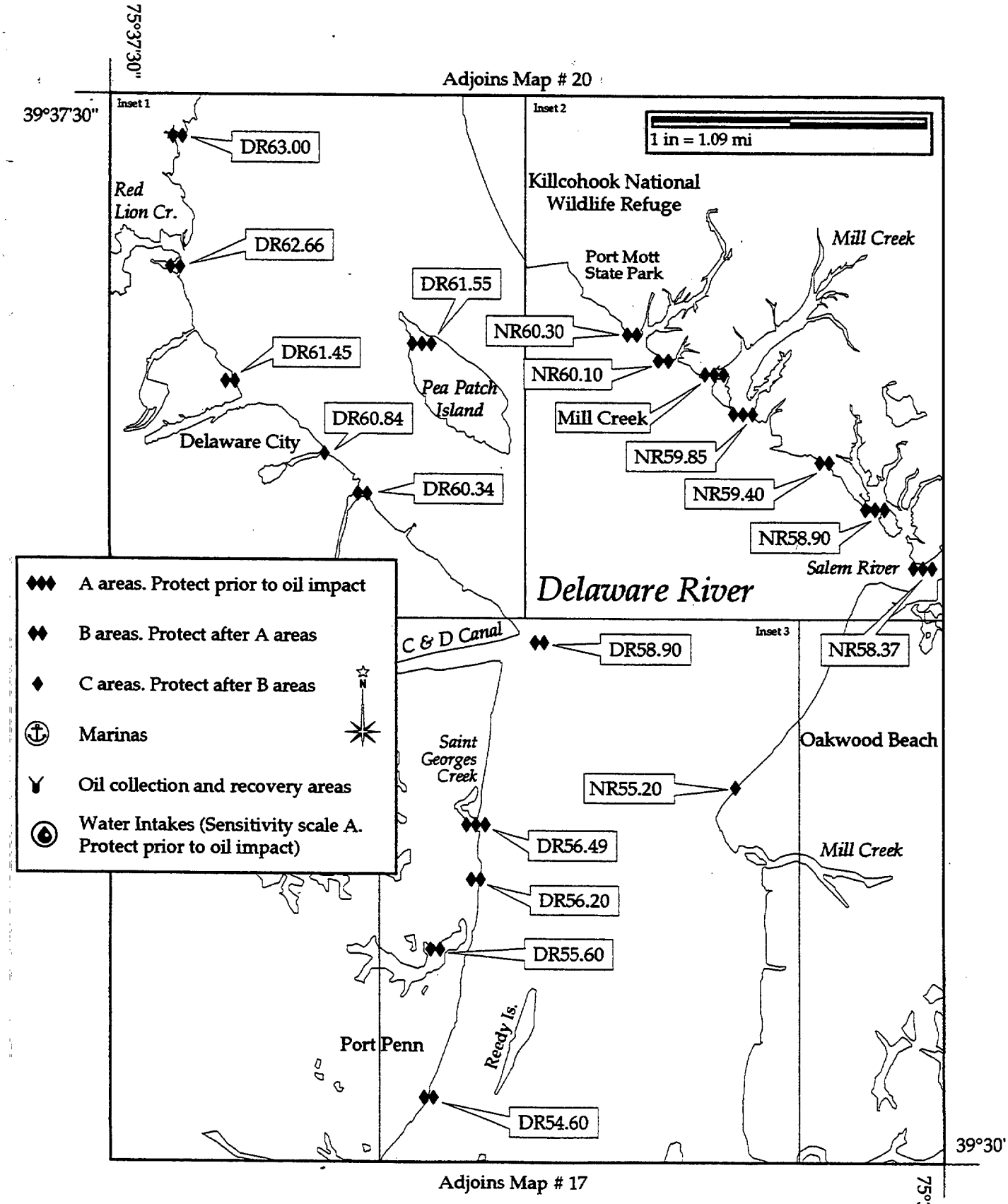

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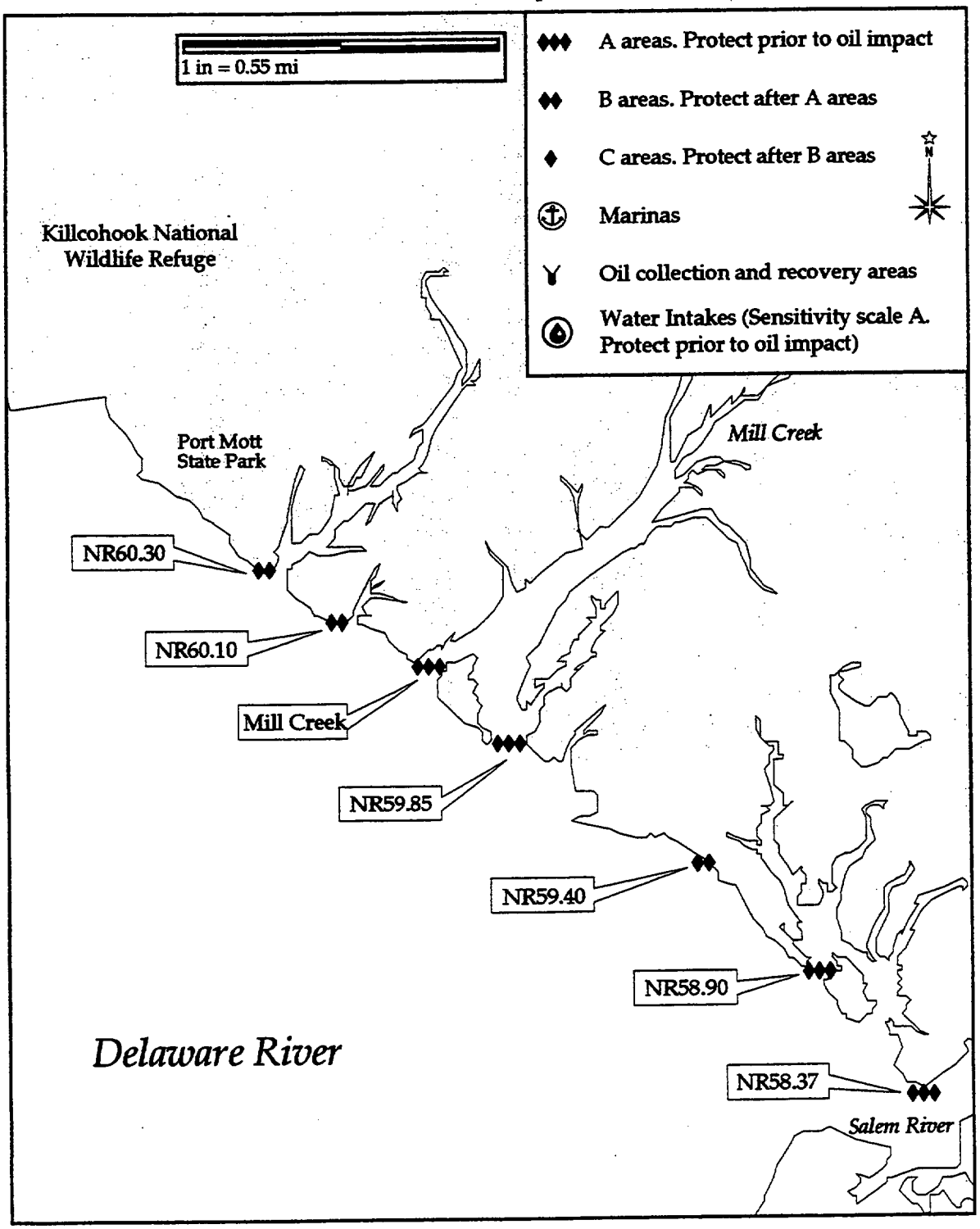

Quad 19 inset 2

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 19 Name ADLER COVER

USGS Quad Canton, NJ-DEL NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 18 Lat. 39° 26'28" N Long. 075° 28'11" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE:

HABITAT:

THREATENED/ ENDANGERED:

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: ft

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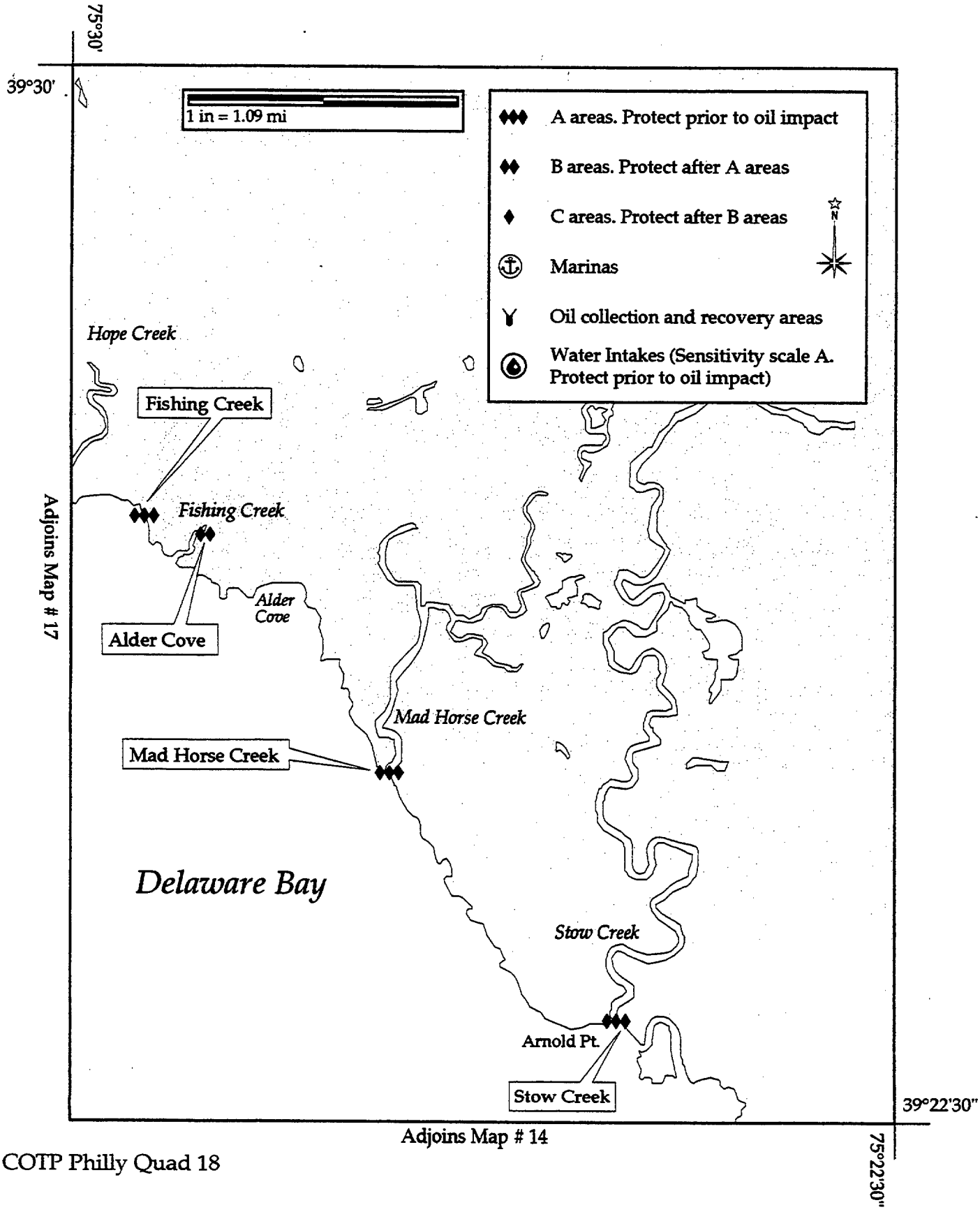

COTP Philly Quad 18

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR55.20 Map No. 19 Name CANADOS BEACH-LONG FARM GATE

USGS Quad Delaware City, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°31'15" N Long. 075° 34'35" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

NJ Department of Environmental Protection, 24 hr (609) 292-7172

SITE DESCRIPTION Area: Tidal Range: 5.5 ft Max Currents: kts

GEOGRAPHIC LOCATION: Across from northen end of Reedy Island

PHYSICAL DESCRIPTION: Tide gate at narrow inlet to impoundment and marshes

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl f, w, and sp, wading birds.

HABITAT: Impounded open water, phragmites domingated marsh and other irregularly flooded marsh.

THREATENED/ ENDANGERED:

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: ft

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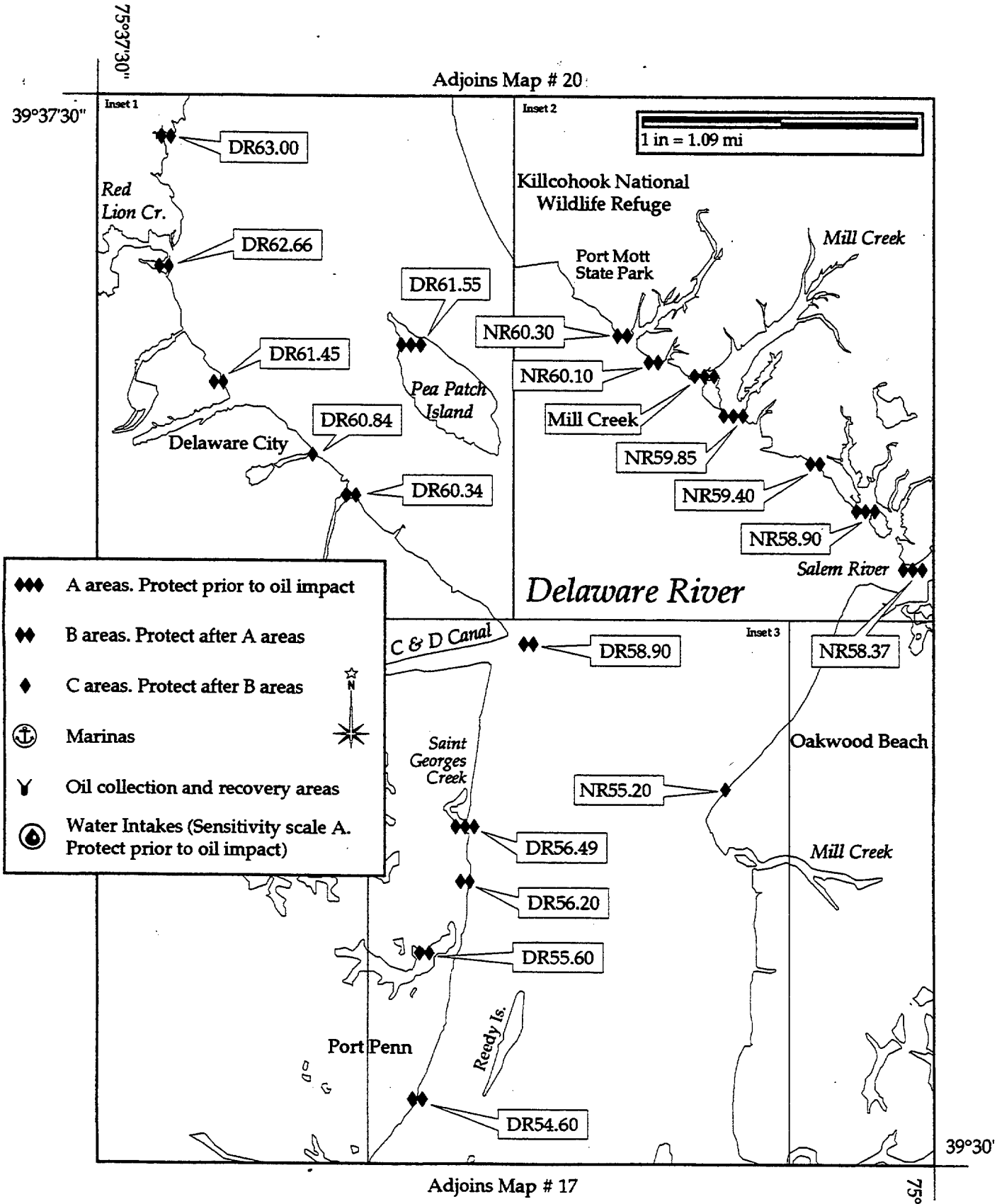

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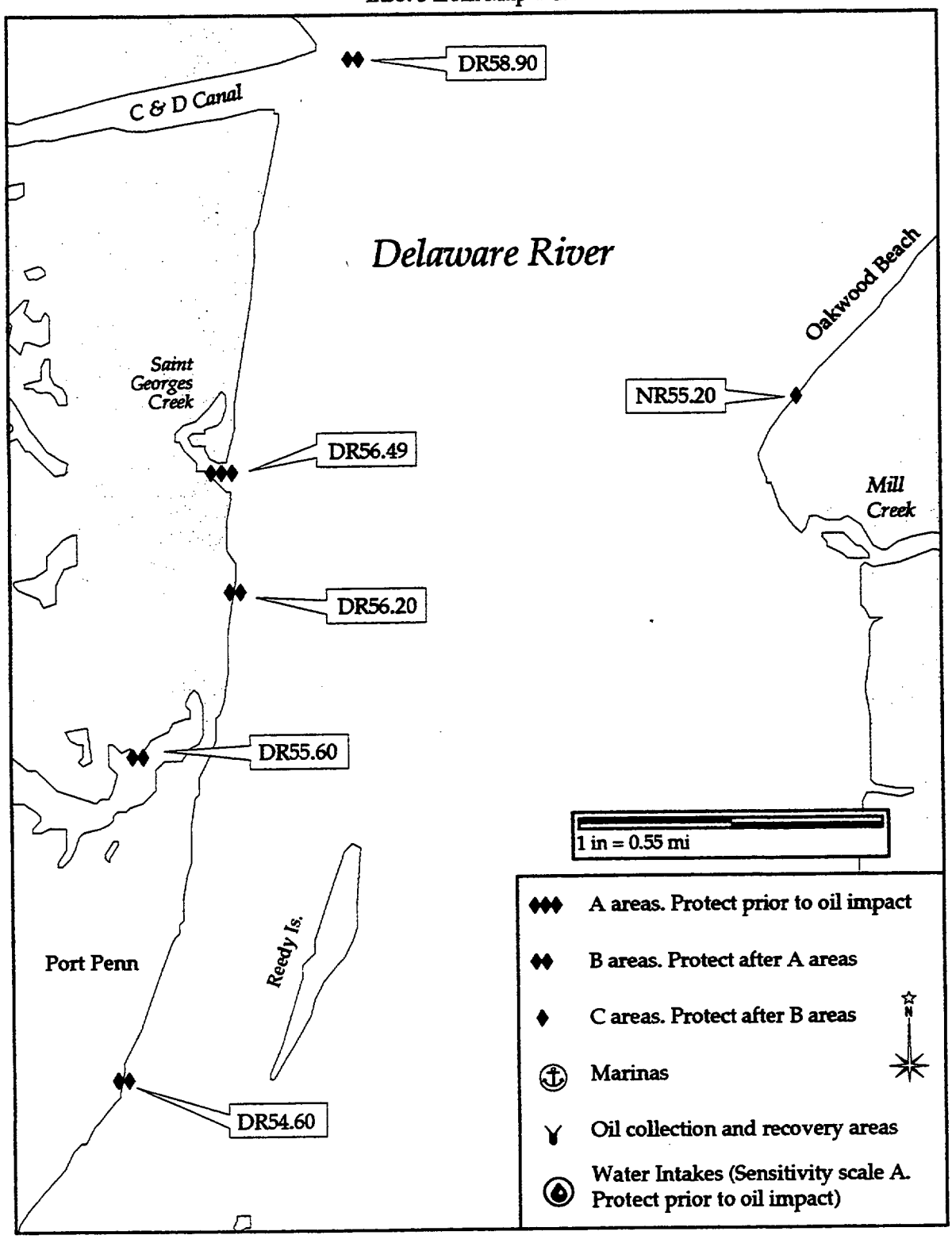

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR55.60 Map No. 19 Name CAREY FARM TIDAL GATE

USGS Quad Delaware City, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39° 31'30" N Long. 075°34'30" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: 5.5 ft Max Currents: kts

GEOGRAPHIC LOCATION: Just northwest of Reedy Island, south of St. Georges Creek.

PHYSICAL DESCRIPTION: Tide gate controled marshes and open water, phragmites dominated.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Shorebirds and wading birds may use the area to some extent, mostly waterfowl use the area during f,w, and sp.

HABITAT: Phragmites dominated marshes, open water-impounded

THREATENED/ ENDANGERED: Bald eagles may forage in this area.

OTHER:

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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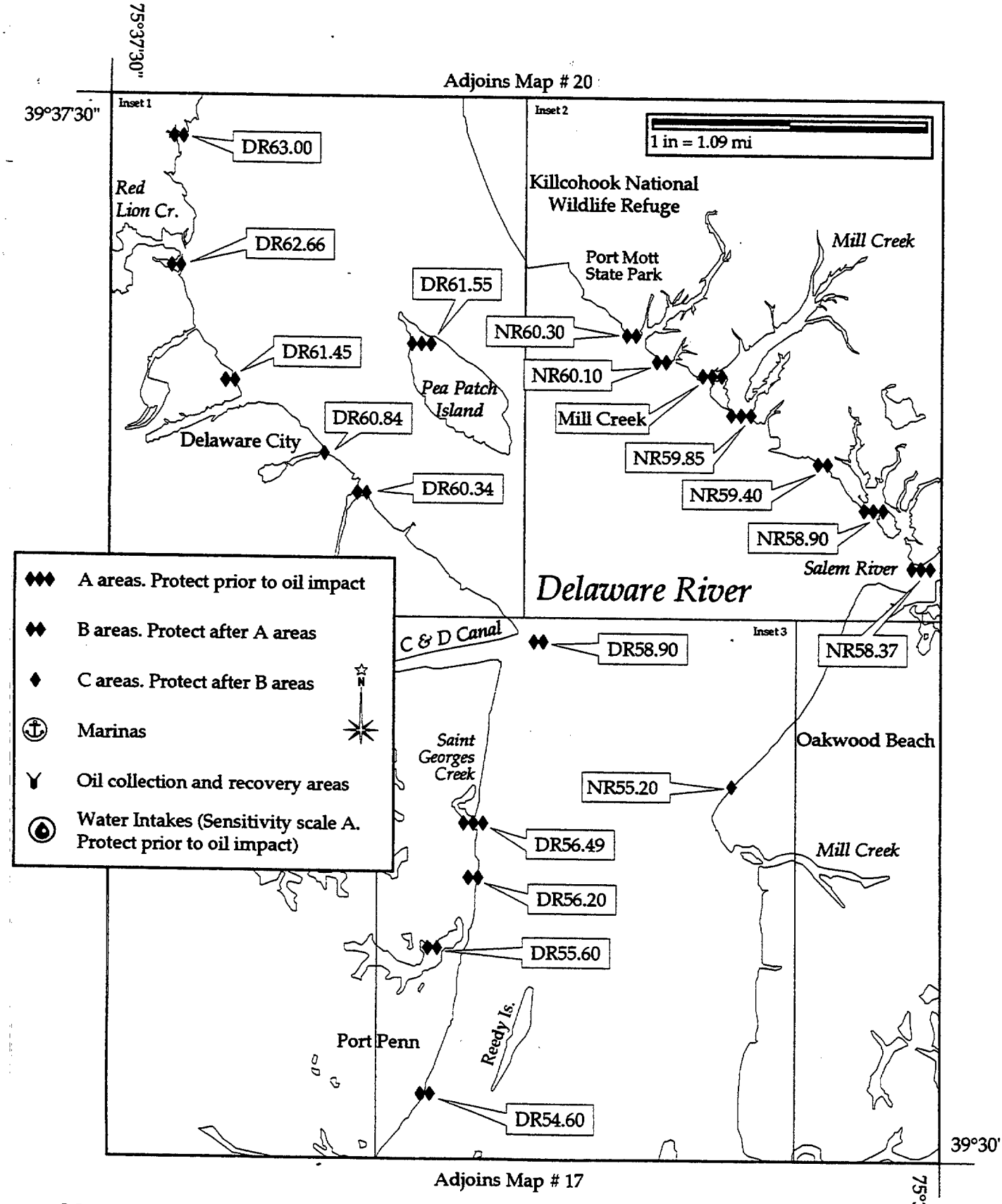

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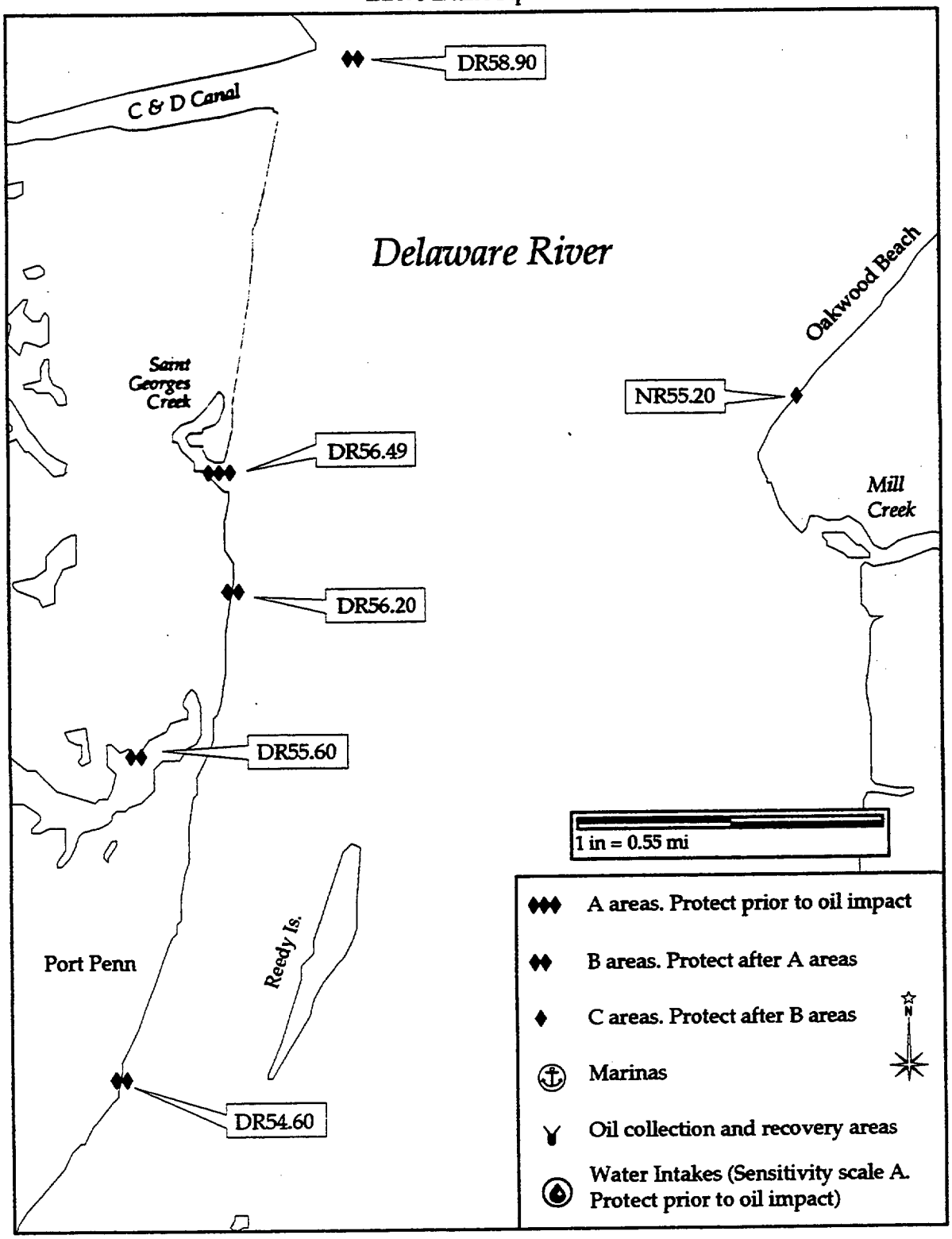

Quad 19 inset 3

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR58.90 Map No. 19 Name C & D Canal

USGS Quad Delaware City, DE - NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°33'58" N Long. 075°33'56" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: 4.41 ft Max Currents: kts

GEOGRAPHIC LOCATION: Across from Salem River, south of Pea Patch Island, North of Elsinboro Point.

PHYSICAL DESCRIPTION: Stabilized Inlet to man made canal with tidal marshes well inside mouth.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Riverine/anadromous fish spawning inside mouth. Wading birds from Pea Patch Island use tidal flats just outside mouth,and tidal marshes about one mile inside mouth during all seasons. Shorebirds and waterfowl also use these habitats during f,w, and sp.

HABITAT: Tidalflats north and south outside of mouth - mostly on southern side, irregularly and regularly flooded tidal marshes, ponds, and flats starting about one mile inside mouth of canal.

THREATENED/ ENDANGERED:

OTHER: Striped bass spawning in and around canal during sp, and in canal in su,f, and w also.

RESPONSE CONSIDERATIONS

Ownership: U.S. Army Corps of Engineer/State Div F&W

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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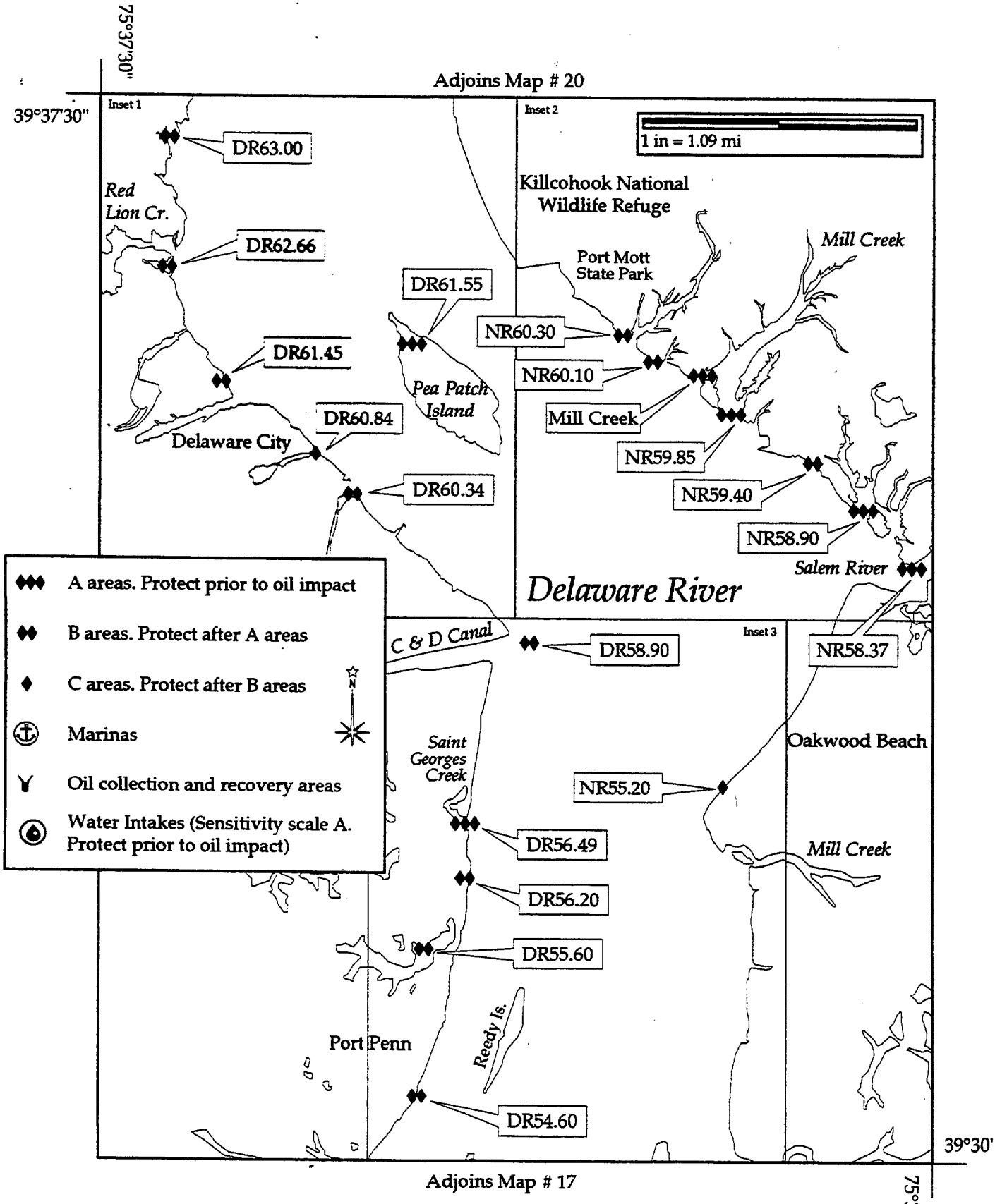

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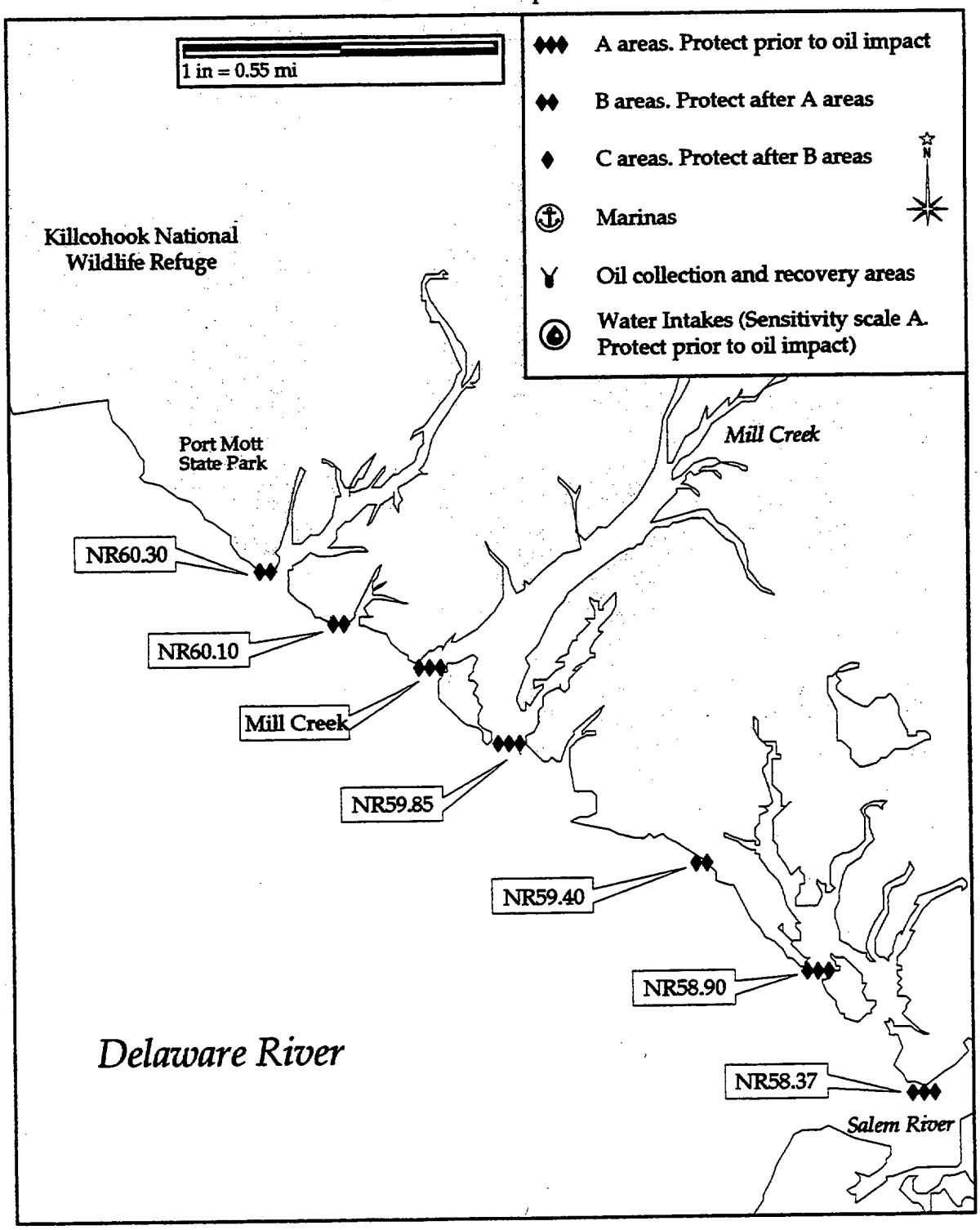

Quad 19 inset 2

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR58.90 Map No. 19 Name Baldrige Creek

USGS Quad Delawawre City, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°34'30" N Long. 075° 30'40" W

Agency / Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

U.S. Fish & Wildlife Service, Supawna Meadows National Wildlife Refuge (609) 935-1487

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: Northern end of Salem River Cove, just north of Salem River.

PHYSICAL DESCRIPTION: Tidal creeks, flats and marshes in northern end of Sale, River Cove.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Foraging ospreys, numerous waterfowl species f,w, sp, and some breeding in summer(black duck, mallard, wood duck, canada geese), river otters and muskrats all seasons. Nine species of wading birds from Pea Patch Island, shorebirds sp and f. Striped bass and other anadromous fish spawning & nursey. Turtles, blue crabs. Gulls and Terns.

HABITAT: Tidal creek, regularly flooded tidal flats and marshes, and irregularly flooded marshes

THREATENED/ ENDANGERED: Bald eagles and peregrine falcons sp,su, and f, state threatened osprey.

OTHER: Diamond-back terrapins

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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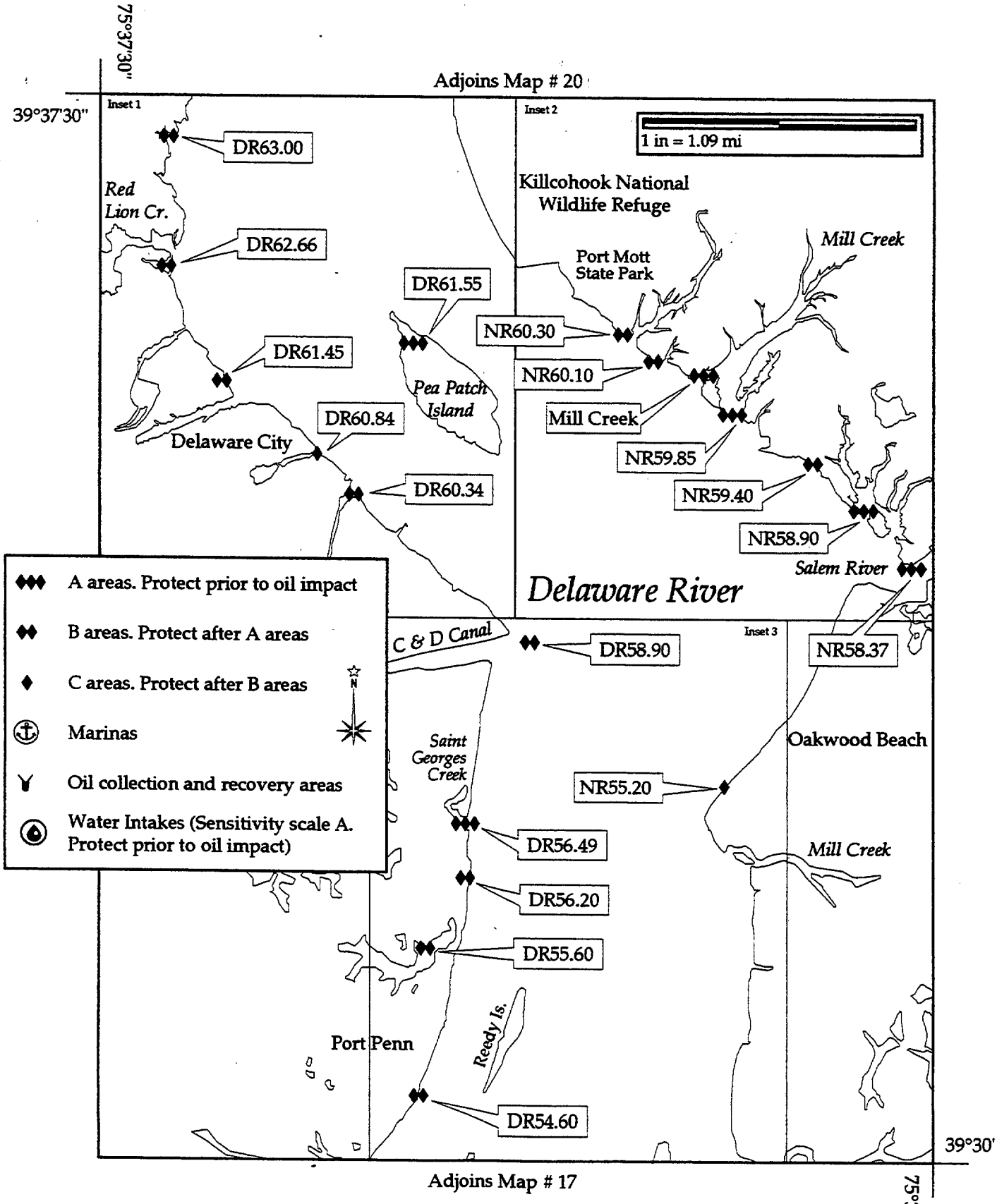

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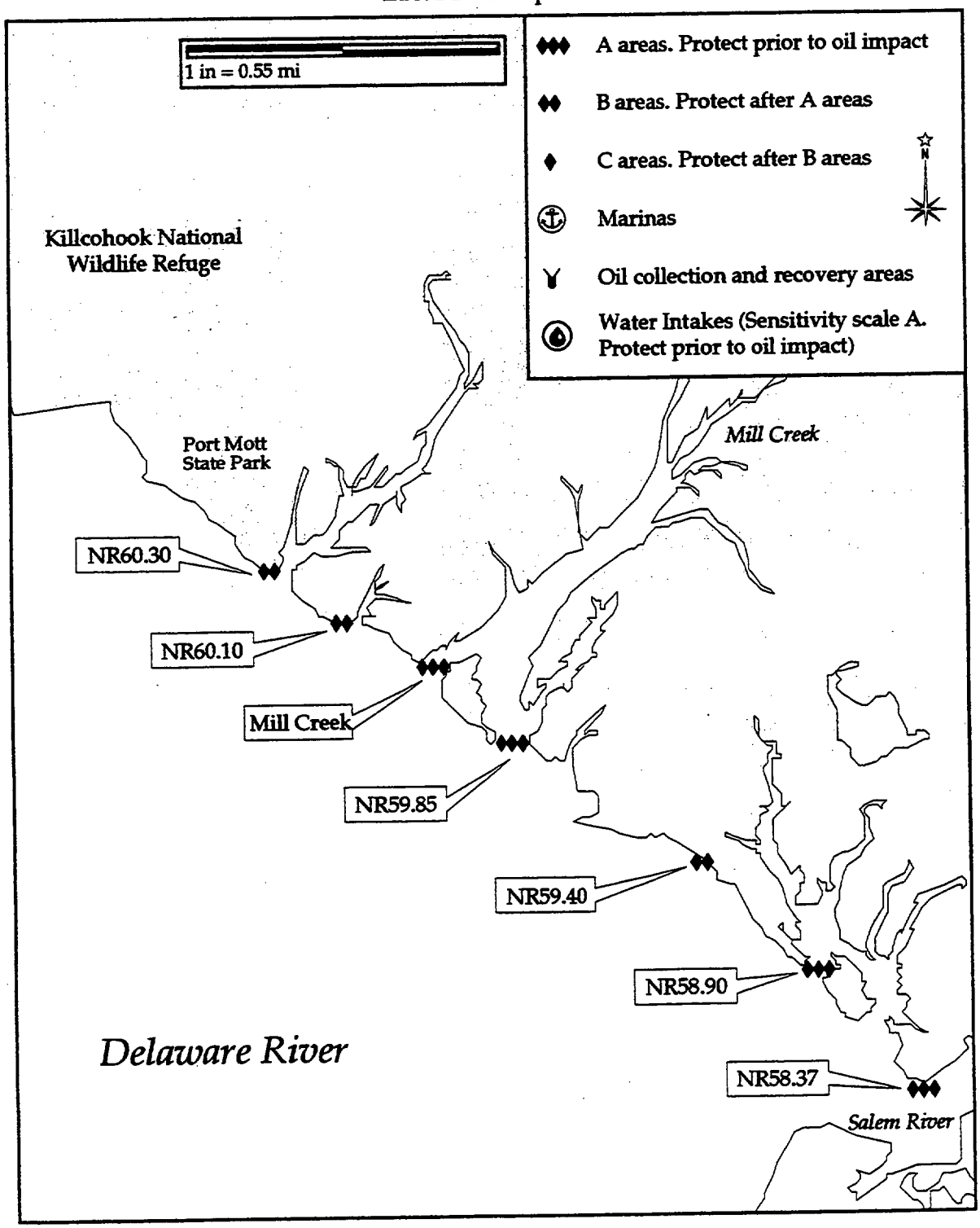

Quad 19 inset 2

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR59.85 Map No. 19 Name Mill Creek/Goose Pond

USGS Quad Delaware City, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°35'20" N Long. 075°31'55" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

SITE DESCRIPTION

Area: Tidal Range: 5.62 ft Max Currents: kts

GEOGRAPHIC LOCATION: About 1.5 miles south of Fort Mott, just north of Marsh Point, across from Pea Patch Island.

PHYSICAL DESCRIPTION: Multiple inlets to tidal creeks, flats and marshes

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Foraging ospreys, numerous waterfowl species f,w,sp, and some breeding in su. River otters and muskrats all seasons. Nine species of wading birds from Pea Patch Island using the marshes and tidal flats all seasons. Shorebirds in sp and f. Striped bass and other anadromous fish spawning and nursery. Gulls and terns, turtles & blue crabs also occur here.

HABITAT: Tidal creeks and regularly flooded tidal flats, regularly and irregularly flood tidal marshes.

THREATENED/ ENDANGERED: Bald eagles and peregrine falcons sp, su, and f, and state threatened osprey all hunting in this area.

OTHER: Diamond-back terrapins occur here.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS: Ft Mott State Park

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: ft

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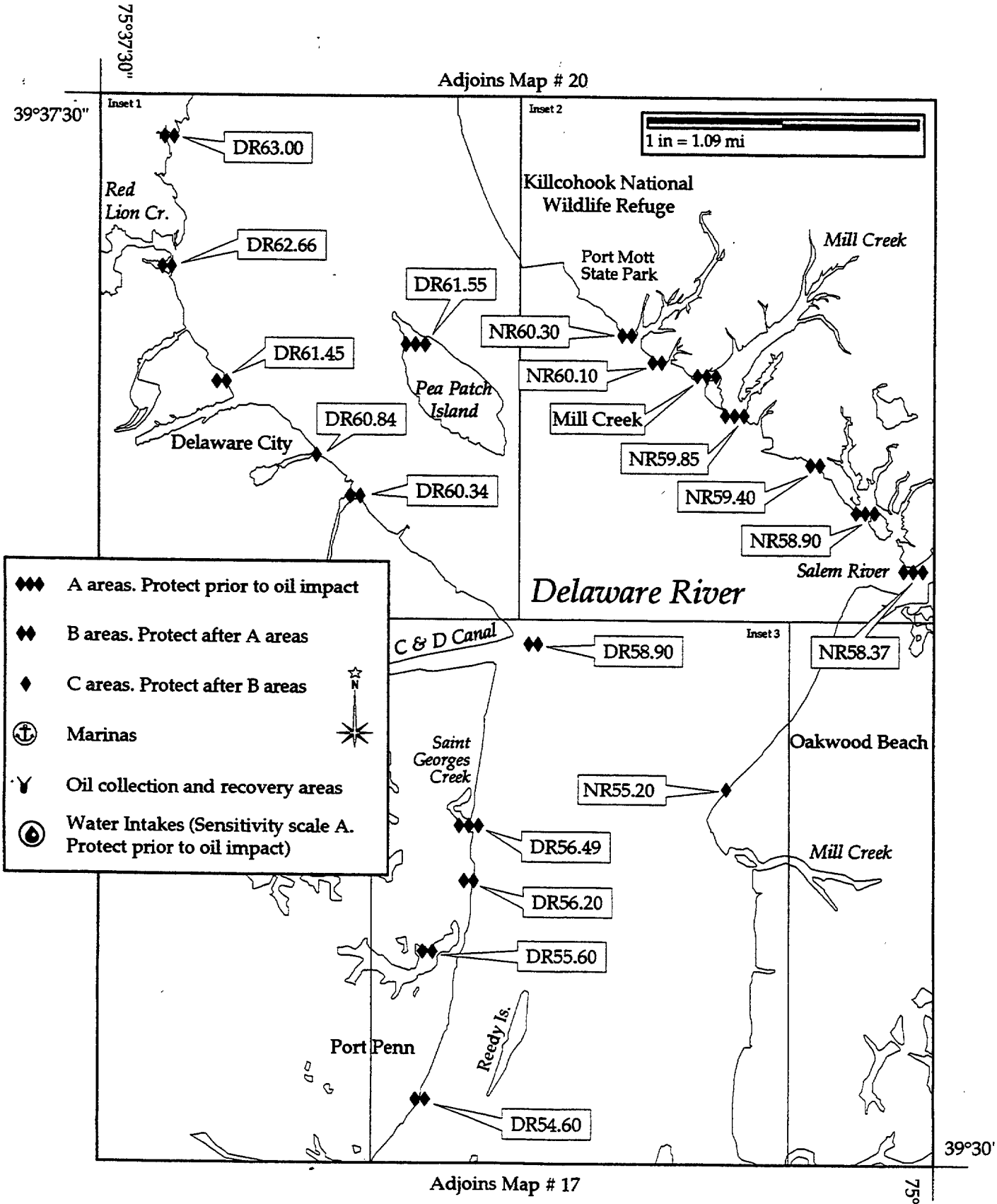

COTP Philly Quad 19

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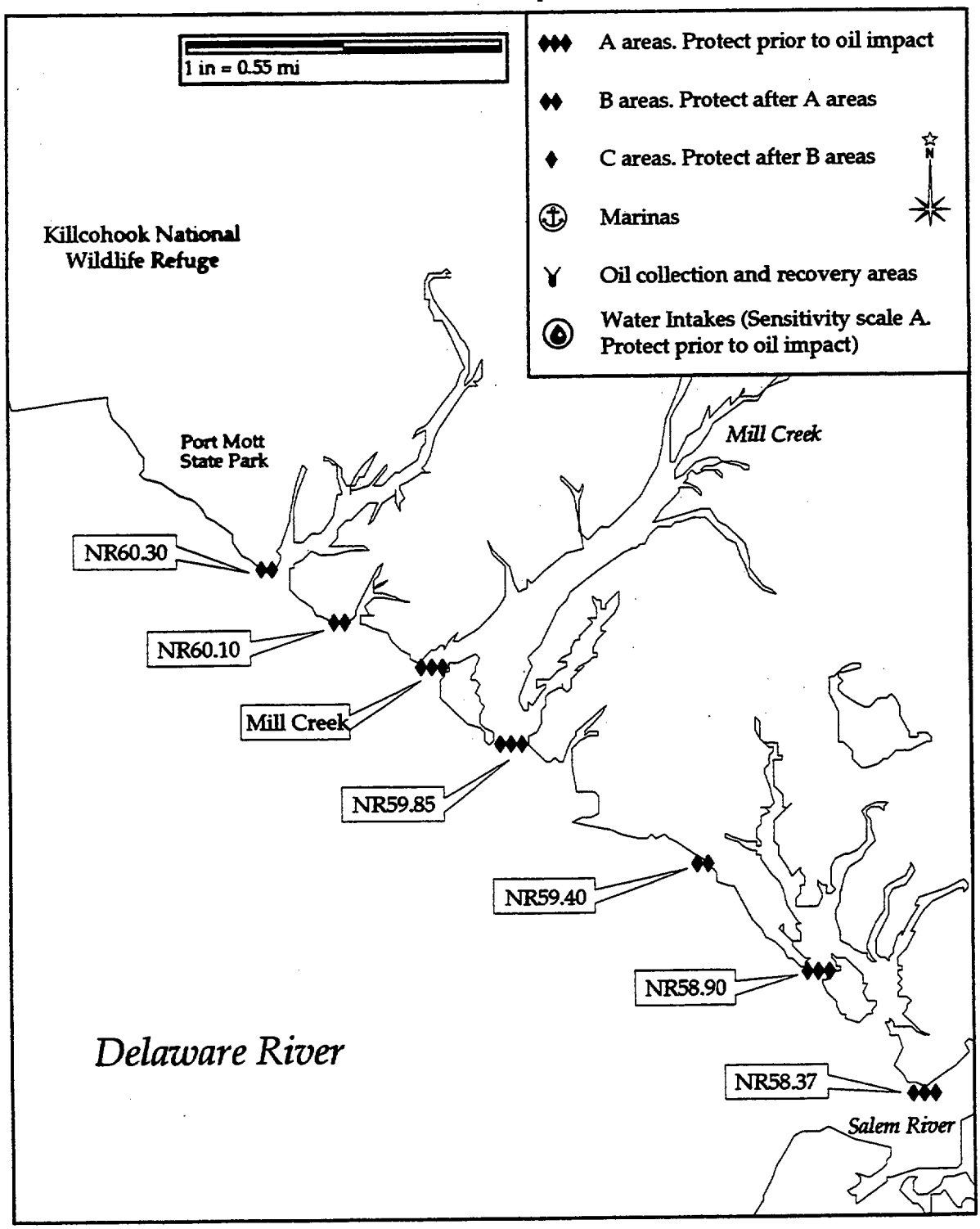

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR60.30 Map No. 19 Name First Creek S. Ft Mott Park

USGS Quad Delaware City, DE -NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°35'45" N Long. 075°32'71" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

U.S. Fish & Wildlife Service, Supawna Meadows National Wildlife Refuge (609) 935-1487

NJ Department of Environmental Protection, 24 hr (609) 292-7172

SITE DESCRIPTION

Area: Tidal Range: 5.6 ft Max Currents: kts

GEOGRAPHIC LOCATION: About one-half mile south of Fort Mott State Park, across from Pea Patch Island, north of Goose Pond.

PHYSICAL DESCRIPTION: Regularly flooded tidal flat and adjacent irregularly flooded marshes.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☒ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Foraging ospreys, numerous waterfowl species f,w,sp, and some species breeding in su (blackduck , mallard, wood duck, canada geese), possibly river otters and muskrats, all seasons, nine species of wading birds from Pea Patch Island, shorebirds in sp and f. Blue crabs.

HABITAT: Regularly flood tidal flats and irregularly flooded marshes and ponds. Irregularly flooded marshes may be dominated by Phrogmites.

THREATENED/ ENDANGERED: Bald eagles and Peregrine falcons may use the area during sp, su, and f, but are more likely using areas to the SE. (i.e. Mill Creek and Salem River). State listed threatened ospreys may use area.

OTHER: Diamond-back terrapins.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: ft

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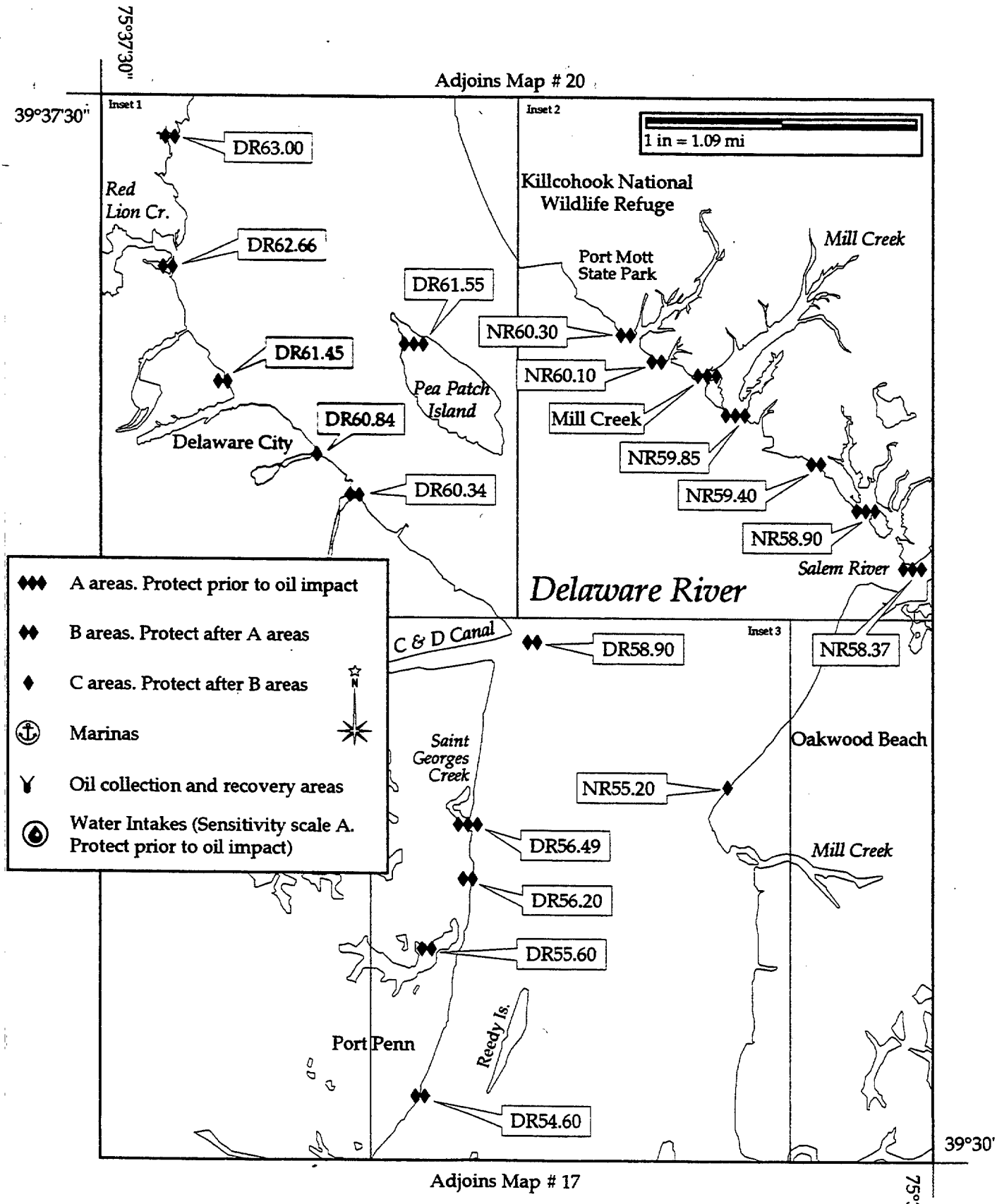

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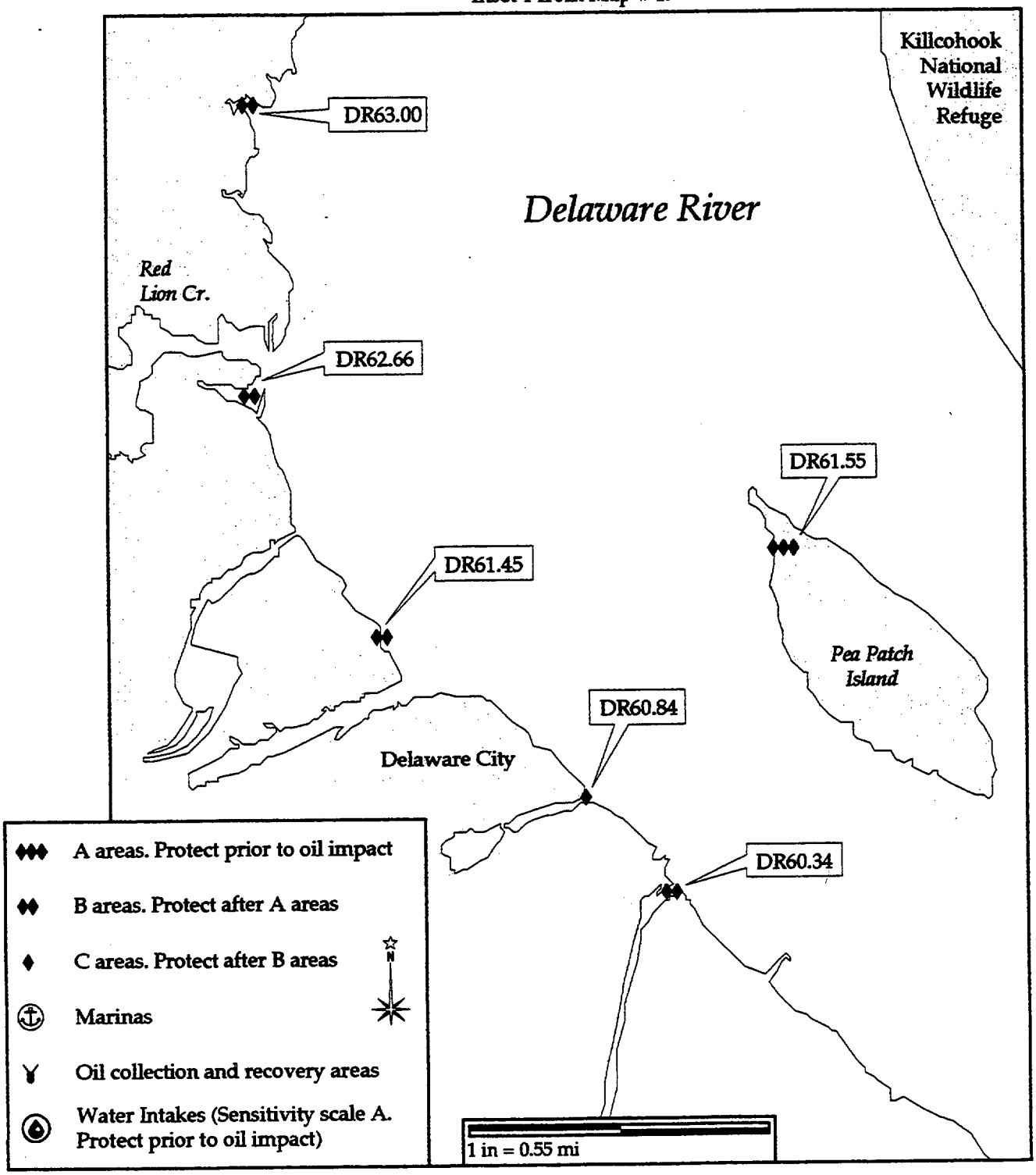

Quad 19 inset 1

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR60.84 Map No. 19 Name Dragon Creek

USGS Quad Delaware City, DE- NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°35'05" N Long. 075°35'25" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: 5.62 ft Max Currents: kts

GEOGRAPHIC LOCATION: About 3/4 mile southeast of Reybold Cove, across from Pea Patch Island.

PHYSICAL DESCRIPTION: Tidal flat extending about 0.5 mile inland.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: There may be riverine/anadromous fish using the mouth for spawning or as nursery habitat. Wading birds may be foraging on the tidal flat.

HABITAT: tidal flat.

THREATENED/ ENDANGERED:

OTHER:

RESPONSE CONSIDERATIONS

Ownership: Star Enterprise

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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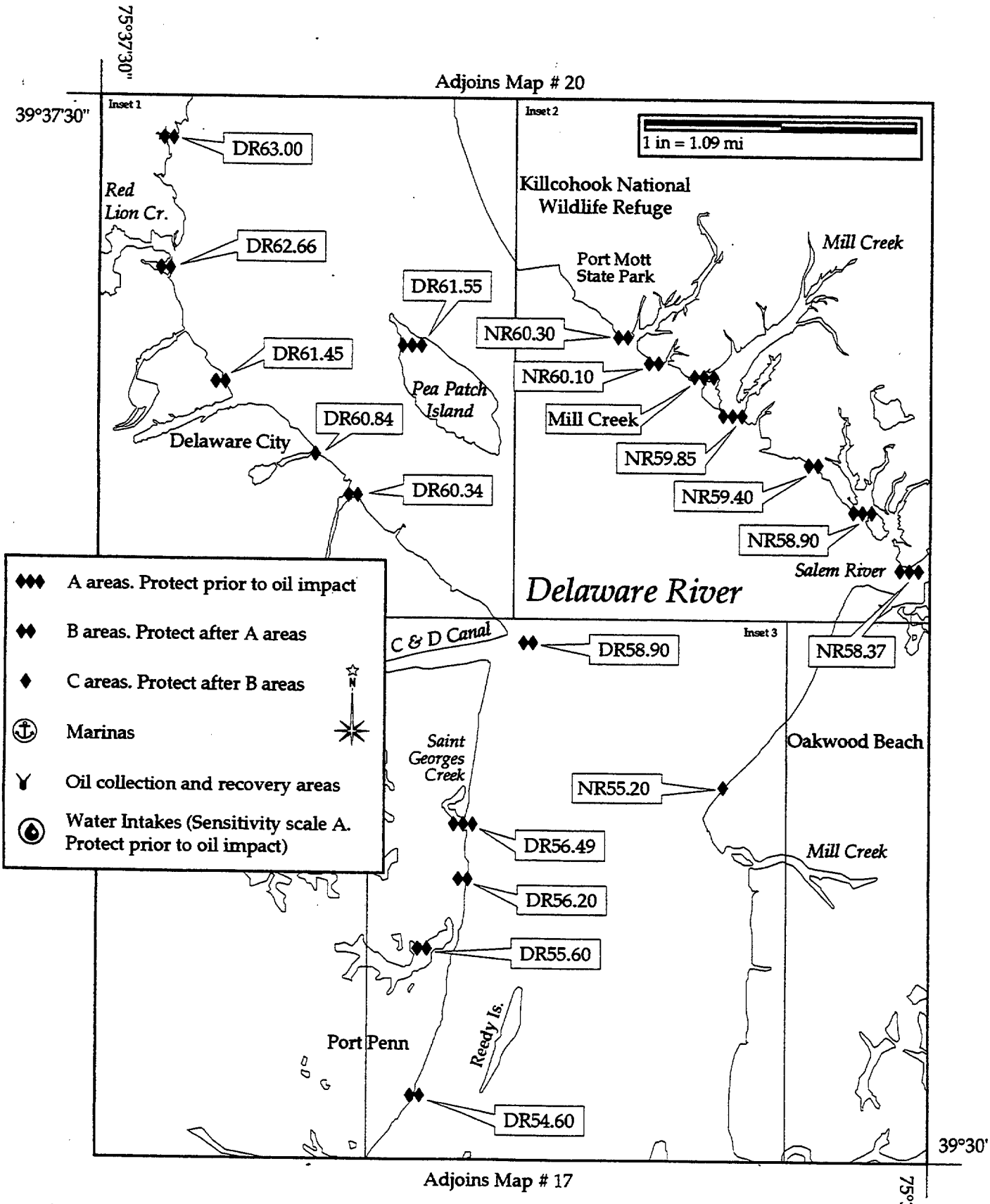

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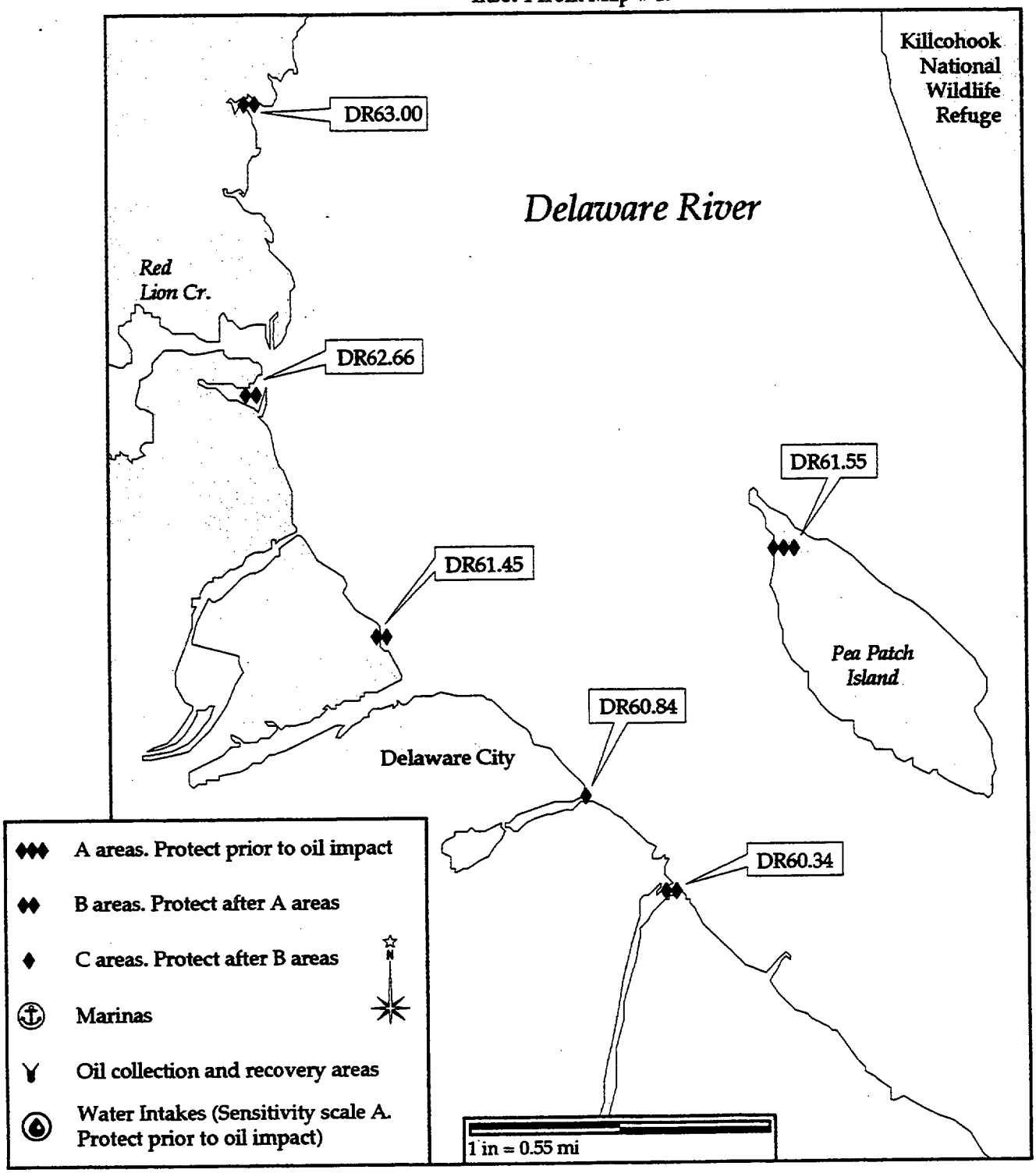

Quad 19 inset 1

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR61.55 Map No. 19 Name Pea Patch Island

USGS Quad Delaware City, DE - NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°35'30" N Long. 075° 34'00" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: 5.62 ft Max Currents: kts

GEOGRAPHIC LOCATION: Center of river, just southwest of Killcohook NWR, and east of Reybold Cove and Delaware City access area.

PHYSICAL DESCRIPTION: Island with extensive sand bars on N end and extending from the NE side in a NW direction. Mud flat at S end backed by extensive irregularly flooded tidal marshes.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Several thousand pairs of wading birds representing eight or nine species nest on the island in the sp and su, and remain into the f. Riverine, anadromous and marine fish, including flatfish distributed throughout the area.

HABITAT: Irregularly flooded, phragmites dominated tidal marshes provide nesting cover to wading birds. Sand bars and beaches may serve as foraging areas for wading birds and possibly shorebirds. Near shore area on W side of island is striped bass nursery area

THREATENED/ ENDANGERED:

OTHER:

RESPONSE CONSIDERATIONS

Ownership: State of DE/U.S. Army Corps of Engineers

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

Dock on South end of Pea Patch Island

STAGING AREAS: Delaware City - Fort Delaware State Park.

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☒ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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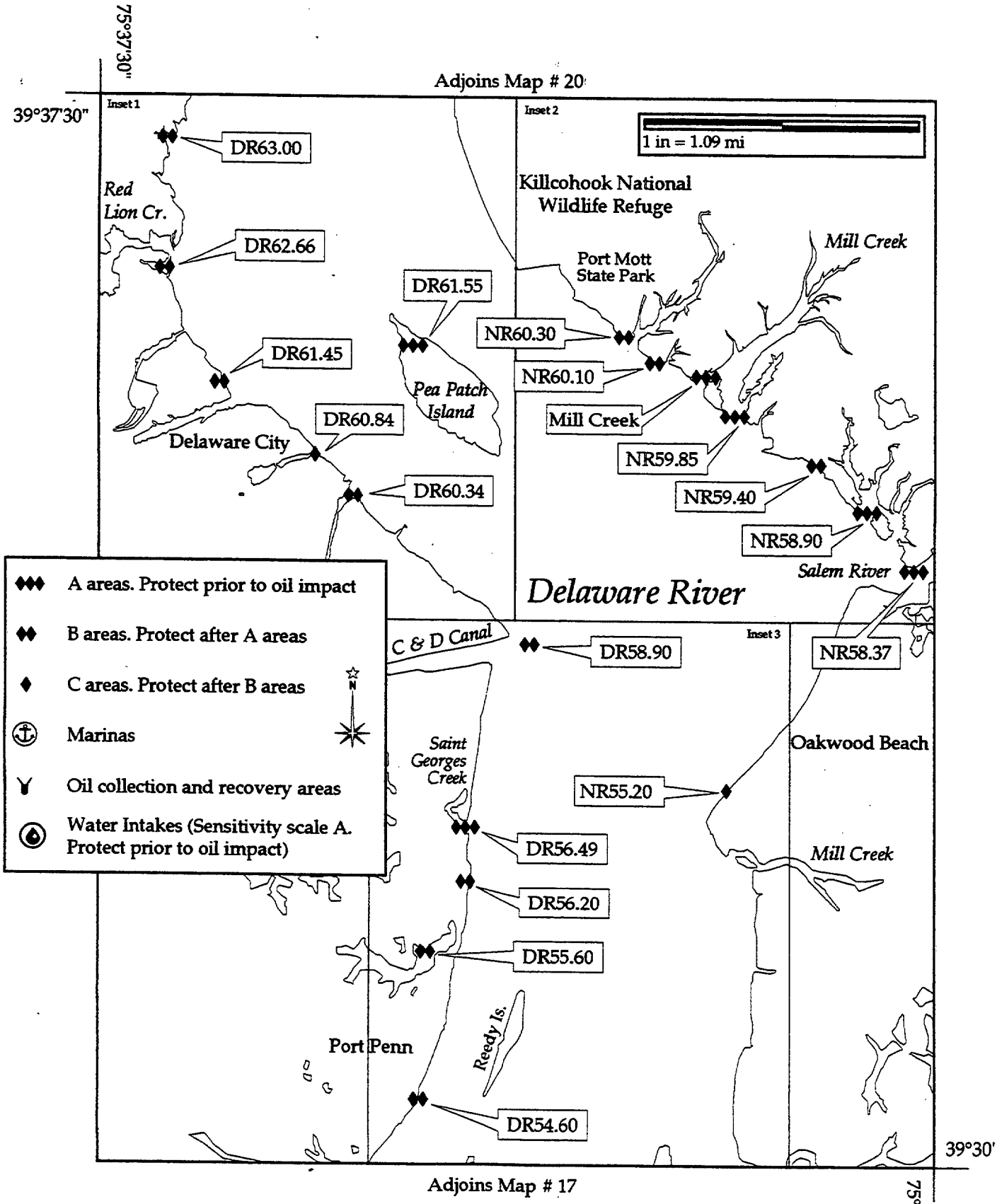

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR63.00 Map No. 19 Name Hamburg Cove North

USGS Quad Delaware City, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39° 37'20" N Long. 075°36'50" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: 2 miles northwest of Pea Patch Island

PHYSICAL DESCRIPTION: Cove with several tidal inlets and marshes

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Wading birds from Pea Patch all seasons, waterfowl f,w, and sp, some shorebird and raptor use likely during sp, su, and f. Numerous species of riverine , anadromous, and marine fish, including flatfish and spawning striped bass distributed thoughout area. Muskrats also likely to be present.

HABITAT: Irregularly flooded tidal marshes.

THREATENED/ ENDANGERED:

OTHER:

RESPONSE CONSIDERATIONS Ownership: Star Enterprise, Delmarva Power and Light

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: ft

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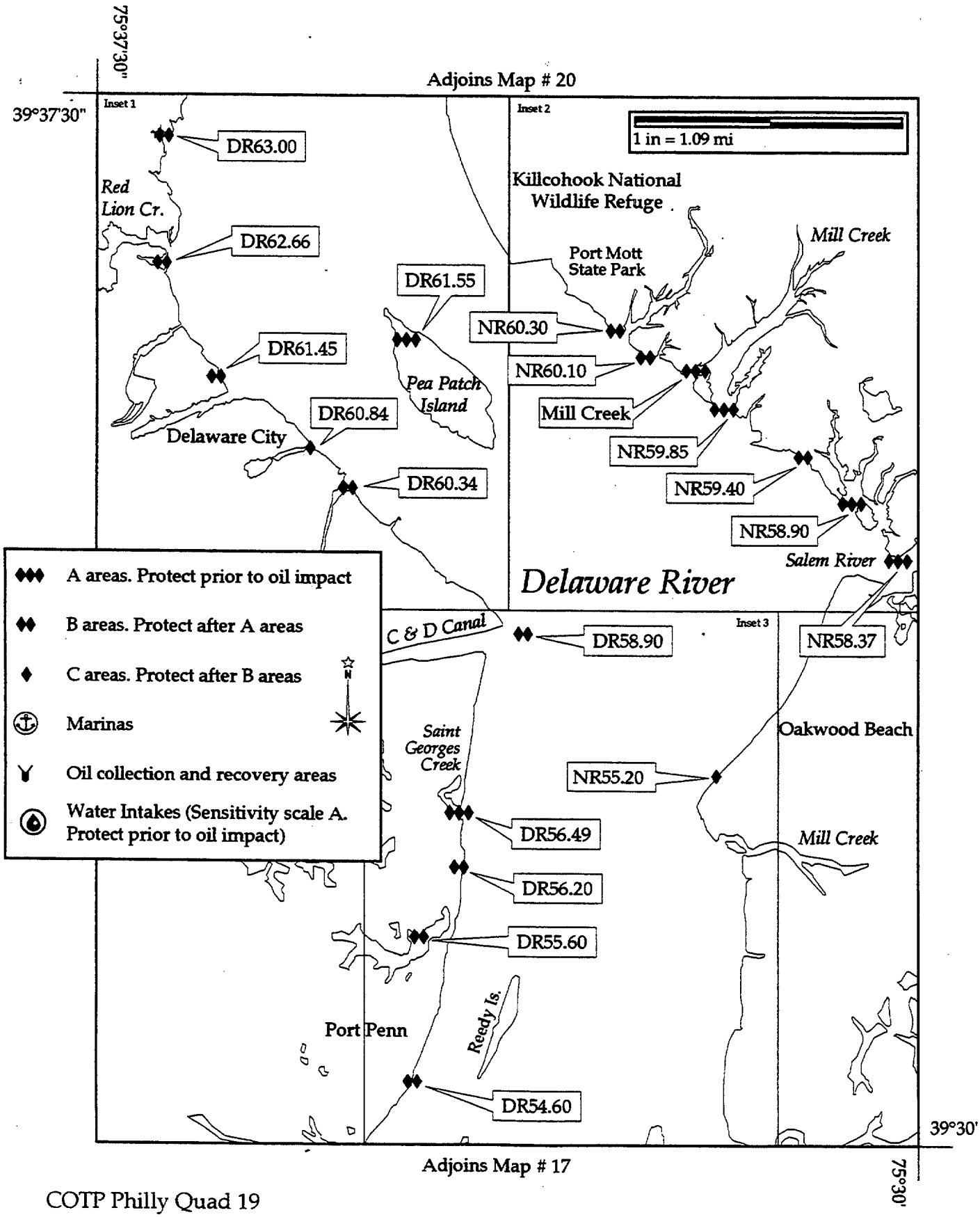

COTP Philly Quad 19

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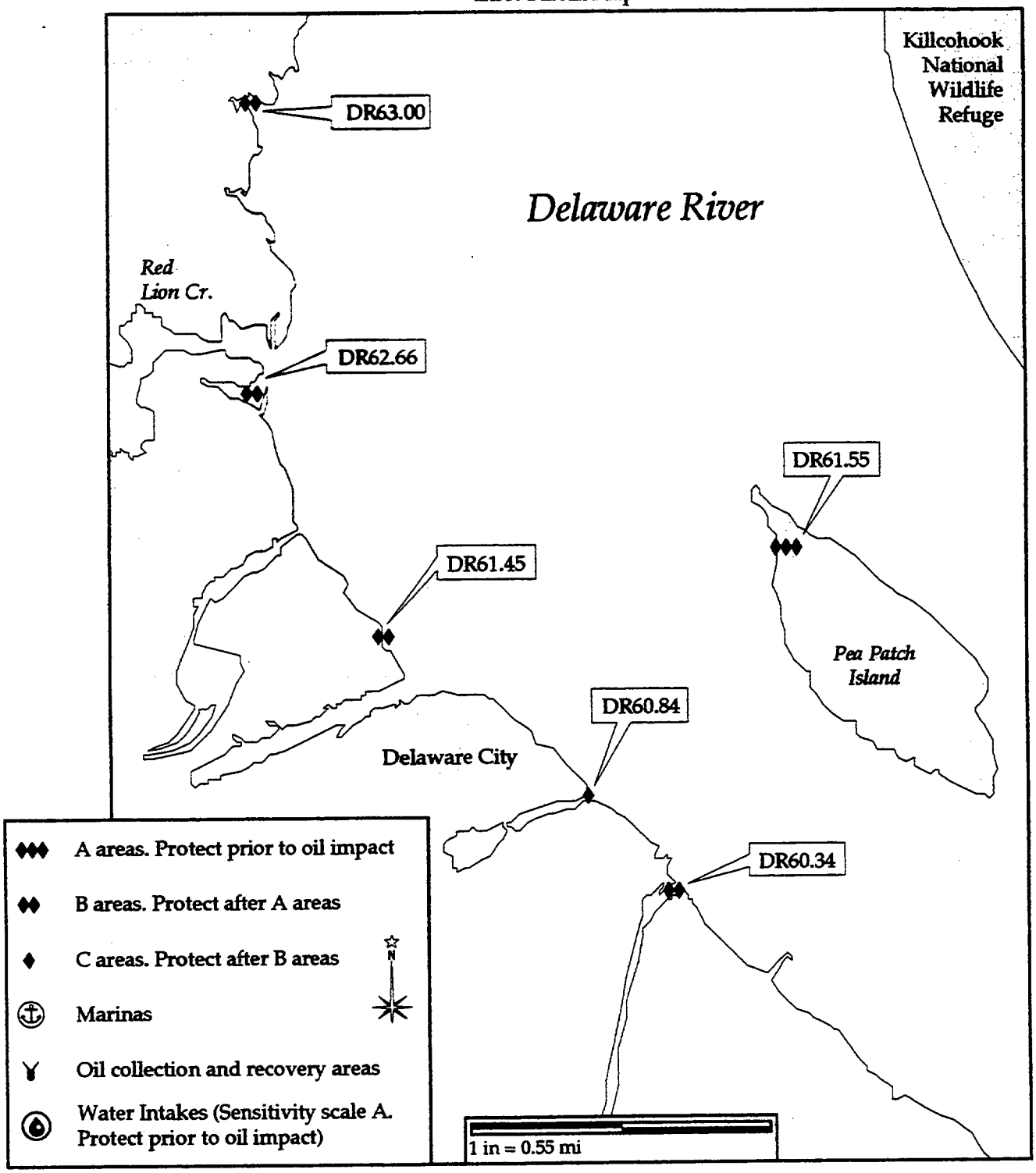

Quad 19 inset 1

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR56.49 Map No. 19 Name ST GEORGES CREEK

USGS Quad Delaware City, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°32'25" N Long. 075° 34'30" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION Area: Tidal Range: 5.5 ft Max Currents: kts

GEOGRAPHIC LOCATION: About 1.25 miles south of C&D Canal, directly across from Elsinboro Point.

PHYSICAL DESCRIPTION: Tidal creek, irregularly and regularly flooded marshes, flats and ponds.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous waterfowl and shorebirds f,w,and sp. Wading birds from Pea Patch Island all seasons. Historically important for many species of waterfowl, and used by large numbers of shorebirds in spring.

HABITAT: Regularly flooded tidal flats, marshes and ponds, and irregularly flooded marshes. Extensive masrhes.

THREATENED/ ENDANGERED: Bald eagles may forage in this area.

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: f

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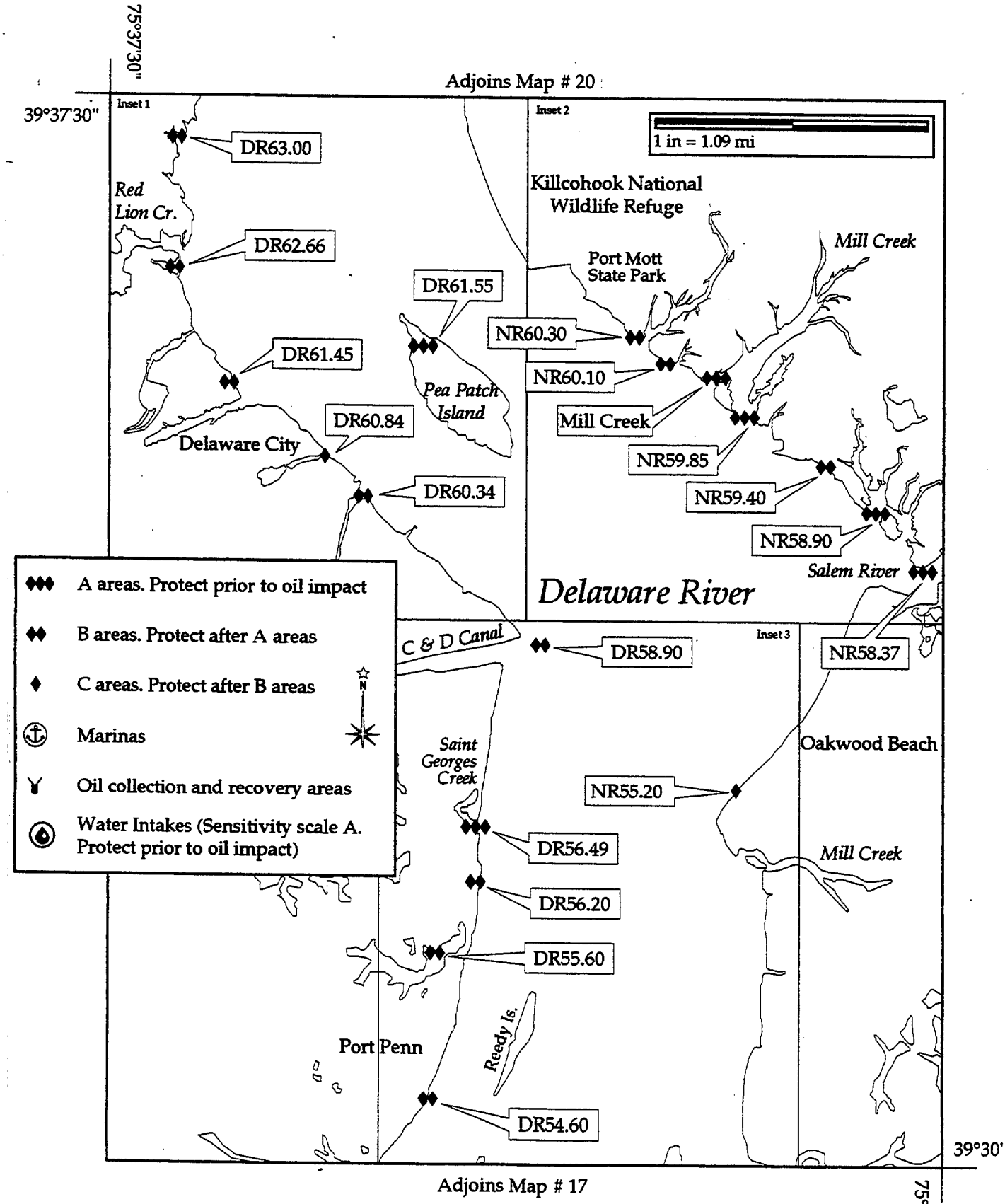

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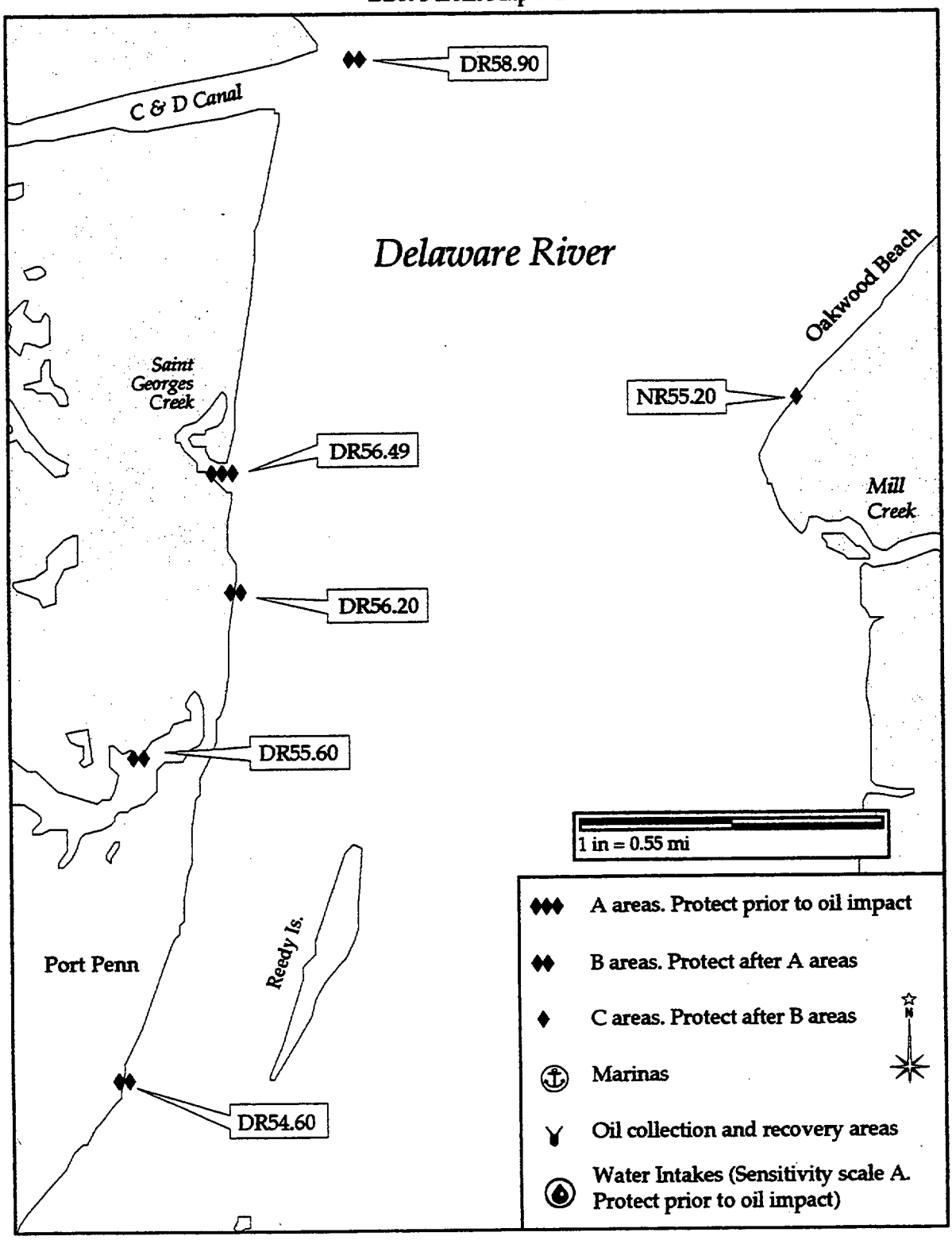

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR56.20 Map No. 19 Name ST GEORGES CREEK SO.

USGS Quad Delaware City, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°31'55" N Long. 075° 34'25" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION Area: Tidal Range: 5.5 ft Max Currents: kts

GEOGRAPHIC LOCATION: About 2 miles south of the C&D Canal.

PHYSICAL DESCRIPTION: Tidal creeks, regularly flood tidal flats, regularly and irregularly flooded marshes

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous waterfowl and shorebirds f,w, and sp. Wading birds from Pea Patch Island all seasons.

HABITAT: Regularly flooded tidal flats, regularly and irregularly flooded tidal marshes.

THREATENED/ ENDANGERED: Bald eagles may forage in this area.

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: f

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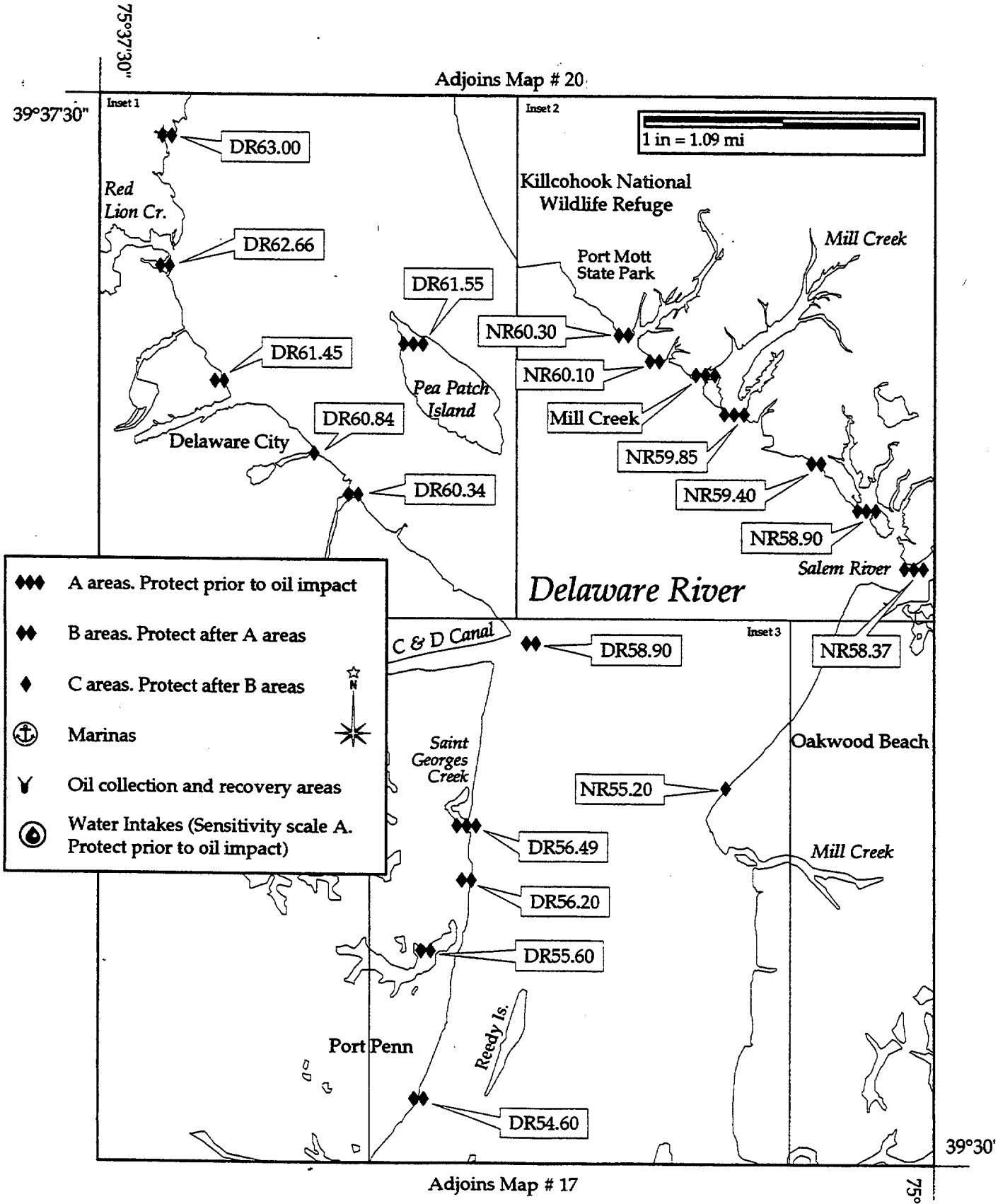

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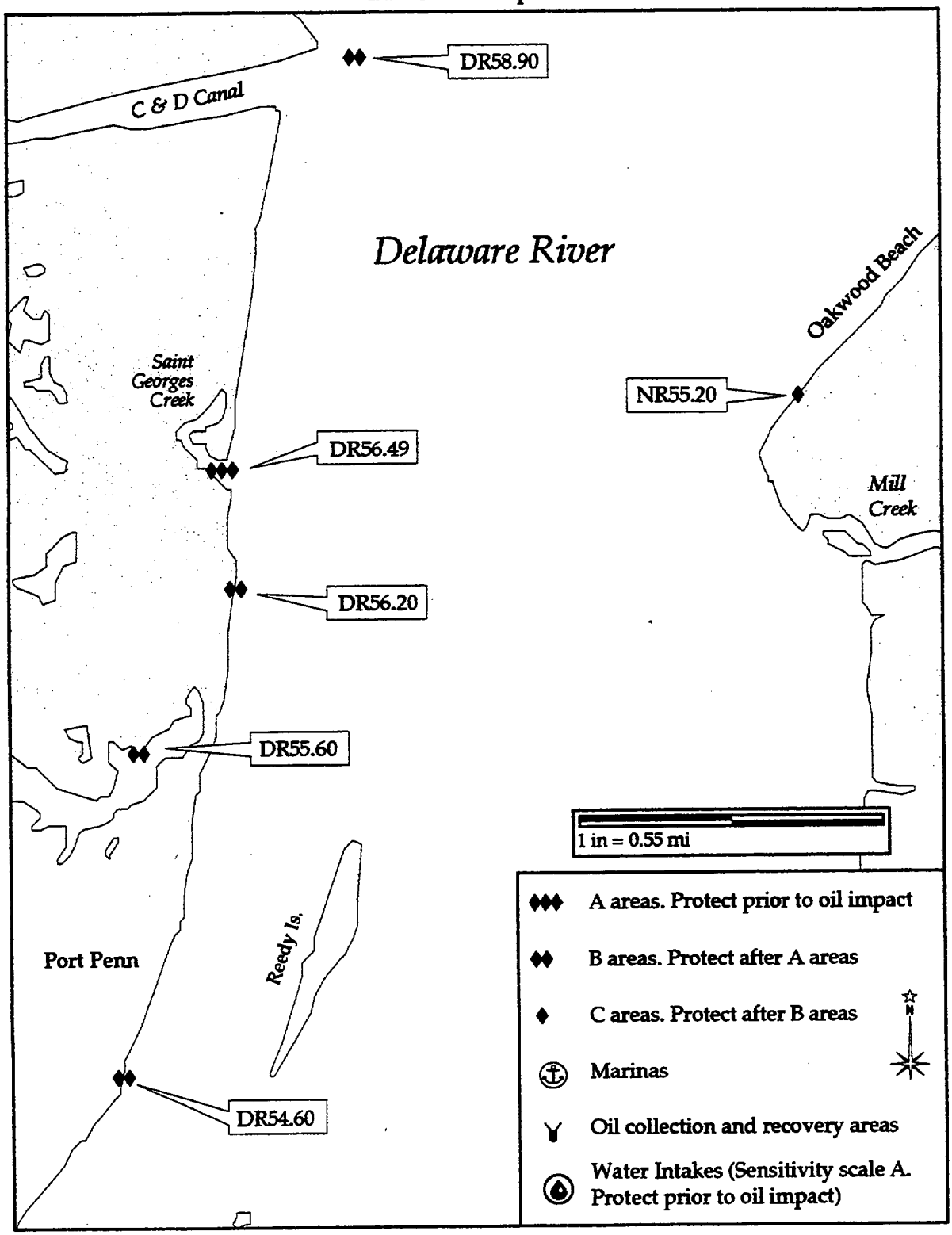

Quad 19 inset 3

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR58.37 Map No. 19 Name SALEM RIVER

USGS Quad Delaware City, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°34'05" N Long. 075° 30'30" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

U.S. Fish & Wildlife Service, Supawna Meadows National Wildlife Refuge (609) 935-1487

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

SITE DESCRIPTION

Area: Tidal Range: 5.32 ft Max Currents: kts

GEOGRAPHIC LOCATION: Across from the C & D Canal

PHYSICAL DESCRIPTION: Tidal creeks, flats, and marshes

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Foraging osprey, nunerous waterfowl species f, w, sp, and s. Some species breeding in summer (black duck,mallard,wood duck,canada geese), river otter and muskrate all seasons. Nine species of wading birds , from Pea Patch Island. Shorebirds in spring and fall. Striped bass and other anadromous fish spawning and nursery. Turtles, blue crabs, gull and terns..

HABITAT: Tidal mud flats, regularly and irregularly flooded marshes, tidal creeks, wild rice.

THREATENED/ ENDANGERED: Bald eagles and peregrine falcons in sp,su, and f. State listed threatened osprey (in NJ). See state list.

OTHER: Diamond-back terrapins.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS: Port of Salem

COLLECTION POINTS: South side of river entrance.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☒ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: f

After the RT 47 bridge, no area is available to Boom.
Area is mouth to mainsteam marsh, a vast wetland habitat.

SEE DBRC BOOMING STRATEGIES.

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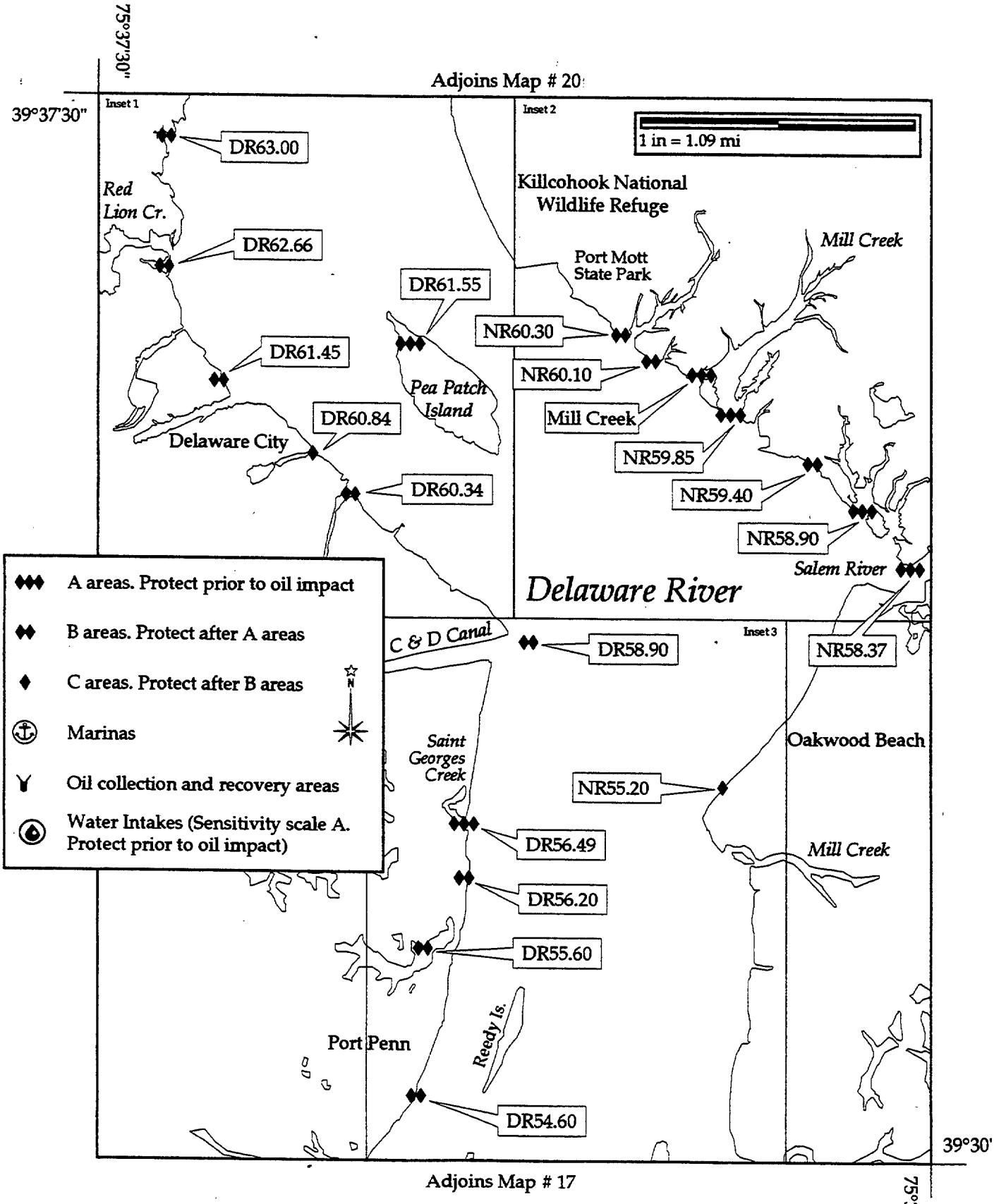

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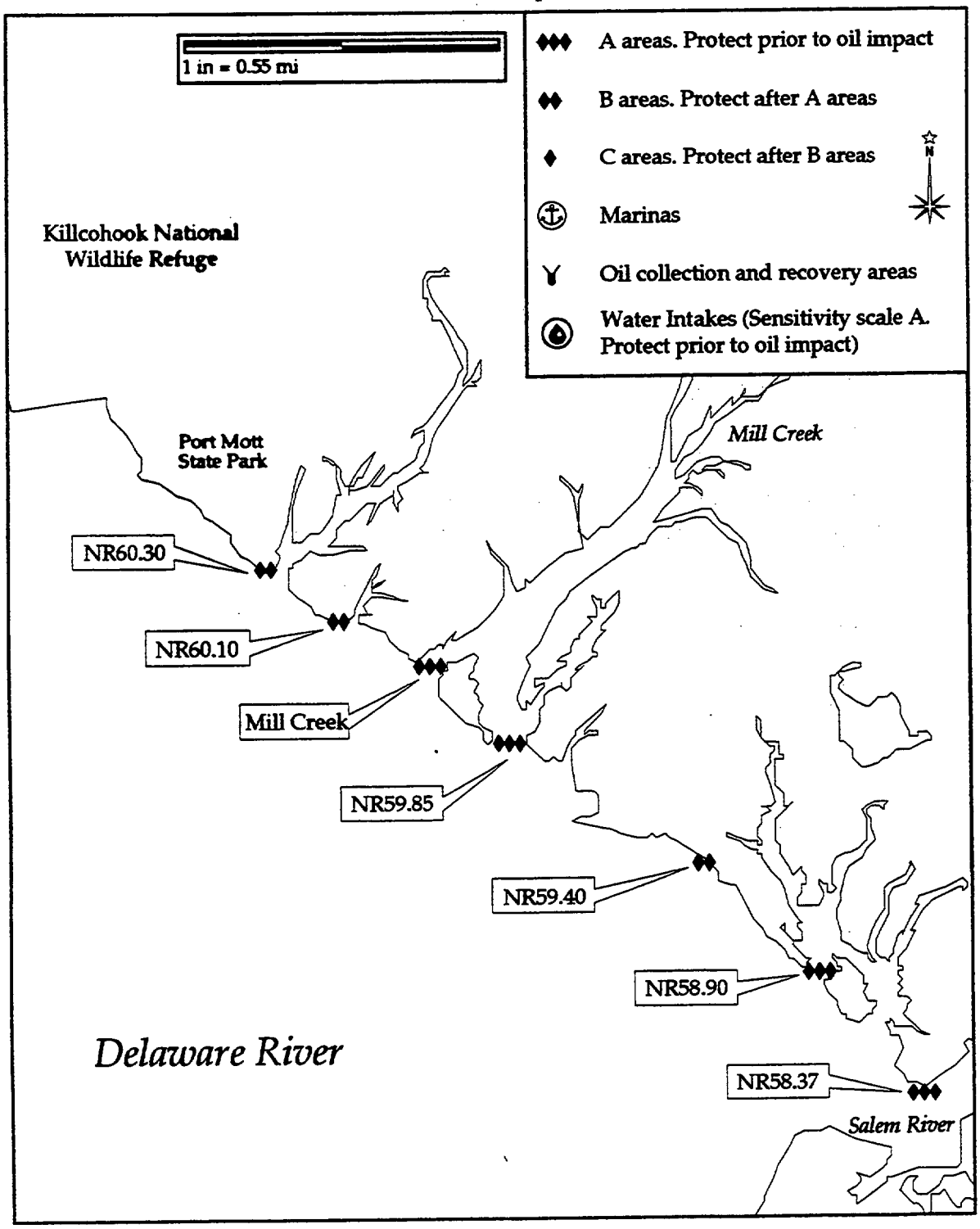

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 19 Name Mill Creek

USGS Quad Delaware City, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39° 35'48" N Long. 075°32'13" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: 5.62 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Heavy waterfowl population and wading birds. Used by otter and muskrats.

HABITAT: Tidal salt marsh and phragmites and cord grass

THREATENED/ ENDANGERED: Osprey and bald eagles

OTHER:

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: f

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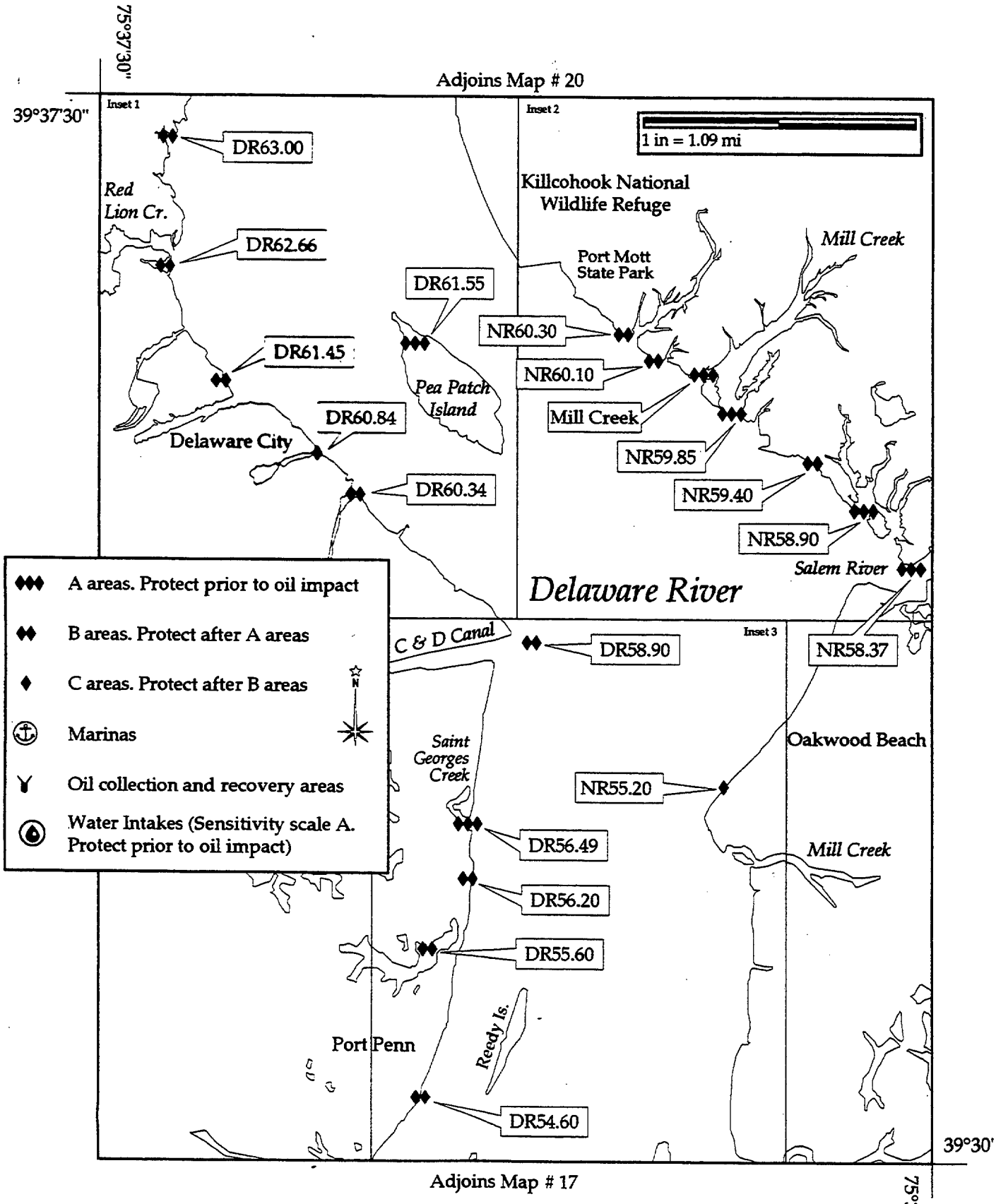

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR60.34 Map No. 19 Name Delaware City Branch Channel

USGS Quad Delaware City, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 19 Lat. 39°34'44" N Long. 075°35'15" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION Area: Tidal Range: 5.45 ft Max Currents: kts

GEOGRAPHIC LOCATION: Delaware City

PHYSICAL DESCRIPTION: Tidal channel which connects to the C&D Canal, with tidal flats around mouth and some irregluarly flooded tidal marshes.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☐ Su ☐ F ☐ W ☐

WILDLIFE: Wading birds from Pea Patch Island may use tidal flats on either side of mouth of channel where it meets river, and tidal marshes along southern side of canal during all seasons. Shore birds and waterfowl may also use these areas f,w, and sp. Riverine/anadromous fish in canal all seasons, including striped bass.

HABITAT: Tidal flats on either side of mouth; irregularly flooded Phragmites dominated marshes about one mile south along the southeastern side of the channel and on both sides of mouth where channel meets canal. Regularly flooded wetlands along canal.

THREATENED/ ENDANGERED:

OTHER: Waterfowl, wading birds, shorebirds, and riverine/anadromous fish in canal are vulnerable to oil spills that enter this canal.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: ft

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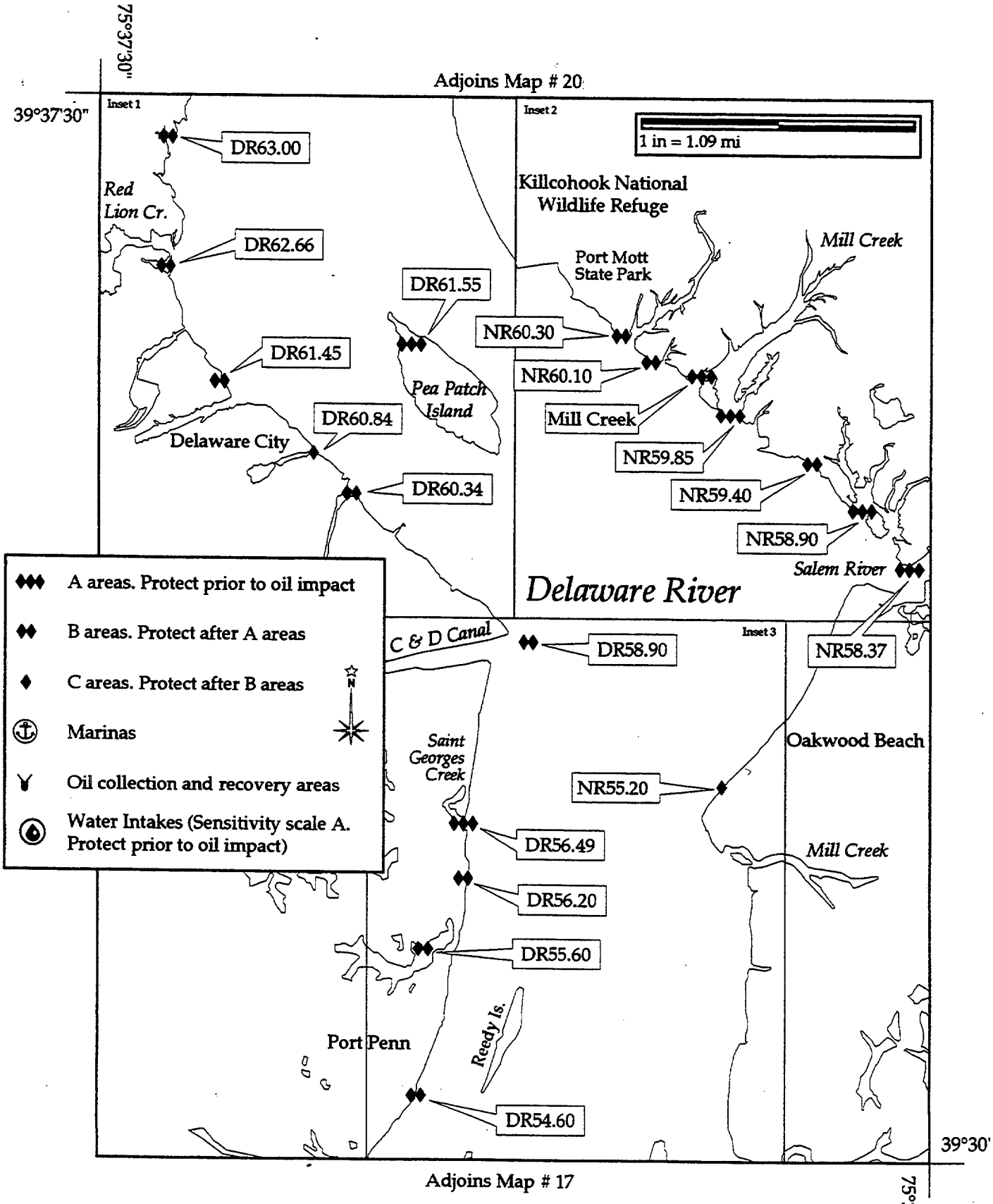

COTP Philly Quad 19

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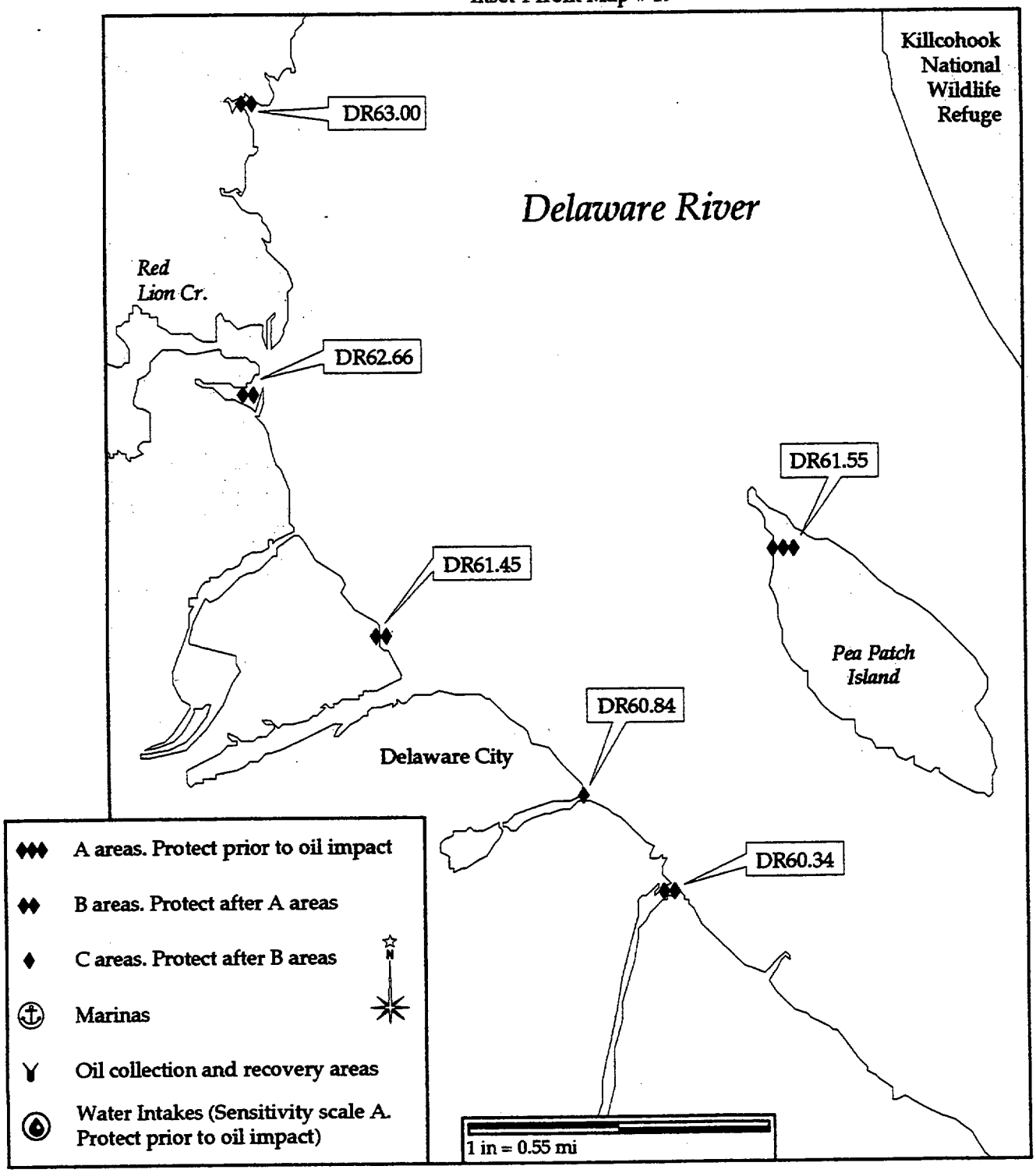

Quad 19 inset 1

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR66.20 Map No. 20 Name Broad Dyke Marsh

USGS Quad Wilmington South NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 20 Lat. 39° 39'45" N Long. 075° 33'35" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: 5.2 ft Max Currents: kts

GEOGRAPHIC LOCATION: About 0.3 mile north of pier and light at New Castle.

PHYSICAL DESCRIPTION: Impounded, irregularly flooded tidal marsh with sluice gate

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl and wading birds us this site, possibly as nesting habitat due to presence of good nesting cover,and wood duck nesting boxes. According to state, 12 spc of fish occur in marsh, incl large mouth bass, black crappie and brown bull head. Also waterfowl and wading birds, river otter and muskrat, numerous populations of amphibians and reptiles.

HABITAT: 210 acre freshwater tidal marsh. Irregularly flooded tidal marsh, some phragmites. Some open water. Surrounded by forested and scrub/shrub wetlands.

THREATENED/ ENDANGERED: Peregrine falcons may nest on Delaware Memorial Bridge in sp and su and may be preying on birds using this marsh.

OTHER: State species of special concern include: purple-stemmed swamp beggar's-tick, Engelmann umbrella- sedge, redroot galingale,and hooded arrowhead.

RESPONSE CONSIDERATIONS

Ownership: New Castle Trustees of Commons

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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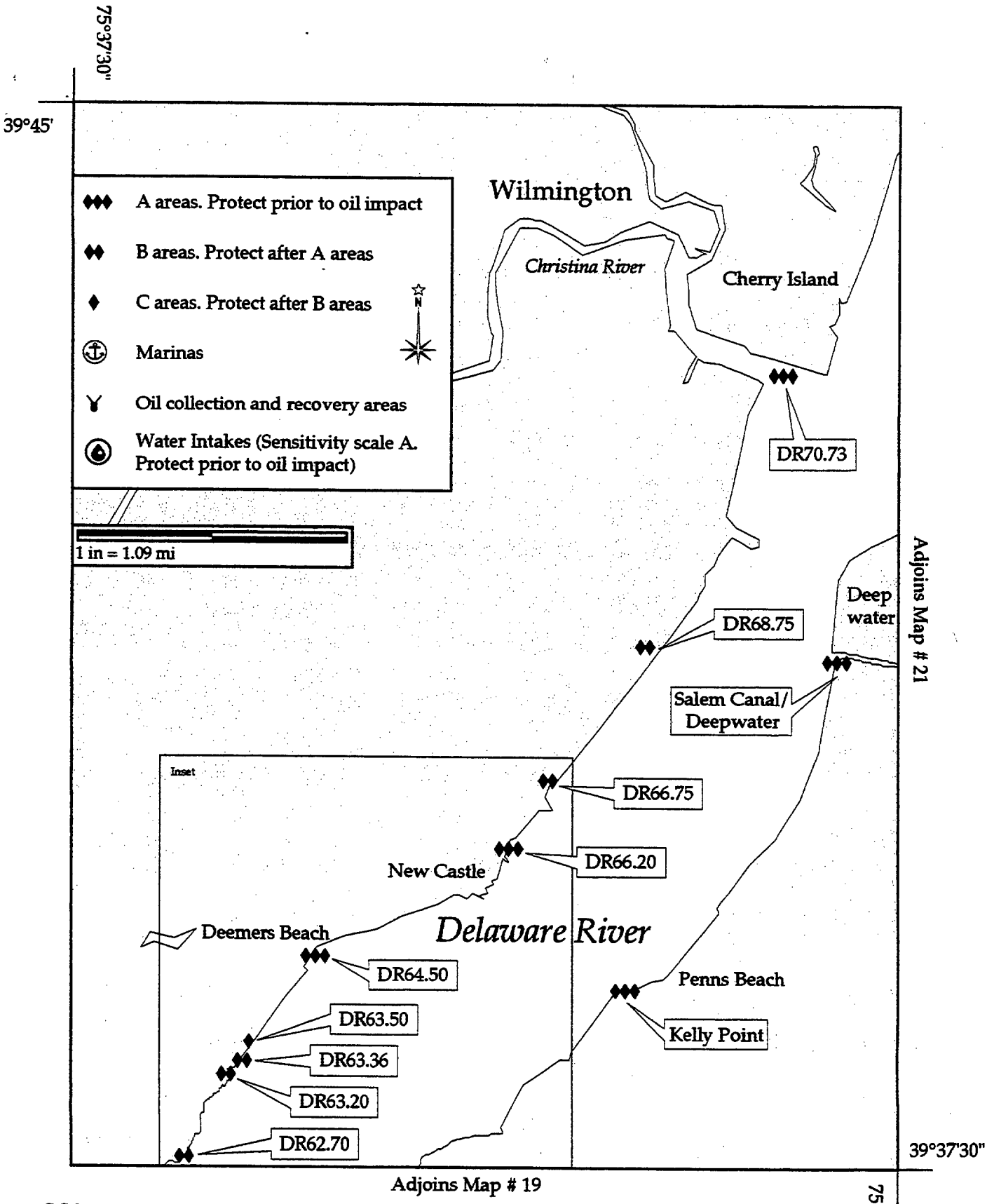

COTP Philly Quad 20

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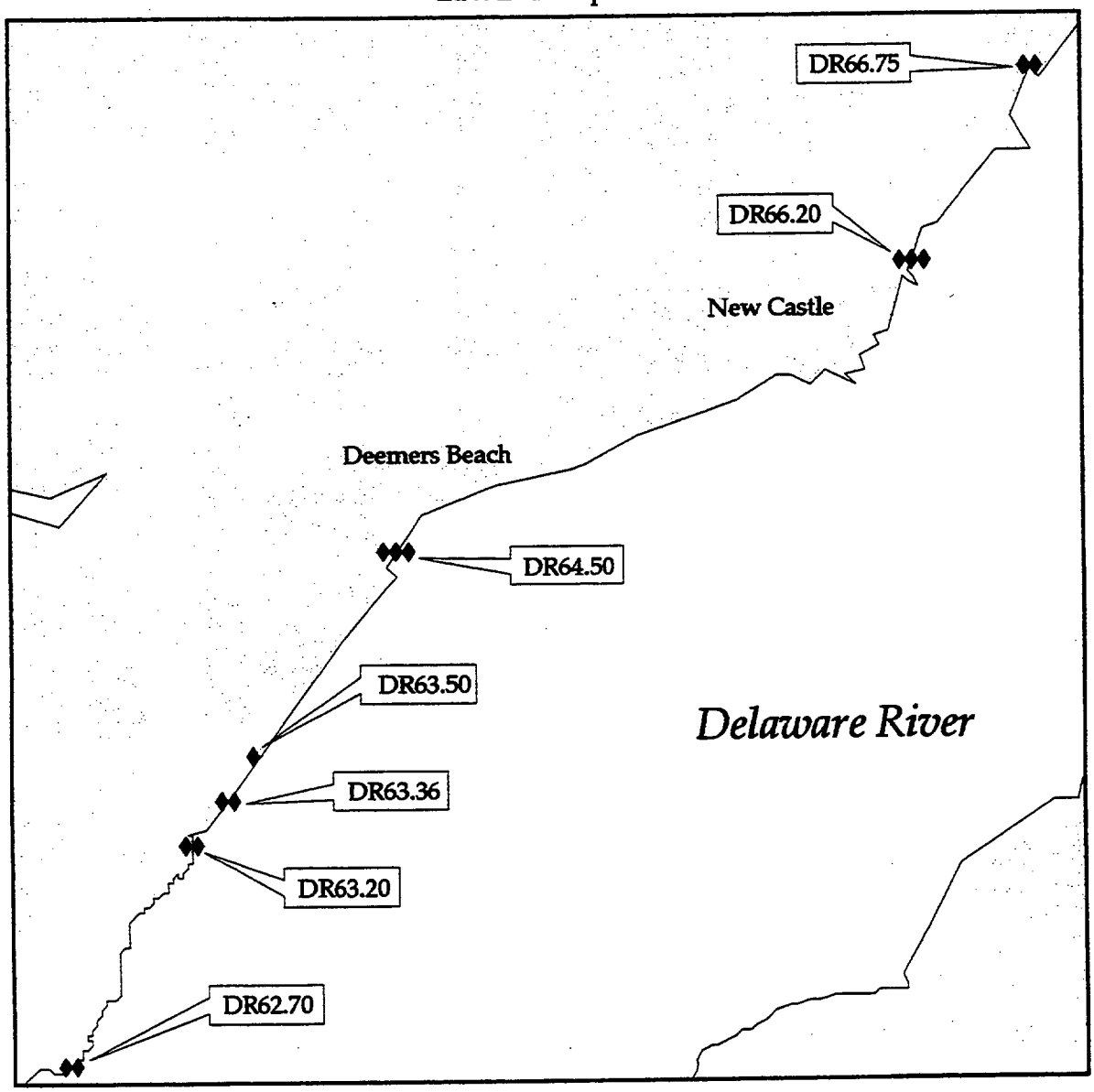

1 in = 0.55 mi

- ♦♦♦ A areas. Protect prior to oil impact
- ♦♦ B areas. Protect after A areas
- ♦ C areas. Protect after B areas
- Marinas
- Oil collection and recovery areas
- Water Intakes (Sensitivity scale A. Protect prior to oil impact)

Quad 20 inset

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR70.73 Map No. 20 Name Christina River

USGS Quad Wilmington South NOAA Chart 12311/12312 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 20 Lat. 39° 43'00" N Long. 075° 31'00" W

Agency/Contact

U.S. Fish & Wildlife Service, Bombay Hook National Wildlife Refuge (302) 653-9345

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

SITE DESCRIPTION

Area: 400 meter wide Tidal Range: 5.27 ft Max Currents: ____ kts

GEOGRAPHIC LOCATION: South end of Cherry Island, 2 miles north of the Delaware Memorial Bridge.

PHYSICAL DESCRIPTION: Mouth of tidal river, Brandywine Creek enters the Christina River about 2 miles upstream from Christina River mouth.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☒ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous species of waterfowl in marshes during f,w, and sp. Shorebirds on tidal flats in f,w, and sp, with potentially large concentrations during sp. Wading birds all seasons. Gulls and terns sp, su, and f. Riverine and anadromous fish, including spawning around mouth. River otter and muskrat.

HABITAT: Tidal flats and marshes inside mouth, as well as riverine banks with grasses or trees.

THREATENED/ ENDANGERED: Peregrine falcons may be nesting in the sp and su on the Delaware Memorial Bridge and feeding on waterfowl and shorebirds.

OTHER: Striped bass spawning just outside of mouth during sp, other riverine and anadromous fish spawning just inside mouth in sp and su. Possible large numbers of shorebirds on tidal flats in sp. Wading birds from Pea Patch Island may be foraging in back marshes.

RESPONSE CONSIDERATIONS

Ownership: ____

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ____ ft

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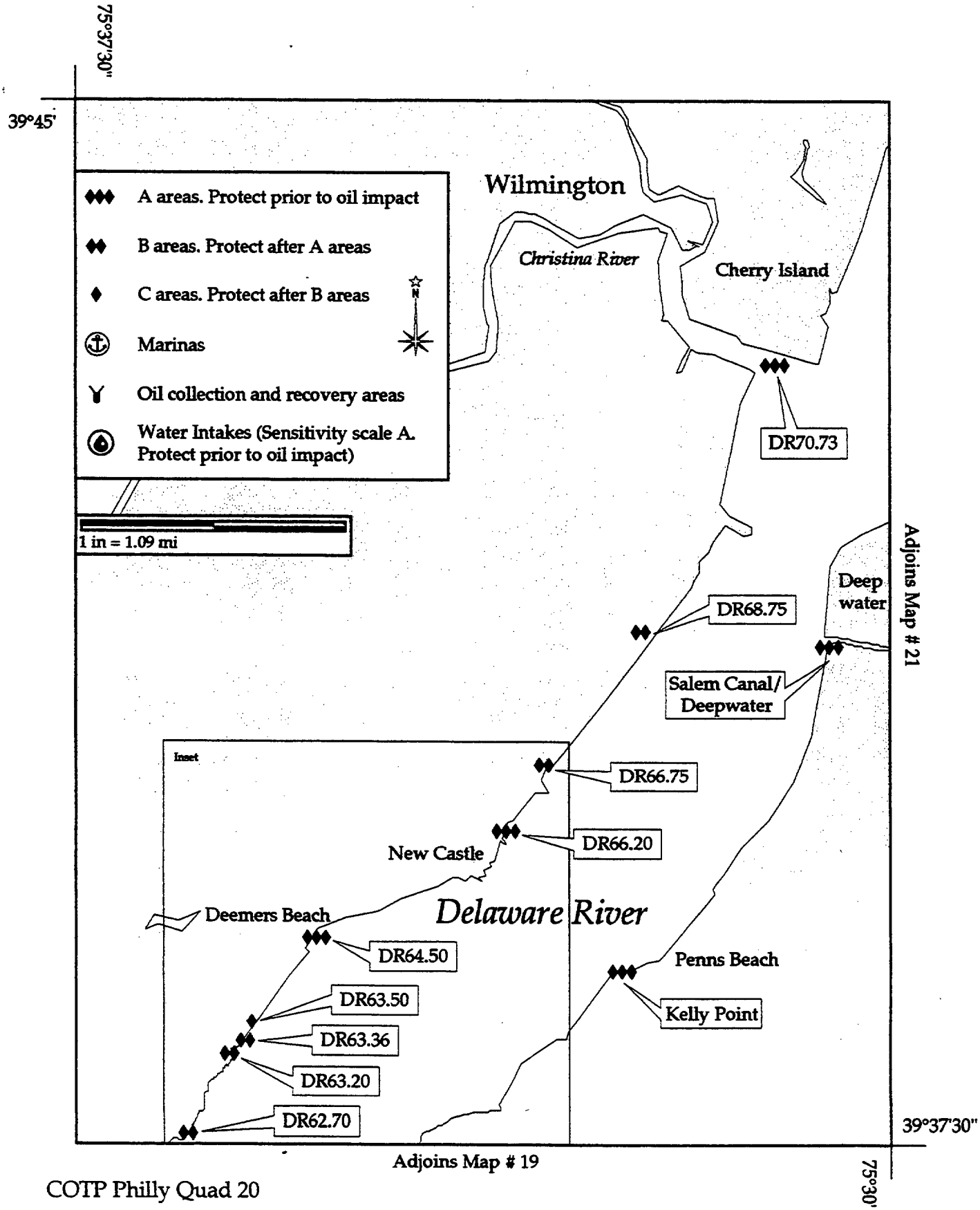

COTP Philly Quad 20

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR62.70 Map No. 20 Name Marsh at Ommelander Park

USGS Quad Wilmingting South NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 20 Lat. 39° 37'35" N Long. 075° 36'10" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: 5.2 ft Max Currents: kts

GEOGRAPHIC LOCATION: Ommerlander Park, near Radio Tower, just south of National Guard training station.

PHYSICAL DESCRIPTION: Irregularly flooded tidal marsh.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☒ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl f, w, and sp, wading birds all seasons. Some shorebirds use likely, muskrats, possibly otters and riverine and anadromous fish may be using this site.

HABITAT: Irregularly flooded tidal marsh and flats

THREATENED/ ENDANGERED:

OTHER: Striped bass spawning area in adjacent river.

RESPONSE CONSIDERATIONS

Ownership: National Guard

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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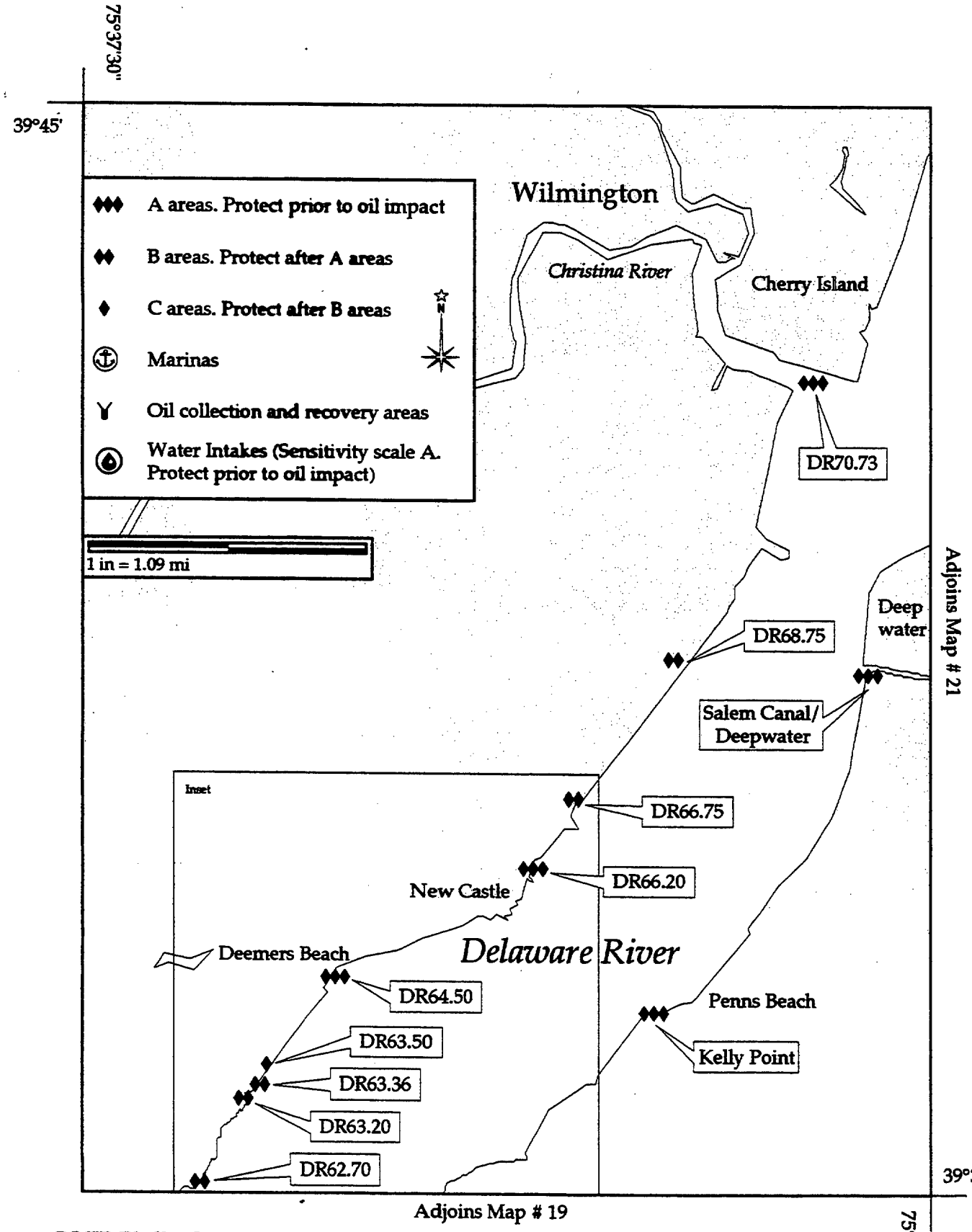

COTP Philly Quad 20

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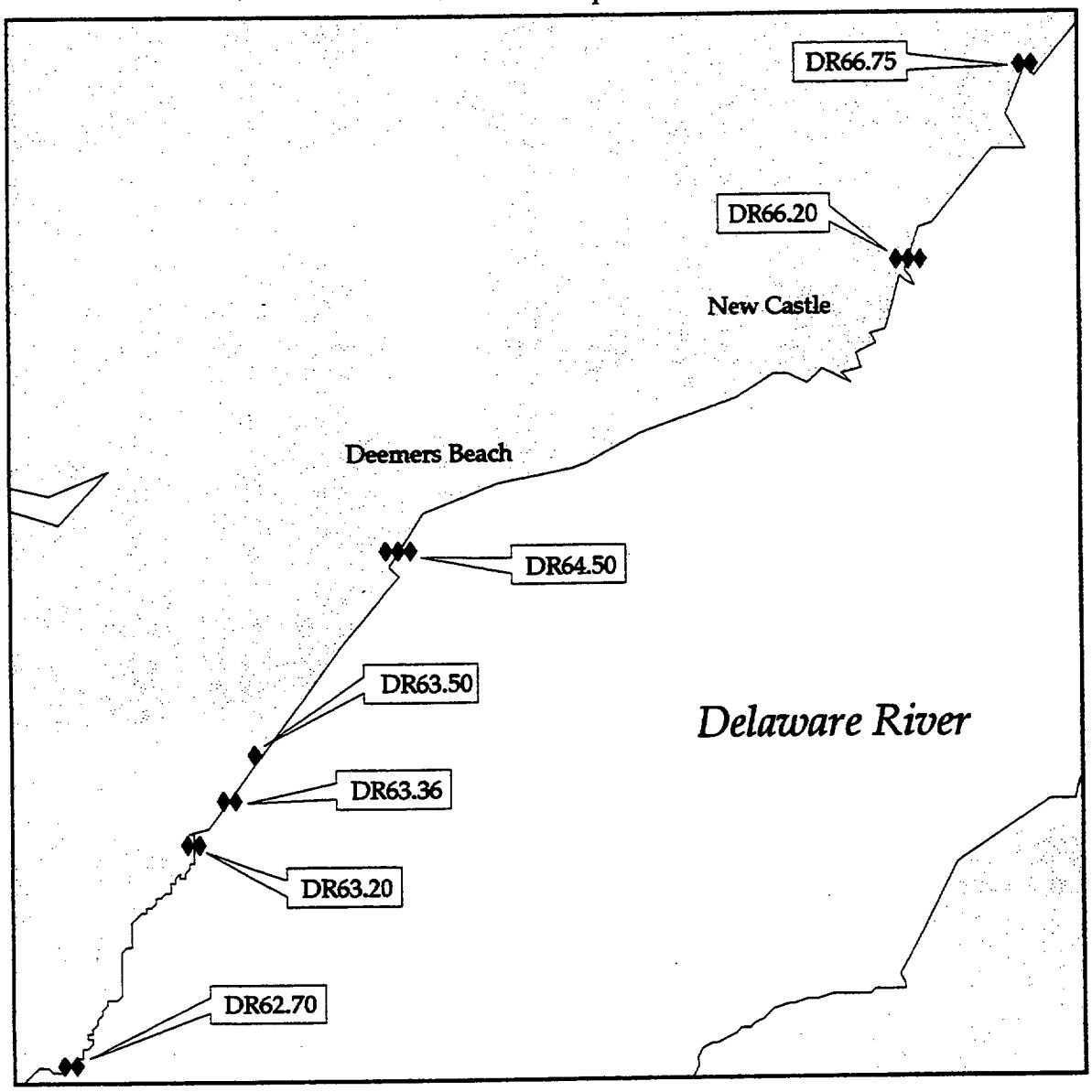

1 in = 0.55 mi

- ♦♦♦ A areas. Protect prior to oil impact
- ♦♦ B areas. Protect after A areas
- ♦ C areas. Protect after B areas
- Marinas
- Oil collection and recovery areas
- Water Intakes (Sensitivity scale A. Protect prior to oil impact)

Quad 20 inset

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[C] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR63.50 Map No. 20 Name Unnamed Marsh N. of Gambles Gut

USGS Quad Wilmington South NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 20 Lat. 39°38'20" N Long. 075°35'45" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: 5.2 ft Max Currents: kts

GEOGRAPHIC LOCATION: About 2 miles southewst of New Castle, one quarter mile north of Gambles Gut which is northeast of the National Guard Training Station.

PHYSICAL DESCRIPTION: Irregularly flooded tidal marsh.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Some use by waterfowl and wading birds is possible. Phragmites may provide nesting cover for some birds.

HABITAT: Irregularly flooded tidal marsh, much of it dominated by Phragmites.

THREATENED/ ENDANGERED:

OTHER: Striped bass spawning area in adjacent river.

RESPONSE CONSIDERATIONS

Ownership: National Guard

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: f

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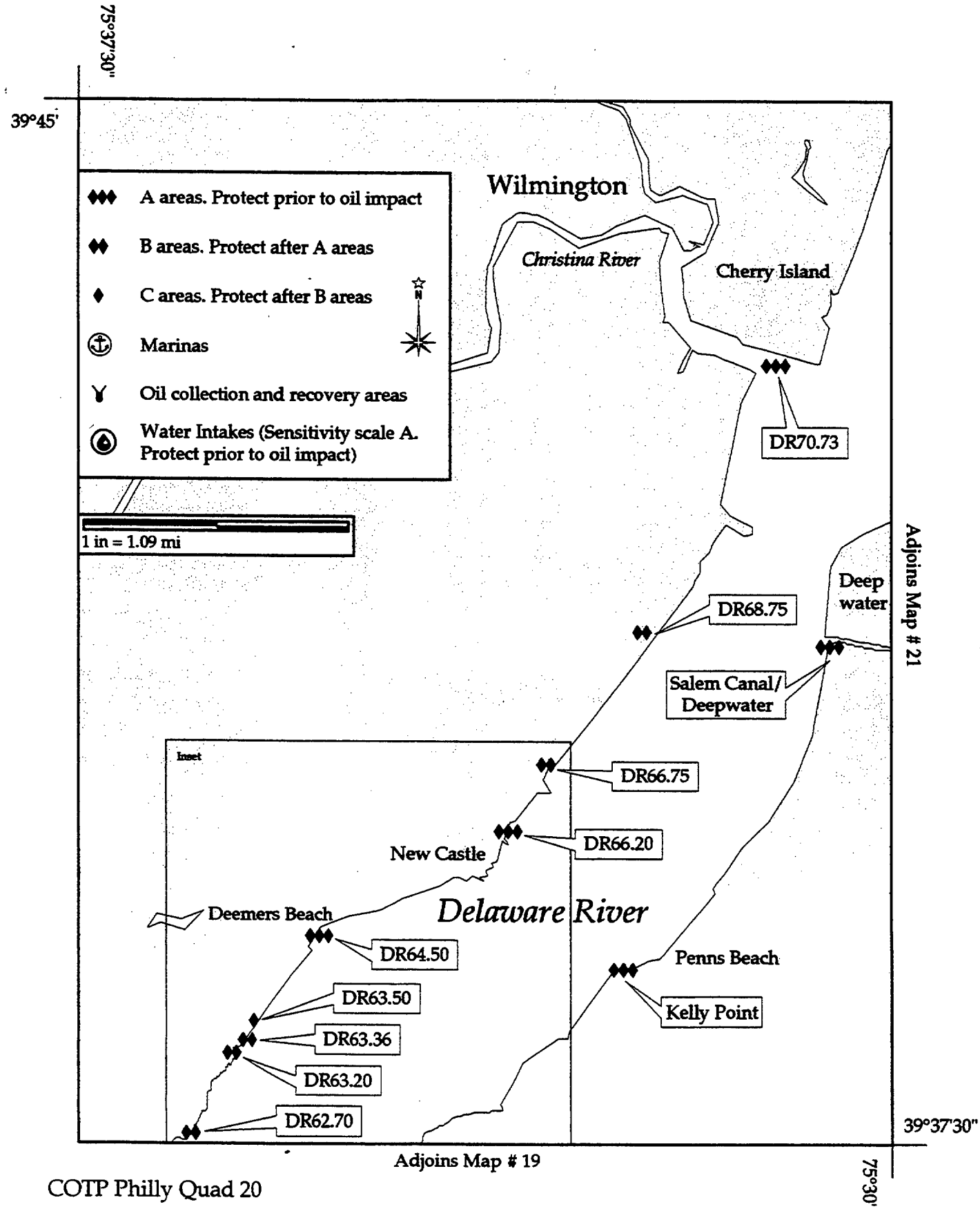

COTP Philly Quad 20

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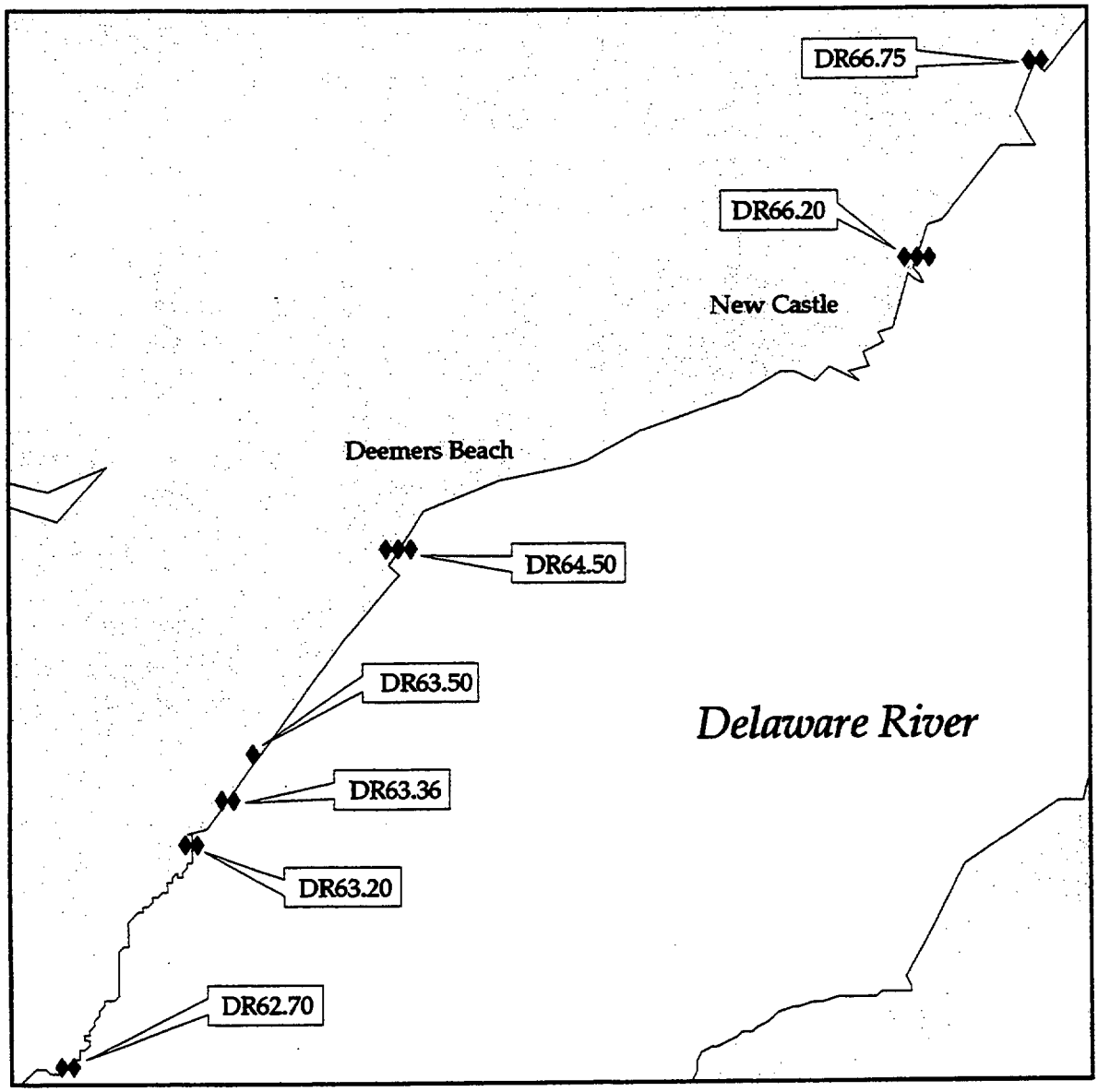

1 in = 0.55 mi

- ♦♦♦ A areas. Protect prior to oil impact
- ♦♦ B areas. Protect after A areas
- ♦ C areas. Protect after B areas
- Marinas
- Oil collection and recovery areas
- Water Intakes (Sensitivity scale A. Protect prior to oil impact)

N

Quad 20 inset

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR63.20 Map No. 20 Name Tidal Gut/Marsh at Nat'l Guard Trnsta

USGS Quad Wilmington South NOAA Chart 12311 Other –

NOAA ESI Atlas DE/NJ/PA ESI Map # 20 Lat. 39° 38'05" N Long. 075°36'00" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: 5.3 ft Max Currents: kts

GEOGRAPHIC LOCATION: National Guard Training Station, just south of Gambles Gut and North of Ommelander Park.

PHYSICAL DESCRIPTION: Irregularly flooded tidal marsh.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl f,w,and sp. Wading birds all seasons, some shorebird use likely , muskrats, possibly river otters, riverine and anadromous fish may be using this site.

HABITAT: Irregularly flooded tidal marsh and flats.

THREATENED/ ENDANGERED:

OTHER: Striped bass spawning area in adjacent river.

RESPONSE CONSIDERATIONS

Ownership: National Guard

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: f

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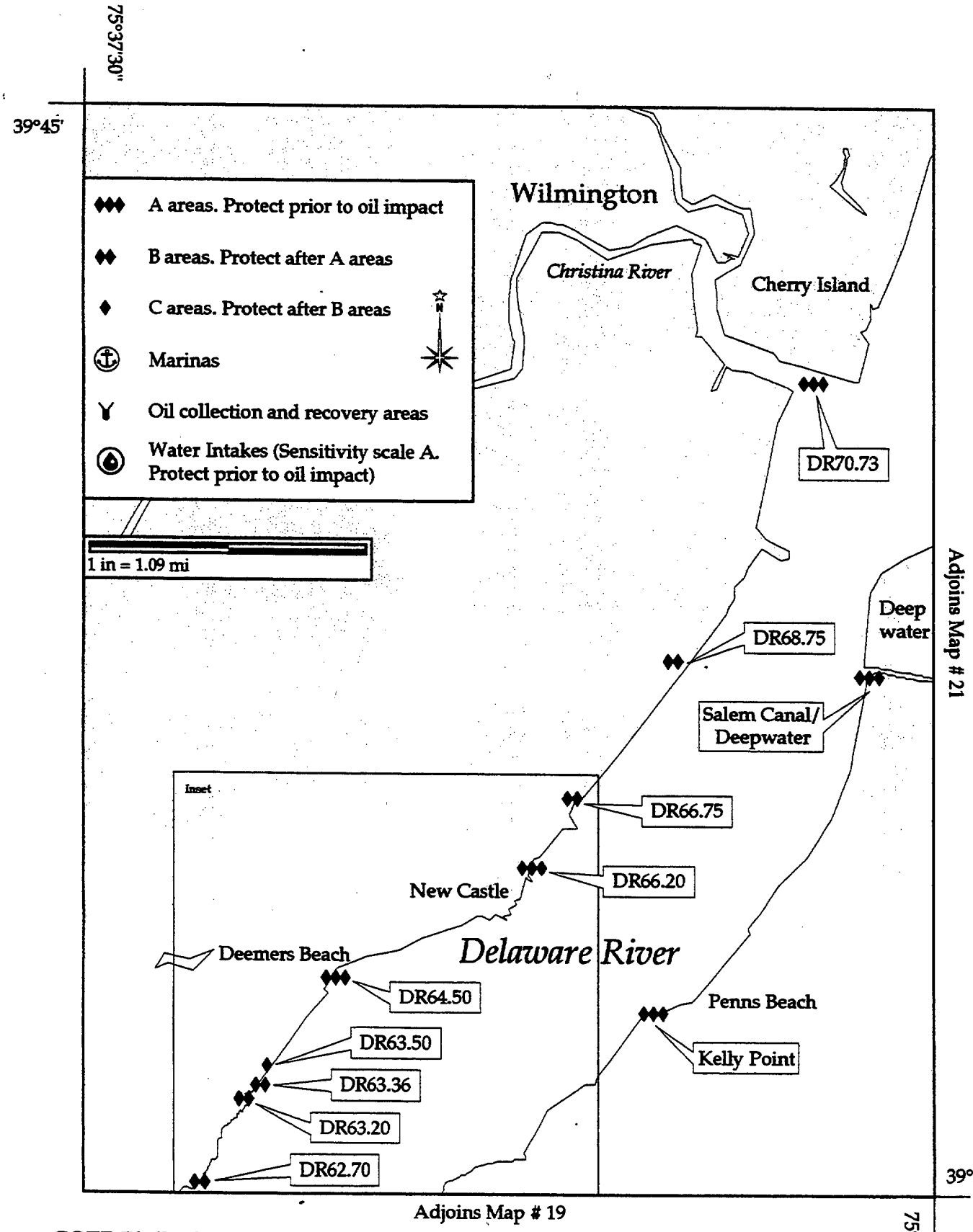

COTP Philly Quad 20

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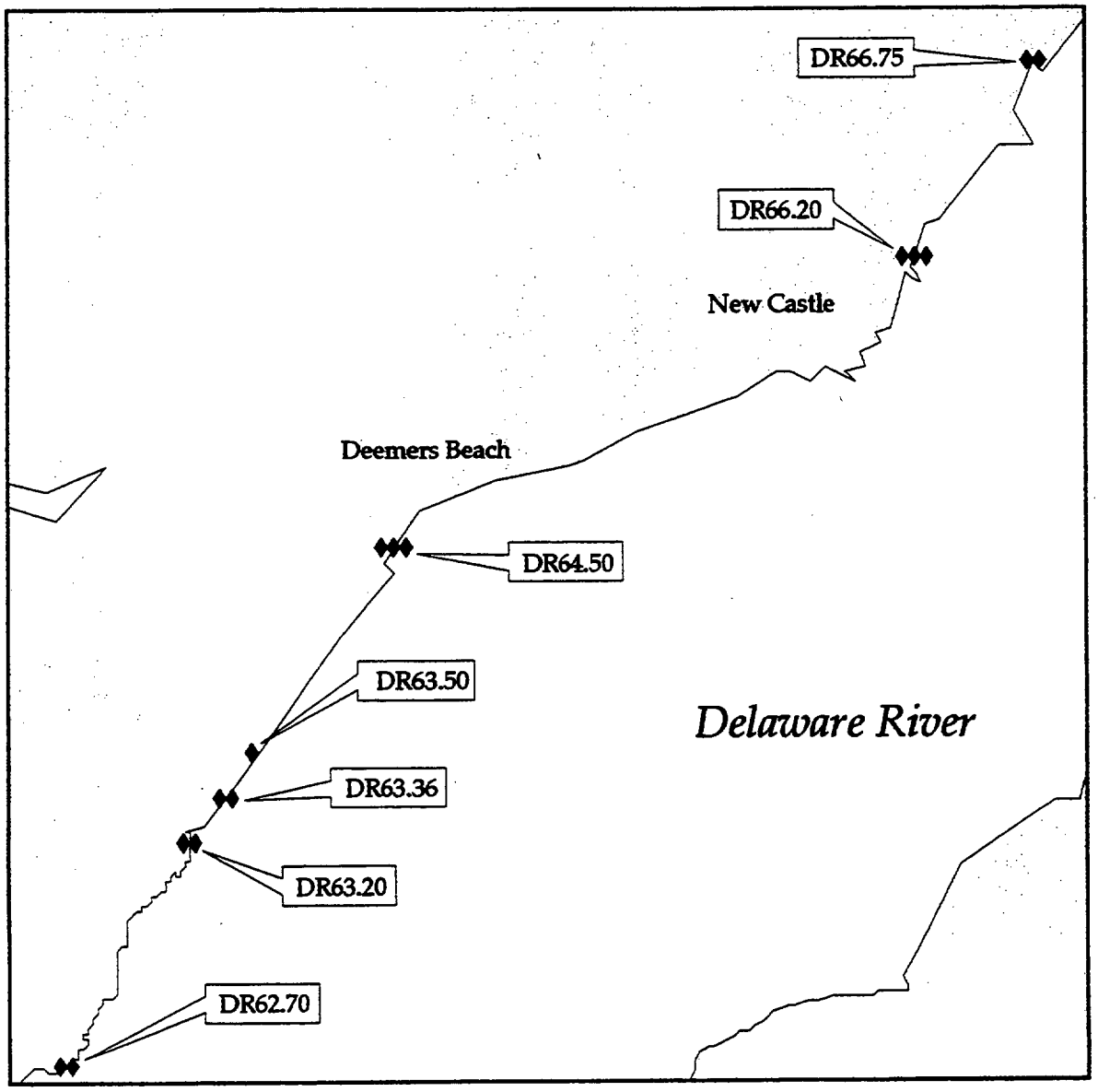

1 in = 0.55 mi

- ♦♦♦ A areas. Protect prior to oil impact
- ♦♦ B areas. Protect after A areas
- ♦ C areas. Protect after B areas
- Marinas
- Oil collection and recovery areas
- Water Intakes (Sensitivity scale A. Protect prior to oil impact)

Quad 20 inset

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR66.75 Map No. 20 Name Impounded Marsh (ButtonwoodMarsh)

USGS Quad Wilmington South NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 20 Lat. 39°40'15" N Long. 075°33'05" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: About 2.25 miles south of the Delaware Memorial Bridge, just north of pier.

PHYSICAL DESCRIPTION: Irregularly flooded, tidal, impounded marsh with sluice gate.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- [X] 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Waterfowl, wading birds are likely to be feeding and possibly nesting in this area. Waterfowl and shorebirds f,w, and sp and wading birds all seasons. Muskrat, possibly river otter. According to state a key waterbird resting area, particularly during freezing weather conditions.

HABITAT: Irregularly flooded emergent marsh and scrub/shrub wetlands, some phragmites, and regularly flooded tidal mud flat and open water areas.

THREATENED/ ENDANGERED: Peregrine falcons may nest on Delaware Memorial Bridge during sp and su and may prey on birds using this site.

OTHER: Wading birds from Pea Patch Island may be foraging here. If this were not an impounded wetland with tide gate, it would be an 'A' priority

RESPONSE CONSIDERATIONS

Ownership: Luken Steel, Chicago Bridge and Iron Company

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: f

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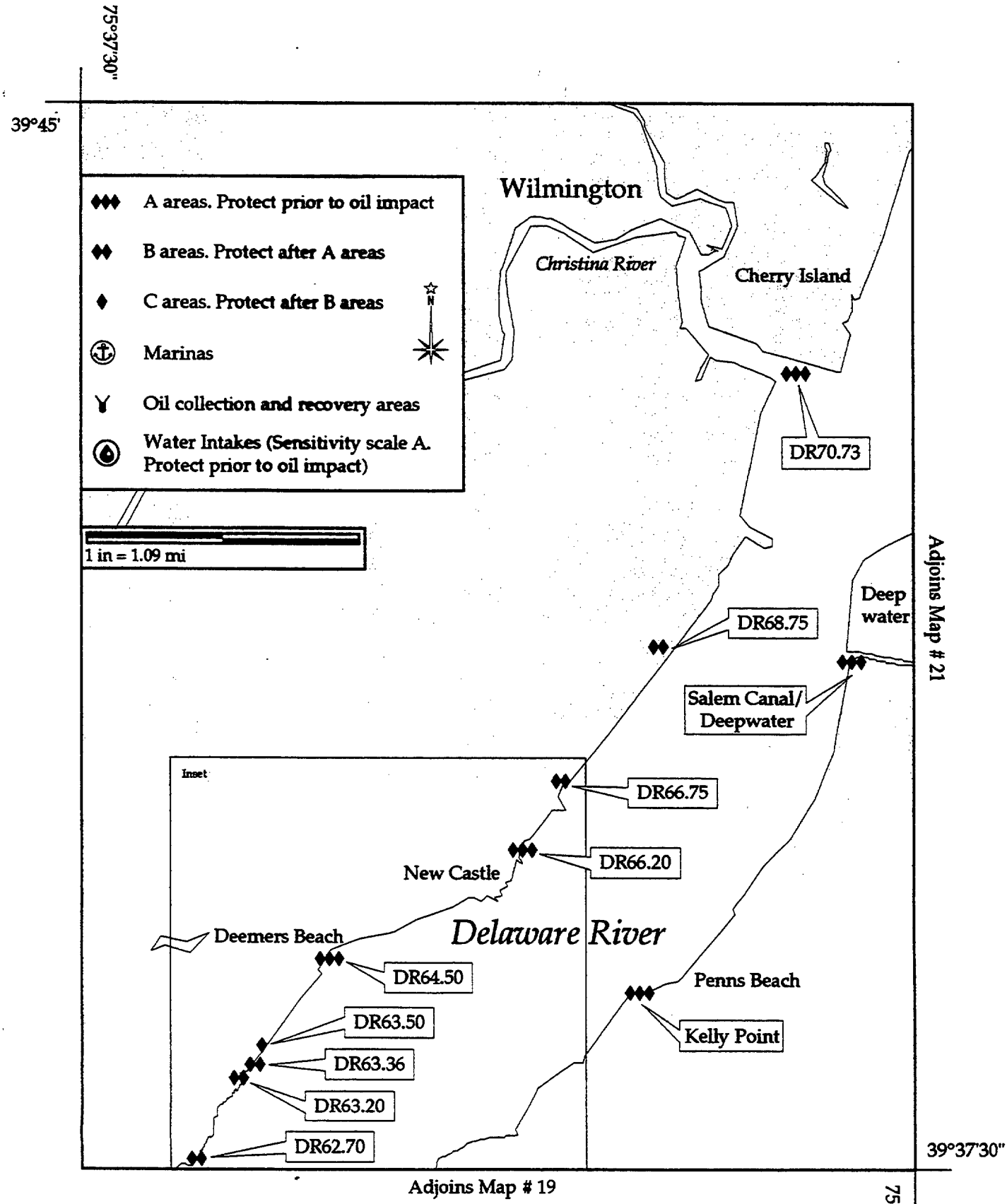

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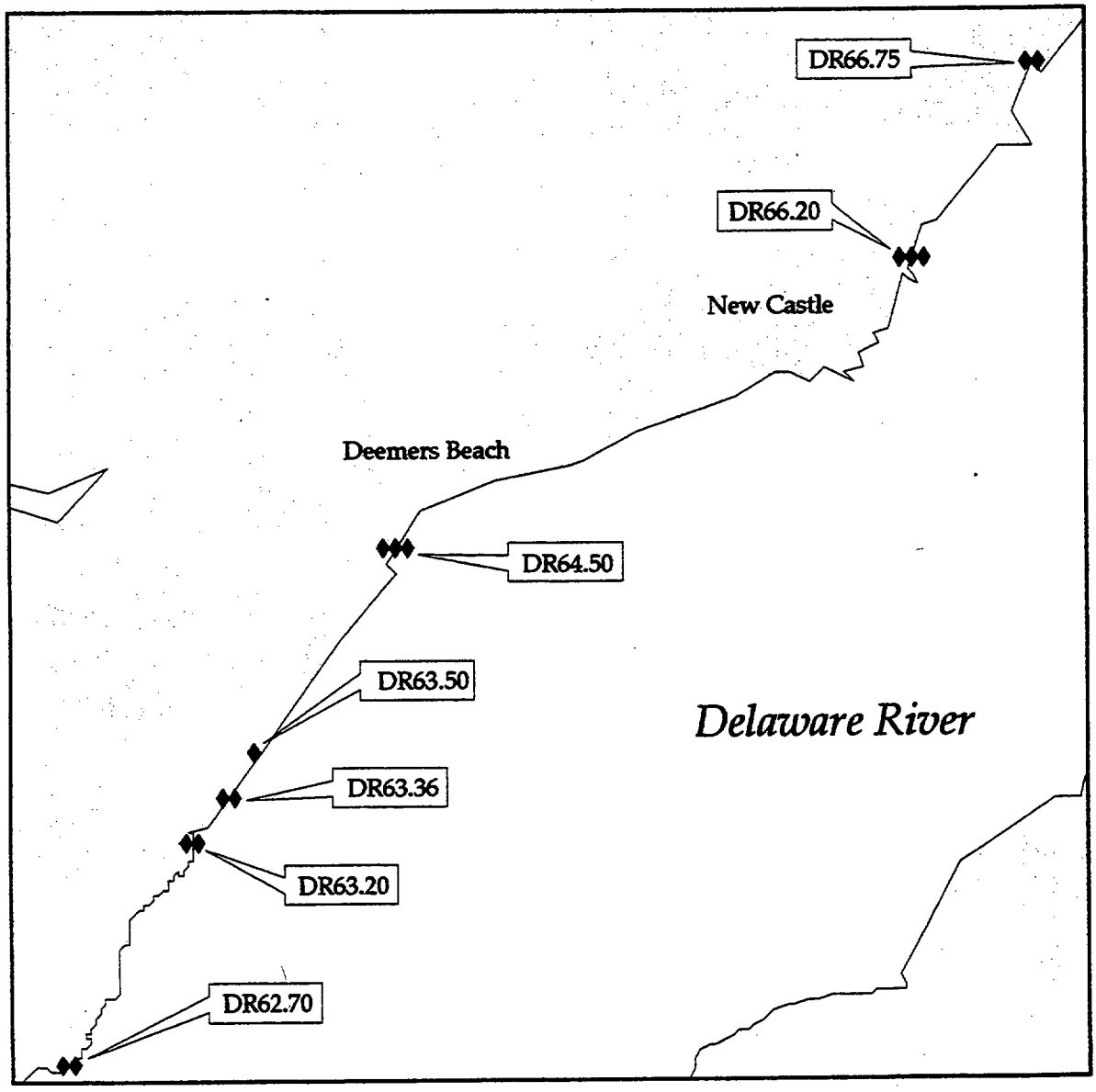

1 in = 0.55 mi

- A areas. Protect prior to oil impact
- B areas. Protect after A areas
- C areas. Protect after B areas
- Marinas
- Oil collection and recovery areas
- Water Intakes (Sensitivity scale A. Protect prior to oil impact)

N

Quad 20 inset

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 20 Name SALEM CANAL/DEEPWATER

USGS Quad Wilmington South, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 20 Lat. 39° 41'11" N Long. 075° 30'55" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: 5.52 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE:

HABITAT:

THREATENED/ ENDANGERED:

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect [X] Recover Minimum Boom Length: ft

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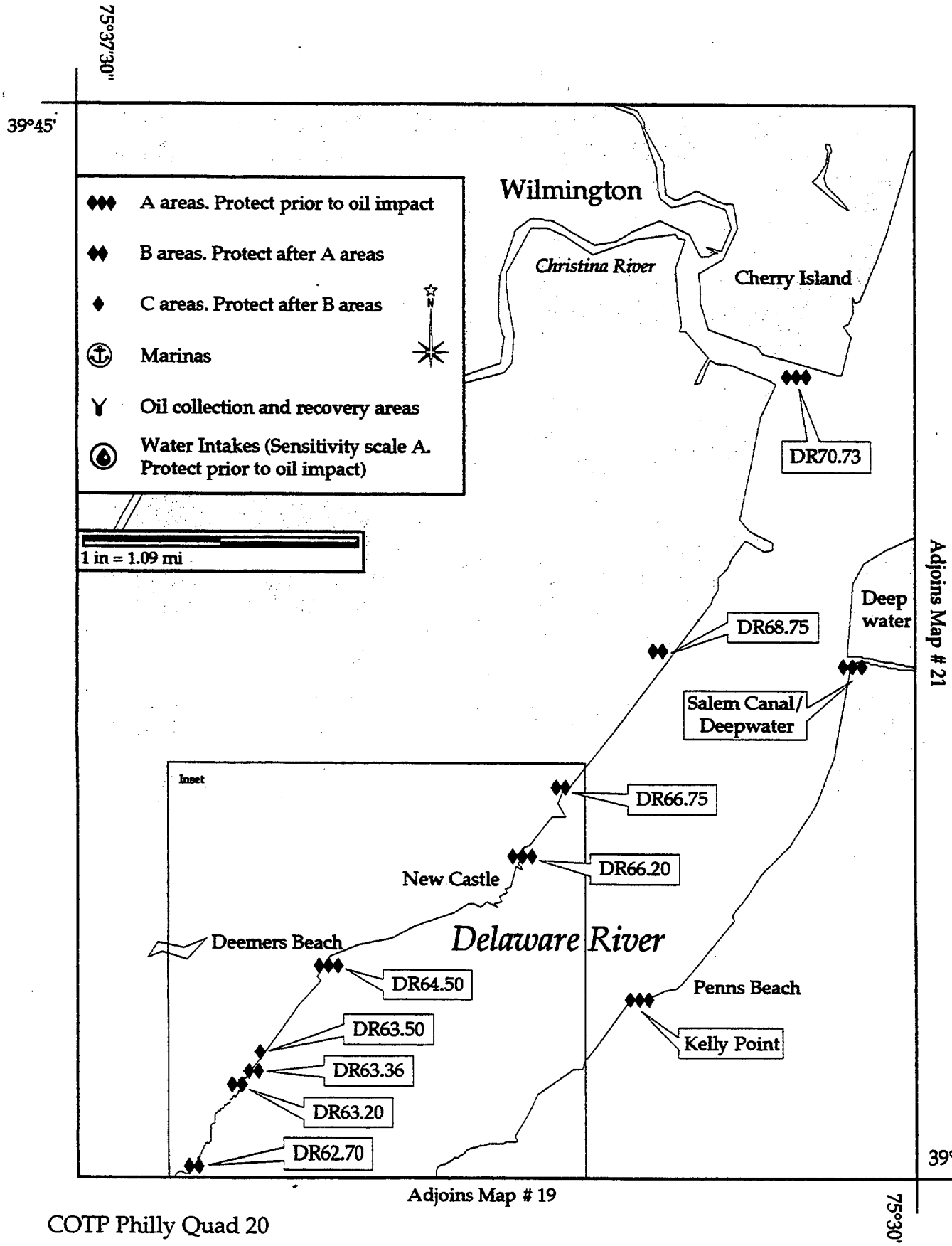

COTP Philly Quad 20

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR68.75 Map No. 20 Name Marsh (Luken Steel Marsh)

USGS Quad Wilmington South NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 20 Lat. 39° 41'10" N Long. 075°32'20" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION Area: Tidal Range: 5.2 ft Max Currents: kts

GEOGRAPHIC LOCATION: About one-half mile south of the Delaware Memorial Bridge.

PHYSICAL DESCRIPTION: Irregularly flooded marsh.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☒ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl, wading birds and shorebirds may be using this marsh, and might be nesting here in the sp an su. Striped bass spawning area in adjacent river. Marsh invertebrates probably present. According to state a key waterbird resting area, particularly during freezing weather conditions.

HABITAT: Irregularly flooded (high) marsh, so may not be as valverable as regularly flooded areas, but probably nesting habitat.

THREATENED/ ENDANGERED: Peregrine falcons may be nesting on nearby Delaware Memorial Bridge druring sp and su and may be preying on bird-life using this site. Muskrat, possibly river otter.

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: ft

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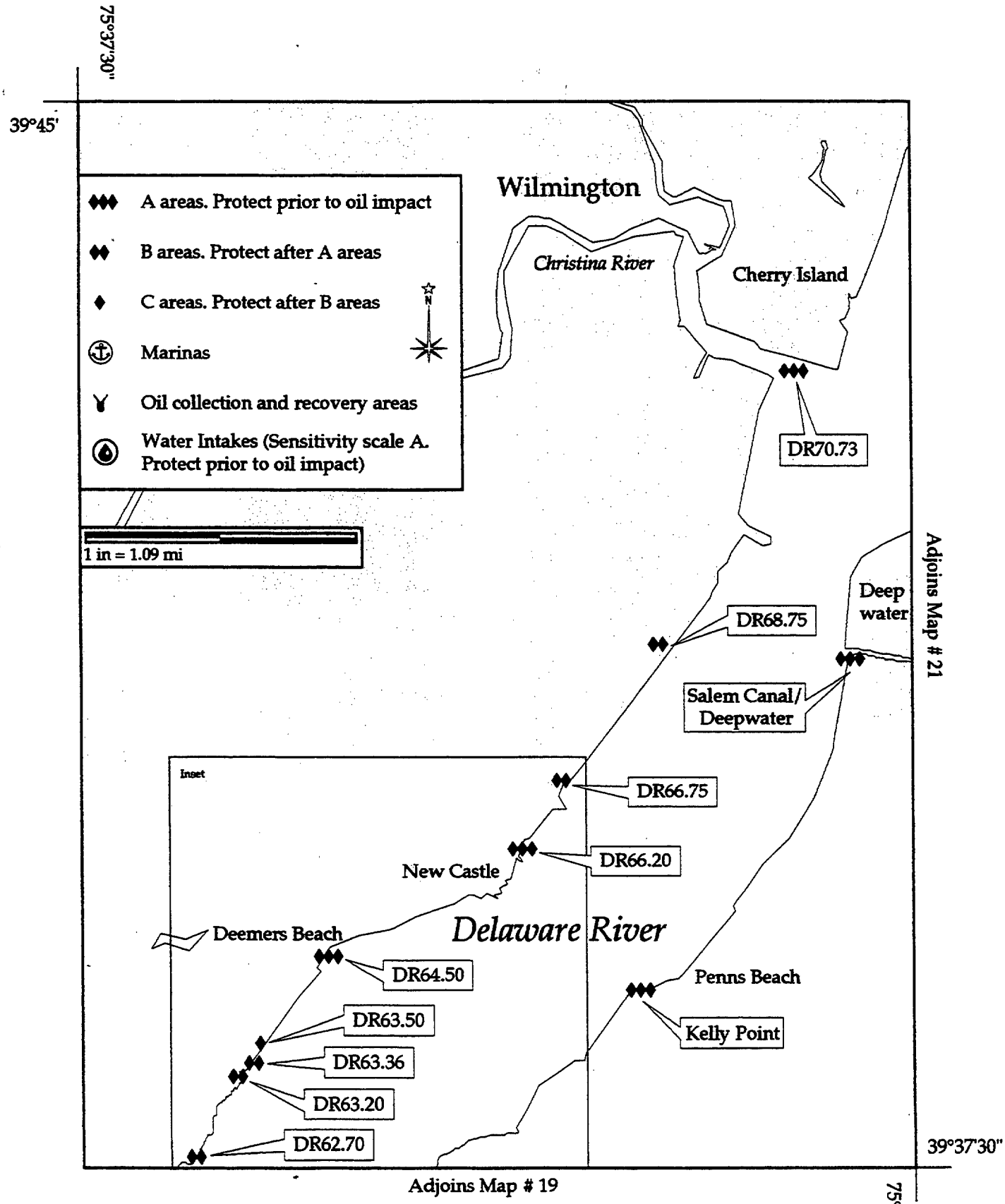

COTP Philly Quad 20

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 20 Name Kelly Point

USGS Quad Wilmington South, DE-NJ NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 20 Lat. 39° 38'76" N Long. 075° 32'54" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Some waterfowl, anadromous fish use shallows as the migrate out.

HABITAT: Mud flats and shallow water area.

THREATENED/ ENDANGERED: Peregrine falcons and bald eagles

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☒ Recover Minimum Boom Length: ft

Natural Collection Point can be enhanced at this area.

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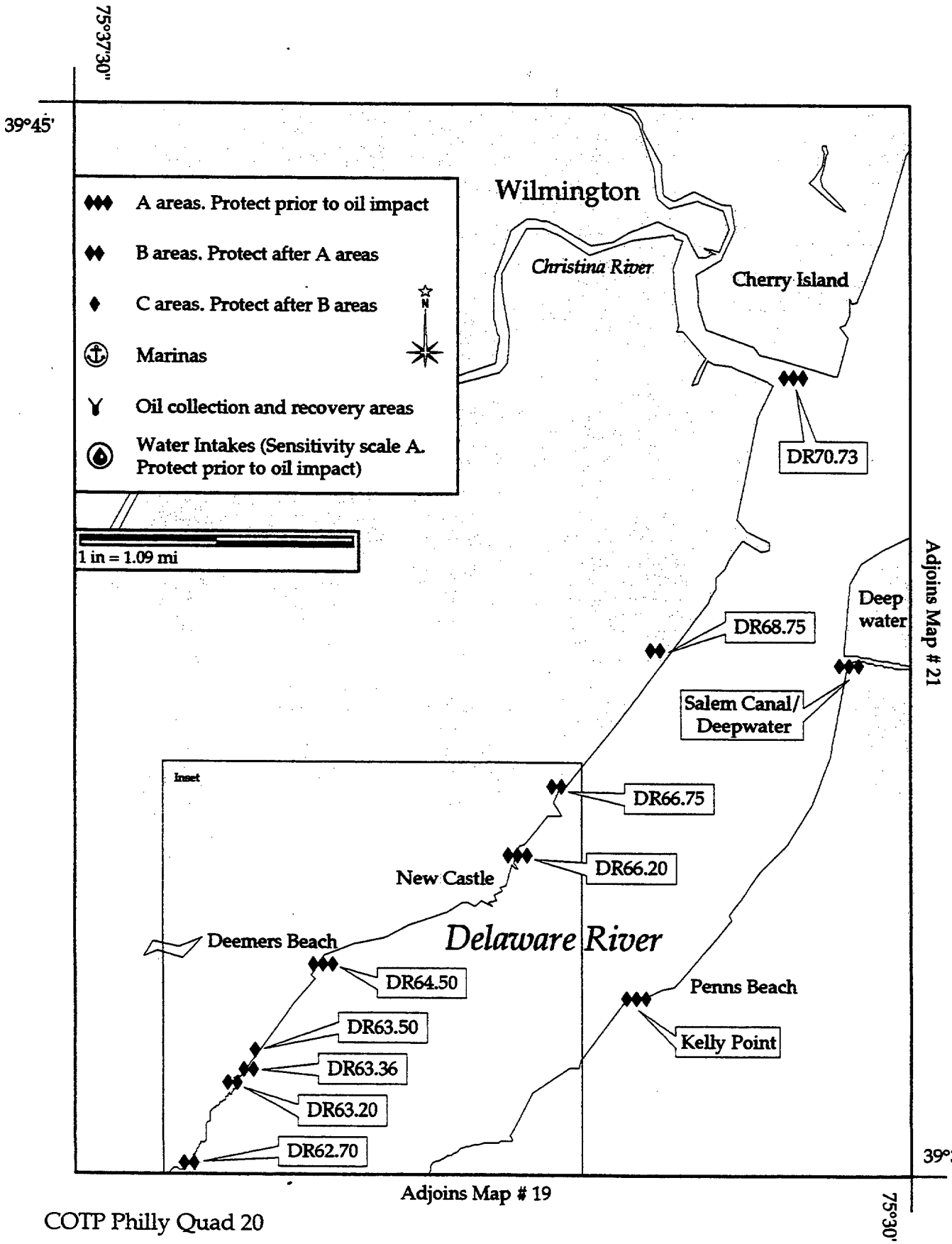

COTP Philly Quad 20

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR63.36 Map No. 20 Name Gambles Gut

USGS Quad Wilmington South NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 20 Lat. 39 °38'10" N Long. 075° 35'55" W

Agency / Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: 5.2 ft Max Currents: kts

GEOGRAPHIC LOCATION: Just northeast of the National Guard Training Station.

PHYSICAL DESCRIPTION: Irregularly flooded tidal marsh

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☒ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl f,w,and sp, and some species possibly breeding in sp and su. Wading birds from Pea Patch Island all seasons. Some shorebird use possible all seasons. Muskrats, possibly river otters, riverine and anadromous fish may be using the site.

HABITAT: Irregularly flooded tidal marsh, Phragmites a problem in areas.

THREATENED/ ENDANGERED:

OTHER: Striped bass spawning area in adjacent river.

RESPONSE CONSIDERATIONS

Ownership: National Guard

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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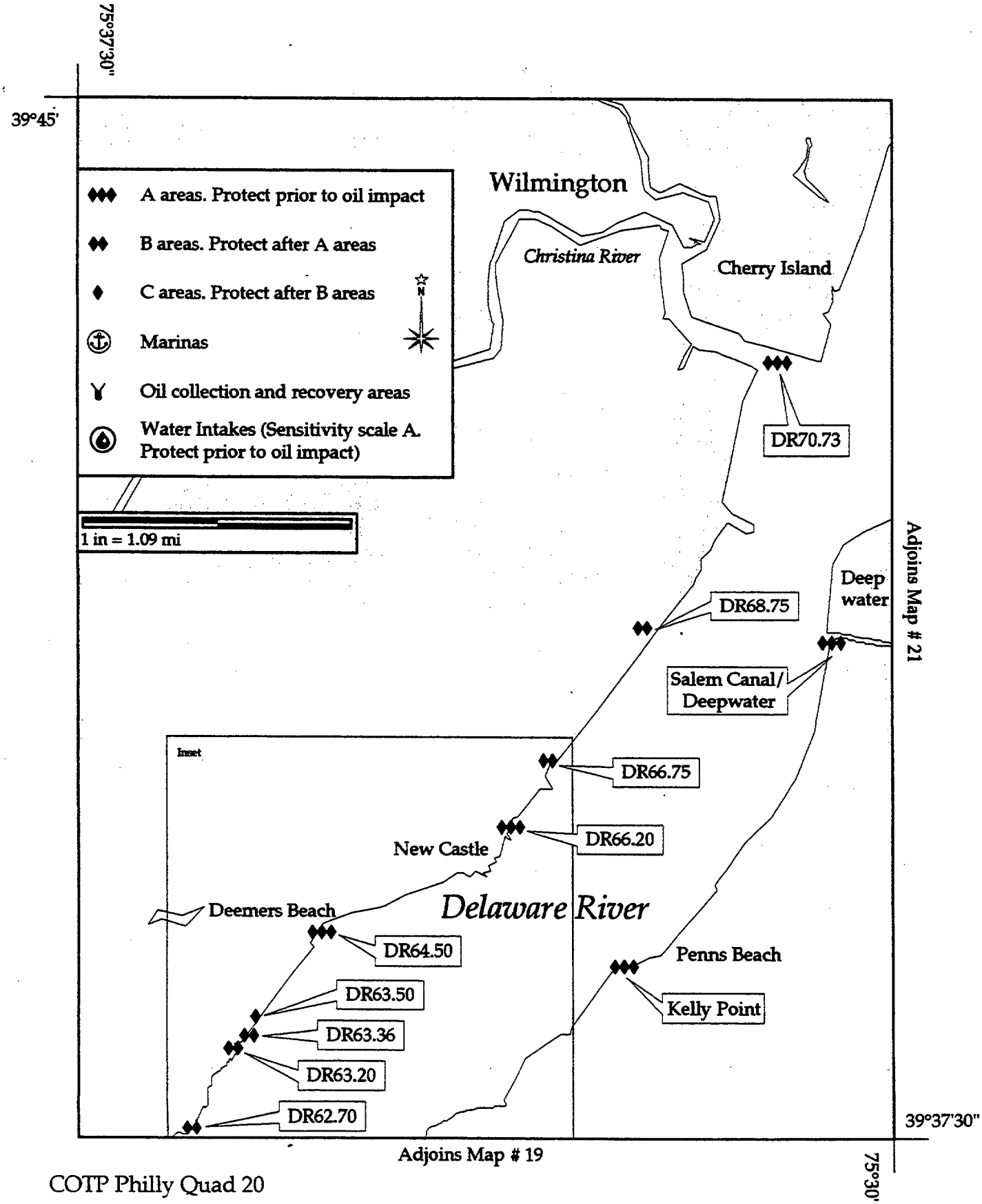

COTP Philly Quad 20

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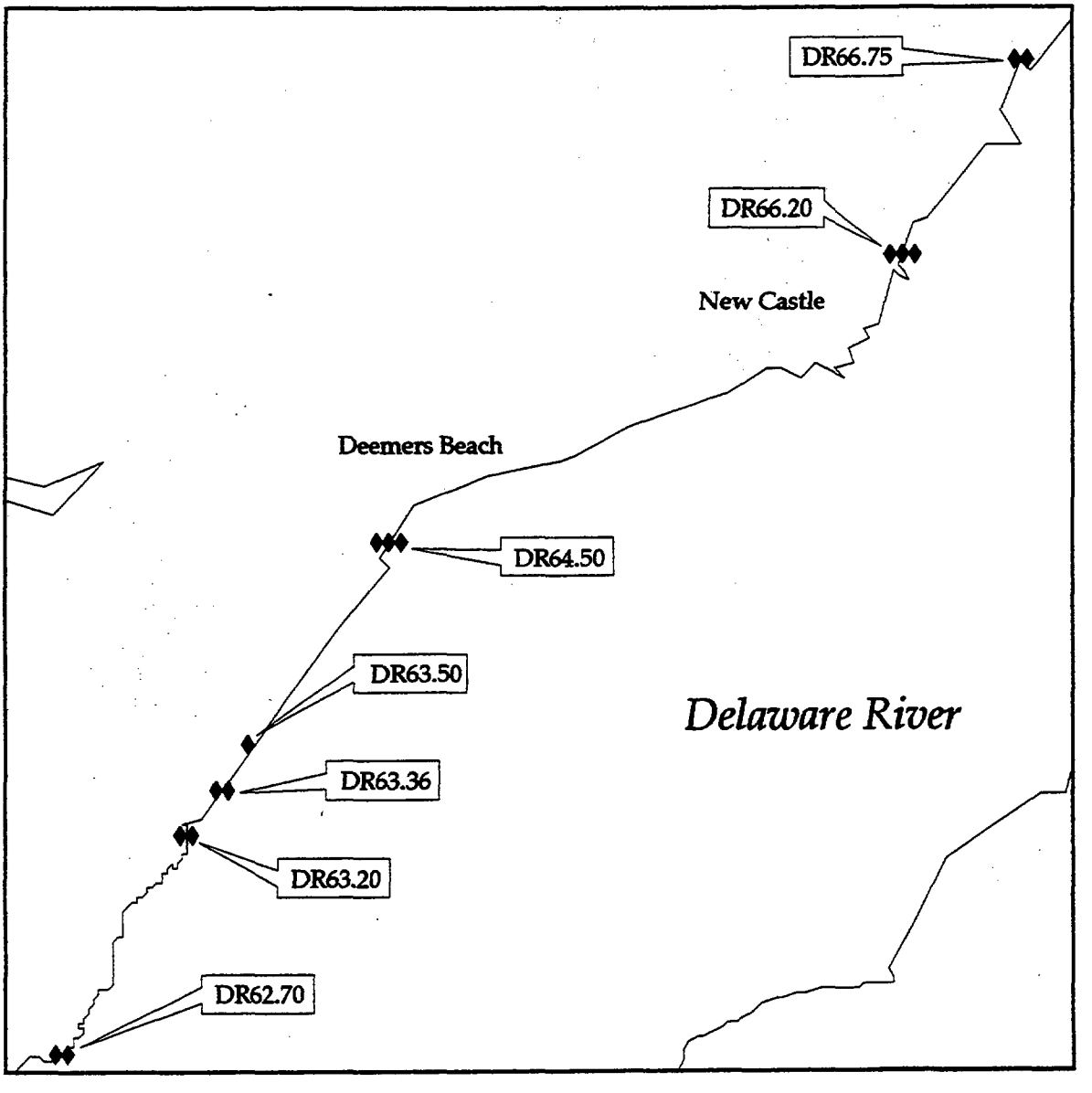
Inset from Map # 20



1 in = 0.55 mi

- ♦♦♦ A areas. Protect prior to oil impact
- ♦♦ B areas. Protect after A areas
- ♦ C areas. Protect after B areas
- Marinas
- Oil collection and recovery areas
- Water Intakes (Sensitivity scale A. Protect prior to oil impact)

Quad 20 inset

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. DR64.50 Map No. 20 Name Army Creek Marsh

USGS Quad Wilmington South NOAA Chart 12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 20 Lat. 39° 39'00" N Long. 075°35'10" W

Agency/Contact

DNR&EC, Supervisor of Wildlife, 24 hour (302) 739-4580, Work Hours (302) 739-4357

DNR&EC, Nongame/Endangered Species Biologist (302) 653-2882

SITE DESCRIPTION

Area: Tidal Range: 5.2 ft Max Currents: kts

GEOGRAPHIC LOCATION: About one mile south of New Castle and just south of Deamers Beach

PHYSICAL DESCRIPTION: Degraded tidal marsh impoundment with sluice gate

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Some waterfowl and wading bird use likely. Also muskrat may be found here as well as certain species of fish (eg.,carp). Some waterfowl and wading birds may nest in Phragmites.

HABITAT: Degraded tidal marsh, mostly consist of phragmites.

THREATENED/ ENDANGERED:

OTHER: Striped bass spawning area in adjacent river.

RESPONSE CONSIDERATIONS

Ownership: DE, New Castle Trustees, Bk of DE & Hver Univ

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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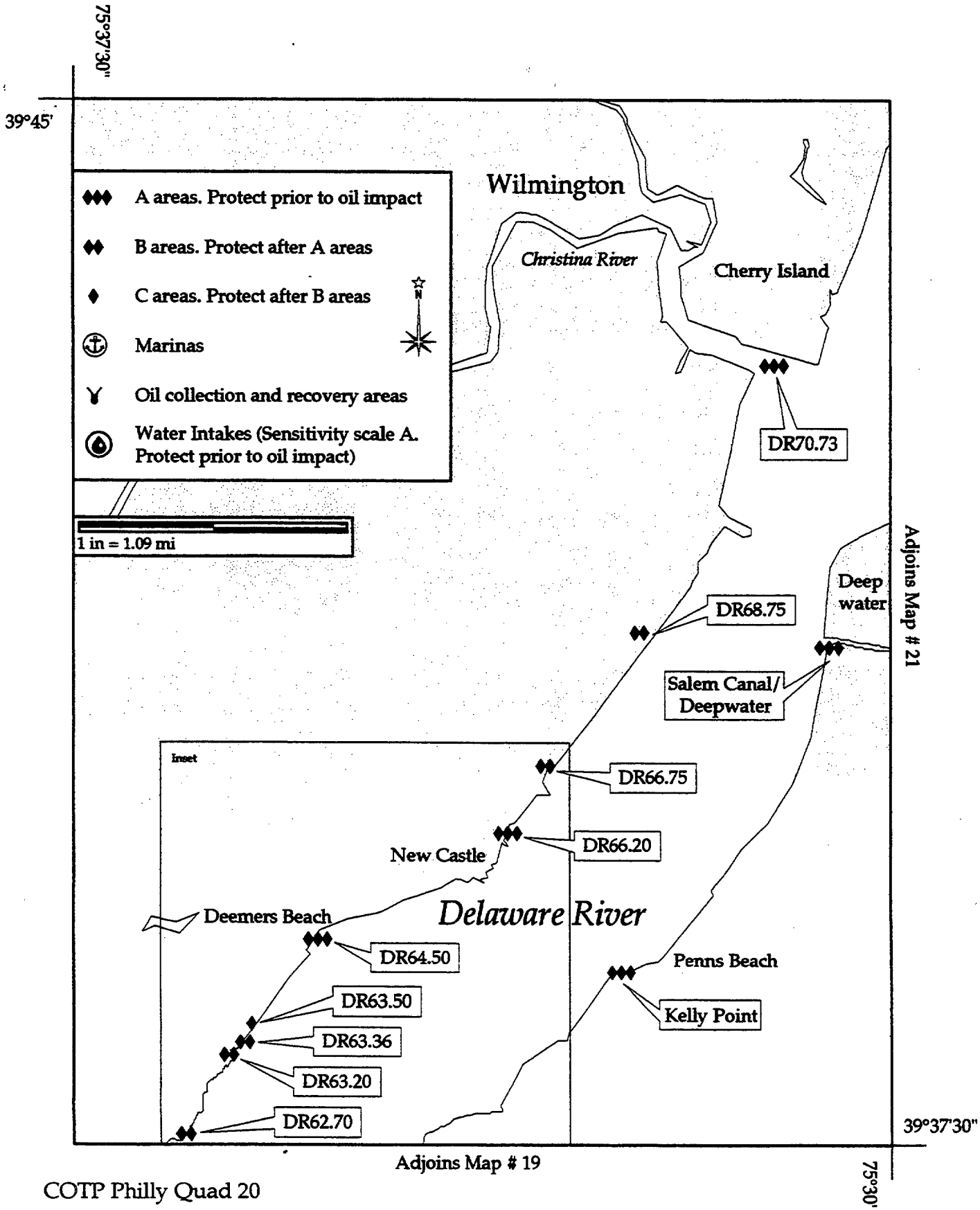

COTP Philly Quad 20

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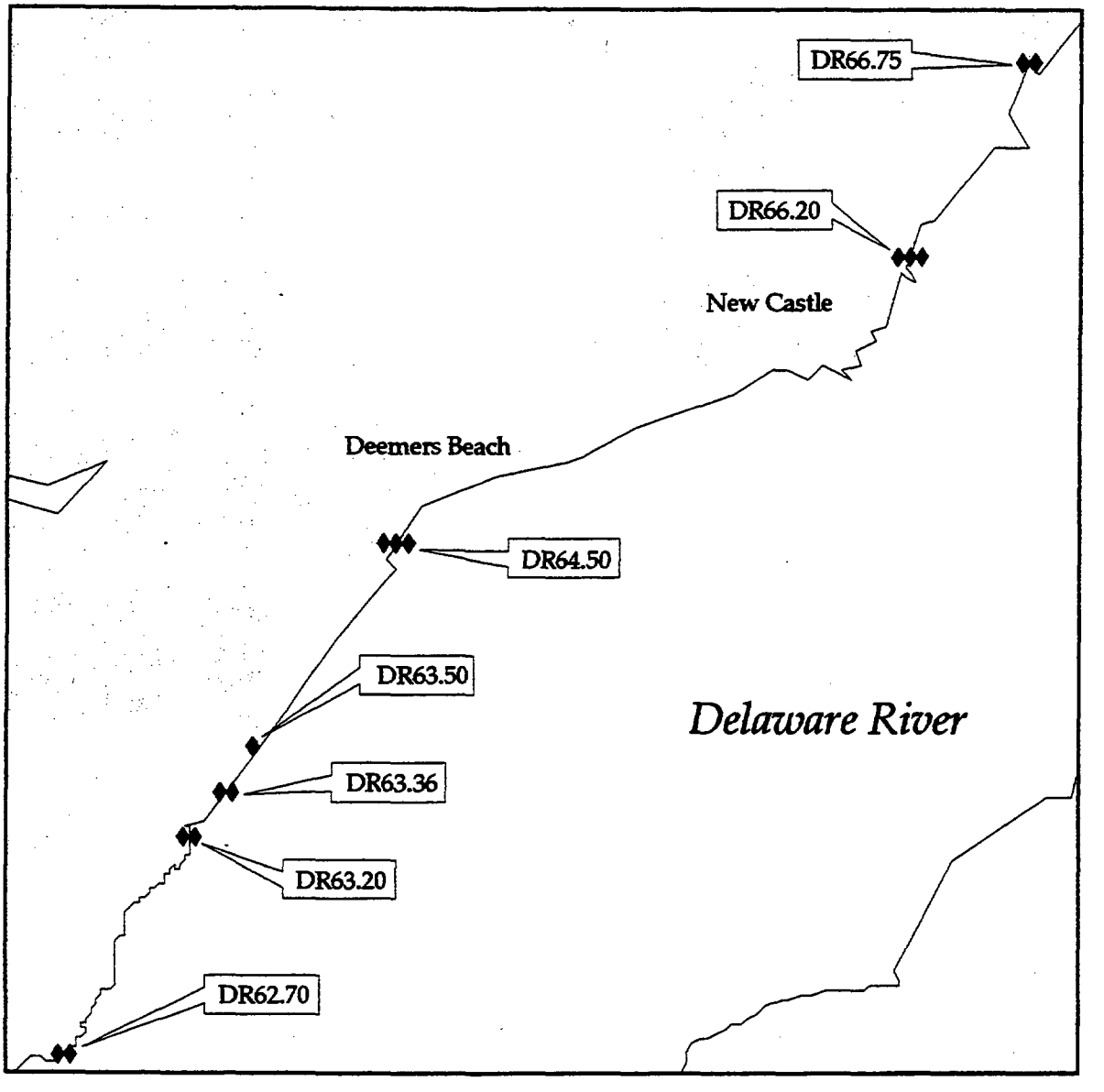

1 in = 0.55 mi

- ♦♦♦ A areas. Protect prior to oil impact
- ♦♦ B areas. Protect after A areas
- ♦ C areas. Protect after B areas
- Marinas
- Oil collection and recovery areas
- Water Intakes (Sensitivity scale A. Protect prior to oil impact)

N

Quad 20 inset

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☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 21 Name HELMS COVE

USGS Quad Penns Grove, NJ-DE NOAA Chart 12312/12311 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 21 Lat. 39°43'00" N Long. 075°29'45" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl concentration, Anadromous fish

HABITAT: Tidal flats

THREATENED/ ENDANGERED: Osprey and bald eagles

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER: Waterborn collection strategies.

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☒ Recover Minimum Boom Length: ft

This is a Natural Collection Point.

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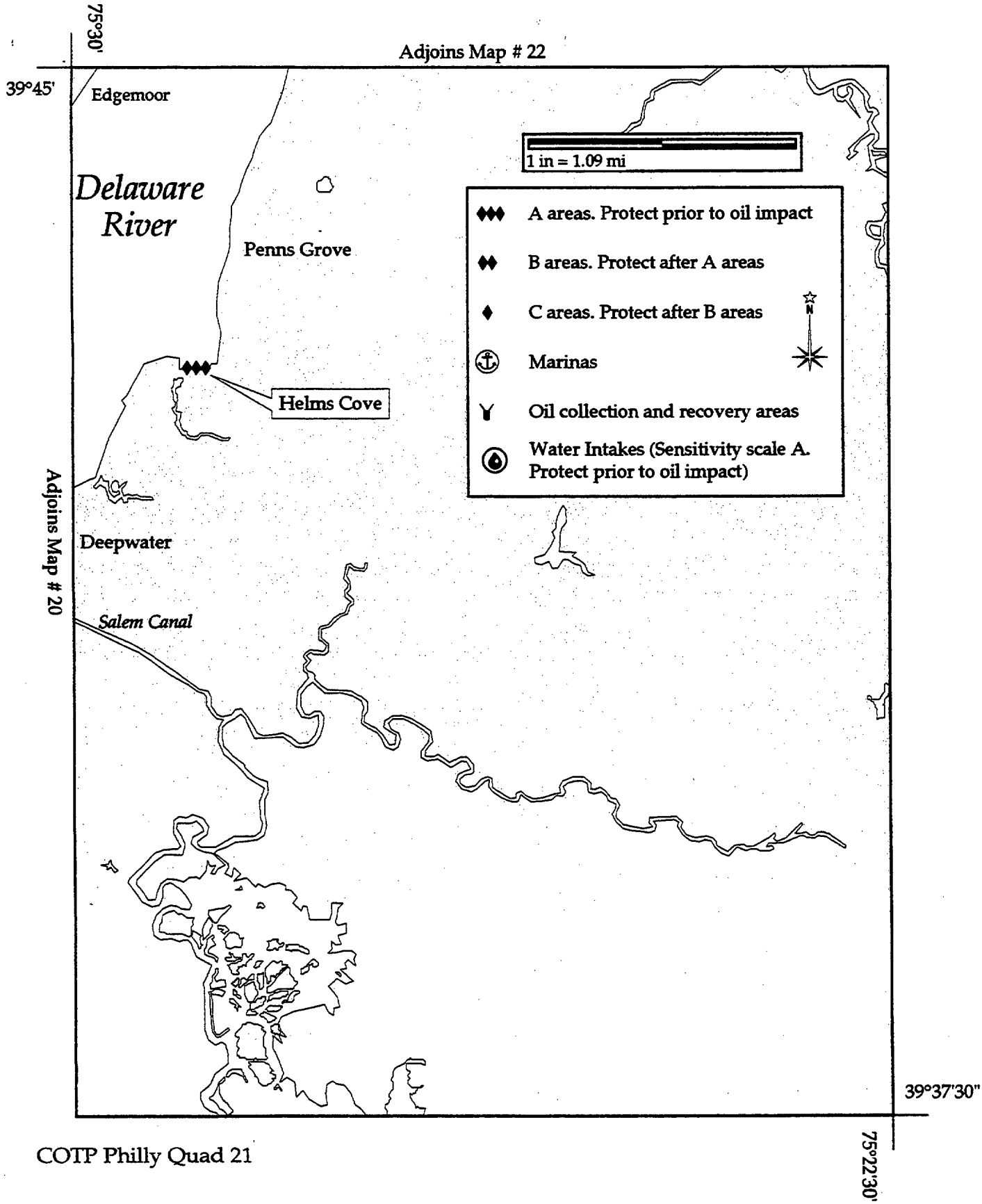

COTP Philly Quad 21

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 22 Name OLDMANS CREEK

USGS Quad Marcus Hook, PA-NJ-DE NOAA Chart 12312 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 22 Lat. 39° 46'59" N Long. 075° 25'50" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Teal, sura rail, black duck, pintail, mallards, canada geese, wading birds, and anadromous fish.

HABITAT: Tidal wild rice

THREATENED/ ENDANGERED: Bald eagles, wintering and feeding summers

OTHER:

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS: Possible at south side of creek on flood.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☒ Recover

Minimum Boom Length: f

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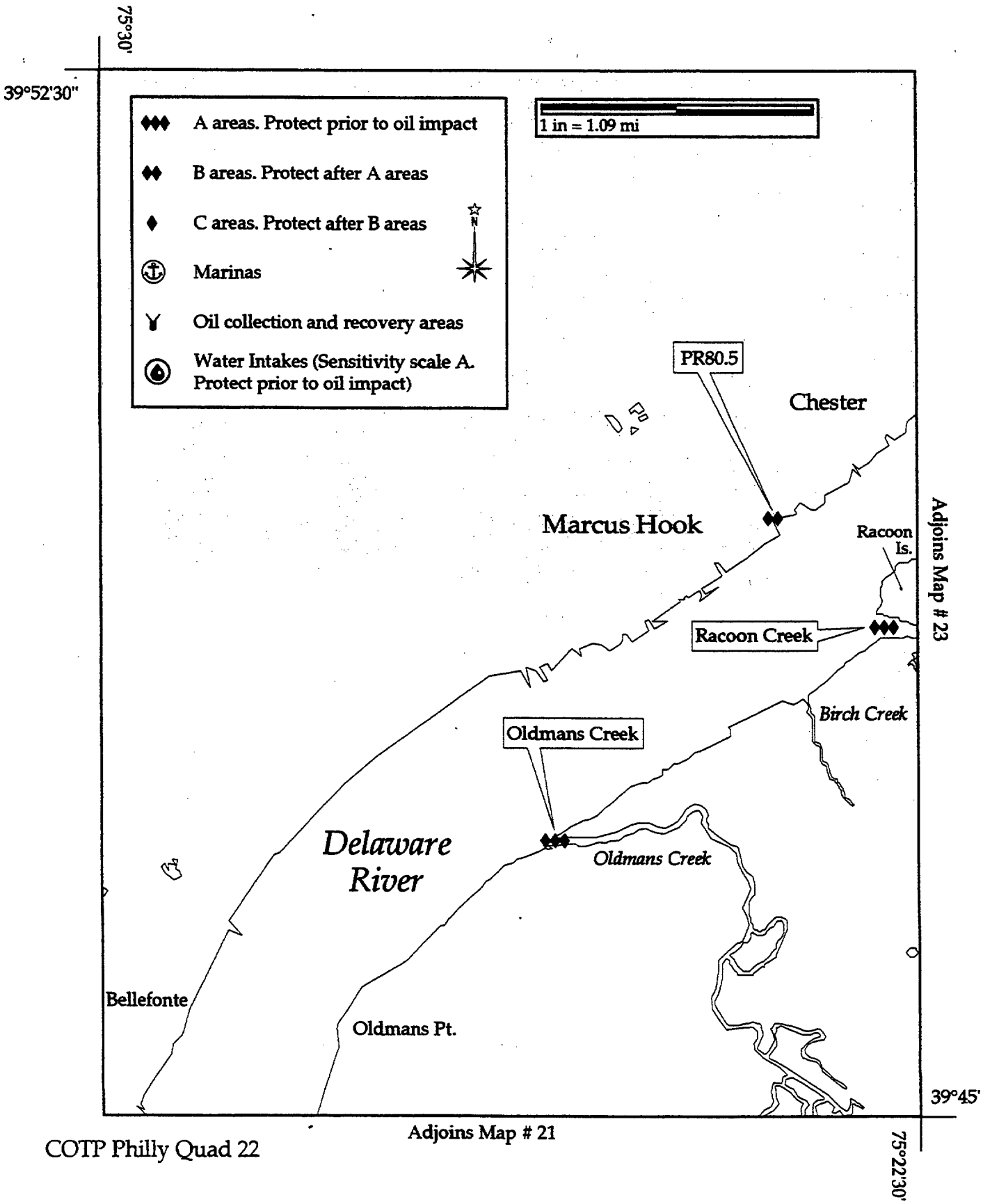

COTP Philly Quad 22

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR80.5 Map No. 22 Name Stoney Creek

USGS Quad Marcus Hook NOAA Chart 12312 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 22 Lat. 39°49'15" N Long. 075°23'45" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 5.5 ft Max Currents: kts

GEOGRAPHIC LOCATION: Just upriver of Marcus Hook, across from Raccoon Island.

PHYSICAL DESCRIPTION: Small cove where Stoney Creek joins main-stem river.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☒ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl and shorebirds may use this area in sp, f, and w. Gulls and terns may use this site in sp,su, and f, and wading birds may be here all seasons. Blue crabs all seasons. Riverine and anadromous fish all seasons, with striped bass spawning in the area in spring.

HABITAT: Tidal marshes and flats, mixed sand and gravel beaches. Riprap has been placed in front of beaches.

THREATENED/ ENDANGERED:

OTHER:

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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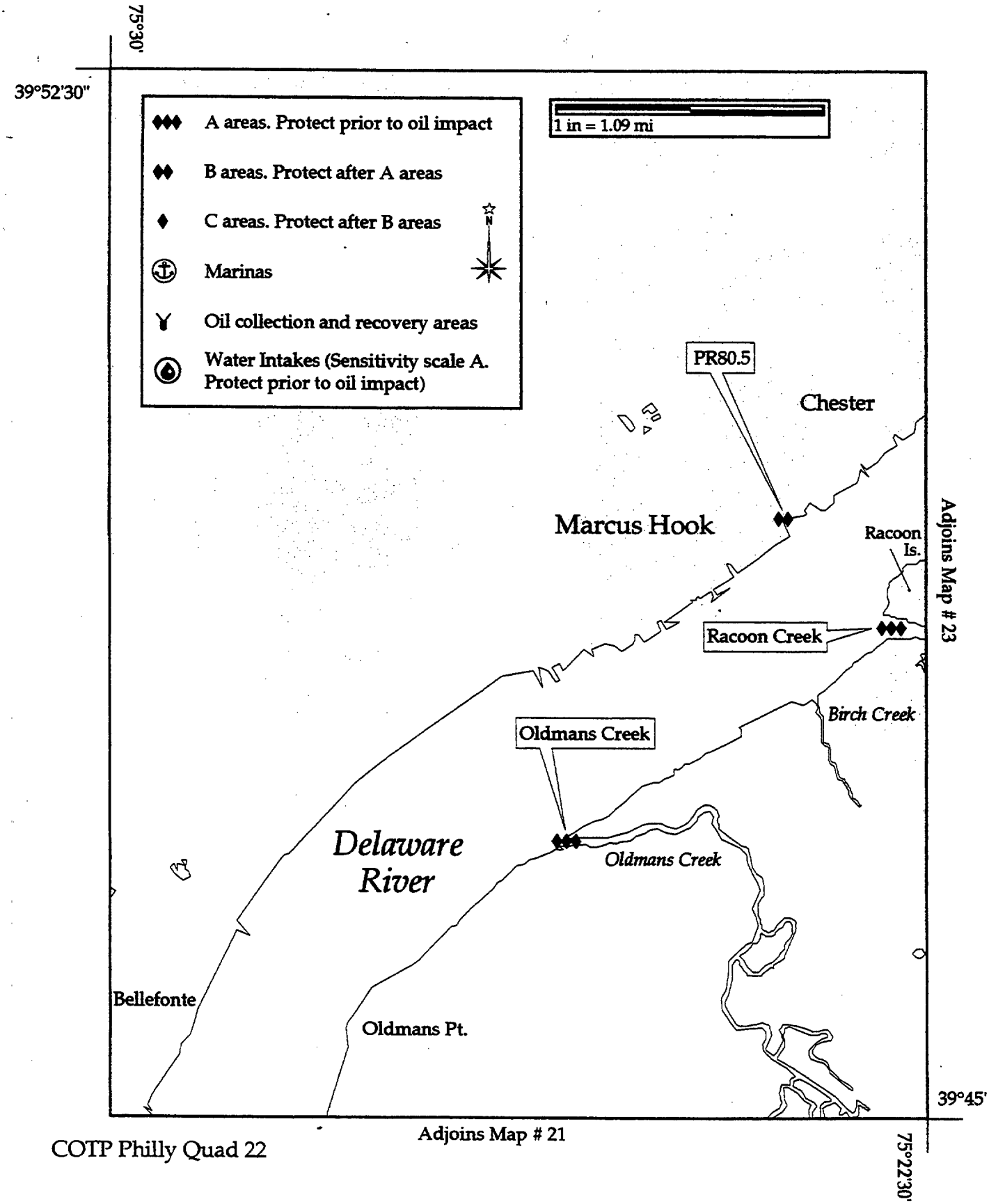

COTP Philly Quad 22

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 22 Name Racoon Creek

USGS Quad Marcus Hook, PA-NJ-DE NOAA Chart 12312 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 22 Lat. 39°48'25" N Long. 075°23'00" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: 5.4 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Teal, sora rail, pintail, balck ducks, mallards, canada geese, and assorted wading birds and anadromous fish.

HABITAT: Wild rice tidal marsh

THREATENED/ ENDANGERED: Bald eagle - winter, spring, and summer.

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [X] Protect [ ] Recover Minimum Boom Length: ft

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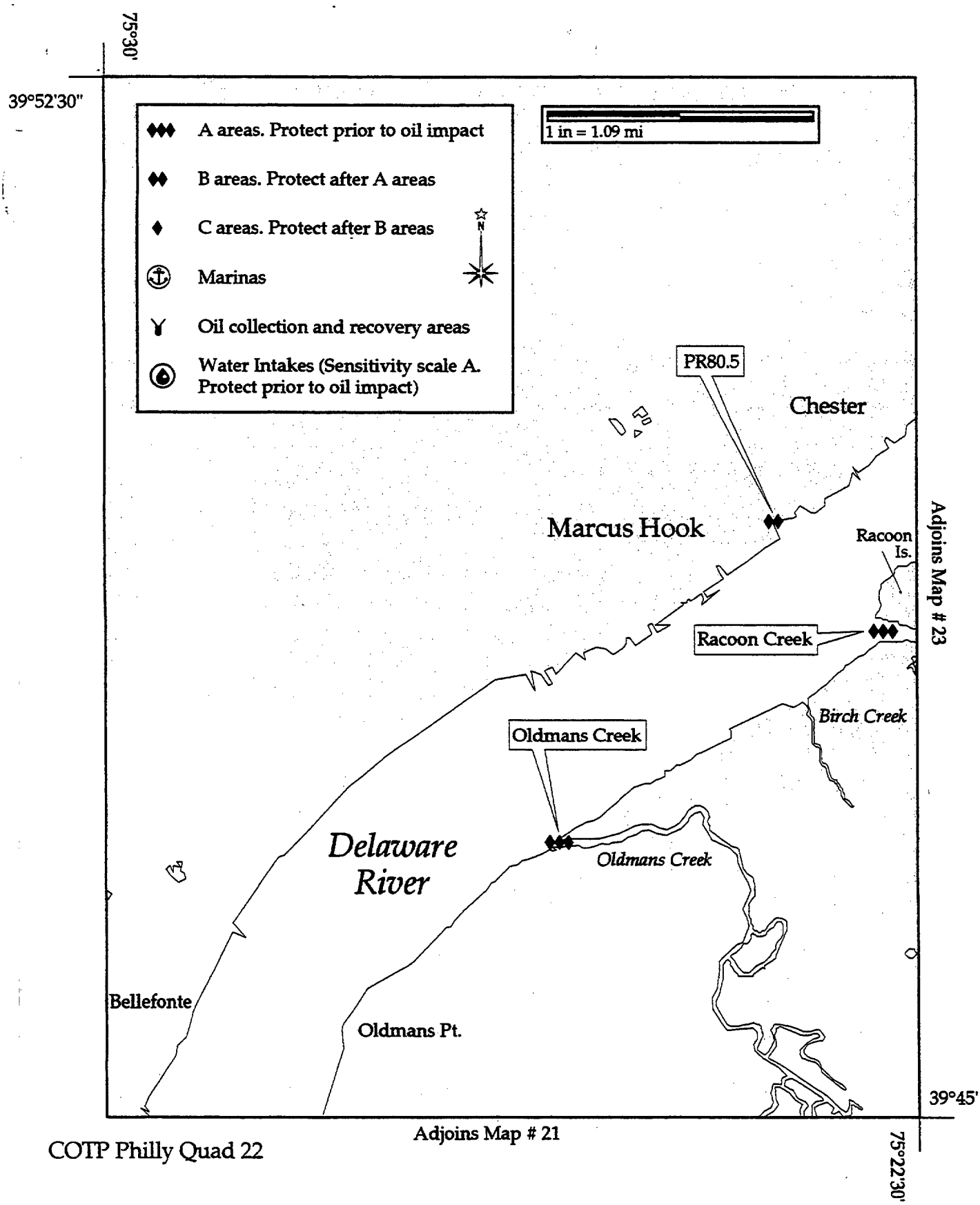

COTP Philly Quad 22

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR85.28 Map No. 23 Name Darby Creek

USGS Quad Bridgeport, NJ-PA NOAA Chart 12312/12313 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 23 Lat. 39°51'15" N Long. 075°17'30" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Department of Environmental Resources, Bureau of Forestry (717) 787-3444

SITE DESCRIPTION

Area: Tidal Range: 5.6 ft Max Currents: kts

GEOGRAPHIC LOCATION: Mouth of Darby Creek, just west of Gov. Printz Park, across from southern end of Little Tinicum Island.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☒ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous waterfowl species f,w,sp, and some species breeding in summer (black duck, mallard, wood duck, canada goose). Wading birds, including many foraging black-crowned night herons. Nine species of wading birds from Pea Patch Island tidal flats. Large numbers of shorebirds on tidal flats in sp and f. River otters and muskrats, turtles, and anadromous fish. Pea Patch Island

HABITAT: 250 acres of undisturbed fresh water tidal marsh - very diverse(wild rice included). Tidal flats. Nursery areas for anadromous fish. Nursery areas for anadromous fish.

THREATENED/ ENDANGERED: Great egret is a state listed species, Coastal plain leopard frog, also state listed. Peregrine falcons and bald eagles also use the are in sp, su, and f.

OTHER: Red-bellied turtle is a species of concern, tidal lagoons are nursery for striped bass. River otters reported-at risk in PA.

RESPONSE CONSIDERATIONS

Ownership: U.S. FISH & WILDLIFE SERVICE

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

A series of collection booms can be run between the railroad bridges and the Rt. 291 bridge. A removal effort will need to be mounted here. Once oil passes the I-95 bridge, it will enter the tidal marshes. Boom stored at PECO EDDYSTONE.

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☒ Deflect ☐ Protect ☒ Recover

Minimum Boom Length: 300 ft

2200 FT river boom placed outside mouth, 2-300 FT river booms between Rt. 291 and RR bridges. Consider tidal currents when booming. Scenario 1- Use 2200ft boom, 3 anchors, 2 shoreline attachments, 2 workboats , and 1 small boat, and boom off entire cove surrounding river mouth to deflect oil. Scenario 2- Use 2-300ft booms with 2 shoreline attachments, 2 anchors, and a workboat, and collect oil between Rt. 291 and RR bridges (see DBRC plan). This secnario assumes oil has already entered mouth.

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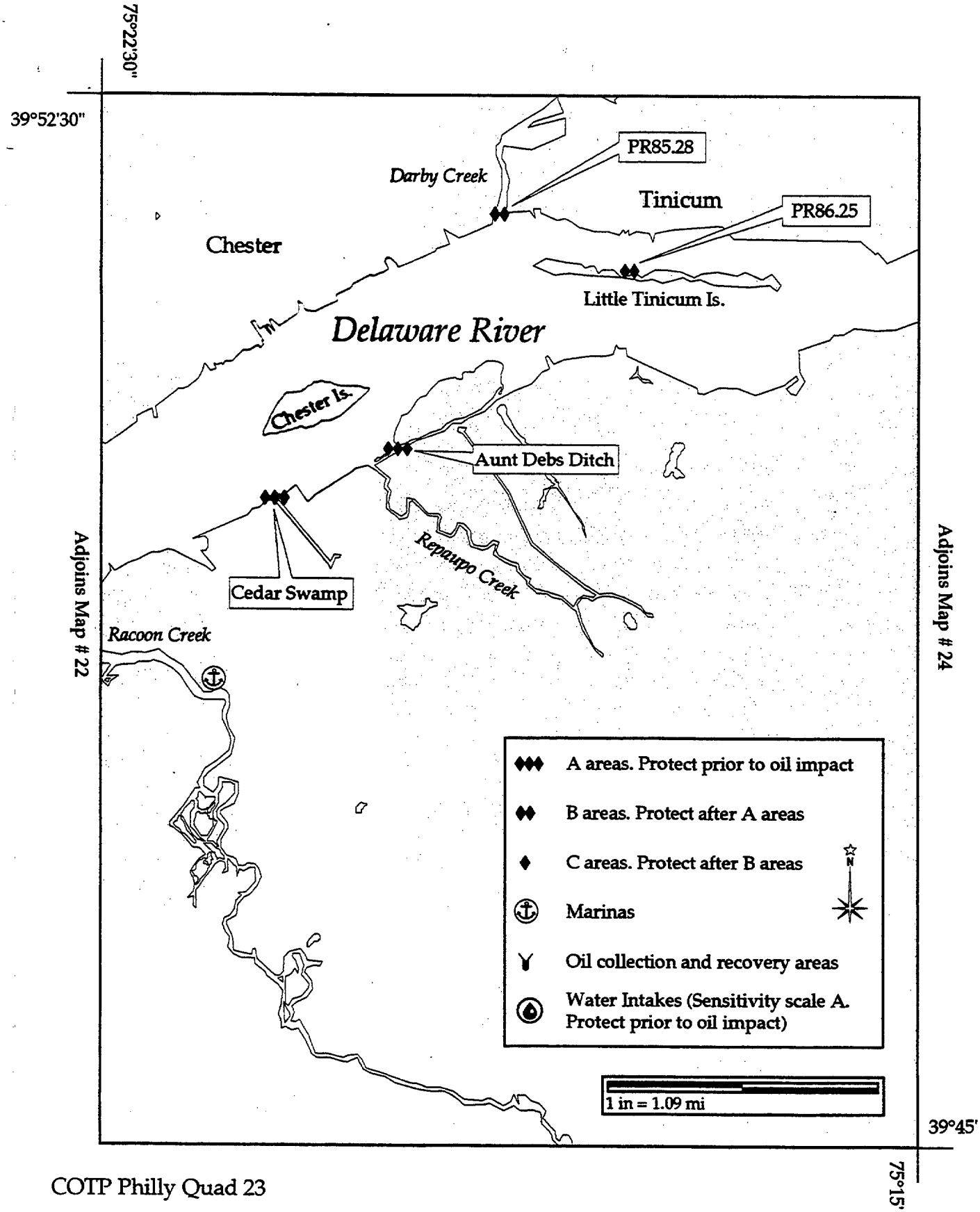

COTP Philly Quad 23

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR86.25 Map No. 23 Name Little Tinicum Island

USGS Quad Bridgeport, NJ-PA NOAA Chart 12312 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 23 Lat. 39°51'15" N Long. 075°17'30" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Department of Environmental Resources, Bureau of Forestry (717) 787-3444

SITE DESCRIPTION

Area: Tidal Range: 5.5 ft Max Currents: kts

GEOGRAPHIC LOCATION: North side of navigation channel, just east of Darby Creek Island.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☒ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☒ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numberous waterfowl species f, w, and sp; some species breeding in summer (black duck, mallard, canada goose). Wading birds in f,su, and sp. Gulls and terns sp, su, and f. Many species of anadromous and riverine fish throughout the area - year round, with striped bass spawning in spring. Shorebirds may concentrate on tidal flats during spring.

HABITAT: Tidal marshes, sheltered tidal flats, mixed sand and gravel beaches.

THREATENED/ ENDANGERED:

OTHER: Striped bass spawning area adjacent to insland. Shorebirds may concentrate on tidal flats in spring.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: f

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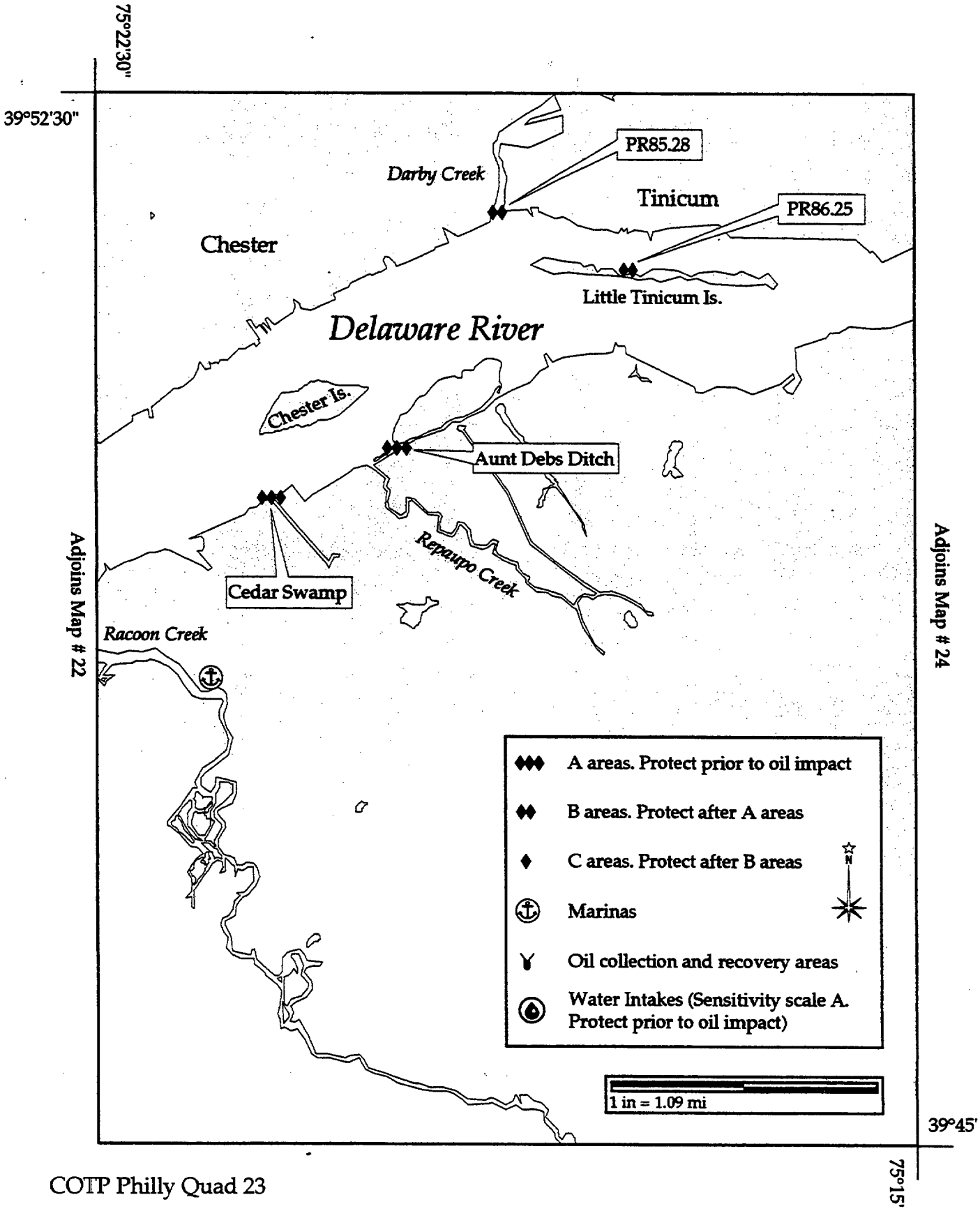

COTP Philly Quad 23

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 23 Name AUNT DEBS DITCH

USGS Quad Bridgeport, NJ-PA NOAA Chart 12312 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 23 Lat. 39°49'56" N Long. 075°19'51" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Anadromous fish, waterfowl concentrations

HABITAT: Tidal mud flats and shallows

THREATENED/ ENDANGERED: Osprey, bald eagle, and peregrine falcons

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover Minimum Boom Length: f

SEE DBRC BOOMING STRATEGIES.

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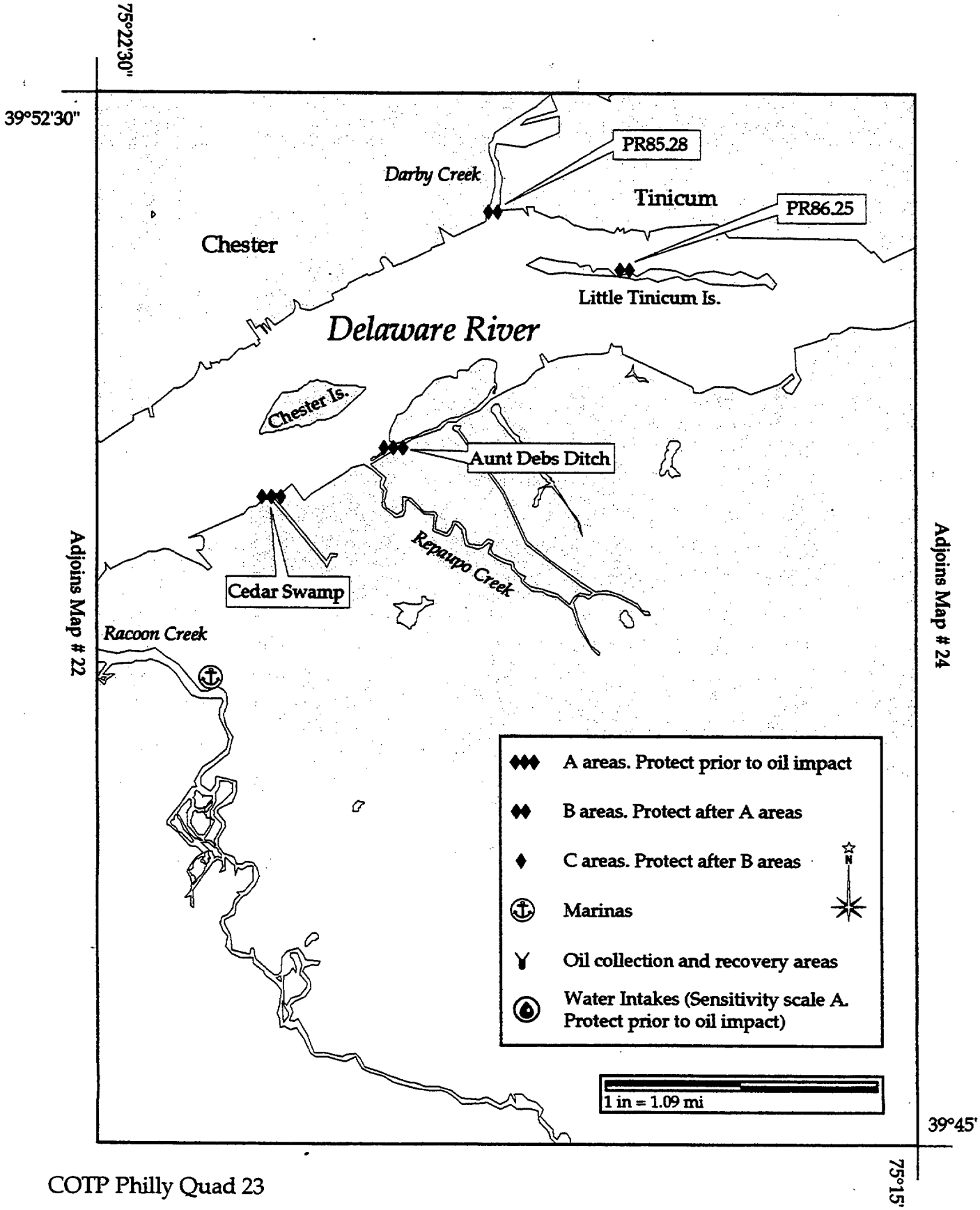

COTP Philly Quad 23

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 23 Name CEDAR SWAMP

USGS Quad Bridgeport, NJ-PA NOAA Chart 12312 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 23 Lat. 39°49'36" N Long. 075°20'54" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Anadromous fish

HABITAT: Cedar Swamp/tidal fresh

THREATENED/ ENDANGERED: Bald eagles, osprey, and peregrine falcons

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: ft

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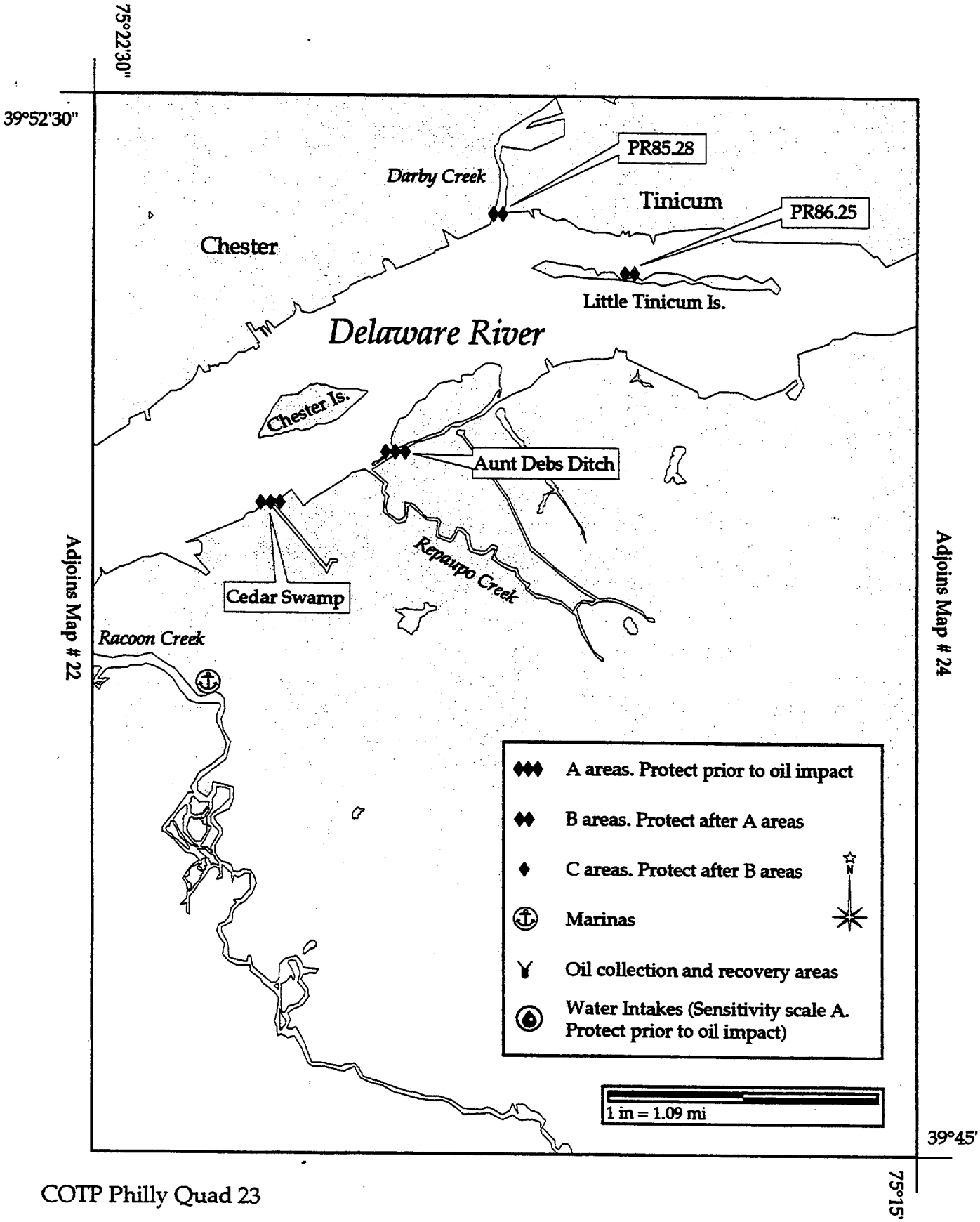


COTP Philly Quad 23

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 24 Name Main Ditch

USGS Quad Bridgeport, NJ-PA NOAA Chart 12312/12313 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 24 Lat. 39° 51'47" N Long. 075°12'56" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: 5.75 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl - wading birds, anadromous fish

HABITAT: Tidal mud flats

THREATENED/ ENDANGERED: Bald eagles and osprey

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

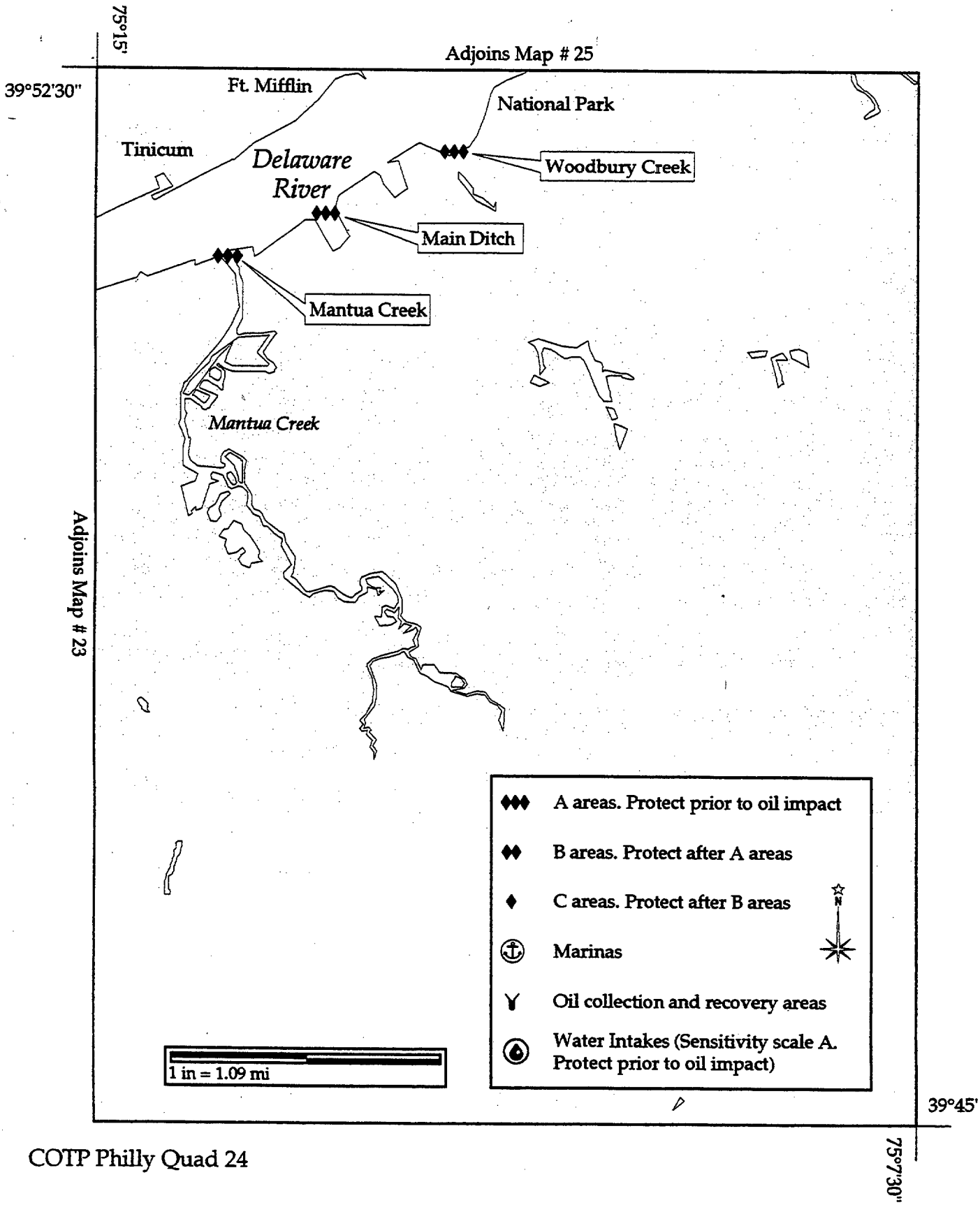
BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 24

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 24 Name Mantua Creek

USGS Quad Woodbury, NJ-PA NOAA Chart 12312/12313 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 24 Lat. 39°51'17" N Long. 075°13'49" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: 5.5 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☐ Su ☐ F ☐ W ☐

WILDLIFE:

HABITAT:

THREATENED/ ENDANGERED:

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

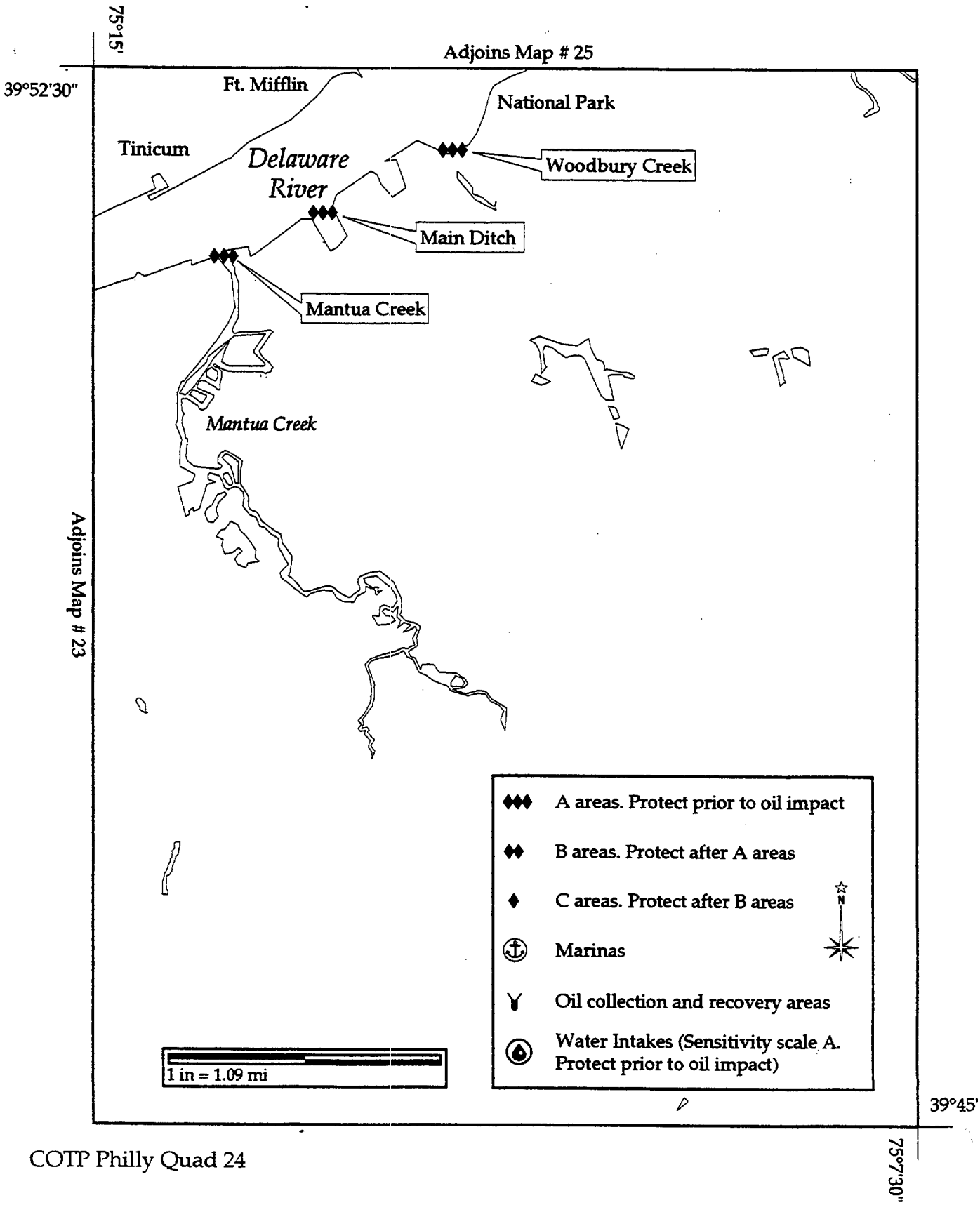
BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 24

☐ PRIORITY

SENSITIVE AREA SUMMARY

D

Site No. NJ Map No. 24 Name WOODBURY CREEK

USGS Quad Woodbury, NJ-PA NOAA Chart 12312/12313 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 24 Lat. 39°51'55" N

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 2

SITE DESCRIPTION Area: Tidal Range: 5.75 ft

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tid
- ☐ 8. Sheltered Ro
- ☐ 9. Sheltered Ti

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp

WILDLIFE: Abundant waterfowl sp and f. Sora rail and anadromous fish.

HABITAT: Wild rice tidal

THREATENED/ ENDANGERED: Bald eagles, osprey and peregrine falcon

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: Hig

BOOMING METHOD: ☒ Deflect ☐ Protect ☐ Recover Minimum Boo

SEE DBRC BOOMING STRATEGIES.

Captain of the Port Philadelphia

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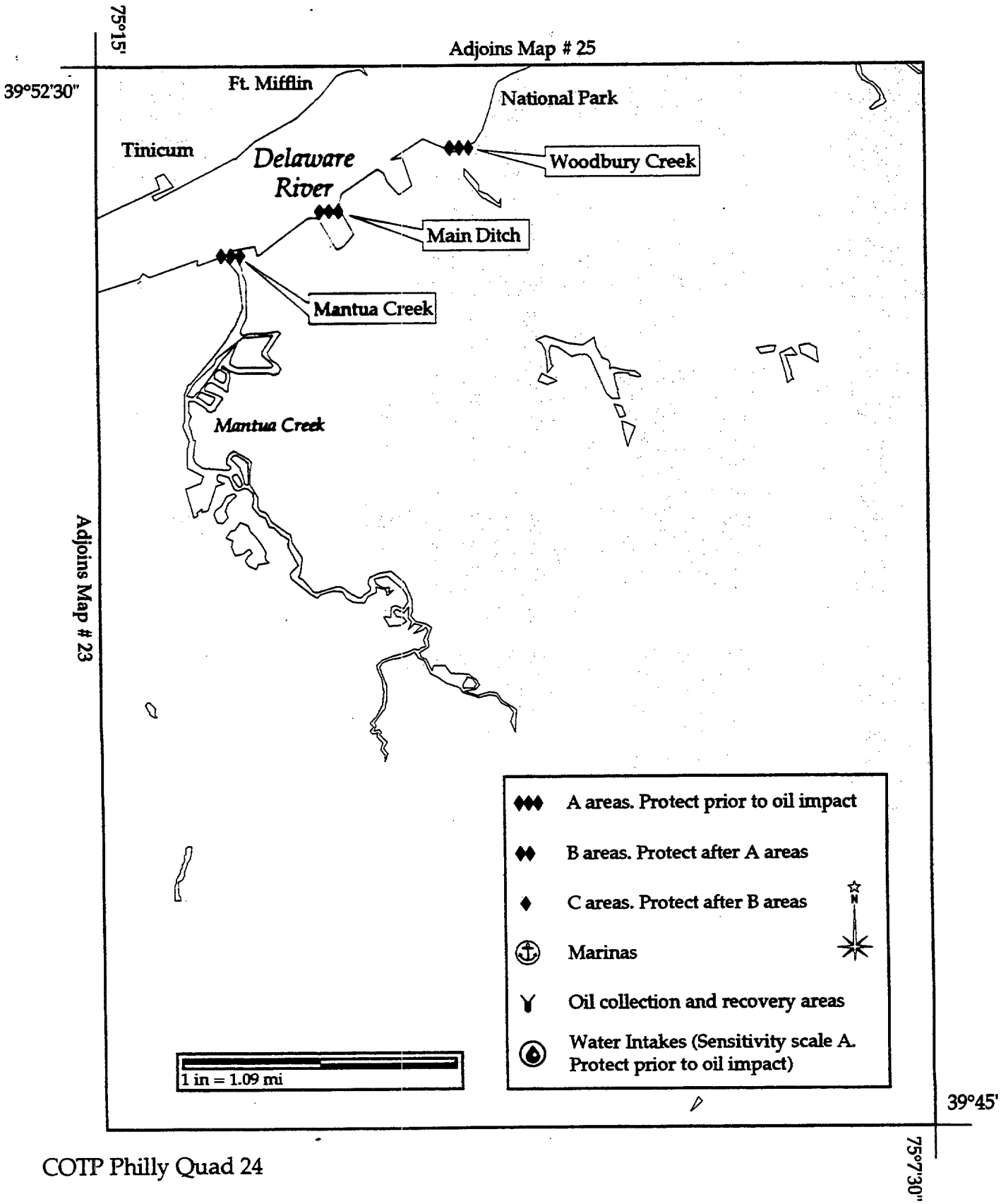
USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 24

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 25 Name BIG TIMBER CREEK

USGS Quad Philadelphia, PA-NJ NOAA Chart 12312/12313 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 25 Lat. 39°52'42" N Long. 075° 07'56" W

Agency / Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: 5.8 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl and anadromous fish

HABITAT: Tidal wild rice

THREATENED/ ENDANGERED: Bald eagles, osprey, and peregrine falcons

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER: Numerous Marinias are located in the creek.

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

Captain of the Port Philadelphia

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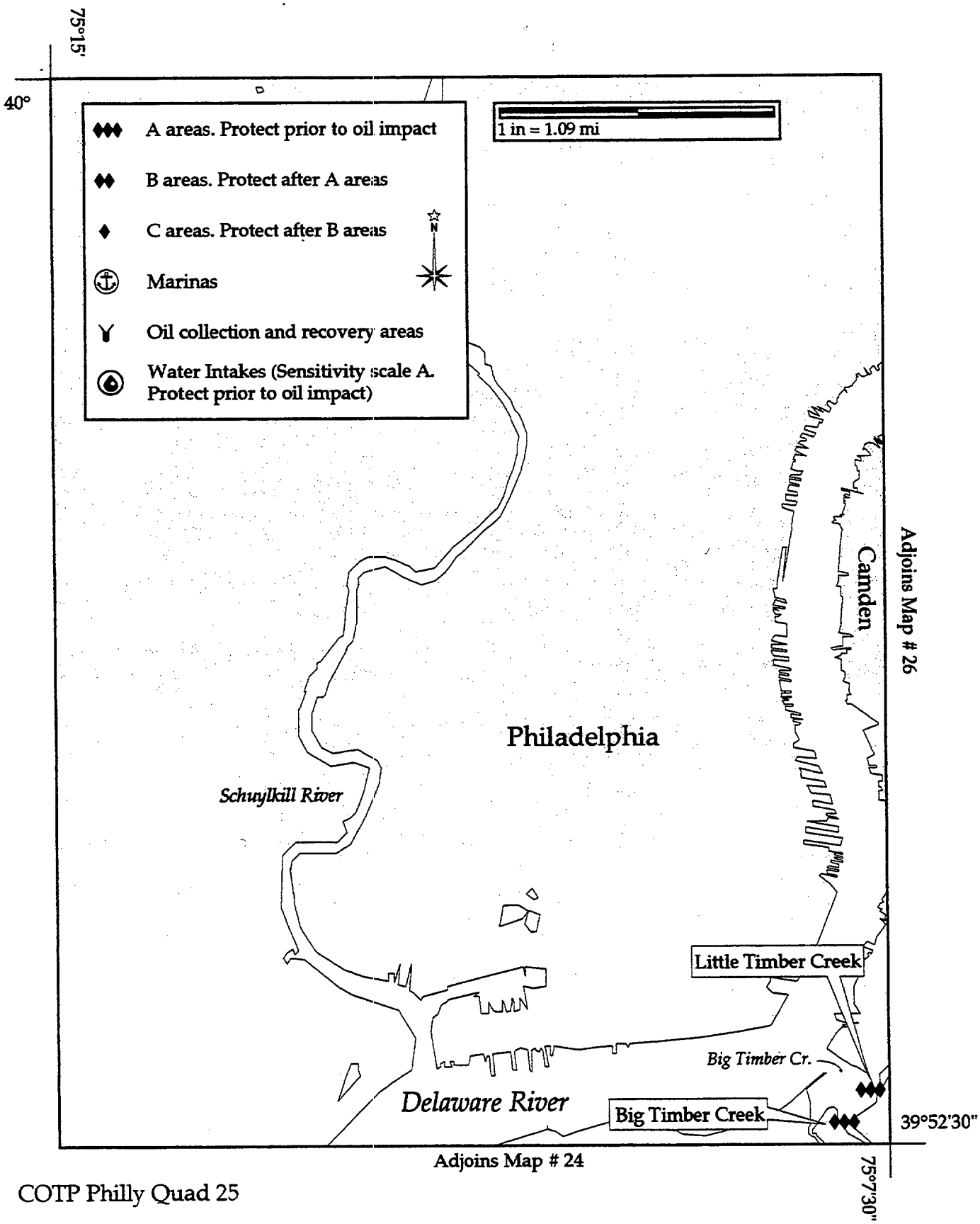

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 25 Name Little Timber Creek

USGS Quad Philadelphia, PA-NJ NOAA Chart 12312/12313 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 25 Lat. 39°52'52" N Long. 075°07'38" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: 5.8 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Anadromous fish and waterfowl

HABITAT: Riverine/wild rice

THREATENED/ ENDANGERED: Peregrine falcons

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

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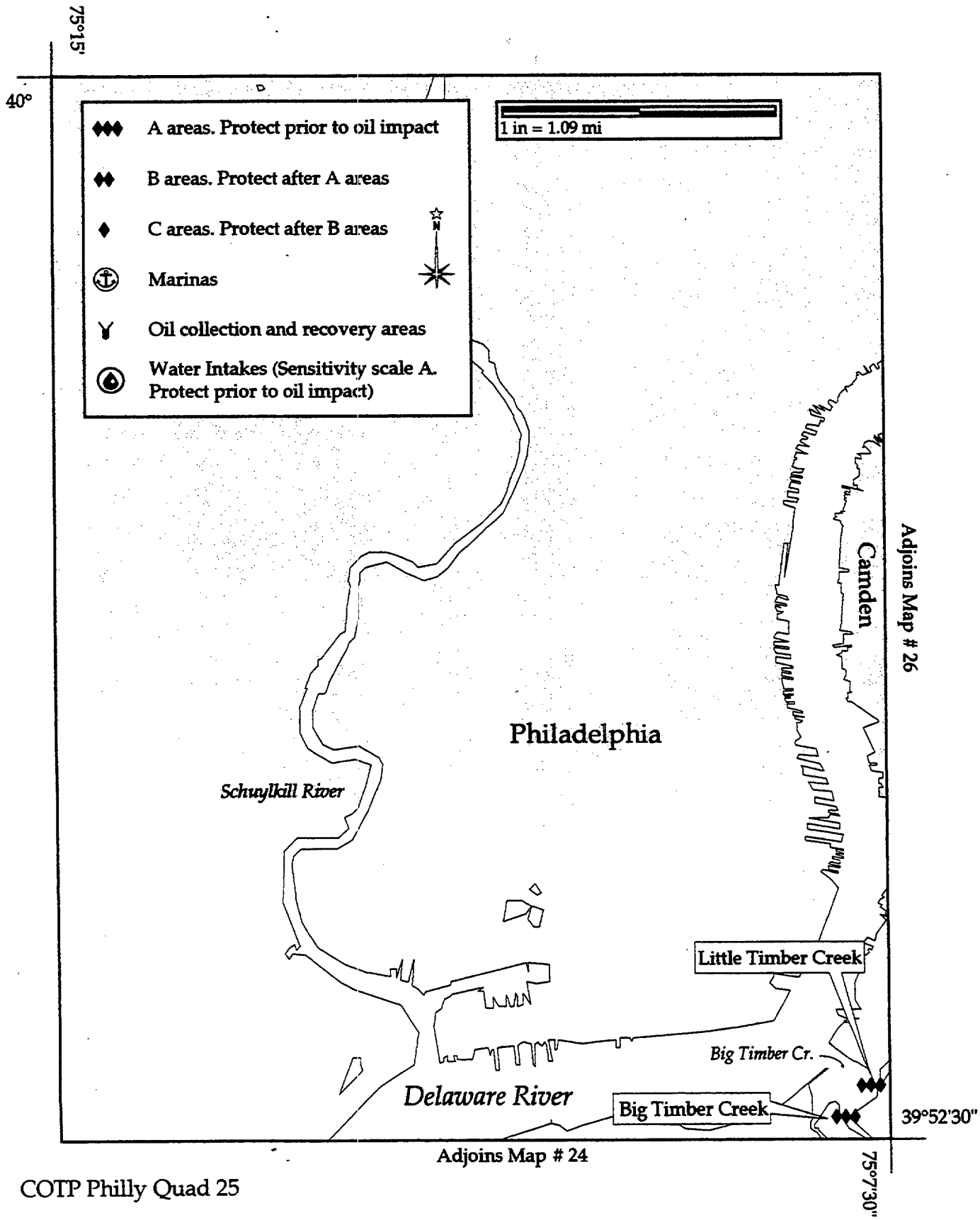

[C] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR91.7 Map No. 3 Name DELAWARE RIVER TIDAL FLAT, NJ

USGS Quad Frankford, PA-NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 26 Lat. 39°59'40" N Long. 075°03'10" W

Agency / Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

NJ Department of Environmental Protection, 24 hr (609) 292-7172

SITE DESCRIPTION

Area: Tidal Range: 6.3 ft Max Currents: kts

GEOGRAPHIC LOCATION: North & South of the mouth to the Pennsauken Creek, North of Delair, NJ.

PHYSICAL DESCRIPTION: Tidal flats and shallows

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [X] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Some migrant waterfowl may use area, wading birds may forage on the tidal flat. the area may also provide nursery habitat to some fish species.

HABITAT: Riverine tidal flat, with small ares of Palustrine forested and scrub-shrub wetlands on the southern side of the mouth and on the eastern side of the flats.

THREATENED/ ENDANGERED: Peregrine falcons

OTHER:

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [X] Vehicle
- [X] Helicopter
- [X] Boat

Land: vehicular and foot, water: small craft, air: helicopter

STAGING AREAS:

COLLECTION POINTS: This area is a natural collection point. Enhancing collection should be a consideration. Prior to boom deployment a DFG&W rep should be advised.

OTHER: Protect after "A" areas

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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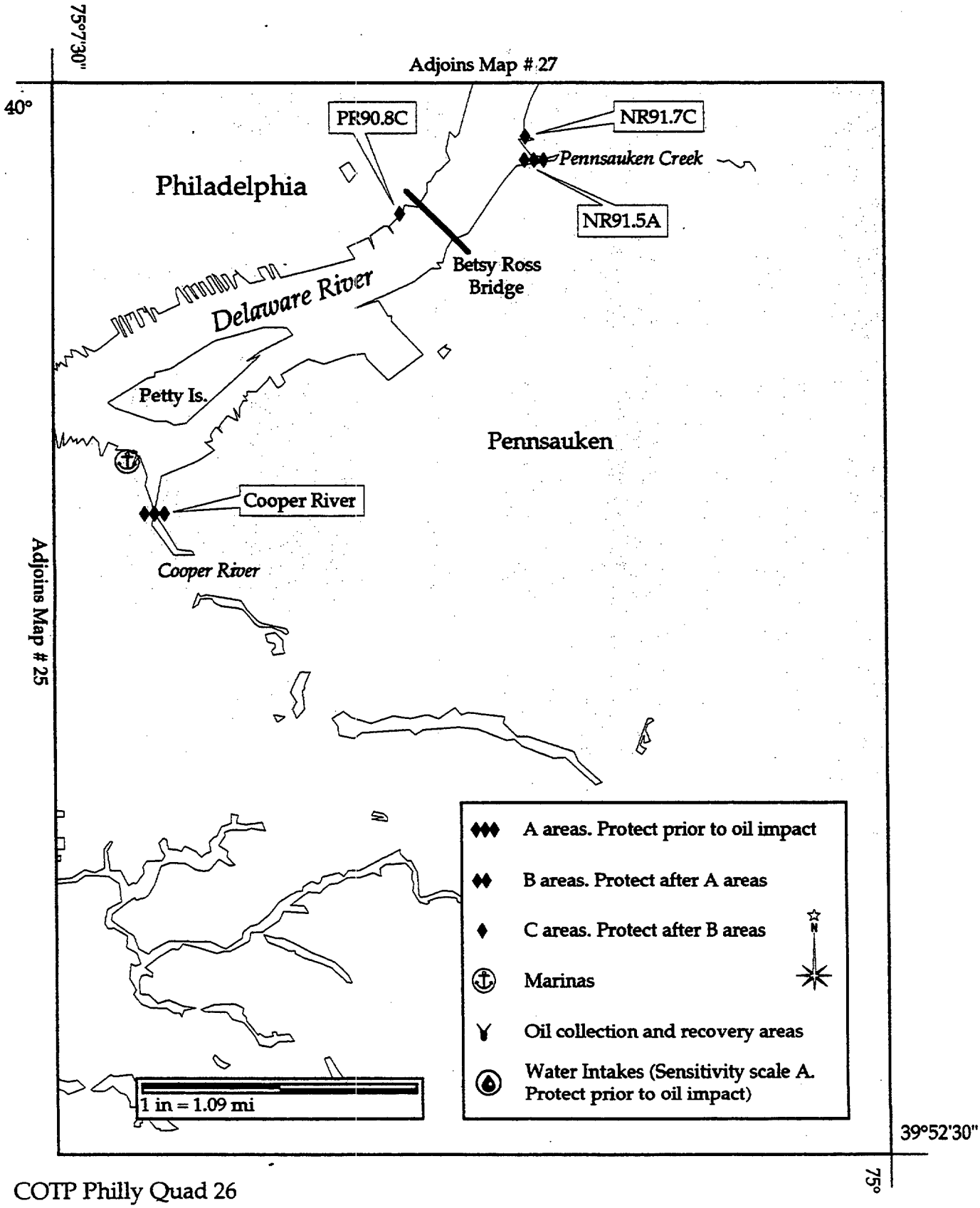

COTP Philly Quad 26

[C] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR90.8 Map No. 4 Name FRANKFORD CREEK,PA

USGS Quad Camden, NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 26 Lat. 39°58'55" N Long. 075°04'14" W

Agency / Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 6.3 ft Max Currents: kts

GEOGRAPHIC LOCATION: In the Bridesburg section of the city of Philadelphia, between the Betsy Ross Bridge and Delair R/R Bridge

PHYSICAL DESCRIPTION: Tidal gravel flats

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds(egrets, great blue heron, etc.) Tidal portions of tributary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: Tidal gravel flats

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER:

FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS: THIS AREA MAY BE A SUITABLE COLLECTION SITE.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

NOT REQUIRED

Captain of the Port Philadelphia

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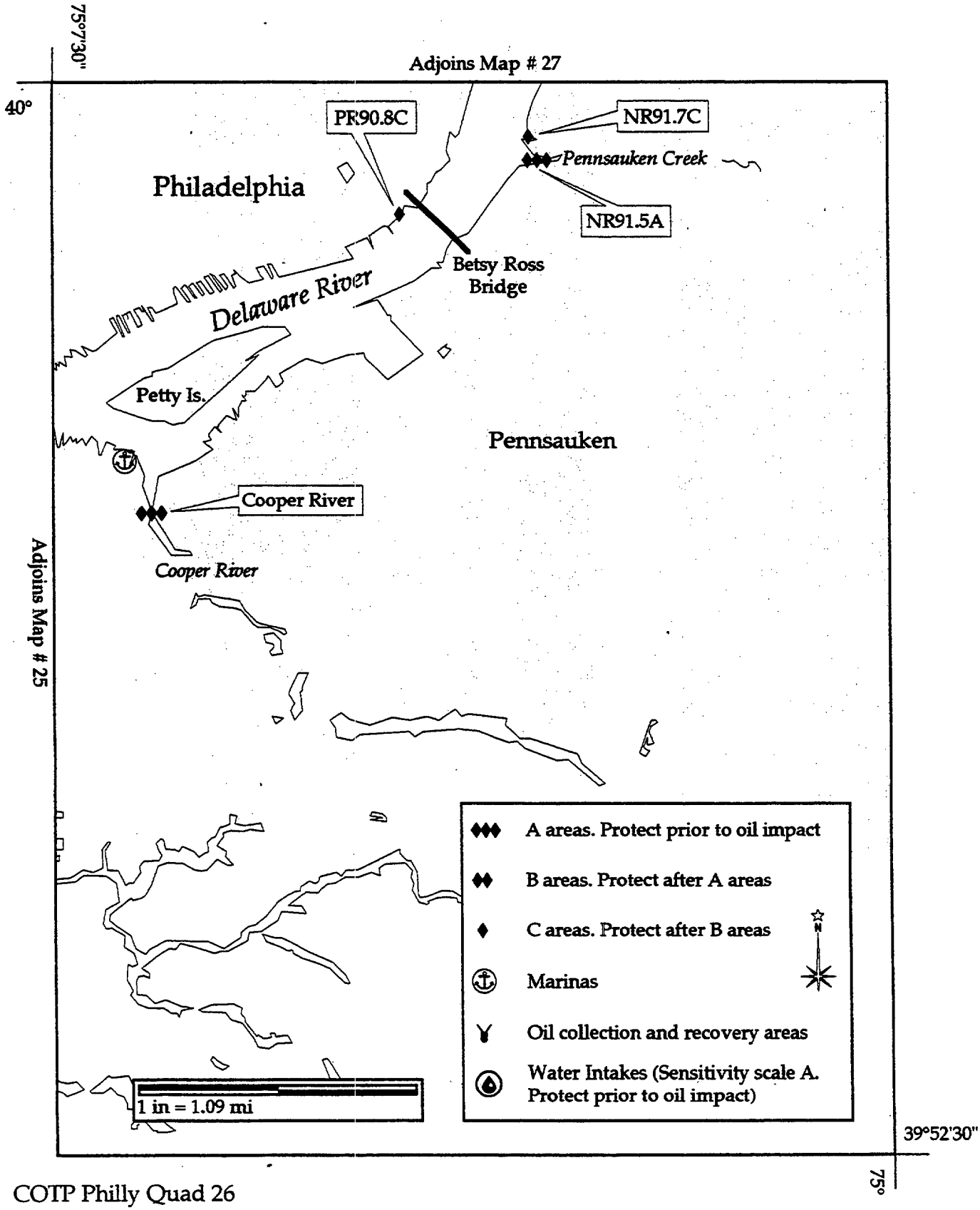

COTP Philly Quad 26

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 26 Name PENNSAUKEN CREEK

USGS Quad Camden, NJ-PA NOAA Chart 12314 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 26 Lat. 39°59'50" N Long. 075°02'56" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

NJ Department of Environmental Protection, 24 hr (609) 292-7172

U.S. Fish & Wildlife Service, Delaware River Fisheries Coordinator (717) 894-1275

SITE DESCRIPTION

Area: Tidal Range: 5.17 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☒ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Canada geese, black duck, mallards, and pintails use the area especially near the river. Anadromous fish user the shallows moving.

HABITAT: HIGHLY SENSITIVE:Riverine tidal flats on south side of mouth, Palustrine seasonally tidal emergent wetlands, Palustrine emergent wetlands, Palustrine scrud-shrub wetland. Freshwater tidal marsh is list as a "RARE COMMUNITY" in the state of NJ.

THREATENED/ ENDANGERED: Short nosed sturgeon

OTHER:

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: f

SEE DBRC BOOMING STRATEGIES.

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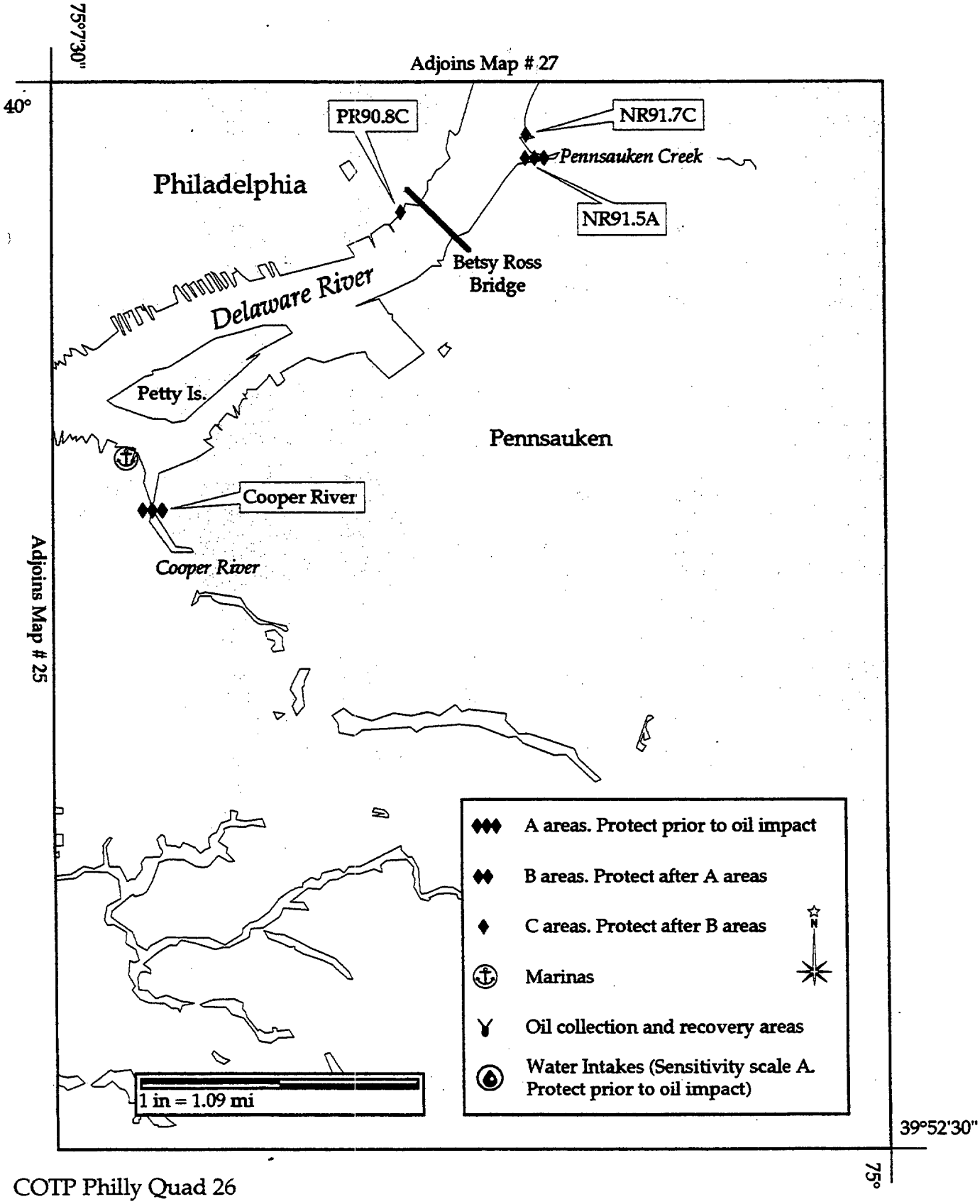

COTP Philly Quad 26

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 26 Name COOPER RIVER

USGS Quad Camden, NJ-PA NOAA Chart 12312/12313 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 26 Lat. 39°57'05" N Long. 075°06'38" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: 6.24 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Canada geese, pintails in spring, black duck and mallards in winter. Anadromous fish.

HABITAT: Riverine

THREATENED/ ENDANGERED: N/A

OTHER:

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

Captain of the Port Philadelphia

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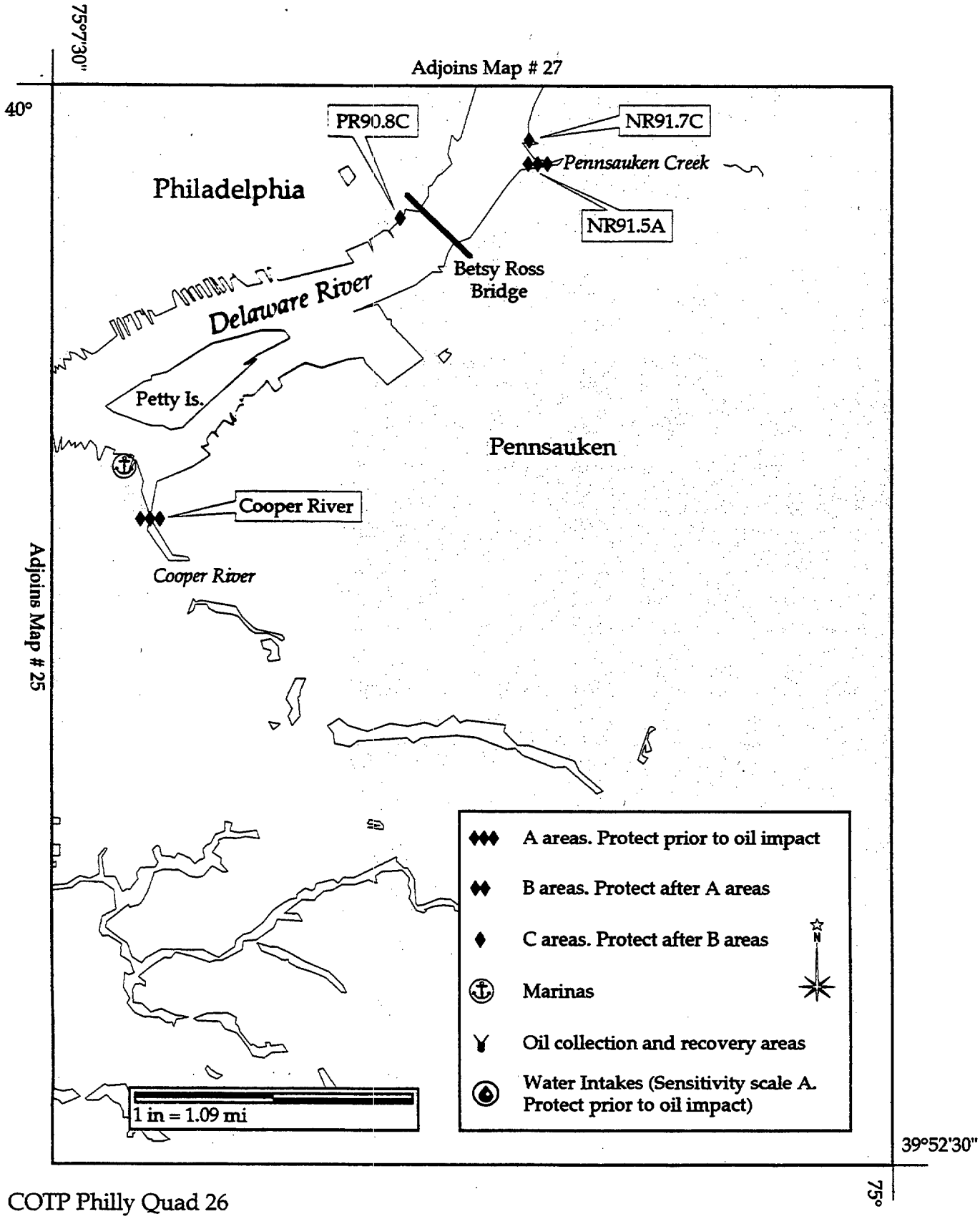

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR93.9 Map No. 3 Name DELAWARE RIVER, PA

USGS Quad Frankford, PA NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 27 Lat. 40°00'55" N Long. 075°02'31" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 6.3 ft Max Currents: kts

GEOGRAPHIC LOCATION: At the old Frankford Arsenal, just north of the Tacony-Palmyra bridge.

PHYSICAL DESCRIPTION: Tidal mud flats with rooted aquatic vegetation.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds (egrets, great blue heron, etc.) Tidal portions of tributary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters, spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: Riverine tidal flat with rooted aquatic vegetation (spatterdock).

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

NOT REQUIRED

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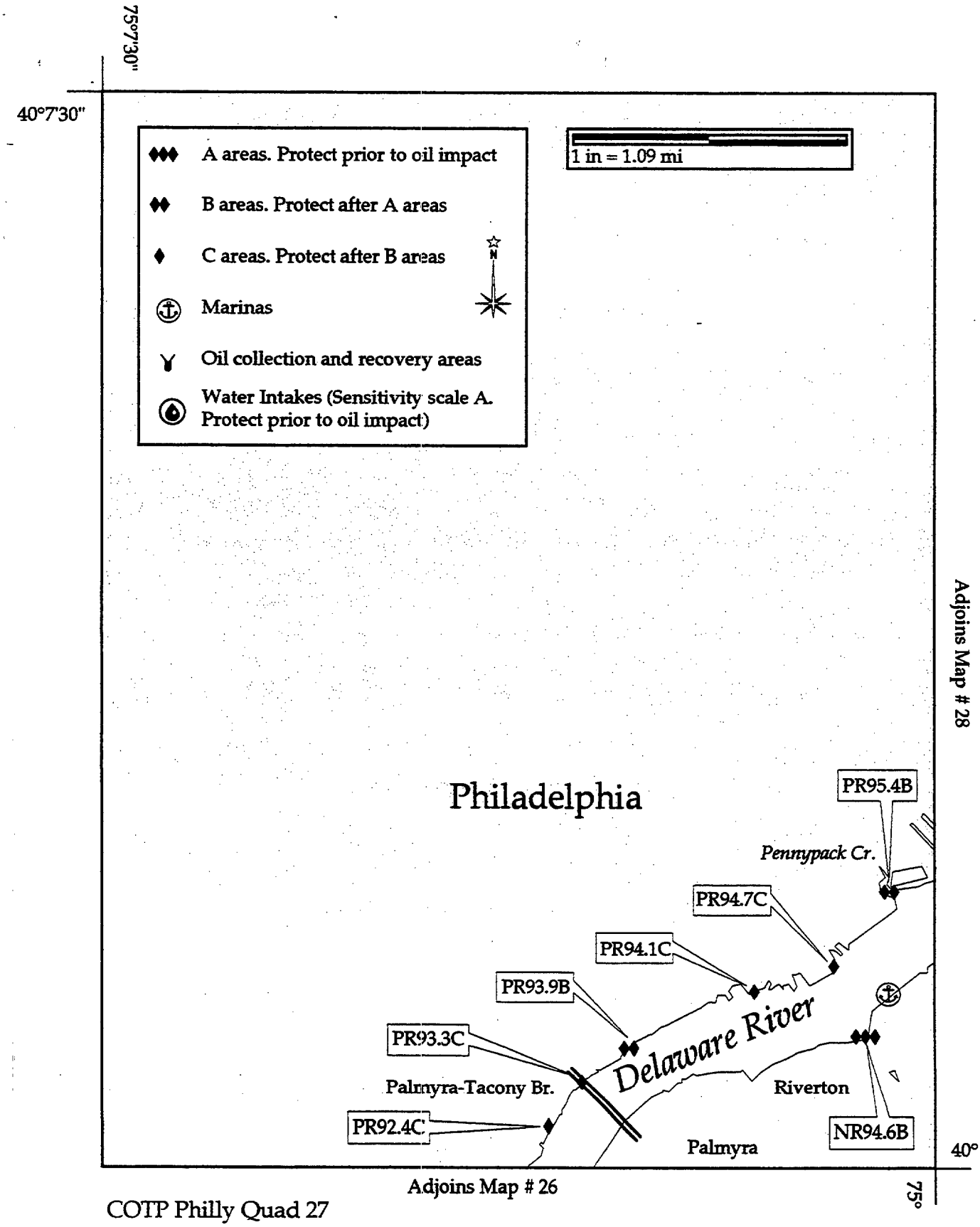

[C] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR93.3 Map No. 3 Name DELAWARE RIVER, PA

USGS Quad Frankford, PA NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 27 Lat. 40°00'38" N Long. 075°03'08" W

Agency / Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 6.3 ft Max Currents: kts

GEOGRAPHIC LOCATION: At the old Frankford Arsenal, just south of the Tacony-Palmyra bridge.

PHYSICAL DESCRIPTION: Tidal gravel flat, boat ramp, anchorage, and marina.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds (egrets, great blue heron, etc.) Tidal portions of tributary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: Riverine tidal gravel flat with rooted aquatic vegetation.

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER:

FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [X] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS: This area is suitable for a staging area.

COLLECTION POINTS: This area is suitable for a collection area

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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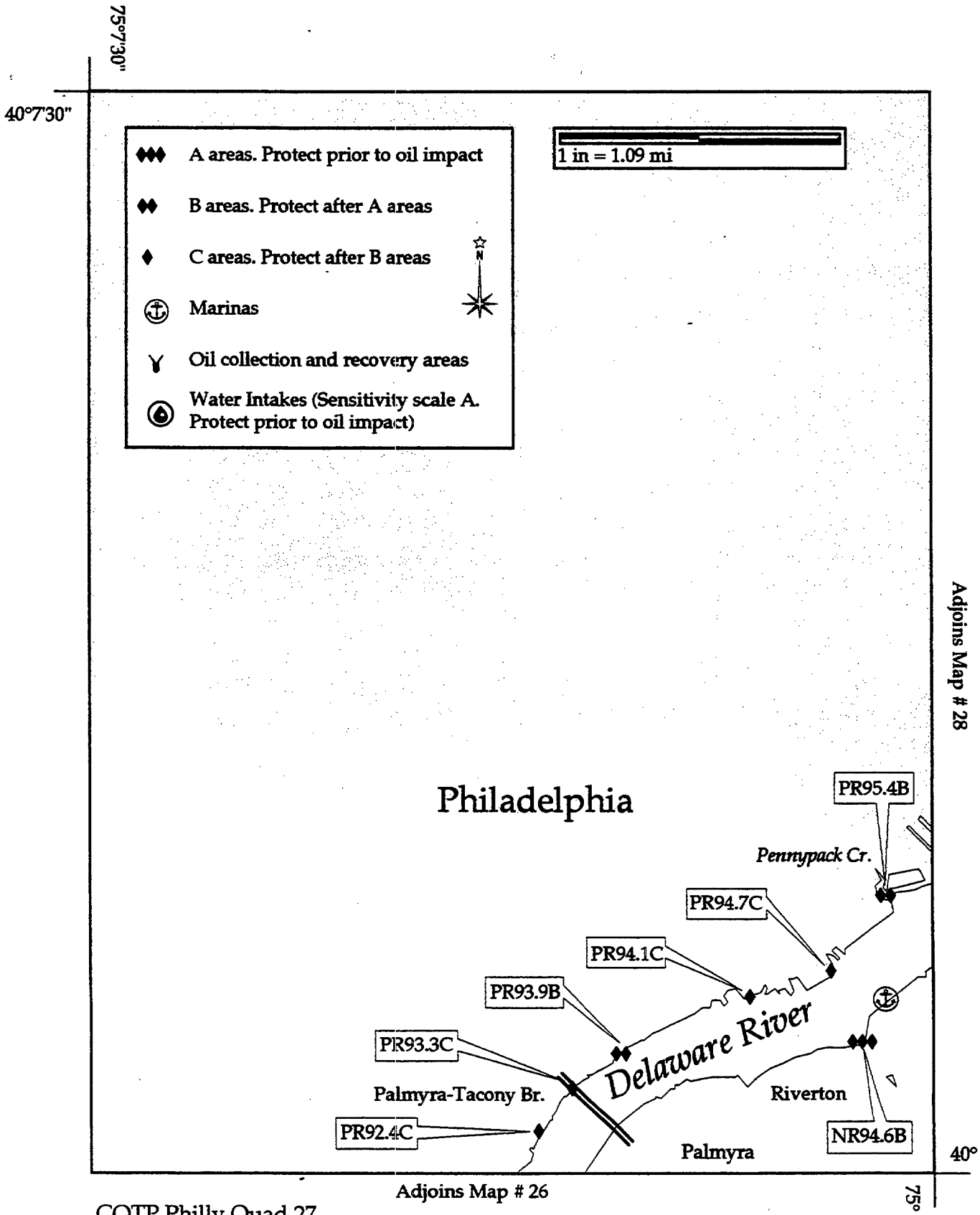


COTP Philly Quad 27

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR95.4 Map No. 3 Name PENNYPACK CREEK, PA

USGS Quad Frankford NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 27 Lat. 40°01'56" N Long. 075°00'24" W

Agency / Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 6.3 ft Max Currents: kts

GEOGRAPHIC LOCATION: Located in the Torresdale section of Philadelphia, flowing into the Delaware River.

PHYSICAL DESCRIPTION: The mouth of Pennypack Creek consist of tidal mud flats with aquatic vegetaion(spatterdock)

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds(egrets, great blue heron, etc.) Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: The mouth of Pennypack Creek consist of tidal mud flats with aquatic vegetaion(spatterdock)

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [ ] Deflect [X] Protect [ ] Recover

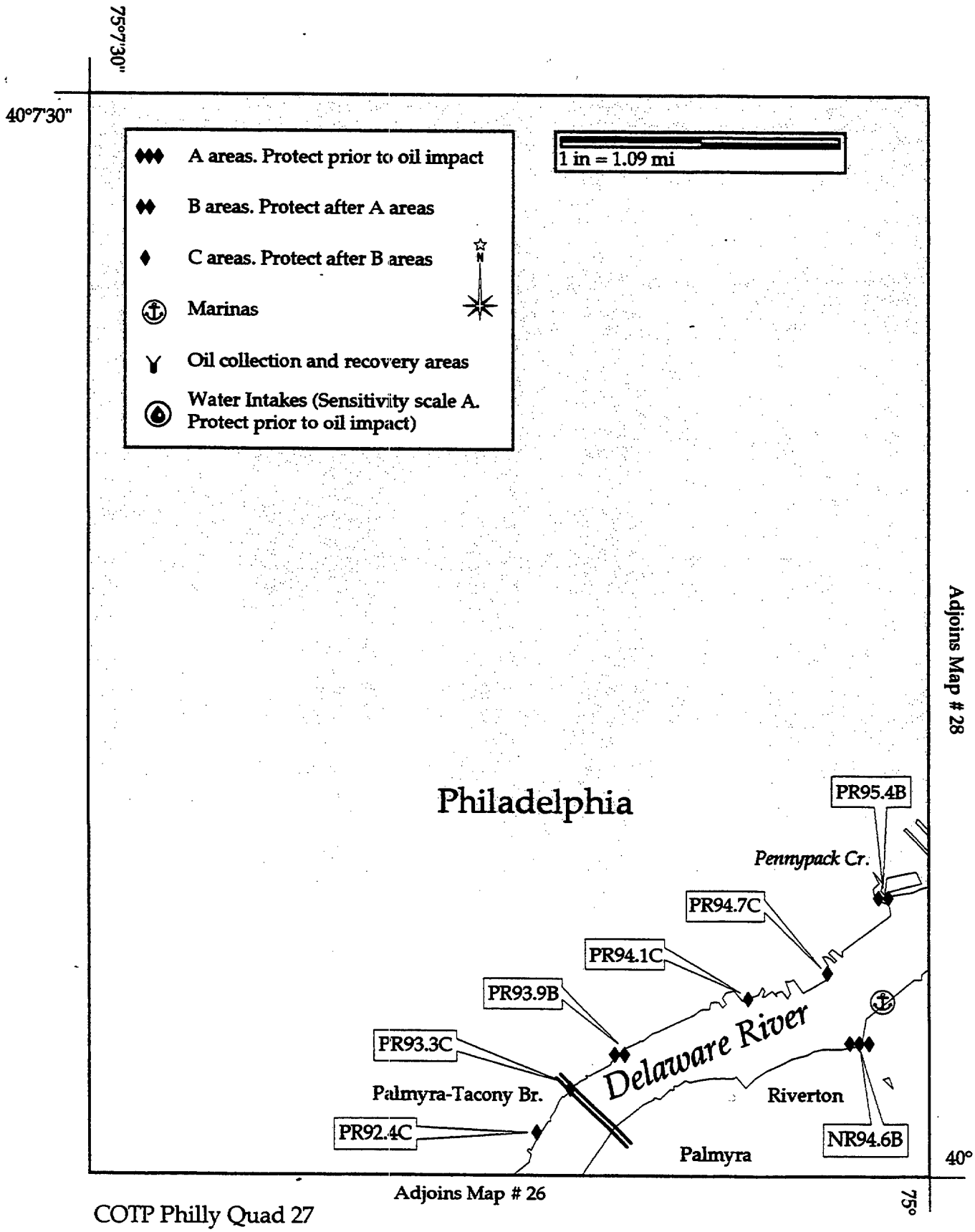
Minimum Boom Length: 300 ft

The mouth should be boomed with protective booming

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 27

[C] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR94.1 Map No. 3 Name DELAWARE RIVER, PA

USGS Quad Frankford, PA NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 27 Lat. 40°01'17" N Long. 075°01'33" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 6.3 ft Max Currents: kts

GEOGRAPHIC LOCATION: The area around the old Northern Metals Terminal, in the Tacony Section of Philadelphia.

PHYSICAL DESCRIPTION: Marine Terminal/Industery Site/Bulkheads

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: These areas provide cover for smaller species of fish, and may also serve as nursery waters.

HABITAT: The shoreline consist of Bulkheads.

THREATENED/ ENDANGERED: Fish utilizing these areas include species of concern in the Pennsylvania & federally endanagered species, such as shortnose sturgen, banded sunfish, and striped bass.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS: This area is suitable for a collection point.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [X] Recover Minimum Boom Length: ft

NOT REQUIRED

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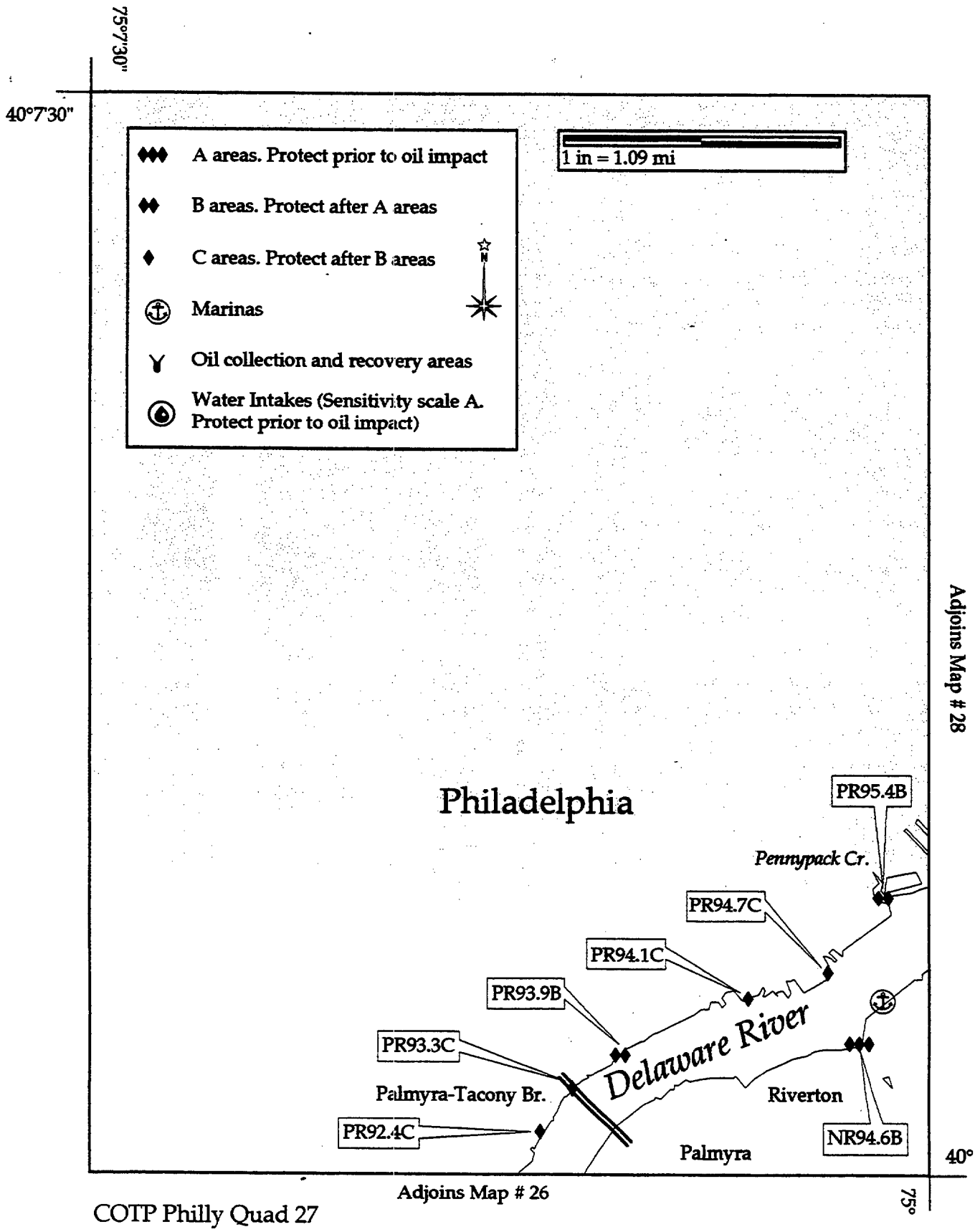

COTP Philly Quad 27

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR94.6 Map No. 27 Name POMPESTON CREEK

USGS Quad Frankford, PA-NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 27 Lat. 40°00'55" N Long. 075°00'62" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

U.S. Fish & Wildlife Service, Supawna Meadows National Wildlife Refuge (609) 935-1487

U.S. Fish & Wildlife Service, Delaware River Fisheries Coordinator (717) 894-1275

SITE DESCRIPTION Area: Tidal Range: 6.3 ft Max Currents: kts

GEOGRAPHIC LOCATION: In Riverton, NJ. , across from the Tacony section of Philadelphia.

PHYSICAL DESCRIPTION: Riverine tidal flats at the mouth of the creek.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Pompeston Creek may support both migrant and nesting waterfowl, wading birds, and other species that are characteristic of a freshwater wetland community. Various species of anadromous, estuarine, and freshwater fish may also occur.

HABITAT: Some sensitive wetlands occur along Pompeston Creek, with some small areas of Palustrine seasonally tidal emergent and scrub-shrub wetlands

THREATENED/ ENDANGERED: Peregrine falcon

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover Minimum Boom Length: ft

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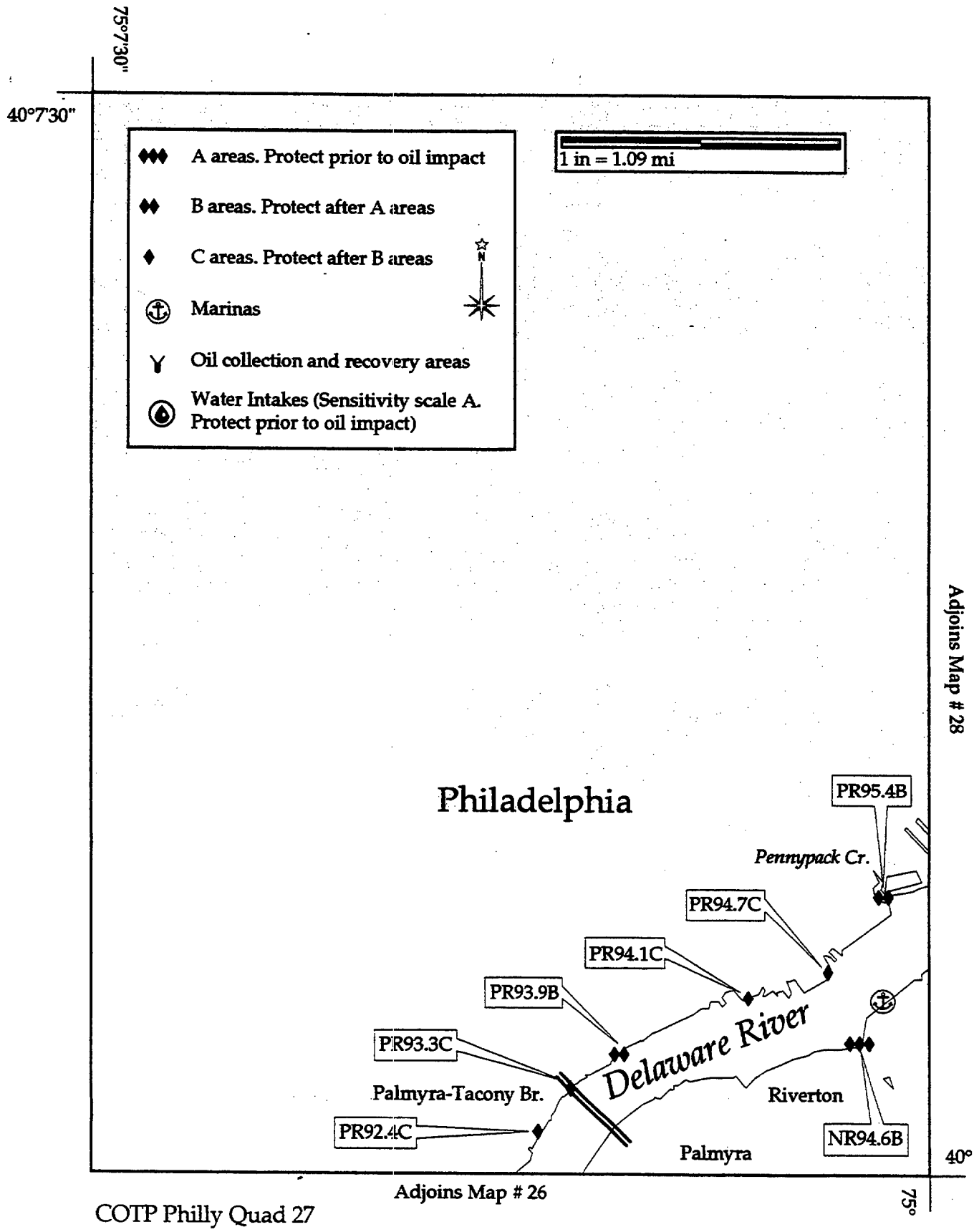

COTP Philly Quad 27

[C] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR92.4 Map No. 3 Name DELAWARE RIVER, PA

USGS Quad Frankford, PA NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 27 Lat. 40°00'17" N Long. 075°03'32" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 6.3 ft Max Currents: kts

GEOGRAPHIC LOCATION: Located in the Bridesburg section of Philadelphia, PA.

PHYSICAL DESCRIPTION: Tidal gravel flats, including boat ramps, and anchorages for for pleasure craft.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds(egrets, great blue heron, etc.) Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: Riverine tidal gravel flat with rooted Aquatic vegetation (spatterdock).

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER:

FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [X] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS: Area is suitable for staging equipment.

COLLECTION POINTS: This area is suitable for a collection point.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [X] Recover

Minimum Boom Length: ft

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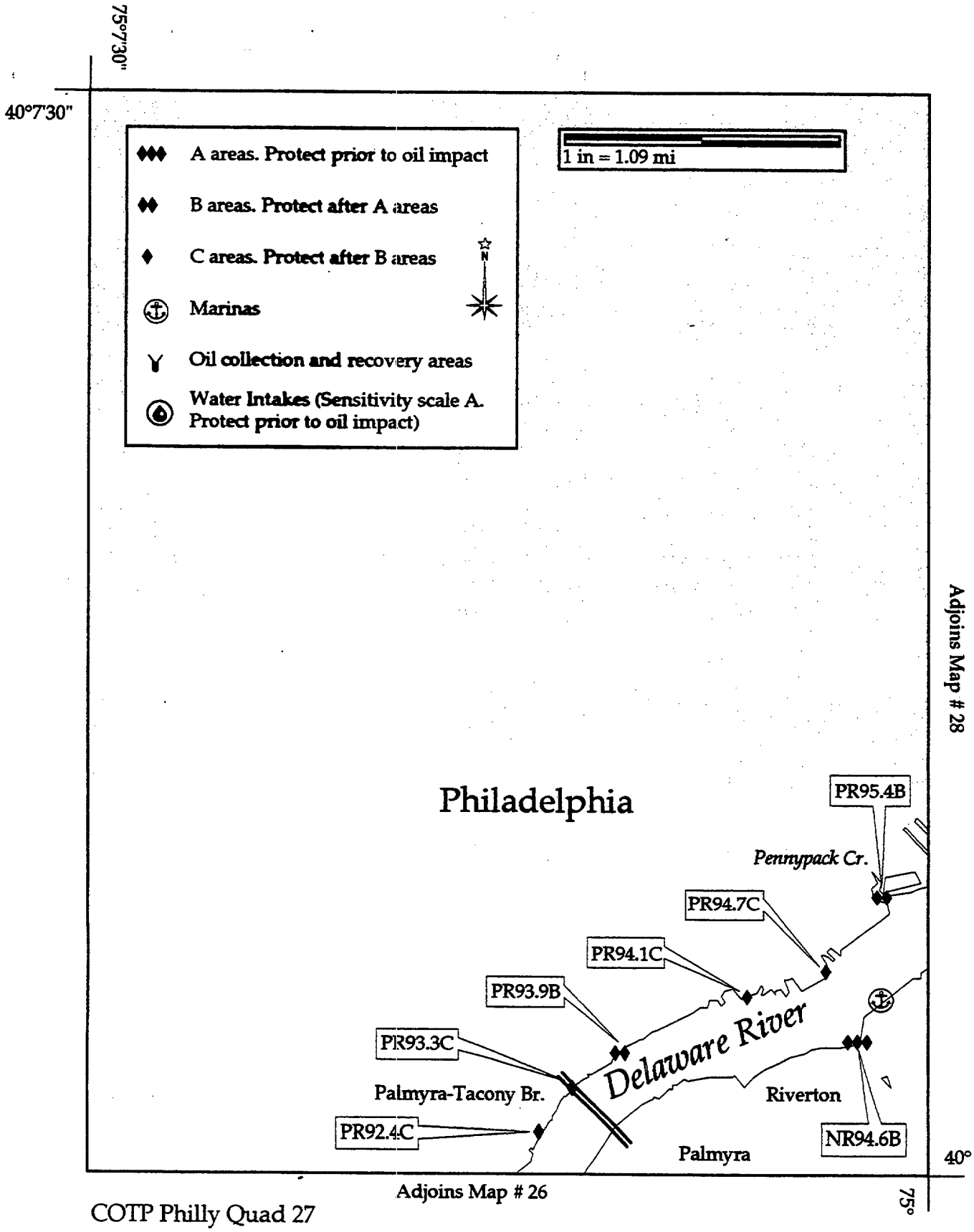

COTP Philly Quad 27

[C] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR94.7 Map No. 3 Name DELAWARE RIVER, PA

USGS Quad Frankford NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 27 Lat. 40°01'30" N Long. 075°01'00" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 6.3 ft Max Currents: kts

GEOGRAPHIC LOCATION: In the Tacony section of Philadelphia, across the river from Riverton, NJ.

PHYSICAL DESCRIPTION: Tidal gravel flats.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds (egrets, great blue heron, etc.). Tidal portions of tributary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: The shoreline consist of a riverine tidal gravel flat.

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: f

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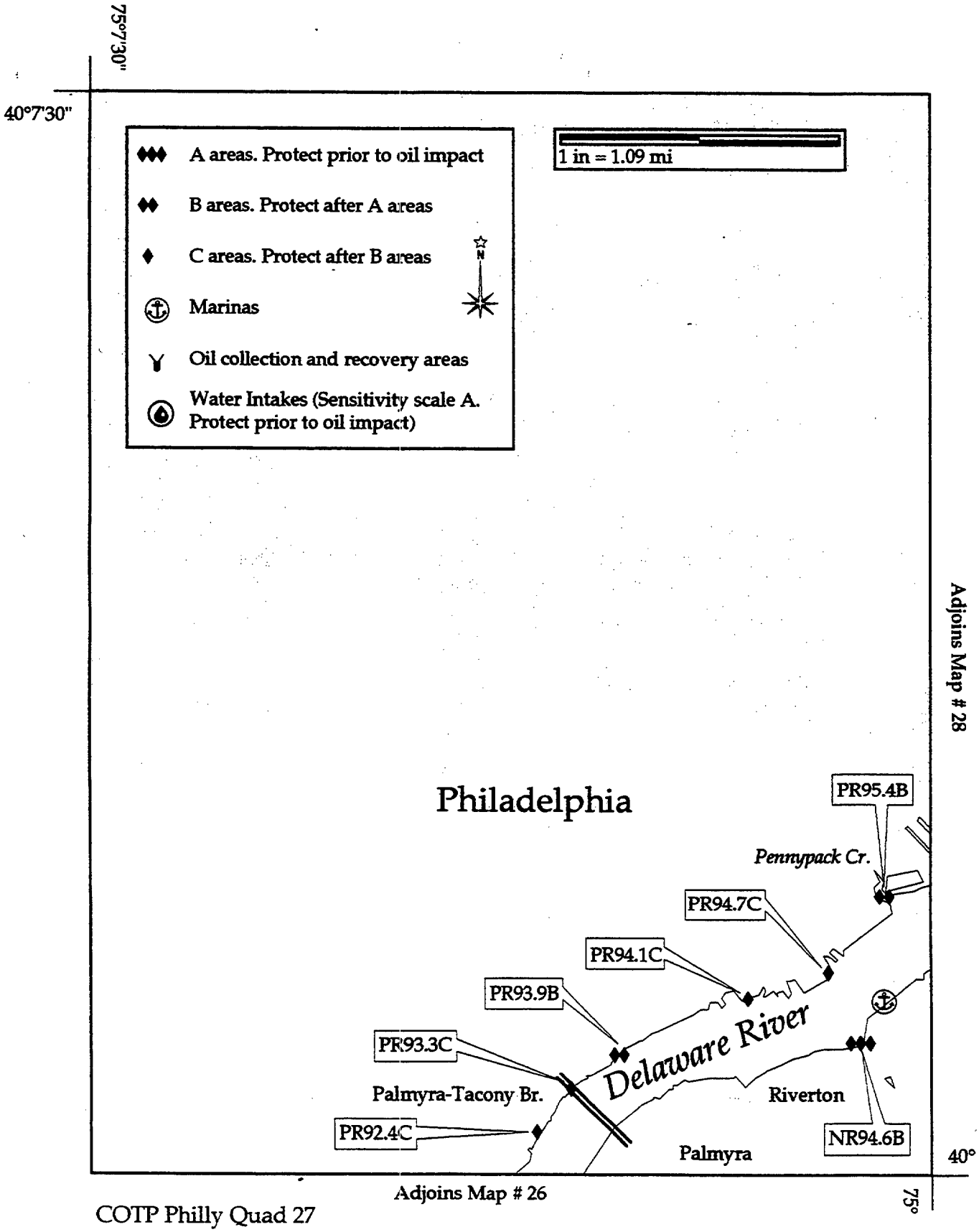

[B] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR101.4 Map No. 2 Name DELAWARE RIVER, PA

USGS Quad Beverly NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 28 Lat. 40°05'00" N Long. 074°52'45" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.2 ft Max Currents: kts

GEOGRAPHIC LOCATION: Between Croydon, PA, to the West & Bristol, PA to the East, North of West Burlington, NJ.

PHYSICAL DESCRIPTION: The shoreline consist of a riverine tidal gravel flat with rooted aquaqtic vegetation (spatterdock).

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds (egrets, great blue heron, etc.) Tidal portions of tributary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters, spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: The shoreline consist of a riverine tidal gravel flat with rooted aquaqtic vegetation (spatterdock).

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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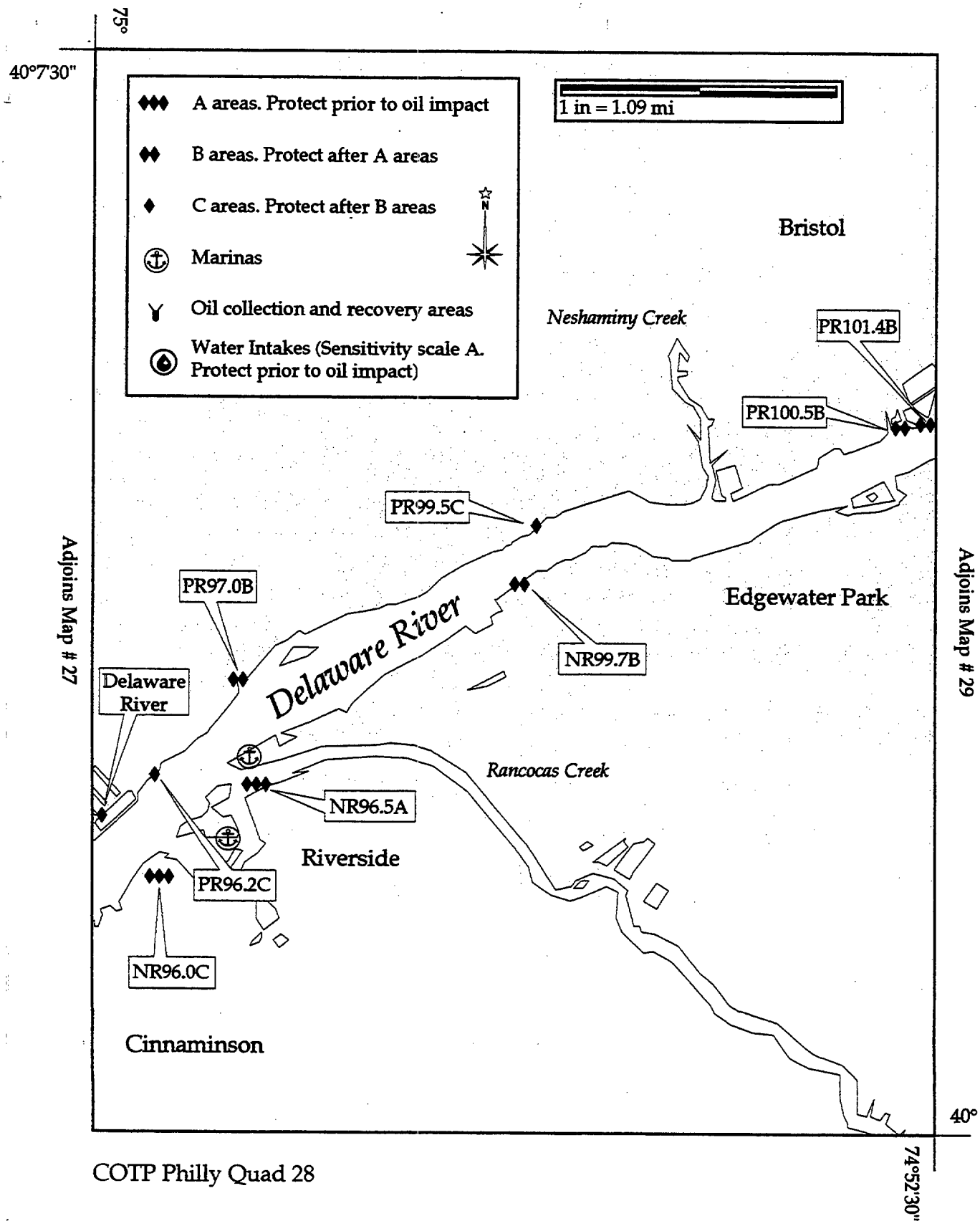


COTP Philly Quad 28

[C] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR99.5 Map No. 2 Name DELAWARE RIVER, PA

USGS Quad Beverly NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 28 Lat. 40°04'15" N Long. 074°56'00" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.02 ft Max Currents: kts

GEOGRAPHIC LOCATION: Along the Delaware River between the Poquessing Creek, and Neshaminy Creek.

PHYSICAL DESCRIPTION: The shoreline consist of a riverine tidal gravel flat. It includes a boat ramp at Neshaminy State Park, and several other boat ramps, anchorages, and marinas.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds (egrets, great blue heron, etc.). Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: The shoreline consist of a riverine tidal gravel flat. It includes a boat ramp at Neshaminy State Park, and several other boat ramps, anchorages, and marinas

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [X] Vehicle
- [ ] Helicopter
- [X] Boat

The boat ramp at Neshaminy Creek State Park .

STAGING AREAS: The boat ramp at Neshaminy Creek State Park and the parking area may be used as a staging area.

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover

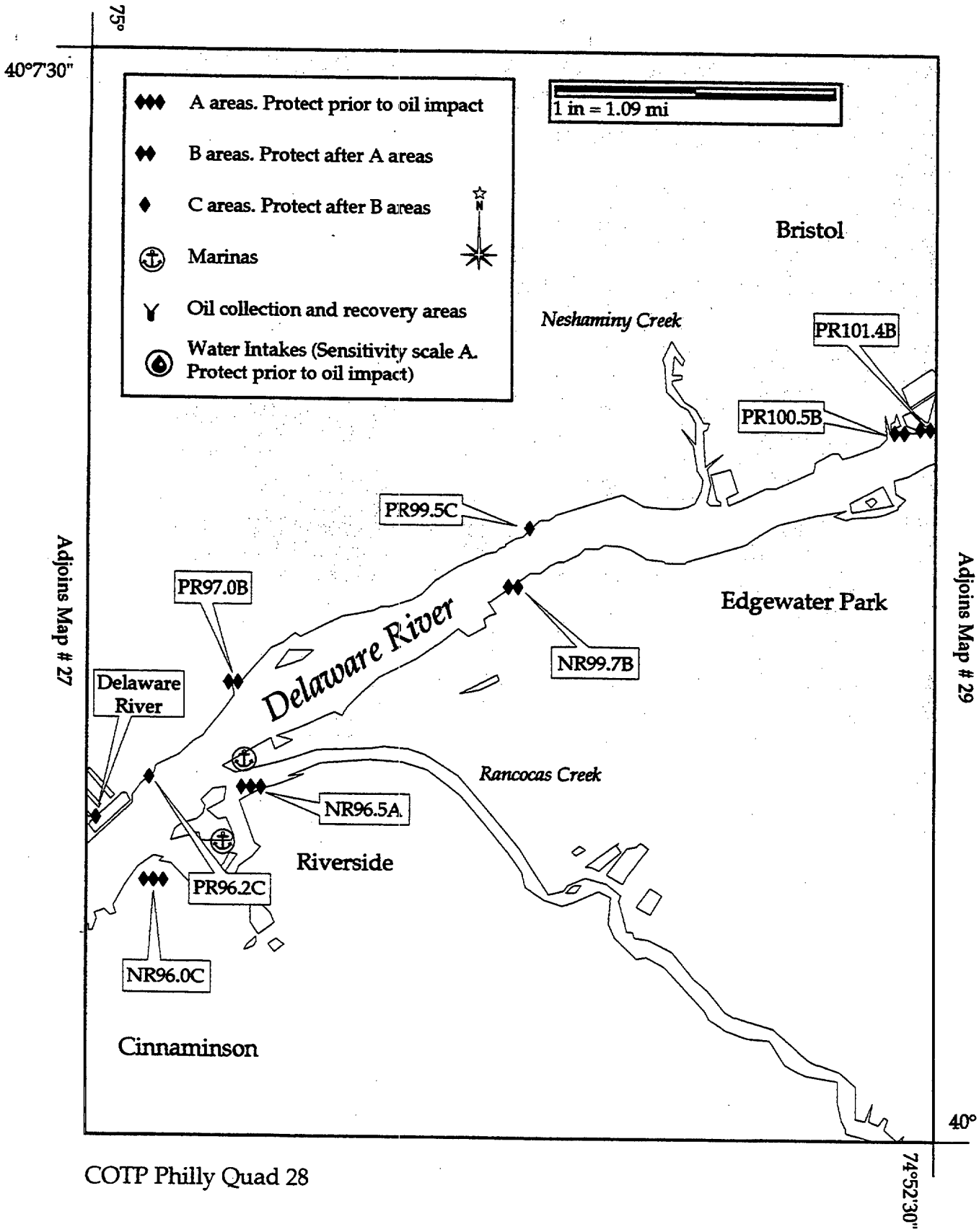
Minimum Boom Length: ft

The use of deflection booms should be evaluated.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 28

C PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR96.2 Map No. 2 Name DELAWARE RIVER, PA

USGS Quad Beverly NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 28 Lat. 40°02'30" N Long. 074°59'30" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 6.3 ft Max Currents: kts

GEOGRAPHIC LOCATION: Plum Point, NJ, at the entrance to Dredge Harbor.

PHYSICAL DESCRIPTION: Bulkheads

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: These areas provide cover for smaller species of fish and may also serve as nursery waters.

HABITAT: Bulkheads

THREATENED/ ENDANGERED: Shortnose Sturgeon, Banded Sunfish, and Striped Bass

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS: This area may be suitable as a collection point.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [X]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

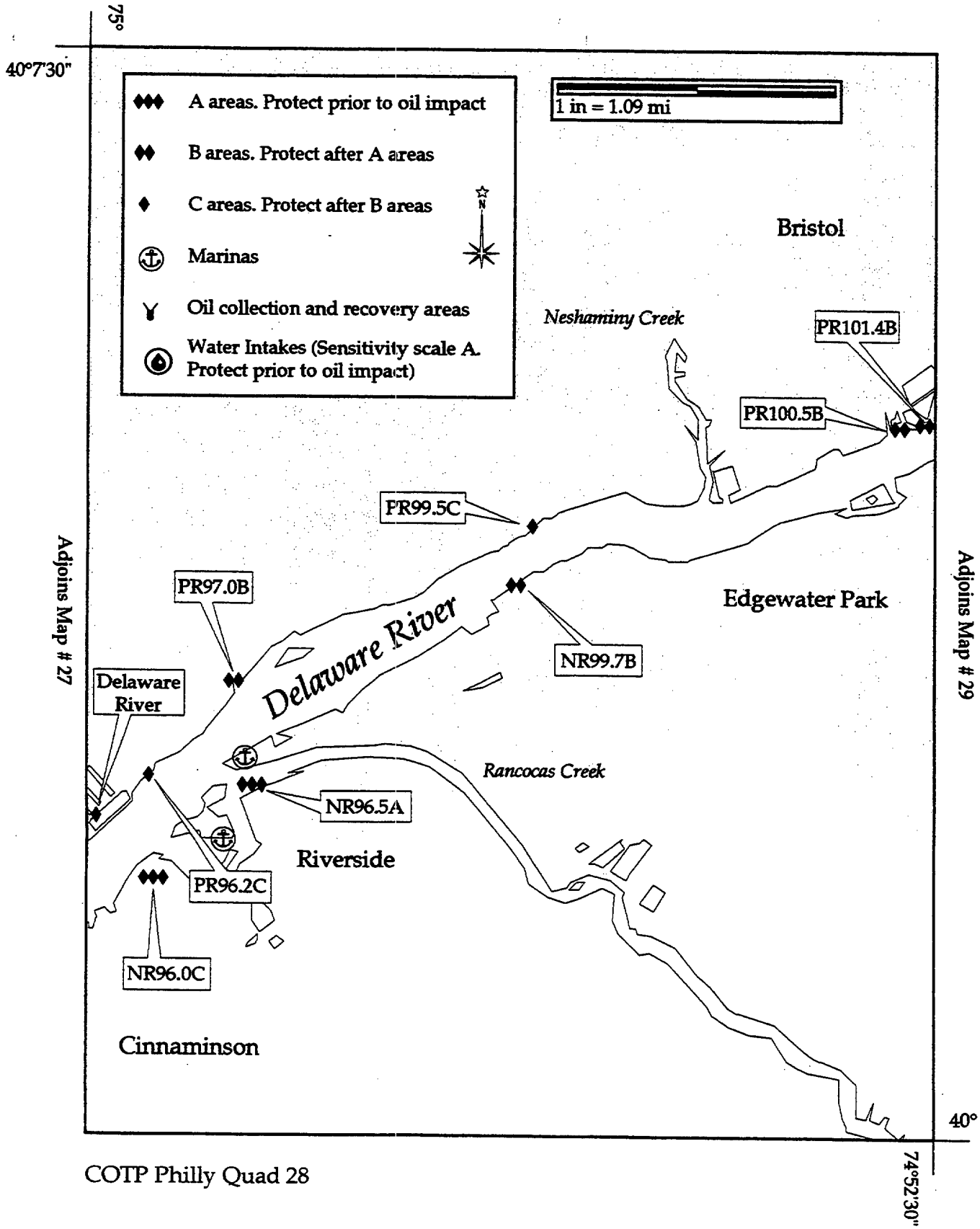
Minimum Boom Length: ft

NOT REQUIRED

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 28

[B] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR99.7 Map No. 2 Name DELAWARE RIVER, NJ

USGS Quad Beverly, PA-NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 28 Lat. 40°03'54" N Long. 074°56'34" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

NJ Department of Environmental Protection, 24 hr (609) 292-7172

U.S. Fish & Wildlife Service, Delaware River Fisheries Coordinator (717) 894-1275

SITE DESCRIPTION

Area: Tidal Range: 7.0 ft Max Currents: kt

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION: This segment of river provides important migration, spawning, nursery habitat to severa species of anadromous, estuarine, and freshwater fish.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [X] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshe
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Atlantic sturgeon, shortnose sturgeon, and american shad (migratory area; blueback herring, alewife, white perch, yellow perch, and striped bass(spawning, nursery, and adult concentration area.

HABITAT: Submerged aquatic vegetation. This segment of river provides important migration, spawning, nursery habitat to several species of anadromous, estuarine, and freshwater fish.

THREATENED/ ENDANGERED: The shortnose sturgeons and great blue herons.

OTHER:

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low

BOOMING METHOD: [ ] Deflect [X] Protect [ ] Recover

Minimum Boom Length:

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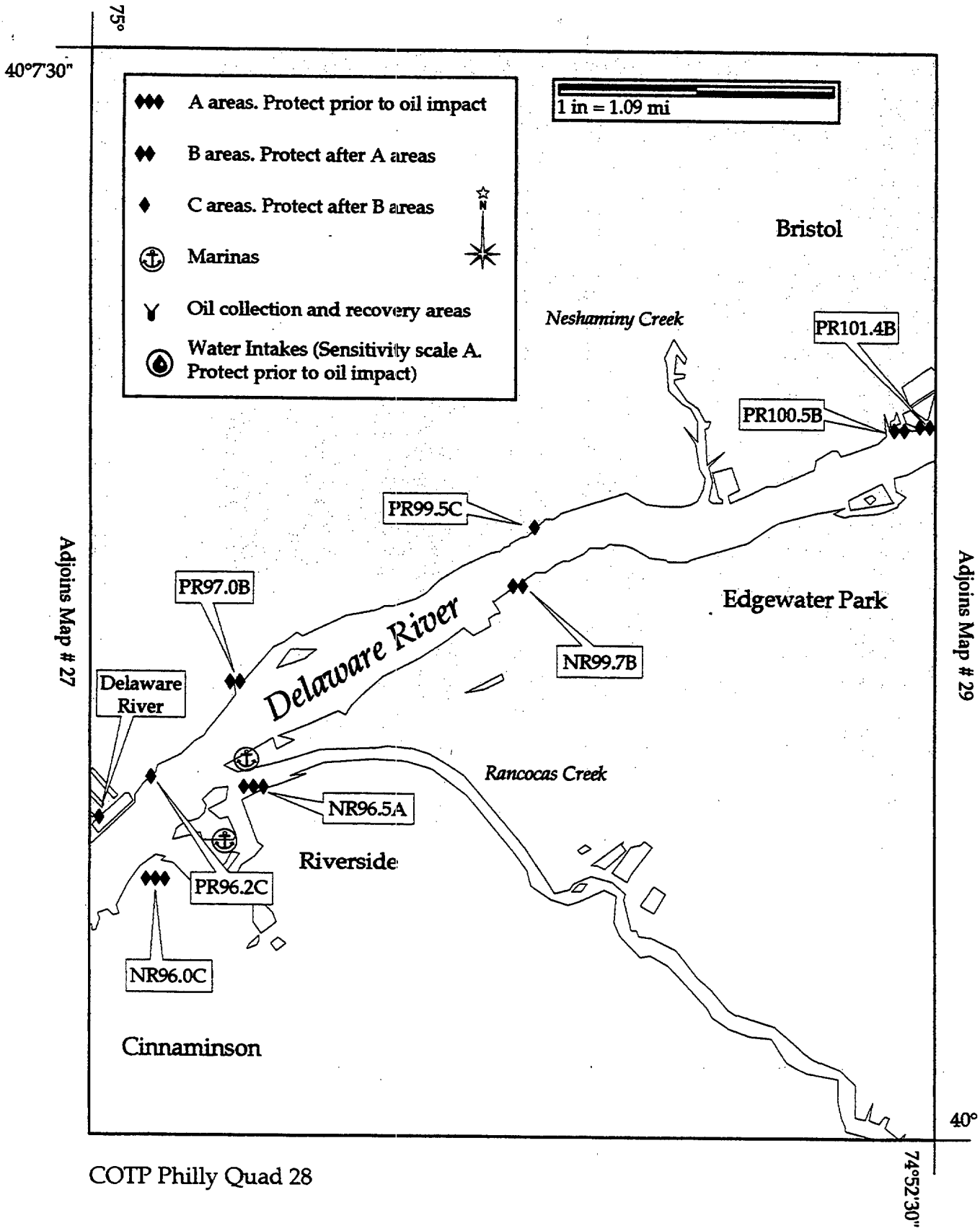


COTP Philly Quad 28

[B] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR97.0 Map No. 2 Name POQUESSING CREEK, PA

USGS Quad Beverly NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 28 Lat. 40°03'08" N Long. 074°58'43" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.02 ft Max Currents: kts

GEOGRAPHIC LOCATION: Between Torresdale, and Andalusia sectins of Philadelphia .

PHYSICAL DESCRIPTION: The mouth of the Poquessing Creek and the gravel tidal area with rooted aquatic vegetation(spatterdock).

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds(egrets, great blue heron, etc.) Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: Tidal gravel Flats with aquatic vegetation(spatterdock)

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [ ] Deflect [X] Protect [ ] Recover

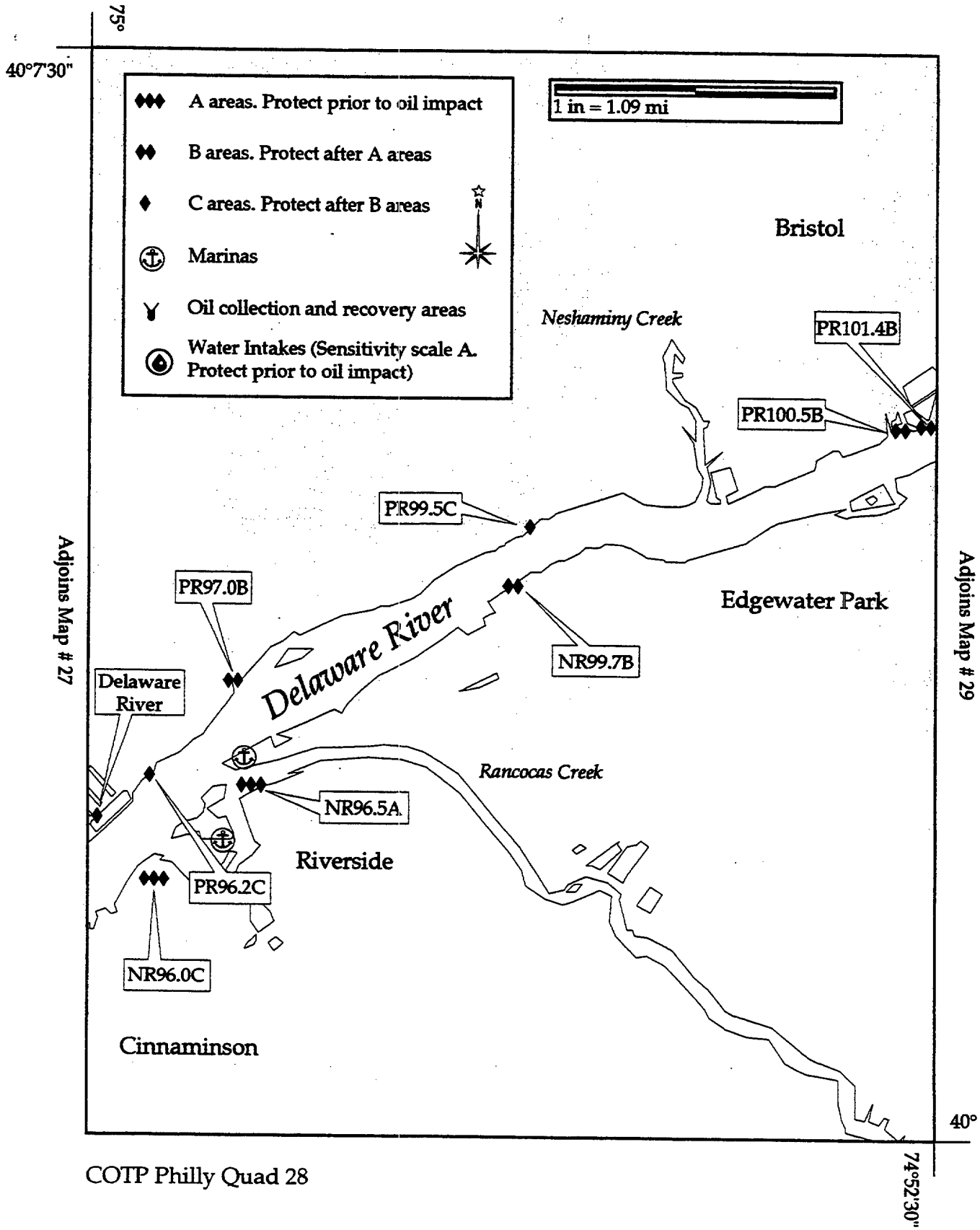
Minimum Boom Length: 200 f

The mouth of the creek should be boomed with protective booming.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 28

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR100.5 Map No. 2 Name NESHAMINY CREEK, PA

USGS Quad Beverly NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 28 Lat. 40°04'27" N Long. 074°54'34" W

Agency / Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.0 ft Max Currents: kts

GEOGRAPHIC LOCATION: Croydon, PA. along the Delaware River, at the mouth of the Neshaminy Creek.

PHYSICAL DESCRIPTION: The mouth of the Neshaminy Creek, and the adjoining shoreline consists of tidal mud flats, with rooted aquatic vegetation.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds(egrets, great blue heron, etc.) Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: The mouth of the Neshaminy Creek, and the adjoining shoreline consists of tidal mud flats, with rooted aquatic vegetation(spatterdock).

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership: STATE GOV.

ACCESS:

- [X] Vehicle
- [ ] Helicopter
- [X] Boat

Neshaminy Creek State Park, has boat ramps.

STAGING AREAS: Neshaminy Creek State Park.

COLLECTION POINTS: Neshaminy Creek State Park.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [ ] Deflect [X] Protect [ ] Recover

Minimum Boom Length: 500 f

The mouth of Neshaminy Creek should be boomed with protective booming.(500ft)

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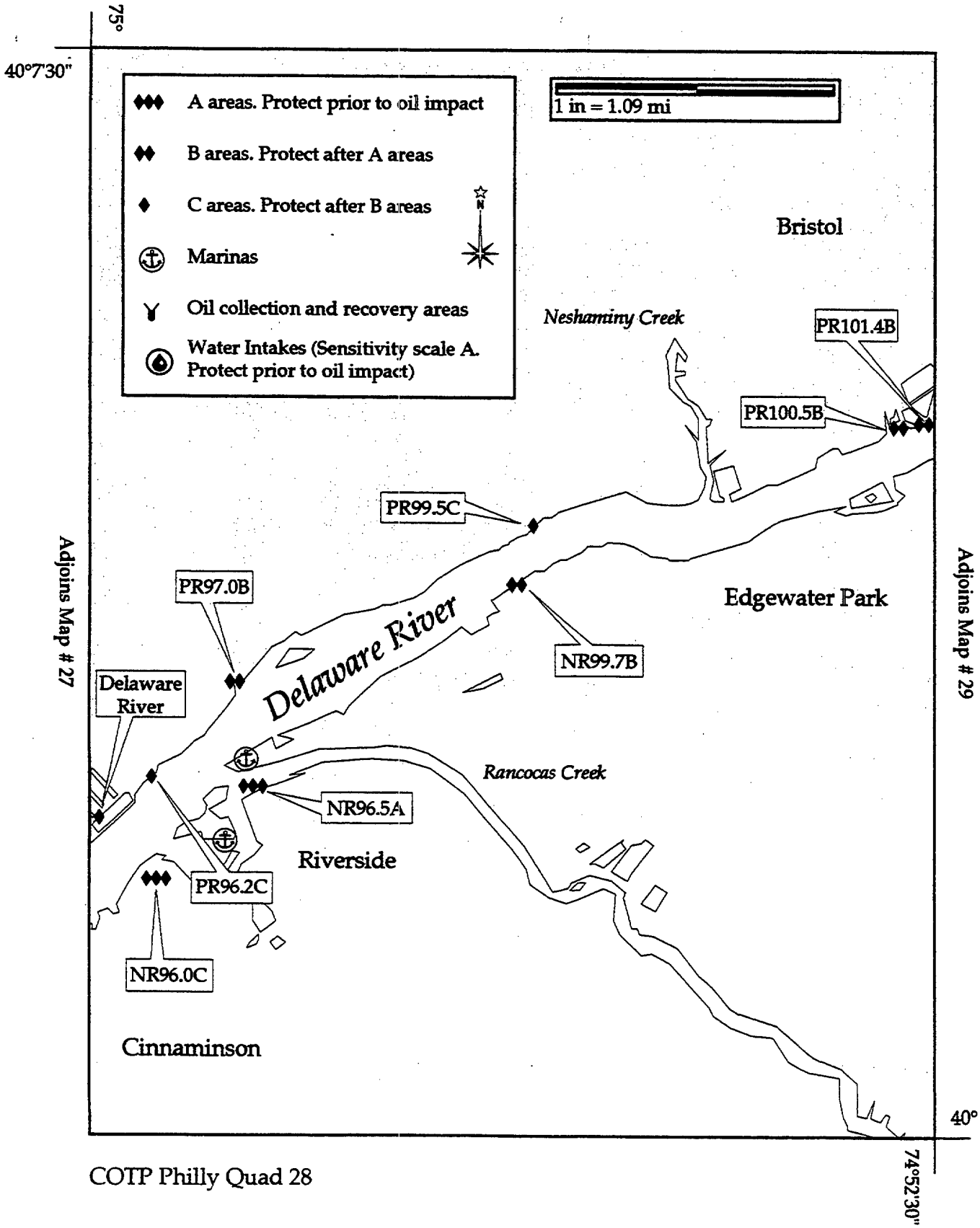

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR96.5 Map No. 28 Name RANCOCAS CREEK, NJ

USGS Quad Beverly, PA-NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 28 Lat. 40°02'48" N Long. 074°58'40" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

NJ Department of Environmental Protection, 24 hr (609) 292-7172

U.S. Fish & Wildlife Service, Delaware River Fisheries Coordinator (717) 894-1275

SITE DESCRIPTION Area: Tidal Range: 6.3 ft Max Currents: kts

GEOGRAPHIC LOCATION: The mouth of the creek is located between the towns of Riverside, NJ and Delanco, NJ.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☒ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: The wetlands that occurring along Rancocas Creek are likely to support both migrant and nesting waterfowl, wading birds, and many species that are characteristic of a freshwater wetland community. Various species of anadromous, estuarine, and freshwater fish are also very likely to occur in Rancocas Creek.

HABITAT: HIGHLY SESITIVE wetland occur on Rancocas Creek: Riverine tidal flats, Vast areas of Palustrine seasonally tidal emergent wetlands, Palustrine emergent wetlands, Palustrine scrub-shrub wetlands, and Palustrine forested wetlands. Has been placed on NJ "RARE COMMUNITY" LIST.

THREATENED/ ENDANGERED: Concern about wood turtles year round also used extensively for feeding by great blue herons. There are large stands of wild rice.

OTHER: For more specific information, see "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☒ Medium ☐ Low ☐

BOOMING METHOD: ☒ Deflect ☒ Protect ☐ Recover Minimum Boom Length: f

SEE DBRC BOOMING STRATEGIES.

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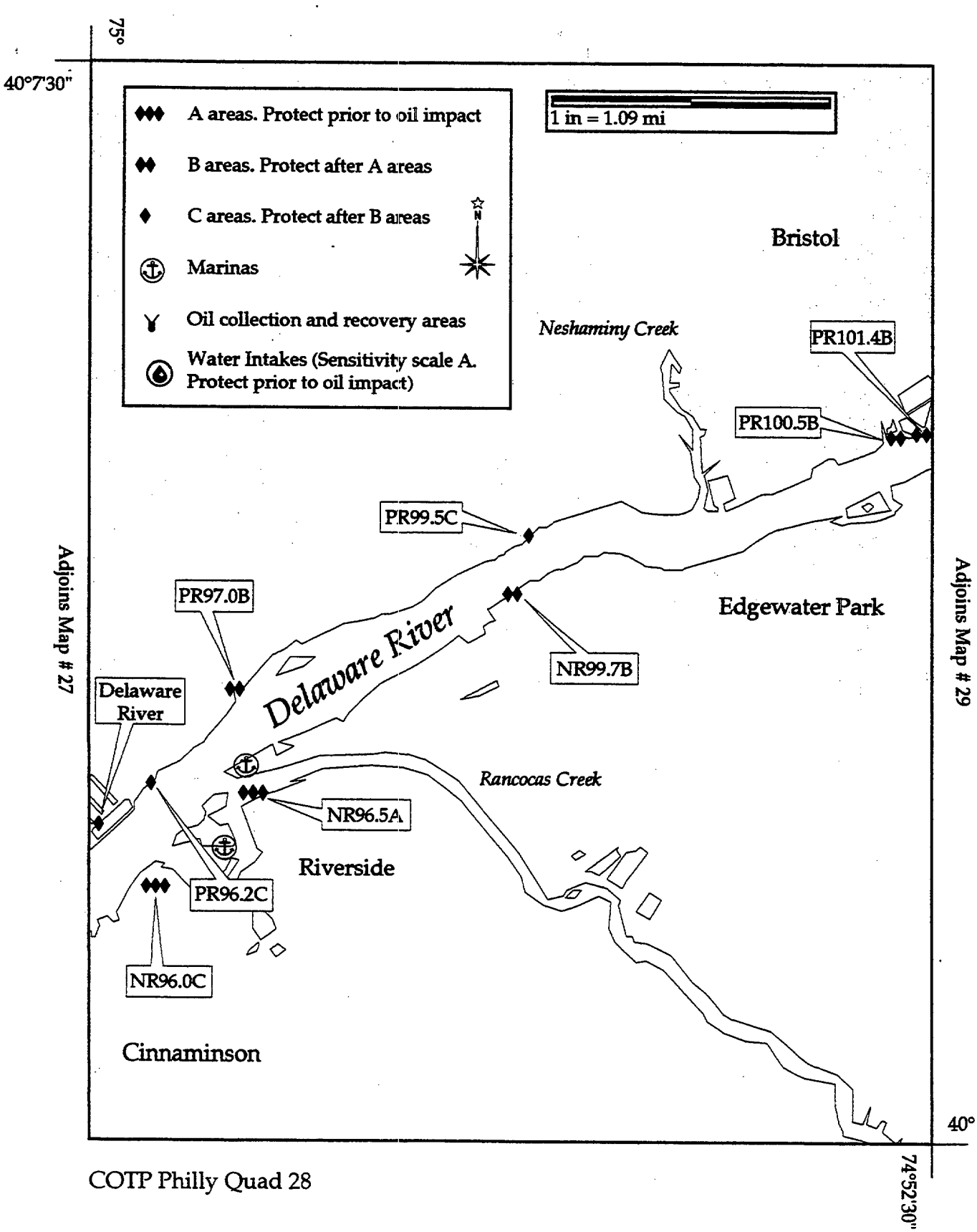

COTP Philly Quad 28

C PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR96.0 Map No. 2 Name DREDGE HARBOR, NJ

USGS Quad Beverly, PA-NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 28 Lat. 40°01'50" N Long. 074°59'30" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

U.S. Fish & Wildlife Service, Supawna Meadows National Wildlife Refuge (609) 935-1487

U.S. Fish & Wildlife Service, Delaware River Fisheries Coordinator (717) 894-1275

SITE DESCRIPTION

Area: Tidal Range: 6.3 ft Max Currents: kts

GEOGRAPHIC LOCATION: Located near the mouth of Rancocas Creek, between Riverside, NJ and Riverton, NJ.

PHYSICAL DESCRIPTION: A small harbor with marinas, and tidal flats.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [X] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Extended use by canada geese, mallards, and pintails, as well as anadromous fish in spring and fall. Wading birds may forage on the tidal flats.

HABITAT: Riverine tidal flats, small ares of Palustrine forested wetlands, stands of Wild rice.

THREATENED/ ENDANGERED: Osprey and eagles - winter and summer. Wild rice.

OTHER:

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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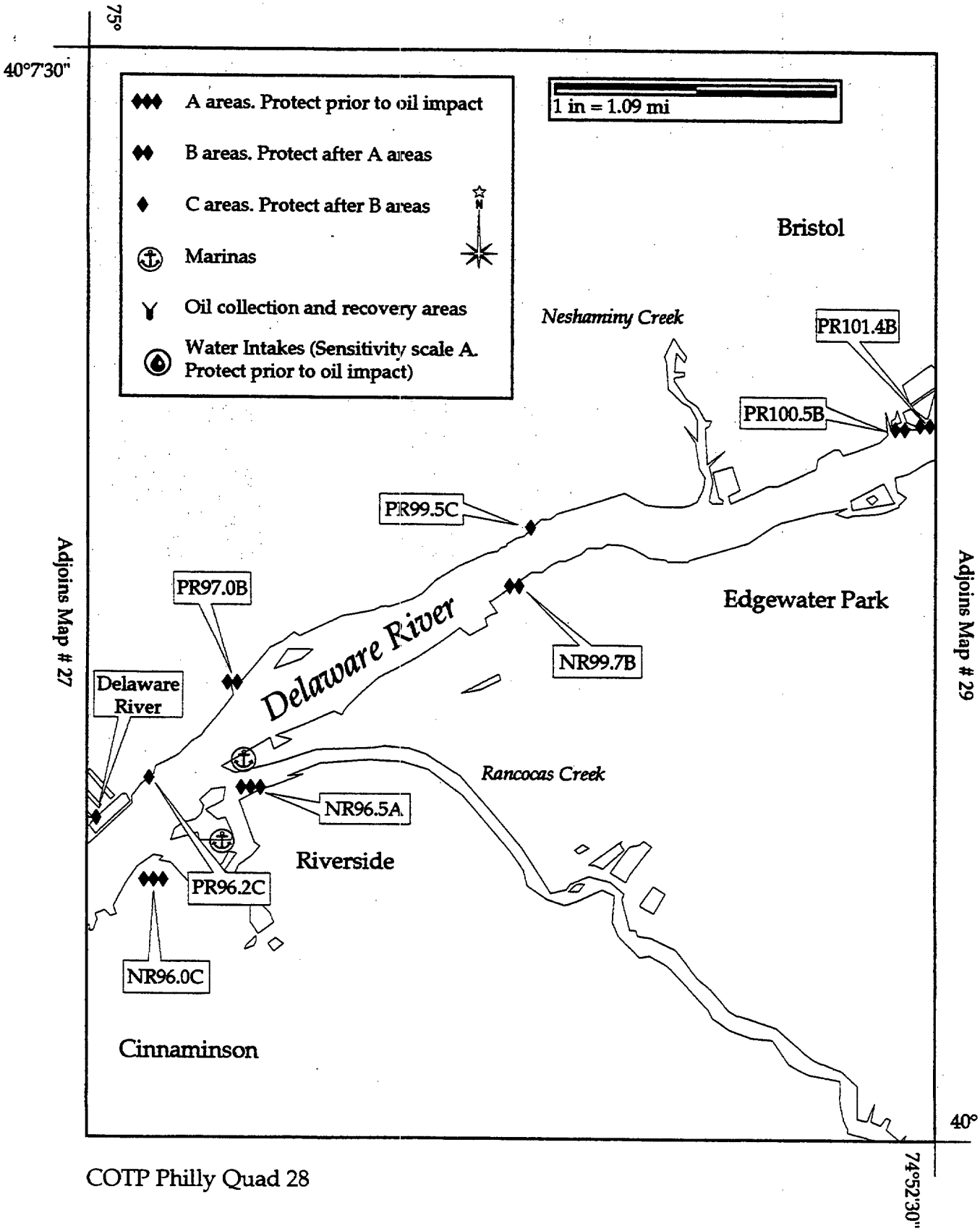

COTP Philly Quad 28

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR102.6 Map No. 2 Name DELAWARE RIVER, PA

USGS Quad Beverly NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ /PA ESI Map # 29 Lat. 40°05'00" N Long. 074°52'00" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.2 ft Max Currents: kts

GEOGRAPHIC LOCATION: Between Croydon, PA, to the West & Bristol, Pa to the East, North of Burlington, NJ, the Burlington/Bristol bridge passes over this segment of shoreline.

PHYSICAL DESCRIPTION: The shoreline consist of riverine tidal gravel flats, also within this area is the mouth of Otter Creek and its embayment which consist of tidal mud flats, with aquatic vegetaion.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds (egrets, great blue heron, etc.). Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters, spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: The shoreline consist of riverine tidal gravel flats, also within this area is the mouth of Otter Creek and its embayment which consist of tidal mud flats, with aquatic vegetaion (spatterdock).

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [ ] Deflect [X] Protect [ ] Recover

Minimum Boom Length: 300 ft

The embayment should be boomed with protective booming.(300ft)

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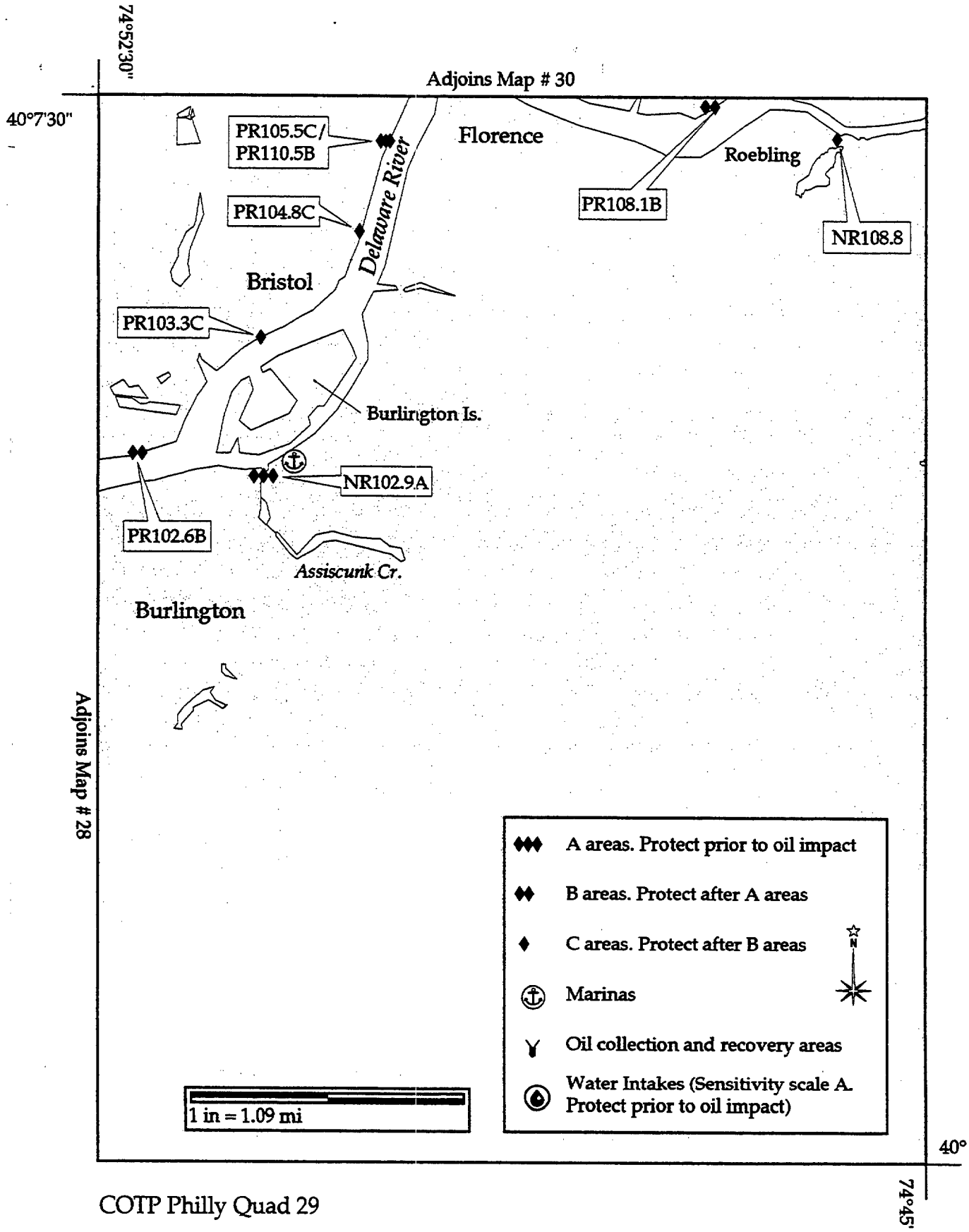

COTP Philly Quad 29

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR108.8 Map No. 29 Name CRAFTS CREEK

USGS Quad Bristol, PA-NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 29 Lat. 40°07'00" N Long. 074°45'50" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

NJ Department of Environmental Protection, 24 hr (609) 292-7172

U.S. Fish & Wildlife Service, Delaware River Fisheries Coordinator (717) 894-1275

SITE DESCRIPTION Area: Tidal Range: 7.6 ft Max Currents: kts

GEOGRAPHIC LOCATION: North of Roebling, NJ., Southwest of Fieldsboro, NJ. on the NJ side of the Delaware River

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☒ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☐

WILDLIFE: The wetlands that occurring along Crafts Creek are likely to support both migrant and nesting waterfowl, wading birds, and many species that are characteristic of a freshwater wetland community. Various species of anadromous, estuarine, and freshwater fish are also very likely to occur in Crafts Creek.

HABITAT: HIGHLY SENSITIVE wetland occur on Crafts Creek: Riverine tidal flats, Riverine tidal emergent wetlands, Palustrine emergent wetlands, Palustrine scrub-shrub wetlands, and Palustrine forested wetlands. Has been placed on NJ "RARE COMMUNITY" list.

THREATENED/ ENDANGERED: The freshwater wetlands of Crafts Creek are likely to provide habitat for endangered, threatened / rare plants, and animals species.

OTHER: For more specific information, see "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☒ Deflect ☐ Protect ☒ Recover Minimum Boom Length: 1

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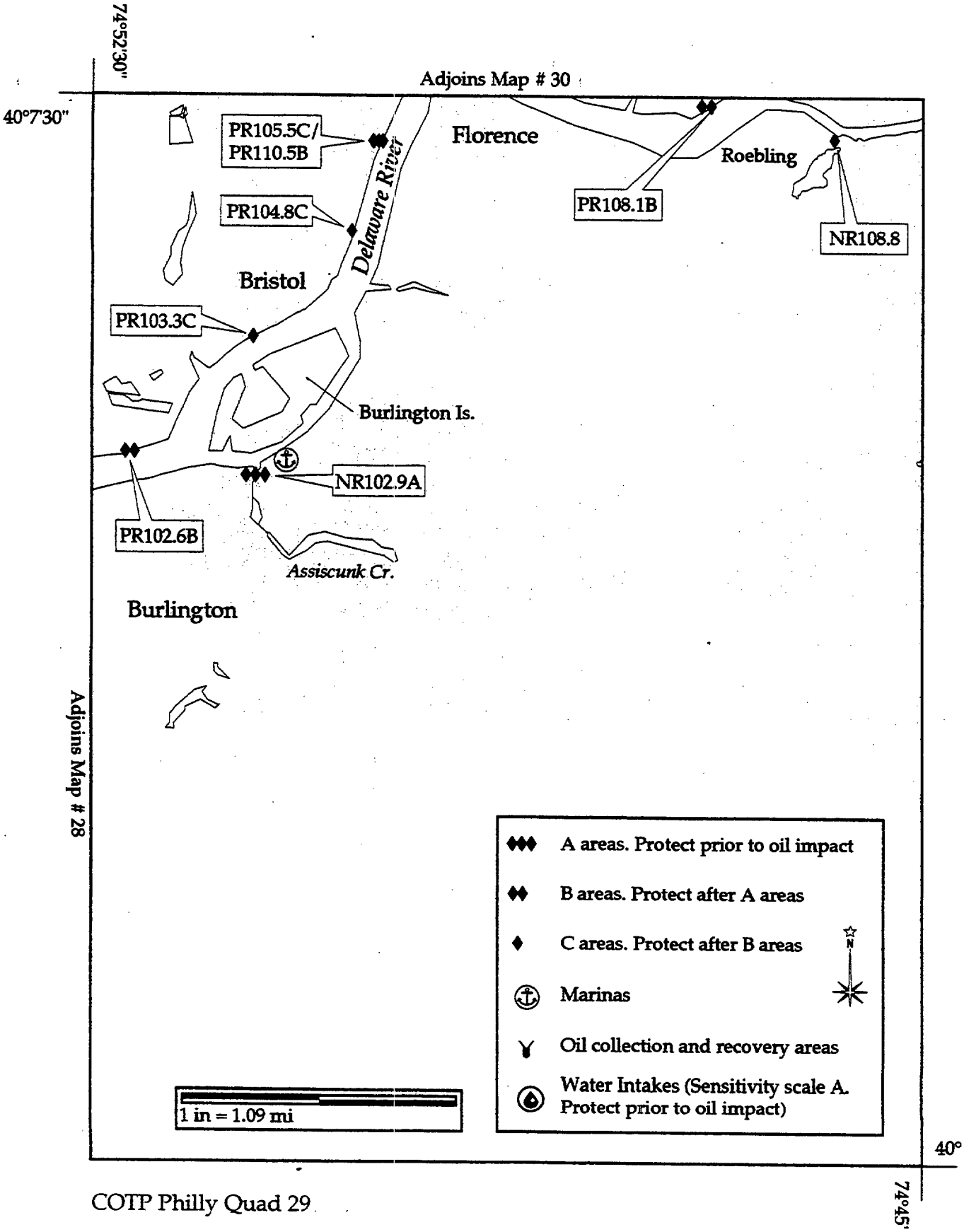

COTP Philly Quad 29

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR106.9 Map No. 1 Name DELAWARE RIVER, PA

USGS Quad Trenton West, NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ /PA ESI Map # 29 Lat. 40°07'37" N Long. 074°48'26" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.6 ft Max Currents: kts

GEOGRAPHIC LOCATION: North of Florence, NJ. East of Tullytown, PA. and Southwest of Pennsbury State Park, PA, on Money Island

PHYSICAL DESCRIPTION: Tidal gravel flats, covering 2.4 miles of shoreline. This segment of shoreline is found at the coordinates listed above, and extend 1.2 mi. up & down stream from the center point.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds (egrets, great blue heron, etc.) Tidal portions of tributary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: The shoreline consist of riverine gravel flats with rooted aquatic vegetation.(spatterdock)

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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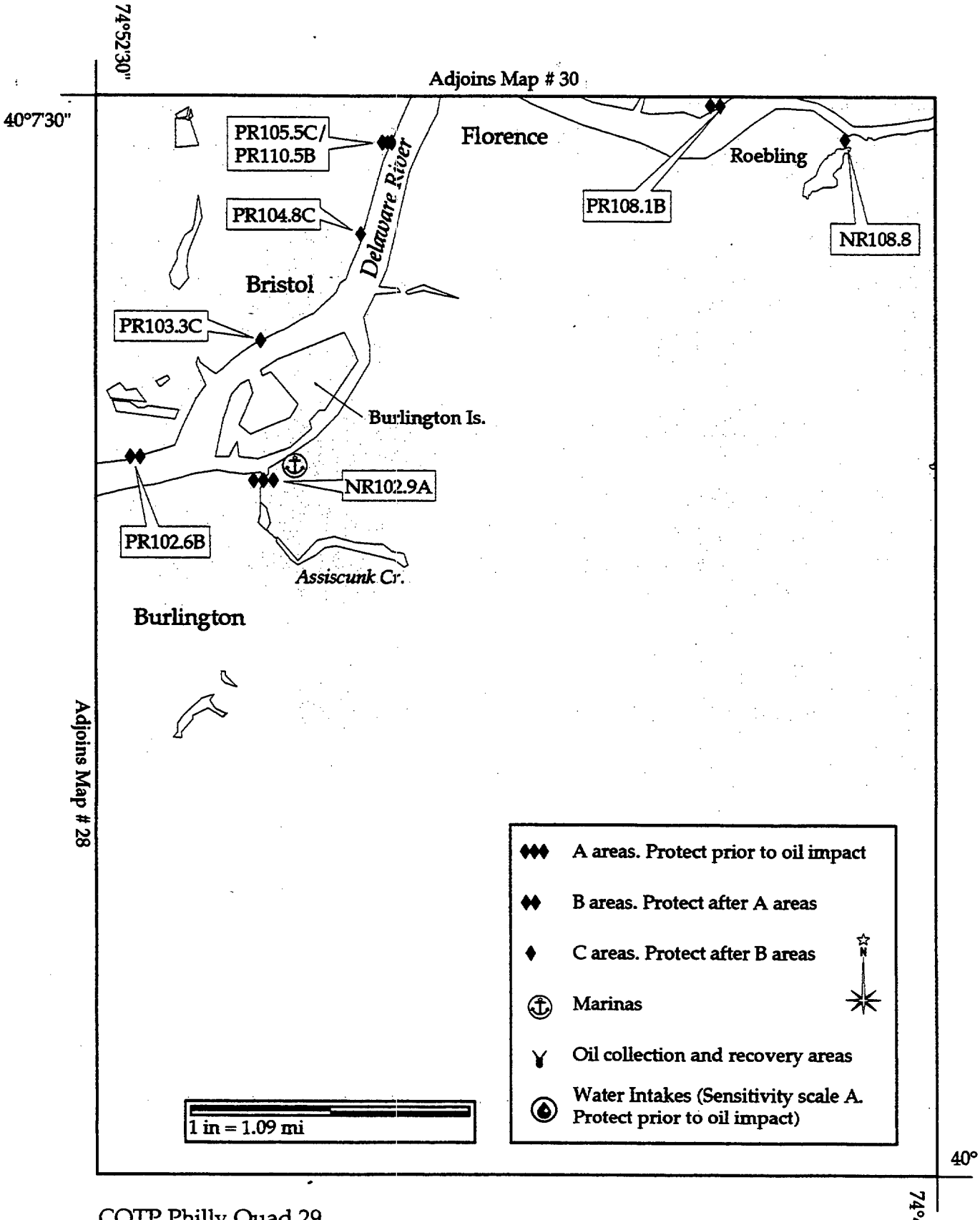

COTP Philly Quad 29

[C] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR103.3 Map No. 2 Name DELAWARE RIVER, PA

USGS Quad Bristol NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 29 Lat. 40°05'50" N Long. 074°51'07" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.20 ft Max Currents: kts

GEOGRAPHIC LOCATION: The water-front in Bristol, PA., directly across the river from Burlington Island.

PHYSICAL DESCRIPTION: The shoreline consist of bulkheads.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: These areas provide cover for smaller species of fish and may also serve as nursery waters.

HABITAT: Fish use these waters for cover, and as nursery waters.

THREATENED/ ENDANGERED: Fish utilizing these areas include species of concern according to the PNDI sys in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC

OTHER:

FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS: May be suitable staging area

COLLECTION POINTS: May be suitable collection area

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [X] Recover

Minimum Boom Length: ft

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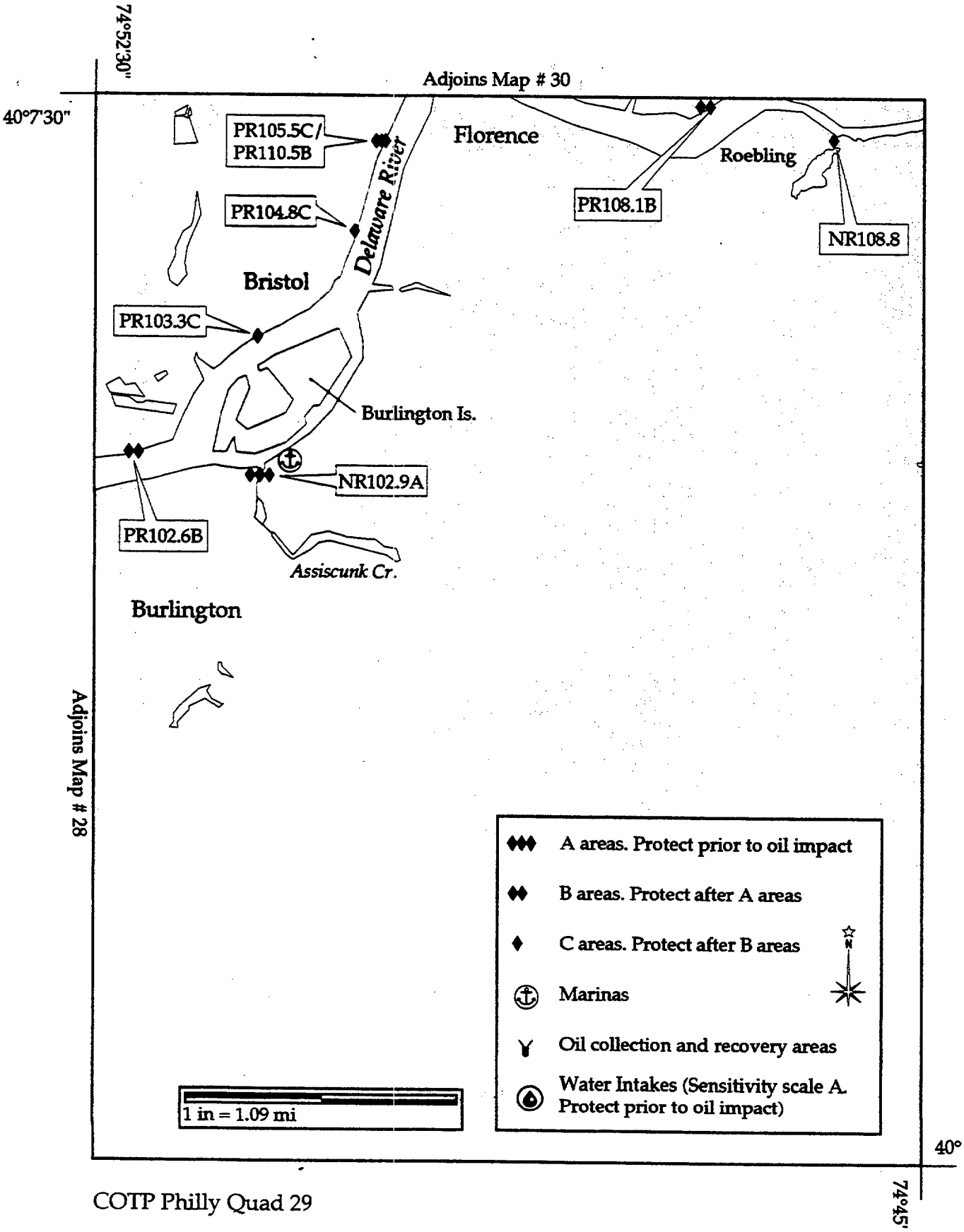

COTP Philly Quad 29

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR102.9 Map No. 29 Name ASSISCUNK CREEK

USGS Quad Bristol, PA-NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 29 Lat. 40°04'51" N Long. 074°51'01" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

NJ Department of Environmental Protection, 24 hr (609) 292-7172

U.S. Fish & Wildlife Service, Delaware River Fisheries Coordinator (717) 894-1275

SITE DESCRIPTION

Area: Tidal Range: 6.68 ft Max Currents: kts

GEOGRAPHIC LOCATION: Between Burlington, and East Burlington, NJ. Draining into the Delaware river behind Burlington Island.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [X] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Assiscunk Creeks wetlands are likely to support both migrant and nesting waterfowl, wading birds, and many species that are characteristic of a freshwater wetland community. Varous species of anadromous, estuarine, and freshwater fish are likely to occur is the creek, along with muskrat, and riverotter.

HABITAT: HIGHLY SENSITIVE: Plustrine Seasonally tidal emergent wetlands, Plustrine scrub-shrub wetlands, Plustrine emergent wetlands, and Palustrine forested wetland.

THREATENED/ ENDANGERED: Transient use to be expected

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS: Boat ramps are located on both sides of the mouth of the creek.

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [ ] Deflect [X] Protect [ ] Recover

Minimum Boom Length: f

The mouth of the creek should be boomed off.

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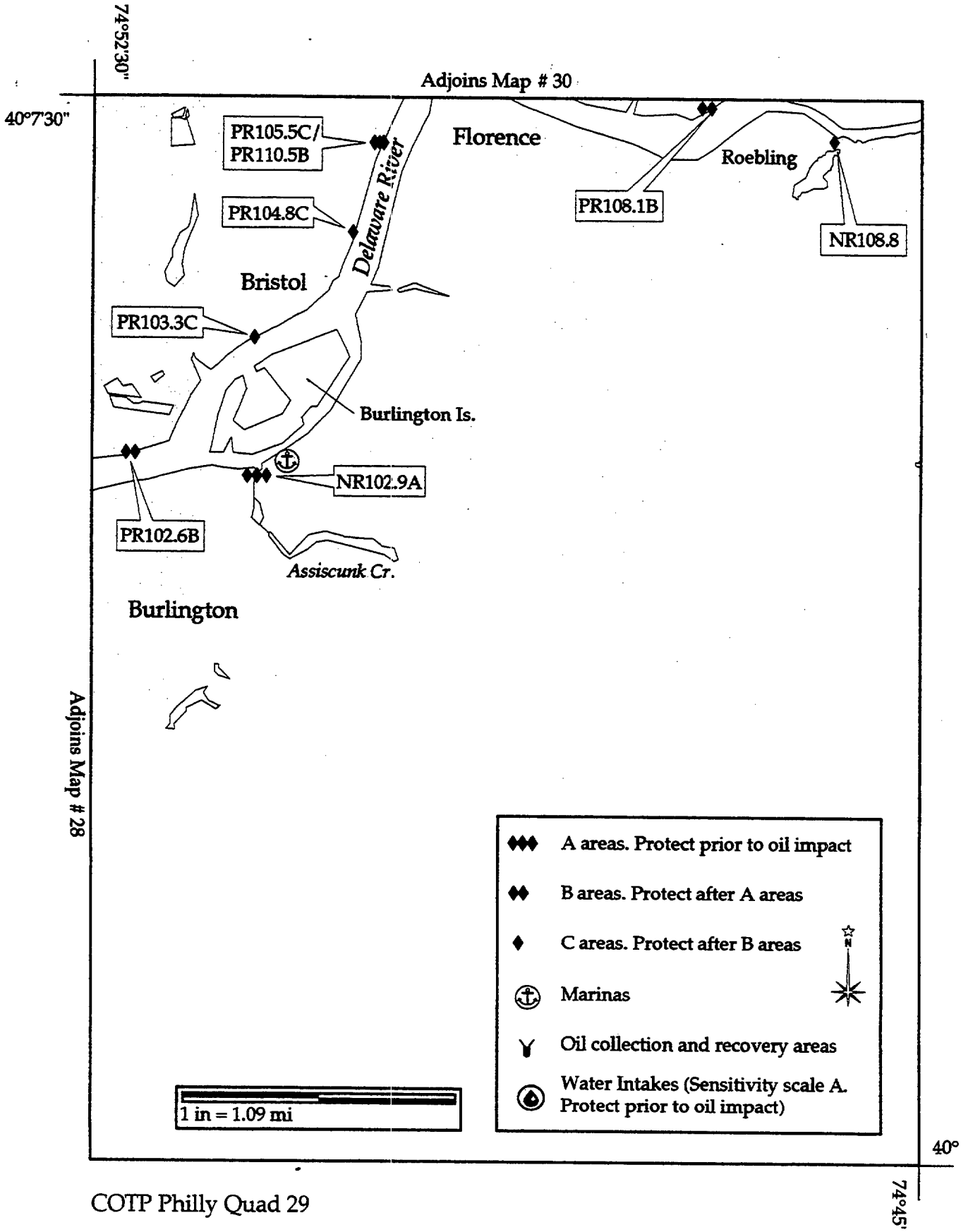

COTP Philly Quad 29

[C] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR105.5 Map No. 2 Name DELAWARE RIVER, PA

USGS Quad Bristol NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 29 Lat. 40°07'11" N Long. 074°49'53" W

Agency / Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.64 ft Max Currents: kts

GEOGRAPHIC LOCATION: North of Bristol, PA, South of Edgly, PA, with PA Turnpike bridge passing directly overhead.

PHYSICAL DESCRIPTION: Area consist of boat dock, ramps, marinas, and anchorages for pleasure craft.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [X] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds (egrets, great blue heron, etc.). Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters, spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: The shoreline consist of boat dock, ramps, marinas, and anchorages for pleasure craft.

THREATENED/ ENDANGERED: *A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA.* These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC

OTHER:

FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership: PRIVATE

ACCESS:

- [X] Vehicle
- [ ] Helicopter
- [X] Boat

Boat ramps,/ Marinas

STAGING AREAS: Boat ramps,/ Marinas

COLLECTION POINTS: Boat ramps,/ Marinas

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [X] Recover

Minimum Boom Length: f

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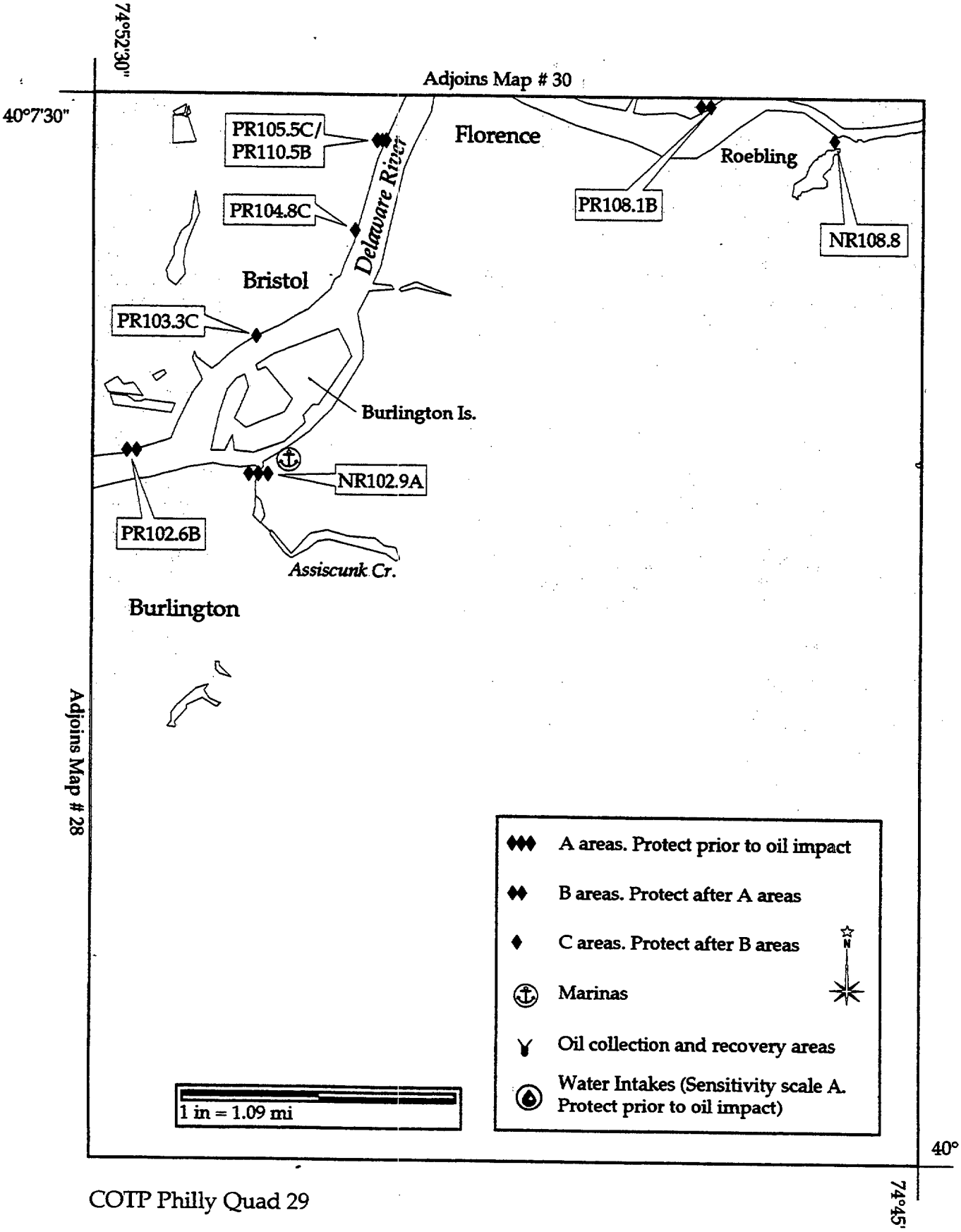

COTP Philly Quad 29

[C] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR104.8 Map No. 2 Name DELAWARE RIVER, PA

USGS Quad Bristol NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 29 Lat. 40°06'32" N Long. 074°50'09" W

Agency / Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.20 ft Max Currents: kts

GEOGRAPHIC LOCATION: Shoreline of the Delaware river in the northern part of Bristol, PA. Just south of the PA Turnpike bridge, north of Burlington Island.

PHYSICAL DESCRIPTION: The shoreline consist of a riverine tidal gravel flat. Total shoreline coverage is .8 mi.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds (egrets, great blue heron, etc.). Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters, spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: The shoreline consist of a riverine tidal gravel flat.

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: ft

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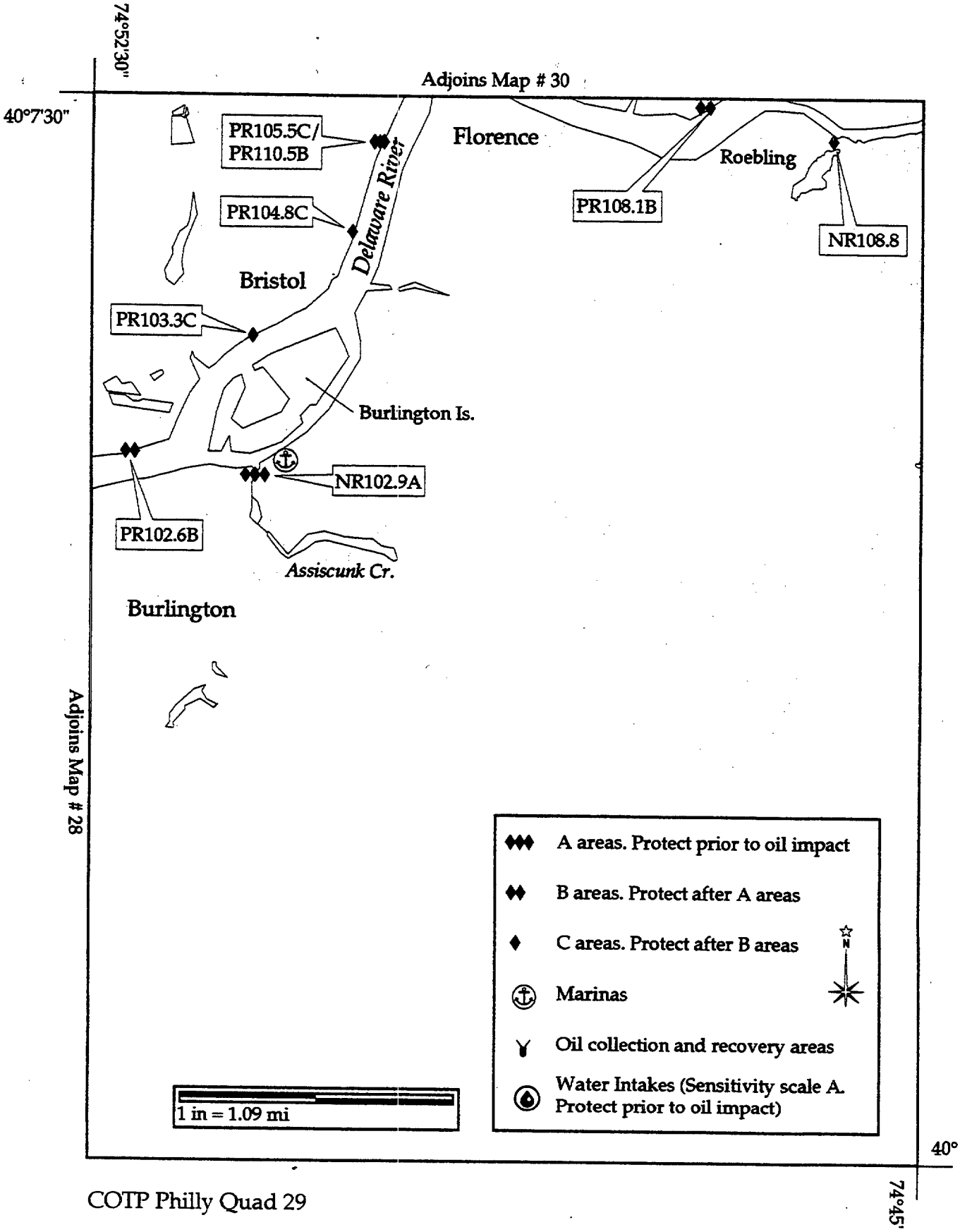

COTP Philly Quad 29

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR106.4 Map No. 1 Name DELAWARE RIVER, PA.

USGS Quad Trenton West, NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 30 Lat. 40°07'50" N Long. 074°49'01" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION Area: Tidal Range: 7.64 ft Max Currents: kts

GEOGRAPHIC LOCATION: North of Florence, NJ. East of Tullytown, PA. and West of Pennsbury State Park(PA), East of Edgly, PA.

PHYSICAL DESCRIPTION: The mouth of Martains Creek is actually an embayment with a marina.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds (egrets, great blue heron, etc.) Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: The area along the river out side of the embayment is tidal gravel flats with aquatic vegetition, (spatterdock), while inside the embayment it is tidal mud flats with aquatic vegetation. (spatterdock)

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [ ] Deflect [X] Protect [ ] Recover Minimum Boom Length: ft

THE EMBAYMENT SHOULD BE BOOMED WITH 300 FEET OF PROTECTIVE BOOMING.

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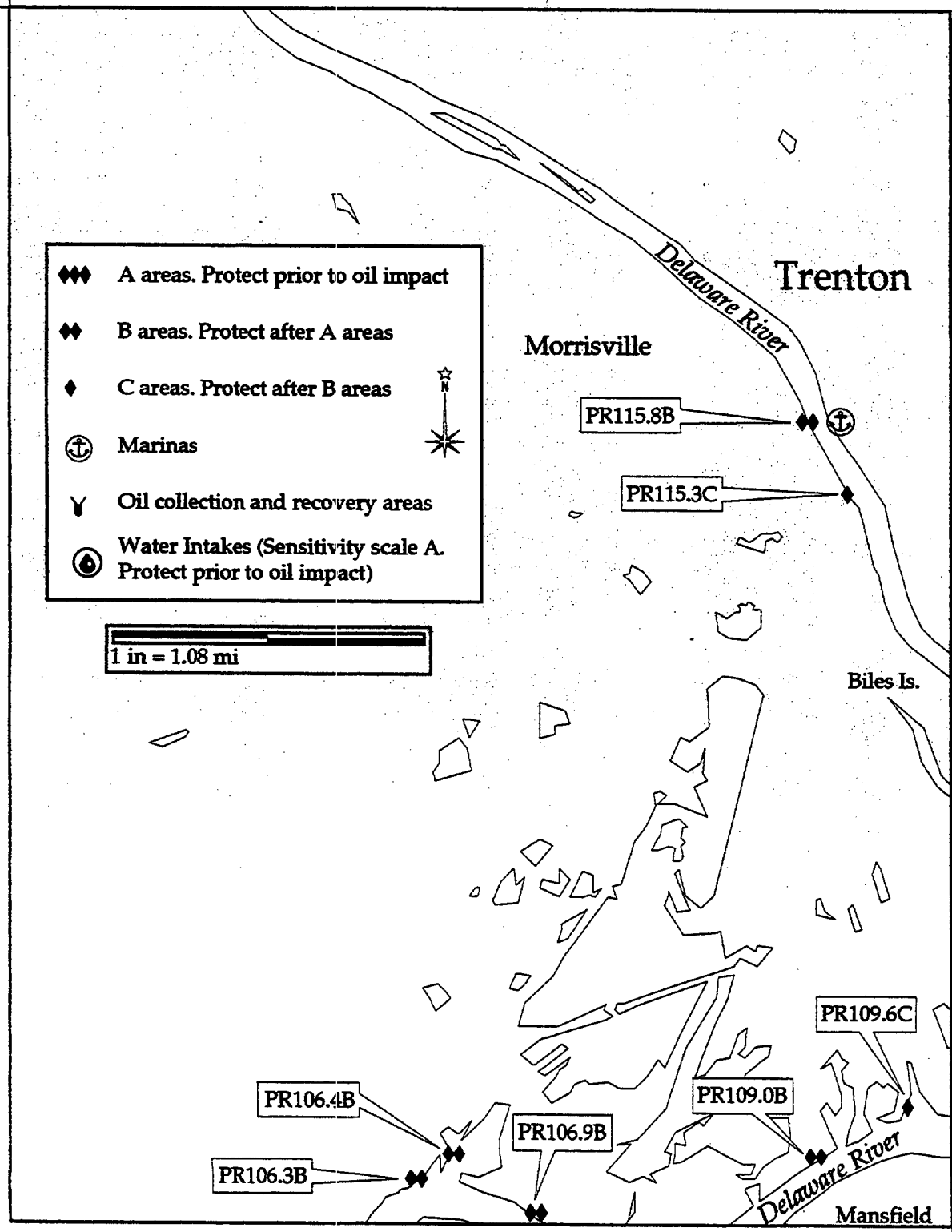

Adjoins Map # 31

Adjoins Map # 29

COTP Philly Quad 30

[C] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR109.6 Map No. 1 Name DELAWARE RIVER, PA

USGS Quad Trenton West, NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE /NJ / PA ESI Map # 30 Lat. 40°08'15" N Long. 074°45'19" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

SITE DESCRIPTION

Area: Tidal Range: 7.7 ft Max Currents: kts

GEOGRAPHIC LOCATION: Located along the old Fairless Hills US steel mill on the PA side of the Delaware river. West of Newbold Island.

PHYSICAL DESCRIPTION: Steel bulkheads, embayment , and riprap.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: These areas provide cover for smaller species of fish and may also serve as nursery waters for estuarine or anadromous fish.

HABITAT: The shoreline consist of bulkheads and also contains a embayment. The segment of shoreline is found at the lat/long coordinates listed above, and extends approximately .6 mi. up & down stream from the center point for a total coverage of 1.2 miles of shoreline.

THREATENED/ ENDANGERED: Fish utilizing these areas include species of concern according to the PNDI sys. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS.

OTHER:

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS: Bulkhead area plus embayment are suitable for collection points.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [X] Recover Minimum Boom Length: ft

US STEEL INDUSTAL AREA/ NOT REQUIRED.

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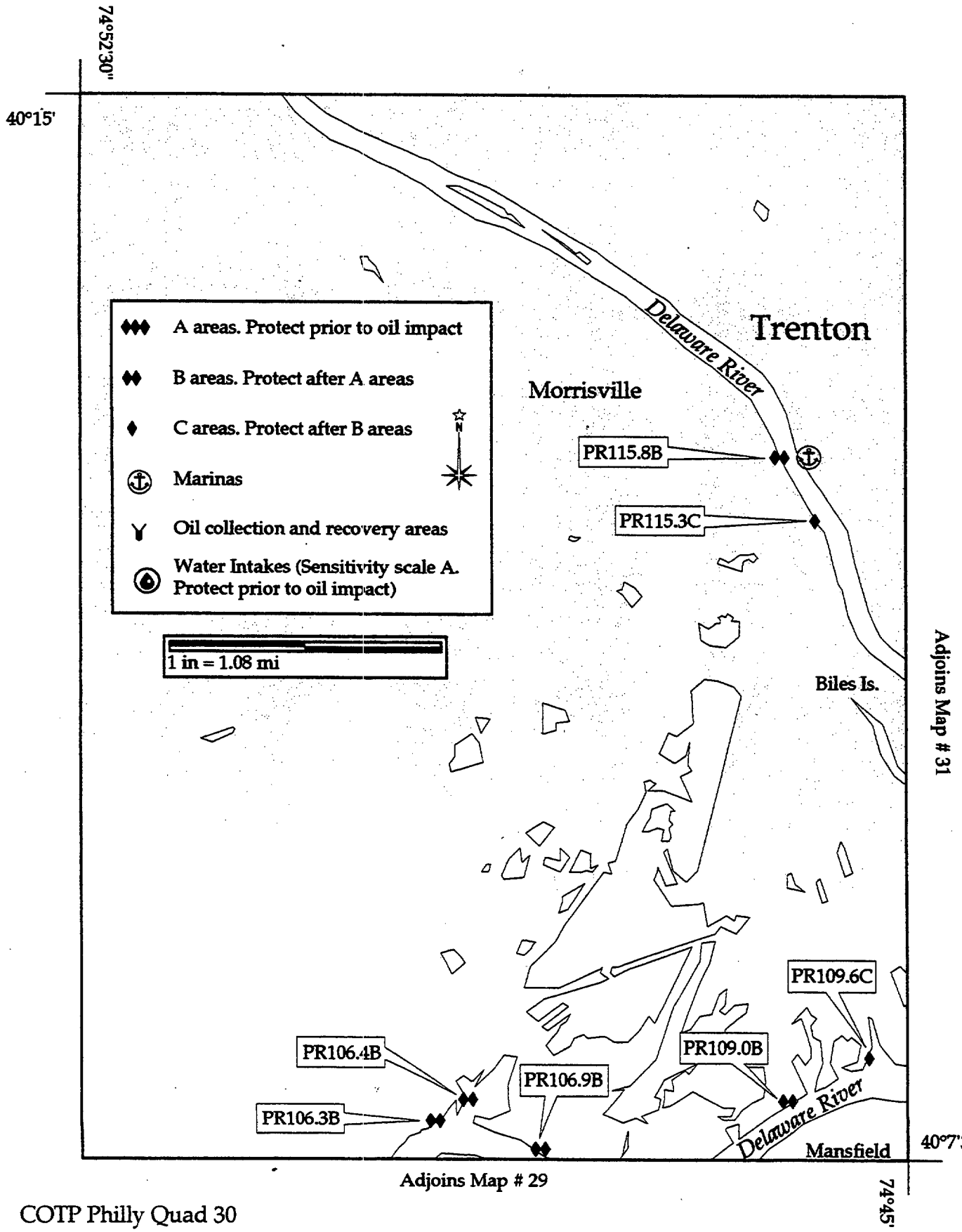

COTP Philly Quad 30

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR108.1 Map No. 1 Name DELAWARE RIVER, PA.

USGS Quad Trenton West, NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 30 Lat. 40°07'24" N Long. 074°47'02" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION Area: Tidal Range: 7.6 ft Max Currents: kts

GEOGRAPHIC LOCATION: North of Roebling, NJ. East of Tullytown, PA. and South of Pennsbury State Park(PA), on Money Island

PHYSICAL DESCRIPTION: Tidal mud flats, covering .8 miles of shoreline. This segment of shoreline is found at the Coordinates list above, and extend .4 mi. up & down stream from the center point.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds (egrets, great blue heron, etc.) Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: The shoreline consist of riverine mud flats with rooted aquatic vegetation (spatterdock).

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover Minimum Boom Length: ft

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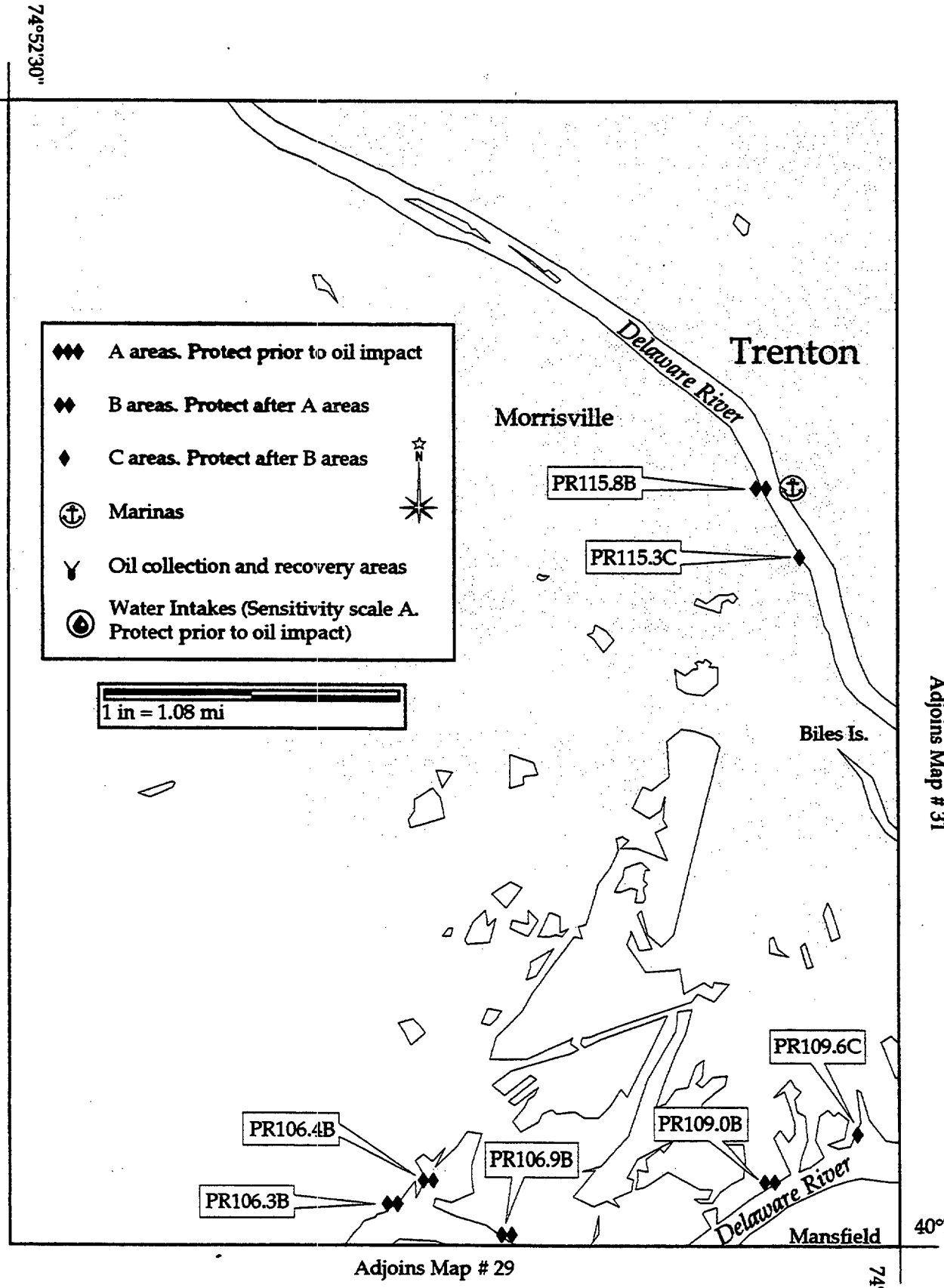

COTP Philly Quad 30

[B] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR109.0 Map No. 1 Name DELAWARE RIVER, PA.

USGS Quad Trenton West, nj NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 30 Lat. 40°07'55" N Long. 074°46'04" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.7 ft Max Currents: kts

GEOGRAPHIC LOCATION: East of Tullytown, PA., ajacent to Pennsbury State Park, on the PA side of the Delaware River.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds(egrets, great blue heron, etc.) Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: This shoreline consists of riverine tidal gravel flat and includes a site of Historical Significance. The segment of shoreline is found at the lat/long coordinates listed above, and extends approximately .6 mi. up & down stream from the center point for a total coverage of 1.2 miles .

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

NOTE: ACCESS MAY BE RESTRICTED TO PERSONNEL ONLY!

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [ ] Deflect [X] Protect [ ] Recover

Minimum Boom Length: ft

PROTECTION OF HISTORICAL SITE MAY BE REQUIRED.

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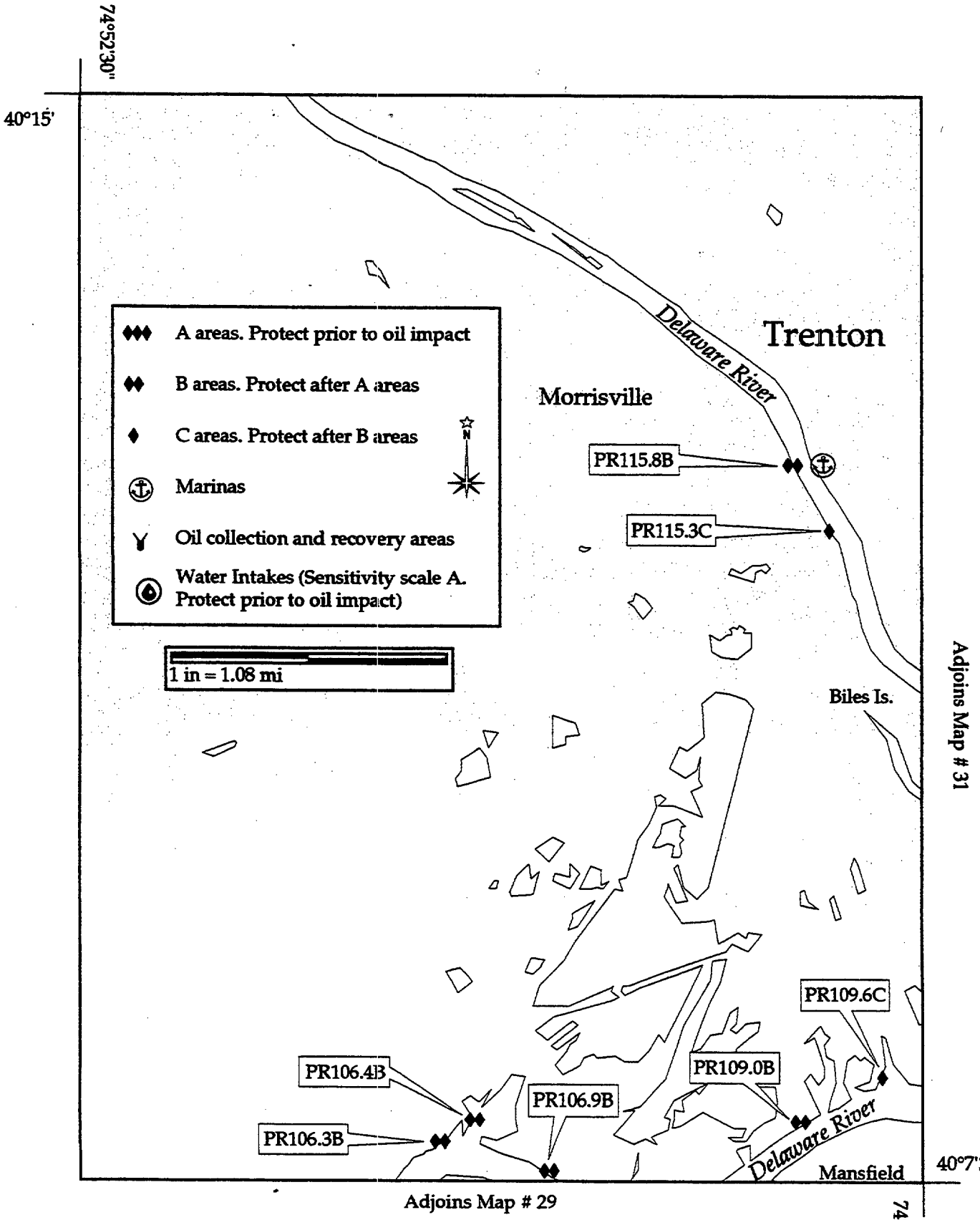


COTP Philly Quad 30

[C] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR115.3 Map No. 1 Name DELAWARE RIVER, PA.

USGS Quad Trenton West, NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 30 Lat. 40°12'00" N Long. 074°45'45" W

Agency / Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 8.05 ft Max Currents: kts

GEOGRAPHIC LOCATION: West of Trenton, NJ, East of Morrisville, PA, on the PA side of the Delaware river.

PHYSICAL DESCRIPTION: Riverine tidal gravel flat with rooted aquatic vegetation. Covering approx. .8 miles of shoreline.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds(egrets, great blue heron, etc.) Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: Sensitive shoreline consist of riverine tidal gravel flat with rooted aquatic vegetation (spatterdock) This segment of shoreline is found at the lat. & long coordinates listed above and extends 0.2 miles up & down stream of this center point.

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

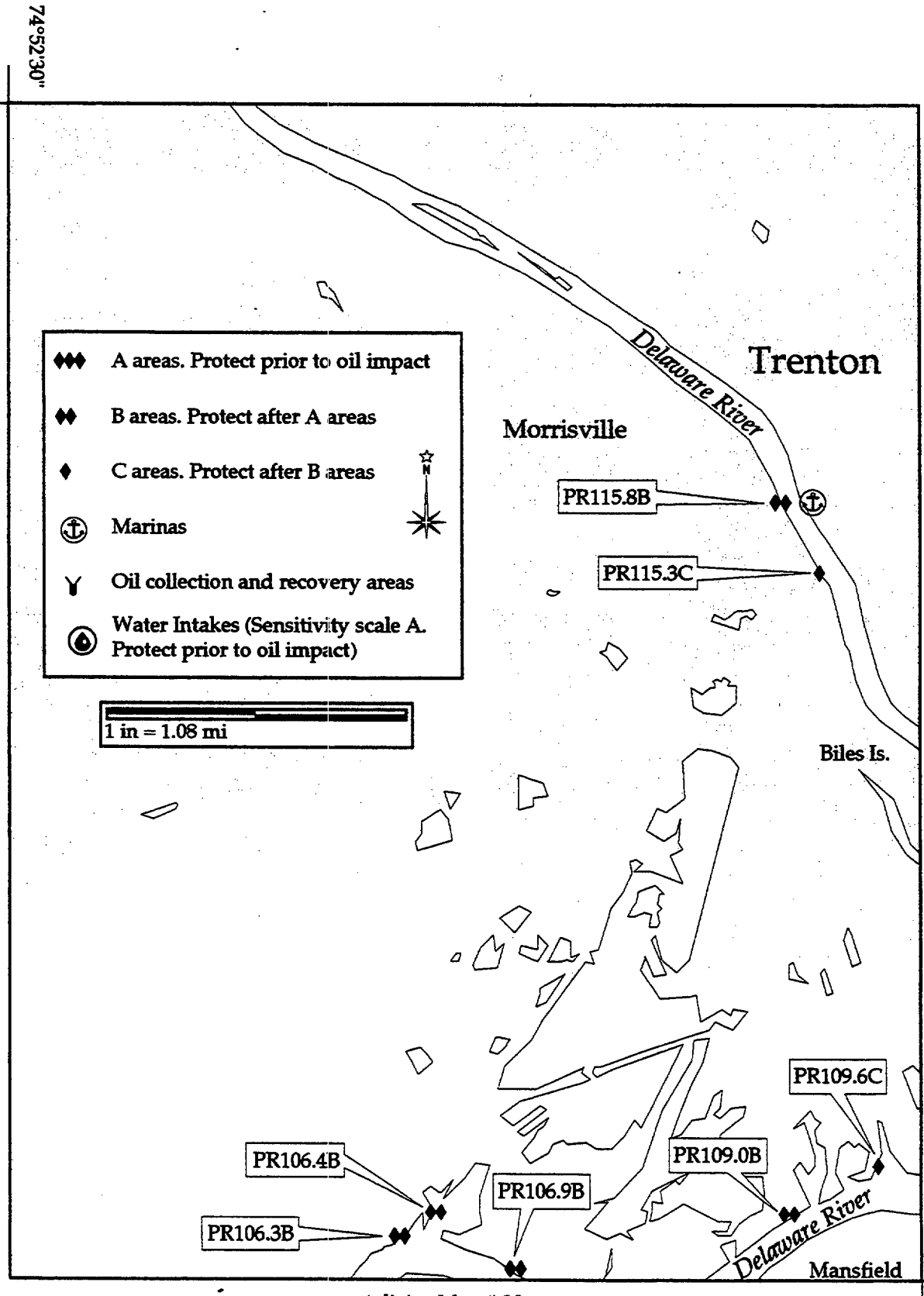
BOOMING METHOD: [X] Deflect [ ] Protect [X] Recover

Minimum Boom Length: ft

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 30

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR115.8 Map No. 1 Name DELAWARE RIVER, PA

USGS Quad Trenton West, NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 30 Lat. 40°12'20 N Long. 074°46'04" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 8.05 ft Max Currents: kts

GEOGRAPHIC LOCATION: West of Trenton, NJ, East of Morriesvillie, PA, on the PA side of the Delaware river.

PHYSICAL DESCRIPTION: Riverine tidal gravel flat with rooted aquatic vegetation. Covering approx. 4/10th of a mile of shoreline.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds(egrets, great blue heron, etc.) Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: Sensitive shoreline consist of riverine tidal gravel flat with rooted aquatic vegetation (spatterdock) This segment of shoreline is found at the lat. & long coordinates listed above and extends 0.2 miles up & down stream of this center point.

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [X] Recover

Minimum Boom Length: ft

Captain of the Port Philadelphia

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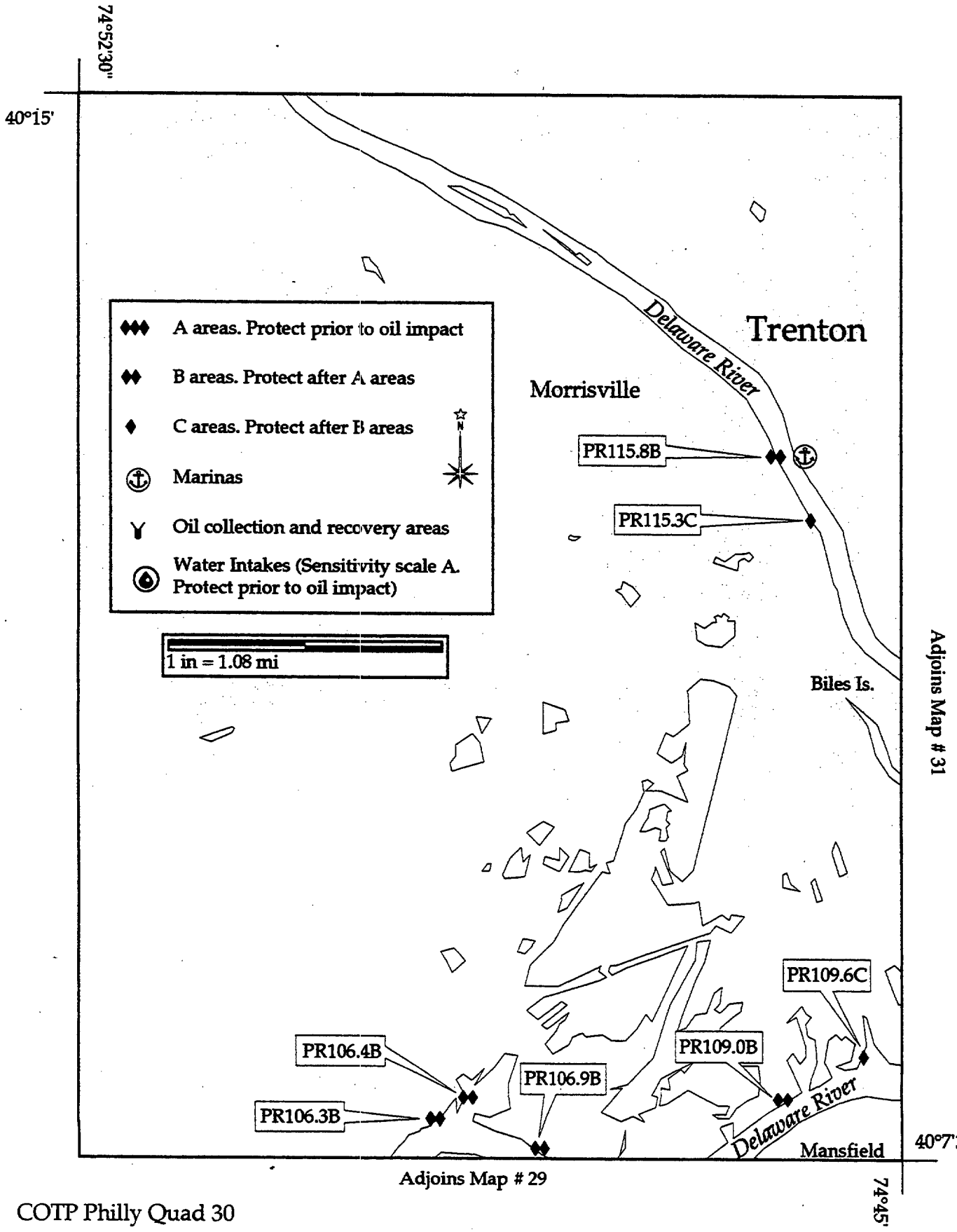
USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 30

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR106.3 Map No. 1 Name DELAWARE RIVER, PA

USGS Quad Trenton West, NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 30 Lat. 40°07'47" N Long. 074°49'09" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.64 ft Max Currents: kts

GEOGRAPHIC LOCATION: Next to Meenen Oil in Tullytown, PA, North of Florence, NJ.

PHYSICAL DESCRIPTION: Tidal gravel flats, and a bulk oil facility with pier, dock, casons, and riprap.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds (egrets, great blue heron, etc.) Tidal portions of tributary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: This shoreline embayment consist of riverine tidal gravel flats with rooted aquatic vegetation(spatterdock)

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

VIA: MEENEN OIL TULLYTOWN, PA.

STAGING AREAS: MEENEN OIL

COLLECTION POINTS: MEENEN OIL

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [ ] Deflect [X] Protect [ ] Recover

Minimum Boom Length: ft

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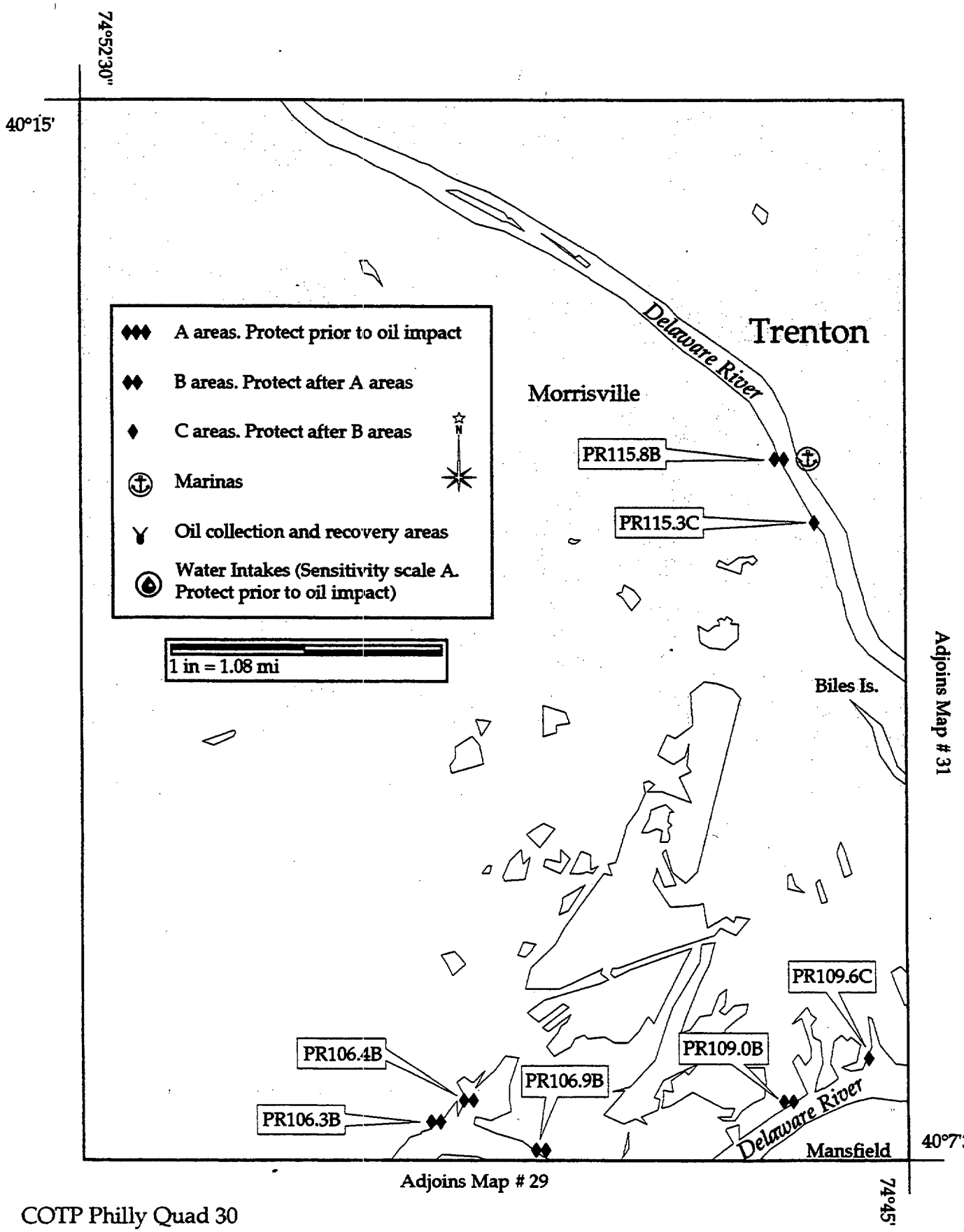
USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 30

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR113.2 Map No. 1 Name BILES CREEK, PA.

USGS Quad Trenton East, NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 30 Lat. 40°10'23" N Long. 074°44'13" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.7 ft Max Currents: kts

GEOGRAPHIC LOCATION: West of Trenton Marine Terminal, Trenton ,NJ, South of Morrisville, PA, on the PA side of the Delaware River.

PHYSICAL DESCRIPTION: This segment of shoreline is found at the lat/long coordinates listed above, & extends approx. 1.6 mi. up & down stream of this center point.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds (egrets, great blue heron, etc.). Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: Sensitive shoreline consist of riverine tidal gravel flat with rooted aquatic vegetation (spatterdock). The mouth of Biles creek (at the south end of Biles Island) is also a tidal gravel flat with rooted aquatic vegetation

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover Minimum Boom Length: ft

The mouth of Biles Creek should be boomed with protective booming (approximately 100ft) at both northern and southern ends of Biles Island.

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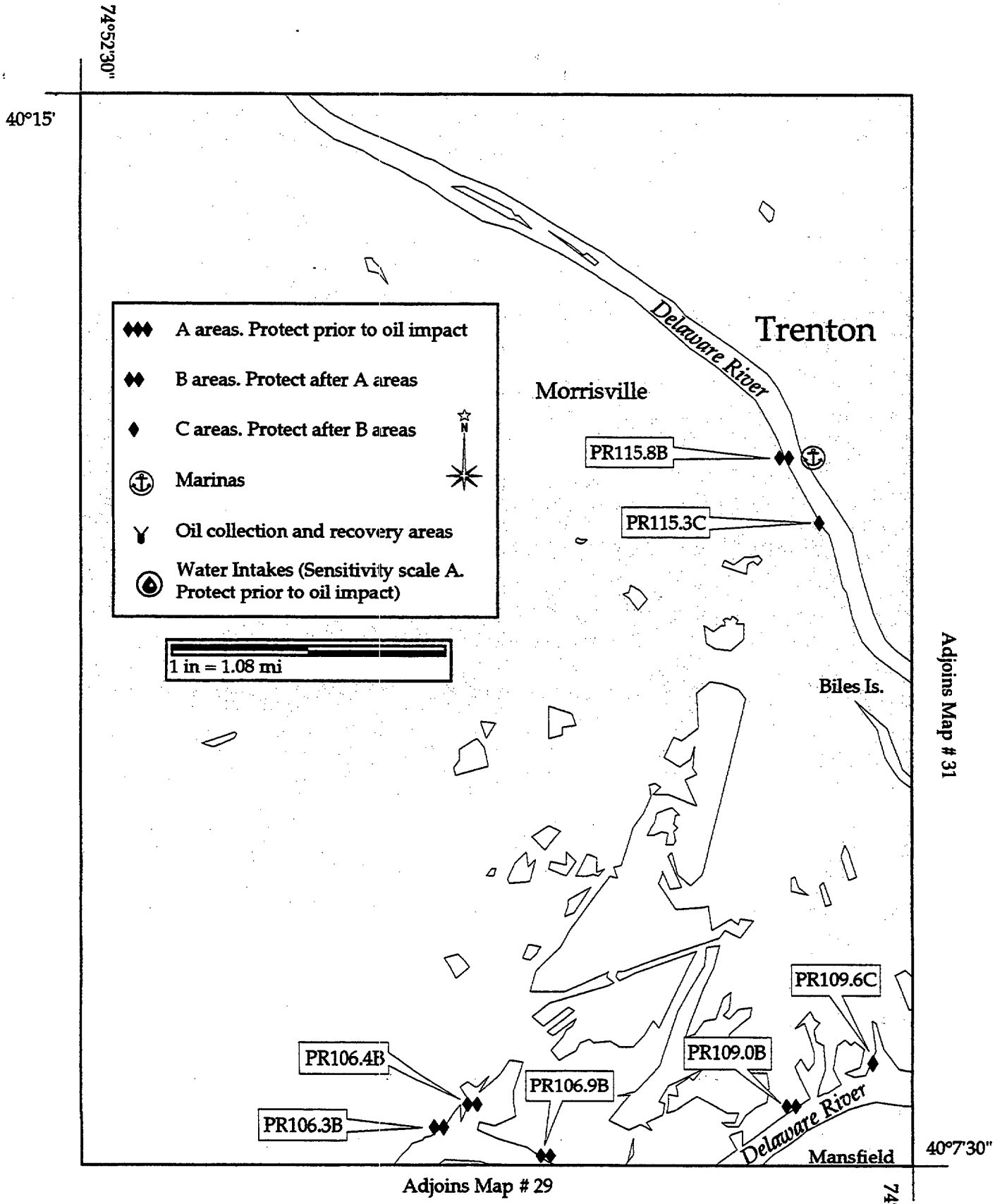


☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR111.6 Map No. 31 Name CROSS WICKS CREEK

USGS Quad Trenton, NJ-PA NOAA Chart 12314 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 31 Lat. 40°08'50" N Long. 074°43'10" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

NJ Department of Environmental Protection, 24 hr (609) 292-7172

U.S. Fish & Wildlife Service, Delaware River Fisheries Coordinator (717) 894-1275

SITE DESCRIPTION Area: Tidal Range: 7.78 ft Max Currents: kts

GEOGRAPHIC LOCATION: West of BORDENTOWN, on NJ side of RIVER.

PHYSICAL DESCRIPTION: FRESHWATER TIDAL MARSH, PALUSTRINE EMERGENT WETLAND,SCRUB-SHRUD WETLAND, AND FORRESTED WETLAND

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☒ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Tidal creeks support shad, and yellow perch. Both migrant and nesting waterfowl, wading birds, Mergansers, cormorants, osprey, least terns, virginia rail, sore, common moorhen and marsh wren are all known to occur in the Trenton Marshes which includes this site.

HABITAT: HIGHLY SENSITIVE wetlands occur along Duck Creek which is also adjacent to the Delaware & Raritan Canal State Park. These wetlands are part of the Trenton Marshes which are the northern most tidal wetlands on the Delaware river. On NJ list of Rare Community.

THREATENED/ ENDANGERED: Large stands of Wild Rice occur in the area, Bald Eagle, American Bittern, King Rail, & Pied-billed Grebe, plus several species of rare, threatened, or endangered plants.

OTHER: For more specific information, see "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

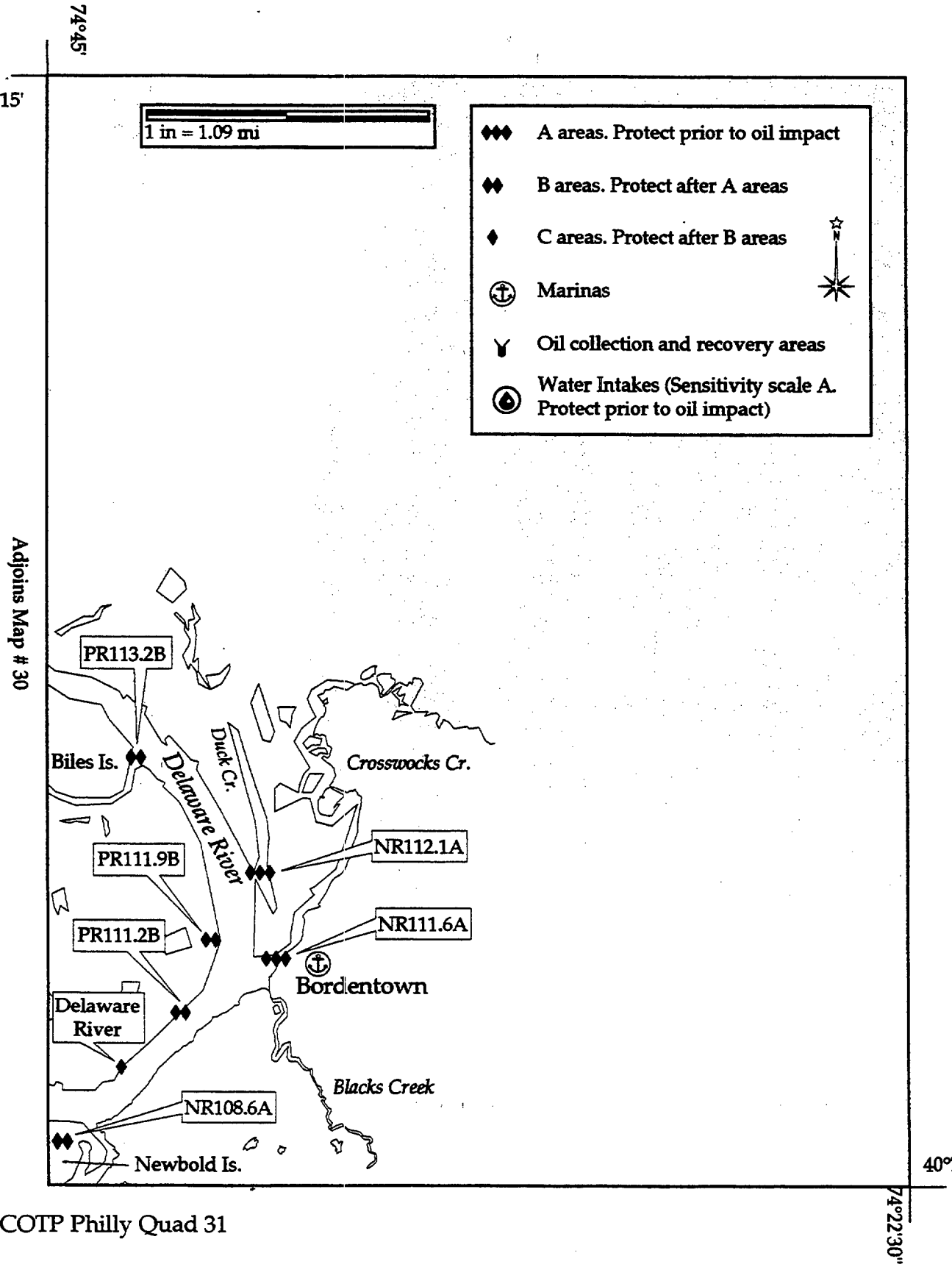
BOOMING METHOD: ☒ Deflect ☐ Protect ☒ Recover Minimum Boom Length: ft

Protection will be difficult as there is up to a six foot tidal amplitude here, but booming off the mouth of Crosswicks Creek and Blacks Creek is recommended.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 31

[B] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR110.5 Map No. 1 Name DELAWARE RIVER, PA

USGS Quad Trenton West, NJ,Bristol NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 31 Lat. 40°07'11" N Long. 074°49'53" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.64 ft Max Currents: kts

GEOGRAPHIC LOCATION: West of Bordentown, NJ, located along the old Fairless Hills, US steel mill on the PA side of the Delaware river.

PHYSICAL DESCRIPTION: This segment of shoreline is found at the lat/long coordinates listed above, & extends approx. .6 mi. up & down stream of this center point

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds (egrets, great blue heron, etc.) Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: Sensitive shoreline consist of riverine tidal mud flat with rooted aquatic vegetation (spatterdock). This segment of shoreline is found at the lat/long coordinates listed above, & extends approx. .3 mi. up & down stream of this center point.

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership: US STEEL CORP.

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [X] Recover

Minimum Boom Length: ft

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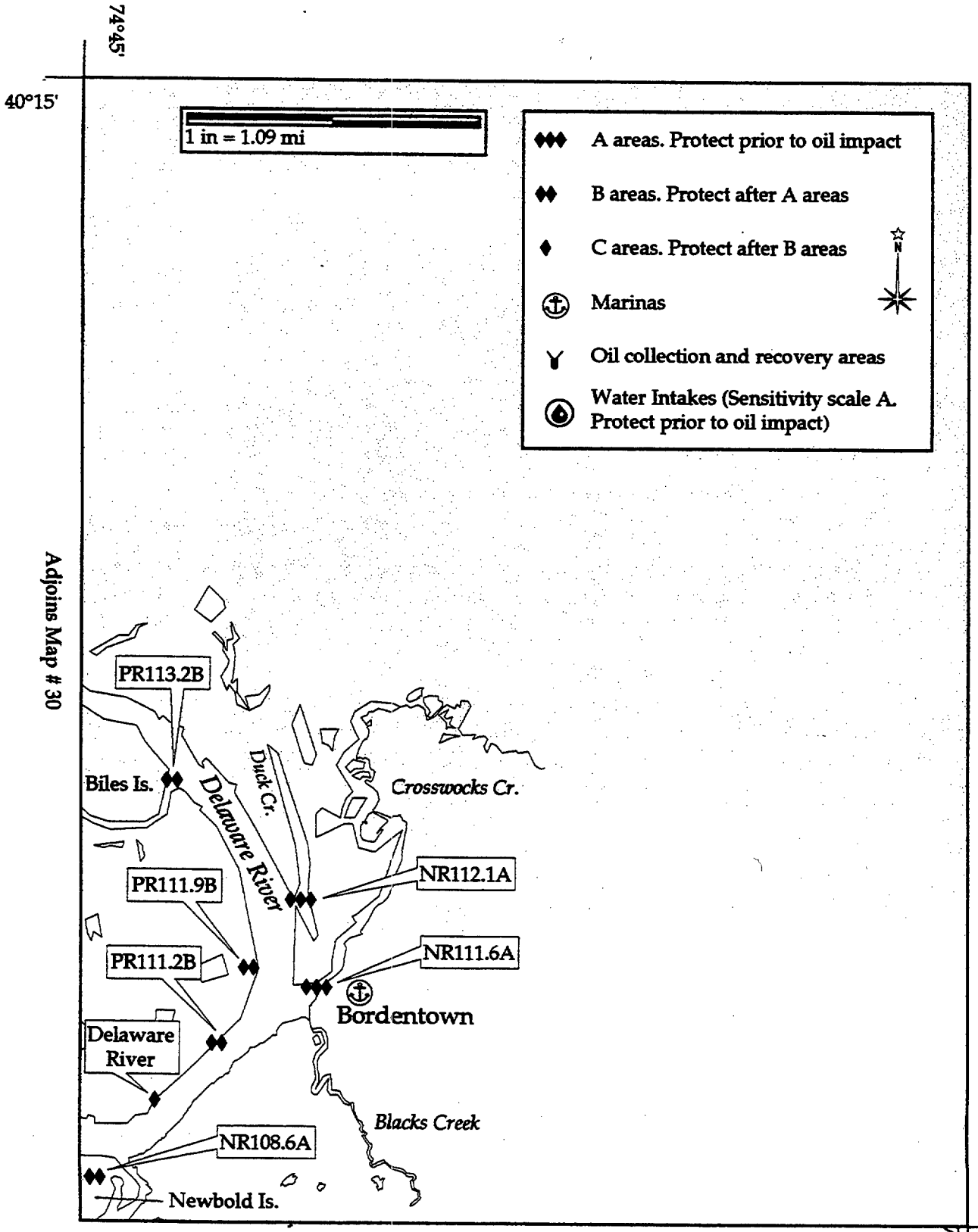

COTP Philly Quad 31

[B] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR111.9 Map No. 1 Name DELAWARE RIVER, PA.

USGS Quad Trenton East, NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 31 Lat. 40°09'14" N Long. 074°43'27" W

Agency / Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.7 ft Max Currents: kts

GEOGRAPHIC LOCATION: West of Bordentown, NJ., located along the old Fairless Hills US steel mill on the PA side of the Delaware river.

PHYSICAL DESCRIPTION: This segment of shoreline is found at the lat/long coordinates listed above, & extends approx. .3 mi. up & down stream of this center point.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds(egrets, great blue heron, etc.) Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: Sensitive shoreline consist of riverine tidal mud flat with rooted aquatic vegetation (spatterdock). This segment of shoreline is found at the lat/long coordinates listed above, & extends approx. .3 mi. up & down stream of this center point.

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: f

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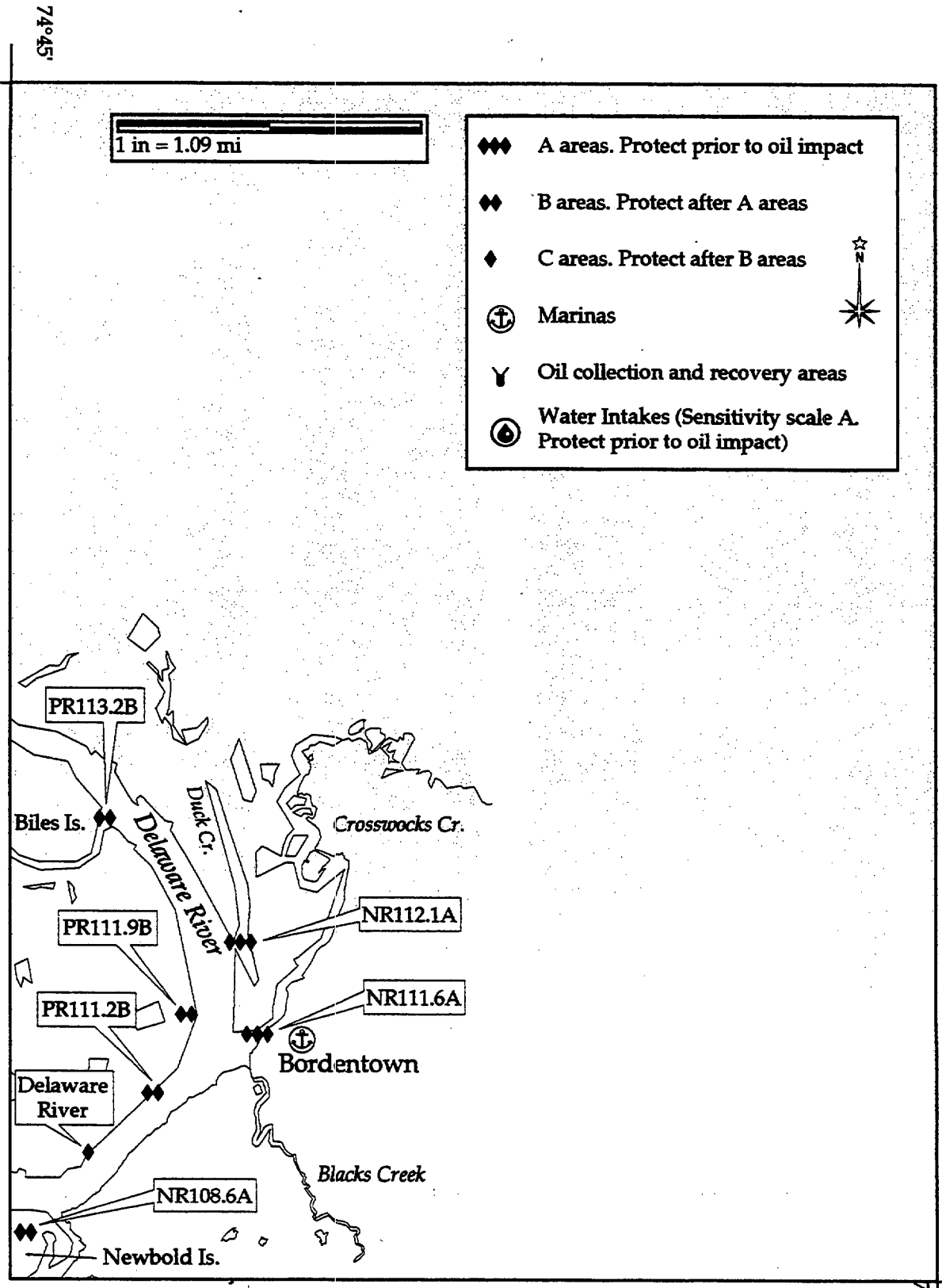

COTP Philly Quad 31

B PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. PR111.2 Map No. 1 Name DELAWARE RIVER, PA.

USGS Quad Trenton East, NJ NOAA Chart 12314 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 31 Lat. 40°08'42" N Long. 074°43'50" W

Agency / Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

Pennsylvania Game Commission, Bureau of Wildlife Management (717) 787-5529

SITE DESCRIPTION

Area: Tidal Range: 7.7 ft Max Currents: kts

GEOGRAPHIC LOCATION: West of Bordentown, NJ., located along the old Fairless Hills US steel mill on the PA side of the Delaware river.

PHYSICAL DESCRIPTION: This segment of shoreline is found at the lat/long coordinates listed above, & extends approx. .3 mi. up & down stream of this center point

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Resident populations of canada geese, various ducks, and wading birds(egrets, great blue heron, etc.) Tidal portions of triutary streams and shorelines with rooted aquatic vegetation are utilized as feeding/nesting areas for waterfowl, and wading birds. These areas are also utilized as nursery waters , spawning, feeding grounds for estuarine and anadromous fish.

HABITAT: Sensitive shoreline consist of riverine tidal gravel flat with rooted aquatic vegetation (spatterdock). This segment of shoreline is found at the lat/long coordinates listed above, & extends approx. .3 mi. up & down stream of this center point.

THREATENED/ ENDANGERED: A cursory review of the PNDI sys. shows numerous plants, animals, & habitats of concern in PA. These include SHORTNOSE STURGEON, BANDED SUNFISH, STRIPED BASS, INDIAN WILD RICE, ETC.

OTHER: FOR MORE INFORMATION SEE "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [ ] Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [ ]

BOOMING METHOD: [ ] Deflect [ ] Protect [ ] Recover

Minimum Boom Length: f

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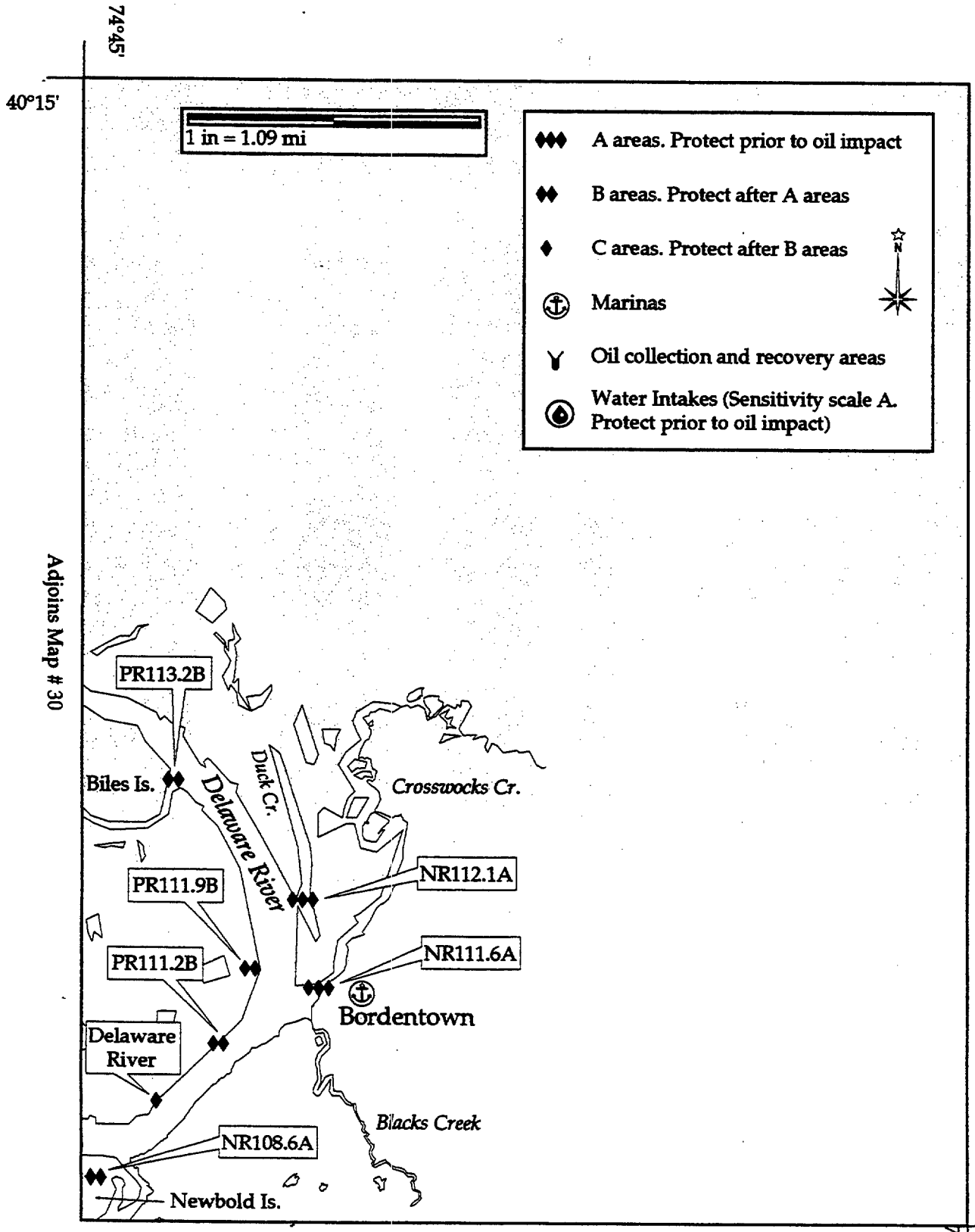


COTP Philly Quad 31

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR112.1 Map No. 31 Name DUCK CREEK

USGS Quad Trenton, NJ-PA NOAA Chart 12314 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 31 Lat. 40°09'35" N Long. 074°43'10" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

NJ Department of Environmental Protection, 24 hr (609) 292-7172

U.S. Fish & Wildlife Service, Delaware River Fisheries Coordinator (717) 894-1275

SITE DESCRIPTION

Area: Tidal Range: 6 ft Max Currents: kts

GEOGRAPHIC LOCATION: SOUTH OF TRENTON, NORTH OF BORDENTOWN, ON NJ SIDE OF RIVER.

PHYSICAL DESCRIPTION: FRESHWATER TIDAL MARSH, PALUSTRINE EMERGENT WETLAND,SCRUB-SHRUD WETLAND, AND FORRESTED WETLAND

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☒ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Tidal creeks suport shad, and yellow perch. Both migrant and nesting waterfowl waterfowl, wading birds, Mergansers, cormorants, osprey, least terns, virginia rail, sore, common moorhen and marsh wren are all known to occur in the Trenton Marshes which includes this site.

HABITAT: HIGHLY SENSITIVE wetlands occur along Duck Creek which is also adjacent to the Delaware & Raritan Canal State Park. These wetlands are part of the Trenton Marshes which are the northern most tidal wetlands on the Delaware river. On NJ list of Rare Community.

THREATENED/ ENDANGERED: Large stands of Wild Rice occur in the area, Bald Eagle, American Bittern, King Rail, & Pied-billed Grebe, plus several species of rare, threatened, or endangered plants.

OTHER: For more specific information, see "ENDANGERED SPECIES AUTHORITIES CONTACT LIST"

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☒ Recover

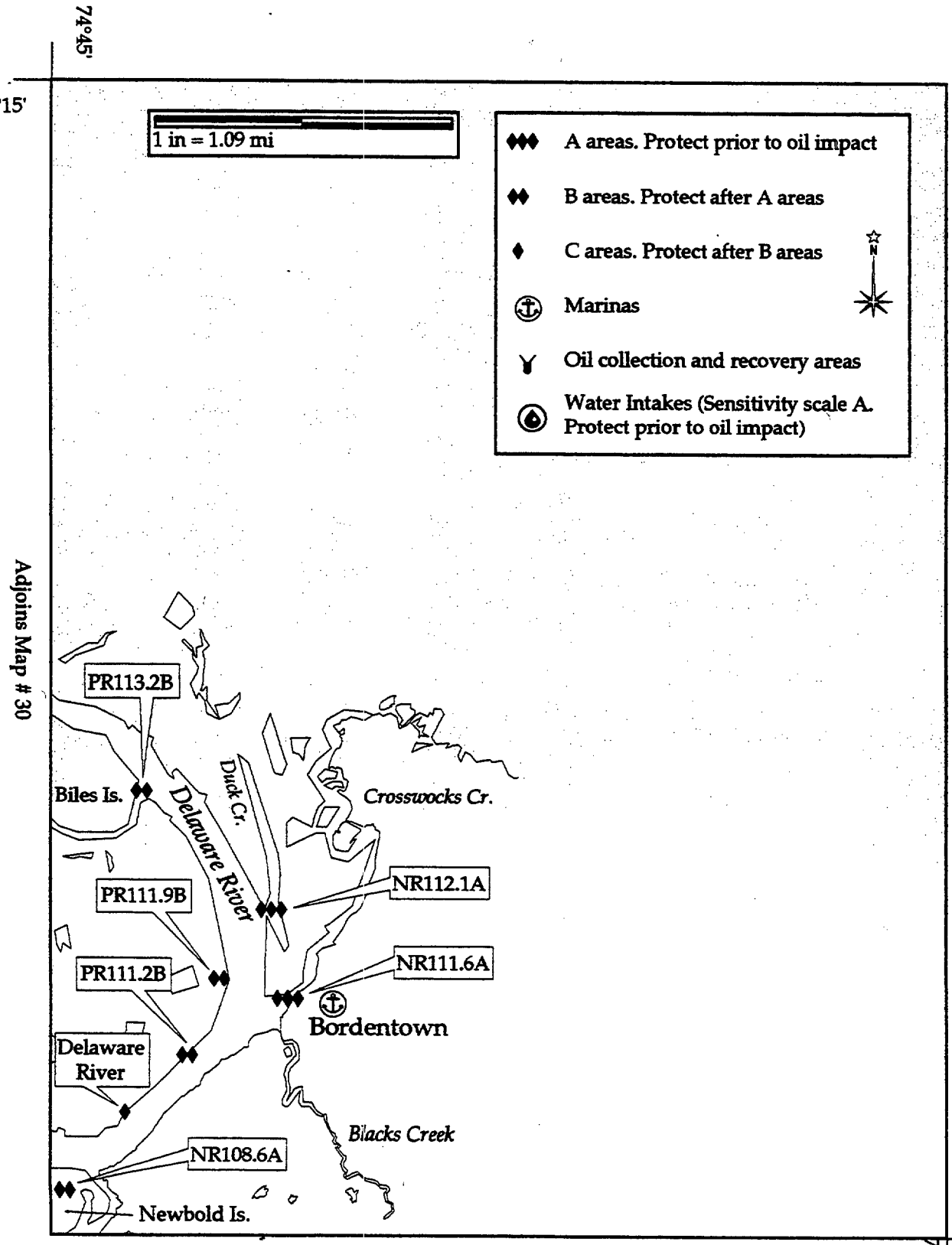
Minimum Boom Length: ft

Protection will be difficult as there is up to a 6 foot tidal amplitude here, but booming off the mouth of Duck Creek is recommended.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 31

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NR108.6 Map No. 31 Name NEWBOLD ISLAND, NJ

USGS Quad Trenton East, NJ-PA NOAA Chart 12314 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 31 Lat. 40°07'43" N Long. 074°44'42" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

NJ Department of Environmental Protection, 24 hr (609) 292-7172

U.S. Fish & Wildlife Service, Delaware River Fisheries Coordinator (717) 894-1275

SITE DESCRIPTION

Area: Tidal Range: 7.7 ft Max Currents: kts

GEOGRAPHIC LOCATION: South of Atlantic Marine Terminal at the old Fairless Hills Steel mill(US STEEL), Northeast of Roebling, NJ.

PHYSICAL DESCRIPTION: A low flat island surrounded by mud flats, accessable by shallow draft boats only.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: The wetlands that occurring on Newbold Island are likely to support both migrant and nesting waterfowl, wading birds, and many species that are characteristic of a freshwater wetland community. Various species of anadromous, estuarine, and freshwater fish are also very likely to occur along Newbold Island. Some use by river Otter and muskrats.

HABITAT: HIGHLY SENSITIVE wetlands occur on Newbold Island. RIVERINE TIDAL FLATS, RIVERINE TIDAL EMERGENT WETLANDS, PALUSTRINE EMERGENT WETLANDS, PALUSTRINE SCRUB-SHRUB WETLANDS, AND PALUSTRINE FORESTED WETLANDS.

THREATENED/ ENDANGERED: Great blue heron feeding site.

OTHER: See endanagered, and threatened species authorities cotact list.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☒

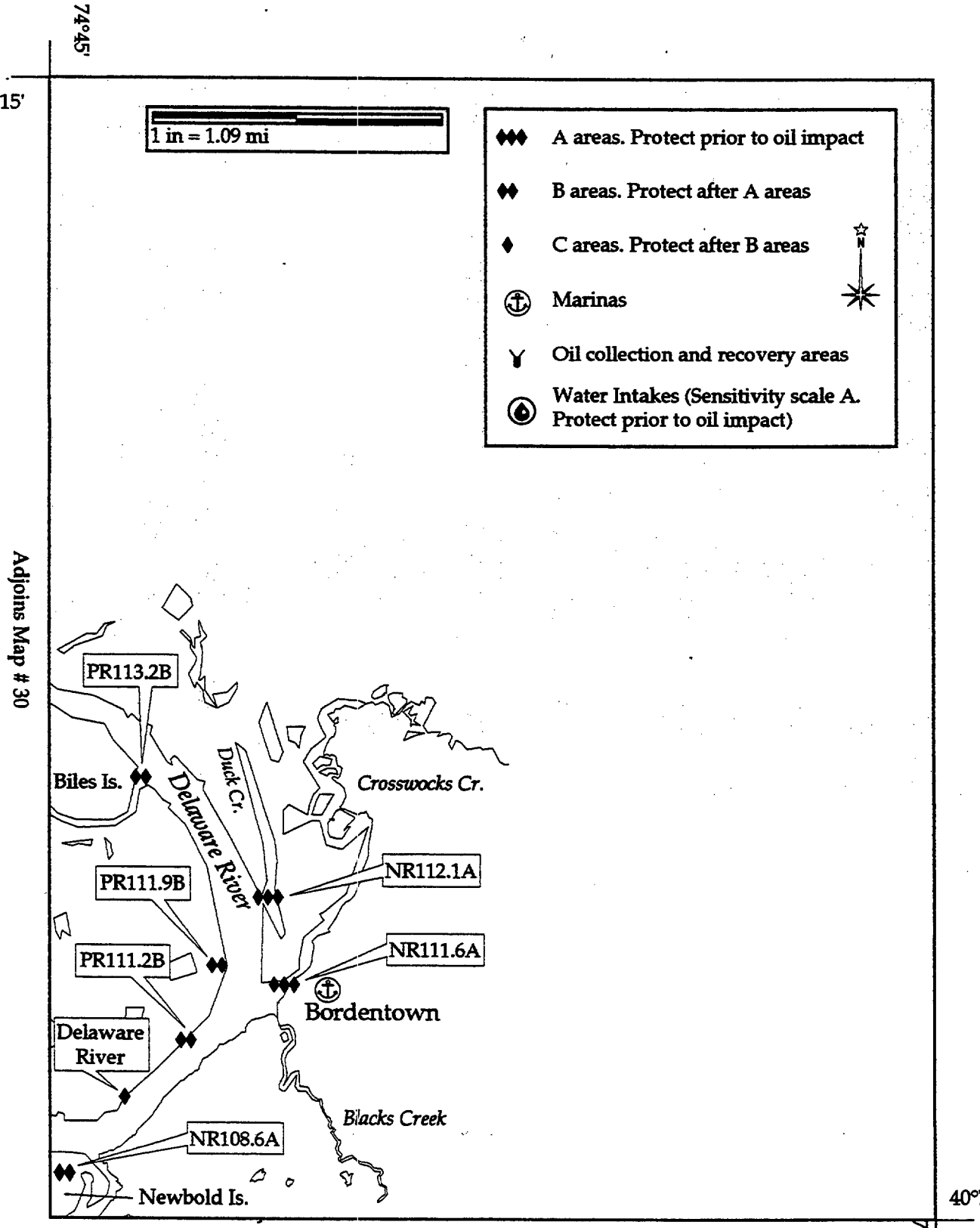
BOOMING METHOD: ☒ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 31

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 32 Name STRAIGHT CREEK

USGS Quad Fortescue, NJ-DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 32 Lat. 39°12'14" N Long. 075°09'59" W

Agency / Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Snow geese, black duck, otter and muskrat, shorebird concentrations

HABITAT: Tidal salt marsh/beach

THREATENED/ ENDANGERED: Northern herrier and peregrine falcon

OTHER: Commercial watermen, Commercial watermen, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June, See maps at the end of the appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☒ Medium ☐ Low ☐

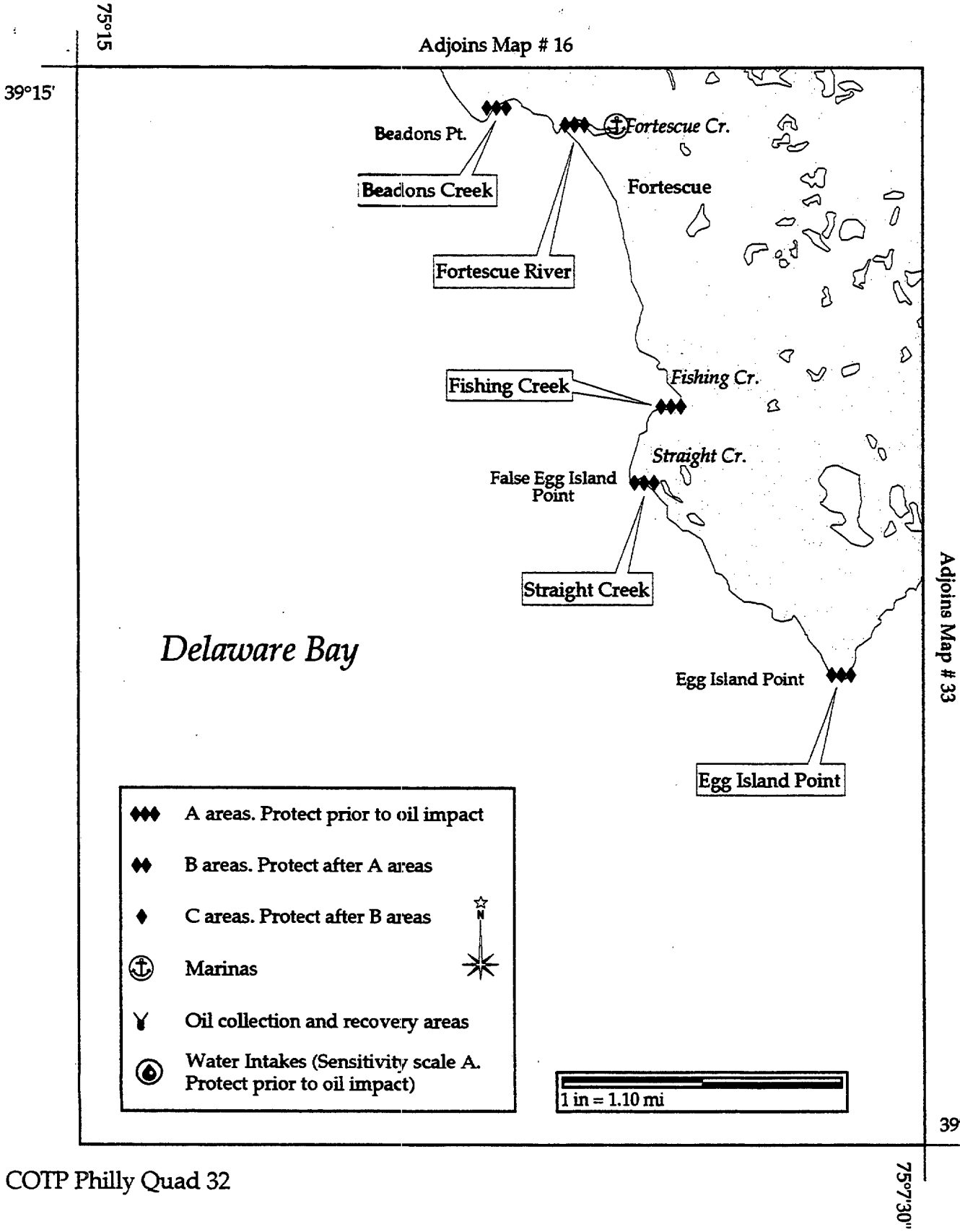
BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: ft

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 32

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 32 Name FORTESCUE RIVER

USGS Quad Fortescue, NJ-DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 32 Lat. 39°14'55" N Long. 075°10'42" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: 5.63 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☒ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl, otter and muskrats, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June.

HABITAT: Tidal salt marsh w/cord grass

THREATENED/ ENDANGERED: Norther Herriers

OTHER: Commercial watermen
SEE Shore Bird Appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☒ Recover

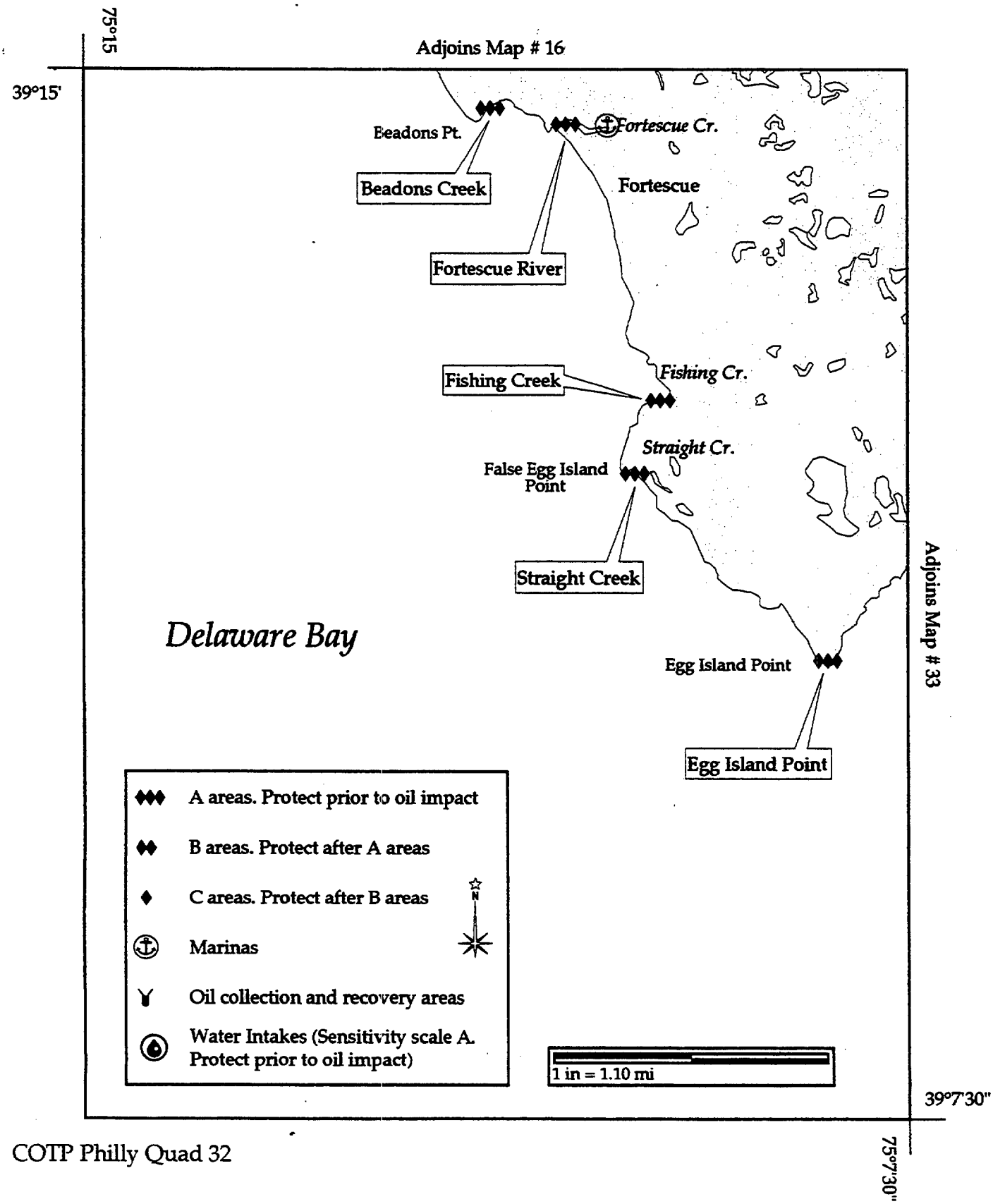
Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 32

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 32 Name FISHING CREEK

USGS Quad Fortescue, NJ-DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 32 Lat. 39°12'43" N Long. 075°09'07" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: 5.63 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl, otter, and muskrats, shorebird concentration

HABITAT: Tidal salt marsh/beach

THREATENED/ ENDANGERED: Northern Herriers

OTHER: Commercial watermen, Commercial watermen, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June, See maps at the end of the appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

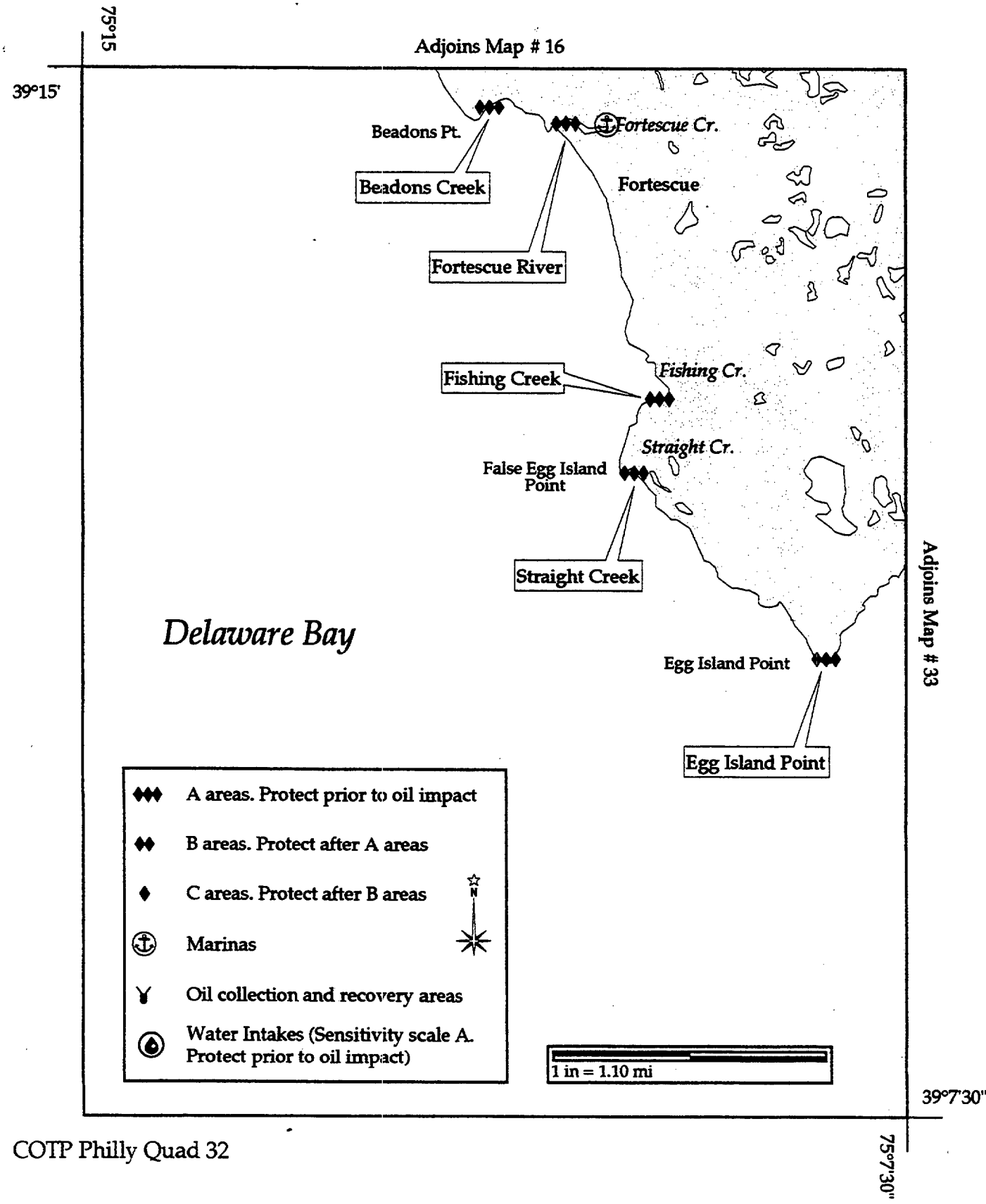
BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: ft

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 32 Name EGG ISLAND POINT

USGS Quad Fortescue, NJ-DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 32 Lat. 39°10'45" N Long. 075°08'22" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl, otter, shorebird concentrations

HABITAT: Tidal salt marsh/sod banks

THREATENED/ ENDANGERED: Northern Herrier and peregrine falcon

OTHER: Commercial watermen, Commercial watermen, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June, See maps at the end of the appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

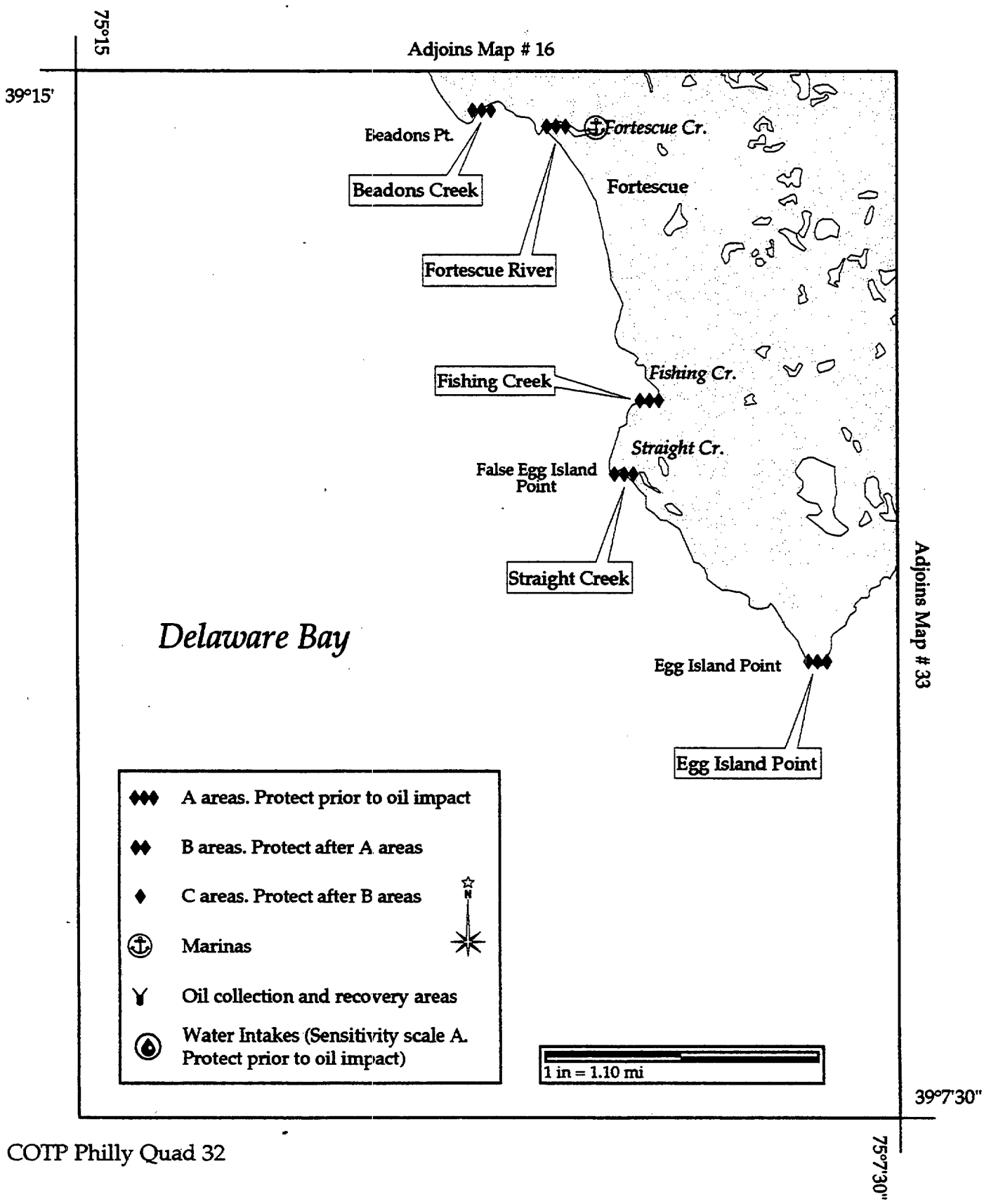
BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: ft

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 32

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 32 Name BEADONS CREEK

USGS Quad Fortescue, NJ-DE NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 32 Lat. 39°14'45" N Long. 075°11'08" W

Agency / Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☒ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☐ Su ☐ F ☐ W ☐

WILDLIFE: Snow geese, black duck, otters, muskrats, and shorebirds concentrations

HABITAT: Tidal salt march w/cord grass

THREATENED/ ENDANGERED: Northern Herriers

OTHER: Commercial watermen, Commercial watermen, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June, See maps at the end of the appendix.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER: SEE Shopre Bird Appendix.

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

Captain of the Port Philadelphia

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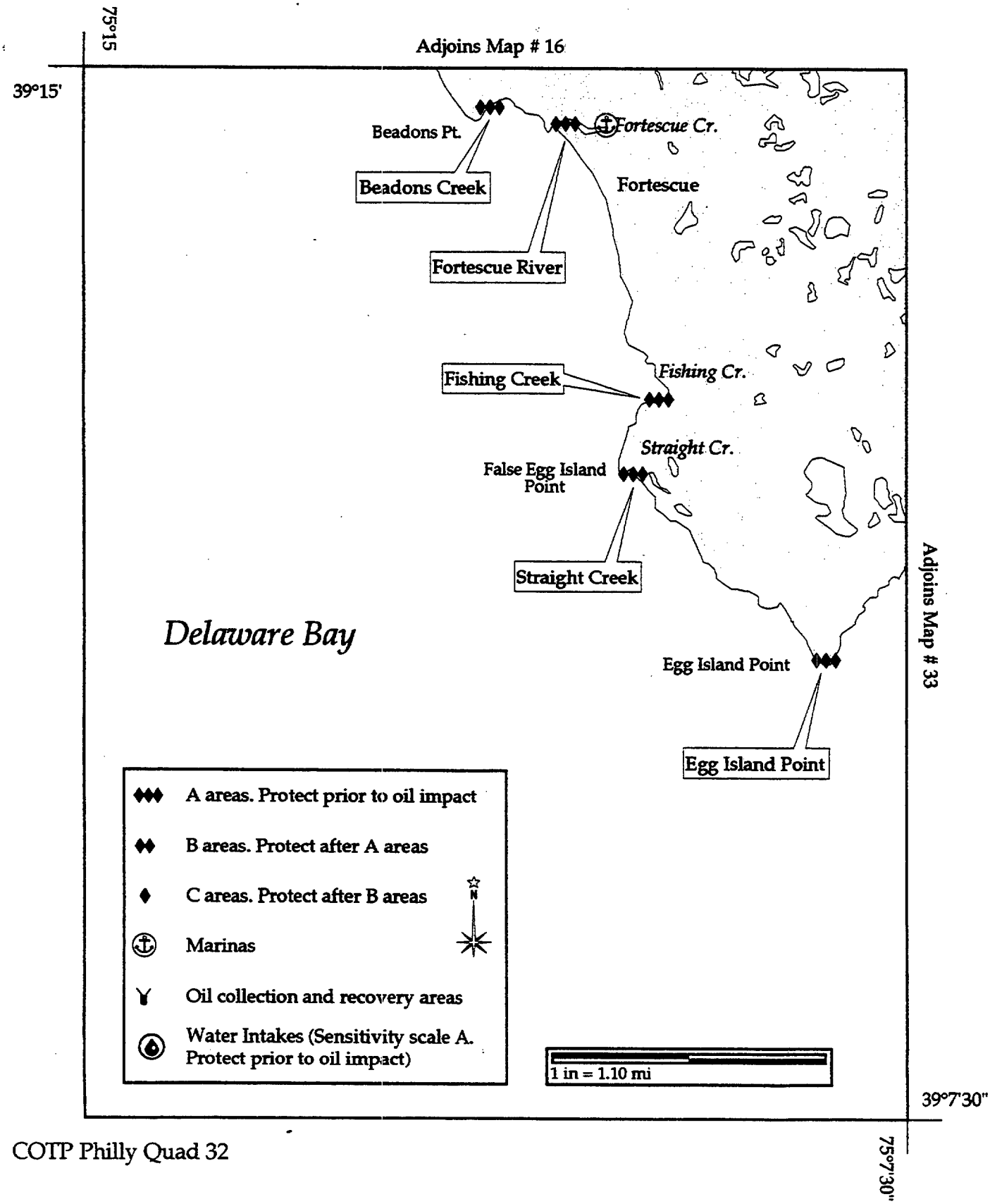

COTP Philly Quad 32

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 33 Name KENNY POINT

USGS Quad Port Norris NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 33 Lat. 39°12'47" N Long. 075°05'27" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☒ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Snow geese, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June, See maps at the end of the appendix.

HABITAT: Tidal salt marsh/sod banks

THREATENED/ ENDANGERED: Northern Harriers and peregrine falcons

OTHER: Commercial crabbers, netters, and eelers

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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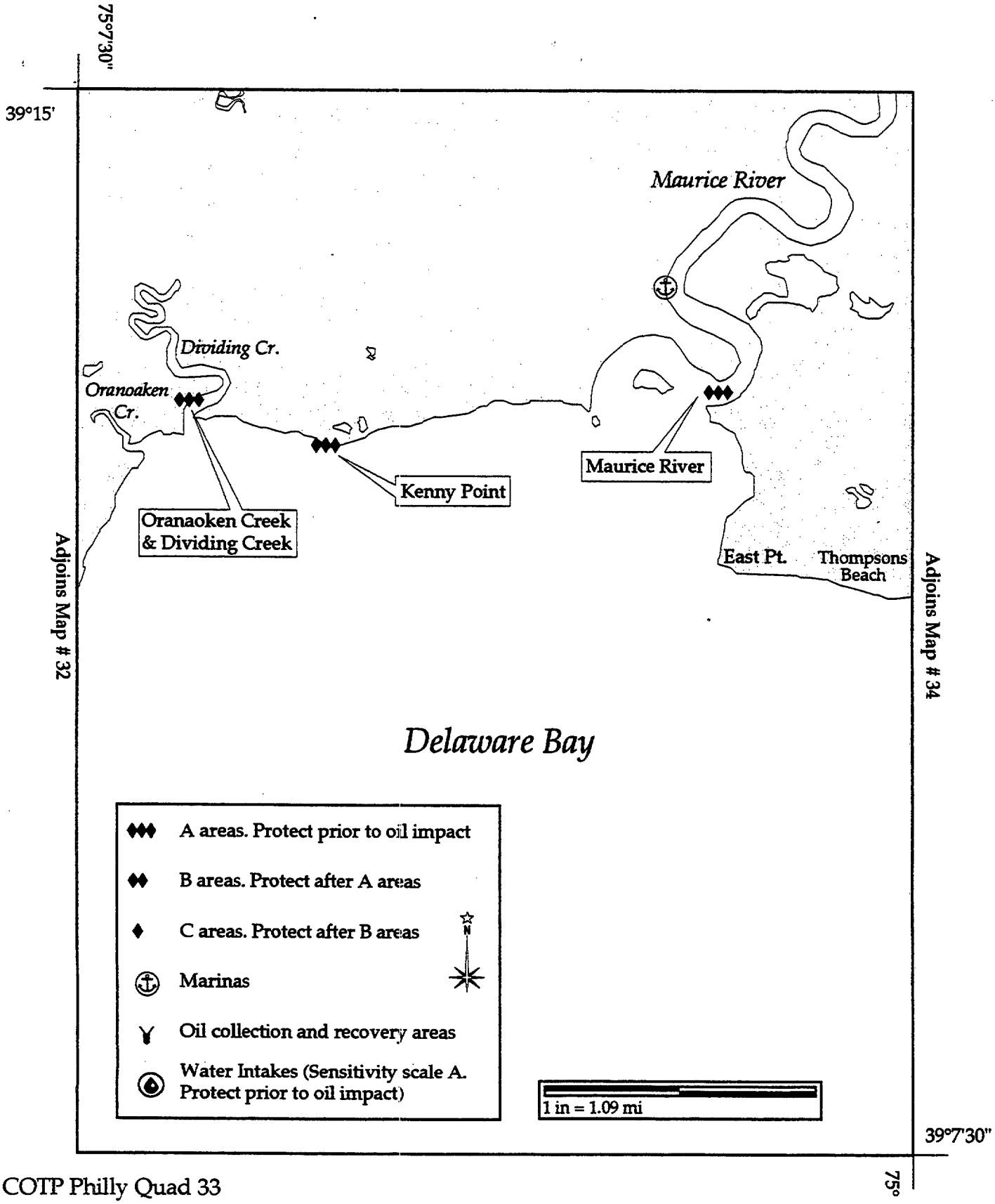

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 33 Name ORANAOKEN CREEK & DIVIDNG CREEK

USGS Quad Port Norris NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 33 Lat. 39°12'51" N Long. 075°06'38" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: 5.62 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Snow geese, black duck, otter, and shorebird concentrations

HABITAT: Tidal salt marsh/sod banks

THREATENED/ ENDANGERED:

OTHER: Commercial watermen, Commercial watermen, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June, See maps at the end of the appendix.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS: Point Norris Public Dock.

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

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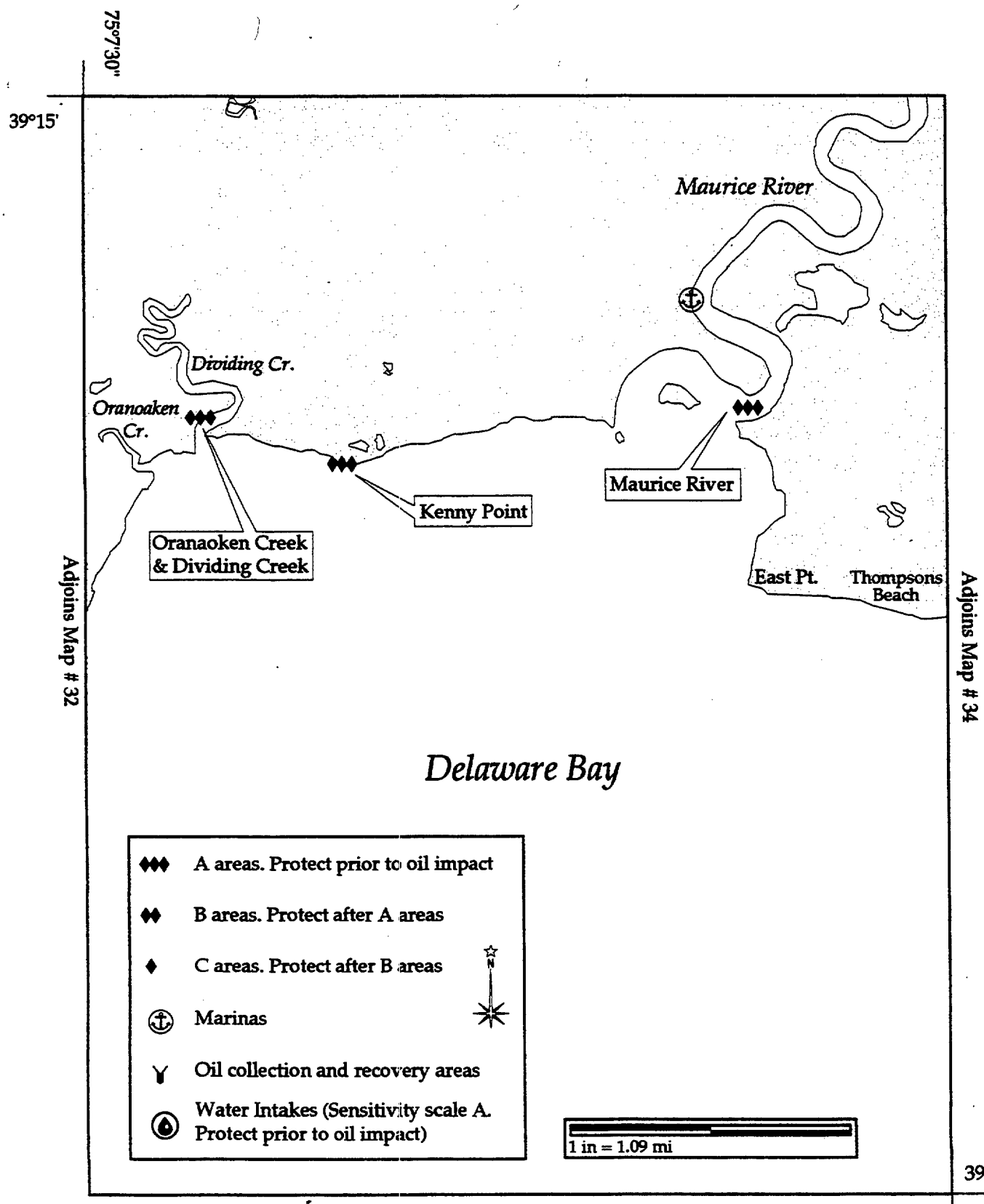

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 33 Name THOMPSONS BEACH

USGS Quad Port Norris NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 33 Lat. 39°11'48" N Long. 074°59'42" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Snow geese, black duck, shorebird concentration and houreshoe crabs early May to Mid-June see maps at end of appendix.

HABITAT: Tidal salt marsh/sod bank/beach

THREATENED/ ENDANGERED: Northern Harriers/peregrine falcon/bald eagles/osprey

OTHER: Commerical eelers, netters, and crabbers

SEE Shore Bird Appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☒ Recover

Minimum Boom Length: ft

Captain of the Port Philadelphia

Prepared by NOAA

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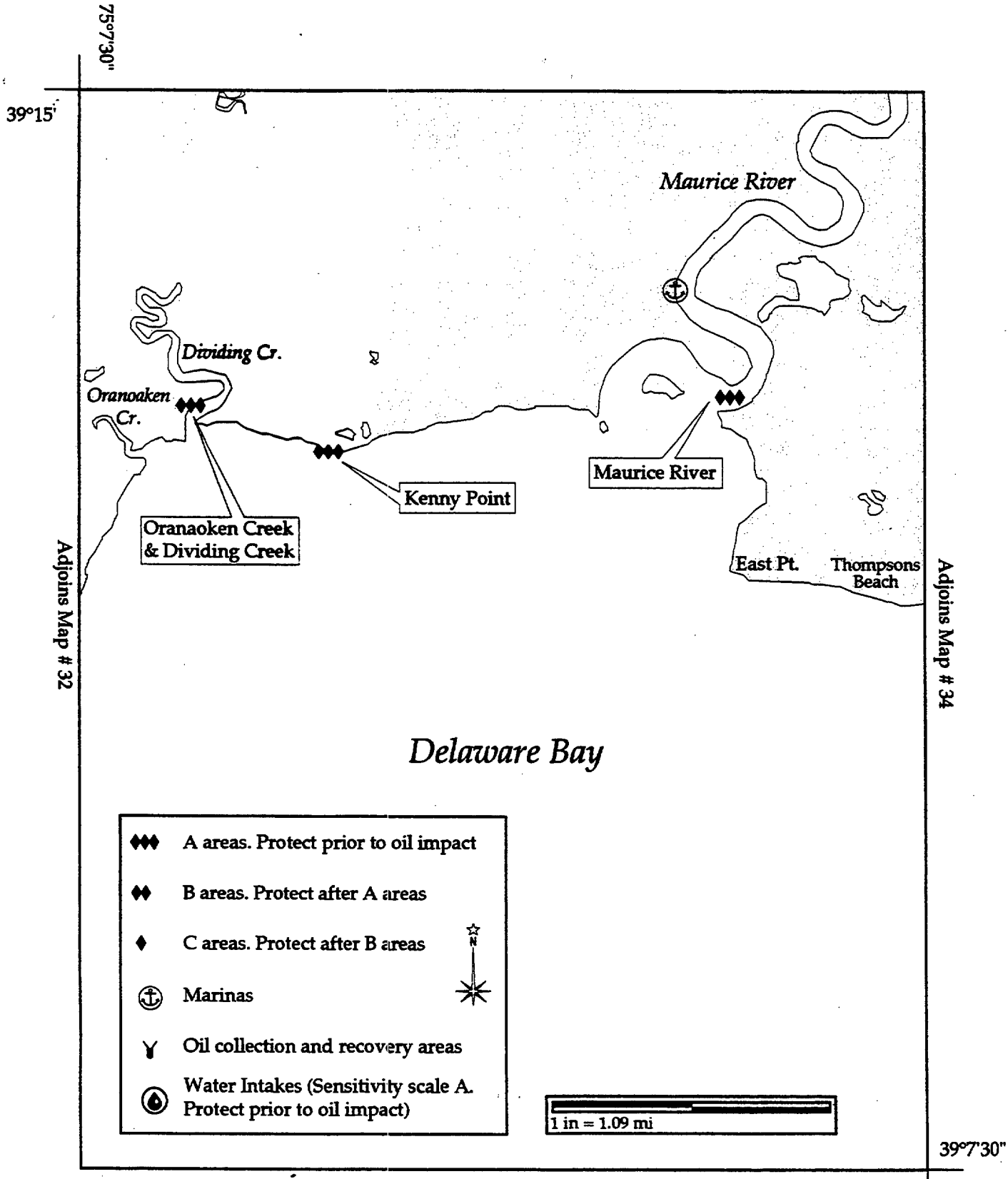

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 33 Name Maurice River

USGS Quad Port Norris, NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 33 Lat. 39°12'52" N Long. 075°01'48" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: 5.75 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous Waterfowl species in fall, winter, and spring, some species breeding in summer, otter, wading birds, shorebird concentrations and horseshoe crabs early May to Mid-June see maps at end of appendix. Gulls and terns, muskrats, large numbers of glossy ibis in spring and summer.

HABITAT: Tidal marsh

THREATENED/ ENDANGERED: Osprey, Bald Eagles, Northern Harriers, and foraging Peregrine Falcons, fall, winter, and spring.

OTHER: Commercial eelers, crabbers, oysters and netters, Commercial watermen, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June, See maps at the end of the appendix.

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS: Port Norris Public Docks.

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☒ Deflect ☐ Protect ☐ Recover Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

Captain of the Port Philadelphia

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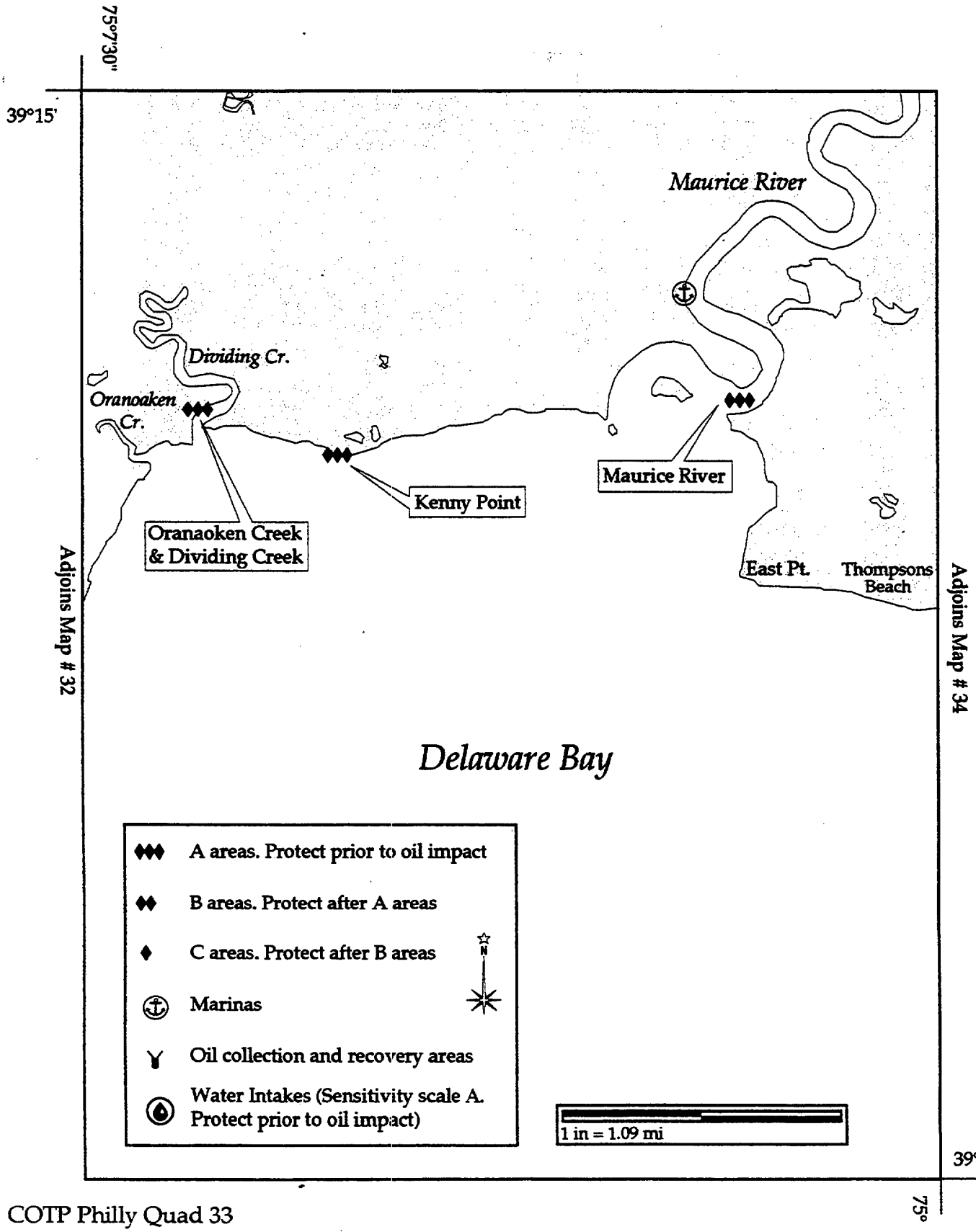


COTP Philly Quad 33

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 34 Name BIDWELL CREEK

USGS Quad Heislerville, NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 34 Lat. 39°07'40" N Long. 074°53'44" W

Agency / Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

U.S. Fish & Wildlife Service, Supawna Meadows National Wildlife Refuge (609) 935-1487

U.S. Fish & Wildlife Service, Cape May National Wildlife Refuge (609) 463-0994

SITE DESCRIPTION

Area: Tidal Range: 5.77 ft Max Currents: kts

GEOGRAPHIC LOCATION: North of Reeds Beach, south of Dennis Creek Fish & Wildlife Management Area, west of Cape May Court House.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☒ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous Waterfowl species in fall, winter, and spring, some species breeding in summer, otter, wading birds, shorebird concentrations and horseshoe crabs early May to Mid-June, see maps at end of appendix. Gulls and terns, muskrats, large numbers of glossy ibis in spring and summer.

HABITAT: Tidal salt marsh, tidal creeks, and flats.

THREATENED/ ENDANGERED: N. Harriers and bald eagles, foraging peregrine falcons, fall, winter, and spring.

OTHER: Commercial crabbers, diamond back terrapins, ospreys, oyster beds, anadromous fish. Black skimmers beach nesting colony was between Wildwood and Stone Harbor, it may have moved.

RESPONSE CONSIDERATIONS

Ownership: U.S. FISH & WILDLIFE SERVICE

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover

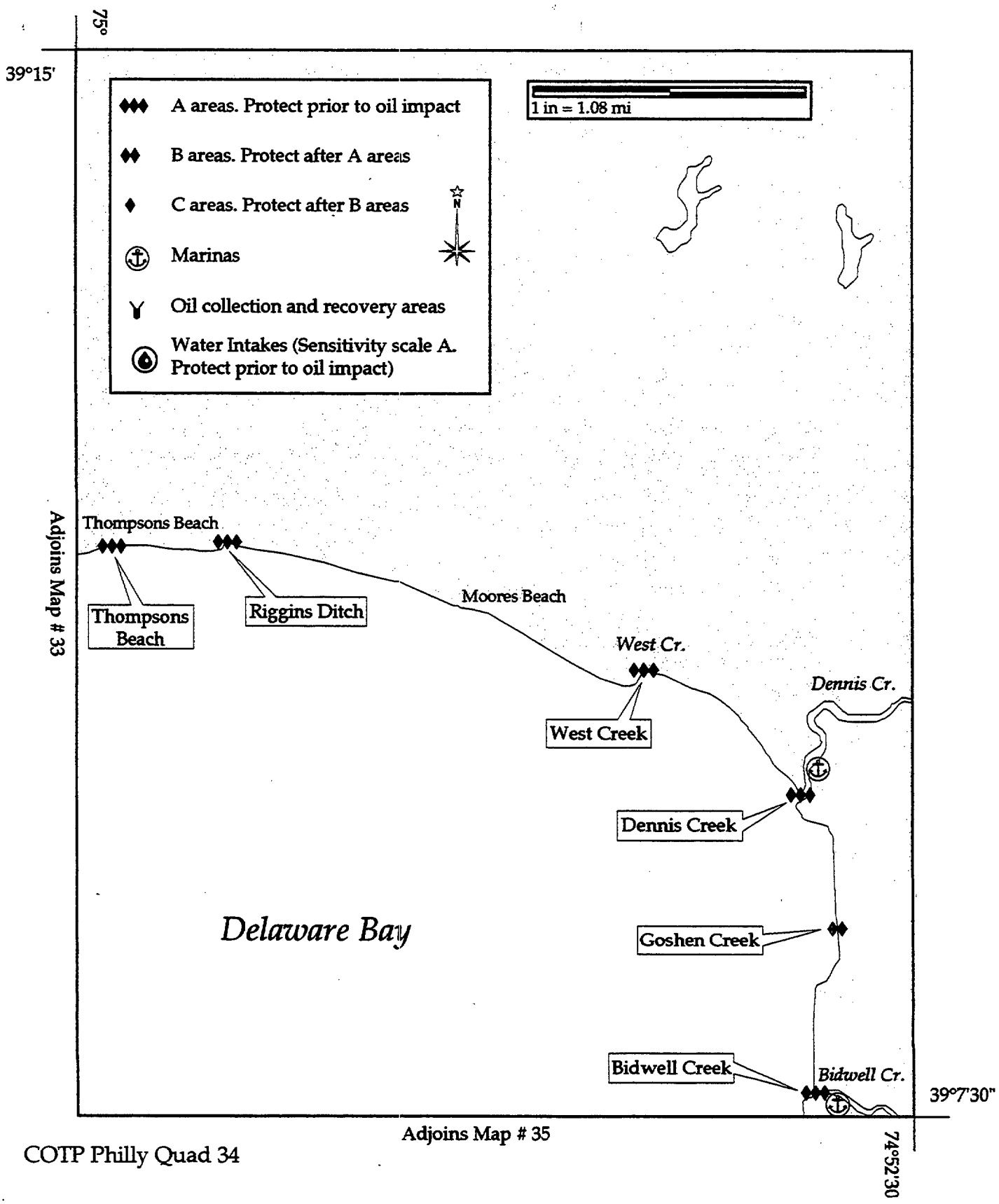
Minimum Boom Length: ft

SEE DBRC BOOMING STRATEGIES.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 34

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 34 Name WEST CREEK

USGS Quad Heislerville, NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 34 Lat. 39°10'40" N Long. 074°54'55" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: 4.76 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☒ 3. Fine Sand Beaches
- ☒ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Snow geese, black duck, otters, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June.

HABITAT: Tidal salt marsh/sod banks/beach

THREATENED/ ENDANGERED: Bald eagles, peregrine falcons

OTHER: Commercial eelers, crabbers, and netters. See maps at the end of the appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

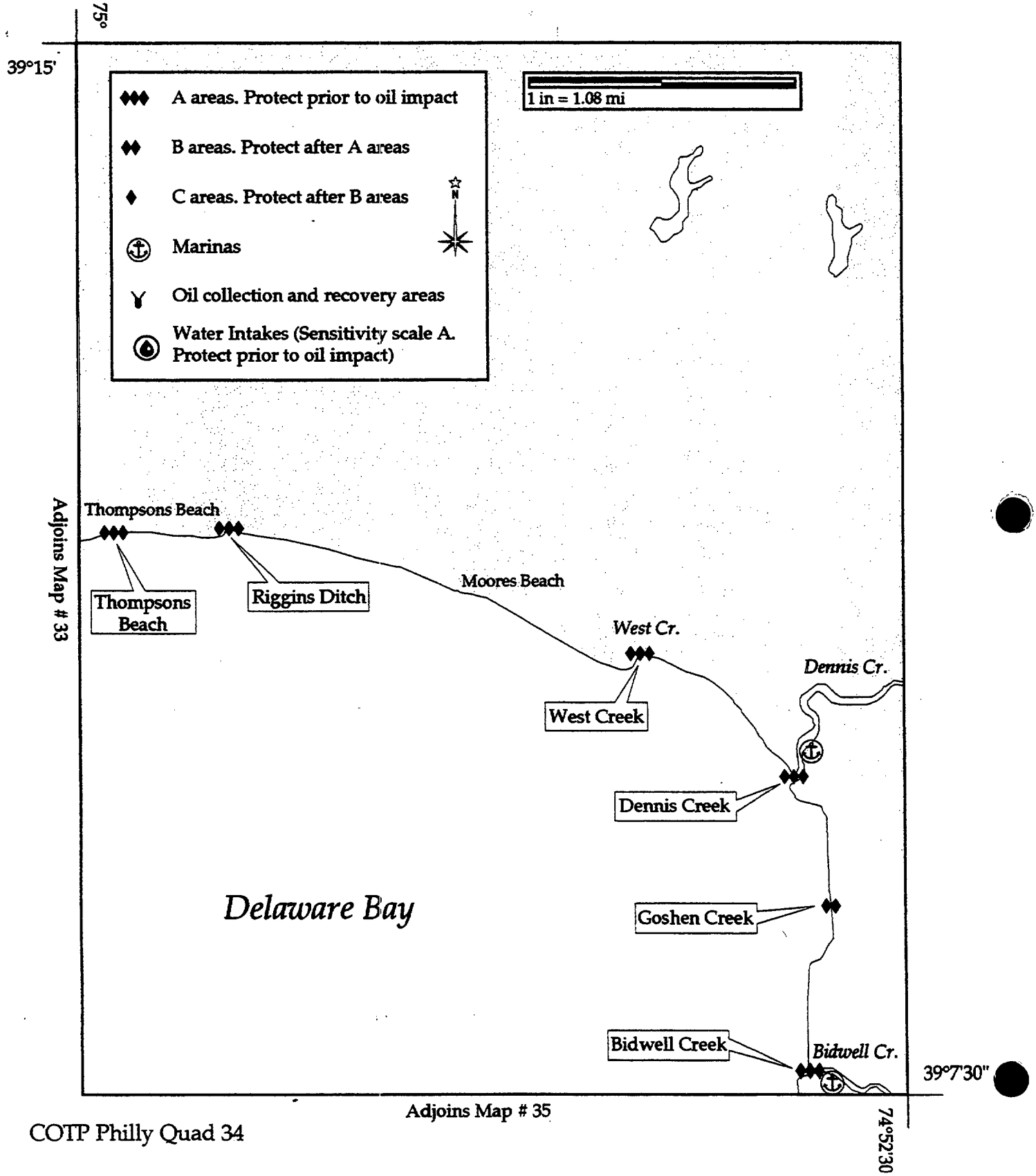
BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 34

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 34 Name DENNIS CREEK

USGS Quad Heislerville, NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 34 Lat. 39°09'47" N Long. 074°53'55" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

U.S. Fish & Wildlife Service, Supawna Meadows National Wildlife Refuge (609) 935-1487

U.S. Fish & Wildlife Service, Cape May National Wildlife Refuge (609) 463-0994

SITE DESCRIPTION

Area: Tidal Range: 5.23 ft Max Currents: kts

GEOGRAPHIC LOCATION: Southwest of Dennisville NJ, flowing through Dennis Creek Fish & Wildlife Management Area, the mouth is bound by the same area.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous Waterfowl species in fall, winter, and spring, some species breeding in summer, otter, wading birds, shorebird concentrations and horseshoe crabs early May to Mid-June see maps at end of appendix. Gulls and terns, muskrats, large numbers of glossy ibis in spring and summer.

HABITAT: Tidal salt marsh/sod banks

THREATENED/ ENDANGERED: Bald eagle, northern harrier, peregrine falcons

OTHER: Commercial eelers, crabbers, and netters

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

Captain of the Port Philadelphia

Prepared by NOAA

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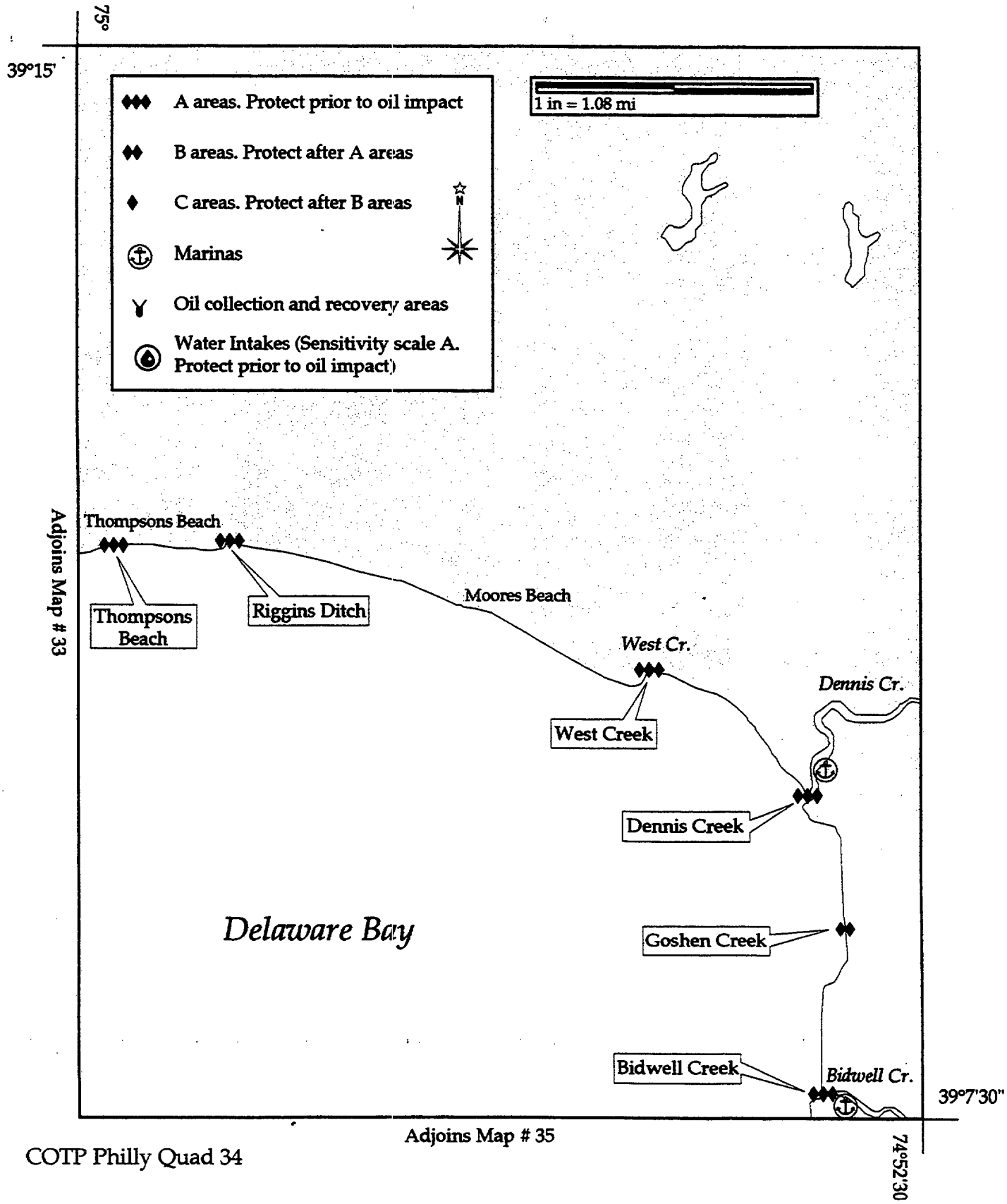

COTP Philly Quad 34

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 34 Name GOSHEN CREEK

USGS Quad Heislerville, NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 34 Lat. 39°08'51" N Long. 074°53'20" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

U.S. Fish & Wildlife Service, Supawna Meadows National Wildlife Refuge (609) 935-1487

U.S. Fish & Wildlife Service, Cape May National Wildlife Refuge (609) 463-0994

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: North of Reeds Beach, West of Goshen, NJ, the mouth of the creek is bound by Dennis Creek Fish & Wildlife Management Area.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☒ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous Waterfowl species in fall, winter, and spring, some species breeding in summer, otter, wading birds, shorebird concentrations and horseshoe crabs early May to Mid-June see maps at end of appendix. Gulls and terns, muskrats, large numbers of glossy ibis in spring and summer.

HABITAT: Medium to Coarse sand beaches, tidal marshes.

THREATENED/ ENDANGERED: N. Harriers and bald eagles, foraging peregrine falcons, fall, winter, and spring.

OTHER: Commercial crabbers, diamond back terrapins, ospreys, oyster beds, anadromous fish. Black Skimmers beach nesting colony was between Wildwood and Stone Harbor, it may have moved.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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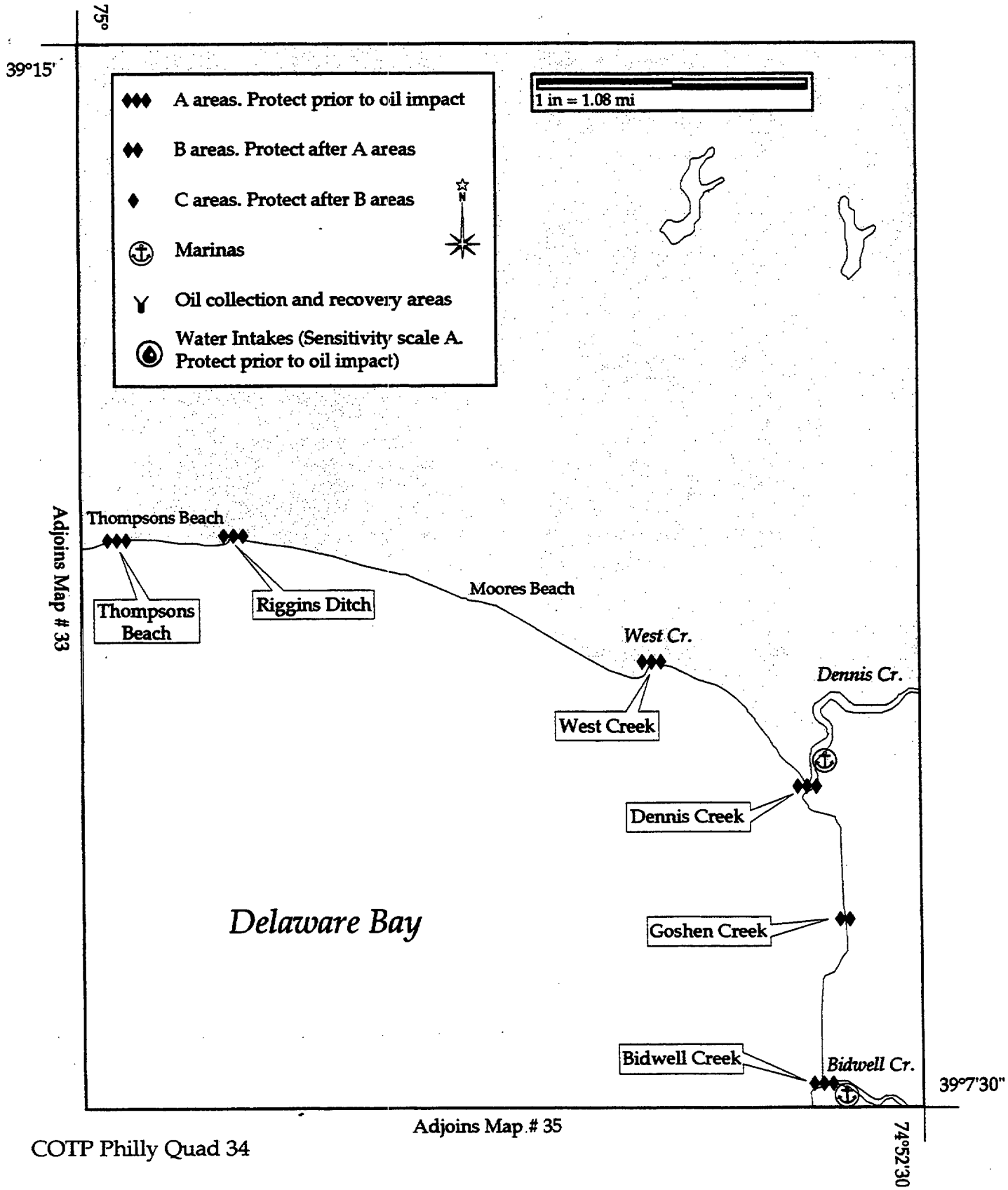

COTP Philly Quad 34

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 34 Name RIGGINS DITCH

USGS Quad Heislerville, NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 34 Lat. 39°11'55" N Long. 074°58'40" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: 5.14 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☒ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Snow geese, black duck, otter, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June,

HABITAT: Tidal salt marsh/beach

THREATENED/ ENDANGERED: Bald eagle/peregrine falcons year round.

OTHER: Commercial netters, crabbers, eelers. See maps at the end of the appendix.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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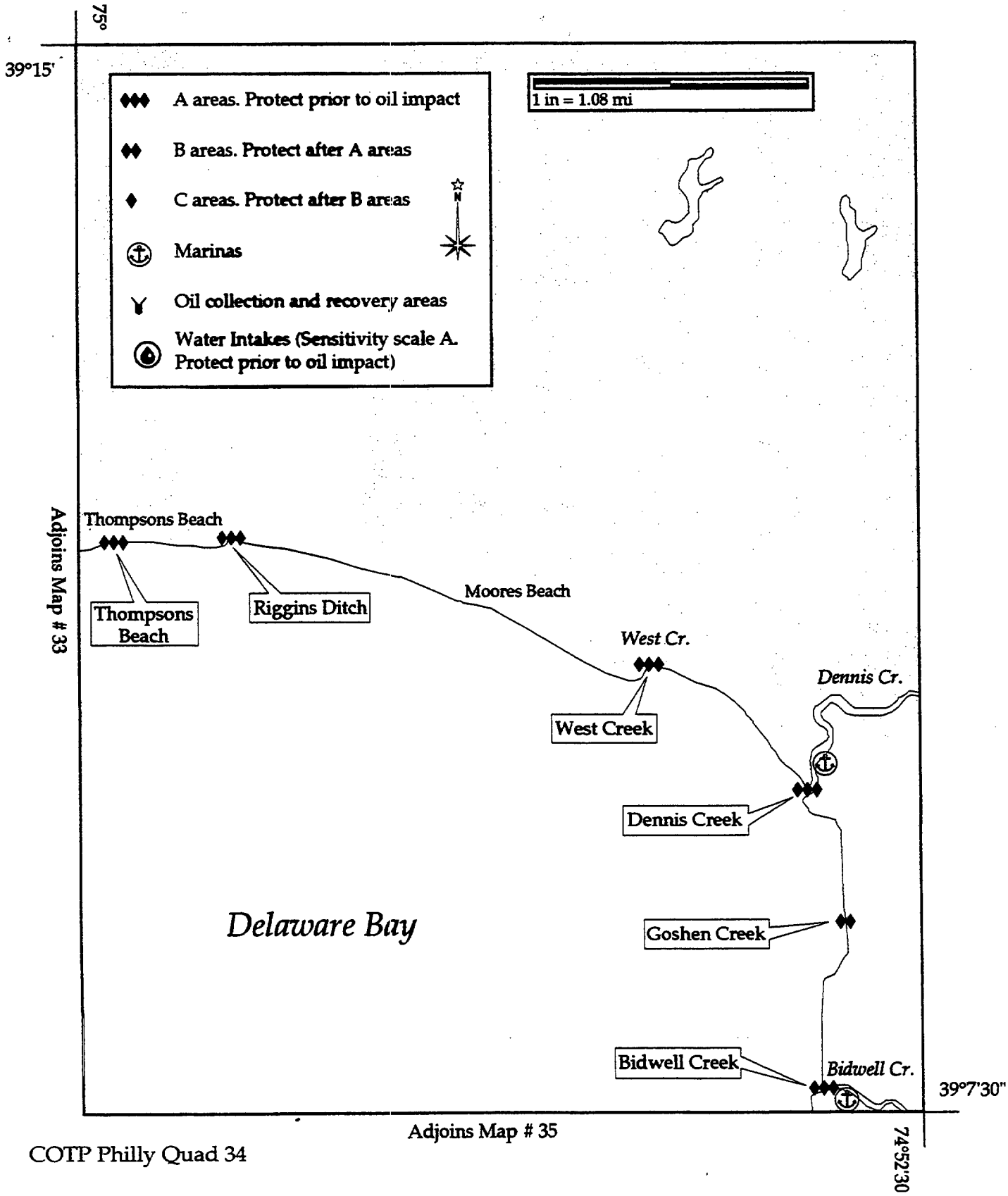

COTP Philly Quad 34

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 35 Name Miami Beach

USGS Quad Rio Grande,NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 35 Lat. 39°02'11" N Long. 074°56'37" W

Agency / Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: North of Villas, NJ, South of Cape May County Park Fishing Creek Area.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☒ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Shorebird concentrations and houreshoe crabs early May to Mid-June see maps at end of appendix.

HABITAT: Tidal beach and mud flats

THREATENED/ ENDANGERED:

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: ft

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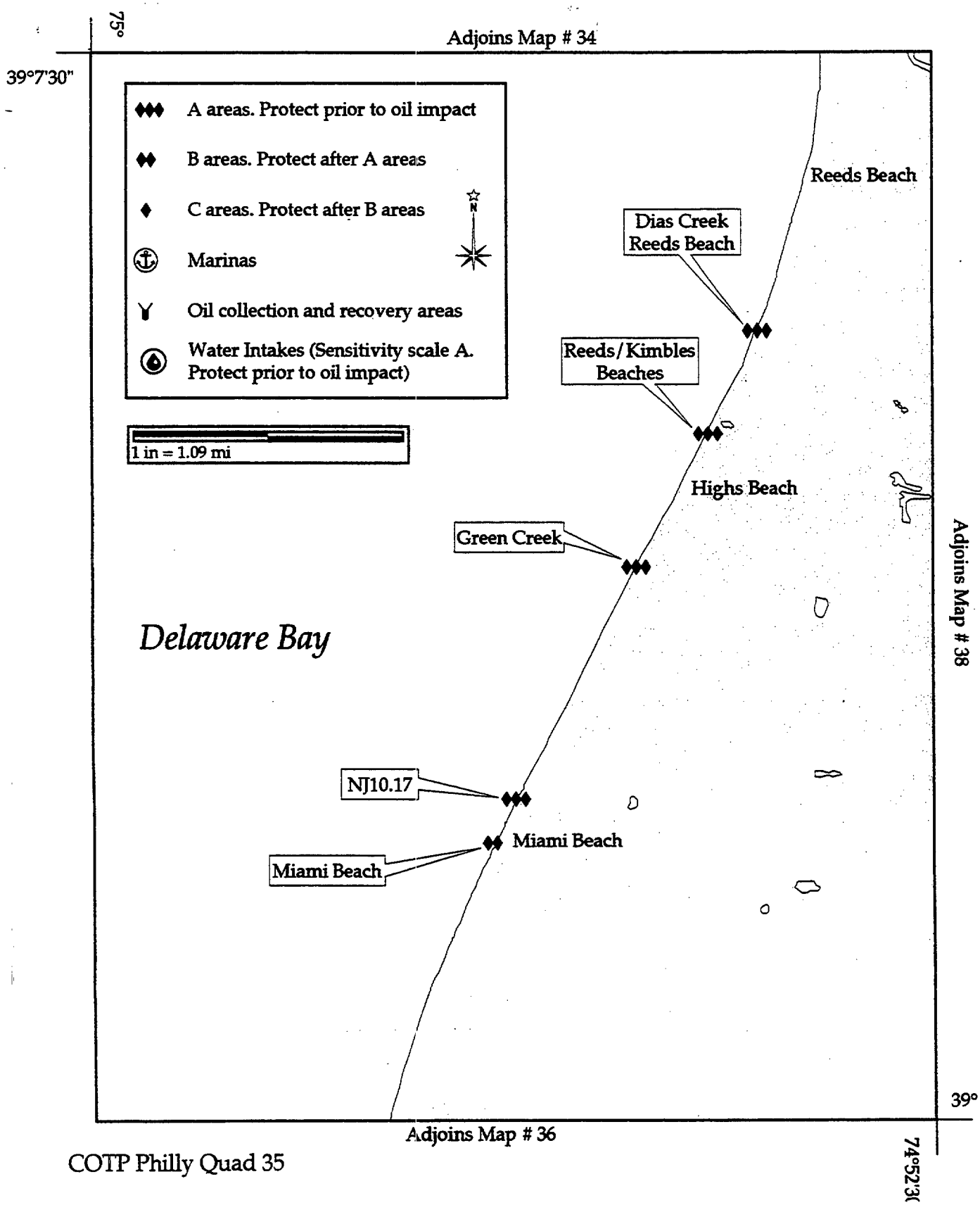

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ10.17 Map No. 35 Name FISHING CREEK

USGS Quad Rio Grande, NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 35 Lat. 39°02'18" N Long. 074°56'29" W

Agency / Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: 5.63 ft Max Currents: kts

GEOGRAPHIC LOCATION:

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Waterfowl concentrations, Commercial watermen, Large population of horseshoe crabs and large concentration of shorebirds use these beaches in early May to mid June, See maps at the end of the appendix.

HABITAT: Tide gated marsh

THREATENED/ ENDANGERED:

OTHER: See maps at the end of the appendix.

RESPONSE CONSIDERATIONS

Ownership: State of New Jersey

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☒ Boat

STAGING AREAS: Cape May airport is the designated staging area offering expansive areas for large equipment storage and temp waste storage.

COLLECTION POINTS: Beach clean-up

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☒ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☒ Protect ☐ Recover

Minimum Boom Length: ft

Fishing Creek has tidal gates.

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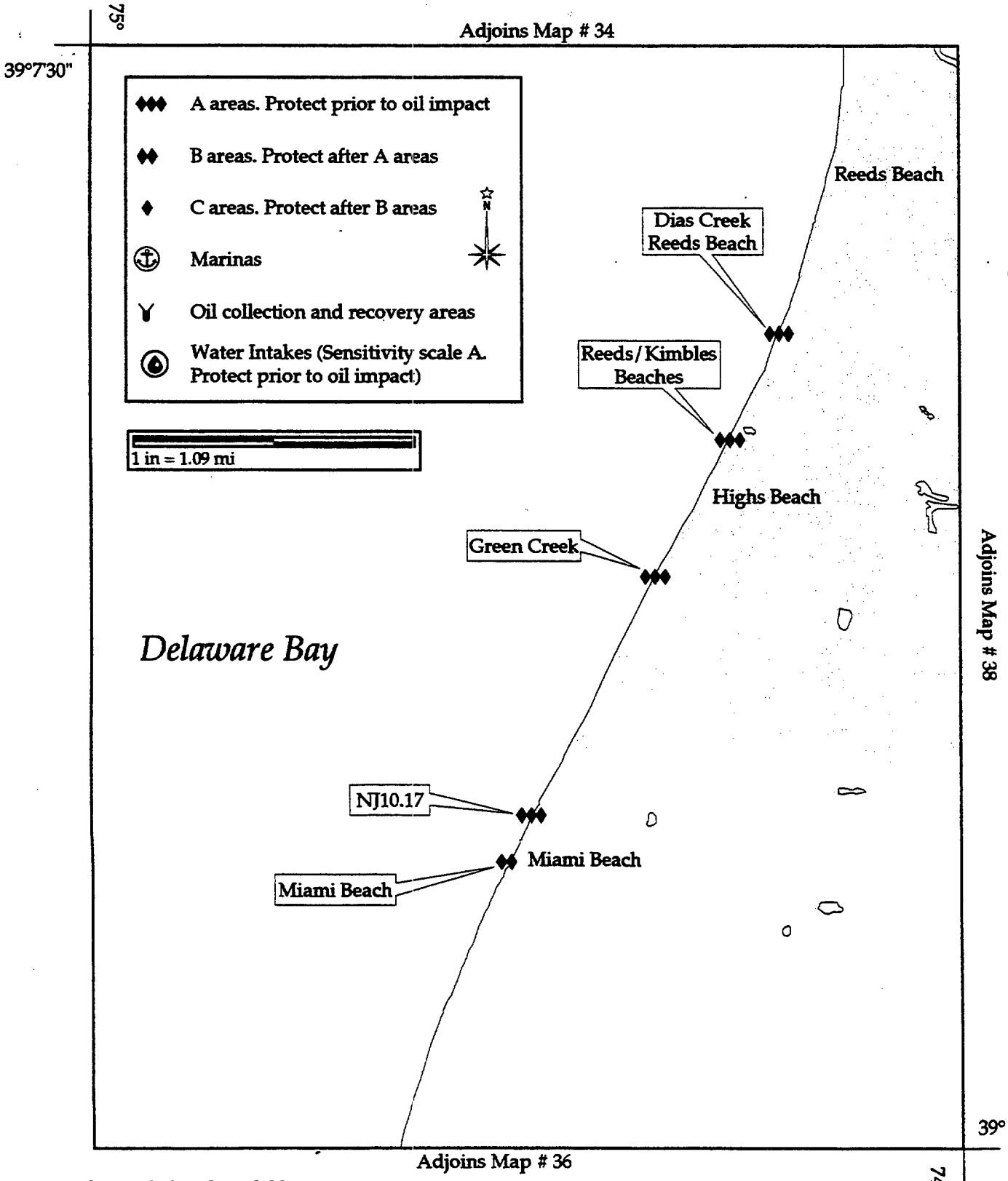

COTP Philly Quad 35

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 35 Name DIAS CREEK/REED BEACH

USGS Quad Rio Grande, NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 35 Lat. 39°05'44" N Long. 074°53'59" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: North of Rio Grand, West of Cape May CourtHouse, South of Dennis Creek Fish & Wildlife Management Area.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☒ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☐ Su ☐ F ☐ W ☐

WILDLIFE: Numerous Waterfowl species in fall, winter, and spring, some species breeding in summer, otter, wading birds, shorebird concentrations and houreshoe crabs early May to Mid-June see maps at end of appendix. Gulls and terns, muskrats, large numbers of glossy ibis in spring and summer.

HABITAT: Tidal marsh and beach

THREATENED/ ENDANGERED:

OTHER: Commercial crabbers and eelers

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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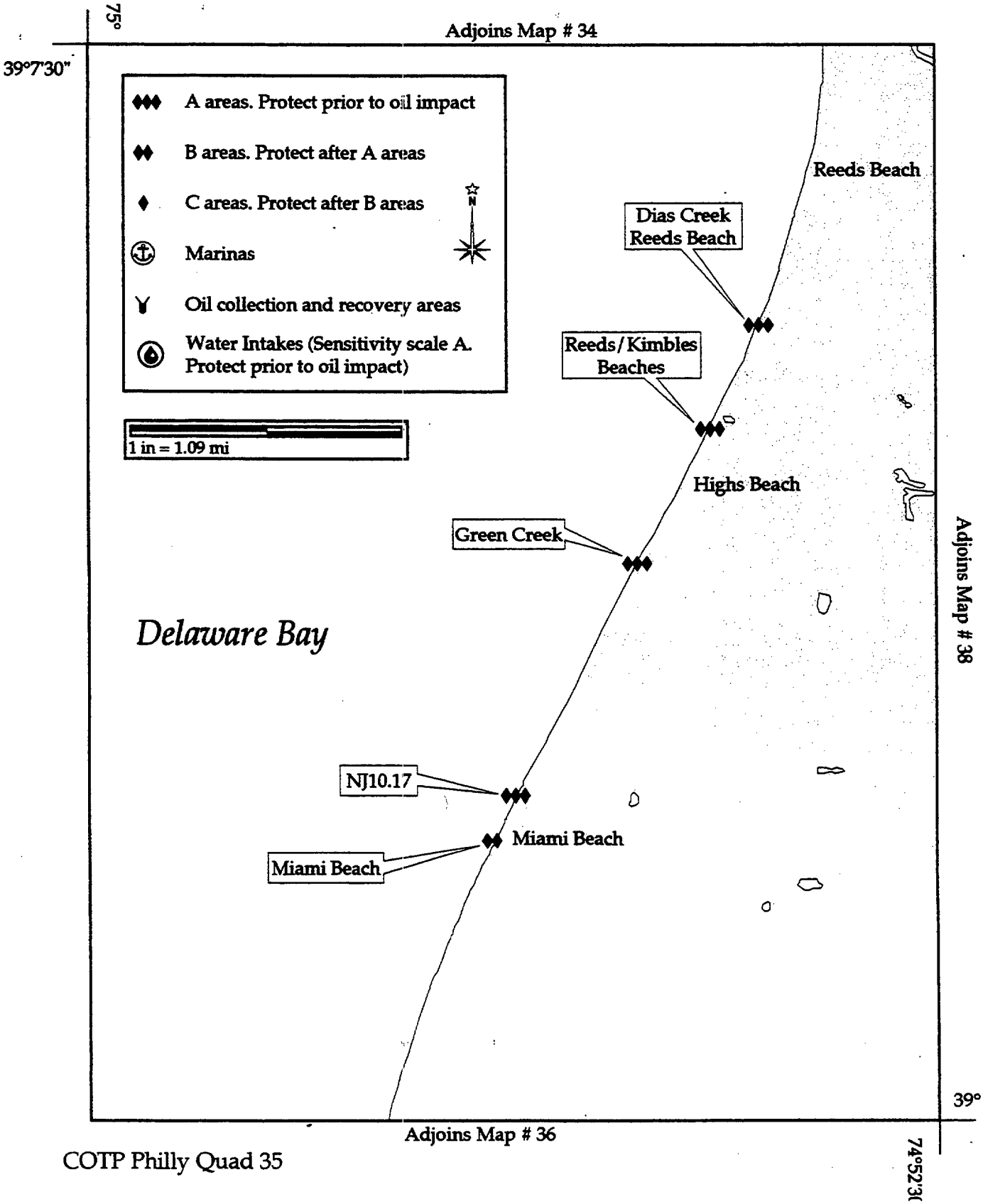

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. _____ Map No. _____ Name REEDS/KIMBLES BEACHES

USGS Quad HEISLERVILLE/RIO GRANDE NOAA Chart _____ Other _____

NOAA ESI Atlas _____ ESI Map # 35 Lat. 39°03'51" N Long. 074°55'19" W

Agency/Contact

U.S. Fish & Wildlife Service, John Heinz National Wildlife Refuge (610) 521-0662

U.S. Fish & Wildlife Service, Supawna Meadows National Wildlife Refuge (609) 935-1487

U.S. Fish & Wildlife Service, Cape May National Wildlife Refuge (609) 463-0994

SITE DESCRIPTION Area: _____ Tidal Range: _____ ft Max Currents: _____ kts

GEOGRAPHIC LOCATION: JUST SOUTH OF BIDWELL CREEK, INCLUDES DIAS CREEK

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☐ Su ☐ F ☐ W ☐

WILDLIFE: VERY LARGE CONCENTRATIONS OF HORSESHOE CRABS AND SHOREBIRDS DURING EARLY MAY TO MID-JUNE-SEE MAPS AT END OF APPENDIX.

HABITAT:

THREATENED/ ENDANGERED:

OTHER: OYSTER REEF (MAN-MADE) JUST OFFSHORE.

RESPONSE CONSIDERATIONS Ownership: _____

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS:

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: _____ ft

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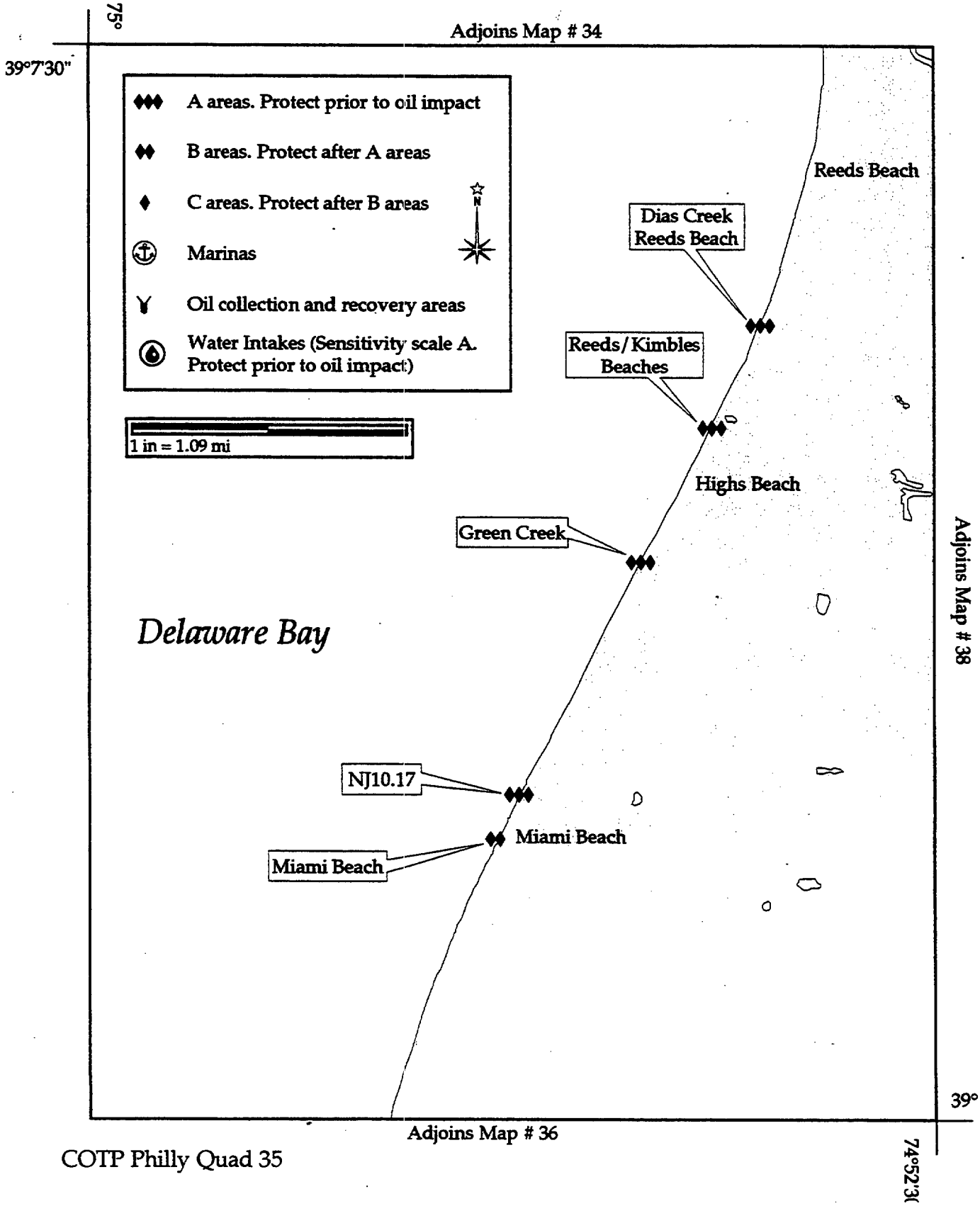

COTP Philly Quad 35

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 35 Name GREEN CREEK

USGS Quad Rio Grande, NJ NOAA Chart 12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 35 Lat. 39°03'51" N Long. 074°55'19" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: ft Max Currents: kts

GEOGRAPHIC LOCATION: Located between the south Norbury Landing and High Beach on the north.

PHYSICAL DESCRIPTION: Sand beaches opening up to and expansive wetlands area.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☒ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☒ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Numerous Waterfowl species in fall, winter, and spring, some species breeding in summer, otter, wading birds, shorebird concentrations and horseshoe crabs early May to Mid-June see maps at end of appendix. Gulls and terns, muskrats, larsge numbers of glossy ibis in spring and summer.

HABITAT: Tidal beach and mud flats

THREATENED/ ENDANGERED:

OTHER: Commercial crabbers and ellers

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

STAGING AREAS:

COLLECTION POINTS: Collection of material can best be made on the beach.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☐ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover

Minimum Boom Length: ft

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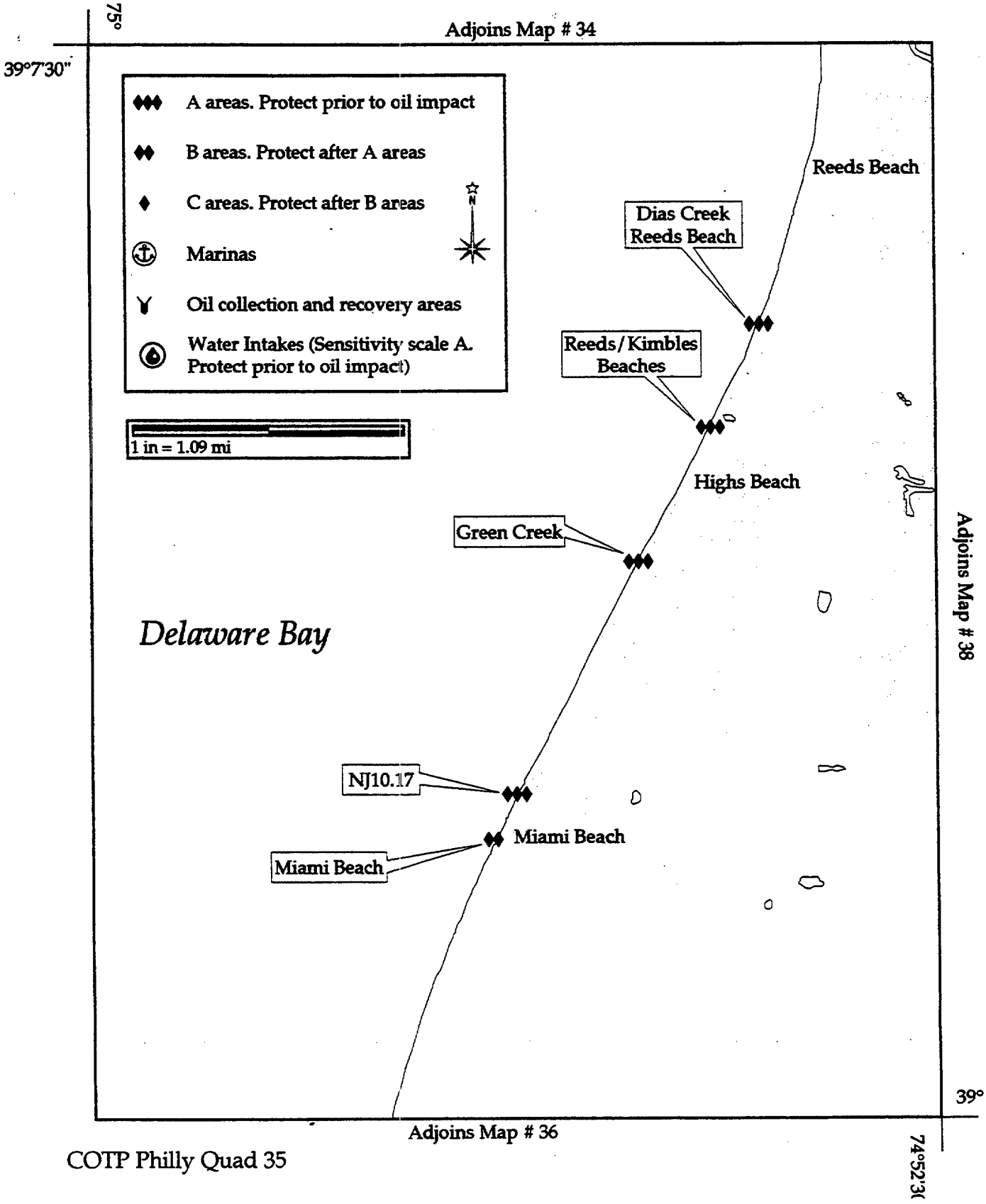

COTP Philly Quad 35

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NO9.6 Map No. 6 Name CAPE MAY INLET

USGS Quad CAPE MAY NJ NOAA Chart 12214 Other

NOAA ESI Atlas PA / DE / NJ ESI Map # 36 Lat. 38°50'5" N Long. 075°52'1" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

SITE DESCRIPTION

Area: Tidal Range: 4.5 ft Max Currents: 2.2 kts

GEOGRAPHIC LOCATION: Northeast of Cape May Proper, bound by USCG Training Center to the south and USCG Electronic Engineering Center to the north.

PHYSICAL DESCRIPTION: A well maintained inlet between two jetties. Inlet is used by commercial fishing fleet, pleasure craft, and the Coast Guard.

SHORELINE TYPES: (ESI Rank)

- [X] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [X] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Coastal marshes and inlets harbor vast numbers of igrating and wintering waterfowl from October through April. During remaining months these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors.

HABITAT: HIGH SENITIVITY - salt marshes on inside of inlet. Area is a major stop for pleasure boats. Priority is to protect all back bays from an outside pollutant.

THREATENED/ ENDANGERED: Inlet and surrounding areas provide vital nesting and feeding habitats for endangered and threatened beach nesting animals.

OTHER: PIPING PLOVER SP & SU, LEAST TERN SP & SU, ROSEATE TERN SP & SU, BLACK SKIMMER SP & SU, OSPREY SP & SU, PEREGRINE FALCON SP & SU, AND BALD EAGLE W to SU.

RESPONSE CONSIDERATIONS

Ownership: US COAST GUARD

ACCESS:

- [X] Vehicle — Land: Heavy equipment; Vehicular: foot
- [X] Helicopter — Water: Barge/LCM, small craft
- [X] Boat — Air: Helicopter, fixed wing

STAGING AREAS: US Coast Guard Training Center

COLLECTION POINTS: Beach on ocean shore side. Numerous areas in the harbor.

OTHER: Air space over the Coast Guard Air Station on the training center is restricted.

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [X] Recover Minimum Boom Length: ft

Deflection booming on the outside of the inlet (ocean side). With the extreme currents and tides, this configuration will enable usage of inlet and collection of material onb the beaches.

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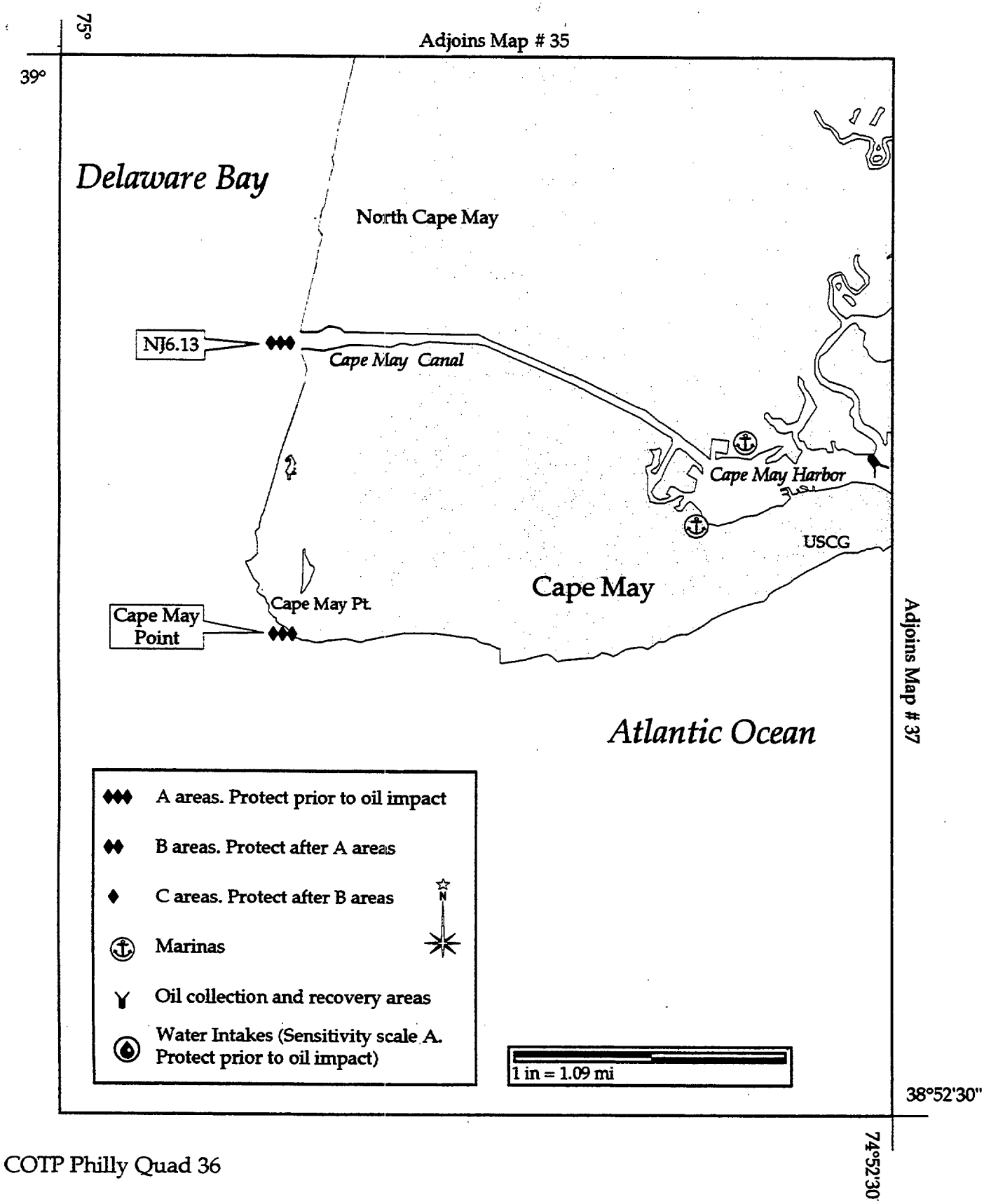
Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



M

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ6.13 Map No. 36 Name CAPE MAY CANAL

USGS Quad Cape May, NJ NOAA Chart 12214 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 36 Lat. 38°58'01" N Long. 074°57'85" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION Area: Tidal Range: 4.9 ft Max Currents: kts

GEOGRAPHIC LOCATION: Fm the GSPky, take the rt 109 exit to rt 9 S., follow rt 9 to the ferry dock, fm rt 47 take RT 9 S to ferry docks.

PHYSICAL DESCRIPTION:

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☐ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☒ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK SEASONAL CONSIDERATIONS: Sp ☐ Su ☐ F ☐ W ☐

WILDLIFE: Shorebirds in the spring.

HABITAT: Tidal mud flats and beaches

THREATENED/ ENDANGERED: Piping plovers, least terns, osprey

OTHER:

RESPONSE CONSIDERATIONS Ownership:

ACCESS:

- ☐ Vehicle
- ☐ Helicopter
- ☐ Boat

Land:heavy equipment,vehicular;water:barge/lcm,small craft; air helicopter

STAGING AREAS: The ferry terminal parking lot can be utilized. Cape May Co. airport is the designated staging area offering expansive areas for large equip storage & temp waste storage site.

COLLECTION POINTS: Collection pooints will have to be at hte Cape May Ferry piers where access to the water is greatest. Collection booms can be secured to ferry bulk heads.

OTHER:

PROTECTION STRATEGIES Degree of Protectability: High ☒ Medium ☐ Low ☐

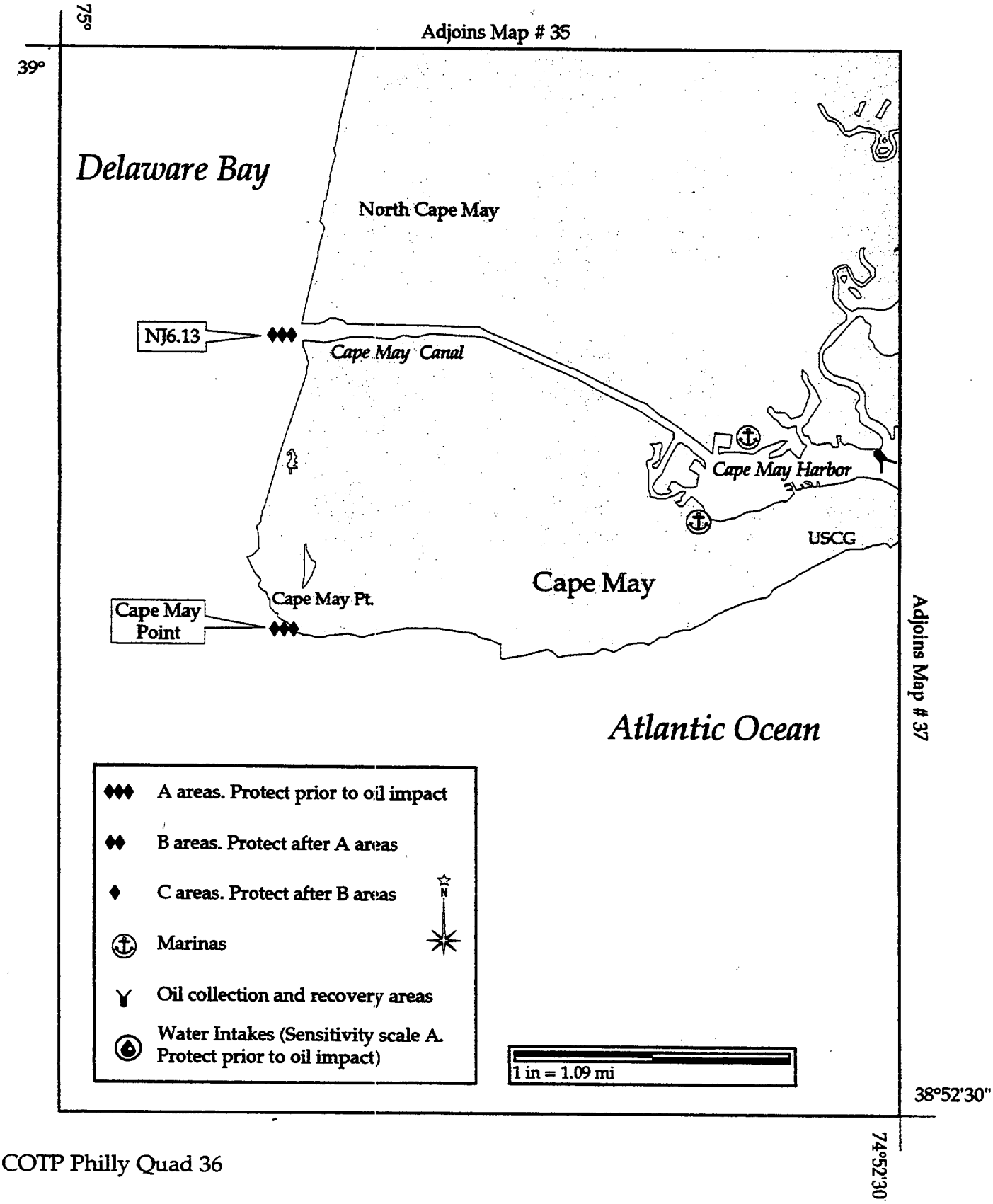
BOOMING METHOD: ☒ Deflect ☐ Protect ☒ Recover Minimum Boom Length: 1600 ft

The jetties that protect hte mouth of the canal can be utilized for anchoring points for deflection booms. The high volume of commercial and pleasure craft will require continuous tending.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NJ Map No. 36 Name CAPE MAY POINT

USGS Quad Cape May, NJ NOAA Chart 12214/12304 Other

NOAA ESI Atlas DE/NJ/PA ESI Map # 36 Lat. 38°55'93" N Long. 074°58'05" W

Agency / Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

NJ Department of Fish, Game, & Wildlife, Biologist (609) 785-0455 / (609) 292-9401

SITE DESCRIPTION

Area: Tidal Range: 4.8 ft Max Currents: kts

GEOGRAPHIC LOCATION: Located at the most southern tip of Cape May Co. From Garden State Parkway, take Rt 9 south, at Seashore Rd (Rt 626) take left follow to Sunset Blvd Rt 606

PHYSICAL DESCRIPTION: Dunes with white sandy beaches

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☒ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☐ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☐ 9. Sheltered Tidal Flats
- ☐ 10. Marshes
- ☐ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☐ Su ☐ F ☐ W ☐

WILDLIFE: Cape May Point offers prime habit to many different species of water fowl. Shore bird concentrations in the spring. See maps at the end of the appendix.

HABITAT: Beach

THREATENED/ ENDANGERED: Least terns and piping plovers, osprey.

OTHER: Biggest concern is in spring and summer of oil coming ashore.

RESPONSE CONSIDERATIONS

Ownership: Publicly Owned

ACCESS:

- ☒ Vehicle
- ☒ Helicopter
- ☒ Boat

Land: heavy equipment, vehicular; Air: helicopter

STAGING AREAS: Two main staging areas 1) U.S.C.G. Training Center. 2) Cape May Co. Airport. Both areas expansive areas for equipment storage & communications. Cape May Airport temp storage site.

COLLECTION POINTS: In the event of fouling this area, collection from the shore side is the only feasible method.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

BOOMING METHOD: ☐ Deflect ☐ Protect ☐ Recover Minimum Boom Length: ft

Due to the severe shoaling, dangerous surf and currents, booming is not recommended at this site.

Captain of the Port Philadelphia

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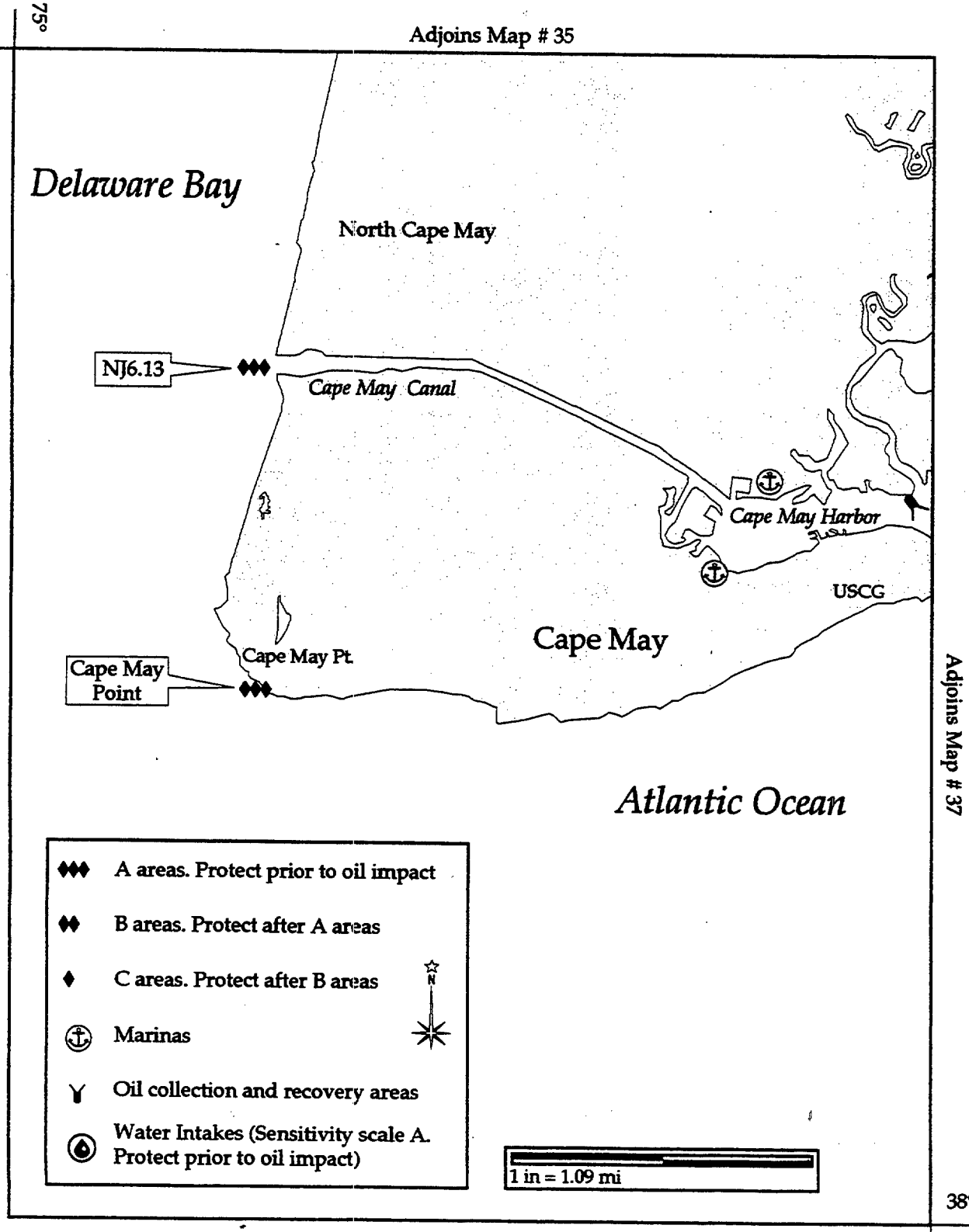
USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 36

M

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NO15.5 Map No. 6 Name Herford Inlet, NJ.

USGS Quad Stone Harbor, NJ NOAA Chart 12318 Other

NOAA ESI Atlas DE / NJ/ PA ESI Map # 38 Lat. 39°01'0" N Long. 075°47'5" W

Agency / Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

SITE DESCRIPTION

Area: Tidal Range: 4.4 ft Max Currents: kts

GEOGRAPHIC LOCATION: North of Wildwood, NJ., South of Stone Harbor,

PHYSICAL DESCRIPTION: Inlet is subject to continual change due to severe shoaling. Both north and south sides of the inlet have sand beachs, on the south side there are also steel & wood bulkheads.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [ ] 3. Fine Sand Beaches
- [X] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [ ] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Coastal marshes and inlets harbor vast numbers of migrating and wintering waterfowl from October to April. during the remaining months these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors.

HABITAT: HIGH SENSITIVITY - Main Channels in inlet lead to Great Sound & Grassy Sound, while other channels lead to a vast complex of tidal creeks, coves, rivers, & marshes. Usage: Shallow water shell fish, sporfisheries, commercial shell fisheries, & commercial fisheries.

THREATENED/ ENDANGERED: Inlets and surrounding areas harbor vast nesting and feeding habitat for Endangered and Threated beach nesting animals. PIPING PLOVER SP & SU, LEAST TERN SP & SU, ROSEATE TERN SP & SU, BLACK SKIMMER SP & SU, OSPREY SP & SU, PEREGRINE FALCON SP & SU, AND BALD EAGLE W to SU.

OTHER:

RESPONSE CONSIDERATIONS

Ownership: Public & Privite

ACCESS:

- [ ] Vehicle — Land - Heavy Equipment - Vehicular - Foot
- [ ] Helicopter — Water - LCM - Small Craft
- [X] Boat — Air - Helicopter - Fixed Wing

STAGING AREAS: North Wildwood Beachs, Herford Inlet Light

COLLECTION POINTS:

OTHER: SMALL CRAFT MOST USE CAUTION IN INLET DUE TO SHOALING & BREAKING SURF, DUNES ARE

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [X] Recover

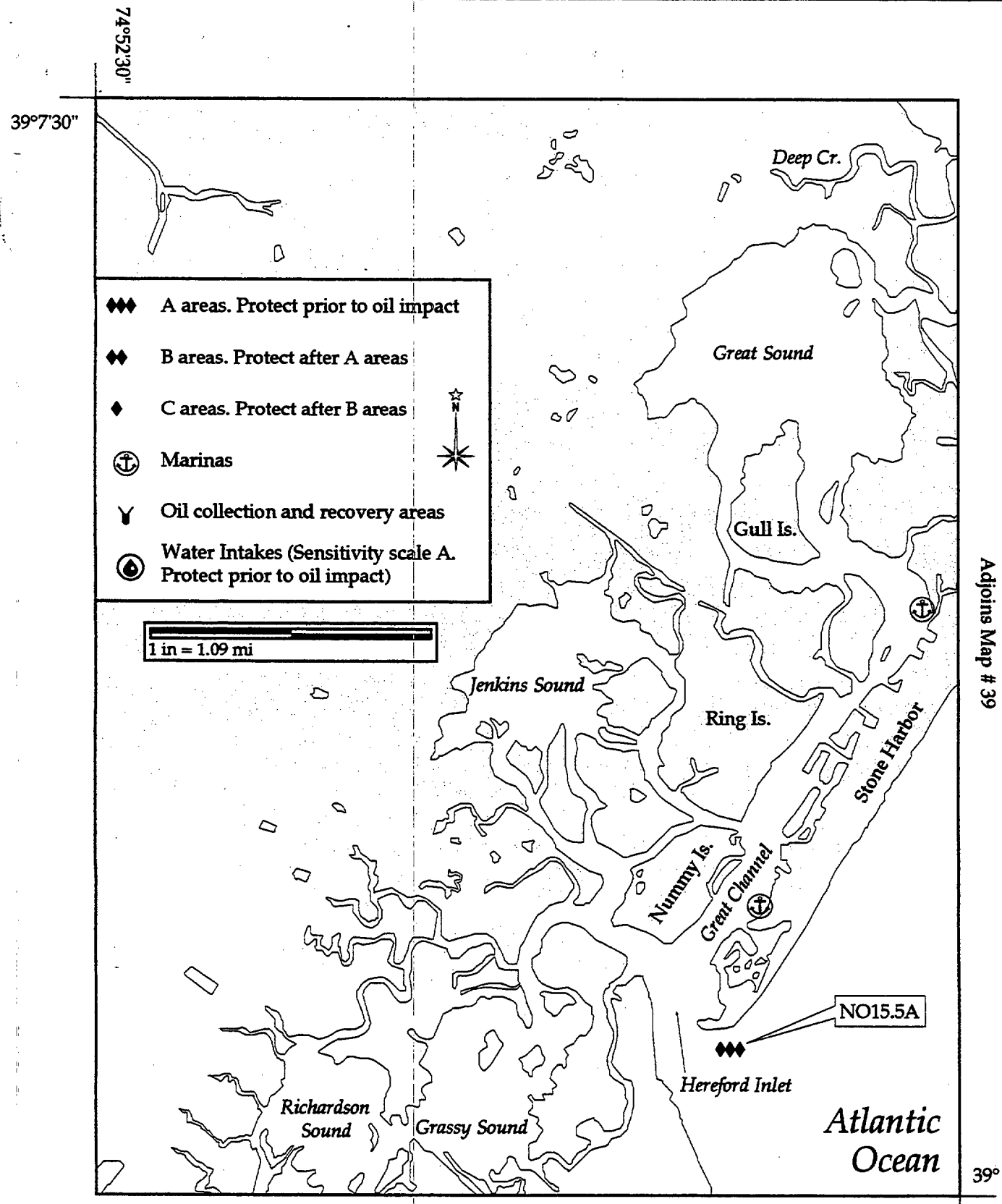
Minimum Boom Length: ft

Deflection booming off shore at the inlets mouth to stop material from entering the Inlet. Due to extreme currents, there is no back up booming point.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



Adjoins Map # 39

COTP Philly Quad 38

☐ PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NO23.3A Map No. 6 Name TOWNSEND INLET, NJ.

USGS Quad Avalon, NJ NOAA Chart 12318 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 39 Lat. 39°07'04" N Long. 075°43'00" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

SITE DESCRIPTION

Area: Tidal Range: 3.9 ft Max Currents: kts

GEOGRAPHIC LOCATION: North of Avalon, NJ, South of Sea Isle City, NJ.

PHYSICAL DESCRIPTION: Inlet is subject to considerable change in depth. Used by pleasure craft. Sand beaches on both sides of inlet with some dunes on the north side.

SHORELINE TYPES: (ESI Rank)

- ☐ 1. Exposed Rocky Shores
- ☐ 2. Wave Cut Platforms
- ☒ 3. Fine Sand Beaches
- ☐ 4. Coarse Sand Beaches
- ☐ 5. Sand and Gravel Beaches
- ☐ 6. Gravel Beaches / Riprap
- ☒ 7. Exposed Tidal Flats
- ☐ 8. Sheltered Rocky Shores
- ☒ 9. Sheltered Tidal Flats
- ☒ 10. Marshes
- ☒ Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp ☒ Su ☒ F ☒ W ☒

WILDLIFE: Coastal marshes and inlets harbor vast numbers of migrating and wintering waterfowl from October to April. During the remaining months these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors.

HABITAT: HIGH SENSITIVITY - Shallow water is predominant in this area. Inlet leads to a vast bay area consisting of numerous small creeks coves, & rivers. Usage: shallow water shell fish, sport fisheries, commercial fisheries, and commercial shell fisheries. Priority is to protect all back inlets and surrounding areas provide vital nesting and feeding habitat for Endangered and

THREATENED/ ENDANGERED: Threatened beach nesting animals.

OTHER: PIPING PLOVER SP & SU, LEAST TERN SP & SU, ROSEATE TERN SP & SU, BLACK SKIMMER SP & SU, OSPREY SP & SU, PEREGRINE FALCON SP & SU, AND BALD EAGLE W TO SU.

RESPONSE CONSIDERATIONS

Ownership: Public & Private

ACCESS:

- ☒ Vehicle — Land - Heavy Equipment - Vehicular - Foot
- ☒ Helicopter — Water - LCM - Small Craft
- ☒ Boat — Air - Helicopter - Fixed Wing

STAGING AREAS:

COLLECTION POINTS: On beach for beach removal.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High ☐ Medium ☒ Low ☐

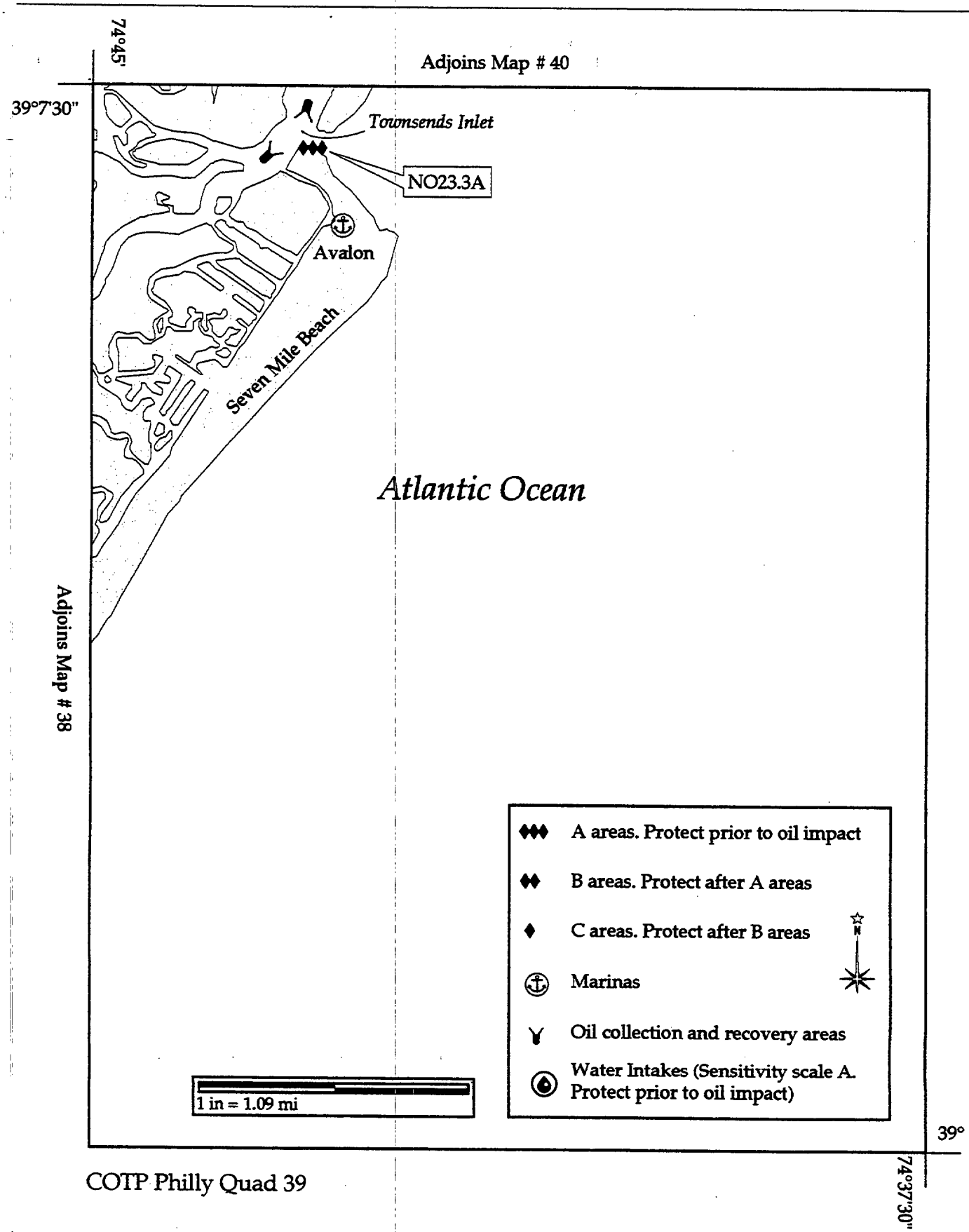
BOOMING METHOD: ☒ Deflect ☐ Protect ☒ Recover Minimum Boom Length: ft

Deflection boomimg off shore at the mouth of the Inlet to stop material from entering the bay. Due to extreme currents there is no back up boomimg point.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 39

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. N029.3 Map No. 6 Name CORSON INLET, NJ.

USGS Quad Sea Isle City, NJ NOAA Chart 12318 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 40 Lat. 39°12'06" N Long. 075°39'00" W

Agency / Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

SITE DESCRIPTION

Area: Tidal Range: 3.9 ft Max Currents: kts

GEOGRAPHIC LOCATION: North of Strathmere, NJ., South of Ocean City, NJ.

PHYSICAL DESCRIPTION: Inlet is constantly Changing. It is shallow, with shifting shoals, and can be filled with breaking surf. Both north and south sides have sandy beachs and dunes.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [X] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Coastal marshes and inlets harbor vast number of migrating and wintering waterfowl from October to April. During the remaining months these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors.

HABITAT: HIGH SENSITIVITY - Shallow water is predominant in this area. Inlet leads to a vast bay area consisting of numerous small creeks, coves, and rivers. Usage: Shallow water shellfish, sport fisheries, commerial shellfisheries, commercial fisheries. FISHERIES ARE ABUNDENT.

THREATENED/ ENDANGERED: Inlets and surrounding areas provide vital nesting and feeding habitat for Endangered and Threatened beach nesting animals.

OTHER: PIPING PLOVER SP & SU, LEAST TERN SP & SU, ROSEATE TERN SP & SU, BLACK SKIMMER SP & SU, OSPREY SP & SU, PEREGRINE FALCON SP & SU, AND BALD EAGLE W to SU

RESPONSE CONSIDERATIONS

Ownership: Public & Privite

ACCESS:

- [ ] Vehicle — Land - Heavy Equipment - Vehicular - Foot
- [ ] Helicopter — Water - LCM - Small Craft
- [X] Boat — Air - Helicopter - Fixed Wing

STAGING AREAS:

COLLECTION POINTS: On beach for beach removal operations

OTHER: SAND DUNES ARE PROTECTED, AVIOD ANY VEHICULAR TRAFFIC ON THEM.

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

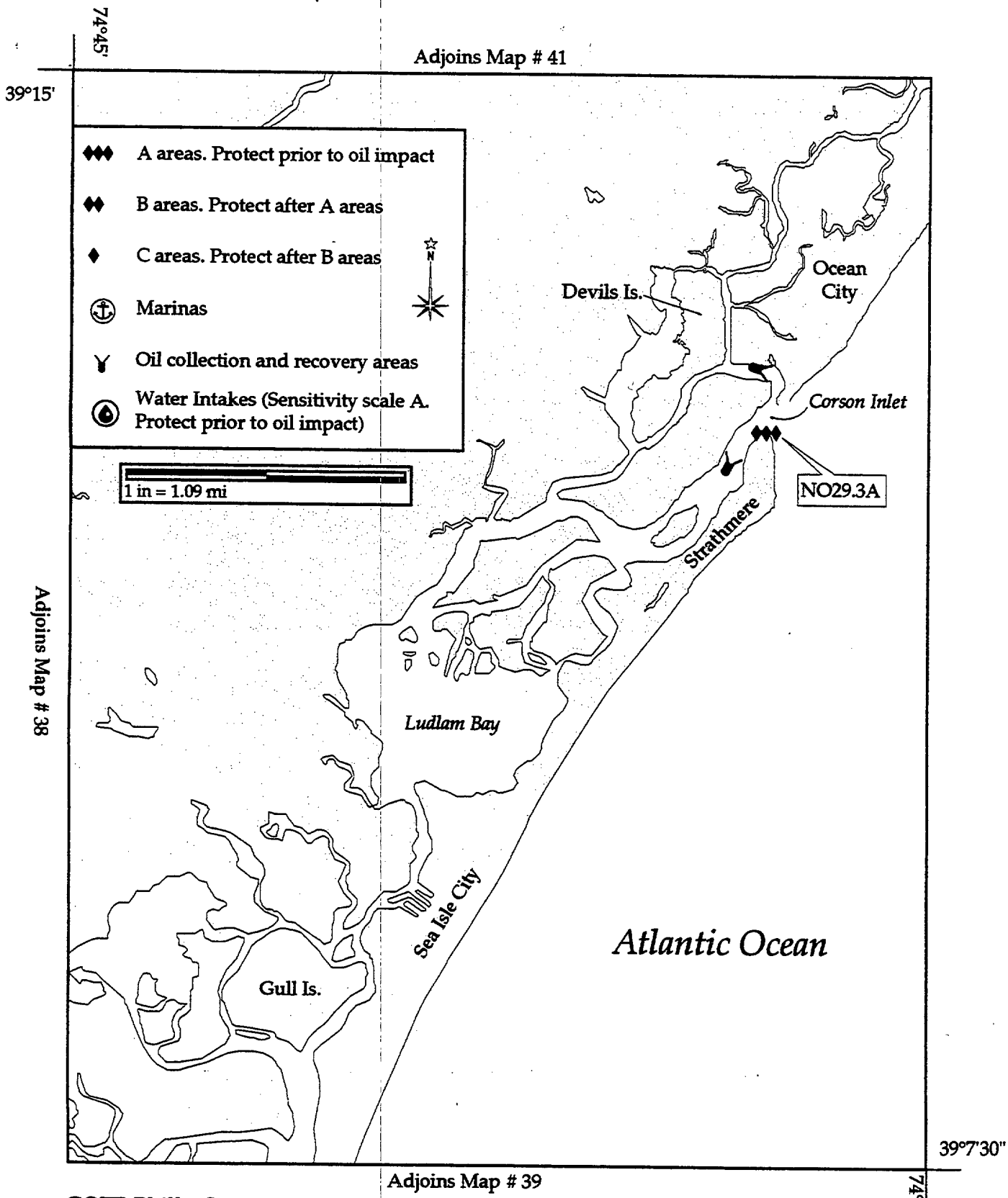
BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover Minimum Boom Length: f

Deflection booming off shore at the inlet mouth to stop material from entering the back bay area. Due to extreme currents, there is no back up booming point.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 40

M

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NO36.7 Map No. _____ Name GREAT EGG INLET, NJ.

USGS Quad Ocean City, NJ NOAA Chart 12318/12323 Other _____

NOAA ESI Atlas DE / NJ / PA ESI Map # 42 Lat. 39°18'00" N Long. 074°32'05" W

Agency / Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

SITE DESCRIPTION

Area: _____ Tidal Range: 3.5 ft Max Currents: _____ kts

GEOGRAPHIC LOCATION: North of Ocean City, NJ. , South of Longport, NJ., East of Summers Point, NJ.

PHYSICAL DESCRIPTION: The inlet is used by both local fishing vessels and pleasure boats with drafts up to 5'. Breakers extend along the sand bars even in moderate weather, and are hazardous to boats.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [X] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Coastal marshes and inlets harbor vast numbers of migrating and wintering waterfowl from October to April. During remaining months these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors.

HABITAT: HIGH SENSITIVITY - Shallow water predominant in this area. Inlet leads to a vast bay area consisting of numerous small creeks, coves, and rivers. Usage: Shallow water shellfish , sport fisheries, commercial shellfisheries, and commercial fisheries. Priorty is to protect all backbays

THREATENED/ ENDANGERED: Inlets and surrounding areas provide vital nesting and feeding habitat for Endangered and Threatened beach nesting animals.

OTHER: PIPING PLOVER SP & SU, LEAST TERN SP & SU, ROSEATE TERN SP & SU, BLACK SKIMMER SP & SU, OSPREY SP & SU, PEREGRINE FALCON SP & SU, AND BALD EAGLE W to SU.

RESPONSE CONSIDERATIONS

Ownership: Public & Private

ACCESS:

- [X] Vehicle — Land - Heavy Equipment - Vehicular - Foot
- [X] Helicopter — Water - Lite Barge/LCM - Small Craft
- [X] Boat — Air - Helicopter - Fixed Wing

STAGING AREAS:

COLLECTION POINTS: On beach for beach reomval operations.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [X] Recover

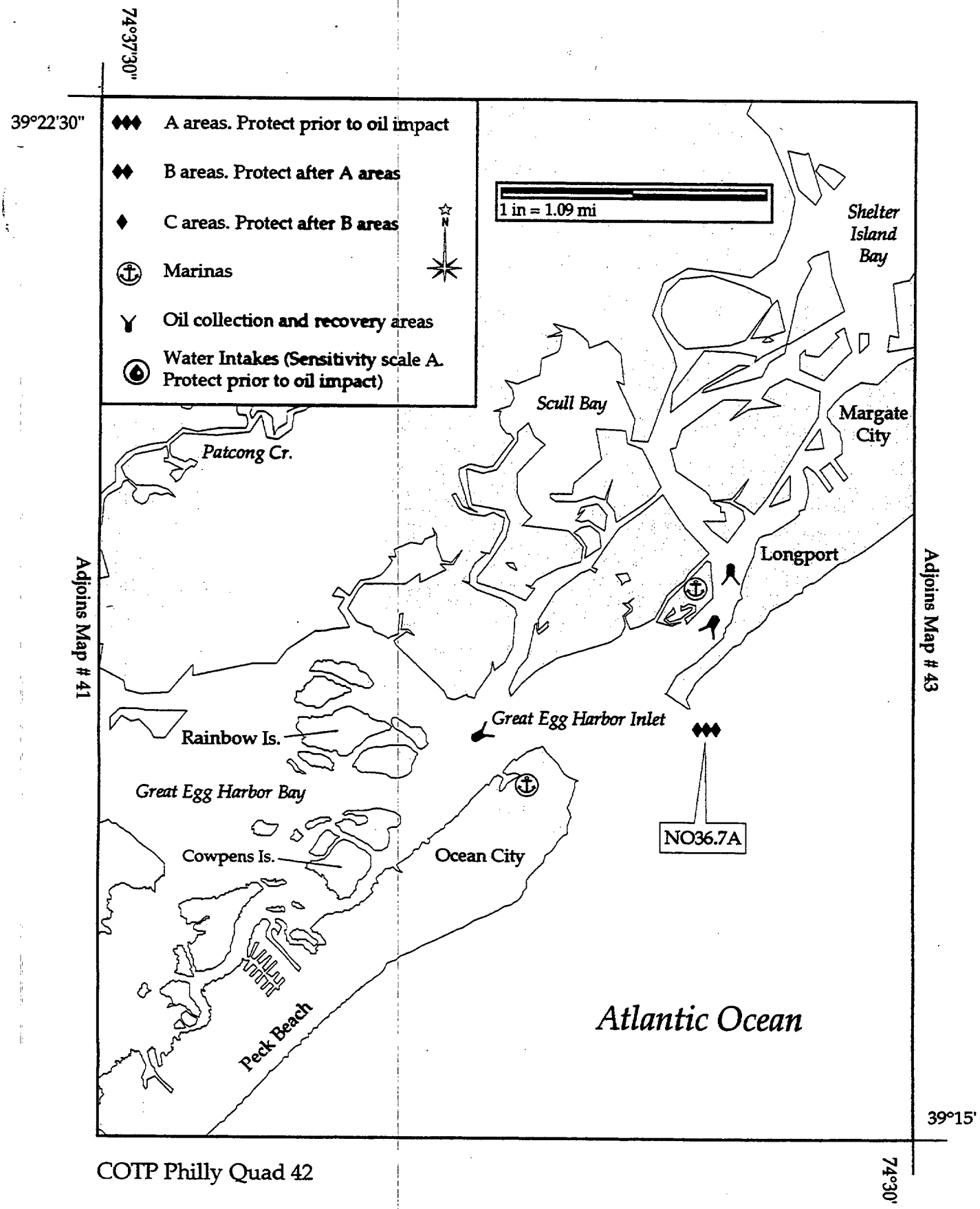
Minimum Boom Length: _____ ft

Deflection booming off shore at the inlet mouth to stop material from entering the bay. Due to extreme current, there is no back up booming point.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 42

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NO44.4 Map No. 7 Name ABSECON INLET, NJ.

USGS Quad Oceanville, NJ NOAA Chart 12318 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 44 Lat. 39°21'05" N Long. 074°23'08" W

Agency / Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

SITE DESCRIPTION

Area: Tidal Range: 3.9 ft Max Currents: kts

GEOGRAPHIC LOCATION: Between Atlantic City and Brigantine.

PHYSICAL DESCRIPTION: Inlet is protected by jetties on the north and south sides. Inlet is used primarily by resident fishing fleet, and pleasure craft.

SHORELINE TYPES: (ESI Rank)

- [X] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [X] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [ ] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Coastal marshes and inlets harbor vast numbers of migrating and wintering waterfowl from October to April. During remaining months these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors.

HABITAT: HIGH SENSITIVITY - Shallow water predominant in this area. Usage: shallow water shellfish, sportfisheries, commercial shellfisheries, and commercial fisheries. Priorty is to protect all backbays from outside pollutants.

THREATENED/ ENDANGERED: Inlets and surrounding areas provide vital nesting and feeding habitat for endangered and threatened beach nesting animals.

OTHER: PIPING PLOVER SP & SU, LEAST TERN SP & SU, ROSEATE TERN SP & SU, BLACK SKIMMER SP & SU, OSPREY SP & SU, PEREGRINE FALCON SP & SU, AND BALD EAGLE W to SU.

RESPONSE CONSIDERATIONS

Ownership: PUBLIC & PRIVATE

ACCESS:

- [X] Vehicle
- [X] Helicopter
- [X] Boat

Land: Heavy Equipment - Vehicular - Foot
Water: Barge - LCM - Small Craft
Air: Helo - Fixed Wing

STAGING AREAS:

COLLECTION POINTS: Outside: On beaches north and south of inlet use beach removal.
Inside: Use deflection boom to move product to small cove on north side.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [ ] Low [X]

BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover

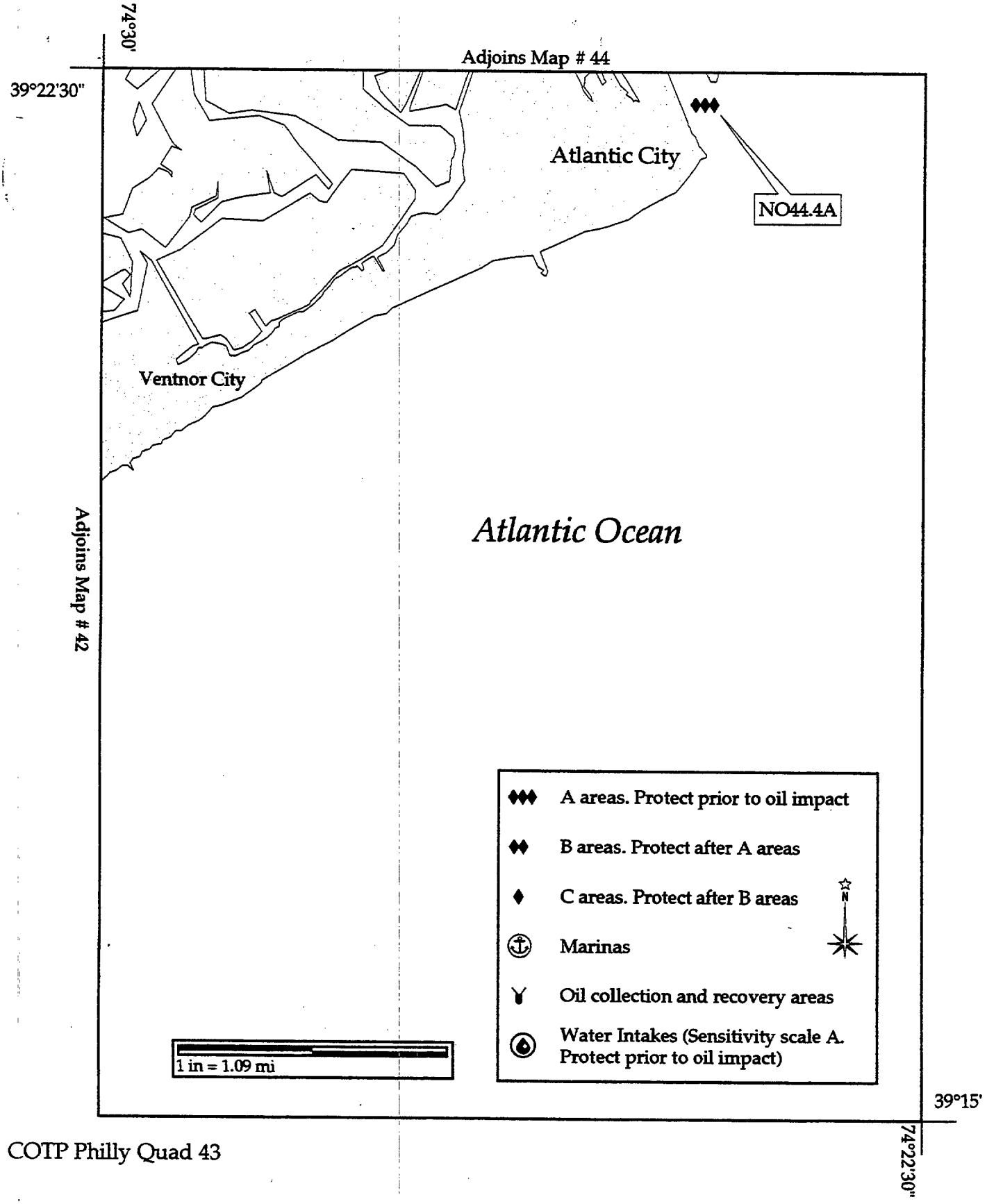
Minimum Boom Length: ft

Deflection booming off shore at the inlet mouth to stop material from entering back bays. There are no back up booming points.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE

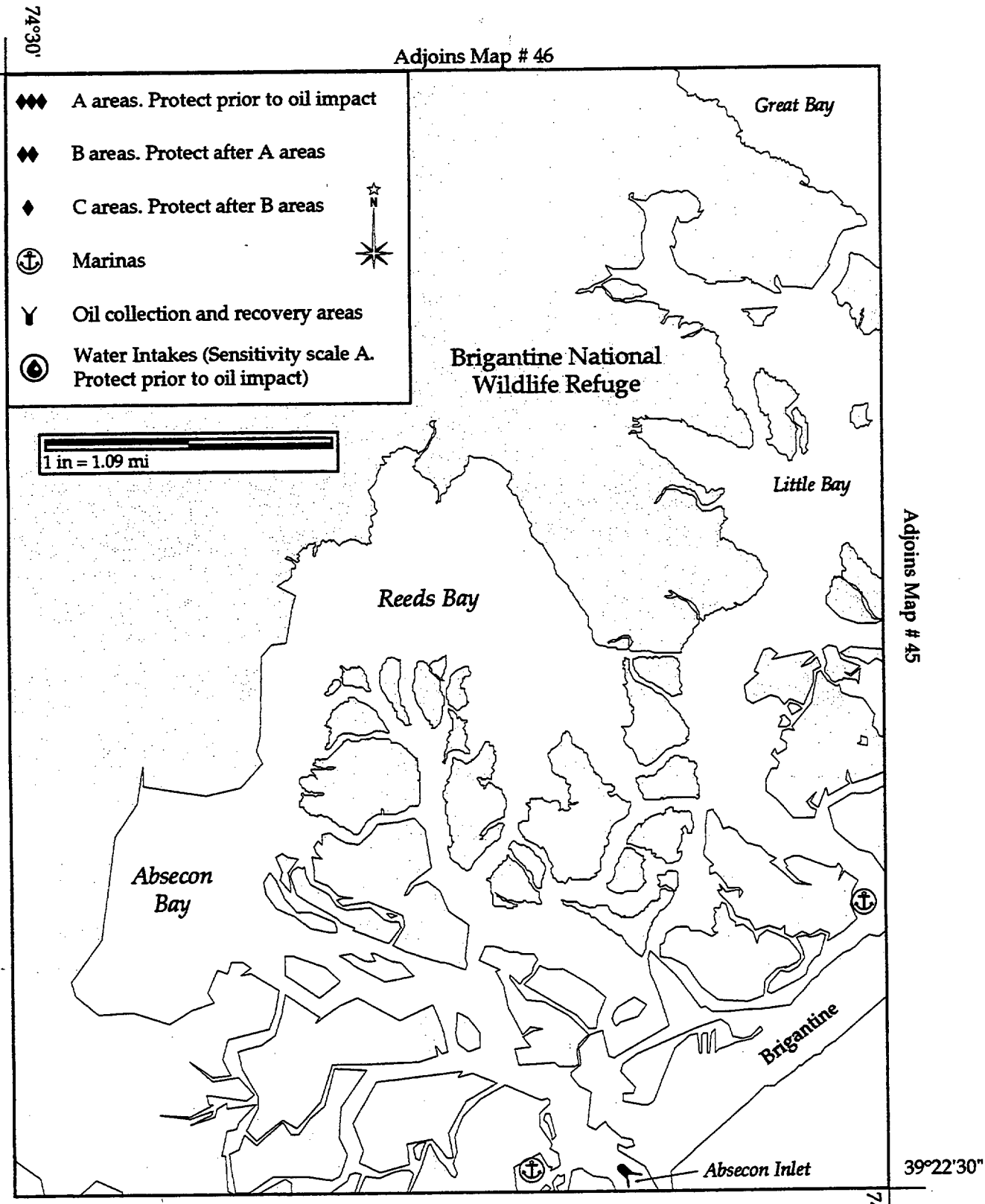


COTP Philly Quad 43

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 44

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[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NO51 Map No. 7 Name BRIGANTINE INLET, NJ.

USGS Quad Brigantine Inlet, NJ NOAA Chart 12323 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 45 Lat. 39°26'48" N Long. 074°19'00" W

Agency / Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

SITE DESCRIPTION

Area: Tidal Range: 3.7 ft Max Currents: kts

GEOGRAPHIC LOCATION: South of Little Egg Inlet, North of Brigantine, NJ. , East of Brigantine National Wildlife Refuge.

PHYSICAL DESCRIPTION: Brigantine Inlet has shoaled to such an extent that it is unsafe for even the shallowest draft vessels.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [X] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Coastal marshes and inlets harbor vast numbers of migrating and wintering waterfowl from October to April. During the remaining months these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors.

HABITAT: HIGH SENSITIVITY - Main Channels in inlet lead to Brigantine NWR while other channels lead to a vast complex of Bays, sounds, tidal creeks, coves, rivers, & marshes. Usage: Shallow water shell fish, sport fisheries, commercial shell fisheries, & commercial fisheries.

THREATENED/ ENDANGERED: Threatened beach nesting animals.

OTHER: PIPING PLOVER SP & SU, LEAST TERN SP & SU, ROSEATE TERN SP & SU, BLACK SKIMMER SP & SU, OSPREY SP & SU, PEREGRINE FALCON SP & SU, AND BALD EAGLE W to SU.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [ ] Vehicle
- [ ] Helicopter
- [X] Boat

From the Brigantine side of the Inlet access is by Heavy Equipment, Vehicle, foot, LCM, Small Craft, Helo. and Fixed Wing. From the Gallows Island access is by LCM, Small Craft, Helo Only.

STAGING AREAS:

COLLECTION POINTS: Ocean side. Direct material to beach for beach removal operations.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [X] Recover

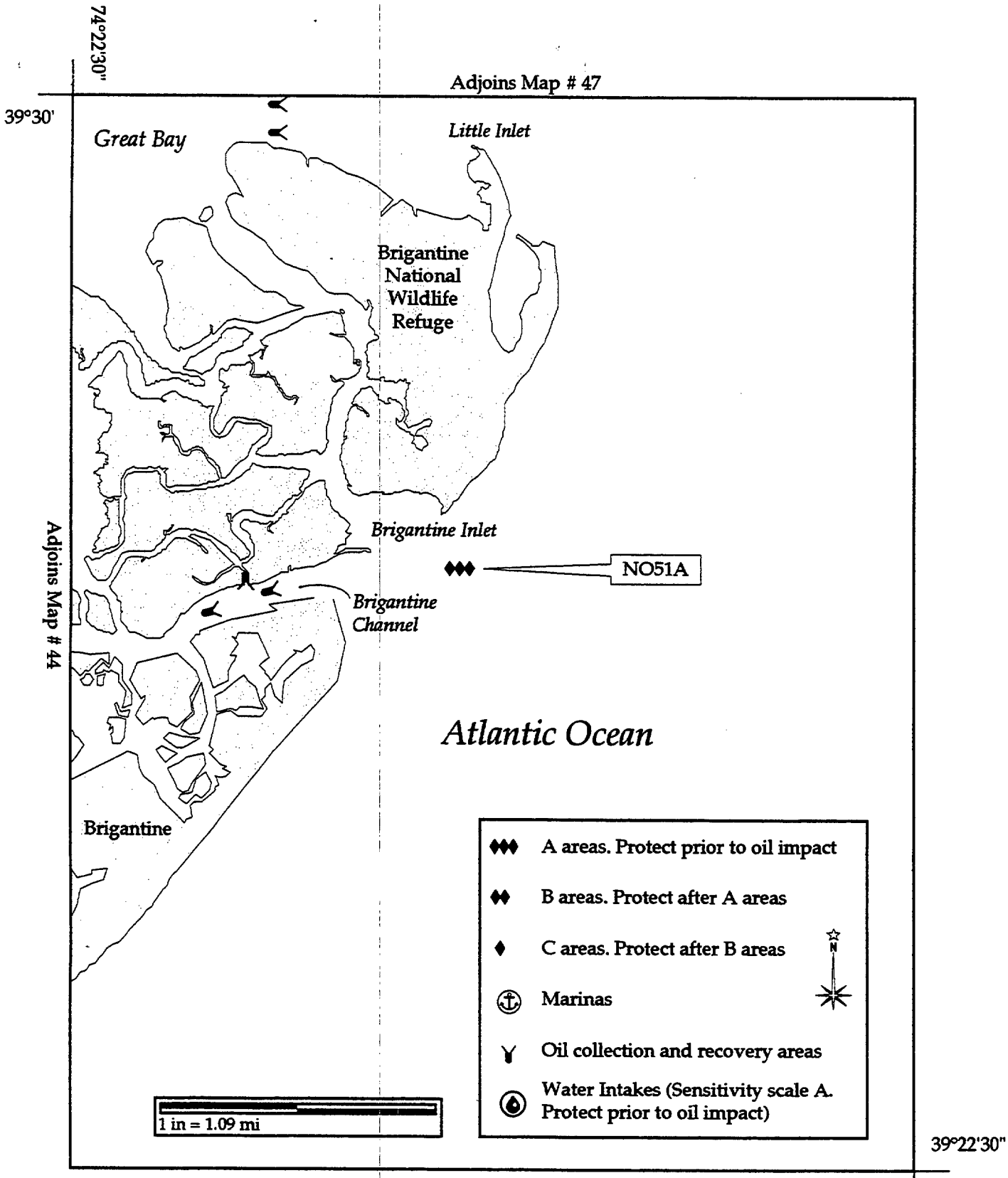
Minimum Boom Length: f

Deflection booming off shore at the inlet mouth to stop material from entering the back bays. Due to the extreme current, there is no back up booming points.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 45

[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NO56.2 Map No. 7 Name Little Egg Inlet, NJ

USGS Quad Brigantine Inlet/Tuckerton NOAA Chart 12323 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 46 Lat. 39°29'00" N Long. 074°17'06" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

SITE DESCRIPTION

Area: Tidal Range: 3.4 ft Max Currents: kts

GEOGRAPHIC LOCATION: South of Beach Haven, NJ, North of Brigantine , NJ, and East of Great Bay.

PHYSICAL DESCRIPTION: Little Egg Inlet is used considerably by local pleasure and fishing boats. The inlet is subject to continual change due to shoaling, during storms surf covers entire inlet.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [X] 3. Fine Sand Beaches
- [ ] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [ ] 6. Gravel Beaches / Riprap
- [ ] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [ ] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Coastal marshes and inlets harbor vast numbers of migrating and wintering waterfowl from October to April. During the remaining months these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors.

HABITAT: HIGH SENSITIVITY - Main Channels in inlet leads to Forsythe NWR, and Great Bay & Absecon Wildlife Management Area. Usage: Shallow water shell fish, sport fisheries, commercial shell fisheries, & commercial fisheries.

THREATENED/ ENDANGERED: Inlet and surrounding areas provide vital nesting and feeding habitat for endangered and threatened beach nesting animals.

OTHER: PIPING PLOVER SP & SU, LEAST TERN SP & SU, ROSEATE TERN SP & SU, BLACK SKIMMER SP & SU, OSPREY SP & SU, PEREGRINE FALCON SP & SU, AND BALD EAGLE W to SU.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [X] Vehicle
- [X] Helicopter
- [X] Boat

From the Beach Haven side of the Inlet access is by Heavy Equipment, Vehicle, foot, LCM, Small Craft, Helo. and Fixed Wing. From the South side access is by LCM, Small Craft, and Helo Only.

STAGING AREAS:

COLLECTION POINTS: Ocean side. Direct material to beach for beach recovery operations.

OTHER:

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

BOOMING METHOD: [X] Deflect [ ] Protect [X] Recover

Minimum Boom Length: ft

Deflection booming off shore at the inlet mouth to stop material from entering the back bays. Due to the extreme current, there is no back up booming points.

Captain of the Port Philadelphia

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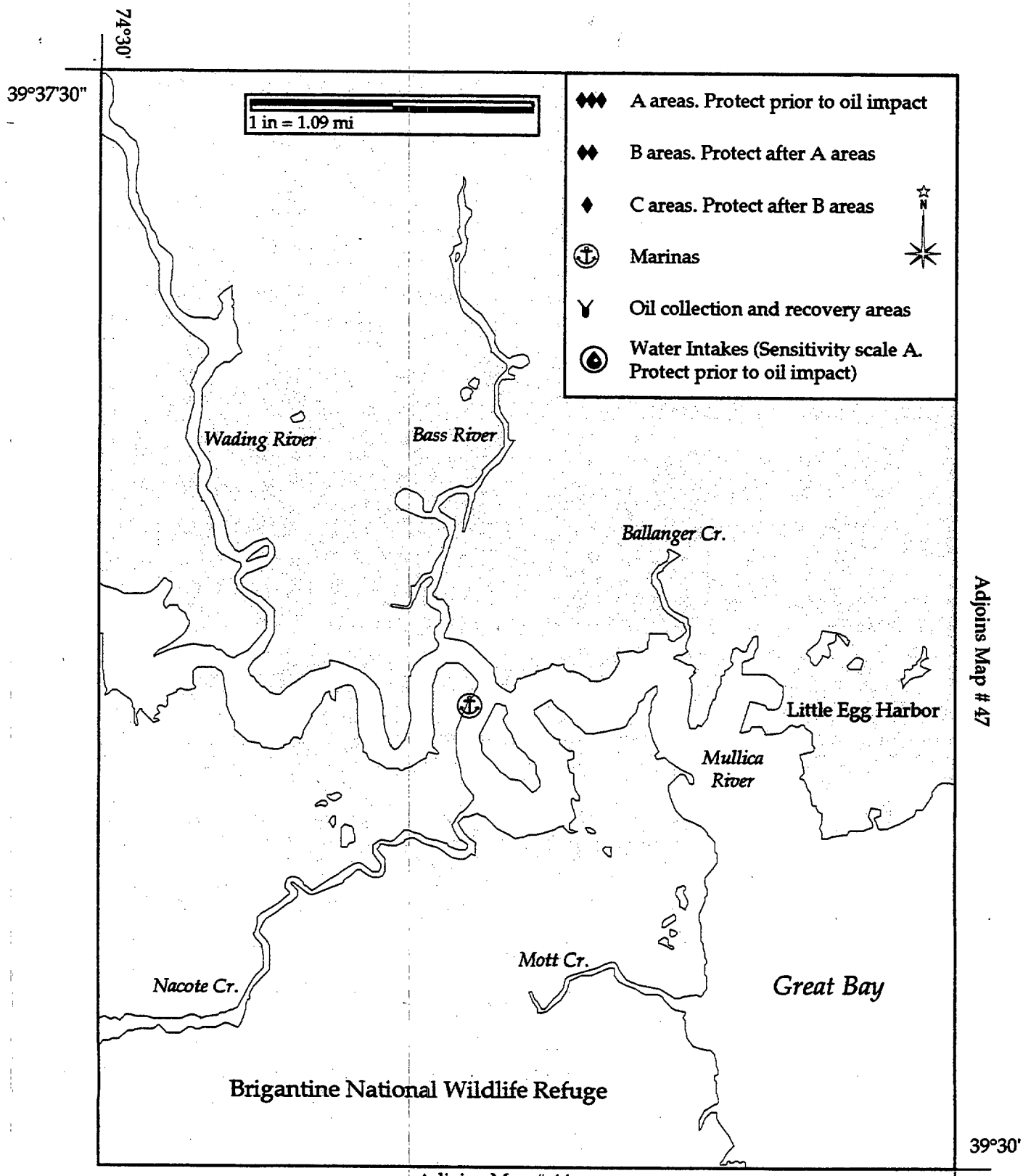

COTP Philly Quad 46

Captain of the Port Philadelphia

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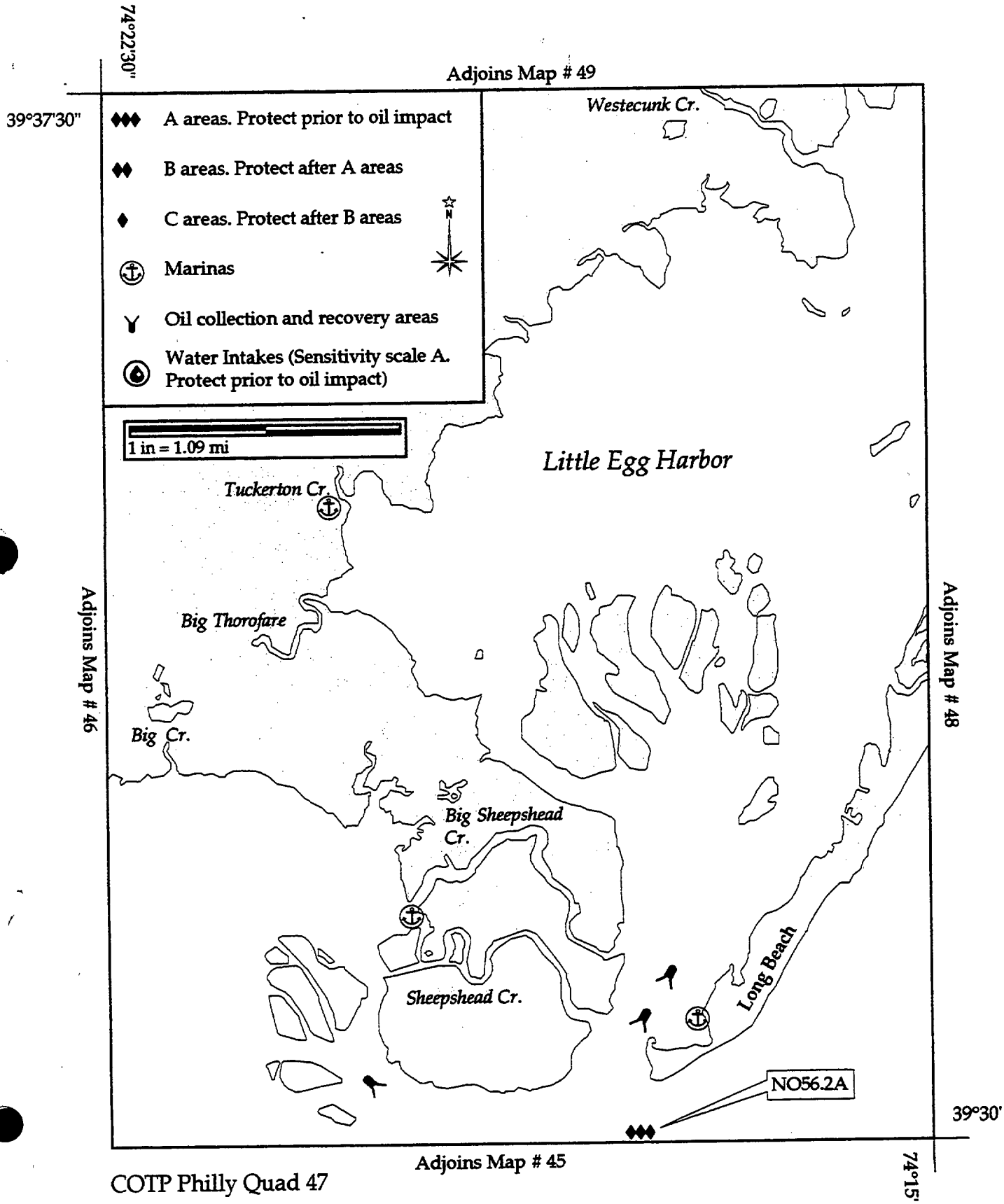

COTP Philly Quad 47

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[A] PRIORITY

SENSITIVE AREA SUMMARY

Date 4/23/98

Site No. NO74.9 Map No. 7 Name BARNEGAT INLET, NJ

USGS Quad Barnegat Light, NJ NOAA Chart 12323 Other

NOAA ESI Atlas DE / NJ / PA ESI Map # 53 Lat. 39°45'41" N Long. 074°06'11" W

Agency/Contact

NJ Department of Environmental Protection, 24 hr (609) 292-7172

NJ Department of Fish, Game, & Wildlife, Director (609) 292-9410

U.S. Fish & Wildlife Service, Edwin B. Forsythe National Wildlife Refuge (609) 698-1387

SITE DESCRIPTION

Area: Tidal Range: 2.44 ft Max Currents: 2.5 kts

GEOGRAPHIC LOCATION: South of Island Beach State Park, north of Barnegat Light, east of Forked River.

PHYSICAL DESCRIPTION: Inlet is protected by two rock jetties. Barnegat inlet is subject to continual change due to shoaling. Extreme tidal currents create sudden and dangerous surf conditions.

SHORELINE TYPES: (ESI Rank)

- [ ] 1. Exposed Rocky Shores
- [ ] 2. Wave Cut Platforms
- [X] 3. Fine Sand Beaches
- [X] 4. Coarse Sand Beaches
- [ ] 5. Sand and Gravel Beaches
- [X] 6. Gravel Beaches / Riprap
- [X] 7. Exposed Tidal Flats
- [ ] 8. Sheltered Rocky Shores
- [X] 9. Sheltered Tidal Flats
- [X] 10. Marshes
- [X] Man-Made Structures

RESOURCES AT RISK

SEASONAL CONSIDERATIONS: Sp [X] Su [X] F [X] W [X]

WILDLIFE: Coastal marshes and inlets harbor vast numbers of migrating and wintering waterfowl from October to April. During the remaining months these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors.

HABITAT: HIGH SENSITIVITY - Main channels in inlet lead to Barnegat Bay, a vast bay area consisting of tidal creeks, coves, rivers, & marshes, including Forsythe NWR. Usage: Shallow water shell fish, sport fisheries, commercial shell fisheries, & commercial fisheries.

THREATENED/ ENDANGERED: Inlet and surrounding areas provide vital nesting and feeding habitat for endangered and threatened beach nesting animals.

OTHER: PIPING PLOVER SP & SU, LEAST TERN SP & SU, ROSEATE TERN SP & SU, BLACK SKIMMER SP & SU, OSPREY SP & SU, PEREGRINE FALCON SP & SU, AND BALD EAGLE W to SU.

RESPONSE CONSIDERATIONS

Ownership:

ACCESS:

- [X] Vehicle — Land: Heavy Equipment - Vehicular - Foot
- [X] Helicopter — Air: Helo - Fixed Wing
- [X] Boat — Water: Barge - LCM - Small Craft

STAGING AREAS: Barnegat Light Coast Guard Station and Island Beach State Park.

COLLECTION POINTS: Ocean side: Direct material to beach for beach recovery operations.

OTHER: Deflection booming offshore at the inlet mouth to stop material from entering Barnegat Bay.

PROTECTION STRATEGIES

Degree of Protectability: High [ ] Medium [X] Low [ ]

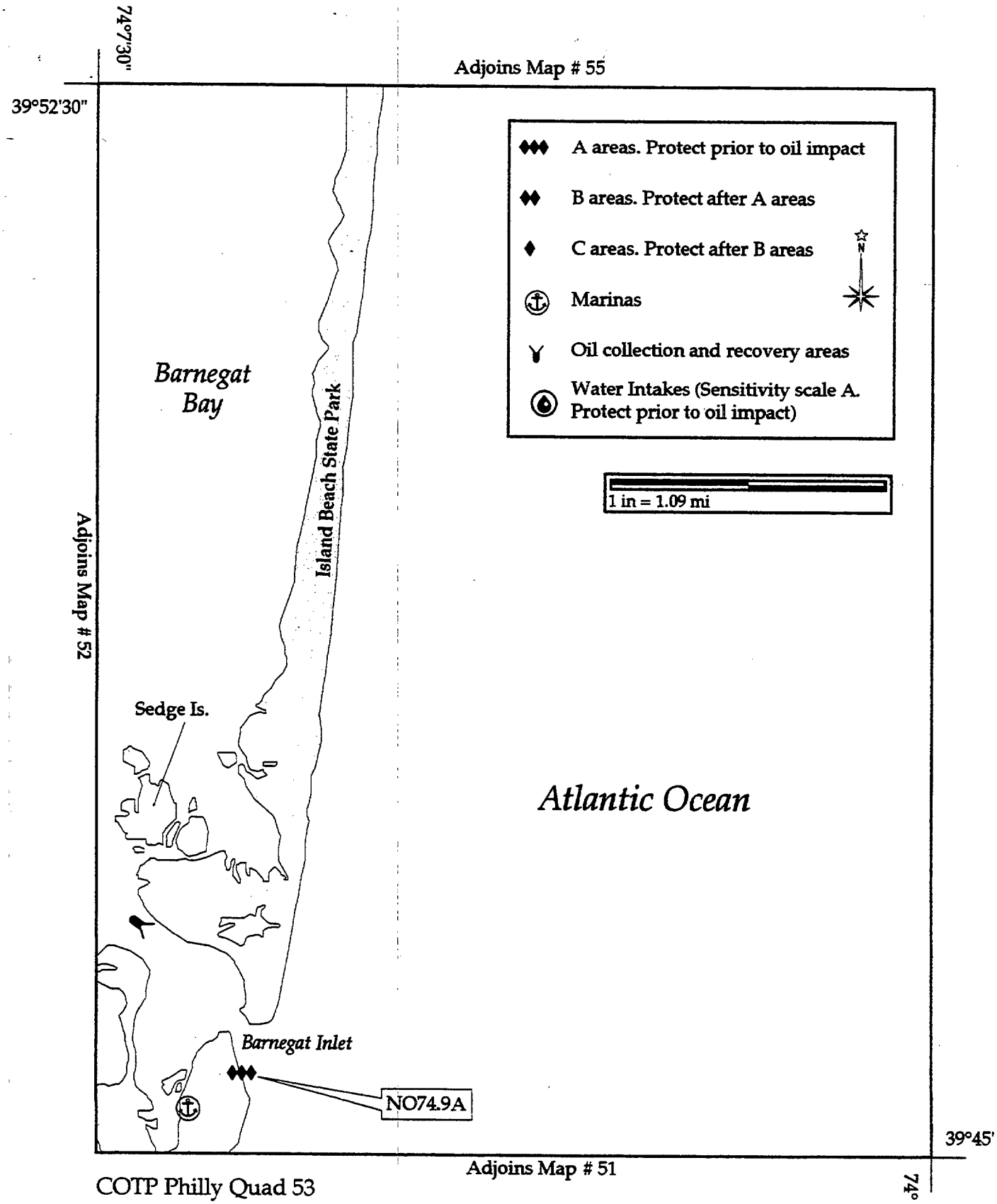
BOOMING METHOD: [X] Deflect [ ] Protect [ ] Recover Minimum Boom Length: ft

Deflection booming offshore at the inlet mouth to stop material from entering Barnegat Bay. Due to extreme tidal currents there are no back up booming points.

Captain of the Port Philadelphia

Prepared by NOAA

USE ONLY AS A GENERAL REFERENCE



COTP Philly Quad 53

ANNEX E

APPENDIX VI DISPOSAL

Disposal of oily wastes and debris resulting from cleanup of a spill site will be in accordance with applicable federal and state regulations. When the specific characteristics of the oil or chemical are not known, it is necessary to first have the waste material analyzed. A list of laboratories capable of providing this type of analytical service is shown in ANNEX F, APP. III, TAB K. Additional resources are available through CCGD5(mep).

If the recovered material is classified as hazardous waste, it must be properly manifested prior to transportation. The manifest will include the EPA identification number and other information on the generator, the transporter, and the treatment, storage, and disposal facility (TSD) receiving the waste. The EPA generator number may be obtained from each state's environmental office as follows:

New Jersey: Contact EPA Region II at (908) 548-8730.

Pennsylvania: Contact PA DEP at (717) 787-6239.

Delaware: Contact DNR & EC at (302) 739-5072.

For cleanup action initiated by the OSC, in which the U.S. Coast Guard would be considered the generator of the waste, the EPA generator number issued to MSO/Group Philadelphia shall be used. A disposal facility will be selected by the government's cleanup contractor and the OSC. The selection should be the most economically feasible location which meets all federal and state requirements. For incidents involving a major spill, where conventional methods for the transportation and disposal of the waste would not be practical, other alternatives, such as, on-site incineration, burial, or temporary on-site storage, would have to be considered on a case-by-case basis. This would require coordination between numerous local, state, and federal government representatives. During these instances, the OSC might require the assistance of the Area Committee, RRT, or NRT.

As discussed in the DB&RC Contingency Plan, resources are available within the DB&RC to accept limited quantities of recovered oil.

STORAGE AND DISPOSAL

In the event of a major spill within the Philadelphia port area, recovery and cleanup activity will generate large amounts of five types of materials:

1. Product from lightering operations
2. Product from recovery operations
3. Contaminated debris from cleanup
4. Cleaning solvents
5. Recovered Water

The anticipated generation of large amounts of these materials requires that each state prepare, by identifying their resources in the areas of storage/process locations, transportation, disposal locations, their design parameters for a temporary storage cell and their individual state regulations, in relation to the generated materials. The following listed resources should be viewed as potential resources only. At the time of use, each should be contacted to receive approval for the stated use. It is the responsibility of the OSC to seek approval prior to any use.

State Regulation - Each state treats the five categories of material in a unique way. Refer to Table I for guidance. The OSC should also seek assistance from their state counterparts for clarification and further guidance.

TABLE I

Material Status	Delaware	New Jersey	Pennsylvania
Product (lightered)	Recycle	Recycle	Recycle
Product (recovered)	Recycle	Recycle	Recycle
Water (recovered)	Solid Waste	HazWaste	Solid Waste
Debris	Solid Waste	<3%-Solid Waste >3%-HazWaste	Solid Waste
Cleaning Solvent	HazWaste	HazWaste	HazWaste

Transportation (to temporary storage or processing)			
Product (lightered)	None	None	None
Product (recovered)	None	None	None
Water (recovered)	Exempt	Exempt	Exempt
Debris	Exempt	Exempt	Exempt
Cleaning Solvent	Exempt	Exempt	Exempt

Temporary Storage	Delaware	New Jersey	Pennsylvania
Debris	None	Exempt (90 days)	None
Cleaning Solvent	HazWaste	HazWaste	HazWaste

Transportation (to disposal)			
Water (recovered)	Solid Waste	HazWaste	Solid Waste
Debris	Solid Waste	<3%-Solid Waste >3%-HazWaste	Solid Waste
Cleaning Solvent	HazWaste	HazWaste	HazWaste

Transportation - Transportation needs, in an action as large as a worst-case scenario, will certainly tax the port area's ability to provide the service. Resources from some distance away from an incident may be needed. The following Table II and its subject appendices list the various types of haulers. Also see ANNEX F, APPENDIX III, TAB Y, for a listing of mobile facilities for liquid waste.

Transportation Type	Delaware	New Jersey	Pennsylvania
Exempt	Appendix 1A	Appendix 1A	Appendix 1A
Solid Waste	2A	2B	Not Available
HazWaste	3A	3B	3C

Product Reclamation and Processing - Product from lightering and recovery are not considered wastes and may go to a facility for storage or reclamation/processing. The sites available within the Port area are listed below.

Company/Address/Phone	Storage (avg. daily)	Reclamation (daily)
Maritrans Philadelphia, PA 215-492-8100	400,000 bbls (barge)	None
Star Petroleum Delaware City, DE 302-834-6000	100,000 bbls	1,500 bbls
Sun Oil Marcus Hook, PA 215-447-1300	100,000 bbls	1,000 bbls
Mobil Oil Billingsport Rd. Paulsboro, NJ 609-224-2333	25,000 bbls	1,000 bbls
Chevron Philadelphia, PA 215-339-7114	30,000 bbls	Case by Case

Temporary Storage - Soil and debris, which has been contaminated as a result of a petroleum product spill, will be staged in an area designated by the OSC on a temporary basis. The area will have to be large enough to stage the estimated volume of contaminated soil and debris and provide working space for construction personnel.

Once an appropriate temporary storage area has been selected, the area will be graded to a level surface. An 8 ounce geosynthetic liner will be placed over the area to restrict contaminants from potentially leaching out into the underlying soils. Any soils necessary for backfill will come from offsite, unless specific approval was received to use on-site soils. Backfill material will be graded and covered with a 30 mil polyethylene cover. An 18 inch berm will border the perimeter of the staging area. The berm will be constructed of backfill material, and a 30 mil polyethylene liner will overlap the berm. A 12 mil polyethylene liner will be placed over the contaminated debris and berm. Each cell will be covered at the end of each day to prevent the contaminants from leaching into the surrounding soil. The debris pile height will not exceed 15 feet.

Table III lists the temporary storage locations by state. None should be assumed to be preapproved for this use, unless it is designated as approved. The OSC must make contact with the facility, property owner, or other contact to arrange for storage. Except as noted, all sites can be used for both containerized storage or constructed cell storage.

TABLE III

Delaware

Location

A. Clean Earth
New Castle, DE

1. Sand/soil only
2. Minimal debris
3. Should not be in plastic bags
4. This site is preapproved

B. Delaware Solid Waste Authority
(Central) (302-739-5361)

1. Oil debris/sorbent can be bagged or stored in bulk
2. This site is preapproved

C. Oily solvents and hazardous waste
All oil solvents and hazardous waste storage areas must meet requirements of the Hazardous Waste Management Branch and will be addressed on a case-by-case basis.

New Jersey

Mercer County

A. Duck Island State Recreation Area
Lamberton Road
Hamilton Township, NJ

1. Access road is major county road
2. No heavy equipment O/S
3. Site is a large tract of public land in a semi-rural area

Burlington County

A. River Road (Rte 656) across from vacant Hooker Chemical
Burlington Township, NJ
1. Access road is major county road
2. No heavy equipment O/S
3. Site is a large tract of public land in a semi-rural area
4. Located adjacent to river

B. Hawk Island
Delaware Avenue

Delanco, NJ
1. Limited access to area
2. Located adjacent to river
3. Site is a large tract of public land in a semi-rural area

Camden County

A. Vacant Coast Guard Base
King Street
Gloucester City, NJ
1. Docking facilities for large vessels
2. Access road is major county road
3. No heavy equipment O/S
4. Entire area fenced and paved
5. Containerized storage only

Gloucester County

A. Gloucester County Solid Waste Incinerator
Crown Point Road
Westville, NJ
1. Access road is a paved and maintained roadway
2. Some types of heavy equipment O/S
3. Site is large tract of public land in an industrial area
4. Monitoring wells are in place

B. Raccoon Island
Ferry Road (Rte.324)
Logan Township, NJ
1. Access road is county roadway
Site road is an improved dirt road
2. No heavy equipment O/S
3. Site is large tract of public land used for storage of dredge spoils

C. Coastal Eagle Point
Route 130
West Deptford, NJ
1. Preapproved storage site
2. Phone-609-853-3100
3. Contact-Roger Schumacker
4. Limited area available
5. 40x100 curbed containment area
6. HazWaste pad for roll-offs

D. Mobil Oil
Billingsport Road
Paulsboro, NJ
1. Preapproved storage site
2. Phone-609-224-0100
3. Contact-Frank Rivell
4. 50x100 pad for storage
5. 3/4 acres of diked tank farm

Salem County

A. PSE&G Nuclear Generating Station
Nuclear Station Access Road
Lower Alloways Creek, NJ
1. Access road is a four lane privately maintained roadway
2. All types of heavy equipment O/S
3. Site is a large tract of privately owned land in a rural area
4. Docking facilities for large vessels
5. Monitoring wells are in place

B. Killcohook Wildlife Management Area
Fort Mott Road (Rte. 630)
Pennsville, NJ
1. Access road is a county roadway. Once on site, road is an improved dirt road

C. Army Corps of Engineers (Oldmans Point)
Rte. 130, Oldmans Township, NJ
1. Access road is major state roadway
2. Site is a large tract of federal land in a rural area
3. Heavy equipment O/S
4. Strategic location near Marcus Hook area and southern portion of Gloucester County

Cumberland County

A. South State Prison
Rts. 47 & 739
Leesburg, NJ
1. Access road is major state roadway
2. No heavy equipment
3. Site is large tract of State land in a rural area

B. Federal Prison
Rte. 553
Fairton (Fairfield Township), NJ
1 . Access road is major county road
2. No heavy equipment O/S
3. Site is large tract of public land in a rural area

C. Downe Township Landfill (closed)
Ackley Road (Rte. 718)
Downe Township, NJ
1. Access road is major county roadway
2. No heavy equipment O/S
3. Site is large tract of public land in a rural area
4. Area is being used to store containerized solid waste
5. Township has given preapproval for this

use
6. Monitoring wells are in place

Cape May County

A. Cape May County Airport
Rte. 613
Middle Township, NJ
1. Access road is major county roadway
2. Site is a large tract of land in a rural area
3. Some heavy equipment O/S
4. Strategic location in the middle of county. Site is reachable from all areas in minutes
5. Monitoring wells are in place

B. Lower Township
Bridge Road (east of Rte. 626 bridge)
West Cape May, NJ
1. Access is a hard packed sand roadway
2. Site is a large tract of land in rural area
3. No heavy equipment O/S
4. Strategic location in the middle of county. Site is reachable from all areas in minutes
5. Ideal for lined waste cells

Atlantic County

A. Atlantic City Landfill (closed)
Huron Road
Atlantic City, NJ
1. Access road is major county roadway
2. No heavy equipment O/S
3. Site is a large tract of public land in a rural area
4. Municipality has preapproved this use
5. Monitoring wells are in place

B. FAA Technical Center
Tilton Road
Galloway Township, NJ
1. Many access roads, most paved, two lane roadways
2. All types of heavy equipment O/S
3. Site is 500 acre tract of Federal land in a rural area
4. Monitoring wells are in place

C. Atlantic County Utilities Authority
Fritz Hannaman Environmental Park
Delilah Road
Egg Harbor Township, NJ
1. Paved access road off of main county road
2. Limited heavy equipment O/S

3. Site a large area ideal for cell storage
4. Existing solid waste facility

Ocean County

A. Southern Ocean County Recycling Center
Recovery Road
Manahawkin, NJ
1. Centrally located with good access by Route 72, and the Garden State Parkway
2. Monitoring wells in place
3. Public Property
4. Heavy machinery on-site
5. Area is fenced

B. Miller Air Park
Route 530
Berkeley Township, NJ
1. Access from Route 530, Route 70, adjacent to the Garden State Parkway
2. Vast area owned by Ocean County
3. Heavy machinery on-site
4. Area isolated

NOTE: Approvals, as needed, for the use of any storage location in New Jersey should be received through the state OSC and the New Jersey State Police-Office of Emergency Management.

Pennsylvania

A. Tullytown Landfill
Tullytown Borough
1. Double lined landfill for municipal and residual waste

B. Snows Landfill
Falls Township
1. Double lined landfill for municipal and residual waste

C. Republic Environmental
2869 Candstone Drive
Hatfield, Pa
Phone: 215-736-9400
1. HazWaste treatment facility
2. Has RCRA permit

Waste Disposal Locations - Because of the three states' differing classifications for the various waste streams, the selection of a waste disposal method should be made with great care. Once this step of an operation is reached, all three states require that RCRA and/or state waste regulations be adhered to. Table IV lists disposal possibilities for each state.

TABLE IV

Waste Type	Company	Requirements
Delaware		
Oily water from boat/equipment decontamination	New Castle County Public Works 302-323-2642	Case-by-case basis
	Kent County Sewage Treatment Facility 302-736-2101	Case-by-case basis 100 ppm maximum oil and grease
	DuPont-Chambers Works Water Treatment Facility 800-626-1717	Max. 4% oil by Vol. No free floating oil
Contaminated soil & sand	Clean Earth New Castle, DE 302-427-6633	TCLP, TPH, PCB, Flash Point, TOH, pH, Reactivity, % moisture, BTEX
	Delaware Solid Waste Authority (Central) 302-739-5361	TCLP-Matrix spike, BTEX, TPH,. Cost based on TPH.
Oiled debris	Delaware Solid Waste Authority (Central) 302-739-5361 302-284-3933	TCLP, TPH, BTEX on spill material and PPE
Oiled sorbents and snare	Delaware Solid Waste Authority (Central) 302-739-5361 302-284-3933	TCLP, TPH, BTEX. No free liquid. Cost based on TPH

Hazardous Waste

There are no TSD facilities within the State of Delaware. Generators of hazardous waste must contact the DNREC Hazardous Waste Management Branch at (302) 739-3689 and must meet the following requirements:

- Obtain provisional EPA ID number.
- Properly label and store material.
- Adhere to storage times.
- Manifest waste.

- Use permitted haulers and disposal facilities.
- Adhere to land disposal restrictions.

New Jersey

Solid Waste (<3% TPH by weight)
Any debris, sorbent, PPE, or soil containing less than or equal to 3% TPH by weight is a solid waste and can be disposed of as an "ID 27" waste at solid waste facilities within New Jersey thru landfilling, incineration, or asphalt blending.

Landfilling - Selected landfills can accept this material. Because of the rapid changes in solid waste management in the state, the OSC must contact NJDEPE Division of Solid Waste Management through the state OSC.

Incineration - The following facilities have agreed to participate in the clean-up of a spill of national significance by providing a mechanism for the incineration of small debris, boom, pads, and PPE. Prior to any transportation, it is requested that communication with the facility contact be established to insure all necessary waivers are in place and logistical concerns are addressed.

Facility	Location	Telephone	Contact
American Refuel	Newark	(201) 344-0900	Lorie Cooper
Ogden Martin	Warren County	(201) 882-7288	Ray Tulli
S.E.S.	Gloucester County	(609) 236-1605	Linwood Bubar
Union County Resource Recovery		(201) 882-7288	Ray Tulli
Wheelabrator	Camden County	(609) 929-3000	Frank Ferraro

Asphalt Blending - A plant's ability to accept soil contaminated with petroleum is subject to the following considerations:

1. The process must be during warm temperature months.
2. Light oils, gasoline, and #2 fuel oil which degrade asphalt at high concentrations are not desirable for blending.
3. Thermal processing represents the best alternative because the high temperature eliminates the oil from the soil. All listed facilities are preapproved for use. Refer to Table VI for the listing of these facilities.

Hazardous Waste (>3% TPH by weight) Any debris, sorbent, PPE, or soil containing a concentration greater than 3% TPH by weight is defined as a hazardous waste under New Jersey's HazWaste Regulations. New Jersey will allow temporary storage of this material, as well as, other generated hazardous waste, at an OSC designated temporary storage location. All regulations regarding storage more than ninety days will still be in effect; therefore, this material should leave the temporary site within ninety days. All regulations regarding transportation and disposal under NJAC Title 7: Chapter 26, New Jersey Hazardous Waste Regulations, should be followed. There are

limited final disposal locations within the State of New Jersey. They are listed as Table V.

TABLE V

Waste	Location	Type
Oily water from recovery operations	DuPont-Chambers Works Water Treatment Facility 800-626-1717	Commercial
	Mobil Oil Billingsport Road Paulsboro, NJ 609-224-2333	Private
	Rollins Environmental Serv Route 322 Logan Twp. (Bridgeport), NJ 609-467-3100	Commercial
	Bergen County Utilities Little Ferry, NJ 201-807-8635	Utility Authority
	Essex-Joint Meeting Elizabeth, NJ 908-353-1313	Utility Authority
	Passaic Valley U.A. Newark, NJ 201-817-5724	Utility Authority
	Amerada Hess Bayonne, NJ 201-437-8845	Private
	Bayway Refinery Linden, NJ 908-474-7585	Private
	Coastal Oil Bayonne, NJ 201-393-9494	Private
Pennsylvania		
	Tullytown Landfill Tullytown Boro	
	Grows Landfill Falls Township	
	Republic Environmental Hatfield	

Soil Remediation of Philadelphia
3201 S. 61st Street
Philadelphia

Out of State Disposal- To be developed.

TABLE VI

Asphalt Blending/Thermal Processing Facilities

Facility	Location	Telephone	Type
A. E. Barrett	Bound Brook (Somrst)	908 356 7100	Blending
American Asphalt	Collingswood (Camd)	609 456 2899	Blending
Arawak Paving	Hammonton (Atl)	609 561 4100	Blending
Barrett Paving	Bernardsville (Somrst)	908 766 4000	Blending
Burlington Asphalt	Mount Holly (Burl)	609 267 2306	Blending
Crowfoot Associates	Winslow (Camd)	609 753 0909	Blending
De Sorte Associates	Pine Hill (Camd)	609 767 1044	Blending
Dell Contractors	Paterson (Passaic)	201 595 0404	Blending
Eastmut Paving	Millville (Cumbrl)	609 825 4247	Blending
Flemmington Bitum.	Flemmington (Huntrd)	908 782 2722	Blending
Gallo Asphalt	Pompton Lks. (Passaic)	201 835 1500	Blending
Glascow/Union Paving	Delair (Camd)	609 662 7132	Blending
Hamilton Corp.	Hackensack (Bergen)	201 641 4000	Blending
Intercounty Paving	Hackettstown (Warren)	908 852 5868	Blending
Lafferty Asphalt	Voorhees (Camd)	609 424 1400	Blending
Mt. Hope Rock Prod.	Calverton, N.Y.	516 727 6666	Thermal
Mt. Hope Rock Prod.	Wharton (Morris)	201 366 7741	Thermal
National Paving	Berlin (Camd)	609 767 1950	Blending
Newark Asphalt	Newark (Essex)	201 482 3500	Blending
Riverdale Quarry	Riverdale (Morris)	201 835 0028	Blending
South State Inc.	Bridgeton (Cumbrl)	609 451 5300	Blending
Stavola Contracting	Red Bank (Monm)	908 542 2328	Blending
Stone Industries	Haledon (Passaic)	201 595 6250	Blending
Stone Industries	Pleasantville (Atl)	609 641 2781	Blending
Trap Rock Industries	Kingston (Somrst)	609 924 0300	Blending
Tri-County Asphalt	Lk. Hopatcong (Morris)	201 663 1800	Blending
Walter R. Earl Corp.	Farmingdale (Monm)	908 938 5038	Thermal
Weldon Materials	Westfield (Union)	908 233 4444	Blending

ANNEX F - SUMMARY OF AREA RESOURCES

GENERAL. As a major industrial area, the ports of Philadelphia have tremendous commercial resources available in the event of a major oil spill. The ports have vessel-repair facilities, a large fleet of tugs and barges, and numerous marine service companies that can assist with different emergency vessel related incidents. With excellent intermodal transportation links, the region can fully support any out-of-region logistical needs by air, rail, and highway when necessary. In addition, the ports of Philadelphia have more-than-adequate sources of commercially available oil pollution response equipment. There are several pollution cleanup companies in the COTP Philadelphia zone. These companies maintain varying amounts of oil containment and recovery equipment including boom, portable skimmers, vacuum trucks, small boats, and trained personnel. If a spill is federalized, the OSC can call any number of them for response to the incident.

Note: Specific phone numbers are no longer listed in the Area Contingency Plan. See the Port Resource Directory for updated contact addresses and phone numbers.

Appendices:
(I) Equipment & Personnel Resources
(II) Logistics
(III) Special Forces

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ANNEX F
APPENDIX I - EQUIPMENT & PERSONNEL RESOURCES

This appendix highlights major sources and types of response equipment available in the area. The Spill Response Resource Inventory (SRRI), compiled by the NSFCC, will provide a listing of available, specialized equipment located outside the area. The SRRI, once completed, should be used as an additional reference for locating equipment. For the purposes of the Area Contingency Plan, equipment lists are general in nature.

These lists are intended as guides and are not designed to be an exhaustive accounting of all available response resources in the area. To regularly update such information as part of the ACP revision and update procedure would impose an unnecessary burden. Therefore, a Port Resource Directory is being created that will have current resource listings with phone numbers and addresses. It will be continuously updated and available on the World Wide Web.

(NOTE: EQUIPMENT DATA IS FOR PLANNING PURPOSES ONLY AND DOES NOT REFLECT PERFORMANCE STANDARDS)

Tabs: (A) Oil Spill Response Organizations
(B) Other Organizations & Equipment

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ANNEX F - APPENDIX I
TAB A - OIL SPILL RESPONSE ORGANIZATIONS

DELAWARE BAY AND RIVER COOPERATIVE (DB&RC)
The Delaware Bay and River Cooperative (DB&RC) is a non-profit response organization sponsored by Coastal, Maritrans, Mobil, Sun Oil, and Texaco. Amoco, Delmarva, Dupont, Exxon, Mantua Terminal, PECO, and PSE&G are associate members. The DB&RC has an extensive inventory of equipment. Most notable is the skimmer DELBAY, operated by Maritrans. The Delaware Bay launch service is contracted by the DB&RC to store, haul, and assist in the deployment of the spill boom. A transvac unit is stored at Sun Oil Marcus Hook for deployment aboard the M/V ASTON SUN, a converted shallow draft landing craft. Member companies store, maintain, and deploy various types of response equipment and boom through the port. They also maintain contingency plans, which coordinate their action within the DB&RC framework.

The DB&RC maintains pre-staged equipment at many areas along the Delaware River and Bay, as described in Figure 8. This equipment is maintained by the member companies with cleanup companies on contract to actually deploy the equipment in an emergency situation.

The DB&RC should be considered a valuable resource during planning and response phases. The cooperative has a vast amount of knowledge and experience with waterborne pollution response within the COTP Philadelphia zone. The DB&RC will dispatch an advisory team to MSO/Group Philadelphia during a spill emergency.

There is no BOA between the Captain of the Port Philadelphia and the DB&RC for use of their equipment. The DB&RC may be activated by an authorized member; however, in cases where an authorized member is not involved in the spill, the OSC may contact the DB&RC for assistance. Generally, if the DB&RC is alerted for response to a spill, the DB&RC manager will coordinate with the OSC to ensure expeditious cleanup.

The DB&RC may be activated by a member company or directly by the OSC by contacting the acting manager, Mr. Don Wall at (215) 365-5732 (Office) or pager (215) 577-8684. If unable to contact Don Wall, it may be activated by contacting the Maritrans dispatcher (24 hrs) at (215) 864-1200.

MARINE SPILL RESPONSE CORPORATION (MSRC)
The Marine Spill Response Corporation is an independent, non-profit organization funded by oil and shipping companies and other organizations. MSRC is dedicated to providing a best-effort response to oil spills in U.S. offshore and tidal waters, including bays, harbors and certain rivers.

In its national inventory, MSRC has a fleet of 16 oil spill response vessels (OSRVs), 17 barges for recovered product, over 90 skimming devices and approximately 57 miles of containment boom. The

equipment, vessels and response personnel are strategically located throughout the coastal United States, including Hawaii and St. Croix, U.S. Virgin Islands.

MSRC's Northeast Regional Response Center is located in Edison, NJ, which houses much of the region's response equipment and personnel. Additional equipment, vessels, and response personnel are based in Portland, Maine; in the Delaware Bay area; and in Virginia Beach, Virginia.

Four of MSRC's oil spill response vessels - the MAINE RESPONDER, the NEW JERSEY RESPONDER, the DELAWARE RESPONDER, and the VIRGINIA RESPONDER - and four tank barges are located within the Northeast Region. Additional response equipment is stored at unstaffed sites in Boston, Massachusetts; Providence, Rhode Island; and Baltimore, Maryland. Should additional resources be required, MSRC can call on its other regions for additional vessels, equipment, and/or personnel.

MSRC's resources may augment U.S. Coast Guard, DBRC, and other response contractor in the event of a major oil spill. Contact with the MSRC should be made directly to the Regional Center at (908) 417-0500.

NATIONAL RESPONSE CORPORATION

The National Response Corporation is a nationwide oil spill response organization. The company provides those who transport, store, handle, and produce oil within the Exclusive Economic Zone (EEZ) of the United States, the equipment, trained personnel, and support services necessary to respond to oil spills as required by Section 4202 of the Oil Pollution Act of 1990 (OPA-90), the EPA's Final Rule, 40 CFR Parts 9 & 112, and applicable state laws.

NRC has invested in the latest spill response equipment with an emphasis on capability and mobility. NRC-owned response equipment is strategically placed with cleanup contractors throughout the U.S., including many sites within COTP Philadelphia's zone. The land based equipment is pre-positioned on dedicated trailers. Marine based assets are ready for immediate deployment aboard NRC owned offshore oil spill recovery vessels prepared for an immediate response. In addition to the equipment already staged in the Philadelphia area, NRC has the capability to cascade additional spill response resources from surrounding areas and still meet the requirements for a higher volume port area.

The Independent Contractor Network is the foundation of NRC's response strategy. Augmented by NRC response equipment and under the direction of NRC's Northeast Regional Manager, the local ICN's provide the manpower, equipment, and extensive local knowledge in the event of a response. Many contractors located in the Philadelphia area are members of the contractor network and are equipped with NRC skimmers, barges, boats, boom, and vacuum transfer units. NRC also stages the Oil Spill Response Vessel (OSRV) NRC PATRIOT in the COTP Philadelphia area. This OSRV is capable of conducting offshore recovery operations

and is equipped with skimmers capable of 26,125 bbls/day derated skimming capacity, 2,500 ft of 43" ocean boom, a RHI, and 300 bbls of temporary storage. In addition, NRC has the capability to arrange for the provision of salvage and fire fighting equipment through an agreement with companies that specialize in those specific areas.

National Response Corporation land and marine based resources can be activated for any size spill (24 hrs a day/7 days a week) by contacting the International Operations Center located in Calverton, NY at 1-800-899-4672.

OTHER OIL SPILL RECOVERY ORGANIZATIONS (OSROs)

For a complete listing of national OSROs, consult the Port Resource Directory.

LOCAL CLEAN UP CONTRACTORS

Local cleanup contractors and other contractors hired for the response operation will carry out the manual work of pollution response. This will be under the directions of either the OSC or the responsible party, depending on who hired them. The prime cleanup contractor will send a representative to MSO/Group Philadelphia to coordinate response activities with the OSC. Unless a contractor has a Basic Ordering Agreement (BOA) with the Coast Guard in Portsmouth, VA, a contract must be established through MLC Atlantic (fcp-1); however, this requirement should not limit or in any way delay the OSC's choice of response resources. Most local contractors can be on scene within two hours, although this is dependent upon the location of necessary equipment and other jobs they may already be working on at the time. For a current listing of local clean up contractors used by the COTP, see the Port Resource Directory.

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ANNEX F - APPENDIX I
TAB B - OTHER RESPONSE EQUIPMENT & ORGANIZATIONS

FIRE FIGHTING

General: The local fire department having jurisdiction over any section of the Captain of the Port, Philadelphia (COTP) zone, may be contacted through the appropriate county fire board. The fire board acts as an emergency routing system for calls and will direct the call to the appropriate fire department. When contacting a county fire board, request that they notify their County Emergency Management Coordinator and County Fire Marshal (this is especially important during chemical releases). See Port Directory for listing of County Fire Board phone numbers.

Marine Fire Fighting Considerations: The Federal Fire Prevention and Control Act of 1974 (PL93-498) declares that firefighting is, and should remain, a state and local function. State boundaries extend into the Delaware River and Bay and extend three nautical miles from shore into the ocean. Local firefighting jurisdiction extends to the limits of these boundaries. Existing state/county/city disaster preparedness organizations, including their fire departments, are well suited to deal with non-marine fires and other emergency conditions. Shipboard and waterfront fires add several dimensions to the structure fires they normally respond to. Most fire departments have never fought a shipboard fire, making ship peculiarities unfamiliar and dangerous to most municipal firefighters. In addition, the majority of municipal firefighters in the Delaware River Basin and Atlantic shore area are part-time volunteer personnel (only the larger cities of Philadelphia, Camden, Wilmington, Trenton, Chester, and Atlantic City have full-time careers. As a result, most of the refineries and all of the major deep-draft vessel anchorages are serviced by all volunteer fire companies with limited training and resources to address vessel fires.

The Coast Guard, under the authority of the Port and Waterways Safety Act, has broad authority to prevent damage to, or destruction of, loss of any vessel, bridge or any other structure on or in the navigable waters of the United States. This authority is exercised so as not to preempt the firefighting responsibilities of other jurisdictions or agencies and places the Coast Guard in an "assistance as available" response posture. Recognizing the problems inherent in a vessel fire, the threat to the port, and the necessity of a coordinated response, the Captain of the Port Philadelphia has published, in coordination with the port community and emergency responders, the "Delaware River and Bay Shipboard and Waterfront Facility Firefighting Plan." The plan delineates jurisdictional boundaries, defines the organizational structure, and forms the Marine Fire Fighting Task Force to address port firefighting needs.

The Marine Fire Fighting Task Force (MFFTF): The Marine Fire Fighting Task Force (MFFTF) is a planning organization within the Delaware River Basin, which was formed in 1986 to address marine firefighting issues within the region. The Task Force membership includes local municipal firefighters with waterfront jurisdiction, local industry representation, and appropriate federal and state emergency management agencies.

Some personnel and organizations with the necessary marine expertise are not within the normal firefighting community, and firefighting organizations are not familiar with them (to utilize in mutual aid agreements). The Coast Guard COTP will work in the Unified Command System (UCS) or the Incident Command System (ICS) structure under the fire incident commander, and will be the coordinator of the maritime experts (KTA's) and the other maritime agencies that are not accustomed to working with the fire response community. These maritime experts would include, but would not be limited to, the vessel master, P & I representative, port captain, vessel agent, classification society, cargo surveyor, cargo gauger, marine chemist, and facility manager or representative.

Key Technical Advisors (KTA's): The Key Technical Advisors (KTA'S) are members of the port community identified and recruited by the MFFTF. These individuals possess technical knowledge in shipboard systems and stability, port operations, marine salvage and firefighting, special extinguishing agents, public safety, and regional communications. This group shall be called upon from time to time to support the planning process including inter-agency coordination. At the time of a marine disaster, this group would assume an advisory rôle at the incident command post. KTA's can provide an avenue for dialogue between MFFTF members, provide resources to the incident commander, make recommendations as to appropriate strategy and tactics during a marine disaster, and in general, assist in the firefighting efforts. A current listing of KTA's is in Section 403 of the "Delaware River and Bay Shipboard and Waterfront Facility Firefighting Plan.

"Delaware River and Bay Shipboard and Waterfront Facility Firefighting Plan": The firefighting plan was published on 7 July 98 and contains information concerning pre-designated firefighting piers, burning ship movement considerations, federal/state/local firefighting policies, training guidance, and resource listings. Limited copies are available through MSO/Group Philadelphia on request.

Industrial Fire Safety Group (IFSG). Some refineries, manufacturing and processing facilities have in-plant fire brigades who will serve as first response to a marine fire pending arrival of the local fire department. IFSG is a network of companies in the Delaware Valley, who have agreed to share fire fighting resources under a mutual aid agreement.

Access to IFSG assets may be negotiated for by contacting one of the member companies listed in the Port Resource Directory. Cooperating companies have complete listings of the emergency equipment and supplies that are potentially available. More complete listings of specialized equipment available through the IFSG is located in the "Delaware River and Bay Shipboard and Waterfront Facility Firefighting Plan.

MARINE PILOTS ASSOCIATION

Almost every commercial vessel transiting the Delaware Bay and River is under the control of a river pilot. The Pilot's Association for the Delaware Bay and River provides service for all ports on the Delaware River from the Delaware Bay to Trenton, NJ, including the C & D Canal. Pilots are boarded at the mouth of the Delaware Bay in an area between Buoy 5, Buoy 6, and the Harbor of Refuge lighthouse.

Because they are aware of all actual and expected ship traffic, and because of the amount of control that they maintain, they are a great asset to aid the OSC in his efforts to control shipping in the event of a spill. In the event of a large spill from a vessel, the pilot on board and the pilot representative at the Marine Safety Office would work together to assist the OSC to control shipping traffic in the vicinity of the spill.

SALVAGE & DIVE COMPANIES

The following is a list of diving companies that will be able to conduct hull surveys. For phone number and address, see the Port Resource Directory.

PROGRESS MARINE, INC.

Progress Marine has six qualified divers who can conduct hull surveys. They can respond to the Marcus Hook area within 3 hours and Delaware Bay within 4 hours. They have a 45 foot boat that they can hire in Cape May, but may need to use a Coast Guard boat as a platform.

WALKER DIVING CONTRACTORS, INC.

Walker Diving Contractors has ten qualified divers who can conduct hull surveys. They can respond to the Marcus Hook area within 2 hours and Delaware Bay within 3 - 4 hours. They have their own vessels but may depend on a launch service to get them to the site.

WATERFRONT CORPORATION

Waterfront Corporation has twenty-six qualified divers who can conduct hull surveys. They can respond to the Marcus Hook area within 1 - 1-1/2 hours and Delaware Bay within

2 - 3 hours. They may require the use of a Coast Guard boat on site.

EASON DIVING & MARINE CONTRACTOR, INC.
Submerged oil recovery operations, contaminated diving operations (including oil, sewage, hazardous material recovery). Subcontractor with NRC, also has a BOA with the Coast Guard.

SMIT AMERICAS, INC.

SMIT AMERICAS INC. is an emergency salvage, fire-fighting and lightering company headquartered in Houston, TX. SMIT has strategically pre-positioned its portable fire-fighting units, emergency vessel lightering equipment, and ancillary support equipment. The equipment is stored in easily transportable containers that are designed to be airlifted, trucked, or shipped. One equipment storage site is located at the NRC facility in Calverton, NY, and the other in Houston, TX.

The Northeast equipment package located in Calverton, NY, consists of one fire fighting unit, three "TK-6" multi-purpose lightering pumps, two "TK-150" pumps which fit standard 12.5 inch butterworth openings, power packs, generators, discharge hose, lightering fenders, and ancillary support gear.

LABORATORIES

The Central Oil Identification Laboratory (COIL), operated by the Coast Guard, is most often used to compare oil samples to determine if the samples match chemically with the suspected source; but, they do not have the ability to test for any RCRA characteristics other than flash point nor do they have the ability to identify the chemical composition of an unknown substance. Because of this limitation, the OSC must rely on local commercial laboratories. These labs have the ability to perform RCRA testing, such as, identification of EP toxic metals and organics present, reactivity, corrosivity, flash point, and volatile organic scanning. When working with a cleanup contractor, the contractor will contact the lab; for federal responses, services must be contracted through MLC Atlantic. Local laboratories are listed in the Port Resource Directory.

CHEMTREC (CHEMICAL TRANSPORTATION EMERGENCY CENTER)

CHEMTREC provides information to organizations that are involved in chemical or hazardous material emergencies. It is a public service of the Chemical Manufacturers Association located in Washington, DC. CHEMTREC can be contacted toll-free at (800) 424-9300 and will provide immediate advice on the nature of the product and recommended steps for handling the early states of

the problem. In addition to providing information from their own database, CHEMTREC will contact other resources for assistance:

a. The shipper of the material involved can give more detailed information and appropriate follow-up, including on-scene assistance when feasible.

b. The Chlorine Emergency Plan (CHOLREP), a network of chlorine manufacturers who will respond to incidents involving another producers product.

c. The Pesticide Safety Team Network (PSTN), a network of some forty emergency teams distributed throughout the country.

d. Special networks that can provide assistance when an emergency occurs with vinyl chloride or hydrogen cyanide.

The Chemical Response Network (CHEMNET) is a chemical response network, activated by CHEMTREC, that is organized to respond to chemical spills involving transportation incidents, mishaps, and accidents. Membership in CHEMNET consists of chemical companies across the U. S. If the shipper/transporter response is not adequate, CHEMNET will be activated. If the local CHEMNET member cannot respond, then a CHEMNET contractor will be activated to respond.

OVERFLIGHT SERVICES

The following is a list of resources which may be available to conduct overflights of areas that have been affected by a spill. Use of state helicopters is available only by order of the governor of the state. Requests should be made through the state emergency management or other listed state organizations. Coast Guard resources must be coordinated through the CCGD5 Operations Center. The FWS maintains four fixed-wing planes in Maryland and one in Virginia that are available for overflights. Other FWS planes may be available in Pennsylvania, Delaware, and New Jersey. For phone numbers, see the Port Resource Directory.

CG Air Station Cape May, NJ, has permission to land at Sterling Helicopter in Philadelphia, PA, from 0800-1800 for no cost. However, after hours, a fee will be incurred.

State of Delaware
Coast Guard Air Station Elizabeth City, NC
Coast Guard Air Station Atlantic City, NJ
N.J. State Police
McGuire Air Force Base
Lakehurst Naval Air Station / U. S. Army

Evergreen Helicopters Inc. (Rental)
Willow Grove Naval Air Station
Penn's Landing Heliport
Pennsylvania Office of Emergency Management
Sterling Helicopter (Rental)
Horizon Helicopter (Rental)

VOLUNTEER ORGANIZATIONS

Private organizations or individuals may volunteer to assist in the response efforts. If the polluter is known and is conducting cleanup, the volunteer should be directed to him for deployment. During a federal response, the OSC should exercise discretion in using volunteers. Normally, volunteers will not be used for physical removal of pollutants, and under no circumstance during removal of toxic substances will volunteers be permitted on scene. Volunteers may be used in such areas as beach surveillance, logistical support, wildlife treatment, and scientific investigation, provided they receive an appropriate degree of training for the tasks they will be performing. Four hours of OSHA approved site safety training is a prerequisite. Use of volunteers will be subject to the needs of the SSC and must be approved by the OSC. Environmental interest groups are possible sources for volunteers.

NATURAL RESOURCE TRUSTEES

By Executive Order 12580 and as indicated in the National Contingency Plan, the President designated the Secretary of the Interior as trustee for natural resources managed or protected by the department. Examples of the Secretary's trusteeship include migratory birds; certain anadromous fish, endangered/threatened species, and marine mammals; Department administered facilities, such as, national parks, national historic sites, and national wildlife refuges; federally owned minerals; and certain federally managed water resources. The Secretary has identified regional environmental Officers from the Office of the Secretary, as his principal trustee contacts for the department. As the Secretary's trustee representative for the Philadelphia Zone, the Regional Environmental Officer in Philadelphia coordinates the departmental response to spill incidents and the assessment of any injuries incurred to trust resources for the purpose of collecting damages from the responsible parties. This latter process is referred to as "Natural Resource Damage Assessment" and may be conducted in concert with the other state and federal natural resource trustees. Funds obtained in settlement with the responsible parties are used to protect and restore natural resources injured by the release of oil and chemical substances.

Natural Resource Trustees
Department of Commerce-(NOAA)
Department of Interior
State of NJ Natural Resource Trustee
State of DE Natural Resource Trustee
State of PA Natural Resource Trustee
Endangered Species and Marine Mammal contacts
National Marine Fisheries Service

FISHING FLEETS

GENERAL Commercial fishing vessels may be used as vessels of opportunity for a variety of purposes during the emergency response phase of a major oil spill. Vessel designs vary significantly in the length, horsepower, towing capability, deck space, and crew size. Most are also equipped with cargo lift booms rigged for heavy lifting. However, a number of problems exist, which may limit their effectiveness:

1. Crewmembers normally do not hold a Coast Guard License or Document and usually have only minimal training in seamanship and first aid. OSHA training standards for hazardous materials response workers is also a problem. As a result, the liability insurance on the vessel and its crew may not cover them for pollution-related activities.

2. Most commercial fishing vessels are designed to carry their cargo in the cargo hold rather than on deck. Most vessels have not had stability tests conducted on them; and those which have, usually have severe restrictions on deck storage of cargo and equipment.

3. Transportation of personnel is a form of coastwise trade for which these vessels are not approved. Carriage of six passengers or less requires a licensed operator; carriage of more than six passengers requires the vessel to comply with stringent inspection regulations. If response activities require transportation of personnel, the Chief Inspections Department (CID) maintains a current listing of all vessels approved for carriage of passengers for hire.

The Commercial Fishing Vessel Safety Coordinator (CFVSC) at MSO/Group Philadelphia maintains a list of all commercial fishing vessels which hold NMFS permits. This list includes, but is not limited to: clammers, scallopers, long liners, net draggers, pot boats, whether they are state registered or USCG documented. Since the list has over 1,500 vessels on it and the specific needs of the incident are difficult to pre-plan for, listed in the Port Resources Directory are the major fishing facilities where these vessels are docked.

UTILIZATION CRITERIA When considering criteria for utilizing commercial fishing boats for pollution response activities, the following parameters should be addressed:

Communications - VHF-FM, CB, SSB, cellular phone.

Horsepower - Appropriate for the task, such as, towing boom, barges or bladders/dracones.

Open deck space - establish square footage needs for equipment and personnel.

Current Registration/Documentation.

Appropriate safety equipment - PFD's, buoyant apparatus/life raft, flares, fire extinguishers, etc.

Freeboard - will people be working over the side?

Draft - Shallow water operations?

Stern towing bits, stern/side trawl, cargo boom?

Cruising endurance.

Stability criteria.

VESSEL CRITERIA FOR VOSS (From the VOSS Guide, 22NOV93) The Coast Guard Vessel of Opportunity Skimming System (VOSS) is designed to operate on a vessel 60 to 400 feet long. The optimum size vessel is 100 to 300 feet long. The vessel must posses the following minimum characteristics in order to skim oil and accommodate installation of equipment:

1. Capable of operating at a sustained speed of one-half to one knot. Vessels with variable pitch propellers, diesel electric propulsion plants, thrusters, or trawling clutches are ideal.

2. It must have strong ship rails, bollards, or chocks, which can accommodate universal clamps to rig the outriggers and skimming lifting davits. Rails at least 3 feet high are required for davit clamps, while 2 foot rails, bollards, or chocks are needed to attach outrigger clamps.

3. It must have approximately 300 square foot of open deck space for equipment, more would be better.

4. Vessel stability shall allow deployment of VOSS equipment weighing 10,000 to 23,000 pounds depending upon the amount of spare equipment drought on board.

In addition, a freeboard of 10 feet or less in the aft third of the vessel is helpful. A lifting boom with a 2,000 pound capacity is helpful but not required (a lift boom for deployment

of skimmers would delete the need for installation of the lifting davits).

P & I CLUBS

The Protection and Indemnity (P&I) Club representative is generally a member of a local law firm which represents the vessel pollution insurance underwriters. The control the funds for spill response operations on behalf of the ship's owner or operator. Contractors are often reluctant to bring in expensive equipment without prior approval and certification from this representative.

In the event of a significant oil spill from a vessel, the appropriate P&I Club representative will immediately dispatch an attorney to USCG MSO/Group Philadelphia to liaise with the OSC and the prime contractor, exchanging information and making decisions. This attorney will be knowledgeable and experienced in handling major spills and will be able to communicate with his representatives on scene and with other members of the P&I Club.

For a listing of the Philadelphia area P&I Club representatives, consult the Port Resources Directory

SHIPPING AGENTS

The shipping agent is the local representative of a ship's owner or operator for those ships that do not have a local office. They are usually the first point of contact to make arrangements or to get in contact with the owner/operator or the P&I Club representative. They are listed in the Port Resource Directory and the Maritime Exchange's directory.

DESIGNATED WATERFRONT FACILITIES

Many waterfront facilities have pollution-response equipment staged and ready for deployment. This equipment may be borrowed in emergencies, although the actual participation by facility personnel must be confirmed for each incident.

Facilities will generally respond as responsible parties for spills within or nearby their property, and they may serve as technical advisors for clean up of products that they manufacture.

A comprehensive listing of the transfer, storage and processing facilities can be found in the port Resources Directory.

OTHER RESOURCES

In addition to the resources previously mentioned in the plan, the Port Resource Directory catalogs the following resources:

- USCG & Other Federal Agencies
- Police Departments
- Hospitals
- Port Authority/Harbormasters
- Towing Companies
- Environmental Agencies
- Local Environmental Agencies
- Water Intake Facilities
- Environmental Interest Groups
- Airports and Aircraft Rental
- Trucking Companies/Car Rentals
- NOAA Weather Service
- Media Contacts
- Local Emergency Managers
- Regional Response Team (RRT) membership
- USCG Reserve and Auxiliary Support

ANNEX F

APPENDIX II - LOGISTICS

This appendix includes a summary of the logistical details associated with providing resources to support a response effort in the area. This appendix addresses the following:

(1) Equipment
- (a) Staging areas
- (b) Aircraft landing sites
- (c) Trucking companies
- (d) Fishing fleets
- (e) Boat ramps

(2) Personnel
- (a) Lodging
- (b) Transportation
- (c) Food
- (d) Clothing
- (e) Safety equipment

(3) Communications
- (a) MSO/Group Philadelphia Incident Comms Plan
- (b) Communications Subcommittee

(4) Command Center
- (a) Command center sites
- (b) Procedures for establishing a command center
- (c) Equipment required (TBD)

Storage and disposal concerns are addressed in Annex E, Appendix VI.

Tabs:
- (A) Equipment
- (B) Personnel
- (C) Communications
- (D) Command Center

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ANNEX F - APPENDIX II
TAB A - EQUIPMENT

(1) Logistical concerns for equipment
- (a) Staging areas
- (b) Aircraft landing sites
- (c) Trucking companies
- (d) Fishing fleets
- (e) Boat ramps

STAGING AREAS FOR POLLUTION RESPONSE EQUIPMENT

Selection of Staging Areas. Staging areas for spill response operations are those areas where equipment from all sources is assembled and held pending deployment to the spill site. During prolonged spill control operations, equipment maintenance and repair may be accomplished in the staging area. Staging areas must be set up with the following considerations:

a. **An area large enough** for interim storage of all equipment deployed to the spill site. Covered storage is desirable but not essential except under extreme weather conditions

b. **Close proximity to the spill site** to minimize transit time for equipment called to the scene. This is especially important for near-shore operations, when the staging area at the pier side replaces the offshore support platform as the focal point for daily operations. Special consideration should be placed on the nearest boat ramp location as shown in Figures 24G-I.

Staging areas are often collocated with natural collection points, as shown in Annex E, Appendix V, Tab A. The following long-term staging areas have been established to respond to oil spills within the COTP Philadelphia AOR:

New Jersey

A. Salem River (39-34.5N, 075-30.5W, Mile 51.4):

1. Good marshalling point.
2. Area from which to deploy boom:
   a. Dock.
3. Directions by road:
   a. Take the Walt Whitman Bridge to Rte 295 South. Exit onto Rte 49 near the Delaware Memorial Bridge. Take Rte 49 South and cross bridge into Salem. Take the first right after the bridge into the tank farm.

B. Old Canal (39-49N, 075-21W, Mile 71.8):

1. Good marshalling point.
2. Area from which to deploy boom:
   a. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take the Walt Whitman Bridge to Rte 130 South. Take Rte 130 South to Rte 44, follow Rte 44 through Gibbstown to Repaupo Road, right on Repaupo Road. Follow dirt roads to the Old Canal.

C. Thompson Point (39-50.5N, 075.19W, Mile 85.5):

1. Marshalling point.
2. Area from which to deploy boom:
   a. Dock at Thompson Point; and
   b. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take the Walt Whitman Bridge to Rte 130 South. Take Rte 130 South to Rte 44 South. Take Rte 44 to Gibbstown. Go right onto Dupont road. Turn left at railroad tracks and follow this road to Thompson Point.

D. Crab Point (39-50.5N, 075-18W, Mile 86.7):

1. Marshalling point.
2. Area from which to deploy boom:
   a. Deploy boom upstream to Crab Point (at least 12 degrees angle to shore) to funnel oil into basin; and
   b. Boats will be needed to assist those ashore.
3. Directions by Road:
   a. Take the Walt Whitman Bridge to Rte 130 South. Rte 130 South to Rte 44 South. Follow Rte 44 to Gibbstown, go right on Dupont Road, and follow this to the Dupont Plant. Area is inside plant.

E. Cove by Mobil Paulsboro (39-50N, 075-15W, Mile 87.8):

1. Good marshalling point.
2. Area from which to deploy boom:
   a. South end of dock; and
   b. Boats will be needed to assist those ashore
3. Directions by road:
   a. Take the Walt Whitman Bridge to Rte 130 South. Take Rte 130 South to Rte 44 South. Take Rte 44 to Billingsport Road in Paulsboro, make a right turn to North Delaware Street, then turn left into Mobil Paulsboro Refinery.

F. Kaighn Point (39-56N, 075-08W, Mile 98.5):

1. Good marshalling point.
2. Area from which to deploy boom:
   a. Kaighn Point; and
   b. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take the Walt Whitman Bridge to Rte 130 North. Take King Street to Broadway, then Broadway to Ferry Street. Turn left onto Ferry Street to Kaighn Point.

G. Delair Railroad Bridge (39-59N, 075-03W, Mile 103.3):

1. Good marshalling point:
   a. North end of island.
2. Area from which to deploy boom:
   a. From underneath RR bridge; and
   b. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take the Walt Whitman Bridge to Rt 130 North. Take Rt 130 North to Maple Avenue, then turn right onto 36th Street. Continue on to the river.

H. Fisher Point (39-59N, 075-04W, Mile 104.3):

1. Good marshalling point.
2. Area from which to deploy boom;
   a. From edge of Fisher Point Dike; and
   b. Boats will be needed to assist those ashore.
3. Directions by Road:
   a. Take the Walt Whitman Bridge to Rte 130 North. Follow Rte 130 North to Union Ave., Delair exit. Turn left and take Union Avenue to the end. Go left on River Road. Take last right before RR bridge and follow back to Hess Oil Co. Staging area is southwest of Hess Oil.

I. Dredge Harbor: (40-02N, 074-59W, Mile 110.2):

1. Marshalling Point.
2. Area from which to deploy boom:
   a. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take the Walt Whitman Bridge to Rte 130 North. Take Rte 130 North to Riverton-Moorestown exit. Turn left and take to Broad Street. Turn right and follow to Inman Avenue. Follow roads to Plum Point.

J. Newbold Island (40-07.5N, 074-45W, Mile 124):

1. Marshalling point:
   a. Near foot bridge.
2. Area from which to deploy boom:
   a. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take Rte 130 North to Marine Salvage Co. Two miles north of Roebling exit, on left, follow road above Salvage Company out to the river (foot bridge on end of island).

K. Duck Creek (40.10N, 074-43W, Mile 112):

1. Marshalling point.
2. Area from which to deploy boom:
   a. Boats will be needed to assist those ashore.
3. Directions by Road:
   a. Take the Walt Whitman Bridge to Rte 130 North. Take Rte 130 North to Rte 206. Take to circle and follow signs to Trenton. Turn left on Labor Street by large church. Follow out to river and turn left. Take to end of road by the oil depot. Go straight on dirt road to mouth of creek.

Pennsylvania and Delaware

L. U. S. Steel Fairless Works (40.08N, 074-45W, Mile 125.2):

1. Marshalling point.
2. Area from which to deploy booms:
   a. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take I 95 North to where it merges with US 1. Follow US 1 north to the Tyburn exit. Take Tyburn road all the way to River Road, then turn right. River Road runs into U. S. Steel.

M. Sand Dredge (40-08N, 074-45.5W, Mile 124.6):

1. Marshalling point.
2. Area from which to deploy boom:
   a. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take I 95 North to Rte 413. Turn right and proceed to the Bristol Pike, (Route 13). Take this north to Bordontown Road and proceed to Pennsbury Road. Turn right onto Pennsbury Road and follow this to the cove.

N. Franklin Basin (39.19N, 075.27W, Mile 121.7):

1. Marshalling point.
2. Area from which to deploy boom:
   a. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take I 95 North to Rte 413. Turn right and proceed to the Bristol Pike, (Route 13). Cross over Rte 13 and bear to the left. Follow this road approximately three miles through Bristol to the Paterson Paper Company.

O. Lagoon (40-02N, 075-00W, Mile 113.7):

1. Marshalling point.
2. Area from which to deploy boom:
   a. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take I 95 North to the Cottman Avenue exit. From here take State Road north to Linden Avenue. Turn right and take road to river. Lagoon is by the Ben Franklin Oil Company.

P. Cove Northern Metals (40-01N, 074-01W, Mile 108.7):

1. Marshalling point.
2. Area from which to deploy boom:
   a. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take I 95 North to the Cottman Avenue exit. Take State Road north to Northern Metals Company.

Q. Upper Bank Frankfort Creek (40-05N, 075-03W, Mile 121.7):

1. Marshalling point.
2. Area from which to deploy boom:
   a. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take I 95 north to Bridge Street. Follow this to mouth of Frankfort Creek.

R. Lower Bank Frankfort Creek (40-00.7N, 075-03.7W, Mile 121.7):

1. Marshalling point.
2. Area from which to deploy boom:
   a. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take I 95 north to Bridge Street exit. Turn right onto Castor Street and follow to the mouth of Frankfort Creek.

S. Penns Landing (39-56.5N, 075-08.5W, Mile 99.9):

1. Good marshalling point.
2. Area from which to deploy boom: 6-37
   a. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take Delaware Avenue north to Penns Landing.

T. Naval Yard Reserve Basin (39-53.5N, 075-11W, Mile 81.4):

1. Marshalling point:
   a. Bridge leading into Reserve Basin.
2. Area from which to deploy boom:
   a. Deploy boom to form a barricade into basin and also to catch oil from river (30 degree angle to current).
3. Directions by road:
   a. Take Delaware Avenue south to Pattison Avenue. Follow Pattison Avenue west to Broad Street. Turn left onto Broad Street and follow to Main Gate of the Naval Shipyard. Turn right at the first traffic light and follow to the Reserve Basin.

U. Girard Point (39-53.5N, 075-12W, Mile 81.4):

1. Good marshalling point.
2. Area from which to deploy boom:
   a. Docks and basin of Chevron Oil Co.;
   b. Docks and basin of Independent Pier Co.; and
   c. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take Delaware Avenue south to Pattison Avenue. Follow Pattison Avenue west to Penrose Avenue. The exit for Chevron Plant is on the right just before the Penrose Avenue Bridge. Follow Chevron Refinery roads to the Marine Terminal.

V. B&O Railroad Bridge (39-56N, 075-12.5W, Mile 85.4):

1. Marshalling point.
   a. West bank good marshalling point; and
   b. East bank limited marshalling point.
2. Area from which to deploy boom:
   a. Deploy boom upstream of Railroad Bridge; and
   b. Boats will be needed to assist those ashore.
3. Directions by road:
   a. West Bank - Take I 76 West to the Vare Avenue exit. Turn left onto Gray's Ferry Avenue and proceed over bridge. Turn left onto 49th Street and follow to the Schuylkill River.

b. East Bank - Take I 76 West to the Vare Avenue exit. Turn left onto Gray's Ferry Avenue and follow to 36th Street. Turn left and proceed to Wharton Street. Turn left and follow to the Schuylkill River.

W. Cove, Harkness Point (39-54.5N, 075-20W, Mile 81.9):

1. Good marshalling point.
2. Area from which to deploy boom:
   a. Deploy boom from small pier; and
   b. Recommend that the boom be attached to a buoy placed upstream from cove (12 degrees angle to shore). This would aid in funneling oil into cove.
3. Directions by Road:
   a. West Bank - Take Delaware Avenue south to Pattison Avenue west and proceed to Penrose Avenue. Turn left and proceed over the Penrose Avenue Bridge. Take the first right and follow this to the Schuylkill River.

X. Ridley and Crum Creeks (39-54.5N, 075-20W, Mile 84.9):

1. Good marshalling point.
2. Area from which to deploy boom:
   a. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take I 95 South to the Philadelphia International Airport (Rte 291). Take Rte 291 South to Ridley Creek. Exit by Philadelphia Electric Co., Eddystone.

Y. The Cove at Middle Creek (39-48N, 075-25W, Mile 78.6):

1. Good marshalling point.
2. Area from which to deploy boom:
   a. From dock at Sun Oil Co.; and
   b. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take I 95 South to the Marcus Hook exit (Rte 13). Follow Rte 13 East and Rte 291 through Marcus Hook to the main gate of Sun Oil Company. The pier and Middle Creek can be reached through the refinery gate.

Z. Pigeon Point (39-42N, 075-31W, Mile 60.5):
1. Good marshalling point.
2. Area from which to deploy boom:
   a. From area north of Bridge; and
   b. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Follow I 95 South to the disposal area on the Delaware side of the Delaware Memorial Bridge. Take dirt road to the area between Pigeon Point and the Bridge.

AA. Brandywine Creek (39-44.5N, 075-32.5W, Mile 62):
1. Good marshalling point.
2. Area from which to deploy boom:
   a. Deploy boom downstream of the Marina; and
   b. Boats will be needed to assist those ashore.
3. Directions by road.
   a. Take I 95 South to I 495 South to the 12th Street exit and turn right. Proceed to marina, approximately one-half mile on the left.

BB. Dragon Creek (39-35N, 075-35.5W, Mile 52.5):
1. Good marshalling point.
2. Area from which to deploy boom:
   a. From north end of Dragon Creek; and
   b. Boats will be needed to assist those ashore.
3. Directions by road:
   a. Take I 95 South to I 495 South to Rte 13 in Delaware. Take Rte 13 South to Delaware City. Turn left onto Rte 9 and continue on to the Star Enterprise (Texaco) Refinery. Proceed through the refinery to the river. Turn left and follow road past piers to Dragon Creek.

BOAT RAMPS - A listing of boat ramp locations is maintained by USCG Group Philadelphia and Group Atlantic City Contact the duty officer for locations.

ANNEX F - APPENDIX II
TAB B - PERSONNEL

Logistical concerns for personnel
(a) Accommodations
(b) Transportation
(c) Food
(d) Clothing
(e) Safety equipment

GENERAL - It is critical that all personnel needs are appropriately addressed when requesting personnel resources from the DRG. Incoming personnel should be directed to bring the appropriate equipment, have orders endorsed, and draw advanced monies as recommended below. These needs should be specifically addressed when the request for DRG resources is made.

ACCOMMODATIONS

The MSO/Group Philadelphia facility does not have accommodation spaces to house TAD Coast Guard personnel who may be ordered in to assist with a response. TAD personnel are encouraged to have perdiem rates endorsed on their orders. A listing of hotels in close proximity to the MSO Philadelphia facility can be found in the Port Resource Directory.

For large spills where multiple DRG and other resources are brought to the area, multiple accommodations must be found. It is recommended that as many personnel as possible be located in the same hotel to facilitate transportation and communication.

TRANSPORTATION - Incoming TAD Coast Guard personnel should make their own transportation arrangements where possible (such as, renting a car at the airport). Personnel should consolidate vehicle resources where possible and should have car rental endorsements on their orders. For long-term responses, transportation arrangements can be made through the rental companies listed in the Port Resource Directory.

FOOD - Numerous catering services are listed in local telephone directories and will not be reproduced in this plan. TAD Coast Guard personnel are encouraged to have their orders endorsed for food and lodging expenses and to draw a travel advance prior to departing their unit.

CLOTHING - Additional personnel will be requested by job function (i.e., boat crew for 41 footer, yeoman, storekeeper, PI qualified petty officer) and should bring personal equipment appropriate for their normal job function (i.e., mustang suit, PFD, coveralls, hard hat, work boots). Specialized equipment will be provided by MSO Philadelphia, requested from the DRG, or purchased for the incident as the situation dictates.

SAFETY EQUIPMENT - Personnel requested as DRG resources should bring personal safety equipment appropriate for their normal job function (i.e., mustang suit, PFD, coveralls, hard hat, work boots). Specialized safety equipment (such as, air monitoring devices) will be provided by MSO Philadelphia, requested from the DRG, or purchased for the incident as the situation dictates.

ANNEX F - APPENDIX II
TAB C - COMMUNICATIONS

The MSO/Group Philadelphia, PA Incident Comms Plan (dated 8/95) provides guidance on the communications frequencies and protocols used by the FOSC during emergency incidents, including oil and hazardous substance discharges. Questions concerning the use of these guidelines should be addressed to the Information Resources Management (IRM) staff at MSO/Group Philadelphia.

The Communications Subcommittee of the Philadelphia Area Committee is developing a communications plan for incidents in the region. For information concerning the status and availability of this plan, contact subcommittee chair through the Information and Resource Management Department at the USCG MSO/Group Philadelphia.

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ANNEX F - APPENDIX II
TAB D - COMMAND CENTER

Command Center
(a) Command center sites
(b) Procedures for establishing a command center
(c) Equipment required

COMMAND CENTER SITES - The initial Command Center for any marine related pollution incident will be at MSO/Group Philadelphia. As the scope of the response increases, or the responsible party is prepared to assume more direct control, the Command Center may be moved to another location. The RP may have adequate space at company-owned facilities or may choose to rent space at a local hotel (see ANNEX F, APPENDIX III, TAB B under "Accommodations").

PROCEDURES FOR ESTABLISHING A COMMAND CENTER - See ANNEX B, APPENDIX II

EQUIPMENT REQUIRED - To be developed.

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ANNEX F

APPENDIX III - SPECIAL FORCES

References: (a) 40 CFR 300, National Contingency Plan
(b) COMDTINST 16465.41, District Response Groups/District Response Advisory Teams, 21JAN93

GENERAL. During an incident, the federal OSC has access several federal resources which can assist in the mitigation of a significant spill. These special teams and other forces are described in Section 300.145 of reference (a). This appendix shall identify the federal, state, and local agencies or groups with additional resources and information available to respond to or assist with a pollution incident. Methods for contacting each are listed in ANNEX F of this plan.

Tabs:
(A) USCG National Strike Force/Strike Teams
(B) Public Information Assist Team
(C) USCG DRG and DRAT
(D) U.S. Navy/ACOE
(E) Scientific Support Coordinator
(F) EPA Special Forces
(G) ATSDR
(H) Interagency and Intergovernmental Support

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ANNEX F - APPENDIX III
TAB A - USCG NATIONAL STRIKE FORCE

The National Strike Force (NSF) was created in 1973 as a Coast Guard staffed "Special Force." This special force assists On-Scene Coordinators (OSCs) responding to potential and actual oil and hazardous material spills, as directed by the National Contingency Plan (NCP).

The National Strike Force is composed of four units including three, thirty-five member strike teams. These teams are: The Atlantic Strike Team located in Fort Dix, NJ; the Gulf Strike Team located in Mobile, AL; and the Pacific Strike Team located in Novato, CA. The strike teams are managed by a fourth unit, the National Strike Force Coordination Center which is located in Elizabeth City, NC.

NSF Mission: The NSF is a unique, highly-trained cadre of Coast Guard professionals, who maintain and rapidly deploy with specialized equipment in support of Federal On-Scene Coordinators preparing for and responding to oil and chemical incidents in order to prevent adverse impact to the public and reduce environmental damage.

NSF Capabilities include:

* Responding with trained personnel and specialized equipment to prevent, contain and/or remove spills of oil and releases of hazardous materials;
* Providing spill management expertise;
* Assisting with response planning and consultation;
* Conducting operational training in oil and chemical spill response techniques and equipment usage;
* Coordinating, conducting, and evaluating the national Preparedness for Response Exercise Program (PREP);
* Identifying, locating, and assisting in the transportation of specialized equipment needed for spill response; and
* Providing support from the Public Information Assist Team (PIAT) to OSCs during pollution responses.

The NSF can provide OSCs with expertise in many areas, including:

* Operating spill response equipment;
* Supervising/monitoring response personnel on sites;

* Outlining, establishing, monitoring site safety requirements during the conduct of hazardous material spill/release operations;

* Providing resource and photographic documentation support;

* Providing command, control, and communications support.

The National Strike Force equipment inventory includes:

* Lightering and transfer systems - including pumping equipment capable of handling all oils, corrosives, and other chemical cargoes;

* Containment barriers and skimming systems; Open Water Oil Containment and Recovery System (OWOCRS), and Vessel of Opportunity Skimming System (VOSS).

* Offshore inflatable containment boom;

* Temporary storage devices for oil and hazardous materials;

* Mobile command posts and communications equipment;

* Generators, light towers, air compressors;

* Air monitoring equipment;

* Levels A, B, and C HAZMAT response-entry capabilities;

* Trailerable and inflatable boats to support deployment of equipment and provide logistics.

* Photographic and video documentation equipment.

Requests for Strike Team Assistance: As outlined in the NCP, "The OSC may request assistance directly from the Strike Teams. Requests for a team may be made to the Commanding Officer of the appropriate team, the USCG member of the RRT, or the Commandant of the USCG through the NRC." OSC's are encouraged to use the NSF whenever its expertise or equipment is needed, or to augment the OSC's staff when it is overburdened by a response to a given incident. The NSF should be used when:

* A medium or major discharge or potential discharge occurs;

* Control of the discharge requires the special knowledge or special equipment of the NSF;

* Response will require in excess of two days to complete removal operations and augmentation by NSF personnel will release local forces to return to normal operations; or

* In the judgment of the OSC, NSF capabilities are necessary.

Upon receiving a request, personnel and equipment will be deployed to the scene in the most expeditious manner possible. This may involve over-the-road transport: all three strike teams have tractor-trailer rigs, which give them rapid deployment capabilities. In the event air transport of equipment is required, aircraft support will be coordinated by the appropriate Area Commander.

By requesting assistance from any one strike team, an OSC immediately gains access to the entire National Strike Force personnel roster and equipment inventory. Each team maintains a state of readiness, which enables them to dispatch two members immediately, four members within two hours, and up to twelve members within six hours, as the circumstances of the incident dictate. Equipment would be dispatched within four hours of a request for assistance.

NOTE: Since response support is time critical, early notification of strike team assistance (or potential assistance) will allow the teams to begin logistics planning even before a formal request is made.

Logistic Considerations: Strike teams make every effort to be logistically independent; however, assistance may be required from the OSC in arranging the following support:

* Heavy lifting equipment, such as, cranes and forklifts capable of handling a 16,000 lb. containment barrier box;

* Fork extensions for forklift;

* Small boats, vessels of opportunity;

* Tractor-trailer rigs;

* Electrical power, land lines for telephones and computers, potable water supply and fuel supply for command posts.

Specific logistic needs will be clarified during the initial request for assistance; these needs vary, dependent upon the incident and location. Strike teams attempt to minimize the effort by the OSC's staff required to arrange support. The local knowledge of the OSC's staff may be relied upon by the strike teams to make reasonable decisions regarding logistics. NOTE: See Annex F, Appendix III, Tab O, for sources of support equipment.

The NSF has pre-positioned equipment in remote locations within each team's respective AOR to enhance response readiness. Due to

the close proximity of the Atlantic Strike Team at FT Dix, they have no pre-positioned equipment within the COTP Philadelphia AOR.

NSF(AST) EQUIPMENT LIST

The following is a list of equipment utilized by the Atlantic Strike Team.

PUMPS	QTY
Stripper	1
Single	2
Sloane	5
Thune	1
TK-150	1
Double	1
Peristaltic	3
Farymen	1
Gorman Rupp	1
Homelite 2"	1
Homelite 3"	1
Honda	1
M-1 CHEM	1
M-8 OIL	2
M-15 CHEM	2

BARRIER	
OWOCRS	6
Pump floats	6
Hose system	6

COMPRESSORS	
In/Rand 2501	
Bauer 4500	2
Mako 4500	1
Portable	2

READY LOADS	
OWOCRS	6
Large Pump	1
Small Pump	1
VOSS	1
45" boom	2
Chem "A"	1
Chem "B"	1
Decon trail	1
Command Post	1

VEHICLES	QTY
Tractor	4
10 Ton	4
5 Ton	1
1 Ton	2
Van	1

GENERATORS	
6.5 kw	1
6 kw	1
5 kw	1
3.5 kw	1
1 kw	6

PRIME MOVERS	
ADAPTS	5
VOPS	1
Deutch	7

PHOTO/COMPUTERS	
35mm kits	1
Polaroid	2
8 mm Video	1
Video	2
35 mm	8
MAC portable	4

OUTBOARDS	
250 hp	4
140 hp	3
100 hp	2
55 hp	3
40 hp	8

MEDICAL

MISC	QTY
Coolers	13
Disch Hose	300
Hyd hose	7500'
Dracona F	2
Dracone O	1
Mooring Sys	4
DESMI 250	3
S/S hose	600'
Tripods 3 ton	3
Fuel Bladders	20
Inflat. barges	2
Chain saws	2

UTILITY BOATS	
32' MUNSON	1
23' Sea Ark	1
18' Sea Ark	1
17' RHI	1
16' Inflatable	8

TRAILERS	
48' low	2
42' low	2
32' low	3
Command post	1

FORKLIFTS	
30,000 pd	1
15,000 pd	1
6.000 pd	1

SAMPLING	
Wipe kits	2
HAZCAT	2
Soil Auger	1

CHEMICAL

SCBA	20
EEBA	16
Respirator	56
Cylinders	56

DETECTORS

Hnu	4
OVA	4
Draeger	6
SKC	6
Infrared	2
Exotox	4
Radiac	4
Heat stress	3
Toxic gas	1
HAZDUST kit	2
Flourometer	1
Db meters	2
Metal Detec	2
Ph	2
Mini Gas	4

EMT kit	6
Monitor kit	2
Steel vest	12
Oxygen kit	2

CHEM SUITS

Chemfab	10
Chemrel Max	16
Lifeguard	35
Sigel	48

COMMS/ELECTRIC

Repeaters	2
Cellular	6
INMARSAT	1
Skypagers	6
Copiers	1
FAX	4
WeatherPak	3
Saber VHF	26
Saber UHF	10
Base station	3
Vehicle VHF	7
Scanners	1
CB radio	4
Truck scales	1
Lighting towers	8

Ekman dredge	1
Wheaton bomb	1
Bacon bomb	1
Sludge judge	8
Gas probe	1
Oil/h20 meter	2
Coliwasa	9

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ANNEX F - APPENDIX III
TAB B - PUBLIC INFORMATION ASSIST TEAM

The Public Information Assist Team (PIAT) is an element of the NSFCC staff, which is available to assist OSCs to meet the demands for public information during a response or exercise. Its use is encouraged any time the OSC requires outside public affairs support. Requests for PIAT assistance may be made through the NSFCC or NRC by calling 1-800-424-8802.

The PIAT members are trained in journalism, public relations, and photography and have knowledge of pollution response techniques, equipment, and applicable federal laws. They are particularly useful for complementing the capabilities of the MSO/Groups Public Affairs Staff in setting up and manning a news office and running press conferences. All requests must be followed by teletype message.

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ANNEX F - APPENDIX III
TAB C - USCG DISTRICT RESPONSE GROUP (DRG) AND DISTRICT RESPONSE ADVISORY TEAM (DRAT)

DISTRICT RESPONSE GROUP (DRG). The District Response Group (DRG) is not a unit in the traditional sense. It provides a framework within each Coast Guard district to organize district resources and assets to support USCG OSCs during response to a pollution incident. Coast Guard DRGs assist the OSC by providing technical assistance, personnel, and equipment, including the Coast Guard's prepositioned equipment. Each DRG consists of all Coast Guard personnel (including reservists and auxiliary) and equipment, including firefighting equipment, in its district, additional prepositioned equipment, and a District Response Advisory Team (DRAT) that is available to provide support to the OSC in the event that a spill exceeds local response capabilities. Each DRG:

a. Shall provide technical assistance, equipment, and other resources, as available, when requested by an OSC through the USCG representative to the RRT;
b. Shall ensure maintenance of all USCG resource equipment within the district;
c. May provide technical assistance in the preparation of the Area Contingency Plan; and
d. Shall review each of those plans that affect its geographic area of responsibility.

NOTE: THE DRG RESOURCE LISTING HAS NOT BEEN COMPLETED AS OF THE PRINTING OF THIS PLAN. CONTACT DRAT FOR ASSISTANCE.

DISTRICT RESPONSE ADVISORY TEAM (DRAT). The District Response Advisory Team (DRAT) is intended to be the nucleus of the DRG. The team is comprised of three to six billets added to the district (m) division staffs. The DRAT serves as the coordinating body for the DRG and as a readily deployable team that can be dispatched to provide support for a Coast Guard Federal On-Scene Coordinator. It is specifically dedicated to enhancing pollution response preparedness at the port/district level and providing expert assistance to the OSC during response operations. The DRAT staff includes:

DRAT Section Chief/Contingency Plan & Preparedness Coordinator
Pollution Fund Field Administrator
Cleanup Equipment Specialist
Environmental Specialist
PREP Administration Support

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ANNEX F - APPENDIX III
TAB D - U.S. NAVY/ARMY CORPS OF ENGINEERS

The U.S. Navy (USN) is the federal agency most knowledgeable and experienced in ship salvage, shipboard damage control, and diving. The USN has an extensive array of specialized equipment and personnel available for use in these areas, as well as, specialized containment, collection, and removal equipment specifically designed for salvage-related and open-sea pollution incidents.

The Supervisor of Salvage (SUPSALV) can provide salvage expertise and maintains a warehouse on each coast stockpiled with salvage and response gear. (See NSFCC Spill Response Resource Inventory <SRRI> for a listing of SUPSALV equipment.)

Individual Navy Facilities also locally stockpile some response equipment, which is also listed in the SRRI. The Naval Regional Medical Center (NRMC) of Philadelphia provides an Occupational Health Monitoring program for MSO Philadelphia personnel. In addition, DOD provides two invaluable services to the OSC

Navy Superintendent of Salvage

As stated in the NCP, SUPSALV is the primary federal resource for marine salvage operations. SUPSALV is located at Cheatham Annex outside of Williamsburg, VA, and maintains an inventory of ready cleanup equipment. In the event of a medium or major spill, they can provide pollution response equipment within fourteen hours.

The SUPSALV pollution control equipment, complete with operators and maintenance support, is available to Federal On-Scene Coordinators on a cost-reimbursable basis. Either the responsible party or the OSC can fund SUPSALV operations. Formal requests for SUPSALV assistance must be made through the Chief of Naval Operations, Navy Command Center, Washington, DC.

SUPSALV can also provide the OSC with phone consultations, evaluations of proposed salvage plans, and salvage engineers available for dispatch to the scene upon request. SUPSALV requires two to six hours to mobilize their equipment. None of the equipment will be flown in for operations. All of the equipment will be trucked in by highway and will take approximately eight hours, once mobilized, to arrive on scene. SUPSALV is prepared to provide personnel and equipment, which are as self-supporting as transportation permits; however, some support elements must be provided from local resources.

SUPSALV may be contacted as follows:

a. For information and informal "heads up" notification:

24 Hours (NAVSEA Duty Officer): (703) 602-7527/7528

b. For official requests for mobilization and response:

24 Hours (CNO Duty Captain): (703) 695-0231

Early "heads up" calls are encouraged, appreciated, and valuable, even if the extent of the response has not yet been determined, and especially if there is a chance that mobilization will be needed later.

Non-Navy requests for emergency assistance should be directed through the RRT in accordance with the NCP. U. S. Coast Guard requests can be initiated directly in accordance with the Navy/Coast Guard MOU found in Volume X of the Coast Guard Marine Safety Manual.

Army Corps of Engineers (ACOE)

The ACOE is responsible for maintaining the navigable channel of the Delaware, Schuylkill, and Christina Rivers. They can also provide expertise in removing obstructions in the river or onshore and performing structural repairs and construction.

ACOE dispatchers control all shipping traffic transitting the C&D Canal. They have remote, fully controllable, closed-circuit TV cameras at Reedy Point (east end), RR Bridge Canal (central), and Town Point (west end) from which observations can be made. Because of the extremely restricted maneuverability within the canal, it is important to notify them whenever conditions may affect shipping traffic transitting the canal. The liaison with ACOE is Brian Mulvenna (AC member). He can be contacted at
(215) 656-6756. The number to the control tower is
(302) 885-5621/5622.

ANNEX F - APPENDIX III
TAB E - SCIENTIFIC SUPPORT COORDINATOR

NOAA Scientific Support Coordinators (SSCs) are the principal advisor to the USCG OSC for scientific issues, communication with the scientific community, and coordination of requests for assistance from state and federal agencies regarding scientific studies. The SSC leads a scientific team and strives for a consensus on scientific issues affecting the response but ensures that differing opinions within the community are communicated to the OSC. The SSC can also assist the OSC with information relating to spill movements and trajectories. The NOAA SSC serves as the OSC's liaison between damage assessment data collection efforts and data collected in support of response operations. The SSC leads the synthesis and integration of environmental information required for spill response decisions in support of the OSC, coordinating with state representatives, appropriate trustees, and other knowledgeable local representatives.

Scientific Support Coordinator (SSC)

SSC capabilities/responsibilities include:

a. Contingency planning;
b. Hazard assessments;
c. Prediction of movement and dispersion of oil;
d. Surface/subsurface/air trajectory forecasting;
e. Meteorological and oceanographic information;
f. Hydrologic, ice, tidal, and circulation information;
g. Resource sensitivity and risk analysis; and
h. General communications.

The OSC can obtain NOAA SSC assistance twenty-four hours a day by directly contacting the SSC Headquarters at (206) 526-6317, or by contacting the regional SSC directly. Each regional SSC has the authority to respond immediately to pollution incidents and to commit additional NOAA resources to the response when necessary. The SSC headquarters in Seattle will provide support to the OSC, while the regional SSC is enroute or otherwise not available. The predesignated regional SSC for this area and primary contact for all NOAA services is Mr. Ed Levine, who can be contacted at (212) 668-6428.

It is NOAA's policy to provide the services above on a priority basis during a major oil spill incident. Reimbursement of extraordinary expenses associated with direct support of the OSC is expected. In the event certain capabilities are unavailable at a given time, the agency is committed to actively assist the OSC in obtaining the required support.

Other divisions of NOAA provide support and advice to the SSC and are available to the OSC through the SSC:

Hazardous Materials Response Team (HAZMAT Team)

NOAA's HAZMAT Team provides information and field support to the coastal SSC. In addition to SSC responsibilities above, they also have the capability to:

a. Conduct air and marine sampling and analysis;
b. Advise on sampling instruments and requirements;
c. Advise on personnel safety precautions;
d. Respond to requests for scientific studies; and
e. Assist public relations efforts on scientific issues.

The HAZMAT Team can be contacted through the regional SSC or directly through a twenty-four hour paging service at (206) 526-6317.

Environmental Data Service (EDS)

Climatological data on marine weather, oceanic conditions, and water column characteristics are available through EDS's National Climatic Center in Asheville, NC, and National Oceanographic Data Center in Washington, DC. Trained personnel are available in these organizations to meet specific analytical requirements of the OSC in physical and environmental areas. Special consulting services are available and have been extremely valuable in past events.

National Environmental Satellite Service (NESS)

Satellite data products are available to support the OSC through NESS in Suitland, MD. The NOAA polar-orbiting satellites currently provide observations of the northeast coastal region at resolutions of 1/2 to 2 NM twice daily. The NOAA geostationary satellite provides comparable resolution at one-hour intervals. Satellite imagery proved valuable in the early days of the ARGO MERCHANT spill, providing synoptic scale coverage of surface oil contamination. In later phases of the incident, NOAA satellite imagery was used to precisely locate gyres of the Gulf Stream, which appear to have collected quantities of residual surface oil. NESS can also assist in the tracking of drogue buoys through the NIMBUS-F satellite.

National Marine Fisheries Service (NMFS)

NMFS through its Northeast Region at Gloucester, MA, and Northeast Fisheries Center (with facilities at Woods Hole, MA; Naragansett, RI; Milford, CT; Sandy Hook, NJ, and Oxford, MD) is available to provide a broad variety of biological and oceanographic services, which can address the impact of spill contaminants and cleanup operations on marine organisms and the

marine ecosystem. Such services include population assessments to determine mortalities, laboratory facilities to determine specific contaminant impact at sub-lethal levels on marine organisms, and a nationally recognized group of marine pathologists. The regional office maintains liaison with recreational interests and state commercial fisheries agencies. They can be contacted through the Regional SSC or directly at (508) 548-5123.

At the Northwest Fisheries Center in Seattle, a full range of hydrocarbon analytical chemistry facilities, including state-of-the-art GC-MS technology is available. Chemists and toxicologists at this facility will consult on properties and toxic potential of various hydrocarbon contaminants.

National Ocean Survey (NOS)

NOS operates a fleet of oceanographic survey and research vessels, which may be available to support the OSC in the event of a spill emergency. NOS is further able to support the OSC with certain specialized oceanographic and geodetic services, such as, tide and tidal current analysis and precise marine surveys.

Office of Ocean Engineering (OOE)

The Office of Ocean Engineering through its National Data Buoy Office, maintains a family of buoys, which can be deployed in drifting or moored modes to provide meteorological observations, as well as, data on ocean conditions, wave spectra, currents, and salinity. Relatively inexpensive position-reporting buoys were used in the ARGO MERCHANT incident to mark and report the location of major oil "pancakes."

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ANNEX F - APPENDIX III
TAB F - EPA Special Forces

The EPA is a cabinet level agency responsible to respond to environmental hazards. They respond to all incidents occurring in land of the USCG/EPA line of delineation described in ANNEX III. Their area of greatest expertise is in response to hazardous material releases, and they control response funds authorized under CERCLA legislation. EPA has several specialized response teams and support agencies, which the OSC can contact through the EPA RRT representative:

EPA On Scene Coordinator (OSC): The OSC is located in Edison, NJ, and Philadelphia, PA. Their expertise supplements regional expertise that can assist an OSC in dealing with unique situations encountered during oil and hazardous substance incidents. The EPA OSC maintains trained personnel and can advise the OSC on:

a. Hazard calculations;

b. Risk assessment;

c. Multimedia sampling and analysis programs;

d. On-site safety, including development and implementation of plans;

e. Cleanup techniques and priorities;

f. Water supply decontamination and protection;

g. Environmental assessments; and

h. Available training courses.

EPA Environmental Emergency Response Unit (EERU): EERU is contracted to ERT. This spill-response group operates and maintains field-ready equipment on call twenty-four hours a day and provides site-support services to the ERT. Its activities include monitoring equipment, conducting extent of contamination surveys, and collecting multimedia samples. EERU includes a research and development group that tests and demonstrates prototype cleanup and control equipment. EERU also gives training courses to demonstrate the different types of equipment tested.

EPA Technical Assistance Teams (TAT): TAT provides technical expertise for response to oil and hazardous substance incidents. The team has personnel trained in health and safety, multimedia field monitoring and sampling, incident documentation, cost monitoring, cleanup restoration, and disposal techniques during oil and

hazardous substance incidents. TAT can also conduct initial response cleanups limited to $1,000 in cost.

EPA Emergency Response Cleanup Services Contracts (ERCS): ERCS contracting network may be used by the OSC to provide support for all federally funded emergency cleanup operations on oil and hazardous substance releases. The ERCS contractor operates twenty-four hours a day, seven days a week to accept and implement delivery orders needed to maintain response capabilities including trained personnel and equipment to control, stabilize, cleanup, and subcontract transportation and waste disposal.

Environmental Photographic Interpretation Center (EPIC): EPIC can provide excellent low-level, high-resolution aerial color photography. Services can be arranged through EPA Region III within twenty-four hours.

The EPA's Environmental Response Team (ERT) has expertise in treatment technology, biology, chemistry, hydrology, geology, and engineering. The ERT can provide the OSC access to special equipment to deal with chemical releases, and can provide the OSC with advice concerning hazard evaluation, multimedia sampling and analysis, risk assessment, on-site safety, cleanup techniques, water supply decontamination and protection, use of dispersants, environmental assessment, degree of cleanup required, and the disposal of contaminated materials. The ERT also offers various training courses to prepare response personnel.

Environmental Monitoring and Support (EMS) Laboratory: EMS Laboratory located in Las Vegas, NV, can provide rapid aerial color or color reversal photography. These photos can be taken within twelve to twenty-four hours of contacting the EMS Laboratory. A full briefing can be provided by their assigned on-scene project officer twenty-four to thirty hours after the overflight. The photography can aid the OSC in environmental damage assessment, response scope planning, and response effectiveness Similar rapid service is available for night mapping using thermal IR scanners.

ANNEX F - APPENDIX III
TAB G - AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

The Agency for Toxic Substances and Disease Registry (ATSDR) maintains appropriate disease/exposure registries, provides medical care and testing of individuals during public health emergencies, develops, maintains, and informs the public concerning the effects of toxic substances, maintains a list of restricted or closed areas due to contamination, conducts research examining the relationship between exposure and illness, and conducts health assessments at contaminated sites. The ATSDR also assists the EPA in identifying most hazardous substances at CERCLA sites, develops guidelines for toxicological profiles of hazardous substances, and develops educational materials related to the health effects of toxic substances. ATSDR resources are an important tool for the OSC to use in assessing the possible effects of an environmental emergency on the public's health. A response team consisting of an emergency response coordinator, toxicologist, chemist, physician, and an environmental health scientist will be made available within twenty minutes of the call.

ATSDR will address a number of health issues including health team coordination, contingency planning, decontamination procedures, first aid/medical treatment protocols, public affairs, health threat assessment sampling plans, worker safety and health, evacuation/reentry consultation, exposure pathway assessment, and health information. ATSDR is located in Atlanta, GA, and may be contacted twenty-four hours a day at (404) 639-0615.

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ANNEX F - APPENDIX III
TAB H - INTERAGENCY AND INTERGOVERNMENTAL SUPPORT

In support of the OSC, the NCP directs government agencies to coordinate their efforts and expertise in their response to an oil spill or hazardous material release. This annex contains an alphabetical listing of those agencies and describes their part of the total response effort.

ARMY CORPS OF ENGINEERS (See Department of Defense)

COAST GUARD (USCG): (COIL, NRC, NSF, OSC, and PIAT

Central Oil Identification Laboratory (COIL)

Based in Groton, CT, COIL may used to compare suspected sources of an oil pollutant with samples gathered from the water or contaminated substrates to determine if the samples match chemically with the suspected source. The COIL Lab report is often used to settle disputes between the Coast Guard and responsible parties who claim they have not spilled oil. COIL does not have the ability to test for any RCRA characteristics other than flash point, nor do they have the ability to identify the chemical composition of an unknown substance. Any federal, state, or local government can request assistance from the lab. COIL will not provide services to the private sector. Point of contact at COIL is Dr. Martha Hendrix (203) 441-2645.

National Response Center (NRC)

The NRC is the twenty-four hour communications center of the National Response Team. It is located at Coast Guard Headquarters in Washington, D.C. The NRC receives telephone reports of oil spills and chemical releases nationwide through its toll free number (800) 424-8802 and immediately relays them to the predesignated Federal On-Scene Coordinator for appropriate action. It will also channel OSC and RRT reports to the NRT, when necessary. The NRC has the PIAT watchlist and can perform spill forecasts using HACS and CAMEO when needed.

The NRC has access to two chemical computer programs to provide information to the OSC about hazardous substances and the probable effect of the discharge upon the environment: USCG Hazard Assessment Computer System (HACS) and the Office of Hazardous Materials Technical Assistance Data Systems (OHMTADS). NRC is the first point of contact for Headquarters level support, such as PIAT.

Marine Safety Center (MSC)

During a pollution response incident, the Marine Safety Center's Salvage Team can provide technical assistance.

(1) MSC can evaluate stability, structural strength and salvage proposals and may be able to estimate quantity of oil spilled based on tankage, if sufficient data is provided.

(2) MSC personnel may be available to go on scene with laptop computers linked to MSC computers and software.

(3) MSC may have, or could obtain, U.S. flag vessel plans.

(4) MSC may be able to provide advice on typical questions, such as, whether to pull a vessel off a reef and how much horsepower is required; the best way to unload without incurring further damage and whether pressurization of tanks is reasonable to obtain more buoyancy.

The Marine Safety Center can be contacted Monday through Friday 0700-1530 (Eastern) at (202)-366-6481. For after-hours response, contact Flag Plot at (202) 267-2100.

AIREYE

The Coast Guard has had an Airborne Remote Identification (AIREYE) system installed on several HU-25A (Falcon) aircraft since 1985. The AIREYE sensor package includes a variety of equipment and can be used for oil spill reconnaissance. The AIREYE sensor set includes:

(1) SLAR (Side-Looking Airborne Radar) This system is capable of long-range detection in all-weather, day/night operations. For oil spill detection, its range is estimated at 10-20 nautical miles off each side for a swath of up to 40 nautical miles.

(2) IR/UV (Infrared/Ultraviolet Line Scanner) This system can perform two functions; scan the area directly beneath the aircraft missed by the SLAR system, and it can image those targets detected by SLAR.

The types of information AIREYE can provide about oil slicks include location (by latitude and longitude), size, movement, and other useful information. As a result, AIREYE can be used to assist the OSC in evaluating spills. Additionally, AIREYE information can be beneficial when planning oil spill cleanup activities.

Despite its remarkable capabilities AIREYE is not intended for everyday use. Interpretation of the film provided by AIREYE is a technical matter usually performed by scientific support personnel. AIREYE is available on aircraft currently originating at Air Station Cape Cod, Massachusetts. This resource may be obtained by contacting the First Coast Guard District Operations Center at 617-223-8555.

DEPARTMENT OF JUSTICE (DOJ)

The DOJ can provide expertise on legal matters arising from discharges or releases. They can also represent the Federal Government in litigation for the prosecution of criminal offenses relating to the pollution incident. Any inquiries to the Department of Justice should be directed through the CCGD5 Legal Officer at FTS 393-6291 or (804) 398-6291.

DEPARTMENT OF THE INTERIOR (DOI): (USF&WS and USGS)

(DOI) can provide information about the lands and natural resources specifically under DOI jurisdiction, as well as, offer technical expertise related to geology, hydrology, minerals, fish and wildlife, cultural resources and recreation resources. The Regional Environmental Officer of Environmental Affairs, Philadelphia, is responsible for coordinating DOI activities. DOI has trustee responsibility for lands under its administration and selected natural resources, regardless of location, including migratory birds, certain anadromous fishes, and certain endangered/threatened species and their critical habitats. The Regional Environmental Officer is Don Henne, who can be contacted during the day at (215) 597-5378 or during the evening through the MSO Command Duty Officer. Within the DOI, individual bureaus have specific responsibilities as follows:

U. S. Fish & Wildlife Service (USF&WS)

USF&WS can provide expertise on migratory birds, endangered and threatened species, and wildlife habitat, and can advise on fish and wildlife protection methods. It can provide information concerning natural wildlife refuges and natural fish hatcheries managed by the FWS. The FWS may be able to provide vehicles and boats for spill response in the vicinity of natural wildlife refuges. The FWS has the expertise, personnel, and basic equipment necessary to disperse or capture birds, and to coordinate and oversee bird rehabilitation activities at a spill site. The FWS maintains liaison with FWS trained and permitted organizations (such as Audubon Society Chapters or Tri-State Bird Rescue) that can provide local volunteers to assist in bird rehabilitation operations related to oil spill incidents. Specific areas of concern are:

(1) **Waterfowl/Shorebirds/Wading Birds** - Protection of water birds following an oil spill is one of several OSC responsibilities. The impacts of oil contamination on water birds, public interest and concerns about the welfare and care of oiled water birds, and information needs by the news media are issues to be managed as part of the overall cleanup activities by the OSC. Whenever a spill incident involves or threatens water birds, the DOI representative on the RRT should be requested to organize and oversee water bird protection efforts. Partial activation of the RRT for assistance in this area; and, partial opening of the Oil Spill Liability Trust Fund may be necessary. The most effective method of bird protection is to

prevent/discourage the birds from entering contaminated areas. This often may be accomplished by using various repelling measures. FWS has personnel and equipment that may be utilized for such response actions. At the first indication of a potential for water bird involvement in oil spill incidents, the OSC should alert the DOI representative for activation of appropriate response actions.

(2) **Federally Endangered and Threatened Species** - Technical assistance and guidance on endangered and threatened wildlife and plants is available from the FWS. All requests for such assistance should be directed to the FWS or through the Regional Environmental Officer.

MINERALS MANAGEMENT SERVICE(MMS) has expertise in geology, geophysics, and petroleum engineering. It can provide expertise concerning oil drilling, producing, handling, and pipeline transportation. It has access to and supervision over continuously-staffed facilities that can be used for command, control and surveillance of spills occurring from operations conducted under the Outer Continental Shelf Lands Act. The MMS can direct a lessee to clean up pollution with their equipment of via direct contracts. This authority is spelled out in OCS Order No. 7 and in 30 CFR 250.43. The MMS has the authority to suspend any activity within a 500 meter radius of any pollution source for abatement purposes as stated by the Memorandum of Understanding of August 16, 1971, between DOI and DOT.

National Park Service (NPS) can provide expertise on historical, archaeologist, architectural, and recreation resources and sites on the National Register of Historic Places. The NPS can also provide information on units of the national parks, monuments, seashores, battlefields, and preserves, and, national historic sites, rivers, recreation areas and parkways. The NPS may be able to provide vehicles and boats locally for spill response in the vicinity of units of the national park system.

U. S. Geological Survey (USGS) can provide expertise on geologic, geohydrologic, and geochemical resources, as well as, information on ground and surface waters. The USGS maintains stream flow gauges in every state, can provide historical stream flow information, assist in predicting the time/travel/trajectory of spills, and can collect and analyze surface water and ground water samples.

Bureau of Mines can provide expertise on the analysis and identification of inorganic hazardous substances, and of acid mine drainage.

DEPARTMENT OF LABOR (DOL):

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

OSHA will provide the OSC with advice, guidance, and assistance regarding hazards to personnel involved in removal or control of oil

discharges and hazardous substance releases, and in the precautions necessary to prevent hazards to their health and safety. Typically, they do not need to be called except where specific guidance is needed. They will usually respond to large or lengthy response efforts involving many people, where they will make their own determinations about on-scene safety precautions and make recommendations directly to the OSC. The liaison with OSHA is Dr. John Barry, Technical Director in the Philadelphia area. He can be contacted during the day at (215) 596-1201.

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

Executive Order 12316 delegated to FEMA the responsibility for temporary emergency evacuation and housing of individuals threatened by a hazardous substance release, and permanent relocation of residents, businesses, and community facilities under CERCLA activation, if needed. FEMA also assists state and local organizations by providing training and funding for emergency management, contingency planning, and exercises.

FEMA is located at 105 South 7th Street (2nd floor), Philadelphia, PA. To activate a response, call the Regional Emergency Information Coordinating Center, located in Washington, D.C., at (202) 646-2400. The liaison with FEMA is Darrel Hammons. FEMA H.Q. is located at 500 "C" Street S.W., Washington, D.C. 20472.

FISH AND WILDLIFE SERVICE (See Department of the Interior)

GEOLOGICAL SURVEY (See Department of the Interior)

LOCAL GOVERNMENT

In many cases, local government agencies have a genuine interest and can provide valuable local expertise during a pollution response. Local government involvement should be coordinated through the state government and the OSC. Most local governments have Emergency Operations Centers, but they usually have a limited staff. Their areas of greatest expertise are:

a. Local geographic information;
b. Knowledge of local infrastructure systems;
c. Local media/public relations;
d. Socioeconomic issues;
e. Local access and evacuation;
f. Firefighting and law enforcement manpower;
g. Emergency medical assistance; and
h. Limited logistical assistance.

Upon receiving the request to assemble, members of the Philadelphia Area Committee will initially co-locate with the OSC at USCG MSO/Group Philadelphia, PA. In the event that the OSC establishes his Command Action Center in another location, Area Committee members will be

advised accordingly. The Area Committee will serve up to and through the activation of the RRT.

NATIONAL OCEANOGRAPHIC AND ATMOSPHERIC ADMINISTRATION (NOAA)

NOAA provides scientific expertise on the environment and on living marine resources for which it is responsible. They coordinate scientific support and contingency planning in coastal and marine areas and advise the OSC on all environmental, scientific, and technical aspects of incident planning and response. They are the OSC's technical assistant and liaison between the OSC and all other environmental, scientific, and technical organizations.

NATIONAL RESPONSE CENTER (See Coast Guard)

NATIONAL RESPONSE TEAM (NRT)

The NRT is the national body for planning, preparedness, coordination, and advice in pollution incidents. It consists of representatives from each of the agencies listed in 40 CFR 300.23. Other agencies may request membership on the NRT by forwarding such requests to the chairman of the NRT. The NRT is commissioned to maintain a national readiness to respond to a major discharge of oil or release of a hazardous substance. They do this by:

a. Reviewing and evaluating regional response activities;

b. Developing procedures to build cooperation between all federal, state and local governments, and private organizations with regard to pollution response;

c. Coordinate and monitor response training between agencies;

d. Monitoring national research and development efforts to enhance response technology; and

e. Monitor response planning efforts of RRTs.

The NRT will be activated in accordance with Section 300.34(g) of the NCP. Generally, activation will occur when a spill crosses regional boundaries or involves significant population hazards and/or national policy issues. During response activities, it acts primarily to coordinate and oversee the response activities of the RRTs.

REGIONAL RESPONSE TEAM (RRT)

The RRT consists of representatives of selected advisory agencies, as appropriate. The RRT will provide the OSC with support and guidance in accordance with the RCP and Section 300.32 of the NCP. It functions as an emergency response team and shall be called upon for continuous consultation in the event of a major spill or pollution incident occurring within the region. The RRT may provide information via teleconference or may assemble at the RRC, the OSC's Command Action Center, at the scene or at other locations, as may be

designated. The Coast Guard member of the RRT will act as chairman for coastal spills. The RRT will perform functions within the region similar to those performed nationally by the NRT. Generally, these include planning preparedness and response activities. The states lying within the region are also invited to serve on the RRT. Pennsylvania and Delaware are included on the Region III RRT, New Jersey is on the Region II RRT. These regions mirror EPA regions as defined in the NCP.

The RRT should be activated when the discharge or release:

a. Exceeds the response capability available to the OSC in the place where it occurs;

b. Crosses EPA regional or CCGD5 boundaries;

c. Poses a substantial threat to the public health, welfare, environment, or to regionally significant amounts of property; or

d. Otherwise meets the definition of a major discharge as defined in the NCP.

The OSC should request activation of the RRT during medium and major spills, or during any other pollution incident when the OSC feels that the assistance of the RRT may be required. The RRT may also be activated upon the request of any RRT representative to the chairman of the RRT. To activate the RRT, contact the RRT representative located at CCGD5 at (FTS) 393-6620 or (804) 398-6620.

STATE GOVERNMENT

Designated state agencies receive immediate notification of a pollution incident in accordance with Section 600. State assistance can be invaluable during a major or medium incident in the areas of logistics, access, evacuation control, coordination with local agencies, environmental and geographic expertise, media/public relations, compliance with state statutes, and disposal of recovered material.

Each state has both emergency management and environmental response agencies. The emergency management agencies coordinate the spill's impact on their state's constituents. These agencies represent a direct line to their state governor and state emergency response forces; each has a sophisticated operations/ communications center. The environmental response agencies provide response assistance, impact assessments, hazard evaluations, and information and advice concerning wildlife and fisheries. MSO/Group Philadelphia's primary points of contact for each state agency are:

DEMA Delaware Emergency Management Agency
Dominic A. Petrilli - Deputy Director:
(302) 834-4531

DNR&EC Delaware Department of Natural Resources and Environmental Control
John Mohrman - Program Manager: (302) 739-3694

NJOEM New Jersey Office of Emergency Management
South Region Coordinator: (609) 561-1800 Ext. 3341

NJDEP New Jersey Department of Environmental Protection
Stan Delikat: (609) 633-2168

PEMA Pennsylvania Emergency Management Agency
Bob Long - Emergency Management Specialist:
(717) 783-7346, 24hr (717) 783-8150

PADEP Pennsylvania Department of Environmental Protection
Robert Bauer - Water Quality Supervisor:
(215) 270-1900

State resources and special forces are available to the OSC through the state Area Committee representative. This enables efficient access to all state resources by the OSC and frees the OSC from the coordination and authorization problems that would otherwise be encountered. The State Area Committee representative is responsible for state input to the OSC.

WILMINGTON FIRE DEPARTMENT

The Wilmington Fire Department can provide a 65-foot fireboat for both firefighting and environmental emergencies.

The Wilmington fireboat is a fully-equipped firefighting vessel with all equipment needed to sustain major firefighting operations. It is also fitted with the latest in environmental measuring devices, including radiological monitoring equipment. The department has certified radiological firefighters fully trained to handle these types of emergencies. Also, the fireboat has on hand 2,000 feet of containment oil boom which can easily be deployed from its stern. The fireboat has the ability to operate regardless of the weather conditions. The vessel normally has a crew of two but can respond with fifteen firefighters should they be needed.

The Wilmington Fire Department also maintains a 29-foot quick response vessel which is available for water-related rescue missions. The vessel also has the ability to assist in the deployment of boom. The policy liaison is James T. Wilmore Sr, Chief of Fire (302) 571-4410 (Day). The 24-hour response number is (302) 738-3131. They should be called for any incident in Delaware waters which require a government response.

ANNEX G

CHEMICAL COUNTERMEASURES: DISPERSANTS, CHEMICAL AGENTS, AND OTHER SPILL MITIGATING SUBSTANCES, DEVICES OR TECHNOLOGY

Technical and procedural guidance for the use of dispersants is provided by the Region Three Response Team. On August 1, 1990, a proposal to incorporate the Dispersant Employment Evaluation Plan (DEEP) into the Regional Contingency Plan (RCP) was presented by the workgroup and unanimously accepted by the RRT. It is now included in Annex XI of the RCP. The DEEP is intended to be a guideline that assists decision makers in their evaluation of the complex considerations of dispersant use. The following information is taken directly from the DEEP.

RRT Policy on Dispersants

It is the policy of the Regional II & III RRT that it is preferable to attempt to remove spilled oil from the environment rather than distribute it throughout the water column.

The Chemical Countermeasures Subcommittee of the Area Committee has worked diligently to prepare a final Memorandum of Understanding (MOU) pertaining to the use of chemical countermeasures on oil and oil products. Although the MOU is in final approval stages, it remains in a "draft" form and is reproduced in this plan as Figure 1. When the MOU is approved and signed, it will be distributed as a change to this plan.

State Policies

The Region II & III RCP requires that the states with jurisdiction over the affected waters must concur with proposals to use dispersants. The summaries of the dispersant use policies for the states in the COTP Philadelphia are included in the MOU.

Optimal Situations for Dispersant Use

This information is intended to identify those situations where, if mechanical removal were infeasible and the conditions listed below were present, dispersant use probably would be one of the appropriate methods of environmental protection.

ASSUMPTIONS:

Dispersants are not effective on all types of oil; and, even those which are amenable when spilled, become more resistant to dispersant treatment in about twenty-four hours.

The logistics of mounting a major dispersant operation are very complicated and require constant supervision and evaluation.

Dispersants can be effective in mitigating environmental damage by reducing heavy oiling of shorelines and certain living resources.

Dispersants do not remove the oil but redistribute it into the water column as fine droplets, which con be readily diluted.

Dispersants are not the preferred countermeasure strategy because they redistribute, not remove, oil from the environment; and because the long-term effects of the dispersant and dispersed oil on marine organisms are unclear and difficult to predict.

In common with all techniques, dispersants are not likely to be 100% effective in preventing shoreline impacts, but may be strategically employed to protect specific areas.

Dispersants are one of many countermeasure strategies available to OSCs, and they need to be considered along with other strategies.

Optimal Conditions

The DEEP provides a checklist for optimal conditions, a minimum requirements checklist to support a decision to use dispersants and decision tree. When considering whether or not to use dispersants, these checklists should be consulted.

Application Equipment

Several companies having known dispersants spraying capabilities are listed in the DEEP.

Criteria for Monitoring Dispersant Use

Dispersant applications in Region II, III will be monitored, as a general practice. The OSC is responsible for designating monitors. The Atlantic Strike Team will serve as monitors, as available. A monitoring plan is currently under review by Region III.

(a) The DEEP does not contain a rigid "recipe" to arrive at a simple yes or no answer. Instead it is a guideline to assist decision-makers in their evaluation of the complex and difficult considerations of dispersant use.

(b) The decision to use dispersants must be made as soon as possible after a spill occurs -- before substantial

weathering takes place or the oil has spread. The DEEP provides a dispersant decision process diagram.

(c) Current Dispersant Use Policy. The National Contingency Plan recommends the use of mechanical methods and sorbents as preferred recovery techniques over chemical agents. Chemical agents may only be used under controlled circumstances. If the potential for dispersant use exists, gather information necessary to complete the dispersant checklist. Assistance of the RRT, if not already activated, should be requested. The OSC, with the concurrence of the EPA representative to the RRT and the concurrence of the representative(s) from the state(s) with jurisdiction over the navigable waters threatened by the discharge, and in consultation with the DOC and DOI natural resources trustees, when practicable, may authorize the use of dispersants. Such dispersants must be listed on the NCP product schedule in 40 CFR 300.905.

(e) In the absence of pre-approved areas for dispersant use, the OSC will task the EPA, state, DOC, and DOI representatives on the RRT to address the possibility of using dispersants and request a timely decision. If approved, dispersant use would be effective. The SSC would be requested to spearhead this dispersant use analysis.

Location of Dispersants

Section VIII of the DEEP (kept with the Regional Contingency Plan) lists available sources of dispersants and application equipment. The manufacturers of the various chemical agents listed in the National Product List can provide points of contact for purchasing their respective product. This product list can be found in the Regional Response Plan and 40 CFR 300.905.

Concurrence Network

Under guidelines set forth by Subpart H, Part 300, of Title 40 Code of Federal Regulations, the OSC with the concurrence of the cognizant EPA representative to the RRT and the respective state environmental agency may authorize the use of dispersants, chemical, or biological agents in pollution removal operations.

Dispersant Provisions

Except in unusual circumstances, dispersants will not be used in the Delaware River north of the Chesapeake and Delaware Canal. The fast currents and the large number of shallow water oil collection points in this narrow section of the river are

conducive to mechanical cleanup methods and do not lend themselves well to dispersant use.

The use of dispersants may be permitted in the southern Delaware River and the Delaware Bay, but only at the direction of the OSC and with the approval of the concurrence network described above. The spill history of the lower river and bay indicates that mechanical cleanup techniques are effective in removing spilled oil from the surface of the water. In the Delaware Bay and in the Delaware River south of the C&D Canal, dispersant use may be permitted on a case-by-case basis. In general, it is envisioned that the primary use of dispersants in the lower river and bay will be to protect beaches, environmentally-sensitive areas, and specific wildlife populations from oil that has escaped mechanical recovery methods and would cause significant environmental damage. The use of spill trajectories and information provided by air overflights will be of very significant value in the dispersant use decision in these cases.

Note (1): The Chemical Countermeasures MOU further addresses pre-approved application areas.

Note (2): All Area Committee members and the Coast Guard Co-Chairman to the RRT will be notified immediately when the COTP gives permission for dispersant application in the pre-approval areas. The concurrence network has limited dispersant applications within these pre-approved areas to three applications per year. Additional applications must be approved by the concurrence network on a case-by-case basis.

Special Requirements and Reports

Requests for and actual use of chemical agents must be done in accordance with Subpart H of the Region III Plan. Specifically for dispersant chemicals, the RRT III developed a Dispersant Employment Evaluation Plan (DEEP), which must be complied with for all aspects of dispersant use. Persons wishing to use chemical agents in areas requiring concurrence network approval will be required to provide the following minimum information to the OSC so that a concurrence decision can be made:

a. Location of oil to be treated;
b. Type, amount, and other physical characteristics of the oil to be treated;
c. Chemical choice and application rate to be used;
d. Result of dispersant field test;
e. Means of chemical application;
f. Time chemical application to commence; and
g. Monitoring and sampling plan.

Decisions regarding chemical use will be made by the COTP on

a case-by-case basis, in accordance with Subpart H of the Region III Plan and the RRT III DEEP. Chemical agents will be used when the concurrence network determines that the advantages of their application outweigh any resulting consequences.
The OSC will send representatives to monitor chemical application activities and will submit monitoring data to the Coast Guard RRT Co-Chairman in accordance with Subpart H of the Region III Plan. The OSC will enlist the help of the NOAA Scientific Support Coordinator in determining the effectiveness of the dispersing activity and its impact on the environment.

Technical Data

Only chemicals that are listed on the Environmental Protection Agency on their national product schedule will be authorized for use.

Chemical application rates vary depending on the type of product to be treated, the type of chemical used, and the dosage required to be effective. Application rates are established in Subpart H of the Region III Plan. For dispersants, these rates assume that the effective ratio of dispersant to oil is 1 to 10 and are consistent with guidelines in the National Contingency Plan. If higher application rates are needed for effective dispersion due to oil thickness, oil type, or other reasons, procedures to authorize higher application rates, which are outlined in the National Plan, must be followed.

The method of application depends upon type of chemical and location of the area to be treated. Usually, chemicals must be applied with specialized spraying equipment mounted on vessels, aircraft, or shore vehicles. Normal precautions will be used to scatter waterfowl in the chemical application area and ensure the general safety of the application procedure.

Communications

In cases requiring concurrence network approval for dispersant use, contact with the concurrence parties may be made by direct phone contact or through the CCGD5 (mep) or (opc) staff. To speed the decision making process, conference calls arranged through the National Response Center are encouraged and allow for the transfer of situation data among concurrence parties. Use of the Region III Electronic Mail system, rather than telephone, is recommended for bulk data transmission.

Types of Chemical Agents, Spill Mitigating Substances, and Technology

Collecting Agents (herder): Collecting agents are used to prevent spread of the oil slicks and are applied at a specific ratio to the size of the area impacted.

Dispersing Agents: Dispersing agents may be used to reduce toxic concentrations, accelerate biological decomposition, or reduce flammability of the product. They are usually applied with a coarse spray and then agitated with prop wash or fire hoses. Oil is not considered to be recoverable once a dispersing agent is applied. The oil will remain in the environment until bacteriological degradation is complete. Dispersants are usually not 100% effective. The remaining oil may recoalese and/or resurface and require further action.

Sinking Agents: Sinking agents are chemicals used to transport oil from the surface to the bottom. Because of possible bottom contamination, the use of sinking agents is prohibited.

Biological Agents: Biological agents are nutrients, enzymes, microbiological additives introduced to the spill site to expedite the biological degradation process.

Burning Agents: Burning agents improve the combustibility of a spilled material. Usually sorbent materials are treated and used a as wick to maintain the burning process. The introduction of lighter oil to improve combustion is to be discouraged. While burning agents should be used as a last resort, EPA's position is that in-situ oil burning is a viable response tool that On-Scene Coordinators (OSCs) and Regional Response Team (RRT) members should consider under appropriate circumstances.

EPA's Environmental Response Team (ERT) is available to provide the OSCs and RRTs with on-site technical assistance. In order to supplement existing data concerning the use of burning as a response tool, EPA strongly encourages responders to require monitoring at spills where burning is used, whenever feasible.

Gelling Agents: Gelling agents are currently under research and development. They chemically solidify the pollutant to aid in recovery activities. Some pollutants need to be heated in order to return it to its original state.

One gelling agent/elasticizer that the RRT has granted a one year pre-incident approval is the product Elastol. It is the OSC's responsibility to determine that it is technically feasible to treat and recover the oil, i.e., the product spilled can be elasticized.

Water Jet Use: Use of plunging water jets has been cited by the EPA as a simple, yet proven, technology for diverting oil spills in water currents in excess of four knots. This simple technology depends on a pump, hose, and simple pipe nozzle. It can be used to move oil out of the high current area of a stream or large river to concentrate oil to increase advancing skimmer efficiency, and to protect water intakes, among other uses. The field manual and accompanying video is on file in the Port Operations library.

Appendices: (I) MOU For Chemical and Biological Agents

Annex G, Appendix I

MEMORANDUM OF UNDERSTANDING

Between

U. S. Coast Guard (USCG)
Captain of the Port, Philadelphia
Federal On Scene Coordinator

and

U. S. Environmental Protection Agency (EPA)

and

U. S. Department of the Interior (DOI)

and

U. S. Department of Commerce (DOC/NOAA)
National Oceanic and Atmospheric Administration

and

State of Delaware
Department of Natural Resources
and Environmental Control

and

Commonwealth of Pennsylvania
Department of Environmental Protection

and

State of New Jersey
Department of Environmental Protection

MEMORANDUM OF UNDERSTANDING

EXPEDITED PROCEDURES FOR USING CHEMICAL COUNTERMEASURES
FOR OIL SPILLS WITHIN WATERS UNDER THE JURISDICTION
OF THE CAPTAIN OF THE PORT OF PHILADELPHIA

PURPOSE

This Memorandum of Understanding (MOU) complies with Section 4202 (a) of the Oil Pollution Act of 1990 (OPA 90), which states in part that the Area Contingency Plan shall describe the procedures to be followed for obtaining an expedited decision regarding the use of dispersants in responding to oil discharges.[1] This MOU also provides procedures for obtaining an expedited decision regarding the use of surface collecting agents and biological additives (i.e., "mitigating devices" in accordance with Section 4202) as identified and discussed in Subpart J of the National Contingency Plan (NCP). Dispersants, surface collecting agents, and biological additives will be referred to as "chemical countermeasures" for the purposes of this MOU.

This MOU provides preauthorization for the use of chemical countermeasures by the Federal On-Scene Coordinator (FOSC) within waters under the jurisdiction of the Captain of the Port of Philadelphia. Preauthorization is subject to the conditions of this MOU, which include: the general conditions set forth in the protocols section of this MOU, the Zone specific conditions set forth in Annex I to this MOU, and the conditions for trial use set forth in Annex III to this MOU.

AUTHORITY

Subpart J of the NCP provides that the FOSC, with the concurrence of the EPA representative to the Regional Response Team and the States with jurisdiction over the navigable waters threatened by the oil discharge, and in consultation with the U.S. Department of Commerce (DOC) and U.S. Department of the Interior (DOI) natural resource trustees, may authorize the use of chemical countermeasures on oil discharges; provided, however, that such chemical countermeasures are listed on the NCP Product Schedule. The U.S. Environmental Protection Agency (EPA) has been delegated authority to maintain a schedule of chemical countermeasures that may be authorized for oil discharges in accordance with procedures set forth in Section 300.900 of the NCP.

The Commander, Fifth Coast Guard District, has pre-designated the U.S. Coast Guard (USCG) Captain of the Port (COTP) Philadelphia, under his jurisdiction, as the FOSC for oil discharges in

[1] Oil means oil of any kind or in any form, including but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredge spoil, but does not include petroleum, including crude oil or any fraction thereof, which is specifically listed or designated as a hazardous substance under subparagraph (A) through (F) of section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. 9601) and which is subject to the provisions of that Act. Referenced OPA 1990, NCP 1990.

the waters under the jurisdiction of the COTP, and has delegated to him the authority and responsibility for compliance with the Oil Pollution Act of 1990(OPA 90).

The Governor of the State of New Jersey has designated the Commissioner of the Department of Environmental Protection (NJDEP) the authority and responsibility for providing approval for the use of chemical countermeasures for control of oil spills in or affecting New Jersey waters.

The Governor of the State of Delaware has designated the Secretary of the Department of Natural Resources and Environmental Control (DE DNREC) the authority and responsibility for providing approval for the use of chemical countermeasures for control of oil spills in or affecting Delaware waters.

The Governor of the Commonwealth of Pennsylvania has designated the Secretary of the Department of Environmental Protection (PADEP) the authority and responsibility for providing approval for the use of chemical countermeasures for control of oil spills in or affecting Pennsylvania waters.

To use Chemical Countermeasures in Region II, the DOI and DOC representatives, designated Federal trustees of certain natural resources under Subpart G of the NCP, are to be consulted regarding natural resources, and concurrence must be obtained from both the EPA and the affected states. To use Chemical Countermeasures in Region III, concurrence is required from the affected State(s), DOI, DOC, and EPA.

This MOU constitutes preconsultation and preconcurrence by all signatories for the approval for use of chemical countermeasures within the preapproval areas subject to conditions of this MOU and its annexes.

The use of response measures addressed by this MOU are subject to compliance with the consultation requirements of Section 7 of the Endangered Species Act, as amended. Annex V lists the specific products for which formal pre-incident consultation has already been completed. Consultation for products not listed in Annex V would be accomplished on an incident specific basis prior to their use.

The Dispersant Employment Evaluation Plan (DEEP) of the Region III Regional Contingency Plan (RCP) states that "concurrence is required from the affected state(s), DOI, DOC and EPA." It further states that "where hazards to human life exist, the regulations in Subpart J of the NCP apply and the FOSC may authorize dispersant use without regional concurrence network approval." Similarly, these regulations also permit the FOSC to use surface collecting agents and biological additives to prevent or substantially reduce a hazard to human life.

SCOPE

The USCG, EPA, DOI, DOC, NJDEP, DE DNREC and PADEP agree that the primary method of controlling discharged oil shall be the physical removal of the oil from the environment. These agencies recognize that in certain instances timely, effective physical containment, collection and

removal of the oil may not be possible, and the utilization of chemical countermeasures, alone or in conjunction with mechanical removal methods, may be considered as a means to minimize substantial threat to public health or welfare, or minimize serious environmental damage. This MOU establishes criteria under which chemical countermeasures listed on the NCP Product Schedule may be used in waters of the Captain of the Port Area. No biological agents will be used as a primary response measure.

The conditions of this MOU are applicable to all aspects of countermeasure use within waters under the jurisdiction of the Captain of the Port of Philadelphia (See Figure 1). Four distinct Zones and their associated zone-specific conditions, which determine the nature of chemical countermeasure use in each Zone, are identified in Annex I. Zone specific conditions apply only to spills of 50 barrels or less, except in Zone 1, where specific conditions apply to spills of any size.

PROTOCOLS

This MOU has been prepared based upon guidelines provided in Subpart J and Appendix M of the Region II RCP, and Subpart J and Annex XI (DEEP) to the Region III RCP. Consistent with those documents, the FOSC shall:

a. Satisfy general conditions in this protocols section; and
b. Satisfy zone specific conditions in Annex I, as part of any decision to use dispersants, surface collecting agents and biological additives in responding to oil discharges; or
c. Satisfy the conditions for trial use in Annex III.

The FOSC shall arrive at his decision to use chemical countermeasures through the information gathering scheme and decision making process as detailed in Annex II of this document. In Zone 1, approved chemical countermeasures may be used by the FOSC without further concurrence or consultation.

The USCG, EPA, DOI, DOC, NJDEP, DE DNREC and PADEP agree that the use of chemical countermeasures are subject to the following general conditions:

1. The designated representatives of all affected trustees and potentially affected trustees must be notified in advance of the proposed use of chemical countermeasures. Notification can be made by fax, phone, or e-mail to a single contact point in each of the agencies. While response to these notifications is welcome, no confirmation of receipt of the notification or response to the notification is required from any of the agencies notified prior to commencing chemical countermeasure application in the pre-authorization zones. The FOSC

shall provide the following information, to the extent available, plus any other available relevant information:

a. Date, time, and location of the incident;
b. Type and amount of oil discharged;
c. Area affected;
d. Projected area of impact of the oil if not treated;
e. Reasons why chemical countermeasures have been selected; including resources at risk and a net environmental cost benefit analysis which addresses to the maximum extent possible, under the circumstances, trade-offs in for use and non-use of chemical countermeasures in accordance with Annex II.
f. Type of chemical countermeasure to be used;
g. Application method, rate, and amount;
h. On-scene weather observations;
i. Forecast weather conditions for the next 24 to 72 hours;
j. Human health issues and/or impacts of exposure and effects of the oil and/or countermeasure.

2. The use of chemical countermeasures may be considered by the FOSC only when such use is expected to prevent or minimize a substantial threat to public health or welfare, to prevent serious environmental harm or on small (50 barrels or less) spills of opportunity in Zones A, 2, and 3, and spills of any size in Zone 1, where the threat to sensitive natural resources is minimal and the conditions are less suitable to physical-mechanical removal. This will be done to further our knowledge and experience of oil/countermeasure behavior.

3. Any deployment of chemical countermeasures must be in accordance with a Unified Command approved countermeasure implementation plan submitted by the requesting party. A chemical countermeasures implementation plan, submitted by the party proposing to use a chemical countermeasure, briefly describes the chemical countermeasure proposed for use, quantity, application rate, application equipment and personnel, size of the area to be treated, health and safety precautions and monitoring arrangements.

4. A protocol for monitoring the environmental effects and the effectiveness of countermeasures must be prepared and approved prior to the application of any chemical countermeasure. Approved monitoring plans shall be attached to this document (See Annex IV, Dispersant Monitoring Protocol). Adherence to the monitoring protocol included in the MOU fully satisfies this requirement. The appropriate monitoring protocol shall be conducted and funded by the responsible party, the USCG in event of a mystery spill, or their designee. Monitoring plans will be updated as new information arises regarding the chemical products, ecological resources of the States, and monitoring technology. The responsible party must provide this written Preliminary Report on the effect and effectiveness of chemical countermeasures to the FOSC within 48 hours of application of any chemical countermeasure. (In the event of a trial application, refer to Annex III, Trial Use Policy.)

5. The U.S. Coast Guard and the States shall cooperate to jointly develop a training program for state and federal observers who shall be responsible for assessing application effectiveness and documenting compliance with the countermeasures implementation plan.

6. In the event that qualified State or Federal observers discover and present documentation to the FOSC that the chemical countermeasures are not being used according to the countermeasure implementation plan, that monitoring is not occurring in accordance with the monitoring plan, or that the Trustees observe unanticipated harmful environmental effects, the FOSC will present such evidence to the unified command for the purpose of re-evaluating the decision to use the countermeasures. The FOSC may determine that further application of chemical countermeasures shall be suspended, should such a determination be warranted by the conditions.

7. The FOSC shall require the responsible party to submit a status report within 45 days after the initial application. The Status Report shall include preliminary data on the environmental effects and effectiveness of the chemical countermeasures used. A final written report on these effects and effectiveness shall be submitted not later than six months following the date of the countermeasure use.

AMENDMENTS

This Memorandum of Understanding may be amended in whole or in part as mutually agreeable to all parties thereto, including the annexes, by the Area Committee. Amendments are subject to the approval of the Regional Response Team (RRT) representatives from the EPA and the states, and the natural resource trustees.

CANCELLATION

This Memorandum of Understanding may be canceled in whole or in part by any of the participating agencies. Cancellation will take place 30 days following delivery of written notification to each of the agencies participating in this Memorandum of Understanding.

SIGNATURES

Captain John E. Veentjer Federal On Scene Coordinator USCG MSO/Group Philadelphia	Date
Bruce Sprague U.S. Environmental Protection Agency Region II	Date
Dennis Carney U.S. Environmental Protection Agency Region III	Date
Andrew Raddant Representative for RRT II U.S. Department of the Interior	Date
Don Henne Representative for RRT III U.S. Department of the Interior	Date
Commander Gerald E. Wheaton Representative for RRT II U.S. Department of Commerce	Date
Commander Gerald E. Wheaton Representative for RRT III U.S. Department of Commerce	Date
Robert C. Shinn, Commissioner Department of Environmental Protection State of New Jersey	Date
Christoph A.G. Tulou, Secretary Department of Natural Resources & Environmental Control State of Delaware	Date
James M. Seif, Secretary Department of Environmental Protection Commonwealth of Pennsylvania	Date

LIST OF ANNEXES AND FIGURES

ANNEX I	Preauthorization Zones and Zone-Specific Conditions
FIGURE I	Chemical Countermeasure Preauthorization Zones
ANNEX II	Critical Decision Making Data
ANNEX III	Trial Use Policy
ANNEX IV	Dispersant Monitoring Protocol
ANNEX V	Products With Completed Section 7 Consultation
ANNEX VI	Biological Monitoring/Region 5 Bioassay Protocol

ANNEX I

Preauthorization Zones and Zone-Specific Conditions

Chemical countermeasures listed in the NCP Product Schedule may be used in spill response within the following areas, provided all of the general conditions listed in the protocols are satisfied, as well as all special conditions set forth below. (See map at end of Annex I for Zone locations)

PREAPPROVED ZONES

Zone A. **BIG STONE BEACH ANCHORAGE** in the Delaware Bay.

Limited preauthorization

The effects of the circular Delaware Bay current patterns in the Big Stone Beach Anchorage toward the channel side of the 15 meter contour are conducive to chemical agent use on spills of 50 barrels or less. The use of chemical countermeasures on spills of 50 barrels or less, or 50 barrel or less portions of larger spills, is approved, provided the former is a spill of opportunity and the latter is for trial use only. Trial use applications must satisfy the conditions of Annex III.

Whether a spill of opportunity or a trial use application, the FOSC shall immediately notify State and Federal trustees of the decision to deploy, and provide information specified in the Protocols sections of this MOU. In addition, the FOSC will prepare and provide a written report detailing the results (i.e., effectiveness) of the deployment within 60 days of termination of the response.

Zone 1. **COTP PHILADELPHIA SUBREGIONAL AREA**, the offshore boundary of the Philadelphia COTP Zone more than three miles offshore, as defined in 33 CFR § 3.25 - 05 paragraph(b).

Advanced preauthorization

The water depth and surrounding topography of this area are suitable for the use of chemical agents. Preauthorization is granted with respect to spills of any size.

ANNEX I (Continued)

Zone 2. **COASTAL WATERS WITHIN THE COTP PHILADELPHIA SUBREGIONAL AREA** - Greater than 0.5 miles from shore and water depth greater than 40 feet (12.2 meters).

Concurrence/Consultation required for Operational Use

Chemical countermeasures may be used in waters that are at least 0.5 nautical miles from any shoreline and where the water depth is greater than 40 feet (12.2 meters).

Before authorizing operational use of chemical countermeasures in Zone 2, the FOSC must establish deliberative communication with: the USEPA and affected State(s) for concurrence; USDOC and USDOI representatives if in Region II for consultation, and the USDOC and USDOI representatives if in Region III for concurrence. The FOSC may establish a time frame, not less than four hours, in which a non-concurrence position must be communicated. This time frame will commence once deliberative communications have been established with the designated representative. Trial use applications must satisfy the conditions of Annex III.

Zone 3. **NEARSHORE WATERS WITHIN THE COTP SUBREGIONAL AREA** - Less than 0.5 miles from shore or water depth less than 40 feet (12.2 meters), beyond the inland waters demarcation line.

Concurrence/Consultation Required for Operational Use

Dispersants are not a primary response tool in this zone, *however,* for spill response in Sensitive Areas, defined as natural resources which could be irretrievably damaged by contact with discharged oil, and identified in the Philadelphia ACP, application of dispersants may be appropriate. Before authorizing operational use of chemical countermeasures in Zone 3, the FOSC must establish deliberative communication with: the USEPA and affected State(s) for concurrence; USDOC and USDOI representatives if in Region II for consultation, and the USDOC and USDOI representatives if in Region III for concurrence. The FOSC may establish a time frame, not less than four hours, in which a non-concurrence position must be communicated. This time frame will commence once deliberative communications have been established with the designated representative. Trial use applications must satisfy the conditions of Annex III.

ANNEX I (Continued)

Port Area of Philadelphia

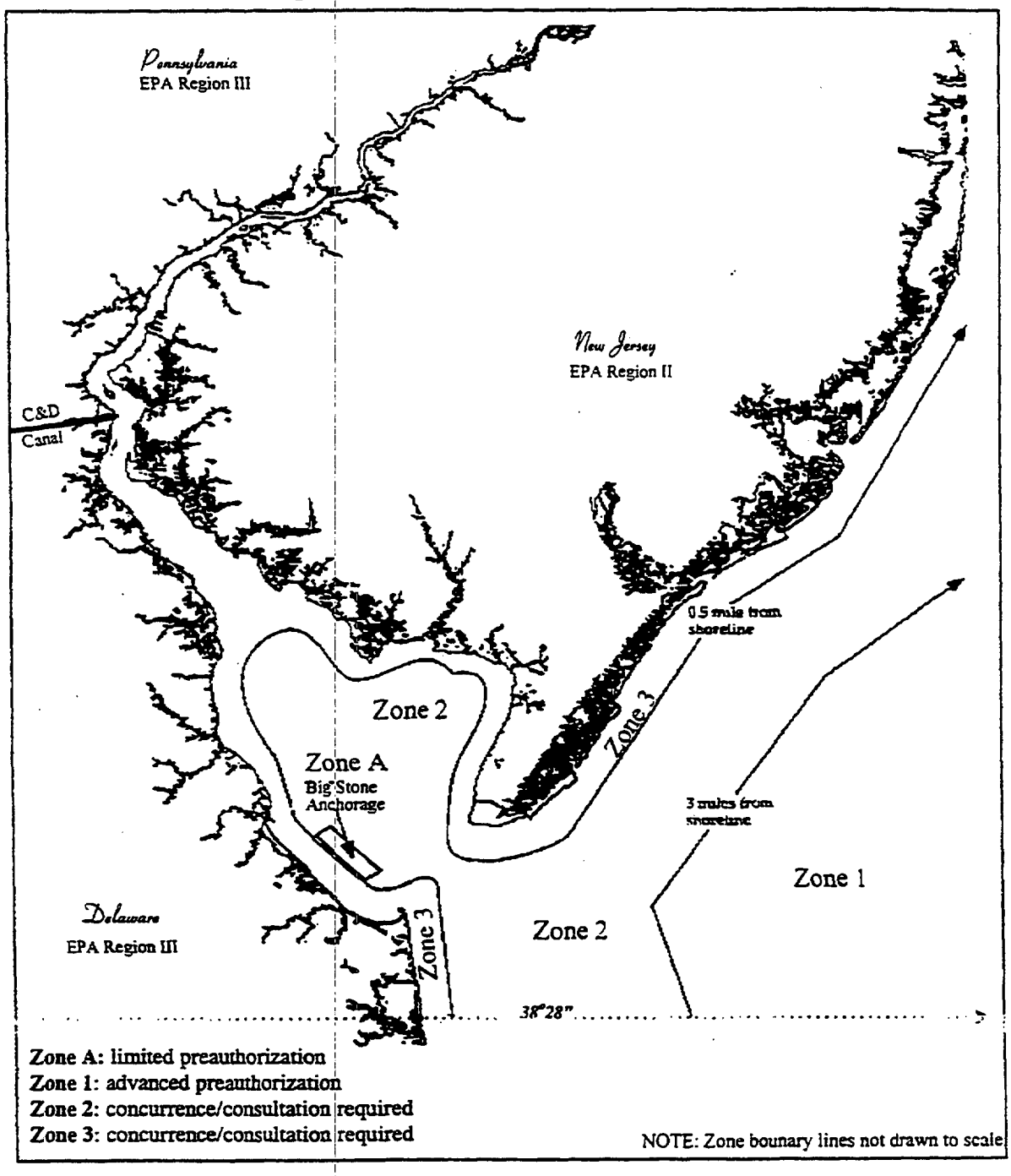

Figure 1
Chemical Countermeasure Preauthorization Zones

ANNEX II

CRITICAL DECISION MAKING DATA

		SOURCE
A.	Spill Data:	
	1. Circumstances (fire, grounding, collision, etc.)	FOSC/ER
	2. Time/Date of incident	FOSC/ER
	3. Location of spill	FOSC/ER
	4. Type of oil product	FOSC/ER
	5. Volume of product released	FOSC/ER
	6. Total potential of release	FOSC/ER
	7. Type of release (instantaneous, continuous intermittent, etc.)	FOSC/ER
B.	Weather and water conditions/forecasts:	FOSC/NOAA-SSC
	1. Air temperature, wind speed, direction	FOSC/NOAA-SSC
	2. Tide and current information	FOSC/NOAA-SSC
	3. Sea conditions	FOSC/NOAA-SSC
	4. Water temperature and salinity	FOSC/NOAA-SSC
	5. Water depth and depth of the mixed layer	FOSC/NOAA-SSC
C.	Oil trajectory information:	SSC
	1. 24/48-hour surface oil trajectory forecast	SSC
	a. surface area of slick	
	b. expected area of landfall	
	2. 24/48-hour dispersed oil trajectory forecast:	SSC
	a. oil movement in water column	
	b. surface oil movement and expected landfall	
	c. anticipated concentration of the chemical/oil mixture in the water column	
D.	Characteristics of selected chemical countermeasures application methodology and shoreline data	FOSC
	1. Name	FOSC
	2. Manufacturer	FOSC
	3. Amount available	FOSC
	4. Characteristics	FOSC
	a. toxicity, natural (living) resource or human	FOSC
	b. effectiveness	
	c. reactions	
	d. applicability to spill (efficacy test results)	FOSC
	5. Application	
	a. method(s)	

SOURCE

b. estimated time required to execute response — FOSC

c. optimum treatment window __/ __/ __ to __/ __/ __ (DTG) — FOSC

6. Location of the area to be treated — FOSC

7. Estimated time interval between chemical or biological agent application and contact with sensitive environment/resources — FOSC

8. Estimated distance between application of chemical or biological agent and sensitive environment/resources — FOSC

9. Human impact hazard assessment (risk), protective measures required (if any)
FOSC

E. Habitats and resources at risk — States

(Consider chemically-treated spill versus untreated spill)

1. Shoreline habitat type in predicted area of impact — States

2. Resources at risk: — States

a. endangered/threatened species (state and Federally designated)
b. critical habitats for the above species
c. marine animals (pupping, migration)
d. waterfowl and other bird use (nesting, migration)
e. shellfish (spawning, harvesting)
f. finfish (spawning, release migration, harvest)
g. commercial use (aquaculture, water intakes, etc.)
h. public use area (parks, beaches, marinas, holidays, etc.)
i. other resources of specific significance (cultural, historical, natural and artificial reefs etc.)
j. other sensitive areas as defined in 7:1E-1.8

NOTE: (_____) indicates seasonal considerations

F. Critical Questions

States / trustees

1. Can the predicted threat to endangered/threatened species, marine mammals, and waterfowl be lessened? States/ Trustees

2. Will the damage to habitats and resources resulting from chemical countermeasure (dispersion) be less than those resulting without chemical countermeasures? Trustees

3. Are adequate monitoring capabilities and protocols in place (proposed) for this treatment location? Trustees

4. If recreational, economic, and aesthetic considerations are a higher priority than natural resource considerations, what is the most effective means for their protection? Trustees

G. Recommendations to the FOSC

States / trustees

1. Do not use requested chemical or biological countermeasure (dispersants).

2. Use chemical or biological countermeasures (dispersants) on a trial basis, but not as a full-scale control or cleanup technique (To evaluate chemical for future use on this or other spills)

3. Use chemical or biological countermeasures (dispersants) in limited or selected areas as follows:

4. Use requested chemical or biological countermeasures (dispersant) to the maximum extent feasible

ANNEX III

TRIAL USE POLICY

Subject to the General Conditions in the PROTOCOLS Section of this MOU

The FOSC is authorized to allow application of chemical countermeasures listed in Annex V on a trial basis within the COTP-Philadelphia area of jurisdiction and not otherwise prohibited.[1] Trial application will only take place on an area of the spill covered by 50 barrels or less to determine the product's effect on the specific oil under the current set of environmental and meteorological conditions.

The trial application may begin prior to the initial request of the RRT for operational use of the chemical countermeasure on a greater portion of the spill. The requirement for a monitoring protocol is waived for trial use applications. The initial trial application will be supervised by a trained observer (i.e. USCG Strike Team, NOAA Scientific Support Coordinator, etc.) and be reported only as a qualitative visual observation (pass/fail). Results of the trial will be reported to the RRT as soon as they are available. A trial use with positive results shall not mean that the chemical agent may automatically be extensively applied as there are many other factors to be weighed in the decision process.

This trial application is solely for the purpose of determining if the time and effort should be expended to seek further clarification of the issues. If the trial application fails to produce significant results the request for further use will not be made. It will be the responsibility of the Area Committees to designate restrictions to this policy.

Note: Trial use in Zone 3 is subject to concurrence and consultation steps outlined for operational use in Annex I.

[1]This Trial Use Policy does not apply to the use of chemical countermeasures in fresh water.

ANNEX IV

DISPERSANT MONITORING PROTOCOL
REGIONAL RESPONSE TEAM III
February 24, 1994
Revised May 18, 1995

REFERENCES:
(A) EPA Sediment Sampling Procedure 2016
(B) EPA Benthic Sampling Procedure 2032
(C) Oil Spill Handling Transmittal Guide, USCG
(D) Petroleum Hydrocarbons, Total Recoverable, Method 418.1 (Spectrophotometric, Infrared)
(E) Oil and Grease Extraction Method for Sludge Samples, Method 9071, September 1988.

OBJECTIVES

The Regional Response Team (RRT) has developed this protocol to monitor the deployment of chemical dispersant during oil spill response actions in marine and estuarine waters. The monitoring protocol is designed to assess movement of dispersed oil from the water surface into the water column and bottom sediments, and to provide data for analysis of potential biological effects.

Adoption of this protocol does not constitute a decision to use dispersant. Such decisions are the result of separate RRT agreements (pre-approval) or incident specific discussions.

This protocol eliminates the need to develop incident specific monitoring requirements during an ongoing spill and in addition to satisfying the stated objectives, is intended to expedite chemical dispersant response actions. This protocol is not intended to replace a Natural Resource Damage Assessment.

BACKGROUND

The RRT has developed the following monitoring protocol to enable rapid response to oil spills. Eliminating the need to develop incident specific monitoring requirements and providing the On-Scene Coordinators (OSC) with the information necessary to plan for dispersant use should expedite responses.

OSCs must always be prepared to respond to an oil spill with all available equipment, personnel and technology to reduce the impact from spills. The Oil Pollution Act of 1990 provides for the formation of Area Committees that shall, under the direction of the OSC, enhance State and local oil contingency planning by developing appropriate procedures for use of dispersants. Dispersant technology has been recognized as a potential method

of reducing the impact to the shoreline environment from accidental oil spills. In order to effectively utilize this technology, a protocol must be in place before a spill to identify the requirements for monitoring the dispersant application.

This dispersant monitoring protocol will:

1. Provide scientific background information regarding the spill, dispersant utilization and effects. This will provide natural resource trustees with information crucial to their impact trade-off decisions. The data gained will assist with subsequent damage assessment responsibilities.

2. Provide the OSC with the requirements of a monitoring program so that advance planning and coordination may occur. The data will also assist officials with support regarding post incident challenges.

3. Establish an education program for future learning regarding dispersant application. This will assist in reviewing dispersants as a permanent response tool.

The RRT established the requirement to monitor all dispersant applications. The requirement is not to delay the effective application of the product, but will enhance the scientific and educational values for the future. This protocol is presently established to gain knowledge in dispersant usage and will require review and updating as better information and data are gathered. As most oils must be dispersed within approximately 48 hours after a spill begins, rapid response is a necessity. Rapid response can not be insured unless a monitoring protocol is in place which accurately assesses movement of dispersed oil and potential biological effects. This monitoring protocol does not

establish limits by which dispersants are applied or not applied, but identifies a sampling protocol to monitor movement of dispersed oil and obtain general information on biological effects.

The monitoring protocol established here will be impacted by incident specific variables. Spill size, spill dimensions, weather, direction of trajectory and depth of water all provide variables to the planned monitoring. Incident specific directions will be required from the OSC, in consultation with state and federal agencies, regarding monitoring. The plan should be initiated promptly whenever the OSC authorizes the use of dispersants on an oil spill. Implementation of the plan shall not interfere with the spill cleanup. Should unforeseen circumstances make it impossible to implement this monitoring plan in whole or in part during or subsequent to authorized dispersant application, the OSC shall advise the incident specific RRT as soon as possible.

Equipment required for monitoring:

The following equipment will be necessary to conduct the monitoring protocol. The equipment listed will only provide one monitoring platform. In the instance of larger spills where extensive monitoring is required, the OSC may need to consider additional platforms. It is not envisioned in this program that each and every dispersant application pass is individually monitored. For planning purposes, it takes 1.5 hours to perform the six-point sampling protocol. Collection of sediment grab samples and benthic invertebrate samples will take additional time but are not time sensitive.

a. Aircraft for air surveillance of the dispersant application and for initial guidance and direction of vessels conducting the monitoring program. No specific type of aircraft must be used.

   Rotary or fixed wing aircraft are suitable for the job. The aircraft used must be able to communicate with vessels in the area. Portable radios are often sufficient to meet this requirement.

b. A boat large enough to conduct required sampling. Large vessels with on board scientific equipment may be employed, but are not required. Immediate analysis of the water samples is not a requirement. Boats approximately 23 ft. in length, radar and electronic navigation system equipped, provide sufficient capacity. Any work from boats should take into account the existing and predicted weather conditions and location when determining a suitable platform. Oftentimes offshore spills have several large vessels attending much smaller vessels conducting actual work. Vessels are likely to require aircraft to lead them to the dispersant application site.

c. A fluorometer with the appropriate filter and capability to take samples at 1, 3 and 10 meters depth. The supply line should be fitted with a valve at the unit so that immediate water samples can be drawn with positive fluorescent readings.

d. Water sample bottles, one liter, Teflon lined screw caps and amber in color. A minimum of 120 bottles should be readily available.

e. Ice chest with ice for keeping samples cool during transit to laboratory.

f. 35mm camera with film.

g. Video camera with one cassette.