

DELAWARE RIVER MAIN CHANNEL DEEPENING PROJECT

**Corps of Engineers Responses
To
Letters Received
On
Final Supplemental Environmental Impact Statement
Dated July 1997**

U.S. Army Corps of Engineers, Philadelphia District

25 FEBRUARY 1998

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Environmental Resources Branch

Mr. Michael E. Riska
 Executive Director
 Delaware Nature Society
 Ashland Nature Center
 P.O. Box 700
 Hockessin, Delaware 19707

MAR 05 1998

CALLEGARI

Dear Mr. Riska:

This is in reply to your letter dated August 29, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997. The concerns stated in your letter are addressed in this report. Specifically, impacts of dredged material disposal on horseshoe crabs is discussed in Sections 3.3.2.7 and 9.1.5; on sport fisheries in Sections 9.1.5 and 9.2.4; on shellfish beds in Sections 8.3 and 9.3; and on groundwater supplies in Section 7.0. Impacts to shortnose sturgeon are discussed in Section 10.4.2 and 10.5.2. An evaluation of the project under the Clean Water Act is presented in Section 1.2. The impacts of blasting to remove bedrock is discussed in Section 13.0. An evaluation of sediment quality of the dredged material is presented in Section 4.0.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

The project will benefit the State of Delaware by providing clean sand material from the Delaware Bay portion of the project to be used for nourishing of nearby beaches. Also, using dredged material a wetland restoration project will be constructed at Kelly Island in vicinity of Port Mahon. A plan has been

developed to contain the erosion process and to create intertidal habitat. The deepened channel will reduce the magnitude of lightering operations that normally occur on a regular basis in the Delaware Bay and the related environmental risks that accompany this operation. Indirect economic benefits in terms of jobs, wages and revenues will also accrue during construction of the project.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

Thank you for your comments and interest in this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division



August 29, 1997

ASHLAND NATURE CENTER
(HEADQUARTERS)
P. O. BOX 700, HOCKESSIN, DE 19707
(302) 239-2334
(302) 239-2473 FAX

ABBOTTS MILL NATURE CENTER
R.D. 4, BOX 207, MILFORD, DE 19963
(302) 422-0847
(302) 422-1849 FAX

John Brady
Planning Division, Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

Dear Mr. Brady:

The Delaware Nature Society respectfully requests that a public hearing be held on the proposed Delaware River Main Channel Deepening Project by the Army Corps of Engineers before huge sums of public monies are spent on the project. As you know, the project proposes to dredge the main channel of the Delaware River from the Camden/Philadelphia area to Cape May. The concerns of the Delaware Nature Society are as follows:

- Disposal of dredge spoils both underwater and on land may threaten, horseshoe crabs, sport fisheries, shellfish beds, and groundwater supplies.
- Issues affecting the federally endangered Short-nosed Sturgeon have not been adequately addressed.
- The project does not meet the standards of the Clean Water Act.
- The project will require blasting of subaqueous bedrock off Claymont with deleterious effects on fish, shellfish, benthic organisms, waterfowl, and wading birds.
- Dredging will redistribute bottom sediments, including PCBs and heavy metals, and resuspend silt and toxic substances in the water column.
- The project will cost \$300 million with little economic benefit to Delaware.

Thank you for the opportunity to comment on this project. Please do not hesitate to call at (302) 239-2334 if you have any questions.

Sincerely,

Michael E. Riska
Executive Director

EXECUTIVE DIRECTOR

MICHAEL E. RISK A

OFFICERS

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25 FEBRUARY 1998

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Environmental Resources Branch

Mr. George S. Roof, Secretary/Treasurer
Delaware Taxidermist Association
359 Cypress Branch Road
Magnolia, Delaware 19962

MAR 05 1998

Dear Mr. Roof:

Thank you for your letter dated September 29, 1997 concerning comments on the Delaware River Main Channel Deepening Project.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

Thank you for your comments and interest in this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division

Delaware
Taxidermists
Association

359 Cypress Branch Road
Magnolia DE 19962

George Donahue, President
John Mizic, Vice President
George Roof, Sec./Treasurer

September 29, 1997

US Army Corps of Engineer, District- Philadelphia
Attn: Mr. John Brady
100 Penn Square East
Philadelphia, PA 19107-3390

Mr. Brady,

Re the Dredging Project scheduled to remove sediment from the headwaters of the Delaware Bay and dump them along the Delaware Coast at Slaughter Beach. Our organization is deeply concerned and vehemently opposed to such actions. This is absolutely a case of a dog not soiling its bed, but unconcerned on soiling someone elses.

About 25% of our taxidermy business directly relates to the bays and estuaries of this state. The striped bass populations are just beginning to recover and the sea trout have again reappeared in numbers equalling those of the early 1970's. Slaughter Beach and the Broadkill slough, areas your office intends to use as a dump, are especially fertile fishing grounds for the lower Delaware peninsula.

If an environmental impact study was ever given anything other than a burcaucratic waiver, it would surprise me. It is especially galling for only avenue of political relief to be negated by such nefarious actions. If, but for a moment, you remove your business hat, would you feel any different were this situation reversed?

This decisions impact will have a devastating impact on commercial and recreational fishing, waterfowl, and recreational watercraft. In our strongest plea, we ask for public hearings on the issue. One day, you will retire. What do you intend to do if the individual who replaces you, decides to dump his refuse in the lot next to your house?

Sincerely,



George S. Roof, Secretary/Treasurer, DTA
359 Cypress Branch Road
Magnolia DE, 19962
(302) 697-9606

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6554/am
25 FEBRUARY 1998

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CALLEGARI

Environmental Resources Branch

MAR 05 1998

Mr. Peter S. Martin
Delaware Wildlands, Incorporated
315 Main Street
P.O. Box 505
Odessa, Delaware 19730-0505

Dear Mr. Martin:

This is in response to your letter dated September 25, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

As part of the existing Federal Navigation Channel Project, the District is consulting with Delaware on measures to combat erosion of Pea Patch Island.

Regarding the Kelly Island project, it is correct that, to our knowledge, projects of this nature have not been attempted in an environment such as the Delaware Bay. In particular, wetland restoration projects have not been constructed using the proposed volume of dredged material in an environment with the wave energy and water level fluctuations of the Delaware Bay.

Your comment on the Corps' statement about the geotextile tube groins is correct. However, the success of the Kelly Island project does not depend on the performance of the geotextile tubes. The recommendation to use the geotextile tube groins was based on our uncertainty in the prediction of longshore sand transport. We estimated that about 35,000 cubic yards of sand could potentially be transported from the Kelly Island site without groins and the design is based on that value. In case the transport is significantly higher than predicted after construction, the groins would be initially present to prevent

sand from leaving the area too rapidly. The groins would provide sufficient time to take appropriate actions for modifications to the project or alterations in maintenance plans. If the transport is at or below 35,000 cubic yards per year, then the groins are just an extra element in the project design.

We expect sand that is transported away from the project to remain close to the shoreline based on the fact that natural pockets of sand can be found along the shoreline. That is, the sand does not appear to move into deeper water. This would limit its effect on the benthic communities except in the areas very near the shoreline. If our estimates of bank erosion are accurate, then the bay bottom near the shoreline is relatively new considering that erosion is causing the bank line to recede at an estimated 20 feet per year, so that many of the benthic communities that would be impacted are relatively recent in origin. Another consideration is that if one mile of shoreline erodes 20 feet and the bank is five feet high, a total of 19,000 cubic yards of material will be released into the bay per year. This sediment is finer than sand and will stay suspended longer creating higher turbidity over a larger region. If one considers the many miles of eroding shoreline in the Delaware Bay and the total volume of sediment contributed from normal erosion into bay waters, the potential input of material from the Kelly Island project is minor.

The Port Mahon Feasibility Study is independent of the Delaware River Main Channel Deepening Project and must be justified independently, or on its own merits (i.e. benefits must outweigh costs) as required by Corps of Engineers regulations. The Port Mahon plan would utilize sandy material from selected portions of the existing 40-foot Delaware River channel as a sand borrow source. The proposed use of the existing Delaware River Navigation Channel as a sand borrow source was selected to minimize disturbance to undisturbed potential sand sources in the Bay. The Final Port Mahon Feasibility Report further clarifies that the Kelly Island feature proposed as part of the Delaware River Main Channel Deepening Project would have no adverse or beneficial effects on the Port Mahon shoreline regardless of whether or not the Kelly Island site is constructed. The selected plan at Port Mahon follows the Council on Environmental Quality guidelines for the National Environmental Policy Act (NEPA) as they relate to plan formulation and development.

It is correct that the Port Mahon and the Kelly Island projects will introduce sediment "beyond the present input" to the system, because there is essentially no input of sandy

sediment to the system at present. This deficit of sediment contributes to the existence of the highest rate of shoreline and wetland erosion of any location in Delaware Bay. Kelly Island and Port Mahon have experienced shoreline retreat rates over at least the past century which average between 15 and 20 feet per year. Along 5,000 lineal feet of Port Mahon shoreline, a retreat rate conservatively averaged as 15 feet per year results in the loss of 3.44 acres of wetlands per year, or approximately 344 acres of wetlands in the past century. Thus the 300 plus acres of shallow estuarine habitat adjacent to the Kelly Island and Port Mahon project areas have been created over 100 years at the expense of 300 plus acres of wetlands. If no action is taken, at Kelly Island in particular, this conversion of wetlands to shallow estuarine habitat will continue into the future. There are many other locations within Delaware Bay where erosion is presently causing shoreline retreat and loss of wetlands, and creating new shallow estuarine habitat. However, there are no locations where wetlands are experiencing a natural net gain. Therefore, the combined impacts of the Port Mahon Project and the Kelly Island Wetland Restoration Project will not have a significant adverse impact on the shallow water habitat of Delaware Bay.

It is not correct to say that there was no quantitative analysis used to evaluate the benthic communities. Twelve potential sites were compared to background conditions in the Delaware Bay to determine any particular attributes that would assist in the beneficial use site selection process. The candidate sites were evaluated on the basis of four attributes: (1) physical characteristics, (2) presence of "unique" species, i.e., species which were not collected at other sites or in the surrounding Delaware Bay, (3) presence of commercially or recreationally important species, and (4) condition of the benthic macroinvertebrate community. This data is presented in Section 8 of the FSEIS. Based on field testing, no significant differences were found between any candidate site and background conditions in Delaware Bay that would preclude its selection as a beneficial use site. As a result, it was concluded that no significant impact will occur to either the diversity or overall populations of benthic resources due to the use of any of these sites as either wetland restorations or sand stockpiles.

The resource agencies mandated the dredged material from the Delaware Bay portion of the channel deepening project be used for beneficial use purposes such as wetland creation/protection, beach nourishment, etc. Typically the normal least cost disposal option would be for the dredged material be disposed adjacent to

the navigation channel. Obviously, this option does not meet the objectives of the beneficial use of dredged material. Various areas were screened for beneficial use of dredged material considering economic and environmental data. Our economic analysis concluded that the least costly beneficial use option would be to protect the wetlands at Kelly Island and Egg Island Point and sand stockpile material in the vicinity of Broadkill and Slaughter Beaches in the State of Delaware.

Concerning Pea Patch Island, the Philadelphia District evaluated the potential for increased shoreline erosion. Although the hydraulic analyses predict a slight increase of approximately 4% in wave height as a result of deepening the channel from 40 to 45 feet, the resulting impact on the present erosion rate would not be significant. A review of hydrographic data adjacent to Pea Patch Island show that the majority of channel depths are well below the depth of 45 feet. Consequently, the improved channel will not significantly affect the existing channel side-slope profiles and will not result in a movement of the Federal navigation channel closer to the island.

Nonetheless, in an attempt to avoid the potential for an adverse effect on Pea Patch Island, and to ensure the integrity of the resource, the District will be sending a Notification of Adverse Effect and requesting the comments of the Advisory Council on Historic Preservation. The District anticipates that completion of shoreline stabilization prior to the proposed Delaware River Main Channel Deepening activities will avoid or mitigate erosion impacts.

The current operation and maintenance of the existing 40 foot navigation channel, in conjunction with the failure of the shoreline seawall on Federal property, is having an adverse effect. To that end, the District is conducting an evaluation of alternatives for shoreline stabilization at Pea Patch Island in connection with the ongoing operation and maintenance of the Delaware River 40 foot Federal Navigation Project and has met with the State of Delaware and their consulting firm to review alternative plans. The Corps has requested funds to perform this remedial work as part of the operation and maintenance of the existing 40 foot project. At this point, no funding has been appropriated to perform the necessary repairs.

Costs for development of Kelly Island wetland restoration using dredged material are beyond the normal disposal costs. First, the dredged material from the channel is transported over a longer distance than placement adjacent to the navigation

channel. Secondly, due to the wetland restoration nature of the project, the design features must take into account ecological concerns, containment and management of dredged material, and shoreline protection in order to achieve the beneficial use purposes. This requires placement of geotextile tubes, pumping of sand into tubes and construction of interior and exterior sand dikes, groins, outlet works, etc. which also adds to the project cost.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

As part of final project design, numerous meetings were held with Federal and State resource agencies and interested groups. Their input and review of completed work efforts were used in the refinement of the various features of the recommended project. A Draft Supplemental Environmental Impact Statement was prepared in January 1997. This document was made available to all resource agencies, interested groups and individuals for comment. Responses to all comments were incorporated in the July 1997 Final Supplemental Environmental Impact Statement. As a result, I believe that adequate coordination was undertaken to involve the environmental groups, while following the NEPA process.

The "incidental take statement" for ~~the~~ endangered shortnose sturgeon was developed by the National Marine Fisheries Service (NMFS) as part of their biological opinion for Philadelphia District dredging projects. It limits the number of sturgeon

that can be "incidentally taken" to three individuals before further consultation would have to occur with NMFS.

Thank you for your comments and continuing participation in the review of this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division



September 25, 1997

VIA FACSIMILE
(215) 656-6543

Mr. Robert Callegari
Environmental Resources Branch
U. S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

Charles F. Gummey, Jr.
President

Mrs. William Prickett
Vice President

Blaine T. Phillips, Esq.
Secretary

Robert L. Edgell
Treasurer

Holger H. Harvey
Executive Director

Dear Mr. Callegari:

This letter contains comments regarding the report titled
**Delaware River Main Channel Deepening Project; Supplemental
Impact Statement, July, 1997.**

DIRECTORS

Eugene H. Bayard, Esq.
Howard P. Brokaw
Hon. Elbert N. Carvel
Edward W. Cooch, Jr., Esq.
William K. duPont
Robert L. Edgell
Richard S. Fischer
Richard J. Florschutz
Charles F. Gummey, Jr.
Nathan Hayward III
Jeffrey M. duP. Nielsen
Blaine T. Phillips, Esq.
Mrs. William Prickett
Mrs. Richmond D. Williams

Thank you for the extension of the commenting period. I found the review task extremely cumbersome due to the difficulty in locating changes from the previous document (Draft SEIS dated January, 1997). The PCOE could facilitate future endeavors of this type by identifying all changes and/or additions from previous documents of the same title.

I will direct my comments to the same concerns and your responses to those concerns that I expressed in my letter of March 11, 1997 (included in Appendix D of the subject report).

Request for Public Hearing

Your comment regarding a request for a Public Hearing directed me to your responses to Representative Shirley A. Price. In light of the current (September, 1997) situation, your response is misleading and not accurate and certainly not objective (a NEPA requirement). Indeed substantial interest has been expressed in holding Public Hearings. Delaware Mobile Surf Fishermen, Inc. are forwarding a petition for a Public Hearing with an excess of 1,800 signatures (personal communication). Senator Roth of the Delaware Congressional delegation has requested a Public Hearing. In addition, both Senator Bunting and Representative Shirley A. Price of the State of Delaware

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Mr. Robert Callegari
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September 25, 1997

Legislature have requested Public Hearings. In addition, I believe the U. S. Congress maintains final jurisdiction over this project since they must authorize release of the \$200 million Federal share for this project. Senator Roth is Chairman of the Senate Finance Committee.

You also state that you met with "a number of fishing groups to discuss their concerns". I am not aware of the meetings you reference. The only meeting in Delaware was held on July 10 at the University of Delaware College of Marine Studies, Lewes, Delaware. As far as I am aware only two fishing groups received Army Corps invitation to this meeting, and your invitation requested that these two groups "limit" attendance. A notice of this meeting provided by DNREC appeared in the Wilmington News Journal on the morning of July 10 (Wilmington is over 90 miles from Lewes, Delaware) and in a Lewes newspaper (Cape Gazette) on July 11, 1997---one day after the meeting. It should be noted that the PCOE and DNREC participants in this meeting contributed to around one-third of the attendees. A considerable portion of the meeting was concerned with the significance of the meeting. None of the attendees, including DNREC, were satisfied with the PCOE explanations. This meeting had no legal standing within the NEPA procedures. It was at this meeting that Senator Bunting requested a Public Hearing and an administrative assistant to Senator Roth announced that Senator Roth would request a Public Hearing.

You also state "The purpose of this Supplemental EIS is to reaffirm conclusions...". NEPA 1502.2, however, states, "Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, **RATHER THAN JUSTIFYING DECISIONS ALREADY MADE.**"

Once again, I request a Public Hearing.

Pea Patch Island

My personal communication with the Delaware SHPO indicates conflicting viewpoints. It is the SHPO contention that ship wake is making a significant impact on the Fort Delaware historical site. A promise to resolve this conflict at a future date does not seem appropriate.

Mr. Robert Callegari
Page Three
September 25, 1997

Kelly Island

On May 21-24, 1997, a Shorebird Management Workshop was conducted at Bombay Hook National Wildlife Refuge. Representatives of the PCOE and Army Corps Design Branch were present and provided a briefing of the Kelly Island project as updated in the July, 1997 SEIS. Some of my present comments reflect information presented at that meeting.

The beach created by the project greatly exceeds the beach as it appears in historical photographs. This beach will require periodic replenishment on a 7 to 10 year cycle or less if impacted by severe storms. The representative of the Army Corps Design Branch indicated the following:

1. Projects of this nature have not been attempted in environments such as the Delaware Bay. In particular, the large range of tides presents a unique design challenge.

2. The geotextile groins were at the least desirable orientation in terms of exposure to potential damage. This potential design flaw (geotextile groins) could result in failure at the least desirable time--during severe winter nor'easter storms and could result in massive loss of the created beach. This design requires re-examination and should be changed to a more structurally sound groin design.

The Kelly Island created beach will result in an estimated annual input of 35,000 cubic yards of material into the aquatic system and benthic community. Another project proposed by the PCOE involves the creation of beach at Port Mahon, an area adjacent to and south of Kelly Island. This project would result in an estimated annual input of 21,428 cubic yards of material. Cumulative annual input of material is 56,428 cubic yards. Obviously, these projects are linked ecologically in terms of impact on the adjacent benthic community. The combination of these projects represents a significant input of materials beyond the present input to the benthic/aquatic system. Failure to link the Port Mahon project and the Kelly Island project is not in conformity with NEPA as it is piecemealing of known or foreseeable projects. Neither project presents a quantitative analysis of the benthic community but rather contends that the benthic community is an abundant resource that is expanding due to rise in sea level. A DNREC benthic specialist, during the July 10 meeting at the College of Marine Studies, indicated

Mr. Robert Callegari
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that the benthic sampling method used in the PCOE study—bottom grabs—was inadequate to quantify benthic communities, especially in “patchy” biotic distributions. In addition, the “no significant impact” conclusion assumes that all benthic communities are nearly equal in quality and function. The “no significant impact” conclusion is not supported by any quantitative investigations.

I am somewhat perplexed by your cost benefit analysis. During the Shorebird Management Workshop, May 21-24, 1997, Mr. Brady indicated that the Kelly Island project would cost \$15 million beyond normal disposal costs of the spoils utilized in the project. Copies of Section 204, Water Resources Development Act of 1992 were passed out. The implication was that the \$15 million project cost would be generated under this provision of PL 102-580. Our experience in purchase of tidal wetlands along the Delaware Coast yields an average price of \$500 per acre. \$15 million would purchase approximately 30,000 acres of tidal wetlands. This project generates only 60 acres of wetlands and 5,000 feet of beach. This is not a wise expenditure of taxpayer dollars. Your cost benefit ratio is way out of line.

Sand Stockpiles

The proposed sand stockpiles have drawn numerous adverse comments from the EPA, NOAA, and USF&WS. Recently the DCMP has withdrawn support for sand stockpiles (personal communication by letter copy). Concerns ranged from the excessive amount of material (in relation to potential beneficial use requirements) to concerns regarding adverse impact to benthic community. Neither issue has been adequately addressed by the PCOE. Further, PCOE representatives during the July 10, 1997 meeting at the College of Marine Studies in Lewes, Delaware indicated that as much as 50% of the material would migrate from the stockpile sites in a 10-year period resulting in additional destruction of adjacent benthic habitat. My previous comments regarding lack of quantitative supportive data for “no significant impact” apply.

My comment regarding the stockpiles action as a potential impediment to shoreward horseshoe crab migration was a result of personal communication with Dr. Carl Shuster, also an expert on horseshoe crabs.

Mr. Robert Callegari
Page Five
September 25, 1997

NEPA

I have received a copy of: NEPA, THE U.S. ARMY CORPS OF ENGINEERS AND DEEPENING THE MAIN SHIPPING CHANNEL OF THE DELAWARE RIVER AND BAY by James I. Dennis, III and his cover letter to the PCOE dated July 8, 1997. The document was submitted to the faculty of the University of Delaware to meet requirements for the degree Master of Marine Policy. His conclusion that the "Corps is not doing a very good job of involving environmental interest groups (NGO's) in the process" seems to ring true in light of the recent increase in adverse public comment regarding the project. I can't help but to believe that a more pro-active and timely involvement of the public and NGO's (i.e., prior to Congressional authorization) would result in a much more viable project. This is constructive criticism and should be included in "lessons learned" for development of future projects. Unfortunately, I see the PCOE committing the same errors with the Port Mahon project proposal.

Shortnose Sturgeon

How will classification of the Shortnose Sturgeon as an endangered species affect the "Incidental Take Statement" (10.5.2.4)?

Sincerely,



Peter S. Martin

PSM/ssc

25 FEBRUARY 1998

BRADY

PASQUALE

LULEWICZ

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MARALDO

BURNES

CALLEGARI

Environmental Resources Branch

Mr. Richard S. Fischer
President
Homeowners Association
400 East Cape Shores
Lewes, Delaware 19958

MAR 05 1998

Dear Mr. Fischer:

Thank you for letters dated July 30, and September 26, 1997 on the Delaware River Main Channel Deepening Project, Final Supplemental Impact Statement (FSEIS), dated July, 1997.

The Cape Shores and Port Lewes beaches are located to the east of the Delaware River and Bay Authority's Cape May-Lewes Ferry Terminal breakwater and is outside the area identified in the Roosevelt Inlet-Lewes Beach, Delaware Interim Feasibility Study. However, a technical analysis conducted at the end of the study concluded that no Federal project in the area, including the Inner and Outer Harbor of Refuge Breakwaters and the Roosevelt Inlet jetties, has caused adverse impacts (ie. erosion) to the beaches in the Breakwater Harbor area.

With regard to the proposed Delaware River Main Channel Deepening Project, the placement of sand material to a specific area is primarily driven by the availability of an adequate sand source located within a close proximity of a given beach community. Considering the transport distance and associated environmental impacts, our economic analysis indicated that the least cost option is to place sand material at the two selected sand stockpile areas (Broadkill and Slaughter) for subsequent use in beach nourishment.

However, during the review of the draft Supplemental Environmental Impact Statement for the Delaware River Main Channel Deepening Project, concerns were raised about potential impacts to bottom dwelling organisms at the sand stockpile locations. As a result a re-evaluation of this project feature to place the sand directly on Delaware Bay beaches without sacrificing the economic or environmental integrity of the project was made. Indications are that with a cost increase, the sand material designated for the stockpiles can be placed directly on Delaware Bay beaches with no significant

environmental impact. The beach placement plan would be finalized as part of the Plans and Specifications for this channel segment of the Deepening Project, and we can review your request for beach placement at that time.

Thank you for your comments and interest in this project. If you have any questions, please contact John Brady of my staff at 215-656-6555.

Sincerely,

Robert L. Callegari
Chief, Planning Division

Homeowners Association

400 East Cape Shores • Lewes, DE 19958
(302) 645-1992 • Fax 302-645-9761

September 26, 1997

Mr. Robert L. Callegari, Chief, Planning Division
Environmental Resources Branch
Department of the Army
Corps of Engineers-Philadelphin District
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

RE: Omission of the public beach at Cape Shores and Port Lewes from the Corps' Bay Dredging
EIS and Feasibility Study of erosion cause by federal breakwaters

Dear Mr. Callegari:

This letter is a follow-up to my July 30 correspondence on behalf of the Cape Shores Homeowners Association and Port Lewes Association of Condominium Owners regarding the Delaware River Main Channel Deepening Project Draft and Supplemental Environmental Impact Statement for the Delaware River, dated January 1997 and July 1997 respectively.

In that letter we requested you consider the public beach in front of our communities (located in the Breakwater Harbor between the Cape May- Lewes Ferry and the Delaware State Park) as a "beneficial use area" for the initial project and the maintenance dredging. As part of the justification of that request, I noted that the sand starved condition of the public beach bordering our property is caused by the interruption of the southward littoral flow of sand resulting from the Ferry breakwater. This is only partially correct.

Now an August 15, 1997-report in the *Cape Gazette* regarding the Corps' feasibility study to reverse the erosion of Lewes' Delaware Bay beaches appears to corroborate our own findings which reveals that federally constructed breakwaters are major factors responsible for the erosion and sand starved condition of our beaches.

While we are pleased that the dredging project will create an opportunity for beach nourishment, and that the Corps' study has identified that Federal navigation projects at Lewes are the primary cause of the shore problems on Lewes' beaches, we are extremely concerned that the mile long stretch of public beach next to Cape Shores and Port Lewes has been ignored in both Corps studies as a potential beneficiary. Moreover, neither study appears to provide any justification for such discrimination against this section of beach. The purpose of this letter is to bring this omission to your attention, ask for the inclusion of the public beach at Cape Shores and Port Lewes in any beach nourishment and remedial activities undertaken by the Corps, and encourage you to treat this beach in the same manner as the other beaches which Federal navigation projects have adversely affected.

As you consider our concerns, we ask that you keep the following factors in mind:

- The mile long beach is a public resource near two private developments that have an estimated \$90 million property value.
- The beach is strategically situated, bordering Cape Henlopen State Park and providing direct beach access to the magnificent junction of the Delaware Bay and the Atlantic Ocean.
- It is an important breeding ground for horseshoe crabs and therefore a critically important location for migratory birds that feed on them and their eggs.
- Perhaps what is most important, the beach is eroding at an alarming rate because Federal navigation projects are obstructing the natural flow of sand.

Again, we would appreciate your consideration of the omission of the public beach at Cape Shores and Port Lewes from two recent federal studies and ask that you treat them in the same manner as other affected beaches as potential beneficiaries. If we can be of any help, or you need further information, please do not hesitate to call us at (302)645-1992.

Respectfully yours:



Richard S. Fischer, President
Cape Shores Homeowners Assn.

cc: Governor Thomas R. Carper
Lt. Governor Ruth Ann Minner
Senator William V. Roth, Jr.
Senator Joseph R. Biden
Congressman Michael N. Castle
Senator Robert J. Voshell
Representative John R. Schroeder
Mayor George H.P. Smith
T. Pratt, DNREC
D. Lemmon, Port Lewes

Homeowners Association

400 East Cape Shores • Lewes, DE 19958
(302) 645-9751 • Fax 302-645-9761

July 30, 1997

Mr. Robert L. Callegari, Chief, Planning Division
Environmental Resources Branch
Department of the Army
Corps of Engineers - Philadelphia District
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

Dear Mr. Callegari:

Thank you for sending us the Draft and Final Supplemental Environmental Impact Statement for the Delaware River Main Channel Deepening Project dated July 1997. We have read both voluminous reports completely. It seems to us that the Statement has been well prepared and presented leaving no addressable questions unanswered.

I am President of the Cape Shores Homeowners Association and have been asked by the Port Lewes Association of Condominium Owners to reply to the Statement. Cape Shores is a single family residential community of two hundred and twenty-two (222) lots and Port Lewes is an adjoining condominium community, on our western property line, consisting of one hundred and twenty units (120) units. We are beachfront communities on Delaware Bay situated between the Cape May Lewes Ferry and Cape Henlopen State Park in Lewes Delaware. The combined property values including the improvements are more than ninety million dollars (\$90,000,000.). Our beach frontage is more than one mile.

The public beach in front of our communities is eroding at an alarming rate, so much that we are in fear of losing our property. The sand starved beach condition is caused by the interruption of the southward littoral flow of sand by the jetty of the Cape May Lewes Ferry. The accretion of sand on the north side of the jetty attests to this problem and is evidenced by aerial photographs.

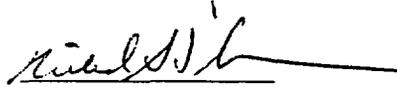
The Delaware State Legislature has identified its bay and ocean beaches as one of the State's most important natural resources and should be protected by sand nourishment. We are located south five and one-half (5-1/2) miles from the proposed two hundred and thirty (230) acre Broadkill Beach L-5 disposal site.

We would like you to designate our location a "beneficial use area" similar to Slaughter Beach and Broadkill Beach for both the initial Project and the required maintenance dredging.

The dredged material is suitable, the beach is in dire need of nourishment, we are close to the Project, and why not put the disposal material where it is really needed? It seems to us that you will have an excess of material and it would be a win situation for our communities, the State of Delaware, and the U.S. Army Corps of Engineers.

Please telephone us at (302)645-1992 if we can be of any help, if you have any questions, or write us at 400 East Cape Shores Drive, Lewes, DE 19958.

Respectfully yours:



Richard S. Fischer
President
Cape Shores Homeowners
Association

cc: D. Lemmon, Port Lewes Association

DEC 18 1997

Planning Division

Honorable Michael N. Castle
Representative in Congress
J. Allen Frear Federal Building
300 S. New Street
Dover, Delaware 19904

Dear Mr. Castle:

This is in reference to your letter dated December 8, 1997 on behalf of Mr. Richard Fischer concerning beach erosion and placement of sand near the Cape Shores and Port Lewes beach communities in Delaware. ~~BY SCOVAGE~~ ~~KEYSER~~

Mr. Fischer's property is located to the east of the Delaware River and Bay Authority's Cape May-Lewes Ferry Terminal breakwater and is outside the study area identified in the Roosevelt Inlet-Lewes Beach, Delaware Interim Feasibility Study. However, a technical analysis conducted at the end of the study concluded that no Federal project in the area, including the Inner and Outer Harbor of Refuge Breakwaters and the Roosevelt Inlet jetties, has caused adverse impacts (i.e. erosion) to the beach in the Breakwater Harbor area.

With regard to the proposed Delaware River Main Channel Deepening Project, the placement of sand material to a specific area is primarily driven by the availability of an adequate sand source located within close proximity of a given beach community. Considering the transport distance and associated environmental impacts, our economic analysis indicated that the least cost option is to place sand material at two selected sand stockpile areas (Broadkill and Slaughter) for subsequent use in beach nourishment.

However, during the review of the draft Supplemental Environmental Impact Statement for the Delaware River Main Channel Deepening Project, concerns were raised about potential impacts to bottom dwelling organisms at the sand stockpile locations. As a result, a re-evaluation of this project feature, to place the sand directly on Delaware Bay beaches without sacrificing the economic or environmental integrity of the project, was made. Indications are that, with a cost increase, the sand material designated for the stockpiles can be placed directly on Delaware Bay beaches with no significant environmental impact. The beach placement plan will be finalized during Plans and Specifications for this channel segment of the

Deepening Project and we can review your request for beach placement then.

I hope this information is helpful for your needs. Should you have any additional questions, please do not hesitate to contact me.

Sincerely,

Robert B. Keyser
Lieutenant Colonel, Corps of Engineers
District Engineer

Copy Furnished:

Honorable Michael N. Castle
House of Representatives
1227 Longworth House Office Building
Washington, DC 20515-0801

CENAD-PA
CENAP-DE
CENAP-PAO
CENAD-ET-P
DAEN-CWZ

MICHAEL N. CASTLE

DELAWARE, AT-LARGE

COMMITTEES:

BANKING AND FINANCIAL SERVICES

CHAIRMAN:

SUBCOMMITTEE ON DOMESTIC AND
INTERNATIONAL MONETARY POLICY

EDUCATION AND THE WORKFORCE

VICE CHAIRMAN:

SUBCOMMITTEE ON EARLY CHILDHOOD,
YOUTH, AND FAMILIES

SELECT COMMITTEE ON INTELLIGENCE

Congress of the United States
House of Representatives
Washington, DC 20515-0801

December 5, 1997

1227 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-0801
(202) 225-4165

DISTRICT OFFICES

THREE CHRISTINA CENTRE
SUITE 107

201 N. WALNUT STREET
WILMINGTON, DE 19801
(302) 428-1902

J. ALLEN FREAR FEDERAL BUILDING

300 S. NEW STREET
DOVER, DE 19904

(302) 736-1666 (KENT)
(302) 856-3334 (SUSSEX)

delaware@hr.house.gov
www.house.gov/castle/

Lt. Colonel Robert B. Keyser
Commander, Philadelphia District
United States Army Corps of Engineers
100 Penn Square East
Philadelphia, PA 19107-3390

Dear Colonel Keyser:

Recently, I was contacted by a constituent Richard S. Fischer, President of the Cape Shores Homeowners Association regarding his concern about beach erosion along the public beaches in Breakwater Harbor at the Cape Shores and Port Lewes beachfront communities.

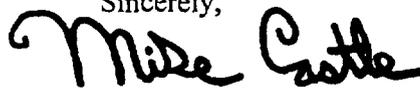
According to Mr. Fischer, the beach erosion along Cape Shores and Port Lewes is the result of two federally funded breakwaters located at the mouth of the Delaware Bay. I understand the Army Corps of Engineers(ACOE) has done a feasibility study to reverse beach erosion on western Lewes beaches, but nothing has been studied concerning Cape Shores and Port Lewes beaches. Can you please inform me of any measures the ACOE is currently reviewing to decide whether Cape Shores and Port Lewes beaches are being considered for sand nourishment or other remedial activities as part of the Delaware River Main Channel Deepening project?

As you know, several other issues have the potential to be negatively impacted by beach erosion in this area. The Cape Henlopen area has been a longtime breeding ground for horseshoe crabs and serves as a feeding stop for migratory birds. Without the appropriate amount of sand along the beachfront, the horseshoe crabs may have some difficulty in breeding and in turn impact the migratory bird population. Many other areas are impacted by this issue as well, including tourism, housing and recreation.

I would appreciate your reviewing this situation and letting me know whether the Cape Shores and Port Lewes beachfront areas are being considered for beach nourishment along with other areas in the Breakwater Harbor. Please forward all correspondence on this issue directly to Kate Johnson of my staff at 300 S. New Street, Dover, DE 19901.

Thank you in advance for your help and cooperation with this request. I look forward to hearing from you in the near future.

Sincerely,



Michael N. Castle

cc: Mr. Richard S. Fischer, President, Cape Shores Homeowners Association, 400 East Cape Shores, Lewes, DE 19958

25 FEBRUARY 1998

BEADY
*[Signature]*PASQUALE
[Signature]

LULEWICZ

HAMPER
*[Signature]*MARALDO
[Signature]

BURNES

CALLEGARI

Environmental Resources Branch

MAR 05 1998

Mr. Don Kirchhoffer
New Jersey Conservation Foundation
Project Manager
Bamboo Brook
170 Longview Road
Far Hills, New Jersey 07931

Dear Mr. Kirchhoffer:

Thank you for your letter dated August 28, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997.

A management system will be developed that will provide wetland habitat on portions of all of the four new disposal areas (including 15D and 15G), and is described in detail in Section 3.2.3 of the SEIS. An additional 372 acres of adjacent undeveloped area that includes some high quality fresh water tidal marsh (including portions the nationally and state significant areas) will be purchased and maintained in its natural state. These actions will enhance the nationally and state significant tidal wetlands adjacent to disposal areas 15D and 15G.

Concerning runoff from site 15G to Oldmans Creek, the sediment load will be monitored and controlled in order to meet all State of New Jersey effluent standards. Sediment load will be controlled by elevating the ponding level within the disposal area during disposal of dredged material. The elevated water levels create an increased retention time for the slurry, allowing sediment to settle to the bottom and remain within the confined disposal facility (CDF). Excessive silt laden discharges into Oldmans Creek is not allowed by New Jersey Department of Environmental Protection regulations, nor is it the practice of the Philadelphia District to operate the CDFs in this manner.

Pertaining to the toxicity of the dredged material and its effect on plant and animal species, the District concurs with your recommendation for monitoring of the dredged material as they are discharged into sites 15G and 15D. Specifically, the Philadelphia District of the U.S. Army Corps of Engineers and the

New Jersey Department of Environmental Protection will form a working group to develop appropriate coordinated sediment sampling and testing programs, surface water discharge monitoring plans and ground water monitoring wells.

Thank you for your comments and continuing participation in the review of this project. If you have any questions, please contact John Brady of my staff at 215-656-6555.

Sincerely,

Robert L. Callegari
Chief, Planning Division



August 28, 1997

Mr. Robert Callegari
Environmental Resources Branch
U.S. Army Corps of Engineers
Wanamaker Building, 11 Penn Square East
Philadelphia, PA, 19107-3390

Dear Mr. Callegari,

The New Jersey Conservation Foundation has the following comments on the Delaware River Main Channel Deepening Project Final Supplemental Environmental Impact Statement dated 25 July 1997. Our comments are limited to the sites at the mouth of the Raccoon and Oldmans creeks.

We are concerned that the ACOE still has not adequately addressed the effect of sites 15 D and 15 G on the tidal habitat upstream of these two sites. As is documented in the ACOE and other reports these two sites are of state and national importance as resting and migratory stops for waterfowl, shore birds and raptors.

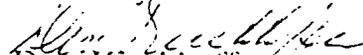
Of specific concern is the stated plan to have the runoff of site 15 G (Oldmans Creek) directed into Oldmans Creek. We propose that the runoff be redirected back into the Delaware rather than into Oldmans Creek. The effect of long term silt laden discharge into the tidal portion of the creek is unknown.

We are still not satisfied that you have addressed the toxicity of the spoils and their effect on the plant and animal species in the vicinity. We propose a periodic monitoring of the spoils as they are discharged to the site. This would allow corrective action be taken if your assumptions about the levels of contaminants in the dredged material are incorrect.

Because of the proximity of two outstanding habitats so close to proposed sites 15 D and G, it is extremely important that the construction of the sites be done according to specifications. We propose the employment of an independent environmental firm to monitor all construction while in progress.

We appreciate the opportunity to comment on this project.

Sincerely,


Don Kirchhoffer
Project Manager

Bamboo Brook, 170 Longview Road, Far Hills, New Jersey 07931 908-234-1225 Fax 908-234-1189

25 FEBRUARY 1998

BRADY

PASQUALE

LULEWICZ

KAMPER

MARALDO

BURNES

CALLEGARI

Environmental Resources Branch

MAR 05 1998

Ms. Maya K. Van Rossum
 Delaware Riverkeeper Network
 P.O. Box 326
 Washington Crossing, PA 18977-0326

Dear Ms. Van Rossum:

Thank you for your letters dated August 21, September 5, and September 8, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

As part of the hydrodynamic and salinity model development, workshop meetings were held to scope out the work efforts and to solicit input and review of completed efforts. Agencies and experts in salinity modelling were invited to participate throughout the model development and review of results. At the completion of this effort, model results were made available to all participants at the workshop meetings and a summary of the results was documented in the SEIS in Section 5.0. The SEIS was distributed to all Federal agencies and to all individuals that attended our workshop meetings. As a result, through the workshop meetings and coordination of the SEIS, the data was made available for review and comment by others.

All of the four "new" upland disposal areas are former confined dredged material disposal facilities (CDF). The management and development of the new upland disposal areas which will result in portions being wetlands has been coordinated with the U.S. Fish and Wildlife Service, the Environmental Protection Agency, and New Jersey Department of Environmental Protection (NJDEP), and is supported by these agencies. The NJDEP has approved this project feature as part of their coastal zone consistency determination. The habitat that will be used for dredged material disposal has been described as "mostly poor quality wildlife habitat and that once the construction process is over habitat will be enhanced through wetlands creation in the

CDFs..." (Kerlinger, Paul. *Review of Delaware River Main Channel Deepening Project (Pennsylvania, New Jersey, Delaware), Draft Supplemental Impact Statement*. February 8, 1997). The nationally significant resources are the wetland/upland complexes that surround these areas, 372 acres of which will be protected by this project.

It is true that these proposed disposal areas provide considerable habitat value as they are, as described in Section 6.3 of the FSEIS; however, these areas are needed to construct and maintain the project. By implementing the management system that will provide wetland habitat on portions of the disposal areas, by purchasing an additional 372 acres of adjacent undeveloped area that includes some high quality fresh water tidal marsh, and maintaining this area in its natural state, and by restoring 135 acres of intertidal wetlands at Egg Island Point, the overall wetland/wildlife value in New Jersey will be improved.

During discharges of effluent into Oldmans and Raccoon Creeks, the sediment load will be monitored and controlled in order to meet all State of New Jersey effluent standards. Sediment load is simply controlled by elevating the ponding level within the disposal area during disposal of dredged material. The elevated water levels will create an increased retention time for the slurry, allowing sediment to settle to the bottom and remain within the confined disposal facility.

Thank you for your comments and continuing participation in the review of this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division



August 21, 1997

Robert L. Callegari
ATTN: Environmental Resources Branch
U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

Dear Mr. Callegari,

I am writing with a preliminary set of comments from the Delaware Riverkeeper Network on the Delaware River Main Channel Deepening Project Supplemental Environmental Impact Statement dated July 1997.

Once again the Army Corps of Engineers has released a massive document, inches thick, and is expecting individuals, organizations and agencies to read, comprehend, digest and respond to the document with comments in only 30 days. This is unacceptable and rises to the level of denying public comment by making the task an almost impossible one. We request that the Corps extend the comment period regarding this very important and controversial project.

We also, again, request that the Corps hold a public hearing to discuss the project and the most recent SEIS. The Corps claims that because this project is not "controversial" a hearing is not warranted. This is clearly a faulty conclusion and characterization. The Main Channel Deepening project is highly controversial. Individuals throughout the watershed are concerned about the ramifications of this project on the River, water quality, the salt line, wetlands, uplands, aquatic species to name a few. The Corps claims that only 1 state representative, 7 organizations and 3 individuals requested a public hearing.

- The Corps fails to recognize that organizations such as Riverkeeper should not be considered as single entities – they represent whole, and large, constituencies. Riverkeeper alone has well over 2,000 members, a large number of which have expressed concern about the proposed dredging project and relief that we have been involved in the comment process.
- The Corp fails to note that the Delaware Department of Natural Resources and Environmental Control requested a hearing.

Tel: 215-369-1188 Fax: 215-369-1181 E-mail: drkn@libertynet.org WWW: <http://www.libertynet.org/~drkn>
DELAWARE RIVERKEEPER NETWORK, P.O. BOX 326, WASHINGTON CROSSING, PA 18977-0326

An American Littoral Society Project

- The Corps fails to note that each of the comment periods for the recent SEIS' have been so short that they have discouraged the public from actually attempting to participate in the process and issue comment (Riverkeeper only heard about the extension of the last comment period when it was ¼ to ½ over – hardly providing us the ability to take advantage of extra time given.)

Hearings held in 1993 and/or more recently with local organizations but without widespread notice of the meetings do not rise to the level of providing adequate opportunity for public input on the recent Corps findings and proposals regarding the project and found in the latest SEIS documents.

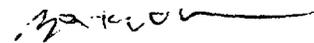
Once again, we demand that the Corps hold a public hearing regarding this matter providing enough time for interested individuals to properly review and consider the SEIS that has been issued.

At this time we also want to point out that Corps responses to comments given to the previous SEIS are sorely inadequate and unresponsive. By way of example:

- Riverkeeper's expressed concern that the Corps has failed to make the data used to support the argument that the proposed dredging activities will not impact the River's salt line available to others (including other experts and agencies) for review, consideration and comment.
- The Corps' response fails to acknowledge this point. It simply states that its present model is more accurate than other models used in the past (a point disputed by other experts) and that the SEIS presents a summary of what they believe to be the model's most significant findings. They do not offer to make the underlying data actually available to others for review and analysis. The Corps has clearly ignored the comment and failed to respond appropriately – i.e. to make the underlying data available for review, consideration and comment by others.

Riverkeeper hopes to be able to provide additional comment on this SEIS. Unfortunately, the short comment period is greatly inhibiting our ability to properly and honestly do so.

Respectfully submitted,



Maya K. van Rossum
Delaware Riverkeeper



September 5, 1997

Robert L. Callegari
ATTN: Environmental Resources Branch
U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

Dear Mr. Callegari,

I am writing with some additional comments from the Delaware Riverkeeper Network on the Delaware River Main Channel Deepening Project Supplemental Environmental Impact Statement dated July 1997.

While we appreciate the Corps extending the comment period an additional 30 days we still demand that a public hearing be held on the proposed project – a hearing where full and comprehensive presentations, including recorded testimony, are given to an audience of all the stakeholders and affected community. Hearings held to date have been limited to specific communities with testimony on a limited number of issues, depriving all participants information about the varying public perspectives, findings, questions and information. It is important that hearings be held where all interested parties are able to attend, speak and listen.

In this set of comments we would like to discuss some of the wetlands issues raised by the project. The Corps response to previous comments made regarding to the wetlands issues from Riverkeeper and others have been either unresponsive or dismissive.

Our laws are written to protect wetlands for a reason, because they are essential for a healthy environment. Our laws, environmental health, and communities all demand that our country's wetlands be protected – this protection takes precedence over an environmentally unsound and economically indefensible project. Corps arguments to the contrary remain unpersuasive.

According to the SEIS the project is going to disturb and destroy valuable wetlands habitat in the Delaware River watershed. The Corps justifies this wetlands destruction by stating that "these areas are needed to construct and maintain the project." (response to Oldmans Creek Watershed Assn comments.) What the Corps is arguing is "we need to do it therefore you have to let us do it." This kind of rationale is meaningless and totally unacceptable.

Tel: 215-369-1188 Fax: 215-369-1181 E-mail: drkna@libertynet.org WWW: <http://www.libertynet.org/drkn>
DELAWARE RIVERKEEPER NETWORK, P.O. BOX 326, WASHINGTON CROSSING, PA 18977-0326

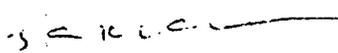
An American Littoral Society Project

The Corps also justifies destruction of some of the wetlands by characterizing them as "poor quality". Wetlands have value for water quality and wildlife; they exist in locations where the environment deems they are needed; once damaged or altered their future is uncertain. Wetlands, regardless of our characterization, must be protected in their natural state. What criteria lead the Corps to the characterization of "poor quality"? For the environment, water quality and wildlife any wetlands is better than no wetlands.

The Corps discusses creating wetlands to mitigate for the ones that will be destroyed. The jury is still out on whether or not wetlands creation really works. Until we know for sure that wetlands restoration projects are successful, we cannot risk destroying the few wetlands that remain on this gamble.

On a number of occasions, a number of organizations and individuals have questioned the Corps about how and why wetlands of national and international significance can be (and are being) destroyed by this project. The Corps response is always the same: we will be mitigating the destruction with creation elsewhere, we are not really destroying those wetlands, we will actually be enhancing the wetlands, in total there will be a wetlands quality gain in the watershed. After reading all of the comments, the SEIS's, and the Corps' responses, we still do not feel the Corps is being truly responsive to the wetlands issues and concerns being raised. The fact of the matter is that the SEIS itself states that hundreds of acres of wetlands will be destroyed and/or impacted by this project. The fact is that many of these have received national and international recognition. In one place we would like to see a comprehensive explanation for why the Corps feels this wetlands destruction is acceptable, appropriate and legal (and simply saying that other agencies are generally supportive is not going to cut it) and why destruction of these wetlands will not adversely and irreversibly impact water quality, wildlife and habitat along the Delaware River.

Respectfully submitted,


Maya K. van Rossum
Delaware Riverkeeper



September 8, 1997

Robert L. Callegari
ATTN: Environmental Resources Branch
U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

Dear Mr. Callegari,

I am writing with some additional comments from the Delaware Riverkeeper Network on the Delaware River Main Channel Deepening Project Supplemental Environmental Impact Statement dated July 1997.

The Corps has not been clear about the sediment controls to be used during the dredge spoil dewatering process.

We are concerned about how the Corps plans to ensure that excessive sediment loads are not discharged into Oldmans Creek as the result of the dewatering process.

Excess sediment loadings and associated water quality issues are already a large problem for the Delaware River and its tributary streams.

If excessive sediment is discharged during (or as the result of) dewatering on an incoming tide the sediment will be pushed up Oldmans Creek clouding the waters, impacting aquatic habitats, carrying associated toxics, and generally adversely impacting the Creek's water quality.

The SEIS does not adequately address this issue or explain the strategy for dealing with it.

Respectfully submitted,

Maya K. van Rossum

Maya K. van Rossum
Delaware Riverkeeper

25 FEBRUARY 1998

BRADY

PASQUALE

LULEWICZ

KAMPER

MARALDO

BURNES

CALLEGARI

Environmental Resources Branch

MAR 05 1998

Ms. Leah L. Roedel
DR&BS Council
1212 Foulk Road, Apt. 1D
Wilmington, Delaware 19803

Dear Ms. Roedel:

Thank you for your letter dated August 25, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

Section 404(r) is a portion of the Clean Water Act, 33 USC 466 et seq. It exempts Federal projects from obtaining a water quality certification if the project has been authorized by Congress, and an environmental impact statement, that includes an evaluation of the Section 404(b)(1) guidelines, has been submitted to Congress before the actual discharge of dredged or fill material in connection with the construction of the project and prior to either authorization or appropriation of funds for the project. These conditions were met with the submission of the final EIS in February, 1992 and subsequent authorization in October, 1992 as part of the Water Resources Development Act of 1992. The Section 404(r) waiver was concurred in by the U.S. Environmental Protection Agency in their comment letter dated March 17, 1997. A copy of this letter is attached.

The Final SEIS also documents that (Section 4.0), based on field sampling and subsequent data analysis, no significant impacts to the aquatic ecosystem are expected from dredging and the disposal of dredged material. None of the sediment samples taken revealed significant levels of contaminants. The fine-grained material from the industrial northern portion of the project area will be placed in upland, confined dredged material disposal facilities, away from the river. The sediment toxicity data from this project was reviewed by the Corps of Engineers' Waterway Experiment Station, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the National Marine

Fisheries Service, the New Jersey Department of Environmental Protection, the Delaware Department of Natural Resources and Environmental Control, and the Pennsylvania Department of Environmental Protection. The U.S. Environmental Protection Agency in a letter dated 17 March 1997 stated that "...EPA continues to believe that there will be no adverse impacts associated with the disposal of sediments generated by the project". In addition, in their letter of 12 September 1997, the U.S. Environmental Protection Agency stated that "... we have concluded that the proposed project would not result in significant adverse environmental impacts; EPA has no objection to the implementation of the proposed project." Neither the U.S. Department of the Interior (parent agency of the U.S. Fish and Wildlife Service) in their letter of September 11, 1997, nor the U.S. Department of Commerce (parent agency of the National Marine Fisheries Service) in their letter of September 29, 1997, have expressed any concern about contaminants in the dredged material. Furthermore, the Commonwealth of Pennsylvania and the states of Delaware and New Jersey have reviewed the sediment data as part of their coastal zone management consistency review. Each concluded that this project was consistent with the Coastal Zone Management Act.

Thank you for your comments and continuing participation in the review of this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division

Attachment



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 2

290 BROADWAY

NEW YORK, NY 10007-1866

MAR 17 1997

Robert L. Callegari, Chief
Planning Division
U.S. Army Corps of Engineers
Wanamaker Builder
100 Penn Square East
Philadelphia, PA 19107-3390

Class: EC-2

Dear Mr. Callegari:

The Environmental Protection Agency (EPA) has reviewed the draft supplemental environmental impact statement (SEIS) for the Delaware River main channel deepening project. This review was conducted in accordance with Section 309 of the Clean Air Act, as amended (42 U.S.C. 7609 12 [a] 84 Stat. 1709), and the National Environmental Policy Act. Since the proposed project would affect both EPA Regions II and III, this letter incorporates the results of both Regional Offices' reviews of the draft SEIS.

This project is being proposed in response to Congressional Resolutions; the Army Corps of Engineers (ACE) is seeking an exemption from the Section 404 permitting requirements, pursuant to Section 404(r) of the Clean Water Act. Under Section 404(r), the requirement to obtain a Section 404 permit is waived provided information is presented in an EIS to demonstrate that the effects of the discharge of dredge and fill materials, including consideration of the Section 404(b) (1) Guidelines, were evaluated. With this in mind, this comment letter includes EPA's evaluation of the project's consistency with the Section 404(b) (1) Guidelines.

In 1990, the ACE proposed to widen and deepen the existing Delaware River shipping channel. Under that proposal, the ACE would have dredged a total of 50.1 million cubic yards (CY) of material, with the channel requiring 6,156,000 CY annual maintenance dredging. Based on a review of the project's draft EIS, EPA raised environmental concerns regarding incomplete sediment analysis, designation of several environmentally sensitive disposal sites, and inadequate information on public water supply wells. The ACE coordinated closely with EPA to correct these deficiencies and to ensure that our concerns were addressed in the final EIS. As a result, a comment letter on the final EIS withdrew our objections, based on the ACE commitment to comprehensively evaluate a variety of environmental issues and prepare site-specific environmental assessments for the upland disposal sites, as part of the preconstruction, engineering, and

design (PED) phase of the project. The draft SEIS discusses the results of the completed PED studies.

The current federal channel depths restrict efficient use of both present and future tankers, dry bulk carriers, and container vessels. The recommended plan of improvement involves deepening the existing navigation channel from 40 to 45 feet below mean low water (MLW), with an allowable dredging over-depth of one foot. The modified channel would follow the existing channel alignment from Delaware Bay to Philadelphia Harbor and Beckett Street Terminal, Camden, New Jersey, with no change in channel widths. The plan also includes channel bend widenings, as well as partial deepening of the Marcus Hook Anchorage to 45 feet.

The ACE now proposes to dredge 33.4 million CY of material, plus 229,000 CY of rock, a reduction from the original proposal. The 45-foot channel would require approximately 6,007,000 CY annual maintenance dredging. In the riverine portion of the project area, dredged material would be placed in upland disposal sites. A portion of the dredged material from the Delaware Bay section of the project has been designated for beneficial use purposes; the rest of the material would go to the existing open water site, Buoy 10, near the mouth of the Bay.

An interagency meeting was held by the ACE on February 7, 1997, to answer outstanding questions about the project, and to present additional information. Based on our review of the document and the information obtained at this meeting, we offer the following comments.

Much of the dredged material from the Delaware Bay portion of the project area was designated for beneficial use purposes. In particular, wetland restoration sites have been proposed at Kelly Island, Port Mahon, Delaware, and at Egg Island Point, New Jersey. The tidal marshes in these areas had been impacted by severe erosion. The proposed plan would dispose of the dredged material behind a berm to allow the re-establishment of the salt marsh (Egg Island Point) or to manage the area as an impoundment for waterfowl (Kelly Island). Approximately 225 acres of mostly subtidal habitat would be restored to intertidal habitat.

Since the release of the draft SEIS, additional sampling of channel sediments reveal a significant decrease in the amount of silt that would be available for the Kelly Island restoration site. Specifically, the quantity of silt has been reduced from approximately 1 million cubic yards (CY) to 200,000 CY, with a concomitant increase in the amount of sand. Based on this change in available material, the ACE designed a new site plan which was

presented at the aforementioned interagency meeting. The design plan creates a sand berm using one geotextile tube to enclose the site. The sand berm will provide more horseshoe crab habitat than the original design.

Based on our review of this plan, it is unclear if the Kelly Island site is to be managed as an impoundment or tidal marsh. We would prefer that it be managed for salt marsh restoration, as that would provide more valuable wetlands and coastal aquatic functions and values. It is also not clear if the ACE, the U.S. Fish & Wildlife Service (USF&WS), or the Delaware Department of Natural Resources and Environmental Control will be managing water levels. The final SEIS should include a management plan for the new site design clarifying the environmental resource management objectives for the site, identifying the responsible agency, and containing a project schedule to achieve the stated goals.

Results of modeling show that there are no expected impacts on oyster survivability or growth during normal or storm conditions except possibly at Kelly Island during the month of August. The final SEIS should include a contingency plan that will address repairs to any breach or potential breach at the Kelly Island site. With regard to the Egg Island Point site, we have no concerns regarding its use as a wetlands restoration site. It is understood that the ACE will implement a monitoring plan for both sites to prevent impacts to nearby seed and leased oyster beds. EPA requests the opportunity to review the operation and maintenance manuals, which will include the monitoring plans.

The other beneficial use of the dredged material would be the nourishment of Slaughter and Broadkill Beaches in Delaware. The material would be placed in stockpiles less than 0.5 miles from shore. This stockpiled sand will be made available for beach nourishment purposes when the situation permits. Sand that migrates from the stockpile sites will move predominantly shoreward, providing nourishment for the beaches.

The draft SEIS contains a thorough analysis of the benthic assemblages and the impacts of the project on these resources. Both the Slaughter Beach and Broadkill Beach benthic communities would be affected in the short- and long-term by use as sand stockpile sites. The area of bay bottom and its benthic communities that will be impacted is approximately 730 acres. The Broadkill Beach site will change from a muddy sediment habitat to a coarse sand habitat. At both sites, benthic assemblages will be buried from emplacement of dredged material. If the areas are used for future beach nourishment projects, the

repeated disturbances could result in long-term impacts. The ACE prepared a feasibility plan in September 1996 for shore protection for Broadkill Beach that included beach fill. The final SEIS should address the placement of dredged material directly on Broadkill Beach. This would reduce the amount of material to be stockpiled, and eliminate the need for the double handling of material and its associated environmental impacts. If this is not feasible, other opportunities for beneficial uses should be explored, including direct placement of sand on beaches for shore protection, or placing more sand at the wetland restoration sites.

The draft SEIS states that dredged material from the Delaware River would be disposed of in existing federal disposal areas, along with four proposed disposal sites, all of which are located in New Jersey. Approximately 396 acres of wetland, dominated by Phragmites australis, will be impacted on the four sites by the disposal of dredged material. In order to minimize impacts to wetlands/wildlife habitat in the upland dredged material disposal areas, the ACE has developed a management plan, in conjunction with the New Jersey Department of Environmental Protection (NJDEP). Part of the plan entails dividing each of the four new disposal sites into cells and, through the use of water control structures and contouring, manipulating the variety and type of habitat that will occur. The ACE estimates a net increase from this project of 200 acres of wetlands over the life of the project as a result of the management plan. The ACE will also purchase 372 acres of high quality wildlife habitat, including some tidal marshes, which will be maintained as undeveloped land. We concur with the ACE plan for the use of the upland dredged material disposal sites.

The PED studies included follow-up sediment sampling that indicates the sediments that would be disposed of at the upland sites were compared to the NJDEP Residential, Non-Residential and Impacts to Groundwater Soil Cleanup Criteria; additional bioassay tests were performed on sediments that would be disposed of at the beneficial use sites. These tests showed no toxicity or bioaccumulation of any significance; therefore, EPA continues to believe that there will be no adverse impacts associated with the disposal of sediments generated by the project.

At the time of the draft EIS, we expressed concerns about salt water intrusion and possible impacts on drinking water quality and aquatic ecosystems. One of the PED studies was a three-dimensional hydrodynamic modeling of the Delaware Estuary to evaluate potential changes in salinity and circulation patterns. The study uses the CH3D-WES hydrodynamic model to investigate the

impacts of the deepening of the navigation channel on water uses and living resources. The model was verified with one year of field data and data from the June-November 1965 portion of the drought of record. The model successfully reproduced the drought event and predicted that a maximum penetration of the salt line of from 1.4 to 4.0 miles would result from the deepened channel and a recurrence of the drought of record.

Our review indicates that the predictive capability of the model is very good. With the new channel in place, the EPA criteria for chlorides and the New Jersey standards for sodium in drinking water will not be violated in the areas of water withdrawals for municipal needs. The computed chlorinity under most adverse conditions will remain well below the current and projected Delaware River Basin Commission (DRBC) water quality standards for designated locations for natural and regulated flow patterns. Therefore, it appears that the water supply in Philadelphia, among other uses, will not be adversely affected. Also, the chlorinity standard established by the DRBC to protect the Potomac-Raritan-Magothy aquifer will not be exceeded.

Based on the model results, we concur that the predicted increases in salinity/chlorinity attributable to the channel deepening will probably have insignificant impacts to drinking water, ground water, and environmental resources.

In a related matter, the proposed project is located within the New Jersey Coastal Plain Aquifer System, which has been designated as a sole source aquifer (SSA), pursuant to the Safe Drinking Water Act (SDWA). Based on our review, we do not anticipate that this project will result in significant adverse impacts to ground water quality. Accordingly, the project satisfies the requirements of Section 1424(e) of the SDWA.

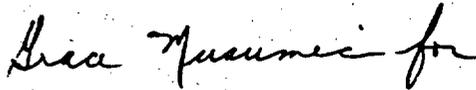
In our comment letter on the final EIS, we requested that a commitment regarding oil spill response be reflected in the Record of Decision. The draft SEIS states that a Marine Spill Analysis System has been developed by the ACE, NJDEP, USF&WS, and the Environmental Systems Research Institute. We concur that this system, and the response network in place, is adequate.

In conclusion, based on our review and in accordance with EPA policy, we have rated this draft SEIS as EC-2, indicating that we have environmental concerns (EC) about the design and monitoring plan for Kelly Island, and the stockpiling of sand at Slaughter and Broadkill Beaches. Accordingly, additional information (2), as outlined in this letter, should be presented in the final SEIS to address these issues. We concur with the Section 404(b) (1)

Guidelines analysis which states that the proposed project is consistent with the Guidelines.

I would like to commend the ACE for its extensive effort and cooperative spirit in resolving EPA's environmental concerns about the project. I look forward to our continued coordination in the subsequent phases of this project. In the interim, if you have any questions, please call Deborah Freeman, of my staff, at (212) 637-3730.

Sincerely yours,



Robert W. Hargrove, Chief
Strategic Planning and Multi-Media Programs Branch

cc: J. Brady, ACE ✓

Mr Robert L Callegari
ATTN: Environmental Resources Branch
US Army Corps of Engineers
100 Penn Square East
Philadelphia, PA 19107-3390

AUG 25, 1997

Dear Mr Callegari,

Thank you for sending the Final Supplemental Environmental Impact Statement for the Delaware River Main Channel Deepening Project. We regret the short time allowed for response and do wish to request a public hearing in which the public may receive an explanation of the need for the project as well as possible public benefits. We enclose preliminary comments.

The scale of the Main Channel Deepening Project is unprecedented in terms of volume of dredge material to be removed. In our opinion this constitutes a burdensome impact on the Delaware River Basin; it's waters, it's shorelines, it's historical and natural resources.

We are dismayed that the US Army Corps of Engineers was granted an exemption on water quality certification for this project. How could this be possible? Why should federal law be set aside in this particular case? Our immediate concern is the impending redistribution of bottom sediments including PCB's and heavy metals. This disturbance will recirculate dangerous chemicals and elements throughout the Delaware River Basin; it's natural environment, it's water, it's fish, and it's wildlife.

The Delaware Estuary has shown an outstanding recovery under the implementation of the Federal Clean Water Act. This remarkable progress has been most encouraging to residents, businesses regional and local governments who have contributed substantial public and private investments. We believe the time has come to protect and enhance our quality of life in the Delaware River Basin. We do not agree that we should declare deleterious effects to be acceptable.

We look forward toward an open public hearing within the near future where ther can be full discussion of pertinent issues.

Most sincerely yours,



Leah L Roedel
DR&BS Council
1212 Foulk Rd Apt 1D
Wilm. De 19803

25 FEBRUARY 1998

BRADY

PASQUALE

LULEWICZ

KAMPER

MARALDO

BURNES

CALLEGARI

Environmental Resources Branch

MAR 05 1998

Mr. Joseph W. Turner, Co/Chair
 Pennsylvania Sierra Club
 Water Resources Committee
 P.O. Box 723
 Langhorne, PA 19047-0723

Dear Mr. Turner:

Thank you for your letters dated August 24 and 28, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997.

Sediment cores were collected from the seven industrial facilities and port terminals that would benefit from the Delaware River Main Channel Deepening Project. These cores were subjected to bulk sediment analyses to quantify chemical contaminant concentrations in berthing area sediments. A total of 35 sediment samples were analyzed. The results of this investigation are presented in Section 4.5 of the FSEIS. The sediment tests indicated that berthing area sediments were similar to navigation channel sediments with respect to contaminant levels. Overall, test results suggest that sediments within the seven industrial and port facility berthing areas are sufficiently clean to conclude that dredging and upland dredged material disposal operations would not result in any significant environmental impacts.

As for all Corps of Engineers projects, the 45-foot channel deepening has been subject to a very rigorous technical, economic, and environmental review. The Corps' cost-benefit analysis in the feasibility report was reviewed and approved by the Secretary of the Army and the Office of Management and Budget prior to authorization by Congress. This procedure reflects the longstanding detailed approach which characterizes Corps' studies and the standard independent review process. The benefit-cost ratio for the project is 1.4 to 1.

Each foot of additional depth adds to the competitiveness of the Delaware River ports. The Corps applied a stringent optimization approach to determine that net benefits are maximized at the 45 foot depth. Incremental benefits would continue to accrue at depths beyond 45 feet but at a lower magnitude than incremental costs.

As described in Section 3.3.3.2 of the FSEIS, the Kelly Island wetland restoration site has been re-designed, which greatly reduces the possibility of silt escaping and reaching the oyster bed areas. The amount of silt being placed in Kelly Island has been reduced from over 900,000 cubic yards to under 200,000 cubic yards. The silt will be enclosed in a containment area by a sand berm with a geotextile tube core for extra protection. The berm will not be overtopped except by the most severe storms that are only expected to occur once in 100 years. Tidal inundation will be controlled by outlet structures. The entire Kelly Island structure will be monitored, repaired and maintained, as necessary. The silt within the containment structure will be mixed with and covered by an additional 500,000 cubic yards of sand which will become vegetated and will provide an extra measure of protection. Because of all of the measures that are mentioned above, it is extremely unlikely that nearby oyster beds and lease areas in Delaware would be adversely impacted by silt escaping from the Kelly Island wetland restoration; and even more unlikely that the oyster areas in New Jersey, which are more than 4 miles away, will be impacted. Section 9.0 of the FSEIS documents the analyses performed to address impacts associated with proposed beneficial use sites. Specifically with regard to oyster resources, our analyses indicate that the predominant direction of sediment transport (essentially 100% sand) from the wetland restoration and sand stockpile sites will be landward and alongshore, away from the nearest oyster habitats.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

As part of the hydrodynamic and salinity model development, workshop meetings were held to scope out the work efforts and to solicit input and review of completed efforts. Agencies and

experts in salinity modelling were invited to participate throughout the model development and review of results. At the completion of this effort, model results were made available to all participants at the workshop meetings and a summary was provided in the FSEIS. The FSEIS was distributed to all Federal agencies and to all individuals that attended our workshop meeting. As a result, through the workshop meetings and coordination of the FSEIS, the data was made available for review and comment by others.

The hydrodynamic/salinity modeling performed as part of the final project design, to date demonstrated that the predicted salinity impacts of the deepened channel are small enough to be considered negligible with respect to water quality and living resources. The FSEIS, Section 5.0, presents a summary of the findings of the hydrodynamic/salinity modeling. The modeling was performed over a period of about two years during which periodic open-invitation workshops were held in order to guide the focus of the modeling and to present results.

In addition, there is evidence from recent investigations by *the* U.S. Geological Survey that the present Delaware River Basin Commission chlorinity standards for River Mile 98 are overly conservative with respect to possible impacts on ground water quality in the Camden County area recharged by Delaware River groundwater. Further, there are many possible alternate drought management strategies which could be implemented to conserve basin storage for optimal repulsion of salinity/chlorinity in the vicinity of River Mile 98 during drought conditions.

The hydrodynamic/salinity modeling demonstrated the range of potential salinity impacts due to the proposed deepening under a range of conditions, including a recurrence of the drought of record, the typical "transition" period at the end of the spring high-flow period, and also "average" inflow conditions. The use of the model to address concerns regarding salinity distribution was viewed as the most appropriate approach to apply in this matter. This approach was confirmed through coordination workshops held prior to and during the conduct of the modeling. In fact, modeling is the only valid approach which permits a direct and objective assessment of salinity impacts attributable to changes such as channel deepening. Even the most ambitious pre- to post-deepening monitoring effort would not be able to unambiguously determine if observed salinity differences or oyster population changes were the result of channel deepening, or as a result of some other cause. This is in part due to the dynamic natural range in salinity at most locations throughout

the estuary, and in part due to the many variables other than salinity which affect the distribution and health of the oyster population.

The knowledgeable scientific community recognizes that the existing circulation and salinity regimes of the Delaware Estuary are highly dynamic, with large changes in flow velocity, flow direction, and salinity occurring naturally in response to variations in fresh water inflow distribution, both in time and space, wind, tides, and adjacent ocean boundary salinity. These changes occur over periods as short as several hours, such as during storm events, over periods of 12.4 hours, the duration of the average tidal cycle, and over periods of seasons and years. The modeling has demonstrated over a wide range of hydrological conditions that the changes induced by channel deepening are a small fraction of the natural dynamic variability in flow and salinity for the estuary, and that no detectable adverse impacts will be associated with the proposed deepening.

The District coordinated findings from the salinity model with Rutgers University oyster researcher Dr. Eric Powell. Dr. Powell is a nationally recognized expert on oyster ecology, and concluded that the range of salinity changes predicted by the model would pose no adverse impact on oyster resources. It is our view that Dr. Powell's findings are valid and should be accepted as a reliable indicator of "no significant impact" on oysters in the Delaware Estuary. In addition, in their letter of March 17, 1997, the Environmental Protection Agency stated that their review of the model indicates that its predictive capability was very good; and that, based on the model results, concurred that the predicted increases in salinity/chlorinity attributable to the project will probably have insignificant impacts to drinking water, ground water, and environmental resources. In summary, we believe that the model is the best available tool to predict salinity changes, and additional testing/monitoring, solely for salinity, is not necessary or practicable.

Nevertheless, the Corps in cooperation with the state of New Jersey and the Haskins Shellfish Research Laboratory will develop and implement a monitoring plan to commence when construction begins, designed to examine the health and productivity of oyster populations on the natural seed beds in the Delaware Bay to confirm that the project would not significantly impact the oyster resource.

The Philadelphia District is using dredged material for beneficial uses wherever possible. Consideration of beneficial uses has been investigated by the Corps. Beneficial uses of dredged material has been recommended in the Delaware bay where most of the dredged material is sand. In the upper portion of the project area (i.e. Wilmington to Philadelphia), the dredged material contains a higher proportion of fine grained material and must be confined to prevent water quality degradation. The District is exploring alternatives to the upland disposal sites, and in some cases has been successful. For example, dredged material is being used to build a new runway at the Philadelphia International Airport. However, not all dredged material is suitable for construction because of differing physical properties.

All of the four "new" upland disposal areas are former confined dredged material disposal facilities (CDF), as described in Section 6.3 of the FSEIS. The management and development of the new upland disposal areas (See Section 3.2 of the FSEIS) which will result in portions being wetlands was coordinated with the U.S. Fish and Wildlife Service, Environmental Protection Agency, and New Jersey Department of Environmental Protection (NJDEP), and is generally supported by these agencies. The NJDEP has approved this project feature as part of their coastal zone consistency determination. The habitat that will be used for dredged material disposal has been described as "mostly poor quality wildlife habitat and that once the construction process is over habitat will be enhanced through wetlands creation in the CDFs..." (Kerlinger, Paul. *Review of Delaware River Main Channel Deepening Project (Pennsylvania, New Jersey, Delaware), Draft Supplemental Impact Statement. February 8, 1997*). The nationally significant resources are the wetland/upland complexes that surround these areas, 372 acres of which will be protected by this project.

It is true that these proposed disposal areas provide considerable habitat value as they are; however, by implementing the management system that will provide wetland habitat on portions of the disposal areas, by purchasing an additional 372 acres of adjacent undeveloped area that includes some high quality fresh water tidal marsh, and maintaining this area in its natural state, and by restoring 135 acres of intertidal wetlands at Egg Island Point, the overall wetland/wildlife value in New Jersey will be improved.

The FSEIS acknowledged that there are still contaminant problems with bald eagles and peregrine falcons in Sections 10.1.1.1 and 10.1.1.2, respectively. The USFWS has stated in

their Biological Opinion that this project is not likely to adversely effect federally listed species under their jurisdiction, including the bald eagle.

The proposed project is not expected to cause additional adverse impacts to the heronry at Pea Patch Island. This is discussed in Section 10.4.3.6 of the FSEIS.

In summary, all of the issues that are mentioned in your letter have been addressed in the FSEIS, and have been considered by the states of New Jersey, Delaware, and Pennsylvania in their coastal zone management consistency determinations. Coastal zone management consistency was granted by each of the three states.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

Thank you for your comments and continuing participation in the review of this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division



24 August 1997

Robert L. Callegari
ATTN: Environmental Resources Branch
U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

Dear Mr. Callegari,

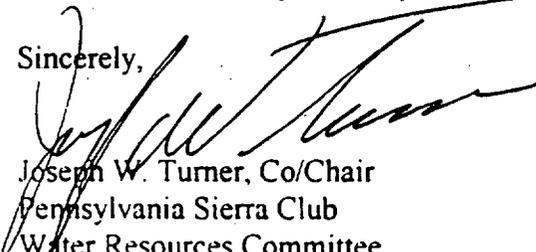
I am writing on behalf of the Pennsylvania Sierra Club, Water Resources Committee concerning the Delaware River Main Channel Deepening Project Supplemental Environmental Impact Statement dated July 1997. Pennsylvania Sierra Club represents approximately 20,000 members in the commonwealth.

We object to the rather short time,(30 days) being given by the Army Corps of Engineers, for the review and comment period of the rather massive document produced in connection with the Delaware River Dredge Project.

We request the comment period be extended for at least an additional thirty days. You expect citizens to read, understand, and then respond within this rather short time frame. Your imposed time limit is nothing short of an attempt to limit citizen involvement.

Pennsylvania Sierra Club is concerned over the lack of public hearings to discuss the dredging and the most recent SEIS. The Main Channel Deepening project is highly controversial and, at a minimum should have hearings in each of the affected states. Citizens throughout the watershed are concerned with the ramifications of this project on the River, water quality, the salt line, wetlands, uplands, aquatic species to name a few.

Sincerely,


Joseph W. Turner, Co/Chair
Pennsylvania Sierra Club
Water Resources Committee
P.O. Box 723
Langhorne, Pa. 19047-0723
215-945-1329
jturner@voicenet.com



28 August 1997

Robert L. Callegari
ATTN: Environmental Resources Branch
U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

Dear Mr. Callegari,

The Pennsylvania Chapter of Sierra Club, Water Resources Committee is concerned about the lack of a public hearing and the short time period given for commenting on the Delaware River Main Channel Deepening Project supplemental EIS. Your imposed time limitation is not sufficient to allow the public to review, digest and prepare useful comments on this very dense, technical and complicated document. Providing a time frame which is inadequate for allowing the public to consider and comment on the proposal at hand, here the SEIS, is essentially the same as denying the opportunity altogether. This fact is reinforced by the Delaware Estuary Program's CCMP (Action W7, page 139) wherein it states that one measure of success of dredging in the Delaware River is to have "an informed public on the continued maintenance and proposed dredging process in the Estuary." The Pa. Sierra Club believes it is imperative that the comment period be extended and public briefings and hearings be held on the SEIS. The public must have a true opportunity to participate in this public process.

At this time, we would also like to submit some preliminary comments on the SEIS.

1. Private docks and berths along the Delaware are a potential haven for toxics. Once the main channel of the Delaware River is dredged, channels to the private docks and berths will have to be dredged to accommodate the larger ships. Such action is an unavoidable consequence of the main channel deepening. Therefore the associated environmental impacts must also be studied, considered and reviewed. Without this review, the EIS and SEIS cannot be said to have fully considered all associated environmental impacts and consequences of the project.
2. The basic premise that the dredge is necessary to ensure that the Delaware River ports stay competitive with other ports on the east coast has not been adequately analyzed or supported. It seems to be a generally accepted premise, but one that is not documented. For example, what about the fact that other nearby rivers have 50 foot channels: if competitiveness is the rationale, how can we remain competitive with a 45 foot channel when other nearby ports are already at 50 feet?

3. We continue to be concerned about potential impacts to oyster beds' particularly the acknowledged possibility of impacts resulting from sand stockpiling and restoration work conducted on and around Kelly Island and Egg Island Point. While the SEIS acknowledges the possibility of long-term, adverse impacts there is not a concrete plan in place for preventing these impacts, only a promise of future monitoring and some unspecified contingency plan. we feel the Corps response to these potential impacts is unacceptable.
4. The Corps proposes to stockpile sand off shore for later reuse in beach renourishment projects. The SEIS does not adequately justify the need for stockpiling and later reuse, double-handling, which will result in repeated disturbance of local benthic communities and fisheries.
5. Pa Sierra WRC, is particularly concerned about proposed beneficial use site MS-19B to be used for sand stockpiling. The SEIS describes site MS-19B as having "one of the highest quality benthic community among the 12 potential beneficial use sites and would be expected to sustain greater impacts due to the lower recovery potential of its benthic community." The SEIS then states that in spite of this site's "species richness," and high "abundance of equilibrium species a indicative of a stable, diverse, mature community," because the background conditions of the site are not significantly different from the rest of the Bay it may still be used for sand stockpiling. Clearly this site is different from the rest of the Bay, that is why its benthic community thrives. The Corps' justification for using this site is not supportable by the evidence provided nor does it make any sense. The site is home to a healthy benthic community with a high frequency of equilibrium species. The site's benthic community would suffer long-term, perhaps irreparable, impacts if the site is disturbed for the proposed use. The site should therefore be removed from the list of beneficial use sites.
6. A significant number of agencies, individuals and organizations raised concerns during the FEIS comment period regarding the potential for alteration of the River's salt line and intrusion into upriver drinking water supplies. Through modeling the Corps has determined that there will not be any impacts to drinking water aquifers from the movement of the salt line. According to experts, the SEIS fails to provide the data which would allow others to verify the Corps' findings and conclusions. As a result, the public is unable to properly comment on this finding. Additionally, what if the Corps is wrong? The SEIS fails to provide a plan for dealing with this very real possibility.
7. Dredging the shipping channel another five feet is going to impact the circulation patterns and salinity line of the River. The SEIS indicates that these alterations will not be significant enough to impact benthic invertebrates and fish. While other agencies, that lack the expertise to make such analyses, are willing to defer to the Corps on this point with the stipulation that the Corps monitor the actual impacts in the future, we do not agree that we should be taking such a risk. We need to ensure that the data is correct before we act. Once the patterns have changed and the benthic and fish populations have reacted, fulfilling agency requests that maintenance dredging be halted and the channel be allowed to return to 40 feet will not be so easy, and it will necessarily result in another habitat alteration that will once again impact our benthic and fish populations.

8. Residents along the River are already subject to massive dredge spoil piles which have become home to large phragmites populations. Pedrickstown is a prime example; dredge spoils piled up 50 feet from previous dredging efforts block the town's historic view of the River. The SEIS discusses spoil piles 100 feet high. A better plan has to be laid for the dredge spoils before this project goes forward.

9. Site 15G has been designated as priority wetlands pursuant to the Emergency Wetlands Resource Act, and sites 15G, 15D and Raccoon Island have received wetlands recognition under other laws including the Clean Water Act and the NAWMP. It is wholly inappropriate, and in contradiction with our nation's environmental protection laws, to allow these sites to be used as disposal sites for dredge spoils. How can the Corps justify such action?

10. There is a contradiction between the SEIS conclusion regarding the health of bald eagle populations in the estuary as compared to the Delaware Estuary CCMP. The SEIS says the populations are doing well, while the CCMP indicates they are still being impacted by toxics, along with other important bird populations including osprey and peregrine falcons.

11. What will the impacts of the project be on Pea Patch Island and its heronry? The SEIS does not appear to address this question except indirectly by stating that no breeding areas are located in the project. The Pennsylvania Chapter of Sierra Club representing approximately 20,000 members request that the Army Corps of Engineers extend the comment period on the SEIS and hold a public hearings to allow all the residents of the watershed the time and attention needed to thoroughly review and understand the proposed project, its impacts and the SEIS.

Sincerely,



Joseph W. Turner, Co/Chair
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25 FEBRUARY 1998

BRADY

PASQUALE

LULEWICZ

KAMPER

MARALDO

BURNES

CALLEGARI

Environmental Resources Branch

MAR 05 1998

Ms. Vivian Newman, Chair
National Marine Wildlife & Habitat Committee
Sierra Club
11194 Douglas Avenue
Marriottsville, Maryland 21104

Dear Ms. Newman:

Thank you for your letters dated September 30, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated, July, 1997.

Section 404(r) is a portion of the Clean Water Act, 33 USC 466 et seq. It exempts Federal projects from obtaining a water quality certification if the project has been authorized by Congress, and an environmental impact statement, that includes an evaluation of the Section 404(b)(1) guidelines, has been submitted to Congress before the actual discharge of dredged or fill material in connection with the construction of the project and prior to either authorization or appropriation of funds for the project. These conditions were met with the submission of the final EIS in February, 1992 and subsequent authorization in October, 1992 as part of the Water Resources Development Act of 1992. The Section 404(r) waiver was concurred in by the U.S. Environmental Protection Agency in their comment letter dated March 17, 1997. A copy of this letter is attached.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

The FSEIS documents in detail the impacts of the specific project proposed for construction, i.e., deepening the main navigation channel of the Delaware River from its present authorized depth of 40 feet to 45 feet. The FSEIS provides a comprehensive review of all aspects of the project, including dredging and dredged sediment disposal plans, salinity and circulation changes, water quality, sediment quality, natural resources, and Endangered Species. The assessment of past and current dredging of the Delaware River and Bay has been addressed in environmental documents that were prepared for the operation and maintenance of the existing Delaware River Federal Navigation 40-foot Channel Project; the foreseeable impacts have been addressed in the Final Environmental Impact Statement (1992) and the FSEIS document. We believe that these environmental documents fulfill the requirements of the National Environmental Policy Act.

There is an existing shoreline erosion problem at Pea Patch Island which is the cumulative result of a number of causes, including sea level rise, tidal currents, wind and storm waves, ship wakes, and lack of maintenance to the seawall. It is not possible to accurately quantify the relative role of these, and perhaps other, factors in causing shoreline erosion on Pea Patch Island. We evaluated the potential increase in vessel wake heights due to deeper draft ships using the navigation channel, and found that vessel wake heights would increase on the order of 4% for design vessels operating with a five foot increase in draft, reflecting the increase in project depth from 40 to 45 feet. We do not view the impacts of increased vessel wake heights to represent a significant change compared to existing conditions, given that vessel wake is only one of many factors which contribute to the problem. However, as part of the existing Delaware River Federal Navigation 40-foot Channel Project, the District is consulting with Delaware on measures to combat erosion of Pea Patch Island.

It is true that Pea Patch Island is a Ramsar Convention site, as are many of the private and publicly owned wetlands adjacent to Delaware Bay. The sites where wetland restoration will occur, Kelly Island (Bombay Hook National Wildlife Refuge) and Egg Island Point State (New Jersey) Wildlife Management Area are both Ramsar sites. The beneficial use of dredged material will benefit these sites, as has been recognized by the states of Delaware and New Jersey, and is reflected in their issuing a coastal zone consistency determination for this project.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

Thank you for your comments and continuing participation in the review of this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division

Attachment



Mr. John Brady, Project Manager
U.S. Army Corps of Engineers
Philadelphia District
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

September 30, 1997

Dear Mr. Brady, Re: Delaware River Main Channel Deepening Project
Supplemental Environmental Impact Statement, July, 1997

The following comments are submitted on behalf of the Sierra Club's National Marine Wildlife and Habitat Committee and reflect our concerns about both regional and national environmental policy in relation to public participation in decisions affecting aquatic ecosystems.

We specifically call for public hearings to be held in Pennsylvania, New Jersey, and Delaware. References in the SEIS and the press point to a growing controversy over this project that can best be addressed by adhering to requirements of the National Environmental Policy Act. We would also draw your attention to recent analyses of the NEPA process by the Council on Environmental Quality that stress the importance of public involvement opportunities that go beyond the standard public hearing format and exceed legal requirements in order to improve the quality of projects and reduce impacts to the environment.

We are especially disturbed by the letter from the Environmental Protection Agency (Callegari, COE, from Hargrove, EPA, 3/17/97) that appears to waive all Section 404 reviews for this project. If our interpretation of this is correct, we protest it and request a retraction in writing.

The SEIS document fails to assess direct, secondary, and cumulative impacts from past, current, and foreseeable hydromodification projects affecting this portion of the mid-Atlantic seaboard. The impacts to fisheries, in both environmental and economic contexts, warrant considerably more attention and the use of the best science and technical tools to accomplish this assessment.

The Delaware River and Bay have a critical ecological function for our fisheries. Because the National Marine Fisheries Service has yet to publish final regulations for Essential Fish Habitat (EFH) as required under the Magnuson/Stevens Fisheries Conservation & Management Act of 1996, we request that the Corps consider these regulations as "new information" to be addressed in the public hearings.

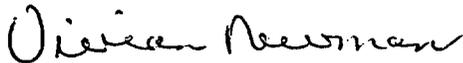
We request that you provide due consideration to problems of shoreline erosion caused by ship wakes and sealevel rise, particularly as they would affect the historic preservation of Fort Delaware, located on Pea Patch Island in the Delaware Bay.

p.2

We also request that you explicitly recognize that Pea Patch Island and other sites in the Delaware Bay are designated Wetlands of International Significance under the Ramsar Convention. The United States Government became a signatory to the Convention in 1987, and at the Conference of Parties in Brisbane, Australia in 1996 reiterated its commitment to national action to further the Convention's mission. Moreover, the Brisbane Conference adopted new guidelines for interpreting change in the ecological character of Ramsar sites and on the importance of wetlands to fish. Yet we find no mention of Ramsar in this document

We look forward to expanded discussion of these and other topics at the public hearings.

Sincerely,



Vivian Newman, Chair
National Marine Wildlife and Habitat Committee

Reply to:
11194 Douglas Avenue
Marriottsville MD 21104

25 FEBRUARY 1998

BRADY

PASQUALE

LULEWICZ

Environmental Resources Branch

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KAMPER

MARALDO

BURNES

Mr. William E. Craven
 Chairman of the Board, Fort Delaware Society
 P.O. Box 553
 Delaware City, Delaware 19706

CALLEGARI

Dear Mr. Craven:

This is in reply to your letter dated August 26, 1997 regarding the concern for Pea Patch Island from the proposed Delaware River Main Channel Deepening Project.

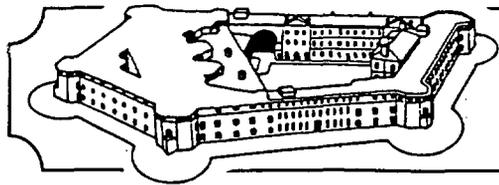
Our current design of the deepened channel in the vicinity of Pea Patch Island should not impact the Civil War era dock that is located on the east side of the island. As part of Plans and Specifications, we will further address this concern and if needed make the necessary design refinements.

The current operation and maintenance of the existing 40 foot navigation channel, in conjunction with the failure of the shoreline seawall on Federal property, is having an adverse effect on the shoreline erosion on Pea Patch Island. To that end, the District is conducting an evaluation of alternatives for shoreline stabilization at Pea Patch Island in connection with the ongoing operation and maintenance of the Delaware River 40 foot Federal Navigation Project and has met with the State of Delaware and their consulting firm to review alternative plans. The Corps has requested funds to initiate the repairs as part of the operation and maintenance of the existing 40 foot project; funding has not been made available.

I hope that this information has addressed your concerns. Please do not hesitate to contact Mr. Michael Swanda, Environmental Branch at (215) 656-6556, if you have any further questions.

Sincerely,

Robert L. Callegari
 Chief, Planning Division



FORT DELAWARE SOCIETY

Founded 1950

P.O. Box 553 • Delaware City, DE 19706 • (302) 834-1630

August 26, 1997

Mr. Robert L. Callegari
Environmental Resources Branch
U. S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

Ref: Delaware River Main Channel Deepening Project Final Supplemental
Environmental Impact Statement, July, 1997

Dear Mr. Callegari,

On behalf of the Fort Delaware Society, I thank you for placing the Society on the mailing list to receive the subject EIS.

We are pleased to see sections of the EIS which address our concerns that were described in our comment letter of Feb. 13, 1997.

We note that the EIS acknowledges that Pea Patch Island is suffering from continuing erosion which has exposed, and continues to expose, archaeological material and foundations related to the historic military occupation of Fort Delaware. Also, the Philadelphia District is working closely with the Delaware State Parks and their contractor, S. T. Hudson Engineers, Inc., to review plans and specifications for the placement of shoreline protection and to secure funding for the work under the existing federal project. In another paragraph, it is acknowledged that higher ship generated waves resulting from deeper draft vessels could increase shoreline erosion of historic archaeological deposits.

The report states that the ship generated waves would be four percent higher than at present and this would have no significant impact on Pea Patch Island erosion. We assume that this is correct only if the shoreline of Pea Patch Island has had the present sea wall gap repaired.

We also note that the EIS states that the majority of existing channel depths adjacent to Pea Patch Island are well below the proposed new dredging depth of 45 feet, meaning only minimal new dredging in isolated high spots will occur in the vicinity of Pea Patch Island. Also, the existing channel side-slope profiles would not be significantly affected and would not result in a movement of the federal channel closer to the island. Are we correct in assuming that the remains of the Civil War era dock on

the east side of Pea Patch Island will not be disturbed?

We appreciate your expansion of the EIS to include possible affects on all of Pea Patch Island, including the historic areas and the herony on the north end of the island.

The Fort Delaware Society is still concerned that a project for the placement of shoreline protection on Pea Patch Island has not yet been funded and approved. We believe the shoreline should be protected prior to the Channel Deepening Project.

Very truly yours,
for the Officers and Directors of the Fort Delaware Society

William E. Craven

William E. Craven
Chairman of the Board
Fort Delaware Society

cc: The Hon. Joseph R. Biden, Jr., United States Senator
The Hon. William V. Roth, Jr., United States Senator
The Hon. Michael N. Castle, United States Congressman
Christophe A. G. Tulou, Secretary, D. E. N. R. E. C.

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KAMPER

GALE

MARADO

BURNES

CALLEGARI

Planning Division

Mr. John C. Newcomb
Maritrans, Inc.
One Logan Square
Philadelphia, Pennsylvania 19103

Dear Mr. Newcomb:

This is in reply to letter dated September 30, 1997 concerning your comments on the Final Supplemental Environmental Impact Statement for the proposed Delaware River Main Channel Deepening Project, dated July 1997.

Two documents accompanied your letter. Responses to your two documents: namely, "Comments to the Delaware River Main Channel Deepening Project-Final Supplemental Environmental Impact Statement" and the "Critique of the U.S. Army Corps of Engineers Business Plan for the Delaware River Port Authority's Ownership and Operation Of Dredge Spoils Sites-Business Plan-Environmental Issues" are attached.

Sincerely,

Robert L. Callegari
Chief, Planning Division

Attachment

MFR: Input to responses were provided by Economics Br., Environmental Br. Civil and Structural and Geotechnical Sections. District Counsel (Barry Gale) reviewed the attached responses.


Stan Lulewicz
CENAP-DM

DELAWARE RIVER MAIN CHANNEL DEEPENING PROJECT

**RESPONSES
TO
COMMENTS
OF
MARITRANS, INC.**

**" DELAWARE RIVER MAIN CHANNEL DEEPENING PROJECT
FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT "**

ATTACHMENT

1. COMMENT SECTION II. A. PAGE 3

The Corps Failed to Consider All Alternatives to the Disposal of Dredged Spoils in Wetlands Located in Southern, New Jersey Within Its Section 404(b) Evaluation for the Project.

The *Final Interim Feasibility Report*, dated February, 1992 contains a discussion of alternatives, including the "no build" alternative, as well as a Clean Water Act Section 404 (b)(1) analysis, as required. Also, alternatives to disposal of dredged material were evaluated as part of this report. The report concluded that the most viable 50-year disposal plan for the river portion of the project is to place material at upland disposal sites. Concerning disposal of dredged material in Pennsylvania abandoned coal mines, this option would be more costly over the long term 50-year period than the recommended disposal plan.

2. COMMENT SECTION II. B. PAGE 4

The Corps Overstates the Positions of the Purported Beneficiaries of the Project.

Based on interviews conducted with potential beneficiaries, it was determined that six refineries will accrue benefits if the refinery berths are deepened commensurate with the main channel. This determination involved a combination of discussions with the refineries and consideration of present and future tanker characteristics and operations for both with and without the deepened channel. The refinery, which Tosco re-opened in May 1997, is included as part of the six refineries to benefit. Tosco's discussion with the project sponsor indicated the presence of a mix of vessel sizes that currently operate at the facility. As stated in the comment, smaller vessels in its fleet will not lighter, or benefit from the channel deepening project. However, Tosco indicated that larger vessels in its fleet mix, carrying crude oil up to 1 million barrels each, will benefit from reduced lightering with the main channel deepened. Thus, Tosco will accrue benefits from the project.

3. COMMENT SECTION II. C. PAGE 6

The Corps Has Improperly Excluded Actions Which Are Part of the Project From Environmental Review in the FEIS and FSEIS.

By law, Corps of Engineers projects require a non-Federal sponsor. The Corps does not undertake studies or investigations without the request of the sponsor and the appropriation of study funds by Congress. The Delaware River Port Authority (DRPA) is the sponsor of the 45-foot Delaware River deepening project. DRPA has expressed continued interest and support for the project. The sponsor is responsible for procuring funding sources for the non-Federal share of project cost.

For many Corps projects, the sponsor coordinates with the Corps for advice on how to raise their share of the project costs. This is a normal activity that the Corps provides to the sponsor. As a result, a business plan was prepared to illustrate revenue sources that could potentially be pursued by the project sponsor, if it chose to do so. The business plan offered various options and

6. COMMENT SECTION II. F. PAGE 11

The Project Will Displace an Existing Private Wetlands Mitigation Bank and Reduce Wetland Creation in Southern New Jersey.

Regarding the private wetland banking, the proposed business plan calls for use of areas adjacent to the four proposed upland disposal sites. The private wetland banking is not included in the areas proposed for wetland banking in the business plan. Consequently, the proposed plan would not destroy or impact the existing wetland banking plan that is being developed by a private company adjacent to the proposed Site 17G. Wetland banking ventures in the State of New Jersey have been subject to a very rigorous review process that has been established by the New Jersey Mitigation Council. For the most part, wetland banking involves creation of new wetlands or restoration/enhancement of existing wetlands to be used as credits for mitigation purposes for various development projects, such as highways, etc. The business plan presents various wetland banking options and revenues that could be realized adjacent to the proposed disposal areas. All proposed mitigation plans are subject to the approval by the New Jersey Mitigation Council and may be subject to Federal and State regulatory approval. Again, this is a possible revenue source, subject to DRPA's assessment of its potential and the limitations of their compact.

7. COMMENT SECTION II. G. PAGE 13

In Analyzing Sediment Quality, the FSEIS Minimizes the Risks Posed by the Contaminants in the Dredged Spoils by Using Mean Concentrations Rather Than Actual Concentrations.

There is no mandatory protocol for evaluating sediment quality data with regard to dredging projects. There are no sediment quality criteria that must be met by Federal or State regulation. The NJDEP has been using the Residential and Non-Residential Surface Soil Standards as guidelines when evaluating bulk sediment data collected in conjunction with dredging activities. These criteria provide a point of comparison, but do not carry any regulatory weight. The Surface Soil Standards are not referenced in the NJDEP 1996 draft technical manual "The Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters". In addition, the 1996 manual does not outline any required procedure for evaluating sediment quality data.

The analysis presented in the FSEIS was intended to reduce a very large data set down to something that could be easily reviewed, while providing sufficient data for the reviewer to see the full picture. Means are appropriate because material dredged from a waterway is well mixed in an upland dredged material disposal site. However, means were not the only values presented. The analysis also provided the number of samples, the number of detections of each contaminant, and the concentration range of the actual detections. The Surface Soil Standards were used to provide the reviewer with a point of comparison, and because NJDEP had indicated that they used these criteria as a guide. We were not required by regulation to use these criteria, or to meet them.

8. COMMENT SECTION II. G. PAGE 13, Sub-Section 1.

The Sediment Quality Data Collected by the Corps Are Not Suitable for Compliance Averaging Under the NJDEP Guidance.

The procedure described in this section does not apply to the evaluation of sediment quality data associated with dredging activities. Dredging activities are not regulated by NJDEP Technical Requirements for Site Remediation. The procedure is not discussed in the NJDEP 1996 draft technical manual "The Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters".

9. COMMENT SECTION II. G. PAGE 15, Sub-Section 2

The Corps Cannot Use Compliance Averaging to Demonstrate Compliance With NJDEP Soil Cleanup Standards for Arsenic, Beryllium, Thallium, and Benzo(a)pyrene.

Again, this requirement does not apply to the evaluation of sediment quality data associated with dredging activities. Exceedances of the NJDEP Surface Soil Standards were not masked in the FSEIS. Maximum detected concentrations were presented in the bulk sediment tables.

10. COMMENT SECTION II. H. PAGE 16.

The Corps Has Agreed to Perform Additional Environmental Analysis Which Will Not Be Subject to the Required Public Review and Comment.

As previously stated, the requirements identified by Maritrans for evaluating sediment quality data associated with dredging activities are not included in the referenced draft guidance manual. The sediment quality analysis presented in the FSEIS was completed prior to the availability of the manual. It was not possible to redo the complete analysis because of a new draft guidance document. The additional sampling articulated in the Corps/NJDEP agreement is for the purpose of monitoring sediment quality and the impact of actual dredging operations associated with the existing project, and the deepening project. If the monitoring identified a problem, it would be addressed through modification of the operation. The Corps has monitored many dredging projects, and intends to continue collecting data on the Philadelphia to the Sea Delaware River (40 foot) navigation channel and its dredging operation to insure that conditions do not change in the future, which could result in unacceptable environmental impacts. This type of data collection would not be subject to NEPA review requirements.

11. COMMENT SECTION II. G. PAGE 18

The Corps Did Not Adequately Consider the Impact That Heavy Metals Present in the Delaware River Sediments Will Have on Groundwater When the Sediments Are Disposed of in a Dredged Material Disposal Facility.

Section 7 of the final SEIS indicates that the U.S. Geological Survey was tasked with performing an evaluation of potential contaminant travel times from the proposed project disposal sites to nearby drinking water and industrial production wells. The report entitled "Evaluation of Groundwater Flow from Dredged Material Disposal Sites in Gloucester and Salem Counties, New Jersey" (USGS, 1995), determined that the disposal sites would not impact local wells as the sites provide a very small percentage of well recharge and potential contaminant travel times were on the order of fifty to one hundred years.

12. COMMENT SECTION II. H. PAGE 19

The Corps Ignores Recent Data Which Demonstrates That the Delaware River Sediments Contain Significant Levels of Contaminants.

The Corps' conclusions with regard to sediment contamination and potential environmental impacts associated with dredging are based on sampling of locations within the project area. The A.D. Little study sampled locations outside of the project area. The high resolution PCB analyses conducted by Versar are a good example of the differences that can exist between the two areas (i.e., locations that are periodically dredged can be cleaner than undisturbed areas). The Versar study collected data on PCB congeners because there was no congener data for the navigation channel. The Versar study did not collect data on heavy metals, polyaromatic hydrocarbons, pesticides and their metabolites because sufficient information had already been collected to draw conclusions regarding these parameters. The FSEIS does include sediment quality data collected from channel bends and private berthing areas. These data were similar to that collected in the navigation channel. While no PCB congener data were collected, all samples were tested for heavy metals, polyaromatic hydrocarbons, pesticides and PCB arochlors.

The Corps Improperly Failed to Perform a Bioaccumulation Study for Sediments Dredged From Reaches A, B, C, and D.

Bioaccumulation testing is a tool that can be used to evaluate potential adverse effects of sediment contamination. This tool is not required by any regulation. The testing that was conducted, which did include bioassays throughout the project area and bioaccumulation testing in Delaware Bay, was developed based on concerns expressed by Federal and State resource agencies. Section 7 coordination, as required by the Endangered Species Act, was conducted with the U.S. Fish and Wildlife Service relative to threatened and endangered species under their jurisdiction. Based on a review of the sediment quality data, the U.S. Fish and Wildlife Service was able to conclude that the project would not likely impact the bald eagle or peregrine falcon. As such, bioaccumulation testing was not necessary.

DELAWARE RIVER MAIN CHANNEL DEEPENING PROJECT

**RESPONSES
TO
COMMENTS
OF
MARITRANS, INC.**

**"CRITIQUE OF THE U.S. ARMY CORPS OF ENGINEERS
BUSINESS PLAN FOR THE DELAWARE RIVER PORT AUTHORITY'S
OWNERSHIP AND OPERATION OF DREDGE SPOILS SITES
BUSINESS PLAN-ENVIRONMENTAL ISSUES"**

1. COMMENT SECTION I PAGE 4

There Will Be A Net Loss of Wetlands In New Jersey From The Dredging Project.

As stated in our response to your comment on the draft SEIS, the management of the proposed confined upland sites has been supported by the U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency, and the New Jersey Department of Environmental Protection (NJDEP). Furthermore, NJDEP has indicated that this project, including the management of the new upland dredged material disposal facilities, is consistent with the Coastal Zone Management Act. Most of the existing wetlands in the proposed confined upland sites are poor quality Phragmites marsh. By implementing the management system that will provide wetland habitat on portions of the disposal areas, by purchasing an additional 372 acres of adjacent undeveloped area that includes some high quality fresh water tidal marsh, and maintaining this area in its natural state or developing it as a wetland bank, and by restoring 135 acres of intertidal wetlands at Egg Island Point, the overall wetland/ wildlife value in New Jersey will be improved.

2. COMMENT SECTION II PAGE 6

The Dredging Project Would Reduce Wetlands Creation in Southern New Jersey.

In regard to mitigation banking, the Corps is not building any mitigation banks as part of this project. The sponsor is investigating the possible use of mitigation banking on land adjacent to the proposed upland disposal sites that they will own. Before these banks are constructed, they would need to receive approval from the NJDEP, and would need to demonstrate that it is beneficial to the wetland/wildlife habitat of the area.

The proposed upland site designated as 17G is displayed on Plate 20 of the FSEIS. The site is located adjacent and riverward of the mitigation bank. This site will not reduce wetland creation in Southern New Jersey since mitigation will be done at other locations as required by state and Federal law. As mentioned above, this project will actually create a net increase in the overall wetland/wildlife value in the area.

3. COMMENT SECTION III PAGE 8

The Business Plan Proposes That Contaminated Dredged Material From The Port of New York and New Jersey Be Disposed Of In Southern New Jersey.

The Delaware River Port Authority has evaluated the viability of this option. As a result of their evaluation, they are not considering disposing out-of-region dredged material in Southern New Jersey. The disposal plan presented in the Final Supplemental Environmental Impact Statement does not recommend the use of the dredged material disposal areas for disposal of dredged material from

places other than the Delaware River.

4. COMMENT SECTION IV PAGE 11

The Business Plan Improperly Relies On Revenues Associated With The Disposal Of Dredged Spoils From The Port of Maryland.

The Delaware River Port Authority is not considering this option. The tipping fee was based on disposing of clean material. The disposal plan presented in the Final Supplemental Environmental Impact Statement does not recommend the use of the dredged material disposal areas for disposal of dredged material from places other than the Delaware River.

5. COMMENT SECTION V PAGE 13

The ACOE Has Incorrectly Concluded That The Contaminants In The Delaware River Sediments Do Not Pose Any Environmental Risks.

There is no mandatory protocol for evaluating sediment quality data with regard to dredging projects. No specific data evaluation procedures are outlined in the NJDEP 1996 draft technical manual "The Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters". The analysis presented in the FSEIS was intended to reduce a very large data set down to something that could be easily reviewed, while providing sufficient data for the reviewer to see the full picture. Means were not the only values presented. The analysis also provided the number of samples, the number of detections of each contaminant, and the concentration range of the actual detections. Maximum detected concentrations were presented in the bulk sediment tables. As such, the presentation did not mask these concentrations.

Section 7 of the final SEIS indicates that the U.S. Geological Survey was tasked with performing an evaluation of potential contaminant travel times from the proposed project disposal sites to nearby drinking water and industrial production wells. The report entitled "Evaluation of Groundwater Flow from Dredged Material Disposal Sites in Gloucester and Salem Counties, New Jersey" (USGS, 1995), determined that the disposal sites would not impact local wells as the sites provide a very small percentage of well recharge and potential contaminant travel times were on the order of fifty to one hundred years.

Consideration of environmental effects of the activities related to the business plan were not included as part of the FSEIS, as the business plan is **not** a component of the proposed Federal project. The FSEIS has evaluated environmental impacts of Federal channel dredging activities, the dredging of the benefitting berthing areas, and subsequent disposal. As a result, the FSEIS has considered corresponding impacts of the activities along with the channel.

The additional sampling articulated in the Corps/NJDEP agreement is for the purpose of monitoring sediment quality and the impact of actual dredging operations associated with the existing project, and the deepening project. If the monitoring identified a problem, it would be addressed through modification of the operation. The Corps has monitored many dredging projects, and intends to continue collecting data on the Philadelphia to the Sea Delaware River navigation channel and its dredging operation to insure that conditions do not change in the future, which could result in unacceptable environmental impacts. This type of data collection would not be subject to NEPA review requirements.

6. COMMENT SECTION VI Page 15

A recent Study of Delaware River Sediments Demonstrates That Contaminants Are Widely Distributed And Can Get Into The Food Chain.

The Corps' conclusions with regard to sediment contamination and potential environmental impacts associated with dredging are based on sampling of locations within the project area, including the navigation channel, bend widening locations, and berthing areas associated with various port facilities. Chemical analyses of sediments included PCBs, pesticides, polyaromatic hydrocarbons, heavy metals, and a number of other volatile and semi-volatile organic parameters. It is incorrect to say that the Corps did not address the presence of a complete set of chemical contaminants in the SEIS. The conclusion drawn from the sediment analyses is that sediments in the project area do not contain chemical contaminants at a level that warrant the concerns expressed in the comment. The sediment data was coordinated with the appropriate Federal and State resource agencies. These agencies included the U.S. Fish and Wildlife Service which reviewed the data in conjunction with Section 7 consultation, as required by the Endangered Species Act, with regard to threatened and endangered species under their jurisdiction. The U.S. Fish and Wildlife Service concurred with the Corps' conclusion.

7. COMMENT SECTION VII PAGE 18

Dredged Spoil Stockpiling At Locations Offshore Of Delaware Beaches May Cause Adverse Environmental Impacts.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental

documents, prior to actual beach construction. The initial assessment indicates this modification is both economically and environmentally feasible.

Delaware Bay sediments proposed for sand stockpiling and habitat creation were tested using bulk sediment and biological effects based testing. The bulk sediment data were compared to guidelines developed to assess the potential for sediment contaminants to adversely effect benthic communities. This comparison suggested a low possibility of Delaware Bay sediments having an adverse effect. The biological effects based testing included water column bioassays, whole sediment bioassays, and bioaccumulation tests. Again, these tests did not identify any environmental concerns. This information is presented in Section 4 of the final SEIS.

The District has evaluated the potential for groundwater contamination from the disposal areas along the Delaware River and found the impact to be negligible. The material to be disposed is not "highly contaminated". In fact the material is essentially considered "clean". This determination is supported by the U.S. Environmental Protection Agency in their letter dated March 17, 1997. To further assure the local community that the groundwater will not be impacted from the disposal operations, monitoring wells will be installed at the proposed upland sites.

COMMENT SECTION VIII-PAGE 19

The Dredging Project Creates Additional Environmental Concerns.

We disagree with your statement that "the change in the hydraulics of the Delaware Bay resulting from the proposed project has not been adequately addressed". Virtually the entire hydrodynamic/salinity modeling effort, including the one-year prototype monitoring program from October, 1992 to October, 1993, was structured to do this. The salinity modeling studies and the results are discussed in Section 5 of the Final Supplemental Environmental Impact Statement.

The Star Enterprise refinery has not expressed interest in benefiting from the project and, thus, was not included in the benefit analysis.



One Logan Square
Philadelphia, PA 19103
215-864-1200
800-523-4511

September 30, 1997

Via Hand Delivery

Mr. Robert L. Callegari
Attn: Environmental Resources Branch
U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3397

Re: Delaware River Main Channel Deepening Project

Dear Mr. Callegari:

Maritrans Inc. transmits herewith the attached comments on the Final Supplemental Environmental Impact Statement prepared by the U.S. Army Corps of Engineers - Philadelphia District for the proposed Delaware River Main Channel Deepening Project. Our comments are submitted in the two documents that are enclosed; namely, "Comments to the Delaware River Main Channel Deepening Project-Final Supplemental Environmental Impact Statement" and the "Critique of the U.S. Army Corps of Engineers Business Plan for the Delaware River Port Authority's Ownership And Operation Of Dredge Spoils Disposal Sites - Business Plan - Environmental Issues." We request that both documents, along with the comments to the Draft Supplemental Environmental Statement transmitted to you via cover letter February 18, 1997, be included in the administrative record developed for the project.

Our outside counsel is still waiting for a final response from the Corps' Office of the General Counsel to an administrative appeal of several Freedom of Information Act requests. We reserve the right to supplement these comments with any information that will be provided to us by the Corps in the future.

Thank you for the opportunity to submit these comments.

Very truly yours,

A handwritten signature in black ink that reads 'John C. Newcomb'.

John C. Newcomb

Enclosures
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Organizations

11.	DE Audubon	8-26-97	Groundwater Impacts at CDFs, Public Hearing
12.	Cape May Boat	8-28-97	Contaminated Dredged Material, DE Bay Disposal.
13.	Green DE	9-30-97	Water Quality, Sediment Quality, Oil Spills, Pea Patch, De Bay Disposal, Public Hearing
14.	De Mobile Surf-Fishermen	9-25-97	DE Bay Disposal, Sediment Quality, Oil Spills, Economics, Business Plan, Public Hearing
15.	DE Nature Soc.	8-29-97	Horseshoe Crabs, Sport Fish, Shellfish, Groundwater, Shortnose Sturgeon, Clean Water Act, Blasting, Sediment Quality, DE Bay Disposal, Economics, Public Hearing
16.	DE Taxidermists	9-29-97	DE Bay Disposal, Public Hearing
17.	DE Wildlands	9-25-97	Public Hearing, Pea Patch Is., Kelly Is., Cumulative Impacts of Port Mahon and DE Deep., DE Bay Disposal, Public Invol., Shortnose Sturgeon,
18.	Homeowners	4-30-97 9-26-97	Impacts of Federal projects on beach erosion at Breakwater Harbor, Request of sand for beach nourishment
19.	NJ Cons. Found.	8-28-97	Management and Monitoring of CDFs.
20.	Riverkeeper	8-21-97 9-5-97 9-8-97	Public Hearing, Public review of Salinity Model, Management and Monitoring of CDFs., Public Invol,
21.	DR&BS Council	8-25-97	Public Hearing, 404 [R], Sediment Quality
22.	PA Sierra Club	8-24-97 8-28-97	Berthing Areas, Economics, Design of Kelly Is, Salinity Impacts to oysters, DE Bay Disposal, Salinity impacts, Pea Patch Is., Public Hearing
23.	Sierra Club, Nat. Marine & Wildlife Comm.	9-30-97	404 [R], DE Bay Disposal, Hydromodification, Sea Level Rise, Pea Patch Is. Public Hearing
24.	Maritrans	9-30-97	Alternatives, Impacts of Business Plan, Economics, Wetland Impacts, Sediment Quality, DE Bay Disposal, Salinity
25.	Fort DE Society	8-26-97	Pea Patch Island

25 FEBRUARY 1998

BRADY

PASQUALE

LULEWICZ

KAMPER

MARALDO

BURNES

CALLEGARI

Environmental Resources Branch

Ms. Leslie G. Savage
 Board of Directors
 Delaware Audubon Society
 Chapter of National Audubon
 Box 1713
 Wilmington, Delaware 19899

MAR 05 1998

Dear Ms. Savage:

Thank you for your letter dated August 26, 1997 on the Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS), dated July, 1997.

The proposed upland disposal Site 15G was originally tidal wetlands but was used for the disposal of dredged material from maintenance of the existing Delaware River Federal 40 foot navigation channel for many years, until about 20 years ago. As stated in the SEIS, the site has 20 to 40 feet of fine-grained material from past dredging, and this material will greatly impede the flow of water from this area and significantly increase the travel time between site 15G and the wells.

As stated in response to your letter of February 11, 1997, sediments from Reach B were analyzed for all of the contaminants provided in your list, but the majority of these contaminants were either not found or found in only one or two of the samples. Heavy metals were frequently detected in Reach B sediments. Except for thallium, all of the metals were below New Jersey Department of Environmental Protection (NJDEP) Residential Surface Soil Standards. This means that the material is suitable for use as "clean fill" for residential development. With regard to thallium, as discussed in the FSEIS, the mean concentration is elevated because of the high detection levels achieved in the first round of sampling. In two subsequent rounds of sampling, 40 additional sediment samples show that the actual concentration of thallium in channel sediments is less than 0.4 ppm, which is well below the NJDEP Residential Standard of 2.0 ppm. The only pesticide detected in Reach B sediments was endosulfan. This contaminant was only detected in one of 49 samples. Likewise, PCB-1254 and PCB-1248 were the only PCB's detected. These were again only detected in one of the 49 samples. Several PAH's were detected in Reach B, but in only two of the 49 samples. There were similar results for phthalates, except for di-n-butyl phthalate, which was detected in 20 of 28 samples. The highest concentration of di-n-butyl phthalate detected in Reach B

sediments was 1.51 ppm, which is well below the NJDEP Residential surface Soil Standard of 5,700 ppm. The remaining groups of volatile and semi-volatile organic contaminants were primarily undetected in the entire river. This information is presented in Section 4.0 of the FSEIS. Based on the data it is concluded that Reach B sediments are clean, and would not have an adverse impact on water quality in the area.

Although the FSEIS states that the placement of contaminated dredged material at upland disposal areas can result in long-term impacts such as groundwater contamination and direct uptake of contaminants by plants and animals, this would not occur from the material that will be dredged to deepen the Delaware River main channel. The sediment toxicity data from this project was reviewed by the Corps of Engineers' Waterway Experiment Station, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the New Jersey Department of Environmental Protection, the Delaware Department of Natural Resources and Environmental Control, and the Pennsylvania Department of Environmental Protection. The U.S. Environmental Protection Agency in a letter dated 17 March 1997 stated that "...EPA continues to believe that there will be no adverse impacts associated with the disposal of sediments generated by the project". In addition, in their letter of 12 September 1997, the U.S. Environmental Protection Agency stated that "... we have concluded that the proposed project would not result in significant adverse environmental impacts; EPA has no objection to the implementation of the proposed project." Neither the U.S. Department of the Interior (parent agency of the U.S. Fish and Wildlife Service) in their letter of September 11, 1997, nor the U.S. Department of Commerce (parent agency of the National Marine Fisheries Service) in their letter of September 29, 1997, have expressed any concern about contaminants in the dredged material. Furthermore, the Commonwealth of Pennsylvania and the states of Delaware and New Jersey have reviewed the sediment data as part of their coastal zone management consistency review. Each concluded that this project was consistent with the Coastal Zone Management Act.

To provide an extra level of assurance that no significant amounts of contaminants are entering the Delaware River or ground water from the proposed Site 15G, the Philadelphia District of the U.S. Army Corps of Engineers and the New Jersey Department of Environmental Protection will form a working group to develop appropriate coordinated sediment sampling and testing programs, surface water discharge monitoring plans, and ground water monitoring wells.

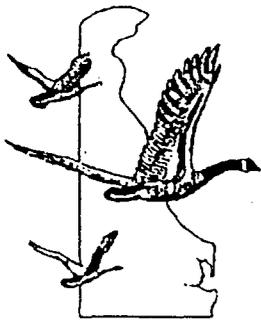
Site 15G is presently used for agricultural production of crops such as corn, wheat, and soybeans for human or livestock consumption. The proposed use of Site 15G will not include agriculture, but will include management as wetland/wildlife habitat between dredging cycles. The details of this plan is presented in Section 3.2.3 of the FSEIS.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

Thank you for your comments and continuing participation in the review of this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division



DELAWARE AUDUBON SOCIETY

Chapter of National Audubon
Box 1713, Wilmington, Delaware 19899
302-428-3959

August 26, 1997

Mr. Robert L. Callagari
Chief, Planning Division
U.S. Army Engineer District, Philadelphia
100 Penn Square East
Philadelphia, Pennsylvania 19107-3390

RE: STATEMENT OF THE DELAWARE AUDUBON SOCIETY PERTAINING TO
THE FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT
DELAWARE RIVER MAIN CHANNEL DEEPENING PROJECT

Dear Mr. Callagari:

The Delaware Audubon Society is a statewide citizen organization whose mission is to promote an appreciation and understanding of nature; to preserve and protect our environment; and to affirm the necessity for clean air and water and the stewardship of our natural resources. We submit herewith, our concerns, comments and questions on the Final Supplemental Environmental Impact Statement on the Delaware River Main Channel Deepening Project.

Our examination of the Final Supplemental Environmental Impact Statement on the Delaware River Main Channel Deepening Project reveals several areas of concern we feel have not been fully addressed to our satisfaction.

P. 1-4, Groundwater, section 1.1.1.3. This section discusses the evaluation of potential contaminate travel times from the proposed project disposal sites to nearby drinking water by the United States Geological Survey. Their report determined the mean travel times for groundwater, from the new proposed disposal areas, to reach any potential water supply well is in excess of 50 years, except for a cluster of wells near area 15G where the report states that "travel times to these wells could be relatively short, perhaps on the order of several years". The Corp's conclusion to this reported concern states, "It is important to consider all of the contributing factors when evaluating the potential negative impact of the travel times from all disposal areas. First, the existence of 20-40 feet of fine-grained material from past dredging within the disposal areas greatly impedes the flow of water from the areas and increases the travel times substantially. In addition, the new dredged sediments from the 45

foot project contain no harmful levels of contamination; so in the event that the water were to reach the well from the disposal area, it would have no impact on water quality".

The Corp's first assertion regarding previously dredged materials increasing travel times does not apply to disposal site 15G as 15G is a new site, previously unused for the dumping of dredge spoils. The assertion that new dredged sediments contain no harmful levels of contamination and therefore, pose no threat to the quality of groundwater in nearby wells is refuted even by the data the Army Corp of Engineers has put forth in this Final Supplemental Environmental Impact Statement. Dredged materials from Reach B will be deposited at site 15G as well as several other sites. P.4-21 - 4-31, Bulk Sediment Analyses, section 4.1. The following is a list of all contaminants found in bulk sediment samples within Reach B: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc, Aldrin, Dieldrin, Chlordane, Toxaphene, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, Endosulfan, DDT, DDD, DDE, Mirex, Methoxychlor, Parathion, Malathion, Hexachlorocyclohexane (Alpha, Beta, Delta, Gamma (Lindane)), Guthion, Demeton, PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, PCB-1016, Acenaphthene, Naphthalene, Acenaphthylene, Anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Phenanthrene, Fluorene, Fluoranthene, Benzo(a)anthracene, Benzo(ghi)perylene, Dibenz(ah)anthracene, Ideno(123-cd)pyrene, Pyrene, Bis(2ethylhexyl) phthalate, Butyl benzyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Diethyl phthalate, Dimethyl phthalate, Volatile Halogenated Alkanes, Volatile Halogenated Alkenes, Volatile Aromatic Hydrocarbons, Volatile Chlorinated Aromatic Hydrocarbons, Volatile Unsaturated Carbonyl Compounds, Volatile Ethers, Phenols, Substituted Phenols, Organonitrogen Compounds, Chlorinated Aromatic Hydrocarbons, Chlorinated Aliphatic Hydrocarbons, Halogenated Ethers, and Miscellaneous Oxygenated Compounds.

Delaware Audubon believes that the sum total of contaminants from the dredged sediment would most certainly have an adverse impact on the quality of water found in the cluster of wells near disposal site 15G. These wells would be subjected to leaching of water from dredged sediments, even though all the mean channel sediment concentrations were below the NJDEP residential standards, except for the heavy metal thallium and the pesticide toxaphene. The Army Corp of Engineers proves this in the statement found on P.4-19, section 4.1. "Depending on the contaminate, the human health criteria are based on an additional lifetime cancer risk of 1 of 1,000,000 or 1 of 100,000". If each of the above listed chemicals pose an additional lifetime risk of cancer then the additional lifetime risk of cancer to those drinking water from wells contaminated from site 15G is the sum of each additional risk.

P.4-5, section 4.1. To summarize the large volume of data, samples collected within each reach were grouped and the mean concentration of each chemical parameter was calculated. P.4-6 - 4-31. Tables 4-2 through 4-8 shows the mean concentration of each contaminate in Reaches A through E as well as the detection range. By calculating the mean concentration and then using that calculation against the NJDEP standards gives a false appearance of falling within these standards. In addition, the Army Corp of Engineers often applied two different standards to the same data. When a sample exceeded the NJDEP residential standard, it was then compared to the NJDEP non-residential standard even though a residential standard was used for all other contaminants found in that reach. Upon examination of Tables 4-2 through 4-8 compared against Tables 4-9 through 4-19, we found that the detection range of the

samples offered a better indicator of contaminate levels within each reach. For example, in Reach B where the Corp has only indicated two contaminants as being over NJDEP residential standards, the detection range shows that 6 of the 130 contaminants falls outside the NJDEP residential standard.

<u>Parameters</u>	<u>Reach B</u>	<u>NJDEP Residential Standards</u>
Number of Samples	49	
<u>Antimony</u>		
Mean Conc.	9.93	
# of Detections	24	
Detection Range	1.7-32.0	
Range exceeds NJDEP by	18	14
<u>Beryllium</u>		
Mean Conc.	0.82	
# of Detections	38	
Detection Range	0.31-1.5	
Range exceeds NJDEP by	0.5	1.0
<u>Cadmium</u>		
Mean Conc.	0.94	
# of Detections	19	
Detection Range	0.11-4.0	
Range exceeds NJDEP by	3.0	1.0
<u>Lead</u>		
Mean Conc.	19.09	
# of Detections	44	
Detection Range	4.7-120	
Range exceeds NJDEP by	20	100
<u>Selenium</u>		
Mean Conc.	16.53	
# of Detections	28	
Detection Range	0.21-119	
Range exceeds NJDEP by	56	63
<u>Thallium</u>		
Mean Conc.	2.48	
# of Detections	13	
Detection Range	0.17-9.0	
Range exceeds NJDEP by	7	2.0

All concentrations presented in parts per million (mg/kg), dry weight.

P.4-2, section 4.0. The Army Corp of Engineers states that the placement of contaminated sediment at upland disposal sites can also result in long-term impacts such as groundwater contamination and direct uptake of contaminants by plants and animals.

On page 1-1 it is indicated that disposal areas 15D, 15G and 17G are currently being used mostly for the production of row crops such as corn and soybeans. Will these areas continue to be used for growing crops and if so who consumes these crops?

In conclusion, the Delaware Audubon Society feels the Army Corp of Engineers has not provided proof that the concentration levels of contaminants from the dredged sediment will not pose a hazard to the health and well-being of humans whose groundwater and soil may become contaminated by leachate from nearby disposal sites. In light of irreparable damage to nearby drinking water supplies, we request that site 15G be abandoned and an alternate site be found. Given the above discrepancies in data found in the Final Supplemental Environmental Impact Statement for the Delaware River Main Channel Deepening Project, the Delaware Audubon Society requests a public hearing to more fully address our health and environmental concerns.

Sincerely,



Leslie G. Savage
Board of Directors

Cc: Senator Joseph Biden
Senator William Roth
Congressman Michael Castle
Christophe Tulou
Sarah W. Cooksey

25 FEBRUARY 1998

JTB BRADY
JP

PASQUALE

S. J.
LULEWICZ

D. KAMPER

MARALDO

MB
BURNES

Environmental Resources Branch

MAR 05 1998

Captain Joseph Galese
Secretary
Cape May County Party Charter Boat Association
P.O. Box 1065
Cape May, New Jersey 08204

CALLEGARI

Dear Captain Galese:

Thank you for your letter dated August 28, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997.

Based on field sampling and subsequent data analysis, no significant impacts to the aquatic ecosystem are expected from dredging and the disposal of dredged material for this project. None of the sediment samples taken revealed significant levels of contaminants. The fine-grained material from the industrial northern portion of the project area will be placed in upland confined dredged material disposal facilities (CDFs), away from the river. The sediment toxicity data from this project was reviewed by the Corps of Engineers' Waterway Experiment Station, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the New Jersey Department of Environmental Protection, the Delaware Department of Natural Resources and Environmental Control, and the Pennsylvania Department of Environmental Protection. The U.S. Environmental Protection Agency in a letter dated 17 March 1997 stated that "...EPA continues to believe that there will be no adverse impacts associated with the disposal of sediments generated by the project". In addition, in their letter of 12 September 1997, the U.S. Environmental Protection Agency stated that "... we have concluded that the proposed project would not result in significant adverse environmental impacts; EPA has no objection to the implementation of the proposed project." Neither the U.S. Department of the Interior (parent agency of the U.S. Fish and Wildlife Service) in their letter of September 11, 1997, nor the U.S. Department of Commerce (parent agency of the National Marine Fisheries Service) in their letter of September 29, 1997, have expressed any concern about contaminants in the dredged material. Furthermore, the Commonwealth of Pennsylvania and the states of Delaware and New Jersey have reviewed the sediment data as part of their coastal zone management consistency review. Each concluded that this project was consistent with the Coastal Zone Management Act.

The wetland restoration plan for Egg Island Point was coordinated with the New Jersey Department of Environmental Protection, the National Marine Fisheries Service, and the Mid-Atlantic Fishery Management Council. None of these agencies indicated that this proposed project would have significant impacts to fishery resources. The Egg Island Point area is experiencing erosion rates of 15 to 30 feet per year of the tidal marshes that support many of the aquatic resources in the Delaware Bay. The proposed Egg Island Point wetland restoration will protect hundreds of acres of this valuable tidal marsh.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

Thank you for your comments and continuing participation in the review of this project. If you have any questions, please contact John Brady of my staff at 215-656-6555.

Sincerely,

Robert L. Callegari
Chief, Planning Division



P.O. BOX 1065 • CAPE MAY • NEW JERSEY • 08204

Mr. Robert L. Callegari, Chief
Environmental Resource Branch
US Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, Pennsylvania 19107-3390

August 28, 1997

Dear Mr. Callegari:

The Cape May County Party and Charter Boat Association, with over 230 members, wish to express its grave concern with the plans published in "Public Notice, No. CENAP-PL-E-97-06" Dated 25 July 1997: *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement.*

The following expresses our immediate urgency:

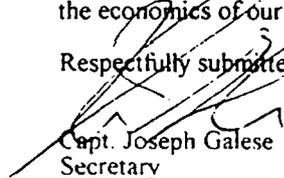
1. What will the effects that dredging materials from Northern areas, some of which contain toxicity and which inevitably will be carried downstream during the project, have on the beaches, fish spawning areas and the fishery at large for the lower Delaware Bay?
2. Similarly, but even of greater concern, how will the dredge materials planned for the "Beneficial Use Sites" effect the spawning areas and the natural bottom which supports the Delaware Bay fishery? Specifically, the site of *Egg Island Point* is currently a prime location for spawning weakfish, and schooling striped bass (just to note two of the many species located in these waters). What has the research shown on the short and long range effects for these species, if anything? Also, with the inclusion of Slaughter and Broadkill Beaches as "Beneficial Use Sites", two locations which support the Spring migration of black drum fish, as well as flounder, will the natural shell bottom of these locations be effected by the dumping of dredge materials and thus alter the natural fishing environment for these species as well as the feeding chain of other species of the lower Delaware Bay?

It appears to the membership of CMPCBA, most of whom are professional fishing captains having decades of boating and angling experience in the lower Delaware Bay, that the fishing environment will be adversely effected by these activities.

Cape May County, New Jersey alone has sustained over a \$1,000,000,000. tourist business with most dependent on Delaware Bay and Ocean water conditions and with a large percentage of the tourist dollar drawn directly and indirectly from the recreation/sportfishing industry.

We hope and will lobby for a prudent approach to this project with, above all, a caring and accurate eye on maintaining the health of the lower Delaware Bay fishery, the quality of our waters, the pristine beaches and the economics of our area.

Respectfully submitted,


Capt. Joseph Galese
Secretary

cc: Governor C. Whitman
New Jersey State, Game and Fishing Commission
National Marine Fisheries Service

CENAP-PL-E
6554/am
25 FEBRUARY 1998

BRADY
PASQUALE
LULEWICZ

Environmental Resources Branch

KAMPER

MAR 05 1998

MARALDO
BURNES

Mr. Alan Muller
Green Delaware
Box 194
Port Penn, Delaware 19731

CALLEGARI

Dear Mr. Muller:

This is in reply to your letter dated September 30, 1997 concerning comments on the Delaware River Main Channel Deepening Project. I am enclosing a copy of the Final Supplemental Environmental Impact Statement (FSEIS), dated July, 1997, where you should find the answers to your concerns. Specifically, water quality impacts are discussed in Sections 4.0, 5.0, 7.0, and 9.1.2; impacts of dredged material on aquatic species are discussed in Sections 4.4, 5.11, 8.3, 9.0, and 10.4; impact of sediment quality are discussed in Sections 4.0 and 10.4; impacts of oil spills are discussed in Section 12.0; and impacts to Pea Patch Island are discussed in Sections 10.4.3.6 and 11.3.9.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim,

-2-

my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

Thank you for your comments and interest in this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division

Enclosure

Green Delaware

Alan Muller
Box 194
Port Penn DE 19731
(302)834-3466
fax (302)836-3005
amuller@dca.net

September 30, 1997

Mr. Frank Cianfrani
Chief, Regulatory Branch, Philadelphia District
U. S. Army Corp. Of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390
FAX: 215.656.6724

RE: Comment on Proposed deepening of Delaware River Main Channel

Dear Mr. Cianfrani:

Green Delaware has several concerns regarding this project, which we oppose in its present form.

Procedural Concerns:

This project has been the focus of considerable public concern among non-governmental organizations and government agencies in Delaware. Opposition to the project has been voiced on various grounds. Nevertheless, the Corps is reportedly refusing to hold public hearing(s) on the proposed activity and has apparently claimed that it is "non-controversial." This doesn't ring true to us.

Green Delaware hereby requests that the Corp. Hold a formal public hearing, for the reasons listed below. We understand that several parties have requested such a hearing. We think that refusal to hold a hearing(s) would cast into doubt any decisions the Corp. might make regarding this matter.

Substantive Concerns

Massive disturbance of sediments associated with such a project might have sever consequences for water quality in the Delaware River and Estuary.

Habitat of aquatic species might be damaged by intentional or incidental deposition of sediments.

Disposal of possibly contaminated dredge spoil in a harmless manner may not be possible.

Transit of more heavily loaded vessels containing hydrocarbons may pose an increased risk from spills and collisions.

Direct and indirect effects of the project might increase erosion losses to vulnerable locations such as Pea Patch Island, a place of great historical and ecological significance, already suffering serious erosion losses.

(We understand that the Corps has already concluded that these are not problems. We are unconvinced.)

I will conclude by noting that for many decades industrial use of the Delaware has been given priority over other uses, leading to massive destruction of fisheries, depletion of populations, and discouragement of recreational activities. In recent years some improvements in water quality have enabled a potential revival of some of these uses. In our opinion continued improvement in water quality and habitat should, at this stage, take precedence over other usages of the Delaware.

Yours very truly,

25 FEBRUARY 1998

~~BRADY~~
 JP
 PASQUALE
 J. L.
 LULEWICZ

Environmental Resources Branch

CAMPER
 MARALDO
 MB
 BURNES

Robert V. Martin, Captain
 Delaware Mobile Surf-fishermen, Inc.
 201 Wilson Street
 Georgetown, Delaware 19947

MAR 05 1998

CALLEGARI

Dear Captain Martin:

This is in response to your letter dated 25 September, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

Since the dredged material from the Delaware Bay portion of the channel deepening project is 98 percent sand and 2 per cent fine-grained material, the resource agencies requested that the excavated dredged material be used for beneficial purposes. The Kelly Island wetland restoration project has been designed as a confined area that will hold the fine-grained material from the Delaware Bay and provide erosion protection for existing wetlands. At the request of the Delaware Department of Natural Resources and Environmental Control the wetland restoration project at Kelly Island was re-designed to increase the size of the sand berm that would confine the fine-grained material. The additional sand source for the increased berm was obtained from the sand that was designated for placement at the sand stockpile MS-19, thereby reducing the sand quantities to be placed at MS-19 or the sand quantities that would be placed directly on nearby beaches.

Regarding your concern about sediment quality, mean concentrations were presented in the FSEIS because of the large volume of data collected over the course of the study. In Delaware Bay, 23 samples of channel sediment were tested for the heavy metal selenium. Selenium was detected in 11 of the 23 samples. Ten of these samples had selenium concentrations that were below the New Jersey Residential Surface Soil Standard of 63 ppm. As such, 95.6 percent of the samples tested (22 of 23) had selenium concentrations below the New Jersey Residential Standard. One sample did have a selenium concentration of 121 ppm. It is incorrect to characterize all Delaware Bay channel sediment as having this concentration of selenium. This concentration is not considered significant, as the New Jersey Non-residential Surface Soil Standard for Selenium is 3,100 ppm. A concentration of 121 ppm is only 3.9 percent of the New Jersey Non-residential standard.

The September 18, 1997 oil spill occurred during the lightering operation of the oil tanker (Mystras) at Big Stone Beach Anchorage to a barge. This lightering operation was required due to the current channel depth of 40 feet. It appears that if lightering was not required this spill could have been prevented. The deepened channel will reduce the magnitude of lightering operations that normally occur on a regular basis in the Delaware Bay and the related environmental risks that accompany this operation. With the reduction of lightering, there will be less barges moving on the river, while the number of oil tankers will remain the same, with the larger tankers in the fleet carrying more oil directly to the refinery docks due to the deeper channel. The reduction in overall barge traffic will reduce the risk of collisions. In addition, as part of the proposed deepening project, the channel bends will be widened and rock at Marcus Hook will be removed. These actions will result in a safer navigation channel. Finally, according to the U.S. Environmental Protection Agency, the oil spill responses network established by the U. S. Coast Guard, Marine Safety Office, Philadelphia is considered to be as adequately prepared to handle oil spills as any in the Nation. This is explained in Section 12.2 of the FSEIS.

As for all Corps projects, the 45-foot channel deepening project has been subject to a vigorous technical review of the economic analysis. The Corps cost benefit analysis followed required regulations and was reviewed and approved by the Secretary of the Army and the Office of Management and Budget prior to authorization by Congress.

The existing Delaware River 40-foot deep project restricts efficient movement of both present and future tankers, dry bulk carriers and container vessels. The 45-foot channel improvement will provide sufficient transportation cost savings through increased efficiency of transporting commodities.

The new large container vessels of post-Panamax size do not use the Panama Canal since they exceeded the dimensions of the canal. These vessels travel via the Suez Canal in their service from the Pacific to the Atlantic Ocean.

For many Corps projects, the local sponsor coordinates with the Corps for advice on how to raise their share of the project costs. This is a normal activity that the Corps provides to the sponsor. As a result, a business plan was prepared to illustrate new revenue sources that could potentially be pursued by the project sponsor, Delaware River Port Authority (DRPA), if it chose to do so. The business plan offered various options and opportunities that upon further analysis by the sponsor could potentially be used to generate revenues for the non-Federal share for the proposed 45 foot project. The business plan does not represent "the financial plan" for the project. It is a possible way for the DRPA to raise revenues. In fact, it could be developed if DRPA chose to without the 45 foot project. It is the ultimate responsibility of the local sponsor, not the Corps, to develop a financing plan for its cost-share. Once the financing plan is developed by the sponsor, the Corps will make its review to ensure it adequately meets our requirements.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

Thank you for your comments and continuing participation in the review of this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division

DELAWARE MOBILE SURF FISHERMEN, INC.
3 October, 1997

MR JOHN BRADY
Environmental Resources Branch
U.S. Army Engineer DIST. Philadelphia
100 Penn Square East
Philadelphia, PA 19107-3390

DEAR MR BRADY;

I must ask for your indulgence and for your patience.

Arlene indicated to me that she saw no problem in replacing the letter section of my Sept. 25, '97 response to the July, 1997 FSEIS with a better copy corrected for spelling, punctuation, and readability.

The typist of the corrected letter mailed an unsigned copy and without the complete addenda in error. There is no change in the 70 signature pages (1894 signature). These are to be retained as part of the DMS response.

Please discard the 6 pages of the original letter response section and the addenda cover letter, which was handwritten, and replace the letter and addenda section of the DMS response with this copy which word for word is exactly the same as the original sent on 25 September, 1997.

Unfortunately I am not the beneficiary of professional and regular clerical assistance.

I ask your forbearance in this matter and thank you for your attention.

Sincerely,

Bob Martin

201 Wilson St.

Georgetown DE 19947 (302) 856-6742

Delaware Mobile Surfishermen, Inc.
Robert V. Martin, Capt. US Navy-RRetired
DMS Project Liaison
201 Wilson Street, Georgetown, DE 19943
September 25, 1997

Mr. John Brady
Environmental Resources Branch
U.S. Army Engineer District, Philadelphia
100 Penn Square East
Philadelphia, PA 19107-3390

RE: Final Supplemental Environmental Impact Statement
Delaware River Comprehensive Navigation Study
Main Channel Deepening Project, July 1997
Attachment: 70 pages of signatures requesting a Public Hearing as well as
well as eliminating stockpiling.
Addenda: Response to Mr. Callegari's memorandum to files.

Dear Mr. Brady:

The Delaware Mobile Surfishermen, Inc. hereby request that the Army Corps Engineers (ACE) hold Public Hearings related to the above named FSEIS.

This letter is written in protest to the ACE proposal to dispose of 3.3 million cubic yards of dredged material from the deepening of the main river channel on the Coral Beds off of Slaughter and Broadkill Beaches, sites MS-19 and L-5.

The January, 1997 SEIS proposed to dump 4.7 million cu.yds. of dredged materials on sites MS-19 and L-5. The July 1997 FSEIS still plans to use these same sites for that purpose. The ACE continues to ignore or to minimize the unique make-up of these fishery areas. The ACE spokesman for Lt. Col. Keyser, District Engineer, and Robert Callegari, Chief of Planning, Mr. John Brady, stated in a TV interview on July 10th, 1997 that he guessed the fishermen would have to find someplace else to fish. He completely missed the point. Please note that the areas we are talking about, all 480 acres (previously 730 acres--same benthic community), are very specialized and unique. These are truly most significant fin and shellfish spawning and nursery areas and are not duplicated in the Delaware Bay. These nursery/spawning areas will have no difficulty qualifying as Essential Fish Habitat (EFH) under the Magnuson-Stevens Act.

Generalizations by the ACE as to the effect of stockpiling are inappropriate and inadequate. There is no way that any benthic community is going to re-colonize from

being smothered under a five foot blanket of dredged spoils. Any comment that this benthic community is an insignificant one and will regenerate in a short time is an uninformed and unscientific one. The area off of Broadkill and Slaughter Beach has been identified as "Coral Beds" for years on USNOAA navigation charts. A scientist representative of the DNREC Division of Fish and Wildlife during an untitled meeting held at the University of Delaware College of Marine Studies on July 10, 1997, stated that the ACE method of sampling in the MS-19 and L-5 sites was improper and faulted. The procedure used, bottom grabs, was entirely inadequate and would not properly identify the benthic community. There is a tape recording of this meeting of 1 hour and 45 minute duration.

If stockpiled, the 1.4 million cu.yds.of dredged material at Slaughter Beach (MS-19), and the 1.9 million cu yds at Broadkill (L-5) will be subject to wave driven transport as declared by the ACE in the July '97 FSEIS. This FSEIS further states that the transport potential is calculated to be "about" 260,000 cubic yards per year at MS-19, and 230,000 cu yds at L-5. The direction of this transport will be northwest. In addition, at single event major storm of 3 days could move an additional 40,000 cu yds of dredged material from each site. Those transports will extend the foot of the material stockpiled year by year and will eventually cover additional spawning and nursery areas in acreages that will in a short time exceed the original stockpiled area. For the ACE to suggest that the impact of spoils stockpiling will be of little consequence is the nadir of hypotheses. The EPA, as well as the U. S. Dept. of Interior, in the July 1997 FSEIS stated that other areas should be considered for the disposal of dredged materials. There was no suggestion that stockpiling is a beneficial resource. The U. S. Dept. of Interior stated in their letter to ACE that "they did not consider sub-tidal sand stockpiles an environmentally beneficial use of dredged material". Should the ACE change its approach by justifying dredged material for stockpiling as not disturbing the average representation of the Delaware Bay, it cannot change the real impact on MS-19 and L-5. This approach will be further evidence of the Corp's use of "means" type qualification as used in minimizing contaminant contents of dredged materials. Stockpiling in itself is not a beneficial use, no matter what the intent. Included in EPA and Dept. of Interior Statements are references that, in addition to the original disturbance to MS-19 and L-5, repeated visitation to these sites for beach replenishment purposes will further disturb any resurgence of a benthic community. The position of the ACE, repeated time and time again, is a reflection of the limited and singularity exclusive opinion of the ACE. The ACE is in a perpetual "Denial" state.

During the July 10th meeting referred to earlier, Mr. John Brady said that material taken from the MS-19 was to be used for recreating Kelly Island. The purpose of which is really not clear and is over simplified. In another SEIS, Port Mahon, a statement is made that Port Mahon will not be affected one way or another whether or not Kelly Island is "Re-created". If Kelly Island is evaporating as rapidly as the ACE says it is, there is not going to be a recreation of any duration no matter how much continued replenishment goes on.

The material to be taken from MS-19 must be considered excessive contrary to Mr. Lulewicz's and Mr. Brady's observations during the July 10th meeting that there were no excesses, otherwise, MS-19 could not afford to lose 1.4 million cu.yds.of material. This implies that not only is all the stockpiled material in excess of that needed, but that these sites are being used as expedients to dispose of, get rid of, dredged material. Of course, spoils have to go someplace.

There is serious question as to whether or not this material meets acceptable contamination standards. The N. J. clean-up requirements for the heavy metal Selenium, for example is 63 parts per million. The range of contamination in material dredged from Reach E destined for use at MS-19 and L-5 is from 23 ppm to 121 ppm. The "mean" contamination is 20.08 ppm. (Please note the previous use of the word "mean" in this response related to the benthic community and the Delaware Bay). 20.08 ppm is a very good average. The ACE uses this "mean" as the basis for saying the material is acceptable. These figures are taken from tables included in the July FSEIS.

I suppose that the residents of Slaughter and Broadkill beach communities will be happy to have 121 ppm of heavy metal dumped on their beaches. Not! The ACE will have to use a rather large cocktail shaker to get the sediment from Reach E mixed to a 20.08 ppm mean. I personally would not want any of that 121 ppm "good stuff" (a reference made about this material by a DNREC Div. Of Soil and Water Representative) dumped in my child's sand box. The "mean" is not an appropriate measure or standard for the use of these materials. There should be a determination of the exact contamination of what is dredged, when it is dredged, when it is stockpiled, and when it is placed on the beach.

Stockpiling of dredged material is a bad idea. We need a Public Hearing, not to hear more "information" from the ACE, but for the ACE to hear from us. People must be heard, not suppressed. I fail to understand why the ACE denies the light of a Public Hearing. The meeting at the U of D July 10th in no way could replace a Public Hearing. The group in attendance was far too small.

The U. S. Coast Guard at Philadelphia states that oil spills of consequence have occurred because of vessels grounding, collisions, and port accidents. Added to that list are faulty valves aboard tankers and improperly maintained equipment aboard these same tankers. Faulty equipment aboard the Mystras was the cause of the Sept. 18, 1997 spill at Big Stone Beach Anchorage.

The deepening of the main river channel obviously is not to accommodate deeper draft vessel, as none are in sight for Philadelphia ports. Operators of crude oil vessels do not intend and have not incorporated any potential shift in their fleet even though the channel may be deepened. These operators have made an economic decision to lighter tonnage at Big Stone Beach Anchorage onto barges until the sailing draft is sufficiently reduced to

allow vessels to travel upriver to the pertinent activity. Even if the channel is deepened to 45 feet they are expected to make the same economic decision and will carry the equivalent amount of tonnage in the same vessels. This information is from the May, 1996 DRMCDP Design memorandum. In other words, lightering will still be a necessary procedure. Again, lightering is not the danger. A tanker carrying more crude oil upriver will present a greater risk for a large spill because of grounding or collision.

The need for a deeper channel attracts greater scrutiny and study as cost benefits are elusive. Cost benefits will tend to benefit the vessel operators and their country of origin and apparently will not reflect any benefit to the American economy. Please refer to Maritrans response in the July '97 FSEIS appendix.

All inter-ocean commerce vessels, Atlantic to Pacific must be built to accommodate the Panama Canal depth of 38 feet. Obviously container vessels to and from the Pacific via the Panama Canal will not be influenced one way or another by a Delaware Deepening Project.

The Army Corps has undertaken a self-imposed assignment to develop a business plan so that the non-federal partner in the deepening project can pay for its share. This appears to be a misuse of tax dollars, although I'm sure the ACE is in compliance with all laws. The ACE has contracted the Greely-Polhemus Group, Inc. Of West Chester, PA to develop a business plan to provide income to the Delaware River Port Authority (DRPA) so that they can meet their \$100,000,000 share of the cost of the deepening project. This business plan is a detailed document putting the DRPA into the dredged spoils site business. It appears that the ACE is, in a way, guaranteeing income by suggesting that contracted dredging companies for the deepening project use the sites to be purchased by the DRPA and for which use these companies pay a "tipping fee". Not only does the ACE research how the DRPA should go into business but they suggest that dredging companies under contract for the deepening project will use these sites. Refer to the Greely-Polhemus working draft titles "DRPA Business Plan for Local Sponsor" prepared for the non-federal partner of the deepening project. There may be questions that this procedure attracts. Does the ACE exceed their responsibility and authority? At the least, this enterprise deserves the light of a Public Hearing or at least an enlightenment.

There is some evidence that other Delaware Estuary projects not mentioned in the FSEIS are to become beneficiaries of dredged material. Specifically, Port Mahon. It suggests that NEPA regulations are not met as not only is the Port Mahon destination for spoils not included in an impact study but alternatives to the restoration of Port Mahon are not included.

The following is an incomplete list of individuals and large organizations which have requested a Public Hearing to discuss various controversial aspects of the FSEIS:

U. S. Senator Wm. V. Roth
State Senator George Bunting
State Representative Shirley Price
Delaware Parks and Recreation Council
Oldmans Creek Watershed Association (several letters), N.J.
Delaware Mobile surfishermen (over 3,000 membership)
River Keepers (Pennsylvania)
Delaware Nature Society
Delaware Audubon Society
Delaware Wildlands, Inc.
New Jersey conservation Foundation
Partnership for the Delaware Estuary
Delaware River and Bay Council, Wilmington, DE
Individual citizen letters and supporting signatures
Plus numerous letters of controversy which did not include specific requests for a public hearing.

The criteria quoted by Mr. Robert Callegari in his "Memorandum to Files" follows:

Action: According to the *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 CFR 1506.6 (c)) there are two criteria to use when deciding whether or not to hold a public hearing:

1. Substantial environmental controversy concerning the proposed action or substantial interest in holding the action.
2. A request for a hearing by another agency with jurisdiction over the action supported by reasons why a hearing will be helpful.

These criteria are more than adequately met.

Senator Fritz Hollings, D-South Carolina, stated to the Senate body on Thursday morning, Sept. 18, 1997, that "the very function of government is to protect". He also referred to the Executive, Legislative and Judicial branches of government and that each had a relationship to the other. It is a government of the separation of powers. He made a reference to the "Arrogance of Power" and that arrogance suppresses. "People cannot be heard". He strongly stated the "Arrogance of Power" is an endangerment to our country.

The ACE has refused a request from two state legislators, Senator Bunting (made during the July 10th meeting, and Representative Price. To my knowledge you have yet to respond to a request from U. S. Senator Roth to hold a Public Hearing.

The DMS is requesting a Public Hearing, not a "meeting", a "public meeting", a

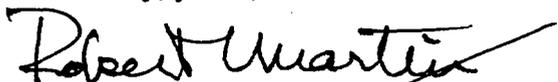
“discussion”, or an “informational meeting” but a bona fide “Public Hearing” with properly advertised announcements.

As part of public input, we repeat our request for a Public Hearing. We’ve read and listened to the ACE’s information programs. Now, as part of the process of democracy, we want to be heard.

Enclosed find 70 pages containing 1,894 signatures requesting a Public Hearing in addition to a request that dredged material stockpiling be eliminated from your plans. The specific request comes from a DMS membership of over 3,000 souls. The NEPA criteria does not prevent a Public Hearing. The above list of addressees and the attached 1,894 signatures more than meet the criteria used to deny a Public Hearing.

We look forward to hearing in a reasonable time your plans for a Public Hearing.

Sincerely, yours,



Robert V. Martin, Capt. US Navy-RRetired
DMS Project Liaison

cc: Governor Thomas Carper
Lt. Gov. Ruth Ann Minner
Senator William V. Roth, Jr.
Senator Joseph R. Biden, Jr.
Representative Michael Castle
State Senator George Bunting
State Representative Shirley Price
Senator Fritz Hollings, D-South Carolina
Robert Stickles, Sussex County Administrator
Ken Dodd, Pres., DMS
Delaware Wildlands
Delaware Audubon Society
Delaware Nature Society
Sierra Club



DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3391

REPLY TO
ATTENTION OF

Environmental Resources Branch

JUL 11 1997

Mr. Robert V. Martin
201 Wilson Street
Georgetown, Delaware 19947

Dear Mr. Martin:

As you requested, I am transmitting to you a Memorandum to Files for a meeting held at the University of Delaware, College of Marine Studies in Lewes, Delaware on July 10, 1997 to discuss the Delaware River Main Channel Deepening Project with fishing interests. If you have any questions, please contact John Brady of my staff at 215-656-6554.

Sincerely,

Robert L. Callegari

Robert L. Callegari
Chief, Planning Division

Encls

* | ADDENDA:
Cover letter

ADDENDA

This Memorandum to Files is not an accurate representation of what took place during the July 10, 1997 gathering at the University of Delaware, College of Marine Studies, Lewes, DE.

According to John Brady, this discussion was not a meeting of record. Therefore, this Memorandum to Files has no significance. It is not attributed to any author, therefore its credibility is in question. Mr. Callegari did not attend this meeting.

Addenda No. 1:

Army Engineer Corps "Memorandum to Files" in re: July 10, 1997 meeting at
U.D. - CMS.

Addenda No. 2:

DMS response to "Memorandum"

ADDENDA

MEMORANDUM TO FILES

SUBJECT : Delaware River Main Channel Deepening Project-Meeting with Fishing Interests

LOCATION. A meeting was held with fishing interests on July 10, 1997 at University of Delaware, College of Marine Studies.

PURPOSE. The purpose of the meeting was to go over the proposed plan of placing sand material offshore at two sand stockpile sites (MS-19 and LC-5), to summarize the field sampling, sediment quality evaluation, and engineering studies, and to address concerns to " Coral Beds" raised by fishing interests.

ATTENDEES.

. Corps of Engineers

John Brady -Environmental Resources
Stan Lulewicz -Project Manager
Jeff Gebert -Oceanographer
Ed Voight -Public Affairs

Approximately 25 people attended the meeting. A partial list is attached as ENCLOSURE 1 and includes those people who wish to receive a copy of the Final Supplemental Environmental Impact Statement.

.Attendees representing the public included:

Robert Book -Staff Assistant to Senator William Roth
Shirley Price -Delaware State Representative
George Bunting -Delaware State Senator
John Hughes -DNREC, Division of Soil and Water
Sarah Cookesy -DNREC, Division of Soil and Water
Jennifer Lukens -DNREC, Division of Soil and Water
Jeff Tinsman -DNREC, Division of Fish and Wildlife

PRESENTATION. A brief overview of the project was given by Mr. Lulewicz. Mr. Brady went over the conducted benthic sampling that was undertaken at the two proposed sites and conclusions reached. A summary of this effort was handed out and is attached as ENCLOSURE 2. Also, the sediment testing efforts were discussed. This effort was summarized via a handout. This handout is attached as ENCLOSURE 3. Lastly, Mr. Gebert went over the sediment transport investigations that were undertaken regarding the sediment pathways at the two sites. A description of this effort and results are attached as ENCLOSURE 4.

1 DISCUSSION. Upon completion of the formal presentation, the meeting was opened for questions. The following issues were discussed:

● Need for a Public Hearing. Most of the people at this meeting wanted to have another meeting that would have general notification so that all of the interested public could attend. There were specific requests from Mr. Book, Representative Price, and Senator Bunting.

2.

3. Action: According to the *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 CFR 1506.6 (c)) there are two criteria to use when deciding whether or not to hold a public hearing:

1. Substantial environmental controversy concerning the proposed action or substantial interest in holding the action.

2. A request for a hearing by another agency with jurisdiction over the action supported by reasons why a hearing will be helpful. //

4. During this current phase of study, the Corps met with conservation organizations in New Jersey, Pennsylvania, and Delaware, including a public meeting at the Camden Aquarium on November 4, 1993, where both economic and environmental interests expressed their concerns so that the Corps could consider them during this phase of study. The Corps expects to continue to meet with other groups and individuals to discuss specific issues in workshops.

5. Based on a decade-long study record, the Corps of Engineers does not consider that this project is controversial. Over 325 copies of the SEIS were distributed, including copies to 36 libraries in the area. In addition, over 2000 public notices were mailed, to make people aware of the availability of the SEIS. Only 1 state representative, 7 organizations, and 3 individuals requested a public hearing. No agency with jurisdiction over the project requested a public hearing. Delaware

requested an informational public meeting. As a result, the Corps has met with a number of fishing groups to discuss their concerns, and will continue to coordinate with this group to insure that no significant construction impact will occur to Delaware's aquatic resources.

6. The purpose of the current Supplemental Environmental Impact Statement is to re-affirm the conclusions that were drawn from the Final EIS in 1992 with additional testing, analysis etc. and to respond to resources agency and public interest comments. The Corps believes that the topics that were left over from the 1992 EIS have been answered both in study newsletters and in this document, and that a public hearing would not provide additional substantial information.
- In general the group did not want sand placed at the sand stockpile areas. They are concerned about the quality of the benthic communities and the possibility that the sand may migrate to other areas.

7.

Action: The Corps continues to believe that the sand stockpiles will not significantly impact the overall benthic resources of Delaware Bay, based on the sampling that was done. However, the District will further address these concerns during the preparation of the Plans and Specifications. This additional work effort is scheduled to be initiated in early 1999.

- Although the sampling that was done by the Corps found very few areas of sand coral (Sabellaria vulgaris) in MS-19 and none in LC-5, Mr. Tinsman said that this species is difficult to find with the technique used, i.e., grab sampling. He stated that this species occurs in "patchy" distribution and would be more likely found using a dragging technique such as a clam dredge.

8.

9.

Action: As part of the Channel Deepening Project, the Corps of Engineers proposes to place approximately 1.9 million cubic yards of clean sand approximately 0.33 miles offshore of Broadkill Beach (Site LC-5), and approximately 1.4 million cubic yards approximately 0.5 miles offshore of Slaughter Beach (Site MS-19). It was pointed out that due to the re-design of Kelly Island wetland restoration site, the quantity of sand that will be placed on sand stockpile site MS-19 has been reduced from 2.8 million cubic yards to 1.4 million cubic yards. This will reduce the area of MS-19 from 500 acres to 250 acres. The total quantity of sand for both sand stockpiles (MS-19 and L-5) will be reduced from 4.7 million cubic yards to 3.3 million cubic yards, and the total area for both sand stockpiles has been reduced from 730 acres to 480 acres.

10. The purpose of these sand stockpiles is to provide a source of clean sand for future beach nourishment. The sites were chosen by examining their biological characteristics, as well as economic and engineering constraints. Each of these sites was sampled twice, in different years, to characterize their benthic communities. Although impacts will occur to the local populations of benthic resources, as described in Section 8.3 of the SEIS, no significant differences were found between any candidate site and background conditions in Delaware Bay that would preclude its selection as a beneficial use site. Therefore, no significant impact will occur to either the diversity or overall populations of benthic resources in Delaware Bay due to the use of any of the candidate sites as either wetland restorations or sand stockpiles.
11. The sand builder worms, Sabellaria vulgaris, often referred to as "coral", are relatives of the bloodworms often used for bait; they are not reef-forming corals. Reef-forming corals all live in warm, shallow, tropical marine environments. Sabellaria are members of the Class Polychaeta in the animal Phylum Annelida, while reef corals are members of the different Phylum, Cnidaria.
12. The star coral, Astrangia danae occurs in Delaware Bay, and is found from Cape Cod to Florida. It is our only shallow water, northern coral and is found on pilings, rocks, and shells. It is subtidal, occurring from shallow depths to 36 meters. Limited tolerance for brackish water and turbidity, plus lack of suitable attachments inshore, may account for its scarcity along most of the coast. The star coral occurs in colonies that consist of low cuplike corallites, 5-6 mm in diameter, united by a thin crust, or sometimes forming low branching groups several inches across (Gosner, K. 1978. A Field Guide to the Atlantic Seashore, Houghton Mifflin Co.). No star coral was found at either Site MS-19 or LC-5.
13. Sabellaria are found from Cape Cod to Georgia, and are easily mistaken for corals. They live in tubes constructed out of sand grains; these tubes often occur together in large enough numbers to form reefs. Sabellaria also have a crown of threadlike structures which protrude from the open end of the tube similar in appearance to the tentacles of reef corals (Burton, W. 1997. Versar, Inc. Personal Communication). They grow to a length of one to two inches, usually on hard substratum. They occur from lower intertidal to subtidal at shallow depths, including estuaries in salinities above 15 ppt (Gosner.1978). They form productive aquatic habitats which provide food for fish, which are attracted to the Sabellaria colonies (Tinsman, J. 1997. DNREC. Personal Communication).
14. Effects on Sabellaria populations by the proposed sand stockpiling of dredged material, will likely be very localized. Sabellaria are common in many areas of the east coast of the United States and produce large numbers of planktonic larvae which will soon

recolonize any affected areas with suitable habitat.

15. It is also unlikely that any significant populations of Sabellaria occur within the MS-19 sand stockpile area. Of the 80 locations sampled, Sabellaria was collected at one site at rather low concentrations. In addition, the substrates encountered at MS-19 were sands rather than the hard substrates necessary for Sabellaria to establish themselves. The populations in Delaware Bay would be expected to be located in water containing rocks, boulders, shell, or stones in a sand substrate. It is less likely that the sand worms would occur on site LC-5, which has more silt and clay content in its substrate, and none were found during benthic sampling.

16. Even though few (Site MS-19) or no (Site LC-5) Sabellaria were found at the sand stockpile sites, they may still occur in these locations, since their distribution is "patchy". Local fisherpersons report that sand worms occur either in or near the sand stockpile areas. The Corps of Engineers shares the concerns of the fishing public that no adverse impacts occur to important aquatic resources and will further address this concern in the next study phase, Plans and Specifications. This additional work is scheduled to be initiated in early 1999. As part of these efforts a meeting will be held to set a course of action and determine if a hearing is appropriate.

- Keep sand as far as possible from the Mispillion Jetties.

17. Action: The sand would be placed at least 2 miles from the south jetty and should not cause significant additional amounts of sediment to be deposited there.

- It was suggested that as much sand as is needed for beach nourishment at Slaughter and Broadkill beaches be placed on these beaches and the rest be put at Buoy 10.

18. Action: The resource agencies have requested that all the dredged material in the Bay be used for beneficial uses and not placed at Buoy 10.

- What would be the cost to the fishing industry if the sand was placed at the stockpiles?

19. Action: The resource agencies have requested that all the dredged material in the Bay be used for beneficial uses and not placed at Buoy 10.

20. Action: As stated in the FSEIS, placing sand at the stockpile areas is not expected to have an overall significant impact on the benthic resources of Delaware Bay, as supported by the sampling data.

21.

22

Some of the charter fishing boats draw more than 3 feet and will run aground at the sand stockpiles.

Action: Most large boats have depth sounding equipment to identify shallow areas.

ADDENDA 2

DMS RESPONSE TO

R.L. Callegari MEMORANDUM
TO Files re: meeting on July
10, 1997 AT U.D.-CMS, LEWES, DE
12, 1997

ADDENDA:

- 1 A 1 ½ hour tape of this meeting is available
- 2 Without exception all in attendance not representing ACE, DNREC or the news media requested a public hearing. Mr. Brady responded to a question raised by State Senator Bunting that a request from a U. S. Senator should be sufficient, but that was not his decision to make.
- 3 No comment was made during this meeting related to this paragraph. This paragraph not presented.
- 4 No comment was made during this meeting related to this paragraph. This paragraph not presented.
- 5 No comment as this paragraph was not presented.
- 6 This paragraph was not presented.
- 7 This was not a general statement. A review of the tape of this meeting indicates that a considerable amount of time was spent on the wave transport of this material. This "Action" statement is a reflection of the Corp's "denial" state and does not address the questions raised during this discussion.
- 8 There was very little discussion of the sabellaria vulgaris during this meeting. There was a live display of bottom life of the habitat at location MS-19 and L-5. The comment was that if a charter boat captain could find these aquatic life, so could the ACE.
- 9 The re-direction of 1.4 million cu yds of dredged material from the planned stockpiling at MS-19 to Kelly Island is evidence that MS-19 originally had an excess of material stockpiled for future use. This fact also suggests that MS-19 is being used principally as a disposal site.
A long discussion followed regards costs and the use of the Buoy 10 disposal site, and the multiple handling of dredged material. Comment was made as well as supportive calculations that 3.3 million cu yds of dredged material would cover beach and roof tops of dwellings on both communities.
- 10 Not discussed. However Mr. Callegari's comment that stockpiling will have no impact on the benthic community is not in any way supportable. All evidence in the FSEIS which includes statements from the EPA and the Dept. of the Int. contradict Mr. Callegari's comment emphatically.
- 11 There are studies conducted by a previous professor at the U of D College of Marine Studies concerned with the reefs of the Delaware. Dr. Larry Curtis, previously conducted a study of the distribution Sabellaria Larvae. The large numbers of these larvae implied that the source was not only a prolific one but these larvae were produced by large colonies

ADDENDA: NO 2
DMS RESPONSE TO
MEMO TO FILES 1.

DM

of the Sabellaria structures.

- 12 No comment
- 13 Not discussed, but agree
- 14 Not discussed
- 15 Not discussed. This is conjecture
- 16 Not discussed. The relevance to this meeting is obscure.
- 17 No comment
- 18 Agree. If material not contaminated. See DMS letter related to contaminants.
- 19 What agencies? EPA suggested a beneficial use of materials but did not direct that the buoy 10 site not be used. DNREC asked for clean sand with no comment about not using buoy 10 site. This comment "action" not qualified.
- 20 This question was not asked. It was stated that the fishing industry contributed millions of dollars to the Delaware economy and also provided the livelihood of many small businesses.
- 21 Fail to see the relevance of this "action". This is another example of the ACE using a "mean" to answer the specific. Not an acceptable comment.
- 22 Frankly, this is a meaningless response to a non-question.

The enclosures to Mr. Callegari's "Memorandum to Files" were not part of the discussion. It appears that these enclosures are an inadequate attempt to justify the ACE "denial" position.

As this was not a meeting of record according to Mr. Brady, Mr. Callegari's "Memorandum to Files" has no significance.

R. Martin

30 MARCH 1998

BRADY

PASQUALE

LULEWICZ

BURNES

CALLEGARI

Environmental Resources Branch

MAR 30 1998

Ms. Belva-Ann Prycl
President, Board of Directors
EAGLE
Post Office Box 347
Greenwich, New Jersey 08323

Dear Ms. Prycl:

Thank you for your letter dated March 9, 1998, concerning comments on the Delaware River Main Channel Deepening Project. I am enclosing a copy of the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997 (Enclosure 1), which should provide answers to many of your concerns.

Impacts of dredged material disposal on horseshoe crabs is discussed in Sections 3.3.2.7 and 9.1.5. Dredging has been conducted in the Delaware Bay for many years. During this period of time, horseshoe crab populations have gone through increases and decreases. These population changes have not been correlated to dredging. This project has a number of features that will benefit the spawning habitat of the horseshoe crab by providing additional spawning habitat through the beneficial use of dredged material as described in Sections 3.3.3.2 and 9.1.5 of the FSEIS.

Concerning the risk of oil spills, the deepened channel will reduce the magnitude of lightering operations that normally occur on a regular basis in the Delaware Bay and the related environmental risks that accompany this operation. With the reduction of lightering, there will be less barges moving on the river, while the number of oil tankers will remain the same, with the larger tankers in the fleet carrying more oil directly to the refinery docks due to the deeper channel. The reduction in overall barge traffic will reduce the risk of collisions. In addition, as part of the proposed deepening project, the channel bends will be widened and rock at Marcus Hook will be removed. These actions will result in a safer navigation channel. Finally, according to the U.S. Environmental Protection Agency, the oil spill responses network established by the U.S. Coast Guard, Marine Safety Office, Philadelphia is considered to be as adequately prepared to handle oil spills as any in the Nation. This is explained in Section 12.2 of the FSEIS.

In regard to your concerns about the new dredged material disposal areas, a management system will be developed that will provide wetland habitat on portions of all of the four new disposal areas, and is described in detail in Section 3.2.3 of the SEIS. An additional 372 acres of adjacent undeveloped area that includes some high quality fresh water tidal marsh (including portions of the nationally and state significant areas) will be purchased and maintained in its natural state. Section 6.5 describes how the areas will look and possible management practices after they are no longer used for dredged material disposal.

Impacts to bald eagles are described in Sections 10.1.1.1, 10.4.1.1, and 10.5.1.1 of the FSEIS. A Biological Opinion has been received from the U.S. Fish and Wildlife Service which concluded that the project will not have significant adverse impacts on the bald eagle.

As part of final project design, numerous meetings were held with Federal and State resource agencies and interested groups. Their input and review of completed work efforts were used in the refinement of the various features of the recommended project. A Draft Supplemental Environmental Impact Statement was prepared in January 1997. This document was made available to all resource agencies, interested groups and individuals for comment. Responses to all comments were incorporated in the July 1997 Final Supplemental Environmental Impact Statement. Public notices announcing the availability of both the draft and final report were mailed to over 2,000 entities throughout the estuary, and the report was made available at many public libraries. As a result, the Corps believes that adequate coordination was undertaken to involve the public in the review of this project.

As for all Corps projects, the 45-foot channel deepening project has been subject to a rigorous technical review of the economic analysis. The Corps cost-benefit analysis was reviewed and approved by the Secretary of the Army and the Office of Management and Budget prior to authorization by Congress. The project is not expected to adversely impact ecotourism in southern New Jersey, since no significant adverse impacts are expected to occur. To insure that there will not be significant impacts the Corps of Engineers has incorporated a number of environmental features into this project. Many of these are described in the FSEIS, and include managing portions of the new upland dredged material disposal areas as wetlands during the

life of the project (Section 3.2), monitoring groundwater and surface water adjacent to new and existing upland disposal areas, employing environmental windows to avoid impacts to environmental resources during dredging operations (Table 1-1), using dredged material for wetland restorations (Section 3.3.3.2), beach nourishment at Delaware Bay beaches, and monitoring of oyster resources before, during, and after construction.

The Corps of Engineers has used a number of "state of the art" techniques to evaluate potential environmental impacts of this project. These include the hydrodynamic/salinity modeling that is described in Section 5 of the FSEIS, and sediment transport/oyster impact modeling that is described in Section 9.3. The project has been reviewed by the United States Environmental Protection Agency who stated in their letter of September 12, 1997 (Enclosure 2) "...we have concluded that the proposed project would not result in significant adverse environmental impacts...". Furthermore, the Commonwealth of Pennsylvania and the states of Delaware and New Jersey have reviewed the project as part of their coastal zone management consistency review. Each concluded that this project was consistent with the Coastal Zone Management Act.

Concerning your request for a public hearing, we intend to do this in the spring of this year. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss specific areas of concern in a less formal setting. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

Sincerely,

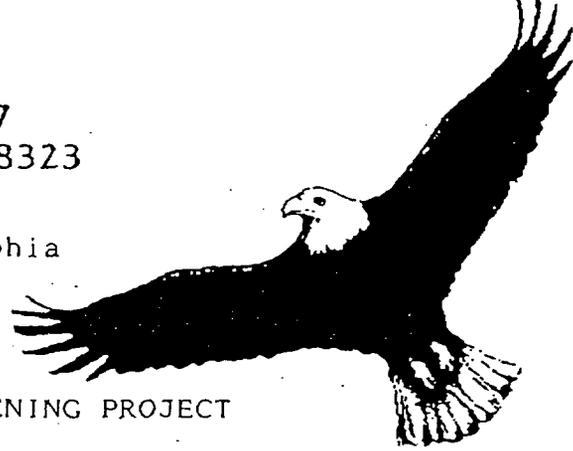
Robert L. Callegari
Chief, Planning Division

Enclosures

MFR: This letter responds to comments on the Main Channel Deepening Project. It was coordinated with CENAP-PL-PS (Lulewicz).

EAGLE
P.O. Box 347
Greenwich, Nj 08323

U.S. Army Engineer District, Philadelphia
100 Penn Square East
Philadelphia, Pa. 19107-3390
March 9, 1998



RE: DELAWARE RIVER MAIN CHANNEL DEEPENING PROJECT

Dear Sirs:

Estuary Action Group for a Lasting Environment (EAGLE) is a non-profit citizen's organization founded in 1996 for the purpose of education and preservation of the bayshores, species and tidal habitats of southern New Jersey. Our organization is comprised of over 300 members and sponsors, people who value the natural attributes that make this area such a unique and irreplaceable resource. Because the channel deepening project is a massive undertaking with far-reaching effects to the entire bay ecosystem, and because those potential effects are on both animal and human populations, we are writing to request a formal public hearing on this project.

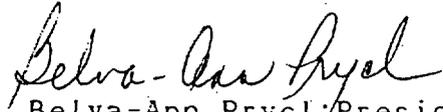
We believe this is needed for the following reasons:

- (1)-Negative impacts of longterm dredging on the declining population of Delaware Bay horseshoe crabs;
- (2)-Safety concerns involving the handling of oil spills and effects of an accident event on horseshoe crab spawning activity and the hemispheric shorebird migration;
- (3)-Number of new spoil sites, and the practicability and effects of traditional reclamation practices, as well as attendant impacts to wildlife;
- (4)-Disturbance of nesting eagle sites and disturbance of potential optimum habitat sites for bald eagles;
- (5)-Lack of sufficient opportunity for public comment among affected communities and groups within the estuary.
- (6)-Questionable regional economic benefits and impacts to ecotourism, an growing industry intimately linked to maintaining a healthy environment and a focus of much of the tourism enterprise in southern New Jersey.

We note that there has been no project proposed in recent years within the estuary which has the potential to so radically alter the region. Concerns are justified: the history of containing oil spills has not been a particularly promising one; predictions and models about dredging impacts have often resulted in outcomes that required radical hydrologic changes or outright reversals of previous policy in order to mitigate; and the cumulative impacts of many small changes within the estuary can

have longterm results for the resource as a whole, as has been observed in the unforeseen demise of Chesapeake Bay seagrass beds due to nutrient-loading and turbidity. The potential natural and human impacts of this project, we believe, demand a public hearing process in order that all concerns may be raised and evaluated in an open forum.

We thank you for the opportunity to comment in this process which has important consequences for all the citizens of the region.



Belva-Ann Pryci, President
Board of Directors, EAGLE

Individuals

<u>Ref. No.</u>	<u>Source</u>	<u>Date</u>	<u>Comment Topics</u>
26.	Bossert	8-20-97	Erosion at Broadkill Beach, DE Bay Disposal
27.	Conte	8-25-97 9-29-97	Broadkill Beach, DE Bay Disposal
28.	Dressler	9-30-97	Public Hearing, Economics, Public Invol.
29.	French	9-29-97	Economics, Oil Spills
30.	Malkiewicz	9-30-97	CDFs, DE Bay Disposal, Impacts to Fin Fish and Shellfish, Sediment Quality, Oil Spills, Public Hearing
31.	Nygood	8-8-97	Impacts of Dredging, DE Bay Disposal, Economics, Impacts on fishery
32.	O'Herron	8-30-97	Shortnose Sturgeon
33.	Plantan	9-30-97	Aquatic Resources, DE Bay Disposal, Water Quality, Salinity, Public Hearing
34.	Thompson	8-15-97	Pea Patch Island

25 FEBRUARY 1998

BRADY
PASQUALE

LULEWICZ

KAMPER

BRALDO

BURNES

CALLEGARI

Environmental Resources Branch

MAR 05 1998

Ms. Joan Bossert
8 N. Carolina Avenue
Broadkill Beach, Delaware 19968

Dear Ms. Bossert:

Thank you for your letter dated August 20, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997.

The structure located at North Carolina Avenue in Broadkill Beach is a shore perpendicular groin and was constructed in 1954 to alleviate a progressive erosion problem in the area. It is a timber crib-stone filled type groin. During the recent Corps Broadkill Beach feasibility study, this groin was inspected and found to be in extremely poor condition. The groin was buried beyond the high water line, the wood rotted, the steel rusted and corroded, and there was almost no stone left in the cribbing structure. The groin in this condition is not effectively functioning to trap any significant amount of littoral transport (sand).

North Carolina Avenue is within the region of Broadkill Beach that historically experienced the largest shoreline recession rates of 8 to 10 feet per year taking into account the numerous beachfills that have been placed in this area. Since 1957 this area has required and received the largest amount of fill within Broadkill Beach in order to maintain the shoreline. Approximately 160,000 cubic yards of sand per linear foot of shoreline has been placed between Main and Florida Streets during the past 40 years.

The *Final Feasibility Report and Environmental Impact Statement* for Broadkill Beach was completed in September 1996. The proposed plan was found to be technically sound, economically justified, and socially and environmentally acceptable. However, the current Administration's budgetary policy precludes further Federal participation in the design and construction of hurricane and storm damage reduction projects. This means that the feasibility phase of study was completed, but Federal funds will not be budgeted for future construction of this project.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments

on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

The proposed project will not increase the risk of oil spills in the Delaware Bay. The deepened channel will reduce the magnitude of lightering operations that normally occur on a regular basis in the Delaware Bay and the related environmental risks that accompany this operation. With the reduction of lightering, there will be less barges moving on the river, while the number of oil tankers will remain the same, with the larger tankers in the fleet carrying more oil directly to the refinery docks due to the deeper channel. The reduction in overall barge traffic will reduce the risk of collisions. In addition, as part of the proposed deepening project, the channel bends will be widened and rock at Marcus Hook will be removed. These actions will result in a safer navigation channel. Finally, according to the U.S. Environmental Protection Agency, the oil spill responses network established by the U.S. Coast Guard, Marine Safety Office, Philadelphia is considered to be as adequately prepared to handle oil spills as any in the Nation. This is explained in Section 12.2 of the FSEIS.

Thank you for your comments and interest in this project. If you have any questions, please contact John Brady of my staff at 215-656-6555.

Sincerely,

Robert L. Callegari
Chief, Planning Division

Dear Mr. Brady -

I live a 8 N. Carolina Ave., Broadkill Beach, Milton, DE. 19968 in the summer,

Our jetty at our street was put in Backwards many, many years ago. It was never changed, and as a consequence our beach is gone. All our sand is in front of North Shores in Broadkill.

We have been promised beach replenishment for years, but they never, ever completed the job. Now the sand from the dredging of the bay, some of which was to be headed our way has been shelved, because it will cost about \$1⁰⁰ a cubic yard more to put it on the beaches.

Well, isn't that just about the straw that broke the camel's back.

All I can say is if it doesn't
mean much anymore. We were willing
to risk the obvious (oil spills) for the
sake of beach replenishment. Now
we're supposed to believe dumping 4 feet
of sand on the coral beds in the bay
won't change the environment. That's
the biggest joke yet.

Would you like to be lied to over
and over? Well neither do I. Just sign
me disgusted with Politics and politicians.

Sincerely
Jean Bossert

25 FEBRUARY 1998

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KAMPER

MARALDO

BURNES

CALLEGARI

Environmental Resources Branch

MAR 05 1998

Mr. Robert A. Conte
406 Maple Avenue
Wilmington, Delaware 19809

Dear Mr. Conte:

Thank you for your letters dated August 25, and September 29, 1997 concerning comments on the Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement, (FSEIS), dated July, 1997.

The Final Feasibility Report and Environmental Impact Statement for Broadkill Beach was completed in September 1996. The proposed plan was found to be technically sound, economically justified, and socially and environmentally acceptable. However, the current Administration's budgetary policy precludes further Federal participation in the design and construction of hurricane and storm damage reduction projects. This means that the feasibility phase of study was completed, but Federal funds will not be budgeted for future construction of this project.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

-2-

Thank you for your comments and interest in this project. If you have any questions, please contact John Brady of my staff at 215-656-6555.

Sincerely,

Robert L. Callegari
Chief, Planning Division

406 Maple Ave.
Wilmington, DE 19809

August 25, 1997

District Engineer
U.S. Army Engineer District, Philadelphia
100 Penn Square East
Philadelphia, PA 19107-3390

re: Delaware River Main Channel Deepening Project
Final Supplemental Environmental Impact Statement, July, 1997

re: Broadkill Beach, DE, Interim Feasibility Study, Final Feasibility Report and
Environmental Impact Statement, September, 1996

Engineers,

In the referenced Channel Deepening Project, two beneficial use sand stockpile sites, MS-19 and L-5, lie wonderfully close inshore to Slaughter Beach, DE and to Broadkill Beach, DE respectively.

The referenced Broadkill Beach, DE Study calls out a large scale sand nourishment project to stabilize and protect Broadkill Beach.

Because the two Corps' studies seem to complement each other in design and relative time frame, marry them to take the dredged channel sand directly onto the beaches as nourishment.

Such an effort could be more cost efficient than the two done separately, and may also spare the burial of Bay floor biotopes, e.g. the area commonly known as the coral beds.

Thank you for your consideration.

Sincerely,



Robert A. Conte

406 Maple Ave.
Wilmington, DE 19809

September 29, 1997

Mr. John Brady
U. S. Army Corps of Engineers
U. S. Army Engineer District - Philadelphia
100 Penn Square East
Philadelphia, PA 19107-3390

Dear Mr. Brady,

I support the Corps' project to deepen the Delaware River and Bay channel to 45 feet. Allowing deeper draft ships to go to the upriver ports without pumping a portion of their cargo into barges will reduce the threat of an oil spill in the Delaware Bay.

I have read the Corps' "Delaware River Main Channel Deepening Project Supplemental Environmental Impact Statement" dated July, 1997, and found it to be comprehensive in its scope and I agree with its conclusions.

Sincerely,

Robert A. Conte

Robert A. Conte

25 FEBRUARY 1998

BRADY

PASQUALE

LULEWICZ

MARALDO

BURNES

CALLEGARI

Environmental Resources Branch

Mr. Erik R. Dressler
108 N. Main Street
St. Georges, Delaware 19733-0348

MAR 05 1998

Dear Mr. Dressler:

Thank you for your letter dated September 30, 1997 concerning comments on the Delaware River Main Channel Deepening Project.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

The 45 foot channel deepening project has been subject to a rigorous independent technical, economic and environmental review process. The Corps economic analysis was reviewed and approved by the Secretary of the Army and the Office of Management and Budget prior to authorization by Congress. Once constructed, the 45 foot channel will benefit the local community through transportation cost savings. Deeper draft vessels, which can hold more cargo, will now be able to navigate the 45 foot channel. The increased efficiency of transporting commodities (by allowing more fully laden ships to transit the waterway and by reducing lightering operations in the Delaware Bay) will result in annual cost savings of about \$40 million.

In addition, the project sponsor, the Delaware River Port Authority, has expressed continued interest in the project and ~~is~~ preparing a financial plan for non-Federal share of project costs.

The working group for the C&D Canal project is composed of 17 members, including 5 public citizens, as well as others from Federal and state agencies and other private organizations. The group decided when they would like to meet; the time was mutually established, and not decided solely by the Corps of Engineers.

Thank you for your comments and interest in this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division

Erik R. Dressler
108 N. Main Street
St. Georges, DE., 19733-0348

30 September, 1997

John Brady
District Engineering Headquarters
U.S. Army Corps of Engineers
Philadelphia District
The Wanamaker Building
100 Penn Square East
Philadelphia, PA., 19107-3390

Dear Mr. Brady,

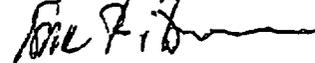
I would like to express my disappointment at what seems to be the standard manner in which the Corps integrates the public into its' projects. Regarding the Delaware River dredging project, it seems that once again avoidance of direct public involvement is the rule.

It is my impression that the Army Corps of Engineers is facing a one billion dollar shortfall this fiscal year. Why is the Corps pursuing both the Delaware River and C. & D. Canal dredging projects when such a large amount of red ink is on the page? I believe these two projects represent an amount equivalent to roughly one quarter of that shortfall. I also believe that the purposefulness of both projects is questionable.

As for workshops, when asked to participate in the working group for the C. & D. Canal dredging project, I discovered that because most members of the group were on company time to be there, the meetings were being held at 9:00 am on Tuesdays. Why not simply say "we intend to exclude the public".

At this point in time it is my belief that the Corps should line up behind the IRS for a major review and overhaul.

Respectfully,



Erik R. Dressler

25 FEBRUARY 1998

BRADY

PASQUALE

LULEWICZ

HAMPER

MARALDO

BURNES

CALLEGARI

Environmental Resources Branch

MAR 05 1998

Mr. Robert P. French
7 Lizar Drive
Lewes, Delaware 19958-1252

Dear Mr. French:

This is in response to your letter dated 29 September, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997.

The deepening of the Delaware Bay and River shipping channel was economically justified solely on benefits that would be derived from reduced transportation costs from the more efficient movement of commodities. The reduction of oil spills was not used in the economic justification of the project.

The deepened channel will reduce the magnitude of lightering operations that normally occur on a regular basis in the Delaware Bay and the related environmental risks that accompany this operation. With the reduction of lightering, there will be less barges moving on the river, while the number of oil tankers will remain the same, with the larger tankers in the fleet carrying more oil directly to the refinery docks due to the deeper channel. The reduction in overall barge traffic will reduce the risk of collisions. In addition, as part of the proposed deepening project, the channel bends will be widened and rock at Marcus Hook will be removed. These actions will result in a safer navigation channel. Finally, according to the U.S. Environmental Protection Agency, the oil spill responses network established by the U.S. Coast Guard, Marine Safety Office, Philadelphia is considered to be as adequately prepared to handle oil spills as any in the Nation. This is explained in Section 12.2 of the FSEIS.

As for all Corps projects, the 45-foot channel deepening project has been subject to a rigorous technical review of the economic analysis. The Corps cost-benefit analysis was reviewed and approved by the Secretary of the Army and the Office of Management and Budget prior to authorization by Congress.

Thank you for your comments and interest in this project. If you have any questions, please contact John Brady of my staff at 215-656-6555.

Sincerely,

Robert L. Callegari
Chief, Planning Division

September 29, 1997

7 Liszar Drive
Lewes, DE 19958-1252

302-644-2067

John Brady
Army Corps of Engineers
U.S. Army Engineer District-Philadelphia
100 Penn Square east
Philadelphia, PA 19107-3390

Dear Mr. Brady,

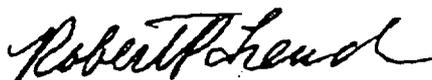
I oppose the Army Corps of Engineers proposal to deepen the shipping channel in the Delaware Bay and Delaware River. Your justification for this major project is that there will be fewer oil spills because tankers will not have to transfer as much of their oil onto barges. In a September 19 article in the Wilmington News Journal your spokesman, Richard Chlan, was quoted "Fewer barges will be needed to take the oil from the ship, so you'll have fewer vessels on the water and fewer transfer operations. Therefore, it would reduce the amount of oil spills in the area". Further in this article Chlan expanded the concept by stating barge transfers would be reduced from three to two for a 150,000 ton tanker.

Using spill data in this same article, it appears that over the last 22 years some 50000 gallons of oil were spilled during lightering operations. This is less than 3% of the 1.8 to 2.0 million gallons of total oil released. Therefore a 1/3 reduction in lightering would possibly reduce spills by 1%.

The major source of oil spills is due to tanker incidents ... 1.7 to 1.9 million gallons or 95% of the total spillage. Using your 150000 ton tanker example, the tanker volume would increase by 27% and therefore it would appear that heavier loaded tankers would increase total spills by over 25%!

In summary the reduced risk of oil spills due to less lightering would be greatly offset by an increased risk of heavier loaded tankers. This combined with the possibility, even though unprovable, of environmental damage clearly dictate that this project should be abandoned.

Sincerely,



Robert P. French

25 FEBRUARY 1998

BRADY

PASQUALE

LULEWICZ

DAMPER

MARALDO

BURNES

CALLEGARI

Environmental Resources Branch

MAR 05 1998

Mr. Michael J. Malkiewicz
Lockerman and State Streets
P.O. Box 1298
Dover, Delaware 19903

Dear Mr. Malkiewicz:

This is in response to your letter dated 30 September, 1997 concerning comments on the Delaware River Main Channel Deepening Project.

In 1992, Congress authorized construction of the Delaware River Main Channel 45-foot Deepening Project based on Corps study findings. The findings addressed comments from the resource agencies and interested parties on the Final Environmental Impact Statement (FEIS). During the current post-authorization work, the Preconstruction Engineering and Design, the design features of the authorized project were refined. This refinement was based on additional engineering detail required by this phase and completion of environmental studies as dictated by the Record of Decision for the Final Environmental Impact Statement that was completed in 1992.

The concerns that are raised in your letter have been addressed in the Final Supplemental Environmental Impact Statement (FSEIS) that was distributed in July, 1997, a copy of which is enclosed for your information. That document reaffirmed the conclusions from the 1992 Final Environmental Impact Statement.

Specifically, impacts of the disposal of dredged material for upland disposal areas has been addressed in Section 6.0 of the FSEIS, and the impacts of the beneficial use sites (ie. wetland restorations and sand stockpiles) in Section 9.0. The impacts to fin fish are discussed in Section 9.2.4, and the impact to shell fish are discussed in Sections 8.0, 9.1.5, 9.2.3, and 9.3.

The Final SEIS also documents that (Section 4.0), based on field sampling and subsequent data analysis, no significant impacts to the aquatic ecosystem are expected from dredging and the disposal of dredged material. None of the sediment samples taken revealed significant levels of contaminants. The fine-grained material from the industrial northern portion of the project area will be placed in upland, confined dredged material

disposal facilities, away from the river. The sediment toxicity data from this project was reviewed by the Corps of Engineers' Waterway Experiment Station, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the New Jersey Department of Environmental Protection, the Delaware Department of Natural Resources and Environmental Control, and the Pennsylvania Department of Environmental Protection. The U.S. Environmental Protection Agency in a letter dated 17 March 1997 stated that "...EPA continues to believe that there will be no adverse impacts associated with the disposal of sediments generated by the project". In addition, in their letter of 12 September 1997, the U.S. Environmental Protection Agency stated that "... we have concluded that the proposed project would not result in significant adverse environmental impacts; EPA has no objection to the implementation of the proposed project." Neither the U.S. Department of the Interior (parent agency of the U.S. Fish and Wildlife Service) in their letter of September 11, 1997, nor the U.S. Department of Commerce (parent agency of the National Marine Fisheries Service) in their letter of September 29, 1997, have expressed any concern about contaminants in the dredged material. Furthermore, the Commonwealth of Pennsylvania and the states of Delaware and New Jersey have reviewed the sediment data as part of their coastal zone management consistency review. Each concluded that this project was consistent with the Coastal Zone Management Act.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

As stated in Section 12.0, we do not believe that this project will increase the potential for oil spills. In addition to the reduction in lightering that would result from this project, bends will be widened and dangerous rock near Marcus

Hook will be removed. These actions should result in a safer navigation channel which should result in less oil entering the water. According to the Environmental Protection Agency, the oil spill response network established by the U.S. Coast Guard, Marine Safety Office, Philadelphia is long established and is considered to be as adequately prepared for oil spill response as any in the Nation.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

Thank you for your comments and interest in this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division

Enclosure

BARROS, McNAMARA, SCANLON, MALKIEWICZ & TAYLOR, P.A.
LOCKERMAN AND STATE STREETS
P.O. BOX 1298
DOVER, DELAWARE 19903

TELEPHONE
(302) 734-8100
TELEFAX
(302) 734-4349

A. RICHARD BARROS
EDWARD R. McNAMARA
PATRICK SCANLON
MICHAEL J. MALKIEWICZ
ROBERT J. TAYLOR
J. JAY LAZZERI
BRADLEY S. EABY
ELIZABETH Y. OLSEN

September 30, 1997

VIA FACSIMILE (215)-656-6820

Mr. John Brady
Army Corps of Engineers
U.S. Army Engineer District-Philadelphia
100 Penn Square East
Philadelphia, PA 19107-3390

RE: Army Corps of Engineers' Plan to Deepen the Delaware River Channel
Public Comment and Request

Dear Mr. Brady:

I am a recreational fisherman in the State of Delaware. My family and I fish in the Delaware Bay and believe that we would be negatively impacted by the Army Corps of Engineers' plan to deepen the Delaware River shipping channel, and dispose of the dredge material at various locations in and around the Delaware Bay.

I ask that this letter be made part of the record in the above proceeding.

My first request is that there be a public hearing on the Army Corps of Engineers' plan. My second request is that more than one public hearing be held, and that the hearings be held in all of the relevant counties in both the State of Delaware and New Jersey. I also ask that the hearings be held at a time where members of the public will not have to take off of work to attend the hearings.

I also ask that the Army Corps of Engineers prepare a complete Environmental Impact Statement relating to the project. If the Environmental Impact Statement has been prepared, I request that the contents of the document be updated to the time the dredging is to begin. In other words, the information contained in the Environmental Impact Statement could be based on the irrelevant or untimely information at the time the document was prepared.

Furthermore, the contents of the Environmental Impact Statement do not adequately address the issue of what will happen to the areas where the dredge spills will be disposed of in and around the Delaware Bay. There has been insufficient study on the potential impact on fin fish and shell fish in these disposal areas.

In addition, there has been insufficient study on the potential impact that an oil spill or petroleum spill would have on the fisheries in the Delaware Bay, and on the wetland environment that borders the

Mr. John Brady
September 30, 1997
Page 2

Delaware and New Jersey coast lines. In addition, there needs to be a study about the potential financial impact a petroleum spill would have on residents living on the Delaware and New Jersey coast lines, the commercial and recreational fisheries operating in the Delaware Bay, and the wetlands that boarder the Delaware Bay on the New Jersey and Delaware coastlines.

Sincerely,

BARROS, MCNAMARA, SCANLON,
MALKIEWICZ & TAYLOR, P.A.

Michael J. Malkiewicz/jld

Michael J. Malkiewicz

MJM/jld

INDICATED BUT NOT

25 FEBRUARY 1998

PASQUALE

LULEWICZ

RAMPER

MARALDO

BURNES

CALLEGARI

Environmental Resources Branch

MAR 05 1998

Mr. Howard Nygood
 Howard & Blackie Nygood
 R.D. 2, Box 217
 Georgetown, Delaware 19947

Dear Mr. Nygood:

Thank you for your letter dated August 8, 1997 concerning comments on the Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS), dated July, 1997.

The dredging of the main navigation channel of the Delaware River/Bay to an additional 5 feet is not expected to have any significant adverse impacts to the aquatic resources of Delaware Bay. The channel is currently dredged to maintain a 40 foot channel, and the aquatic environment in the channel is generally impoverished. Coordination under Section 7 of the Endangered Species Act was conducted with both the U.S. Fish and Wildlife Service and the National Marine Fisheries Service as described in Section 10 of the (FSEIS). Both agencies reported that there should be no significant adverse impacts to species under their authority. The project has also been coordinated with the Mid-Atlantic Fisheries Management Council, and they have not objected to the proposed dredging activities.

The present beneficial use dredged material disposal plan includes both direct placement of sand at the shoreline, and at other locations, placement of sand nearshore in the form of submerged sand stockpiles. The sites with direct placement of sand at the shoreline include the wetland restoration/protection projects at Kelly Island, Delaware, and Egg Island Point, New Jersey. There is no site proposed in this project which includes placement of silt which will be directly exposed to the coastal estuarine environment.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as

part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

Rather than a "costly folly", beach nourishment, or "replenishment," is one engineering solution to the widespread problems of shoreline erosion and coastal storm damage potential. Beach nourishment projects constructed by the Corps of Engineers, at the direction of the United States Congress and with funds provided at least in part by non-Federal sponsors, have been subject to rigorous evaluation for costs and benefits before authorization and construction. These projects are typically constructed at coastal locations which have an underlying deficit of sandy sediment. Beach nourishment is simply the replacement of eroded beach sediment with sand obtained from a "borrow" source and transported to the affected beach. Several bay beaches in Delaware have experienced beach erosion which has been addressed historically through both Federal and State beach erosion control projects. The Delaware River Deepening project presents an opportunity for the State of Delaware to obtain a large quantity of beach-quality sand at a significantly reduced cost compared to the cost of locating and dredging from adequate borrow sources.

As stated in the previous paragraphs, no significant adverse impacts are expected to occur to aquatic resources of Delaware as a result of this project, and therefore there should be not significant adverse impacts to Delaware's recreational fishing industry.

Thank you for your comments and interest in this project. If you have any questions, please contact John Brady of my staff at 215-656-6555.

Sincerely,

Robert L. Callegari
Chief, Planning Division



Howard & Blackie Nygood
R.D. 2, Box 217 • Georgetown, DE 19947
Phone/Fax 302-856-2199



August 1997

8

Department of the Army
Philadelphia District Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19102-3370

Gentlemen:

Regarding the "Delaware River Main Channel Deepening Project", having attended the meeting a month ago at the College of Marine Studies in Lewes, DE and having reviewed the supplemental environmental impact study, I wish to go on record as being opposed to any dredging of the main Delaware Bay channel and the dumping of any spoil.

As an environmentalist and recreational fisherman who fishes in Delaware Bay 60-80 times a year I question whether or not dredging and disturbing the inshore bottoms and the edges of the main channel violates sections of the Magnuson Act and the Endangered Species Protection Act by destroying essential habitat and certainly dumping any spoil on the proposed locations, i.e, the coral beds and anywhere in the Broadkill sloughs endangers many species of aquatic life and threatens bottom structures that are home to same and destroys a necessary feeding chain.

Prime recreational fishing areas are along the edges of channels and dropoffs where predator/game fish feed. The coral beds is probably the best bottom for black drum fishing on the East Coast of the US. In fact, Delaware Bay produced an IGFA all-tackle record for this species. The coral beds and Broadkill sloughs are also prime fishing area for fluke, gray trout, bluefish and striped bass as well as other species. The mussel beds, grass bottoms and coral bottoms found in many deep water areas of the Bay are home to aquatic species on which black sea bass, porgies, croaker, kingfish and tautog feed. Dredging any of this bottom or dumping spoils on it can be considered downright destruction.

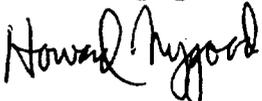
As for the proposal for dumping spoil on beaches for replenishment, we are looking at costly folly. Beaches from Ocean City to Cape Henlopen have been recipients of past replenishment efforts only to have storms destroy again and again the results of these costly projects. Redistribution and buildup of silt is likely to have more detrimental than beneficial impact than the more slowly-evolving natural changes on coastline.

8 August 1997

My concerns as a Delaware resident and taxpayer re this project focus on the substantial revenue that businesses in this state receive from recreational fishermen who ply the few miles of the Delaware coastline in pursuit of their hobby. A cost benefit analysis impact study will show that several million dollars is spent annually by out-of-state sportsmen as well as Delaware residents on accommodations, meals, tackle, bait, ice, fuel, boats and equipment, launching fees, docking accommodations and charter and headboat fees. By destroying fish habitat, a significant portion of this revenue can very easily be transferred to adjacent and nearby states, namely NJ, MD, VA and NC.

The health of Delaware's economy is crucial to Delaware residents and should not be sacrificed for the profits of international and Philadelphia shipping interests.

Sincerely yours,



Howard Nygood

HN:bhn

cc: Senator Biden
Senator Roth
Representative Castle
Governor Carper
Secretary Tulou
Mike D'Amico
The Fisherman

20 JANUARY 1998

for BRADY JP

PASQUALE JP

LULEWICZ

KAMPER

MARALDO

BURNES

CALLEGARI

Environmental Resources Branch

MAR 05 1998

Mr. John C. O'Herron, II
 O'Herron Biological & Environmental Consulting
 220 Washington Street
 Mount Holly, New Jersey 08060-1646

Dear Mr. O'Herron:

Thank you for your letters dated August 30, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997.

The endangered shortnose sturgeon (*Acipenser brevirostrum*) is under the authority of the National Marine Fisheries Service (NMFS), under Section 7 of the Endangered Species Act. As stated in the FSEIS, the Philadelphia District prepared a biological assessment for the District's dredging activities and submitted it to the NMFS. On November 26, 1996 the National Marine Fisheries Service (NMFS) issued a "Biological Opinion" for all dredging projects permitted, funded, or conducted by the District, including the channel deepening project. The Opinion stated that dredging projects within the Philadelphia District may adversely affect sea turtles and shortnose sturgeon, but are not likely to jeopardize the continued existence of any threatened or endangered species under the jurisdiction of the NMFS for dredging activities within the District.

Your concerns, that were stated in your comment letter to the draft SEIS, were transmitted to the NMFS. NMFS responded (Karen Green, Personal Communication, February 24, 1997) that:

1. The Delaware Basin Fish and Wildlife Management Cooperative's restrictions on dredging were sufficient to protect the shortnose sturgeon.
2. The behavior of juvenile shortnose sturgeon is still not known.
3. The findings of the "Biological Opinion" are valid. If their recommendations are followed, there will be no jeopardy to this species. However, consultation may be reinitiated if conditions change, or the take authorized by the Incidental Take Statement is exceeded.

4. Additional studies of the age structure and sex ratios of shortnose sturgeon populations in the Delaware River, feeding habits, and areas of significant habitat would provide insight into the behavior of this species in the Delaware River, especially the juveniles. However, these studies are not required under the terms of the Biological Opinion; they are considered conservation recommendations.

NMFS has been involved throughout the conduct of our final project design. Our findings were based on recommendations of the NMFS, and subsequent conclusions reached by NMFS. Since NMFS has the legal authority over this endangered species, we must defer to their expertise and findings.

Thank you for your comments and continuing participation in the review of this project. If you have any questions, please contact John Brady of my staff at 215-656-6555.

Sincerely,

Robert L. Callegari
Chief, Planning Division

O'HERRON BIOLOGICAL AND ENVIRONMENTAL CONSULTING

220 Washington Street

Mount Holly, New Jersey 08060-1646

Voice and facsimile (609) 261-0711; e-mail JOHERRON@VOICENET.COM

August 30, 1997

Attention: Environmental Resources Branch

U.S. Department of the Army
Philadelphia District, Corps of Engineers
Wanamaker Building, 100 Penn Square East
Philadelphia, Pennsylvania 19107-3390

Re: Final Supplemental Environmental Impact Statement, Delaware River Comprehensive Navigation Study, Main Channel Deepening Project. July, 1997. U.S. Army Corps of Engineers, Philadelphia District.

Dear Sirs/Madams:

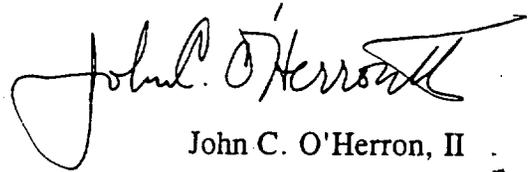
The responses to my comments to the Draft Supplemental Environmental Impact Statement (January, 1997) for the above-referenced project were inappropriate to the issues raised because both of the references cited (the November 26, 1996, Biological Opinion conducted by National Marine Fisheries Service, Northeast Regional Office and a personal communication with Ms. Karen Green, NMFS) by U.S.A.C.O.E. expose reasons for concluding that there is high potential for negative impact to the Delaware River shortnose sturgeon (*Acipenser brevirostrum*) population, yet conclude otherwise. As an example, from a purely logical standpoint consider this - no one knows quite where the juvenile population occurs. Studies elsewhere have found high concentrations of juveniles immediately upstream of the salt line in channel depth waters. This is a widely fluctuating location in the Delaware Estuary due to the effects of the tides played against the daily and seasonal meteorological regimes. Hence, the juvenile population may at any one given time be somewhere between Chester, Pennsylvania and Artificial Island, New Jersey (higher or lower in the estuary than that during severe meteorological extremes). Now here we are willing to dredge where there are small, juvenile fish that lack the motility of their adults and we know that the adults can be entrained by dredges. Furthermore, the juveniles are typically in concentrated aggregations where found. The juveniles of any species are what continue the species' existence; a sort of legacy for the future. Like many fish, shortnose sturgeon do not have stable year classes. In fact, those of the Delaware River are severely limited by the character of each year's late

winter and spring season meteorology. It is plainly irresponsible to contemplate channel dredging when the juvenile population is knowingly at risk. It is true that juveniles of the Delaware Estuary shortnose sturgeon population have been subject to channel maintenance dredging of some sort for over 150 years and the population still survives. What also may be true is that the juvenile shortnose sturgeon population has been under duress during that entire period and will continue to suffer aperiodic negative dredging impacts that relate negatively to the overall survivability of the population until such time as dredging activities are knowingly conducted away from aggregations of juveniles and are considerate of their habitat.

The recent dredging restrictions developed by the Delaware Basin Fish and Wildlife Management Cooperative are frequently held out as a guard against dredging impacts to shortnose sturgeon. I have had opportunity to evaluate them when they were in draft and concluded that they are not protective of shortnose sturgeon. The problem is the very circumstances of the occurrence of shortnose sturgeon in the Delaware Estuary. Additionally, any monitoring of negative impact is ineffectual and post-active which means that considerable mortality can occur and the observation of any at all will only be done serendipitously.

I ask that U.S.A.C.O.E. reread my comments with some open-mindedness. To forge ahead with this project in the face of unknowns regarding an endangered species is foolish at best and probably otherwise an action of poor intent. As well, I am available to discuss much more than this in detail.

Sincerely yours,

A handwritten signature in black ink, reading "John C. O'Herron, II". The signature is written in a cursive style with a large, looping initial "J".

John C. O'Herron, II

O'HERRON BIOLOGICAL AND ENVIRONMENTAL CONSULTING

CENAP-PL-E
6554/am
25 FEBRUARY 1998

BEADY
PASQUALE
LULEWICZ

KAMPER

MARALDO
BURNES

Environmental Resources Branch

Ms. Margarate Plantan
135 Delaware Avenue
Woodland Beach
Smyrna, Delaware 19977

MAR 05 1998

CALLEGARI

Dear Ms. Plantan:

Thank you for your letter dated September 30, 1997 concerning comments on the Delaware River Main Channel Deepening Project.

We do not believe that your livelihood will be impacted by this project. As explained in the Final Supplemental Environmental Impact Statement (FSEIS), no aspect of the project is expected to have a significant impact on aquatic resources. The project will restore over 200 acres of tidal marsh which provides habitat for many aquatic species.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

We are not aware of dredging related water quality problems at Woodland Beach. The water in this reach of the Delaware Bay is naturally brackish and can range up to 18 parts per thousand (ppt) of salt, depending on the time of year, recent freshwater inflows, and the tidal cycle. The mouth of the Smyrna River is located at about River Mile (RM)45 of the Delaware River. RM43 is the data save location in the modeling closest to the mouth of the Smyrna River for the Delaware River Main Channel Deepening Project. The simulations of the drought of record, from June through November 1965, indicate that salinity over this period ranged from a low of 13 ppt to a high of 26 ppt, compared to open-ocean salinity in the range of 30 to 34 ppt. Simulations of

the June to November period with average monthly inflows indicate a salinity range from a low of 7 ppt to a high of 21 ppt at RM43. The modeling of the deepened channel compared to the existing channel indicates that salinity changes at RM43 will typically be on the order of 0.1 to 0.2 ppt. This is viewed as an insignificant change to a very dynamic natural salinity regime, and will have no perceptible change on any living resources in the vicinity of Smyrna River.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

Thank you for your comments and interest in this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division

The Brady -

My husband's livelihood depends on the Delaware Bay area, he is a waterman and this dredging will end our way of life. It is unfortunate that there be hearings on this issue, the oil companies have plenty of money we have Social Security. You know as well as we do that all the little people on both sides of the fence will go under. We already have brackish water because of dredging. I feel my husband wants healing for the little people. Oil companies be damned.

Margaret Lester
135 Delaware Ave
Woodland Beach

Smypsa Del 19977-9757

Here's a project for your engineers, get us fresh water.

20 JANUARY 1998

for BRADY JR

PASQUALE JR

LULEWICZ

FRAMPER

MARALDO

BURNES

Environmental Resources Branch

MAR 05 1998

Ms. Sue Thompson
1930 Thomas Road
Wilmington, Delaware 19803

CALLEGARI

Dear Ms. Thompson:

This is in response to your August 15, 1997 letter regarding the shoreline erosion problem on Pea Patch Island and the proposed Delaware River Main Channel Deepening Project.

The Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement dated July, 1997 includes sections on the history of Fort Delaware, Pea Patch Island and on the potential impacts the proposed project may have on the island's historic archaeological shoreline deposits. These sections can be found in Chapter 11, Sections 11.1.6 and 11.3.9. A copy of this report is attached for your information.

The Philadelphia District evaluated the potential for increased shoreline erosion on Pea Patch Island. Although the hydraulic analyses predict a slight increase of approximately 4% in wave height as a result of deepening the channel from 40 to 45 feet, the resulting impact on the present erosion rate would not be significantly increased. A review of hydrographic data adjacent to Pea Patch Island show that the majority of channel depths are well below the depth of 45 feet. Consequently, the improved channel will not significantly affect the existing channel side-slope profiles and will not result in a movement of the Federal channel closer to the island.

Nonetheless, in an attempt to avoid the potential for an adverse effect on Pea Patch Island and to ensure the integrity of the resource, the District will be sending a notification of adverse effect and requesting a copy of the comments of the Advisory Council on Historic Preservation. The District anticipates that completion of shoreline stabilization prior to the proposed Delaware River Main Channel Deepening activities will avoid or mitigate erosion impacts.

The current operation and maintenance of the existing 40 foot navigation channel, in conjunction with the failure of the shoreline seawall on Federal property, is having an adverse effect on the shoreline erosion on Pea Patch Island. To that end, the District is conducting an evaluation of alternatives for shoreline stabilization at Pea Patch Island in connection with

the ongoing operation and maintenance of the Delaware River 40 foot Federal Navigation Project and has met with the State of Delaware and their consulting firm to review alternative plans. The Corps has requested funds to initiate the repairs as part of the operation and maintenance of the existing 40 foot project; funding has not been made available.

I hope that this information has addressed your questions and concerns. Please do not hesitate to contact Mr. Michael Swanda, Environmental Resources Branch at (215) 656-6556 if you have further questions or require additional information.

Sincerely,

Robert L. Callegari
Chief, Planning Division

Enclosure

August 15, 1997

Mr. Robert L. Callegari
US Army Corps of Engineers, Philadelphia District
100 Penn Square East
Philadelphia, PA 19107-3390

Dear Mr. Callegari:

I have just read of the Philadelphia District Corps of Engineers' plan to dredge and deepen the main shipping canal of the Delaware River—a plan that will have great impact upon Pea Patch Island which, amazingly, is not included in the Environmental Impact Study the Engineers have conducted.

The Corps of Engineers has apparently openly neglected the part of the island for which they are responsible, refusing to repair a seawall breach that occurred over 30 years ago. The resulting erosion to the island, truly a Delaware historical treasure, is just unconscionable.

I have only recently moved to Wilmington from Los Angeles, where I learned well the sad result of a lack of forethought for the preservation of historical space. I do not understand the dull neglect of something as historically rich as Pea Patch Island. To destroy a site that has strong reverberations of the Civil War is . . . I cannot think of a word strong enough. "Stupid" will do. Delaware is a tiny little state, certainly without the resources of far-thinking preservationists such as those who care for Philadelphia history. Can history be preserved just because it's the right thing to do? Can the Corps of Engineers care a little bit? Can you at least include the island in the EIS?

Please do not destroy the island because of shortsightedness and ignorance. Please repair the seawall and allow the island to be preserved. I do not understand the clear neglect and lack of concern evidenced here. I ask you to do the right thing. I have also written Delaware Congressman Mike Castle and Senator Joseph Biden.

Sincerely,



Sue Thompson
1930 Thomas Road
Wilmington, DE 19803

CENAP-PL-E
6554/am
25 FEBRUARY 1998

BRADY
PASQUALE
L. L.
LULEWICZ

Environmental Resources Branch

KAMPER
MARALDO
BURNES JB

Mr. Robert W. Hargrove, Chief
Strategic Planning and Multi-Media programs Branch
United States Environmental Protection Agency
Region 2
290 Broadway
New York, New York 10007-1866

CALLEGARI

Dear Mr. Hargrove:

This is in reply to your letter dated 12 September, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

Thank you for your comments and continuing participation in the review of this project. If you have any questions, please contact John Brady of my staff at 215-656-6555.

Sincerely,

Robert L. Callegari
Chief, Planning Division

DELAWARE RIVER MAIN CHANNEL DEEPENING PROJECT
INDEX OF COMMENT LETTERS RECEIVED ON FINAL SUPPLEMENTAL
ENVIRONMENTAL IMPACT STATEMENT

Government Agencies (Federal, State, and Local)

<u>Ref. No.</u>	<u>Source</u>	<u>Date</u>	<u>Comment Topics</u>
1.	USEPA	9-12-97	Environmental Monitoring, DE Bay Disposal
2.	USFWS	9-11-97	Management of Existing CDFs, DE Bay Disposal, Tidal flow at Kelly Is., Salinity impacts on oysters
3.	NOAA	9-29-97	DE Bay Disposal, Tidal flow at Kelly Is., Shortnose Sturgeon
4.	Mid-Atlantic Fishery Mngt Co	8-27-97	DE Bay Disposal, Tidal flow at Kelly Is., Sediment Quality, Public Hearing
5.	DRBC	9-30-97	Public Hearing
6.	DCMP	8-26-97	Salinity Model and Impacts
7.	DE Wetlands	8-29-97	DE Bay Disposal, Public Hearing
8.	DE Geo. Survey	9-12-97	404 [R], State Permits
9.	DE SHPO	8-26-97	DE Bay Disposal
10.	Salem Co., NJ	8-21-97	Pea Patch Island
		8-15-97	Request for sand for beach nourishment.

SEP 12 1997

Robert L. Callegari, Chief
Planning Division
U.S. Army Corps of Engineers
Wanamaker Builder
100 Penn Square East
Philadelphia, Pennsylvania 19107-3390

Dear Mr. Callegari:

The Environmental Protection Agency (EPA) has reviewed the final supplemental environmental impact statement (SEIS) for the Delaware River main channel deepening project. This review was conducted in accordance with Section 309 of the Clean Air Act, as amended (42 U.S.C. 7609 12 (a) 84 Stat. 1709), and the National Environmental Policy Act. The proposed project would affect EPA Regions II and III; therefore, this letter incorporates the results of both Regional Offices' reviews of the final SEIS.

The purpose of the project is to modify the depth of the existing federal navigation channel from 40 to 45 feet mean low water. Approximately 33 million cubic yards (CY) of material would be dredged for initial project construction; the channel would require approximately 6 million CY of annual maintenance dredging. The purpose of the final SEIS is to provide additional information to address environmental concerns raised during review of the 1992 Feasibility Report and EIS.

In our March 17, 1997 comment letter on the draft SEIS, EPA expressed concerns regarding the design and monitoring plan for Kelly Island, where a wetland restoration site was proposed. We indicated that the final SEIS should include a management plan for the new site design clarifying the environmental resource management objectives, and identifying the agency responsible for site management. We are pleased to note that the re-design of the Kelly Island site incorporates construction of a 60 acre tidal marsh impoundment that will be managed by the Delaware Department of Natural Resources. The Army Corps of Engineers (ACE) is to be commended on this design, which now incorporates both wetlands and small areas of shallow open water habitat to provide for greater habitat diversity. The document indicates that the ACE intends to develop a detailed monitoring plan during the design phase of the project; both Regions II and III request the opportunity to review this plan when it becomes available.

Please note that the first paragraph on page 3-24 of the document includes the specifications of the previous Kelly Island site design; it should be corrected to reflect the aforementioned re-design.

With regard to the stockpiling of sand at Slaughter and Broadkill Beaches, our comment letter requested that the project reduce the need for the double handling of dredged material and its associated environmental impacts. The final SEIS indicates that the volume of material that will be deposited offshore has been reduced by 1.4 million cubic yards; this partially addresses our concern by lessening the aquatic impacts. In addition, the document indicates that the ACE will consider eliminating the need for double handling entirely by evaluating the economic viability of direct placement of dredged material during the design phase of the project. Both Regions II and III request the opportunity to review this evaluation when it becomes available.

SAND
Stack
Piles

Based on our review of the final SEIS, our concerns have been adequately addressed. Accordingly, we have concluded that the proposed project would not result in significant adverse environmental impacts; EPA has no objections to the implementation of the proposed project.

Should you have any questions concerning this letter, please contact Deborah Freeman of my staff at (212) 637-3730.

Sincerely yours;

Robert W. Hargrove, Chief
Strategic Planning and Multi-Media Programs Branch

cc: J. Brady, ACE

bcc: R. Denmark, EPA-Region 3
M. Walsh, EPA-Region 3
M. Del Vicario, DEPP-PBPB
W. Andrews, DEPP-WPB

DEPP-SPMM:Freeman:x3730:9/15/97
G:\u\s\spm\freeman\309\delriv\fseis

25 FEBRUARY 1998

BRADY

PASQUALE

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Environmental Resources Branch

Mr. Don Henne, Regional Environmental Officer
 United States Department of the Interior
 Office of Environmental Policy and Compliance
 Custom House, Room 244
 200 Chestnut Street
 Philadelphia, PA 19106-2904

MAR 05 1998

Dear Mr. Henne:

This is in reply to your letter dated 11 September, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997.

The nine existing Corps disposal areas are used for disposal of dredged material from maintenance of the existing 40 foot Delaware River Federal navigation project. These sites are vital for continued maintenance of the 40 foot project and any long term use restrictions would jeopardize the maintenance of that project due to loss of disposal capacity. One existing disposal site, the Kilcohook disposal area, is already being managed for wildlife habitat by the U.S. Fish and Wildlife Service. To enhance wildlife habitat within remaining existing disposal sites, Section 1135 (b) of WRDA 1986 would be more applicable than Section 204 of the WRDA 1992.

In order to conduct an investigation under Section 1135 authority, a non-Federal sponsor would be required who is willing to provide 25% of the costs of implementation and assume full maintenance responsibility. Any habitat improvements at existing disposal areas would require development of a Memorandum of Understanding, as suggested. The District is willing to explore the possibility of a partnership with a non-Federal sponsor for management of existing upland disposal areas for wildlife habitat, in a manner that would not jeopardize their continued use for the disposal of dredged material. The District would need the Service's assistance in developing viable plans and identifying possible sponsors. At this time, conservation easements or deed restrictions on existing or proposed sites cannot be imposed due to our real estate regulations. This could possibly be considered in the future when the sites are reaching their ultimate capacity.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

In regard to the wetland restoration sites at Kelly Island, Delaware and Egg Island Point, New Jersey, the Corps of Engineers will coordinate with the U.S. Fish and Wildlife Service, as well as other appropriate state and federal resource agencies, prior to construction, to finalize the details of managing these two sites, and obtaining the Special Use permit for Kelly Island.

The Corps in cooperation with the state of New Jersey and the Haskins Shellfish Research Laboratory will develop and implement a monitoring plan to commence when construction begins, designed to examine the health and productivity of oyster populations on the natural seed beds in the Delaware Bay to confirm that the project would not significantly impact the oyster resource.

Thank you for your comments and continuing participation in the review of this project. If you have any questions, please contact John Brady of my staff at 215-656-6555.

Sincerely,

Robert L. Callegari
Chief, Planning Division



United States Department of the Interior

OFFICE OF THE SECRETARY

Office of Environmental Policy and Compliance

Custom House, Room 244

200 Chestnut Street

Philadelphia, Pennsylvania 19106-2904

September 11, 1997

IN REPLY REFER TO:

ER-96/0816

Lieutenant Colonel Robert B. Keyser
District Engineer, Philadelphia District
U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, Pennsylvania 19107-3390

Dear Lieutenant Colonel Keyser:

The Department of the Interior has reviewed the Delaware River Main Channel Deepening Project Final Supplemental Environmental Impact Statement. The subject FSEIS addresses modifications to the existing Delaware River federal navigation channel between the Philadelphia/Camden waterfront and southern extent of Delaware Bay. The project involves activities in the tri-State area of New Jersey, Pennsylvania, and Delaware.

Many of the Department's concerns regarding the Draft Supplemental Environmental Impact Statement have been adequately addressed by the U.S. Army Corps of Engineers, Philadelphia District. However, the Department continues to have the following outstanding concerns relating to the project that have not been completely addressed.

UPLAND DISPOSAL SITES

The Department understands that the Corps is reluctant to enhance wildlife habitat on existing upland disposal sites because of potential seasonal restrictions on disposal imposed by State and/or Federal natural resource agencies to protect fish and wildlife, particularly threatened or endangered species. However, flexibility exists under the existing management of these sites. Therefore, the Department continues to recommend that the Corps pursue a Memorandum of Understanding with the appropriate state and federal natural resource agencies to minimize the potential for temporal or spatial restrictions on the nine existing upland disposal sites. The Department also recommends that the Corps manage the existing upland disposal sites using the same methodology proposed for the four new upland disposal sites. The Corps should also consider partnerships with non-profit conservation organizations to share the financial costs of managing the existing upland disposal sites for the enhancement of wildlife.

Wildlife enhancement on existing Corps disposal areas, similar to that being proposed on the four new upland disposal sites, can be accomplished without jeopardizing the integrity or ability to maintain the disposal sites. Wildlife enhancement on existing Corps disposal areas could be accomplished through Corps initiatives possible through the Delaware River Main Channel Deepening Project or through Section 1135 (b) of the Water Resources Development Act of 1986 (33 U.S.C. 2201 et seq.; 100 Stat. 4082) (WRDA).

Information in the FSEIS states that the new upland disposal sites would be committed to open space/environmental uses after project completion in 2050. The Department continues to recommend that the Corps place conservation easements or deed restrictions on all proposed new and existing upland

disposal sites after these sites have reached their disposal capacity to ensure that these areas are protected as wildlife habitat in perpetuity.

SAND STOCKPILES

The Corps proposes to establish two sand stockpile areas to provide material for beach nourishment at a later time. The proposal would result in the burial of 730 acres of subtidal habitat, resulting in elimination of the benthic community and water quality degradation. In addition, since sand stockpiles would be dredged for beach nourishment, subsequent recolonization of these areas by benthic invertebrates would be disturbed. For these reasons, the Department does not consider the use of subtidal sand stockpiles as a beneficial use of dredged material, and would prefer consideration of alternative uses. Specifically, the Department continues to recommend that the Corps reevaluate the potential for additional wetland restoration and direct beach nourishment as disposal options for dredged material. At a minimum, a portion of the dredged material could be used for direct beach nourishment at Slaughter Beach and Broadkill Beach in Delaware. However, such use of the material must undergo a rigorous evaluation of impacts on a single project and cumulative project impact basis, and the tradeoffs involved in conversion of shallow water habitat or degraded wetland habitat to other types of aquatic habitat must be assessed.

In further consideration of alternatives to sand stockpiling, the Department continues to recommend that the Corps consider linking Federal projects that involve beach nourishment and wetland creation (e.g., Oakwood Beach, Cape May Villas, Reeds Beach, and Maurice River in New Jersey and Lewes Beach, Broadkill Beach, and Port Mahon in Delaware) with the Delaware River Main Channel Deepening Project to ensure the economic feasibility of providing dredged material to these areas. Direct beach nourishment and wetland restoration would eliminate double handling of dredged material and would eliminate adverse impacts on 730 acres of subtidal habitat, much of which supports benthic communities of high quality. Avoiding double handling of dredged material may also reduce overall monetary costs of dredging the Delaware River and nourishing New Jersey and Delaware beaches. However, again, a rigorous evaluation of the cumulative impacts of these projects and the tradeoffs involved in the conversion of shallow water habitat to other types of aquatic habitat must be assessed.

The WRDA of 1996 (P.L. 104-303) directs the Corps to place a greater emphasis on the use of dredged material for beneficial uses, including beach nourishment. Section 207 of the WRDA of 1996 specifically allows the Corps to select a disposal method that is not the least cost option if the incremental costs are reasonable in relation to the environmental benefits. As stated above, the Department continues to recommend that the Corps avoid subtidal stockpiling of dredged material and use the material for direct beneficial uses (e.g., beach nourishment or wetland restoration) consistent with Section 207 of the WRDA of 1996.

Additionally, the Department is concerned about the selection of sites for stockpiling sand. The selection of site MS19B as a candidate site for sand stockpiling is not justifiable and is inconsistent with the high benthic attributes of the site as described and discussed in the FSEIS. The first paragraph in section 8.3.1 contradicts the discussion of the data in sections 8.2.2, 8.2.3, and 8.2.4. Site MS19B has the highest Shannon-Wiener diversity index, the highest percentage of equilibrium species, no significant difference in the abundance of opportunistic species, and the highest number of species with a size greater than 2 cm, compared to riverine and estuarine background. These factors indicate high habitat quality, which makes this site a poor candidate for stockpiling sand. Additionally, selection of site MS19B is not justifiable on economic terms since site MS19A is nearby.

Further, site MS19A is preferable due to lower habitat quality. Site MS19A has a lower diversity index and, in general, differs significantly in six out of eight of the benthic parameters evaluated or calculated. Of the six parameters that differed significantly, MS19A is of lower ecological value than MS19B in five. Candidate sites selected for stockpiling sand, if stockpiling is used in lieu of direct beach nourishment or wetland creation, should be sites with low benthic diversity and ecological attributes that indicate an already disturbed or unstable benthic community. Although it is not clear in the FSEIS, it is likely that the high quality benthic habitat found at candidate site MS19B provides high quality finfish habitat that will be eliminated or at least severely impacted by use as a sand stockpile area. Therefore, the Department recommends that other less ecologically diverse sites be selected for sand stockpiling.

The Department does not concur with the Corps' stated intent to investigate direct placement of sand for beach nourishment as an alternative to sand stockpiles during the Plans and Specifications phase of the project. The Department understands that the Plans and Specifications phase is an internal Corps process, which does not include public review or comment or review by resource agencies. As such, concerns relating to sand stockpiling must be addressed formally through the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*; 83 Stat. 852) review process rather than through the Plans and Specifications phase of the project.

WETLAND RESTORATION

The Corps states in the FSEIS that additional coordination regarding the management of wetland restoration sites (e.g., Egg Island Point and Kelly Island) will be done with natural resource agencies during the Plans and Specifications phase of the project. We are concerned that the level of detail in the FSEIS is not sufficient for the Federal agencies to conclude that the tradeoffs associated with conversion of one type of habitat to another may be acceptable, absent this information on project management. The Department strongly recommends that the U.S. Fish and Wildlife Service be included in reviewing and commenting on management plans for the wetland restoration sites; in fact, our participation will be necessary for the Kelly Island Project to proceed (this is explained below).

The Kelly Island wetland restoration site will connect with lands of the Bombay Hook National Wildlife Refuge and is, in fact, in an area that has eroded over a period of years from the Refuge. Because there are several management concerns that will directly impact the Refuge, including the creation and maintenance of wildlife habitats and possible public uses incompatible with Refuge operations, the Department recommends that a Memorandum of Agreement be developed whereby the Service and the Delaware Department of Natural Resources and Environmental Control would cooperatively manage the restoration site and jointly prepare management plans. Such a statement will be stipulated as a condition of the Special Use Permit issued by the Refuge for the project. Further, additional analysis of the impacts of the proposed project on the NWR may be necessary to meet the USFWS NEPA requirements for issuance of the Special Use Permit.

In addition, the Department is concerned with the proposal to regulate water levels in the Kelly Island wetland over the long-term. The Department concurs with the proposal to use the Corps' outlet works to control the water level during the first few years to establish wetland vegetation and reduce erosion; however, once the wetland becomes firmly established, the objective should be to promote an open tidal system with minimal water level regulation. Tidal flow will maximize use by fish and invertebrates, and minimize potential problems of low water quality and mosquito breeding. Therefore, the Department emphasizes the need to conduct additional coordination with the Service to refine the project design to ensure unrestricted tidal exchange in the wetland. An agreement among the state and federal agencies on this issue must be accomplished before the Refuge issues a special use permit for the project.

HYDRODYNAMIC AND SALINITY MODELING

The Corps states in the FSEIS that hydrodynamic/salinity modeling is the only valid approach that permits a direct and objective assessment of salinity impacts attributable to changes such as channel deepening. In addition, the Corps states that a nationally recognized expert on oyster ecology (i.e., Dr. Eric Powell) concluded that the range of salinity changes predicted by the model would pose no adverse impacts on oyster resources. The Department understands that Dr. Powell's research regarding salinity impacts on oysters was conducted in Galveston Bay, Texas, and may not be applicable to salinity changes within the Delaware Bay. In addition, while the Department concurs that the hydrodynamic/salinity model is the best available tool to predict salinity changes, the Department continues to recommend that the Corps initiate a monitoring program to verify and validate the subject model and the conclusion that hydrodynamic and salinity changes will not have an adverse impact on oysters or other shellfish.

DEPARTMENTAL POSITION

The Department continues to have several outstanding concerns regarding potential project-related adverse impacts on fish and wildlife resources. In order to minimize adverse impacts to fish and wildlife, the following measures are recommended:

1. Enhance wildlife habitat on existing upland disposal sites.
2. Deed restrict, or place conservation easements on, all upland disposal sites after disposal capacity is reached.
3. Use dredged material beneficially for direct beach nourishment or wetland restoration, rather than stockpiling material in subtidal areas, but only after a comprehensive evaluation of the impacts of the conversion of one type of aquatic habitat to another.
4. If sand stockpiles are used, select less ecologically diverse sites (e.g., MS19A) for sand stockpiling.
5. Resolve concerns relating to sand stockpile areas through the NEPA process rather than through the Plans and Specifications phase of the project.
6. Coordinate with the Service during the Plans and Specifications phase of the project regarding the management of Kelly Island and other beneficial use sites.
7. Develop a Memorandum of Agreement between the Service and the Delaware Department of Natural Resources and Environmental Control to cooperatively manage the Kelly Island wetland restoration site and jointly prepare management plans.
8. Coordinate with the Service to refine the Kelly Island project design to ensure unrestricted tidal exchange in the wetland over time. Develop an agreement among the state and federal agencies on this issue prior to requesting a special use permit for Kelly Island from the Service.
9. Monitor water quality, oyster, and shellfish populations prior to, during, and following dredging activities to verify salinity and circulation modeling.

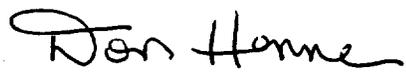
The Department encourages the Corps to resolve the above-mentioned concerns and incorporate Departmental recommendations in the final project design. The Department and the Service will continue to cooperate fully to resolve these concerns.

If you have any questions regarding these comments or require further assistance on issues regarding fish and wildlife resources related to the subject project, including any new information regarding federally-listed threatened or endangered species, please contact the Service at the following address:

U.S. Fish and Wildlife Service
Supervisor, New Jersey Field Office
927 N. Main Street, Building D
Pleasantville, New Jersey 08232
(609) 646-9310

Thank you for the opportunity to provide these comments.

Sincerely,



Don Henne
Regional Environmental Officer

- cc: NJFO (2)
- GARD, Northern/ES
- GARD, Central/RW
- NMFS, Gorski
- USEPA, Hargrove
- NHP, T. Breden
- ENSP, L. Niles
- CBFO
- Bombay Hook NWR
- EPFO
- DBEP
- PAFO

25 FEBRUARY 1998

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Environmental Resources Branch

Ms. Susan B. Fruchter
Acting NEPA Coordinator
United States Department of Commerce
Office of the Under Secretary
for Oceans and Atmosphere
Washington, D.C. 20230

MAR 05 1998

Dear Ms. Fruchter:

This is in reply to your letter dated 29 September, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

In regard to the wetland restoration site at Kelly Island, Delaware, the Corps of Engineers will coordinate with your agency, as well as other appropriate state and federal resource agencies, prior to construction, to finalize the details of managing this site.

The District could consider recommendations from the National Marine Fisheries Service (NMFS) in regard to supporting studies to define significant habitat for shortnose sturgeon, and to determine their movements in the river portion of the project area during the Plans and Specifications part of this project.

The Corps will continue to coordinate with NMFS regarding the effects of rock blasting on the endangered shortnose sturgeon, as necessary, to ensure compliance with requirements of the Endangered Species Act.

Thank you for your comments and continuing participation in the review of this project. If you have any questions, please contact John Brady of my staff at 215-656-6555.

Sincerely,

Robert L. Callegari
Chief, Planning Division



UNITED STATES DEPARTMENT OF COMMERCE
Office of the Under Secretary for
Oceans and Atmosphere
Washington, D.C. 20230

September 29, 1997

Mr. John Brady
U.S. Army Engineer District, Philadelphia
100 Penn Square East
Philadelphia, Pennsylvania 19107-3390

Dear Mr. Brady:

Enclosed are comments on the Final Supplemental Environmental Impact Statement for Delaware River Main Channel Deepening Project. We hope our comments will assist you. Thank you for giving us an opportunity to review this document.

Sincerely,

Susan Fruchter

Susan B. Fruchter
Acting NEPA Coordinator

Enclosure



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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)
COMMENTS ON
FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (FSEIS)
FOR
DELAWARE RIVER MAIN CHANNEL DEEPENING PROJECT

The National Marine Fisheries Service (NMFS), NOAA has reviewed the Final Supplemental Environmental Impact Statement (FSEIS) for the Delaware River Main Channel Deepening Project proposed by the Philadelphia District Army Corps of Engineers (Corps). We have coordinated with the Corps on this project for several years, and have provided comments on the Draft Interim Feasibility Report, the Draft Environmental Impact Statement and the Draft Supplemental Environmental Impact Statement while attending numerous interagency meetings and workshops. We appreciate the opportunity to review the FSEIS, and offer the following comments for your consideration. We look forward to working with the Corps to resolve our outstanding concerns, and to minimize the project's impacts to resources of concern to us. Please contact Karen Greene at 732-872-3023 if you have any questions regarding these comments.

Sand Stockpiling

As proposed in the FSEIS, the Corps plans to dispose of 3.3 million cubic yards of sand at two overboard disposal sites in Delaware Bay. The material disposed of at these sites will be stockpiled for possible future use as sand sources for beach nourishment projects along the Delaware Bayshore. Both stockpile sites are in shallow water (-8.0 to -6.0 feet MLW) within 0.5 miles of the shore. The Broadkill Beach sand stockpile area (LC-5) which covers 230 acres is 0.33 miles offshore. The Slaughter Beach site (MS-19) covers 250 acres and is 0.5 miles offshore. This proposal will result in the destruction of the existing benthic communities and the degradation of water quality in the sand stockpile area. In addition, if these sites are used as sand sources for future beach nourishment projects, recolonization of the sites will be impeded because the sites will be continually disturbed. We do not consider the creation of sand stockpiles to be a beneficial use of dredged material, and continue to oppose such use, strongly urging the Corps to seek alternate disposal sites such as direct beach nourishment.

The selection of the proposed sand stockpiling sites do not appear to be adequately justified, and the habitat values of the areas appear to be underestimated. According to the FSEIS, eleven sites were investigated as potential beneficial use sites in 1993. A twelfth site, MS19B located near MS-19 was added in 1995. One of the selected sites, MS19B (also known as MS-19 in the FSEIS) had the highest Shannon-Wiener diversity index of the sites evaluated as potential beneficial use sites. It also had the percentage of equilibrium species and number of species greater than 2 cm in size. The other selected sand stockpile site, LC-5 had the highest number of species among the candidate sites sampled.

In addition, reports from fisherman and charter boat captains familiar with the area indicate that the sand stockpile sites support a highly diverse and productive benthic community. It is likely that the sampling done as part of the benthic surveys for this project did not adequately characterize the benthic communities at the sand stockpile sites, and the value of these communities to finfish. Often, epibenthos are patchy in distribution, and may not be adequately sampled using grab samples. A qualitative dredge sampler, which was not used in the benthic surveys done for this project would have been more appropriate to characterize this component of the benthic community. For example, Sabellaria vulgaris is a polychaete worm found throughout Delaware Bay. However, this species was not captured in the benthic surveys completed for this project. These worms provide a food source for many commercially and recreationally important finfish including summer flounder (Paralichthys dentatus), winter flounder (Pleuronectes americanus), weakfish (Cynoscion regalis), black sea bass (Centropristis striata) and scup (Stenotomus chrysops). Disposing of dredged material on these beds of tube worms will destroy the food source for this fish at these locations. In addition, the changes in depth at the stockpile sites from between eight and six feet to three feet will preclude the recolonization of the site by certain benthic species due to changes in the physical habitat parameters such as turbidity and increased wave action.

The lower Delaware Bay provides valuable habitat for a wide variety of commercially and recreationally valuable finfish including summer flounder, winter flounder, scup, black sea bass, weakfish, white perch (Morone americana), striped bass (Morone saxatilis), bluefish (Pomatomus saltatrix), black drum (Pogonias cromis) and spot (Leiostomus xanthurus). Several species, including weakfish, spawn near the sand stockpile sites. Others use it as an important nursery and forage habitat. Blue crabs (Callinectes sapidus) and horseshoe crabs (Limulus polyphemus) are also commercially and ecologically important species that inhabit the estuary in and around the sand stockpile sites. The Delaware Estuary also provide important nursery and forage habitat for a number of sharks, skates and rays.

In accordance with the provisions of the Magnuson-Stevens Fishery Conservation and Management Act, the Fisheries Management Councils must amend the Fisheries Management Plans (FMPs) to include the description and identification of essential fish habitat, and to identify adverse impacts on that habitat and actions that should be considered to ensure the conservation and enhancement of that habitat. The NMFS, on behalf of the Secretary of the Department of Commerce is working with the Fisheries Management Councils to accomplish this task. Managed species which inhabit the Delaware Estuary include summer flounder, winter flounder, black sea bass, scup and bluefish. Although the final designations of essential fish habitat are not complete, portions of the Delaware Estuary, including the sand stockpiling sites, will likely be designated as essential fish habitat for one or more of the managed species. As a result, disposing of sand at the sand stockpile sites may destroy essential fish habitat for some of these species.

The use of the sand stockpile sites will also alter the depths and exclude certain types of fisheries from those areas. Currently, both commercial fishermen (drift nets and hook and line fishery) and recreational fishermen in private and charter fishing boats use the sand stockpile sites. Decreasing the depths in the sand stockpile areas from between six and eight feet to three feet

would exclude both of these user groups. It is also possible that the impacts of the stockpiling will extend beyond the designated areas, as the tidal currents and storm events cause the sand stockpiles to shift.

On page 3-24 and 3-25, the potential disposal options investigated by the Corps are listed. One option was beach fill. The FSEIS indicates that the disposal options were evaluated through five cycles to determine their feasibility and to assess their impacts. The beach fill option was not included as one of the final potential disposal options. The FSEIS does not explain why this alternative was not pursued. We continue to recommend that the sand be placed directly on the beaches of Delaware and New Jersey. Currently, the Corps is studying the feasibility of shore protection and flood control at several locations in Delaware and New Jersey, including Lewes Beach, Broadkill Beach and Port Mahon in Delaware and Cape May Villas, Oakwood Beach, Reads Beach and the Maurice River in New Jersey. Direct beach nourishment would prevent the destruction of 480 acres of benthic habitat and essential fish habitat for summer flounder, and valuable habitat for other commercially and recreationally important finfish and shellfish. It would also eliminate the need to rehandle dredged material and the continued disturbance of the benthic community which would occur each time sand is dredged from the stockpile areas.

Kelly Island

Our comments concerning the Kelly Island wetland restoration project remain unchanged. We continue to oppose the creation of an impoundment and the long-term use of water control structures at Kelly Island. Any wetlands created using dredged material should receive full, unimpeded daily tidal inundation once the dredged material has consolidated. As proposed, the design for the Kelly Island wetlands restoration will include the installation of a water control structure at the north end of the berm. Once the dredged material has consolidated and the marsh becomes vegetated (either by planting the appropriate vegetation or through natural colonization), the water control structure would be used to manage the created wetlands for waterfowl. Managing the wetlands in this manner will not provide any benefits to fish. In fact, fishery habitat will be lost by the filling of open water to create the wetlands at Kelly Island.

We agree that while the dredged material is consolidating behind the berm, it is necessary to implement measures to prevent the fine material from impacting nearby American oyster (*Crassostrea virginica*) seed beds. Instead of a permanent water control structure, we recommend that a water filled geotube be used. Once the dredged material has settled and vegetation in the marsh has become established, the geotube could be emptied and removed. The marsh would then be open to unrestricted tidal inundation. If this alternative is technically infeasible, then once the marsh is established, the water control structure must remain open fully at all times to allow unrestricted tidal inundation. We also request the opportunity to review and to approve any management plans developed for this area to ensure that the proposed wetland creation benefits fishery resources.

Shortnose Sturgeon

As discussed in our previous comment letter dated February 14, 1997, the Chester-Philadelphia "pollution zone" mentioned on page 10-29 of the FSEIS no longer exists. As a result, this does not limit shortnose sturgeon's use of the portion of the river in which the channel deepening will

begin. Although additional studies are needed to determine the extent to which shortnose sturgeon use this area, the Corps should not assume that shortnose sturgeon use this area only as a migratory route. As stated in the Conservation Recommendations listed in the Biological Opinion issued by NMFS on November 26, 1996 (NMFS 1996), we continue to recommend that the Corps support research to define significant habitat for shortnose sturgeon, and to determine their movements in the river with better accuracy. We are especially concerned about the movement of juvenile shortnose sturgeon for which little information is available.

Rock Blasting

As stated in our letter dated February 14, 1997, the Biological Opinion issued by NMFS for dredging in the Philadelphia District does not cover blasting. Based upon the location of the blasting in the Marcus Hook area, it is not likely that sea turtles and marine mammals will be in the project area. However, shortnose sturgeon may be found near Marcus Hook. While the seasonal restrictions prescribed by the Cooperative and included in our Biological Opinion are necessary to reduce impacts to anadromous fishes, we recommend that the Corps continue coordination with the NMFS to ensure compliance with the requirements of the Endangered Species Act.

In conclusion, we continue to oppose the use of the sand stockpile sites, and we strongly urge the Corps to place the sand dredged from the lower portions of the deepening project directly on the beaches rather than stockpiling the sand offshore. The use of the sand stockpile sites will result in the destruction of productive benthic habitat and food sources for commercially and recreationally valuable fish species and the potential destruction of essential fish habitat. The decrease in water depths to three feet at the stockpile sites will also negatively impact commercial and recreational fishing by excluding certain types of gear and boats and alter the composition of the benthic communities. In addition, the continued, long-term dredging of the areas for beach nourishment will impede the recolonization of the stockpile sites.

We also continue to oppose the creation of an impoundment at Kelly Island. Long-term management of the site must include unrestricted daily tidal inundation at all times or fisheries habitat will be lost. While we concur with the need to prevent the fine sediments from impacting nearby oyster beds, the ultimate management of the site must include full, unrestricted tidal flow, either through the removal of any water control structures necessary during the construction phase of the project, or by maintaining these structures in the open position.

25 FEBRUARY 1998

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Environmental Resources Branch

Dr. James H. Gilford, Chairman
Mid-Atlantic Fishery Management Council
Room 2115 Federal Building
300 South New Street
Dover, Delaware 19901-6790

MAR 05 1998

CALLEGARI

Dear Dr. Gilford:

This is in reply to your letter dated 27 August, 1997, as well as a letter from David R. Keifer, dated 30 September, 1997, concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS)*, dated July, 1997.

In January 1997, the draft SEIS was circulated for review and comment. During the review of this draft SEIS numerous time extensions were requested and granted to accommodate a complete and a thorough review. Your office was furnished a copy of the draft SEIS. As part of that review the Council did not comment. The draft SEIS was revised considering comments received and a final SEIS was prepared in July 1997 and filed with the U.S. Environmental Protection Agency. Due to requests for extension of the comment period, an additional 30 days was granted until September 30, 1997. At this point, we are in the process of completing the National Environmental Policy Act (NEPA) process with the preparation of the Record of Decision.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

In regard to the wetland restoration site at Kelly Island, Delaware, the Corps of Engineers will coordinate with your agency, as well as other appropriate state and federal resource agencies, prior to construction, to finalize the details of managing this site.

The Final SEIS also documents that (Section 4.0), based on field sampling and subsequent data analysis, no significant impacts to the aquatic ecosystem are expected from dredging and the disposal of dredged material. None of the sediment samples taken revealed significant levels of contaminants. The fine-grained material from the industrial northern portion of the project area will be placed in upland, confined dredged material disposal facilities, away from the river. The sediment toxicity data from this project was reviewed by the Corps of Engineers' Waterway Experiment Station, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the New Jersey Department of Environmental Protection, the Delaware Department of Natural Resources and Environmental Control, and the Pennsylvania Department of Environmental Protection. The U.S. Environmental Protection Agency in a letter dated 17 March 1997 stated that "...EPA continues to believe that there will be no adverse impacts associated with the disposal of sediments generated by the project". In addition, in their letter of 12 September 1997, the U.S. Environmental Protection Agency stated that "... we have concluded that the proposed project would not result in significant adverse environmental impacts; EPA has no objection to the implementation of the proposed project." Neither the U.S. Department of the Interior (parent agency of the U.S. Fish and Wildlife Service) in their letter of September 11, 1997, nor the U.S. Department of Commerce (parent agency of the National Marine Fisheries Service) in their letter of September 29, 1997, have expressed any concern about contaminants in the dredged material. Furthermore, the Commonwealth of Pennsylvania and the states of Delaware and New Jersey have reviewed the sediment data as part of their coastal zone management consistency review. Each concluded that this project was consistent with the Coastal Zone Management Act.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

-3-

Thank you for your comments and continuing participation in the review of this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division

MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

Dr. James H. Gilford
Chairman

ROOM 2116 FEDERAL BUILDING

300 South New Street
Dover, Delaware 19901-6790

David R. Kelfer
Executive Director

Anthony D. DiLernia
Vice Chairman

302-674-2331
FAX 302-674-5399

30 September 1997

Mr. Robert L. Callegari
Environmental Resources Branch
Philadelphia District, Corps of Engineers
Wanamaker Building,
100 Penn Square East
Philadelphia, PA 19107

Dear Mr. Callegari:

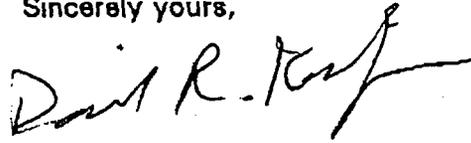
On 27 August we sent you a letter expressing our serious concerns about the Delaware River Main Channel Deepening Project (letter attached). Our major environmental impact concerns were: the sand stockpiling off of Slaughter and Broadkill Beaches, some of the assumptions and decisions regarding Kelly Island, conversion of subtidal habitats to *Spartina alterniflora* wetlands, and the resuspension of sediment contaminants distributed throughout the river and estuary caused by the dredging of the upper river around the heavily industrialized area of Camden and Philadelphia.

Our focus of the letter detailed the issue of essential fish habitat (EFH) and how the two areas where it was proposed to stockpile sand would in all likelihood be defined as EFH for federally managed species. We requested that you allow the comment period for this project to remain open until at least two weeks after NMFS finalizes the guidelines on EFH. In early September we heard from Mr. John Brady, of your office, that you would be unable to extend the comment period beyond today. We understand your reluctance to allow an open-ended extension, however regrettably, NMFS has not yet finalized their EFH guidance.

Using the criteria that were in the proposed EFH rules when they were published in May, there is no question that sites L-5 and MS-19 will be considered essential fish habitat for at least the federally-managed, overfished resources of summer flounder and black sea bass. This is new information, and as such warrants you holding a public hearing. We believe that by the time a hearing is scheduled we will have the Congressionally mandated EFH guidelines.

Thank you for considering our comments. We look forward to working with you in the immediate future. Please do not hesitate to call me or Tom Hoff should you have any questions.

Sincerely yours,

A handwritten signature in black ink, appearing to read "David R. Keifer". The signature is fluid and cursive, with a long horizontal stroke at the end.

David R. Keifer

DRK/TBH

cc: A. Rosenberg
S. Gorski
T. Goodger
S. Grabowski
J. Bryson

MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

Dr. James H. Gilford
Chairman

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302-674-2331
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David R. Keifer
Executive Director

Anthony D. DiLernia
Vice Chairman

27 August 1997

Mr. Robert L. Callegari
Environmental Resources Branch
Philadelphia District, Corps of Engineers
Wanamaker Building,
100 Penn Square East
Philadelphia, PA 19107

Dear Mr. Callegari:

We have reviewed the SEIS for the Delaware River Main Channel Deepening Project, and have several serious concerns. Our major environmental impact concerns are: the sand stockpiling off of Slaughter and Broadkill Beaches, some of the assumptions and decisions regarding Kelly Island, conversion of subtidal habitats to *Spartina alterniflora* wetlands, and the resuspension of sediment contaminants distributed throughout the river and estuary caused by the dredging of the upper river around the heavily industrialized area of Camden and Philadelphia.

When Congress reauthorized the Magnuson-Stevens Fishery Management and Conservation Act last fall, they mandated significantly more attention be paid to fishery habitat conservation through their addition to the Act's purpose: "to promote the protection of essential fish habitat in the review of projects conducted under Federal permits, licenses, or other authorities that affect or have to potential to affect such habitat." We have been assured that NMFS will publish the final guidelines on essential fish habitat (EFH) within the next few weeks. While we do not know exactly what the final guideline criteria for EFH will be, we are assured that the definition of EFH will almost certainly include nursery and spawning areas for Federally managed commercial and recreationally important species. As identified in the SEIS, summer flounder, black sea bass, drum and weakfish are all in the vicinity of sites L-5 and MS-19 where the stockpiling of sand is proposed. These sites are in spawning and nursery areas.

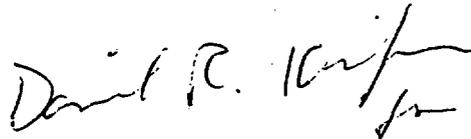
We are aware that other Federal and State agencies have questioned the efficacy of the concept of 'beneficial use' of these sand stockpiles in important shallow water habitat. We wish to add our voice to that concern, express our opposition to overboard disposal in nursery areas, and request that you extend the proposed 35 day limited comment period (that expires on 30 August) until at least two weeks after NMFS finalizes the guidelines on EFH. Rather than to possibly permanently lose nearly 500 acres of fishery important habitat - that may be shortly classified as EFH for overfished resources - it would seem prudent to wait until the guidelines are finalized. What can possibly be the ecological benefits of this sand stockpiling?

We cannot support the creation of an impoundment from shallow water habitat of Delaware Bay as a beneficial use of dredged material at Kelly Island. Any wetlands that are created or restored using dredged material must receive daily tidal inundation and simply can not restrict the tidal flow. This may benefit birds, but certainly not the fishery resources that we are charged with conserving and managing.

Please consider these our preliminary comments on this SEIS. We know that other agencies and environmental groups have asked for an extension of the comment period based on the large volume of information in the SEIS, however we want an extension because we believe there will be new information once NMFS has finalized their EFH guidance. If these sand stockpile sites meet the criteria for EFH, as we expect them to, then we would like you to hold a public hearing.

Thank you for considering our extension request and our comments. We look forward to working with you in the immediate future if these areas meet the criteria for EFH. Please do not hesitate to call David Keifer or Tom Hoff of Council staff should you have any questions.

Sincerely yours,

A handwritten signature in black ink that reads "David R. Keifer" with a stylized flourish at the end.

James H. Gilford Ph. D.

DRK/TBH

DEPARTMENT OF THE ARMY
Philadelphia District, Corps of Engineers
Wanamaker Building, 100 Penn Square East
Philadelphia, Pennsylvania 19107-3390

JAN 21 1998

Planning Division

Mr. Gerald M. Hansler
Executive Director
Delaware River Basin Commission
P.O. Box 7360
West Trenton, New Jersey 08628-0360

Dear Mr. Hansler:

This will acknowledge your letter of August 26, 1997 concerning the salinity modeling methodology in the Final Supplemental Environmental Impact Statement (FSEIS) for the Delaware River Main Channel Deepening Project. Our discussion in order of your presentation is attached.

The conclusions in the FSEIS that there will be no adverse impacts from the project on fresh water supplies, either direct withdrawals or ground water supplies, do not warrant revision.

Sincerely,

Robert L. Callegari
Chief, Planning Division

Attachment

DELAWARE RIVER MAIN CHANNEL DEEPENING PROJECT

RESPONSES

TO

DELAWARE RIVER BASIN COMMISSION

LETTER OF 26 AUGUST 1997

ATTACHMENT

Our June 12, 1997 meeting enabled three-way discussions with the Waterways Experiment Station (WES) on the three-dimensional hydrodynamic/salinity modeling that was completed for the Delaware River Main Channel Deepening Project and how the Delaware River Basin Commission (DRBC) may arrange with WES to do additional work for its purposes.

There are no strict guidelines applied by the numerical modeling community to quantify a calibration as "poor, fair, good, etc.," although various error measures can be computed, e.g., relative mean error. The three-dimensional hydrodynamic/salinity model of Delaware estuary was calibrated to observed data from October 1992 and then applied to other events, e.g., the low flow event of June-November 1965. If one considers the range of freshwater inflows, winds, and tides included in the verification process, the comparison of modeled versus observed elevations, velocities, and salinities at various locations throughout the system has been considered "good" by other peer modelers at national and international conferences, e.g., National ASCE Conference in Buffalo, New York, and the Second International Hydrosociences Conference in Beijing, China.

If one focuses only on salinities at Chester and Ben Franklin Bridge during a portion, e.g., October, of the June-November 1965 simulation, one might conclude that the calibration is poor. However, considering the fact that the salinity being computed ranges from over 30 parts per thousand (ppt) (equal to 30,000 parts per million (ppm)) down to essentially zero in the upper river, the ability of the model to reproduce the proper intrusion of salinity, based on mean daily observed values, down to levels of less than 0.1 ppt (100 ppm) at Ben Franklin Bridge is actually quite good. In fact, the average difference between the computed and observed average daily value of chlorinity over the entire June-November 1965 period is less than 25 ppm. We consider this to be an entirely reasonable and accurate representation considering the uncertainties associated with the modeling effort, e.g., levels of background chlorinity in lateral inflows, spatial variability of the wind field, salinity boundary conditions, etc.

It should be reemphasized that the purpose of the model is to determine the relative impact of channel deepening. Any errors associated with numerics, boundary condition forcings, etc. will tend to cancel out so that the *difference* between runs with and without deepening will reflect only the impact of the deepening on salinity intrusion.

We recognize that the conversion of specific conductance to chlorinity using the US Geological Survey (USGS) tables yields generally higher chlorinity values than the use of the equations shown on Page 5-19 of the Final Supplemental Environmental Impact Statement (FSEIS). These equations were adopted for use in the Delaware River Main Channel Deepening Study based on their inclusion in the report "Development and Application of a Deterministic Time-Varying Salinity Intrusion Model for the Delaware Estuary" (Thatcher and Harleman, 1978) prepared for DRBC. The Thatcher and Harleman report states "Graphic correlations of conductance and chlorides in the tidal Delaware River have been made by Durfor and Keighton (1954). Based on their graphs, Dr. Tortoriello of the DRBC extracted the following equations" It is these equations that were applied in the WES model verification to convert observed conductivity data to "observed" chlorinity values.

Figure 1 (attached) shows chlorinity as a function of conductivity, using the USGS tabulated relationships (line labeled "USGS Tables") and the equations cited by Thatcher and Harleman (line labeled "DRBC Equations.") The third line, labeled "Ratio," indicates the ratio of the table-predicted chlorinity to the equation-predicted chlorinity, expressed as a percent. While we recognize that the USGS tables produce higher chlorinity values than the cited equations, it can be seen that over the specific conductance range from 400 to 4,000 microsiemens, the greatest percentage difference between the two approaches is only 18%, occurring at the range of conductivity between 1,000 and 1,300 microsiemens. Corresponding chlorinity over this range is approximately 200 to 300 ppm. At higher and lower values of conductivity, the curves converge and the difference between the two relationships decreases, with the exception of the trivial anomaly at a specific conductance of 250 microsiemens.

Figure 2 (attached) displays the same two curves, with the addition of 114 discrete data points. These data points represent water samples obtained and analyzed by USGS during Water Years 1964, 1965, and 1966, at five locations between Philadelphia (Ben Franklin Bridge) and Marcus Hook (source: USGS "Water Quality Records in Pennsylvania"). These data thus represent actual water quality conditions, including conductivity and chlorinity of river water samples, during the drought of record for the Delaware River. The samples were obtained from the zone of greatest concern for potential salinity intrusion and its impacts on ground water recharge and municipal and industrial withdrawals. The range of data included in Figure 2 was expanded relative to that in Figure 1 to include the highest observed conductivity/chlorinity data point from the 114 USGS water samples.

It can be seen in Figure 2 that the USGS conductivity/chlorinity data points from water sample analyses generally lie between the two curves, with neither curve uniquely representing a "best-fit" over the full range of the data. Although we concur that use of the "USGS Tables" yields higher chlorinity than the "DRBC equations," we do not find that the use of the "Tables" provides a superior representation of the conductivity-chlorinity relationship for the Philadelphia-Marcus Hook area than the "Equations." Further, we do not believe that the procedures used by the WES result in "conclusions which may be incorrect," especially since the purpose of the modeling was to determine the relative change in salinity distribution attributable to the deepening.

The prototype ("boat run") data provided by DRBC for the periods of 1965 and 1992-1993 are being evaluated by Dr. Billy Johnson, the principal model investigator at WES. However, there were no commitments made at the June 12, 1997 meeting to perform additional model runs based on receipt of the historic DRBC salinity data, nor was there a commitment to modify the FSEIS.

The salinity model investigation demonstrated that with the deepened channel, even under a recurrence of the drought of record, chlorinity at River Mile(RM) 98 does not exceed existing DRBC standards. The recurrence of the drought of record was selected as the worst-case scenario with respect to low flows and potential salinity intrusion. It is reasonable to expect that any other inflow scenario will result in impacts which are not as severe as those associated with the drought of record. Additionally, there is evidence from recent published investigations by USGS (Navoy, USGS) that

the present chlorinity standards for RM 98 are overly conservative with respect to possible impacts on Potomac Raritan Magothy (PRM) aquifer water quality in the Camden County area recharged by Delaware River water. Based on the above findings, it was concluded that there will be no adverse long term economic impacts to water users in the Estuary and as a result not included as part of the Benefit to Cost analysis.

The Corps of Engineers did model a one-foot sea-level rise scenario. The information from this simulation was not included in the FSEIS, but will be published with the WES Technical Report on the three-dimensional numerical hydrodynamic/salinity model study. A copy of this report will be provided to your office. However, the Corps believes that modeling of existing and potential future sea level conditions demonstrates that impacts of such sea level rise on salinity distribution are comparably small and thus negligible.

In order to put the model-predicted changes in salinity distribution due to deepening and sea level rise into proper perspective, it is helpful to examine the range in salinity which occurs at representative locations within the estuary over a wide range of time scales. Time series of salinity data for each reference location show the variation of salinity over time scales which include the tidal cycle (12.4 hours,) variations over periods of two to six months, and variations over periods with significantly different inflow regimes, from drought to high-flow. Reference FSEIS Tables 5-2 and 5-5, which respectively present salinity range data for a recurrence of the drought of record (July through November 1965,) and for the period July through November with monthly averaged inflows. In addition, the simulation presented in FSEIS Section 5.11.3 documents salinity range data for a recent high-flow period, April to May 1993.

As an example of this natural variability, data from RM 54 show that for the July- November 1965 simulation, salinity ranged between 6 and 17 ppt. For the same months with long-term averaged monthly inflow, salinity ranged between 1 and 9 ppt. Finally, during the April-May 1993 period, salinity never rose above 0 ppt. This represents a range of salinity from "fresh water" with 0 ppt salinity to "half-strength" seawater at 17 ppt. For perspective on the impacts of deepening and sea level rise, it should be noted that at RM 54, the hydrodynamic/salinity model predicts changes of less than 1 ppt attributable to deepening and sea level rise. A similar, if less dramatic, pattern of salinity variation over time occurs at locations throughout the estuary. It is judged that the large, natural variability of salinity within the estuary renders the changes associated with deepening and sea level rise largely a negligible environmental impact.

As discussed at our coordination meeting, a single run of the model was used to explore flow and salt exchange through the Chesapeake and Delaware (C&D) Canal and its impact on subtidal circulation and salinity in Delaware Bay and Upper Chesapeake Bay. Members of your staff may recall from coordination workshops during the course of the Delaware River Main Channel Deepening Study that this scenario was the last item selected by consensus of workshop participants for inclusion in the prioritized list of model production runs. The model run included boundary conditions for the regulated June to November 1965 period, first with the C&D Canal open, and then with the Canal closed.

In the simulation of this period with the canal open, net flow was westward, from Delaware Bay to Chesapeake Bay, contrary to the frequently quoted net eastward flow direction for the canal. In the simulation with the canal closed, there was of course no flow or salt exchange through the canal. In addition, the model run with the canal closed lowered chlorinity at RM 98, by about 25-50 ppm, compared to the run with the canal open. Although the results of this cursory investigation of C&D Canal impacts are clearly interesting, the use of only one set of boundary conditions limits the applicability of these results. However, the relationship of the C&D Canal to the proposed 45 foot Delaware River project has been adequately modeled by developing a set of representative boundary conditions for modeling changes in the Delaware River. As detailed at the December 18, 1997 workshop for the C&D Canal Deepening Study, we will further plan to investigate the impacts of incremental changes to the depth of the C&D Canal in light of a already completed deepening of the Delaware River to 45 feet.

The simulations to address the impacts of the proposed 45 foot channel were run with 1986 depletive uses, as determined by DRBC and provided to the Corps for application in the salinity model runs. It is our view that it is not necessary to make additional model runs with projected higher depletive uses for a number of reasons. First, there is evidence from recent published investigations by USGS (Navoy, USGS) that the present DRBC chlorinity standards for RM 98 are overly conservative with respect to possible impacts on PRM aquifer water quality in the Camden County area recharged by Delaware River water. Further, it is reasonable to believe that there are several possible alternate drought management strategies which could be investigated and implemented to conserve basin storage for more effective repulsion of salinity/chlorinity in the vicinity of RM 98 during drought conditions. Also, it is not likely that the DRBC would approve increased depletive uses without compensating storage provisions.

Compare DRBC Tables to DRBC Eqns

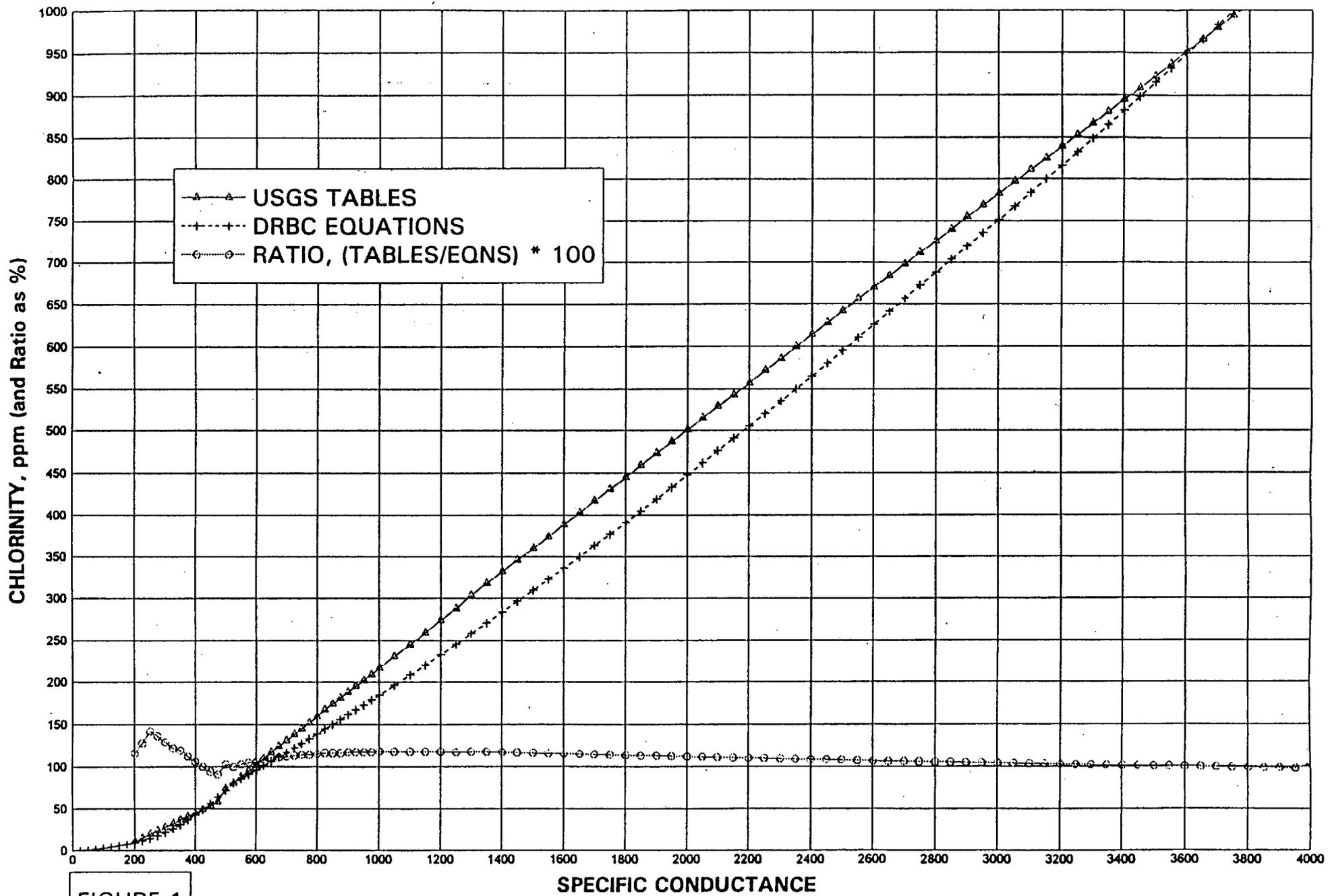


FIGURE 1

**Compare USGS Tables to DRBC Eqns
Plus 1964-66 USGS Water Samples, Phil to Marc Hk**

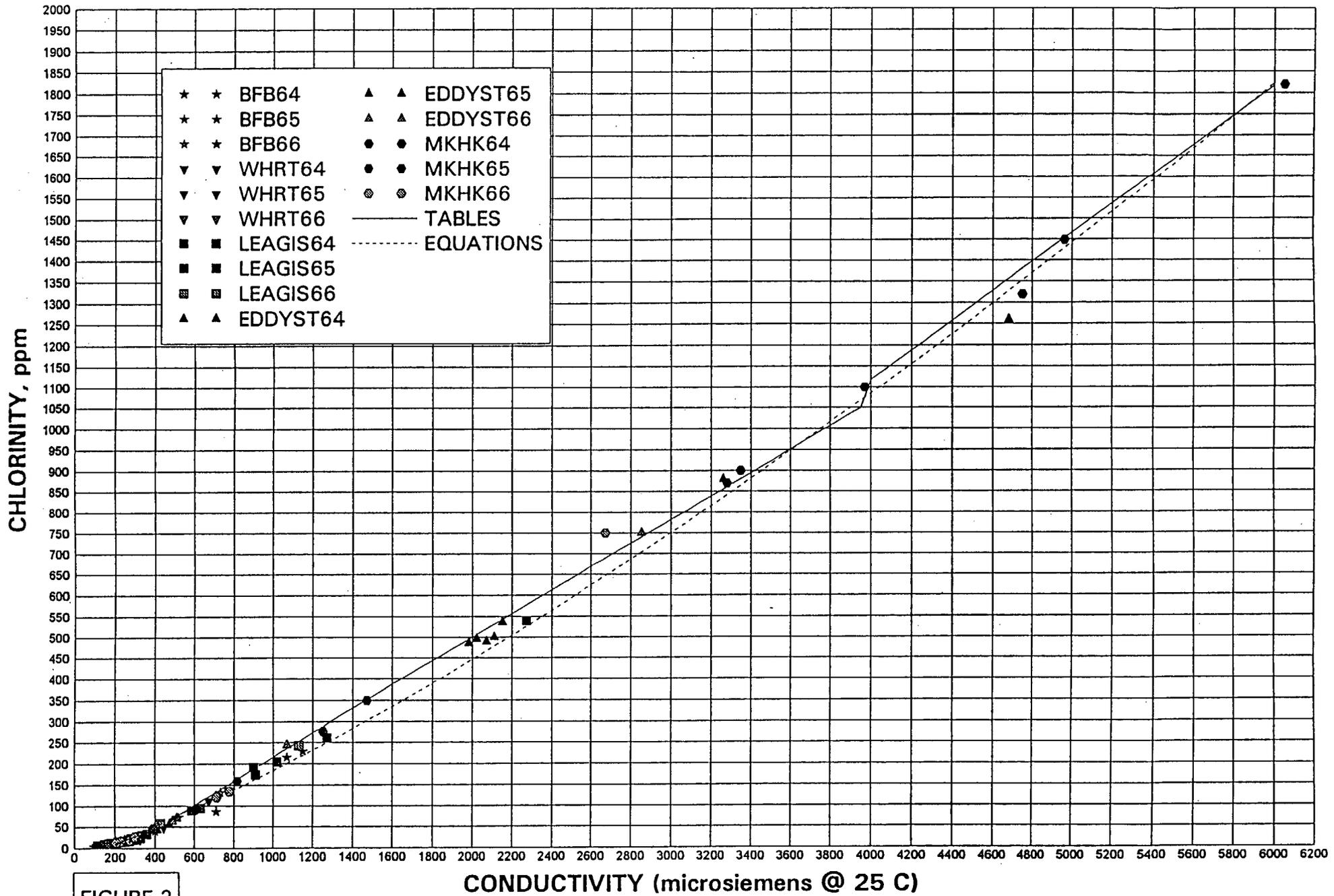


FIGURE 2



GERALD M. HANSLER
EXECUTIVE DIRECTOR

DELAWARE RIVER BASIN COMMISSION
P. O. BOX 7360
WEST TRENTON, NEW JERSEY 08628-0360

(609) 883-9500
FAX (609) 883-9522

HEADQUARTERS LOCATION
25 STATE POLICE DRIVE
WEST TRENTON, N. J.

August 26, 1997

Mr. Robert L. Callegari
Chief, Planning Branch
U.S. Army Corps of Engineers
100 Penn Square East
Philadelphia, PA 19107-3390

Dear Mr. Callegari:

This is in response to your request for comments on the Final Environmental Impact Statement for the proposed Delaware River Main Channel Deepening Project. We have compared the section on impacts of the project on salinity in the Estuary and find no changes were made as a result of our meeting with U.S. Army Corps of Engineers staff, including Billy Johnson, of the W.E.S. At that meeting questions were raised concerning the poor calibration of chlorides of the model for some months at Chester and at the Ben Franklin Bridge and the possibility of the model under-predicting due to use of observed data and the conversion of that data that may not be correct. In response to this latter point, the Commission subsequently provided the Corps with measured river boat run chloride data for the 1965 and 1992-93 periods of calibration and verification. This was to allow the Corps to make additional comparisons of predicted and observed chlorides. Also, our analysis indicated that conversion of specific conductance to chlorides using the tables provided by the U.S. Geological Survey yields significantly higher chlorides than those determined from conversion equations used by the Corps. The tabular conversion appears more consistent with the data found in the 1954 report by Keighton (U.S.G.S. WSR 1262). The use of model results which under predict chlorides in the area of the ground aquifer interface at and above River Mile 98, can result in conclusions which may be incorrect.

While the above questions the model's ability to reproduce the actual salinity in the areas discussed, we have no reason to question the model's prediction of the change in salinity resulting from the channel deepening. We concur that the Corps' use of the new complex 3-dimensional model should more accurately predict change resulting from changes in channel geometry. The impact of the proposed channel deepening on the upstream movement of the chloride profile, according to the Corps model will be substantial, up to 40 mg/l of chlorides. An increase of this magnitude is substantial and will have a major economic impact on the water users in the Estuary. The economic impacts of increased chlorides were not evaluated but

should be included in the cost/benefit analysis for the proposed project. The Corps completed an earlier study on impacts of increased chlorides on municipal and industrial water costs (Delaware Estuary Salinity Intrusion Study, December 1982).

Coupled with this impact are those of the effects of future sea level rise and the effect of the proposed deepening of the C & D Canal. It is our understanding that the Corps has not included any future sea level rise. We can understand the uncertainty of using one of the accelerated theories based on the "greenhouse effect", but to totally ignore the measured historic change does not seem prudent. We know of no expert that has recommended zero rise for the future. The Delaware Basin was selected for a major study by the U.S. Geological Survey on climate change and that report is titled "Sensitivity of Water Resources in the Delaware River Basin to Climate Variability and Change" (Open file report 92-52). Also, EPA has recently published a revised report "The Probability of Sea Level Rise", (EPA 230-R-95-008). All indicate some sea level rise for the foreseeable future.

At the meeting, staff learned that the C & D Canal has had a significant impact on the chloride levels at River Mile 98 and also was informed that the Corps was concurrently working on a plan to deepen the entire C & D Canal by five feet. While we are not familiar with all aspects of both projects to evaluate the independence of the two channel deepening projects, it is clear that the EIS of the Delaware River channel deepening is not complete and would be remiss to not fully disclose all available information. The C & D Canal deepening to forty feet should be linked to and combined with the impact of the Delaware River project for the total impact analysis.

The Commission also provided estimates of the Year 2020 depletive uses for determination of the increased chlorides caused by these increases. We have not seen any results of the Corps study in which these future uses were assessed.

Thank you for the opportunity to allow further comment on this E.I.S. for the proposed Delaware River Channel Deepening. We would welcome further opportunity to discuss our comments with you.

Sincerely,



Gerald M. Hansler

c: All Commissioners
Council on Environmental Quality

25 FEBRUARY 1998

BRADY

PASQUALE

LULEWICZ

FRAMPER

MARALDO

BURNES

CALLEGARI

Environmental Resources Branch

Ms. Sarah W. Cooksey
 Delaware Coastal Management Program
 89 Kings Highway
 P.O. Box 1401
 Dover, Delaware 19903

MAR 05 1998

Dear Ms. Cooksey:

Thank you for your letter dated August 29, 1997 on the Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS), dated July, 1997.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

As stated in our letter of April 30, 1997, the Corps will restrict dredging within close proximity of the Pea Patch Island wading bird colony between 1 April and 30 August.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project. If you wish to meet with us, or have any questions, please contact John Brady of my staff at 215-656-6555.

Thank you for your comments and continuing participation in the review of this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
DIVISION OF SOIL AND WATER CONSERVATION
89 KINGS HIGHWAY
P.O. BOX 1401
DOVER, DELAWARE 19903

OFFICE OF THE
DIRECTOR

TELEPHONE: (302) 739-3451

August 29, 1997

Mr. Robert Callegari
U.S. Army Corps of Engineers
Philadelphia District
100 Penn Square East
Philadelphia, Pennsylvania 19107-3390

**RE: *Delaware River Main Channel Deepening Project
July 1997 - Supplemental Environmental Impact Statement***

Dear Mr. Callegari:

The Delaware Coastal Management Program (DCMP) has received and reviewed the above referenced document. The DCMP would like to offer the following comments on the July 1997 Supplemental Environmental Impact Statement (SEIS) for the Delaware River Main Channel Deepening Project.

Underwater Sand Stockpiles

The DCMP's position on offshore sand stockpiles MS-19 and L5 has evolved from one of concern to one of vigorous opposition. Instead, the DCMP seeks the restoration of our coastal defenses and the creation of habitat as the highest and best use of this valuable material. The apparent cost savings of sand placement underwater does not negate the negative impacts to benthic resources and fisheries habitat. Please refer to the attached memo from Andy Manus, Director of the Delaware Division of Fish and Wildlife to Sarah Cooksey, Administrator of the DCMP.

The DCMP would like to further note that the May 1, 1997, Federal Consistency Concurrence for this project was based upon the Corps agreement to address this issue in their April 30, 1997 letter.

Request for a Public Hearing

In the May 1, 1997, Federal Consistency Certification, the DCMP requested that the Corps hold an informational public meeting for the citizens of the State of Delaware so that they could be aware of this project and understand its scope. In addition to the DCMP's request for a public meeting, Appendix D of the SEIS contains nine separate written requests from Delawareans for a public hearing on the Main Channel Deepening Project. The Corps response to State Representative, Shirley A. Price's request for a public hearing states that in order for a public hearing to be held there must be substantial environmental controversy and a request for a hearing by another agency with jurisdiction over the action that is supported by reasons why a hearing would be helpful. The

mere number of citizens that have signed their names to requests for a public hearing indicates that there is a substantial degree of controversy regarding this project. The Federal Coastal Zone Management Act of 1972 as amended, gives the DCMP authority over Direct Federal Activities that effect the land, water, or natural resources of Delaware's coastal zone. Since the DCMP has authority to request a public hearing for the citizens of the State of Delaware and the fact that this project has proven to be controversial, it is imperative that the Corps hold a public hearing on the Main Channel Deepening Project.

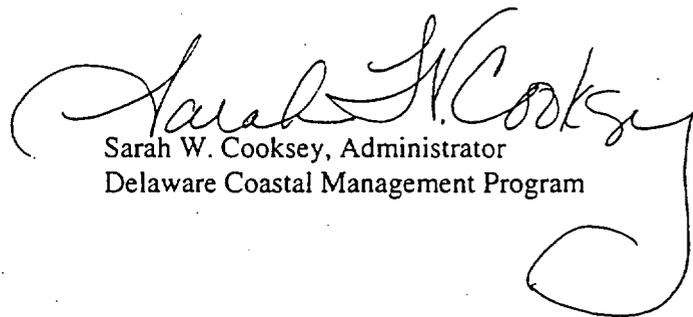
The DCMP is adamant about it's request for a public hearing. The Corps inability to address numerous written and verbal requests is unacceptable at this point in the project's process.

Pea Patch Island Heronry

In the April 30, 1997 letter the Corps agreed to restrict dredging for initial construction and subsequent maintenance of the 45 foot channel within close proximity to the wading bird colony at Pea Patch Island between 1 April and 30 August. In the July 1997 SEIS, Table 1-1 indicates that this restriction is only between 1 April and 1 August. The table should be amended to reflect this discrepancy.

The DCMP thanks the Army Corps of Engineers for the opportunity to comment and hopes that the issues raised herein are addressed promptly.

Sincerely,



Sarah W. Cooksey, Administrator
Delaware Coastal Management Program

SWC/jll
Enclosure

cc: Senator Joseph Biden
Senator William Roth
Representative Michael Castle
Governor Thomas Carper
Andrew Manus, DNREC
John Hughes, DNREC
Gerard Esposito, DNREC



AUG 27 1997

DELAWARE COASTAL
MANAGEMENT

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF FISH AND WILDLIFE
89 KINGS HIGHWAY
PO BOX 1401
DOVER, DELAWARE 19903

OFFICE OF THE
DIRECTOR

MEMORANDUM

TO: Sarah Cooksey, Administrator, Delaware Coastal Management Program

FROM: *Andrew T. Manus*
Andrew T. Manus, Director, Division of Fish and Wildlife

SUBJECT: Proposed Sand stockpile/Beneficial Use of Dredged Spoils/Mid Channel Deepening Project

DATE: August 20, 1997

The purpose of this memo is to provide input from the Division of Fish and Wildlife regarding the proposed beneficial use of sand dredged material from the Mid-channel deepening project. Division of Fish and Wildlife staff attended the 10 July 1997 public meeting on proposed sand stockpiles off Slaughter Beach and Broadkill Beach for future beach nourishment of these beaches. The Division of Fish and Wildlife, acknowledges that appropriate sources of sand for future replenishment have been largely exhausted in these areas, and that there is a need to protect beach-front development in these areas.

During the past two years, Jeff Tinsman of my staff has been involved in helping with the planning efforts for beneficial use of dredged material in the Mid-channel deepening project, specifically with regard to Kelly Island marsh creation. The recent Supplemental Environmental Impact Statement circulated for comment by the Corps. provided the first opportunity for Division of Fish and Wildlife review of the proposed sand stockpile beneficial use of dredged spoil. The meeting on 7/10/97 provided an opportunity for commercial and recreational fishermen to react to proposed beneficial use and provide input.

Having heard the public input, the Division of Fish and Wildlife has the following comments regarding proposed sand stockpile sites L5(Broadkill) and MS-19(Slaughter):

1. Evidence (samples) was presented by Jerry Blakeslee at the 7/10/97 meeting that hard substrate exists off Slaughter Beach to support a highly productive, diverse, epibenthic community. This benthic community includes sand coral (*Sabellaria vulgaris*), northern coral (*Astrangia donae*), serpulid worm colonies (*Hydroides dianthus*), sulfur sponge (*Cliona cellata*), blue mussels (*Mytilus edulis*). These community dominant species in turn support commercially and recreationally important fish, including weakfish (*Cynoscion regalis*), summer flounder (*Paralichthys dentatus*) and other species.

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2. Proposed sand stockpile MS-19, off Slaughter Beach, would receive 1.4 million cubic yards of sand on 250 acres of bay bottom. Depth would change from 8' to 3'. Proposed sand stockpile L5, off Broadkill Beach, would receive 1.9 million cubic yards on 230 acres. Depth would change from 6' to 3'.

3. John Brady of the Corps. disputed the importance of MS-19 as a sand coral community, indicating that *Sabellaria* had been collected in only one of many benthic grab samples. His conclusion may not be valid because all epibenthos are patchy in distribution and may be under represented in quantitative grab samples. This component of the benthos is better characterized using a qualitative dredge sampler. This type of sampling was not done in the Corps. study.

4. Numerous recreational and commercial fishermen made the point that the area adjacent to MS-19 is a very important feeding and spawning area for weakfish and other game fish. In that regard, this area may be considered essential fish habitat as defined in the reauthorized Magnuson-Stevens Conservation and Management Act. (P.L. 94-265).

5. Because MS-19 is a valuable, productive fisheries habitat, it is an important commercial (draft net, commercial hook and line) and recreational (private, head and charter boat) fishing area. Altering the depth from 8' to 3' will not only alter productive habitat but exclude both fisheries. The 250 acres to be initially impacted will change as this sand moves due to tidal currents and storm events.

6. Opposition to sand stockpiles is broad based including recreational and commercial fishermen, environmentalists and federal agencies. The Planning Aid Document for the beneficial use aspects of this project, prepared for the Corps. by the U.S.F.W.S. New Jersey office, noted problems with the stockpile concept.

7. Essential fish habitat and the users of this area would benefit from placement of sand directly on the two beaches proposed and other areas also in severe need of beach nourishment:

1. Port Mahon to Pickering Beach
2. S. Kitts Hummock to St. Jones River
3. Big Stone Beach to Mispillion River
4. Fowler's Beach

(See ATM memo to J. Hughes 7/23/97)

8. The Corp's only opposition to placing sand directly onto the beach is an economic one, a projected cost of about \$1.00 per cubic yard or \$3.3 million in a total budget in excess of \$300. million.

Please convey to the Corps. of Engineers that loss of highly productive fish habitat which economically impacts both recreational and commercial fishers can not be considered "Beneficial Use". The Delaware Division of Fish and Wildlife favors a more diversified approach of enhancing Delaware's bayfront by placing clean sand material directly on the beach, rather than stockpiling it in nearshore fish habitat.

CENAP-PL-E
6554/am
05 MARCH 1998
BRADY

PASQUALE

LULEWICZ

KAMPER

MARALDO

MB
BURNES

CALLEGARI

John MB

Environmental Resources Branch

Gerard L. Esposito
Director
Division of Water Resources
Department of Natural Resources
and Environmental Control
89 Kings Highway, P.O. Box 1401
Dover, Delaware 19903

MAR 05 1998

Dear Mr. Esposito:

Thank you for your letter dated February 8, 1998 on the Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement, dated July, 1997.

As requested, attached is a copy of the project authorization, PL. 102-580 Section 101(6). As we have previously stated, the Section 404(r) exemption waves the requirement for a water quality certificate and/or 404 permit for that portion of this project that had been included in an environmental impact statement that was submitted to Congress prior to discharge of dredged or fill material. If we are able to replace the approved sand stockpiles and place the sand on nearby beaches, we would obtain a corresponding Delaware Coastal Zone Consistency Determination for the change. Appropriate state approvals will be obtained during the Plans and Specifications phase of this project. We would like to meet and consult with you to discuss any concerns that you may have. John Brady of my staff will be contacting you soon to arrange a meeting.

Concerning requests for a public hearing, we intend to turn our attention to this next. An appropriate public proceeding will be announced in a separate public notice. In the interim, my staff would welcome the opportunity to meet with you or your organization to discuss the project.

-2-

Thank you for your comments and continuing participation in the review of this project.

Sincerely,

Robert L. Callegari
Chief, Planning Division

Attachment

cc: Mr. William F. Moyer, Program Manager

DELAWARE RIVER MAIN CHANNEL DEEPENING AUTHORIZATION

Water Resources Development Act of 1992-102 Congress - PL 102-580 Section 101(6)

(6) DELAWARE RIVER MAINSTEM AND CHANNEL DEEPENING, DELAWARE, NEW JERSEY, AND PENNSYLVANIA.—The project for navigation, Delaware River Mainstem and Channel Deepening, Delaware, New Jersey, and Pennsylvania: Report of the Chief of Engineers, dated June 29, 1992, at a total cost of \$294,931,000, with an estimated Federal cost of \$195,767,000 and an estimated non-Federal cost of \$99,164,000.



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF WATER RESOURCES
89 KINGS HIGHWAY, P.O. BOX 1401
DOVER, DELAWARE 19903

OFFICE OF THE
DIRECTOR

TELEPHONE: (302) 739 - 4860
FAX: (302) 739 - 3491

February 5, 1998

Mr. Robert Callegari, Chief
Planning Division
Philadelphia District, Corps of Engineers
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3391

RE: Delaware River Main Channel Deepening Project

Dear Mr. Callegari:

In the past year, two letters regarding the above referenced project, as it relates to the requirements for Water Quality Certification and Subaqueous Lands Permitting, have been sent to the Planning Division. (copies attached) I would very much appreciate receiving a response to our inquiry regarding the 404 exemption for Water Quality Certification and submission of a subaqueous lands permit application. I do not want to find ourselves in a situation that would cause unnecessary delays as a result of our permitting/certification process.

Thank you for your attention to this matter.

Sincerely,

Gerard L. Esposito
Director

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STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF WATER RESOURCES
89 KINGS HIGHWAY, P.O. BOX 1401
DOVER, DELAWARE 19903

WETLANDS & SUBAQUEOUS
LANDS SECTION

TELEPHONE (302) 739-4691
FACSIMILE (302) 739-3491

Mr. Robert Callegari, Chief
Planning Division
Philadelphia District, Corps of Engineers
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3391

Re: Delaware River Main Channel Deepening Project July, 1997 Supplemental
Environmental Impact Statement

Dear Mr. Callegari:

This office has reviewed the above referenced document and would like to offer the following comments:

In my April 11, 1997 to Dr. John Brady (in Appendix D), I requested clarification of the 404@ exemption for Section 401 Water Quality Certification. Although the exemption is not being contested, appropriate documentation in the form of any legal opinion, case law and a copy of the congressional authorization for this project is needed for our file.

In appendix D of the document, it states that all appropriate state and local permits will be obtained prior to construction. Would you please advise as to the anticipated date for submitting a Subaqueous Lands Permit application to this office.

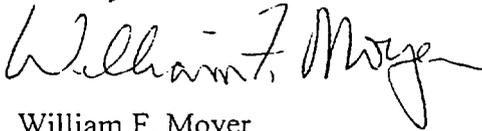
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Robert Callegari
Corp of Engineers
September 12, 1997
page 2

I would also like to reiterate the request for a public hearing on this project as stated in Sarah Cooksey's August 29, 1997 letter to you. A project of this magnitude should be scrutinized not only by federal, state and local governments but also by the citizens who would like to participate in the process.

Thank-you for the opportunity to comment.

Sincerely,

A handwritten signature in cursive script that reads "William F. Moyer". The signature is written in dark ink and is positioned above the typed name.

William F. Moyer
Program Manager
Wetlands & Subaqueous
Lands Section

cc: Gerard Esposito
Sarah Cooksey



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF WATER RESOURCES
89 KINGS HIGHWAY, P.O. BOX 1401
DOVER, DELAWARE 19903

WETLANDS & SUBAQUEOUS LANDS SECTION

TELEPHONE (302) 739-4691
FACSIMILE (302) 739-3491

April 11, 1997

Mr. John Brady
U.S. Army Corps of Engineers
100 Penn Square East
Philadelphia, PA 19107

RE: Delaware River Main Channel Deepening Project

Dear Mr. Brady:

In a Fax to this office dated January 24, 1997, you stated that, "The Corps does not intend to apply for a 401 because we have an exemption under 404 (R)" I requested and have received an opinion from the Delaware Office of the Attorney General regarding Section 404(r) of the Clean Water Act (CWA).

To summarize, it is our position that section 404(r) specifically exempts qualifying projects from the requirements of section 404 but not the requirement of section 401 of the CWA. The limited nature of this exemption is also established in 33 C.F.R. §323.4(d) which provides that, "Federal projects which qualify under the criteria contained in Section 404(r) of the CWA are exempt from Section 404 permit requirements, but may be subject to other state and or Federal requirements".

Unless this office is provided with irrefutable justification for why water quality certification is not required, we will expect an application for a subaqueous lands permit and section 401 Certification for the above referenced project.

If you have any questions regarding this matter, please feel free to call.

Sincerely,

William F. Moyer
Program Manager II
Wetlands and Subaqueous
Lands Section

pc: Gerard L. Esposito
Jeanne Langdon
Sarah Cooksey
Laurie Moyer
Laura Herr

WFM/djr
wfm97025

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25 FEBRUARY 1998

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Environmental Resources Branch

Mr. Robert R. Jordan, State Geologist
Delaware Geological Survey
University of Delaware
Newark, Delaware 19716-7501

MAR 05 1008

Dear Mr. Jordan:

Thank you for your letter dated August 26, 1997 on the Delaware River Main Channel Deepening Project, Final Supplemental Environmental Impact Statement (FSEIS), dated July, 1997.

We are pleased that you are in agreement with our study findings that there should be no adverse effects on the quality of the ground-water supply of Delaware.

The effects of placing dredged sandy sediments in submerged stockpiles in Delaware Bay have been evaluated using several procedures which include numerical modeling of both wave and current transport, and an empirical assessment of stockpile stability. The results of these analyses indicate that the sand placed at the stockpile sites would be gradually dispersed, principally in the onshore and alongshore directions, over a period of decades. The numerical wave and sediment transport modeling indicates that the stockpile sites, with the crest of four feet below MLW, would have no detectable effect on wave distribution or sediment transport at the shoreline landward of the stockpiles. Since the stockpiles are limited to an elevation of five feet below MLW and are limited in area, there would be no significant impact on wave climate on the coast.

The FSEIS called for the stockpiling of sand at offshore locations in the vicinity of Broadkill Beach and Slaughter Beach, Sussex County, Delaware for future beach replenishment. Comments on the FSEIS noted fishery and habitat-related concerns at the sites identified and approved for interim placement of sandy dredged materials. In response, and to avoid potential impacts at these locations, the Philadelphia District has begun the design and cost evaluation process to shift placement of this dredged material to beneficial use at nearby beach sites, such as Broadkill Beach. The District will develop site specific data as part of the Plans and Specifications for the lower Delaware Bay portion of the overall project, and make available appropriate environmental documents, prior to actual beach construction; about 2 years from now. The initial assessment indicates this modification is both economically and environmentally feasible.

Although the material may not be fully compatible with the existing beach material, it is a clean, fine to medium sand that will provide substantial protection to the Delaware Bay coast, and will perform adequately as a beachfill.

Thank you for your comments and continuing participation in the review of this project. If you have any questions, please contact John Brady of my staff at 215-656-6555.

Sincerely,

Robert L. Callegari
Chief, Planning Division

State of Delaware
DELAWARE GEOLOGICAL SURVEY
UNIVERSITY OF DELAWARE
Newark, Delaware
19716-7501

ROBERT R. JORDAN, STATE GEOLOGIST
DELAWARE GEOLOGICAL SURVEY BUILDING
PHONE: 302-831-2833
FAX: 302-831-3579
E-MAIL: DGS@MVS.UDEL.EDU

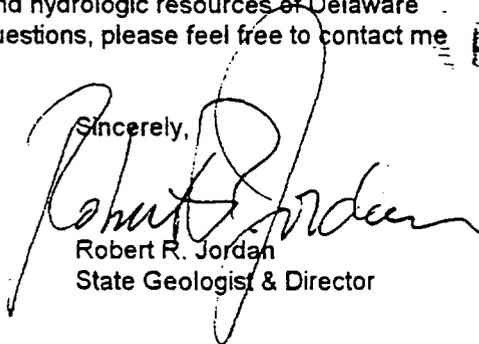
August 26, 1997

Mr. Robert L. Callegari
Chief, Planning Division
U. S. Army Corps of Engineers
Philadelphia District
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

Dear Mr. Callegari:

The Delaware Geological Survey reviewed the Final Supplemental Environmental Impact Statement for the Delaware River Main Channel Deepening Project dated July 1997. Our comments pertain only to the potential impacts of this project on the geologic and hydrologic resources of Delaware and are discussed in the attached position paper. If you have any questions, please feel free to contact me or other members of the DGS staff at (302) 831-2833.

Sincerely,



Robert R. Jordan
State Geologist & Director

dcw

attachment

26 August 1997

Delaware Geological Survey
Position Paper

on the

Delaware River Main Channel Deepening Project
US Army Corps of Engineers

The U. S. Congress authorized the Delaware River Main Channel Deepening Project (Project) in October 1992 as part of the Water Resources Development Act of 1992. In July 1997 the Philadelphia District of the U. S. Army Corps of Engineers (USACE) released a Supplemental Environmental Impact Statement (SEIS) to provide additional information and environmental analyses to address concerns raised during review of the Feasibility Report and Environmental Impact Statement (FREIS; February 1992). The Project includes deepening the existing navigation channel from 40 to 45 feet from Philadelphia to deep water in Delaware Bay, widening of several channel bends, and deepening of the Marcus Hook anchorage. Dredged material from the riverine portion of the project area would be placed in upland disposal sites. In Delaware Bay, the dredged material would be used for wetland restoration and for stockpiling of sand for future beach nourishment projects.

Questions have been asked of the Delaware Geological Survey (DGS) about the impact of this project on the geologic and hydrologic resources of Delaware. DGS staff reviewed the FREIS and SEIS and identified the following two potential issues of concern:

- 1) What are the effects of channel enlargements on the quality of ground-water resources?
- 2) What are the effects of stockpiling sand in the Delaware Bay offshore Delaware?

1. Effects of channel enlargements on the quality of ground-water resources.

Based on our current understanding of the hydrogeologic framework of the aquifer systems near the river, the effects of channel enlargements on the quality of the ground-water resources of Delaware should be negligible. Navoy, in Appendix A of the SEIS, reached a similar conclusion for the reach of the river above Wilmington. The potential for infiltration from the river to the Potomac aquifer system is suggested by

ground-water levels in the aquifers that are below the level of the river (Martin, 1984). More direct evidence includes chloride concentrations in the aquifers that are above background levels (Philips, 1987). The SEIS addresses the concern that channel modifications could increase the potential for saltwater infiltration due to either the breaching of a confining unit or the movement of saltwater upriver to existing recharge locations.

Recharge most likely occurs in exposures of the aquifer in the river (in the reach upstream of Little Tinicum Island; Navoy, Appendix A of SEIS) and through relatively high-permeability sediments that fill Pleistocene river channels that cut through the Potomac confining unit into the underlying aquifer (Philips, 1987). The existing shipping channel is laterally offset from this Pleistocene channel. Based on the work reported in the FREIS and SEIS and review of other documents (Duran, 1986; Talley, 1985; Lewis et al., 1991), planned deepening should not breach any major confining units upstream of Pea Patch Island. While data are insufficient to fully evaluate the effects in the parts of the channel south of Pea Patch Island, our current understanding of the hydrogeologic framework of the aquifer systems near the river indicates that dredging should not breach any significant confining units. We conclude that channel changes should have no significant adverse impact on ground-water systems due to the breaching of confining units.

The SEIS presents a thorough discussion reviewing the spatial and temporal distribution of salinity and the results of hydrodynamic and salinity modeling in the estuary. Modeling indicates that the proposed dredging will result in salinity increases in the Philadelphia/Camden area during a recurrence of the drought of record. However, based on ground-water modeling of the Potomac aquifer system in the Camden area, the SEIS concludes that these increases should not have any adverse effects on potable wells adjacent to the fresh-water portion of the river. The part of the estuary adjacent to the Delaware shoreline is not classified as fresh water but rather as various grades of haline (oligo-, meso-, and poly-haline) water (Figure 5-9 of SEIS). Results of the SEIS hydrodynamic modeling show relatively minor increases in salinity in these reaches. Based on these results and our current understanding of ground-water recharge in these areas, we do not anticipate any adverse effects on the ground-water supply of Delaware.

2. Effects of sand stockpiles on beach erosion/deposition.

The FREIS and SEIS do not adequately document the effects of offshore sand stockpiling on the wave climate of the adjacent beaches nor the feasibility of using this stockpiled material for beach nourishment. The report states that longshore transport of sand on the beach would not be affected by the sand stockpiles, but does not fully address the long-term changes in the wave climate that may affect coastal processes. More information is needed to determine if the dredge material is texturally compatible to that of the existing beaches. Only four cores were analyzed over the 12-mile reach of channel proposed to be the source of stockpile material. Given the heterogeneity of lithologies expected, such a small number of sample sites may not adequately characterize the

dredge material to be encountered. The available documents do not provide enough textural data on the sand fraction of the cores to determine the suitability of the dredge material for beach nourishment. If the spoil is amenable with beach nourishment, placing it directly on the beach rather than stockpiling it offshore appears to be a more beneficial use and would be less likely to trigger unexpected effects on the local wave climate and sediment transport regimes.

References Cited

- Duran, P. B., 1986, Distribution of bottom sediments and effects of proposed dredging in the ship channel of the Delaware River between northeast Philadelphia Pennsylvania and Wilmington, Delaware, 1984: USGS HA-697; scale 1:48,000.
- Lewis, J. C., J. J. Hochreiter Jr., G. J. Barton, J. Kozinski, and F. J. Spitz, 1991. Hydrogeology of, and ground-water quality in, the Potomac-Raritan-Magothy Aquifer System in the Logan Township Region, Gloucester and Salem Counties, New Jersey: USGS Water-Resources Investigations Report 90-4142, 92 p.
- Martin, M. M., 1984, Simulated ground-water flow in the Potomac Aquifers, New Castle County, Delaware: USGS Water Resources Investigations Report 84-4007, 85 p.
- Phillips, S. W., 1987, Hydrogeology, degradation of ground-water quality, and simulation of infiltration from the Delaware River in the Potomac Aquifers, Northern Delaware: USGS Water-Resources Investigations Report 87-4185, 86 p.
- Talley, J. H., 1985, Geologic Cross-Section of Delaware River, Red Lion Creek to Killcohook National Wildlife Refuge: Delaware Geological Survey Miscellaneous Map Series No. 3.

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CALLEGARI

Environmental Resources Branch

Ms. Rita Shade Simpson
Principal Planner, Environmental
Salem County Planning Board
94 Market Street
Salem, New Jersey 08079

MAR 05 1998

Dear Ms. Simpson:

Thank you for letter dated August 15, 1997 concerning comments on the *Delaware River Main Channel Deepening Project, Final Supplemental Impact Statement*, dated July, 1997.

Our economic and environmental analysis concluded that the most viable disposal plan of dredged material from the deepened Delaware River channel in the vicinity of Elsinboro Township, Pennsville and Penns Grove would be placement to confined upland disposal areas.

Under a separate ongoing Corps study, "*Delaware Bay Coastline - Delaware and New Jersey, Oakwood Beach Interim Feasibility Study*", various alternative plans, including sand placement, are being evaluated to arrest the erosion at Oakwood Beach in Elsinboro Township. For the other two communities, studies could be conducted by the Corps under two other authorities. Section 204 of the Water Resources Development Act of 1992 provides the authority for the Corps to investigate the beneficial use of dredged material in connection with dredging for construction, operation, or maintenance of an authorized Federal navigation project and improvement of an ecosystem habitat. Section 145 of the Water Resources Development Act of 1976 allows for placement of sand on beaches, if requested by a state, which has been dredged in constructing or maintaining a navigation channel adjacent to such beaches, if the studies conclude that such an action is in the public interest. Studies or project costs under these authorities would be cost shared with a non-Federal sponsor. A request would have to be made by the municipality or the State of New Jersey to initiate either of these type of studies and financially participate therein.

ACKNOWLEDGEMENT BETWEEN
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
AND
U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

PURPOSE

The purpose of this memorandum is to set forth the acknowledgements between the New Jersey Department of Environmental Protection and the U.S. Army Corps of Engineers, Philadelphia District regarding the following dredging and dredged material disposal issues:

A. NJDEP Water Quality Certification 0880-90-0001.4 for the maintenance of the Delaware River Philadelphia to Sea 40-foot Federal Navigation project, and

B. NJDEP Coastal Zone Consistency Determination 0000-90-0005.3 for construction and maintenance of the Delaware River 45-foot Federal Navigation Project.

This memorandum provides the framework to accomplish the following:

1. Implement management and monitoring for surface dewatering discharges from existing confined upland disposal facilities for the maintenance dredging of the existing Federal Navigation Project, Delaware River Philadelphia to the Sea 40-foot Project, and additional confined upland disposal facilities for the construction and maintenance dredging of the Delaware River Main Channel 45-foot Deepening Project.

2. Implement management and monitoring for ground water discharges from existing confined upland disposal facilities for the maintenance dredging of the existing Federal Navigation Project, Delaware River Philadelphia to the Sea 40-foot Project, and additional disposal facilities for the construction and maintenance dredging of the Delaware River Main Channel 45-foot Deepening Project.

3. Provide public fishing access to the Delaware River at the Racoon Island confined upland disposal facility.

4. Confirm and further evaluate the effects of potential salinity changes on oyster populations due to the deepening project.

5. Develop and implement a monitoring plan to assess the long term effectiveness of the habitat development project at Egg Island Point and any effects of the habitat development project to the oyster beds proximate to this site.

6. Develop sediment sampling and testing protocols to be implemented throughout the life of the Delaware River Main

Channel 45' Deepening Project.

PROJECT AREA

The project area is located within the Delaware River and Bay and the borders of the Commonwealth of Pennsylvania, and the States of New Jersey and Delaware. It extends over 100 river miles of the Delaware River and Bay, from Philadelphia, Pennsylvania to the mouth of the Delaware Bay.

OVERVIEW

The Philadelphia District of the U.S. Army Corps of Engineers (Corps) and the New Jersey Department of Environmental Protection (DEP) will form a working group to develop appropriate coordinated sediment sampling and testing programs, surface water discharge monitoring plans and ground water protection program plans which will be implemented in conjunction with the maintenance dredging of the existing 40-foot Federal Navigation project, and the construction and maintenance dredging of the 45-foot Main Channel Deepening Project. These plans will consider the results of previously collected Delaware River sediment quality data, the location of dredging within the Delaware River, and the technical design of the confined upland disposal facility to be used for each reach of the channel. Sampling, testing and monitoring plans will be implemented at the appropriate time based on the timing of the dredging activities for both the maintenance dredging of the existing project and the construction and maintenance dredging of the deepening project.

SEDIMENT SAMPLING AND TESTING

Previously collected sediment quality data will be used to identify contaminants of concern, which will then be the focus of additional sediments tests. The level and frequency of sampling and type of testing will be determined by the working group. This testing will include bulk sediment chemistry analysis. Sampling plans will consider the location of dredging within the Delaware River. More extensive sampling may be required in industrialized portions of the river (i.e. between Philadelphia, Pennsylvania and Wilmington, Delaware) than in less developed areas such as the lower portion of the river and Delaware Bay. Sampling may also be reduced over time in areas provided that a data base is established to document that the sediments are adequately characterized and not contaminated at levels of concern.

In areas which are determined by the working group to be sufficiently characterized, if contaminants have not been detected, or contaminants have been detected at levels below concern, additional evaluation will not be required at this time. However, the full spectrum of contaminants will require periodic testing over the life of the project, to insure that sediment conditions have not changed.

Based on an evaluation of the previously collected data and any additional sediment testing, modifications to design and method of operation of the confined upland disposal facilities will be evaluated by the working group and implemented by the Corps as needed to protect human health and wildlife. Management of the CDFs may include institutional controls, sequencing of disposal, or other techniques. The Corps shall coordinate the development and implementation of final closure plans for each confined upland disposal facility with the DEP when the facilities are no longer to receive dredged material.

SURFACE WATER MANAGEMENT AND MONITORING

Previously collected data will be used to identify contaminants of concern, which will then be the focus of additional water quality tests. The level and frequency of sampling and type of testing will be determined by the working group. This testing will include modified elutriate testing of sediment and monitoring of effluent discharge from the confined upland disposal facilities. Sampling and monitoring plans will consider the location of dredging within the Delaware River. More extensive sampling may be required in industrialized portions of the river (i.e. between Philadelphia, Pennsylvania and Wilmington, Delaware) than in less developed areas such as the lower portion of the river and Delaware Bay. Sampling and monitoring may also be reduced over time in areas provided that a database is established to document that surface water quality is not impacted.

In areas that are determined by the working group to be sufficiently characterized, if contaminants have not been detected, or contaminants have been detected at levels below concern, additional evaluation will not be required at this time. However, the full spectrum of contaminants will require periodic testing over the life of the project, to insure that sediment conditions have not changed.

Based on an evaluation of the previously collected data and any additional water quality testing/monitoring, modifications to the design and method of operation of the confined upland disposal facilities will be evaluated by the working group and implemented by the Corps as needed to protect water quality. Modifications to improve the quality of dewatering effluent discharged from the sites will primarily be directed to increasing the residence time on a site, which would allow additional settling of suspended sediment prior to the discharge.

GROUND WATER MONITORING

In consideration of previous geotechnical and hydrogeologic investigations contracted through or conducted by the Corps, NJDEP has agreed to allow the use of the following confined upland disposal facilities (CDF) for disposal and containment of sediments from the subject dredging operations: National Park,

Oldmans No. 1, Pedricktown North, Pedricktown South, 17G, Raccoon Island, 15D, 15G, Penns Neck, Killcohook Nos. 1, 2 and 3 and Artificial Island.

This acknowledgement is based upon the development of ground water protection program (GWPP) plans that will be developed by Corps in coordination with DEP for all of the CDFs listed above with the exception of the facility at Artificial Island. The GWPP plan will be developed in accordance with DEP guidelines and include any or all of the following components:

1. A ground water classification for each Impacted aquifer in the area of each CDF pursuant to the New Jersey Ground Water Quality Standards, N.J.A.C. 7:9-6. This is a primary component of each GWPP and the results of each classification will dictate the need for pursuing the measures outlined in 2, 3 and 4 below. Where a CDF is located within an area with ground water classifications of III-A or III B, DEP may waive the need for pursuing the requirements in 2, 3, and 4 below provided that the existing use of the ground water within the area is not impaired as a result of the operation of the subject CDF.

2. A ground water monitoring well system, consisting of monitoring wells located in each aquifer that may be impacted by the discharge and capable of producing uncompromised samples of ground water quality both upgradient and downgradient of the subject CDF. The number of ground water monitoring wells shall be adequate to characterize and intercept any contaminant plume emanating from the subject CDF.

3. A ground water sampling program for each ground water monitoring well system comprised of a list of ground water analyses, a sample collection schedule, sample preservation and shipment procedures, analytical procedures and chain of custody control. The sampling program shall be developed in consideration of the quality of the sediments dedicated to each CDF, the frequency of use of each site and onsite hydrogeologic conditions.

4. The ground water quality data generated from each ground water sampling program shall be subjected to appropriate statistical analysis in order to determine whether the discharge from any CDF is resulting in a contravention of the ground water quality standards.

FISHING ACCESS

When the Raccoon Island CDF is modified to eliminate the existing road which crosses the site, a perimeter road shall be constructed and maintained by the Corps at the facility to provide direct access to the Delaware River, with provision for several pull off areas along the road and a 3 to 5 acre area suitable for boat trailer parking provided by the Corps to be constructed by others in the future. Plan details for the road

and parking area location shall first be coordinated with the DEP.

OYSTERS AND RELATED ISSUES

The Corps is relying on the conclusions of Rutgers University oyster researcher Dr. Eric Powell, a nationally recognized expert on oyster ecology, that the range of salinity changes predicted by the hydrodynamic model discussed model discussed in the Final SEIS would pose no adverse impact on the oyster resource in the Delaware River and Bay. Documentation of these conclusions, or those of another expert in the field of oyster ecology, shall be provided to the Department prior to beginning the main channel deepening project. The Corps in cooperation with NJDEP, will develop and implement, a monitoring plan to ensure that the long term impacts of any potential salinity change due to the deepening of the navigation channel have been accurately assessed with respect to the oyster population in the Delaware River and Bay.

HABITAT DEVELOPMENT

Prior to the construction of the habitat development project at the Egg Island Point site, the Corps shall provide the DEP with data validating that the material to be used will be at least 90% sand, based on each individual vibracore. The Corps will develop and implement a monitoring plan to assess the long-term effectiveness of the habitat development project, and any impacts to oysters beds proximate to the site.

COORDINATION

The NJDEP Dredging Task Force Committee will be the primary vehicle for future coordination efforts. The Corps and NJDEP will form a working group to develop appropriate coordination of sediment sampling and testing, surface water discharge and ground water monitoring plans. The cost of any additional testing or monitoring will be considered by the working group, as it is recognized that funding constraints will limit the amount of data that can be collected in a given fiscal year.

The Corps and the DEP will meet at a minimum of once every 5 years to evaluate the effectiveness of this document, review the management of the confined upland disposal facilities and evaluate the data generated in accordance with the document.

Robert C. Shinn, Jr.
Commissioner, New Jersey Department
of Environmental Protection

Date

Robert B. Keyser Date
Lieutenant Colonel, Corps of Engineers
Philadelphia District Engineer

FISHING ACCESS

When the Raccoon Island CDF is modified to eliminate the existing road which crosses the site, and perimeter road shall be constructed as part of the Delaware River Main Channel Deepening Project and maintained by the Corps and the project sponsor. This road could be used to provide direct access to the Delaware River for fishing and boating activities. Any proposed plans for these activities will be coordinated with the Corps, the project sponsor, and DEP.