

## **Francis E. Walter Reservoir Recreation Operations Plan for 2008**

### **Introduction**

The plan for 2008 will be substantially different from that of 2007. While the 2007 plan was able to satisfy many of the water needs, modifications are being made to improve likelihood of recreational releases in the May-June timeframe while holding the 5 foot pool fluctuation limit. Water is being allocated to insure early season (July and August) white water recreational releases while relying on seasonal precipitation and additional water accumulations to allow scheduling of the events planned for later in the season (September). Water is also being reserved to insure the ability to make the augmentation releases for fisheries throughout the entire recreation season. Other small modifications as well as changes to October operations are also planned.

Planned white water release dates are listed below:

May: 10, 24, 25 (no release on Mothers Day, 11 May)

June: 7, 8, 21, 22

July: 5, 6, 19, 20

August: 2, 3, 16, 17, 30, 31

September: 13, 14, 27\*, 28\*

\*The 27-28 September dates are planned but will only be scheduled if precipitation and additional water accumulation occurs during the recreation season.

October\*\*:

10, 11, 12

\*\*The October dates will only occur if sufficient water remains. Release dates of 11 and 12 October take precedence over 10 October.

Total: 24 white water release dates planned, late season events are dependent upon additional water storage.

Except for the dates listed above, daily augmentation releases of up to 50 cfs for fisheries enhancement will be made throughout the recreation season. Details of planned operations are outlined below.

### **Initial Filling:**

For the 2008 season, the maximum storage level will be increased to elevation 1370, five feet higher than in 2007. On or before 1 April 2008 storage will be initiated at F. E. Walter Dam. The exact date that storage is initiated will be determined by the Corps of Engineers based on basin hydrologic conditions at the time. Storage could start earlier if precipitation raises the pool above elevation 1300. During this period outflows will be limited to 250 cfs on weekdays and during weekends the outflow will normally be set equal to inflow up to a maximum release rate of 1000 cfs. The weekend limit could be lowered to 750 cfs and the weekday limit lowered to 225 cfs if hydrologic conditions were such that reaching the target level of 1370 by 10 May 2008 was determined to be in jeopardy. The storage of excess inflows will continue until the pool reaches the elevation of 1370. Once pool level reaches 1370, outflow will match inflow until the start of the recreation season (10 May). The pool elevation of 1370 is expected to be reached no later than Friday 9 May 2008, in time for the first planned white water release to begin on Saturday 10 May 2008.

NOTE: The storage level of 1370 was actually attained after a storm event in early March. Rather than release that volume and then start to refill in April, it was decided through coordination with the participating agencies to hold the storage that had been accumulated. Since the pool is currently at elevation 1370, outflow will now generally match inflow until the start of the recreation season on 10 May 2008

Special operations will prevail for the first two weekends of trout season (12-13 April and 19-20 April). Releases will be restricted to 400 cfs for these two weekends. This restriction is consistent with DCNR restrictions placed on commercial boaters in the upper reaches of the Lehigh River from White Haven to Rockport. This may result in a pool level above elevation 1370 for brief periods.

Pool elevations above elevation 1370 at any time are generally considered undesirable encroachments into flood control storage and will normally be evacuated as quickly as possible in accordance with the Corps' F.E. Walter Reservoir Water Control Manual. If weather forecasts are favorable, the encroachment into flood control storage may be retained for brief periods to support planned recreational opportunities. The Corps of Engineers will be solely responsible for making this determination. As in previous years, flood control objectives take priority and if necessary any of the storage above elevation 1300 could be released if deemed necessary by the U.S Army Corps of Engineers.

### **10 May- 30 June**

White water weekend events are planned for every other weekend starting on May 10<sup>th</sup>. No white water release is planned for Mother's Day, 11 May. As in previous years, the planned releases will be made for 12 hour periods from 1AM until 1 PM on Saturday then from 1 AM until 1 PM on Sunday provided sufficient water is available.

The pool elevation will be maintained between elevations 1365 and 1370 from 10 May through 30 June. This is raised 5 feet over last year's level in an attempt to help improve likelihood of making all planned releases in May and June. Raising the pool by 5 feet

adds a total of 1403 DSF of storage and increases the storage volume within the 5 foot pool limitation by 60 DSF. The 5 foot pool limit is intended to help conserve cooler water for later in the season, and to help in-lake fish spawning. As noted before, a pool level above elevation 1370 is an undesirable encroachment into flood control storage which will normally be evacuated as quickly as possible. After pool elevation of 1370 is reached, weekday releases for fisheries enhancement after 11 May will be 200 cfs and will be in the 200-250 cfs range in June. Weekend white water recreation releases during this period will be made as long as sufficient storage exists above elevation 1365 with a release target of 800 cfs in May and 750 cfs in June. Tables 1 and 2 provide priorities for determining the length and magnitude of white water recreation releases to be made in May and June if storage is not sufficient to make full releases for the 12 hour periods planned. Releases for fisheries enhancement on weekends when white water releases are not planned will be set to match inflow up to a maximum of 400 cfs during this period. If storage is not available above elevation 1365, releases will be set equal to inflow to maintain the 1365 elevation until 1 July. If necessary, cancellations or modifications of white water release plans will be announced (posted on Corps webpage) on the afternoon of the Wednesday before the white water recreation weekend.

The raising of the pool by 5 feet to 1370, elimination of the white water recreation release for 11 May, reduction in weekend recreation release rates, and reduction of weekday release rates are all aimed at preserving storage levels to allow accomplishment of all purposes of the plan while limiting the pool to elevations between 1370 and 1365 during this time period.

### **1 July- 31 August**

Starting in July, there will no longer be any specific flow targets or limits on pool levels. For this time period, sufficient storage will be reserved to insure weekday and non-recreational weekend fisheries enhancement releases of 50 cfs above inflow, up to a total of 250 cfs. On white water recreation weekends, for the 12 hour periods from 1 AM until 1 PM on both Saturday and Sunday, releases will be set at inflow plus 650 cfs up to a maximum of 750 cfs and held on each of the planned weekends as long as storage permits. For the other 12 hour periods of the weekend, the release will revert to the fisheries enhancement augmentation release of 50 cfs above inflow up to 250 cfs. Storage capacity at elevation 1365 at the end of June is sufficient to make the planned white water weekend releases through September 13-14 as well as the releases for fisheries enhancement.

### **September**

As in the July-August timeframe, in September storage sufficient to provide for a fisheries enhancement release of 50 cfs above inflow (up to 250 cfs) will be reserved to insure that the augmentation can be made during the entire month. On the other hand, white water recreation releases planned for late September require additional precipitation and water accumulation during the recreation season to allow those to occur. This is a significant change from the 2007 plan. The plan for 2008 recognizes that white

water recreation weekend releases in the July-August timeframe are more important than the September releases and the fact that additional precipitation is likely to allow at least some of the September events to be added while still preserving storage to accomplish the weekday fisheries enhancement augmentation of 50 cfs regardless of hydrologic circumstances through September. If at any time precipitation occurs to allow sufficient additional water to accumulate; planned white water recreation releases will be scheduled. The volume of accumulated water will be allocated evenly between recreational releases and fisheries enhancement, and as precipitation dependent release weekends are scheduled, fisheries enhancement releases will be increased incrementally above the 50 cfs value for the remainder of the recreation season as storage allows. Release priorities for these September events are listed in Table 3. Final release amounts and durations will be determined and posted on the Corps webpage the Wednesday prior to the weekend. If sufficient water is available, each scheduled white water event will be held for both Saturday and Sunday at the full amount of 650 cfs plus inflow (maximum release of 750 cfs) before subsequent planned white water events will be scheduled. Additional weekend releases will not be scheduled unless storage is sufficient to allow at least a one day (12 hour) release of 600 cfs. As additional planned events become possible due to accumulation of water, releases will be scheduled and increased fisheries enhancement release rates will be announced no later than the Wednesday before the planned white water release date.

Following this procedure may mean that events are scheduled or modified with little advance notice.

## **October**

At the end of the recreation season, if sufficient water still remains above elevation 1300, the planned white water releases for 11-12 October will be scheduled. Releases for that weekend will be for the usual 12 hour period and range between 750 and 1200 cfs. Weekday releases in October leading up to the final event will not be less than 144 cfs. Target releases for the remaining weekends in October (4, 5, 18, 19, 25 and 26 October) will range between 350-400 cfs

If more than sufficient water remains for what is needed to accomplish the above, a final weekday release will be scheduled for Friday, 10 October 2008. This release is the last increment of the 2008 recreation plan and is primarily intended to return the pool to its normal elevation of 1300. The scheduling of this release will allow those interested in larger white water recreation releases to plan accordingly. The release rate will be based on the amount of water available. Release will be set at a maximum of 4000 cfs. Final scheduling and amount of this release will be determined and posted on Wednesday, 8 October 2008.

Due to operational difficulties experienced in 2007 with the existing bypass system, it will not be available for use this year. All releases will be made from the flood control gates. It is expected that the bypass valves will be replaced after the conclusion of this year's recreation season and will be available for use in 2009.

A plot comparing the 2007 plan with the 2008 plan assuming no additional water is accumulated over the season to provide additional releases is provided as Figure 1.

**Table 1**

**May Release Rate Priority**

Saturday		Sunday		Volume Required (DSF)
Rate (CFS)	Duration (HRS)	Rate (CFS)	Duration (HRS)	
600	12			300
650	12			325
700	12			350
700	12	500	6	425
750	12	550	6	512.5
800	12	600	6	550
800	12	700	6	575
800	12	600	12	700
800	12	700	12	750
800	12	800	12	800

Maximum release 800cfs in May

**Table 2**

**June Release Rate Priority**

Saturday		Sunday		Volume Required (DSF)
Rate (CFS)	Duration (HRS)	Rate (CFS)	Duration (HRS)	
600	12			300
650	12			325
700	12			350
700	12	500	6	425
750	12	550	6	512.5
750	12	600	6	525
750	12	700	6	550
750	12	750	6	562.5
750	12	750	12	750

Maximum release 750 cfs in June

**Table 3**

**September Release Rate Priority**

Saturday		Sunday		Volume Required (DSF)
Rate (CFS)	Duration (HRS)	Rate (CFS)	Duration (HRS)	
600	12			300
650	12			325
700	12			350
700	12	500	6	425
750	12	550	6	512.5
800	12	600	6	550
800	12	700	6	575
800	12	600	12	700
800	12	700	12	750
800	12	800	12	800
900	12	900	12	900
1000	12	1000	12	1000

Maximum release rate will be set at inflow plus 750 cfs up to 1000 cfs

Final version 1 February 2008

**Figure 1.**

### F.E. Walter Recreational Rule Curve Comparison 2007 vs. 2008

