

Francis E. Walter Reservoir Recreation Operations Plan for 2009

Introduction

The plan for 2009 will be only slightly different from that of 2008. While the 2008 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. This year water is also being allocated to insure early season (July and August) white water recreational and fisheries releases while relying on seasonal precipitation and additional water accumulations to allow scheduling of releases for later in the season (September and October). Other modifications to release rates as well as changes to October operations are also planned.

Planned white water release dates are listed below:

May: 9, 23, 24 (no release on Mothers Day, 10 May)

June: 13, 14, 27, 28

July: 11, 12, 25, 26

August: 8, 9, 22, 23

September: 5, 6, 19*, 20*

October 3*, 4*, 5**, 17*, 18*

* With the pool at 1365 on 1 July, storage is sufficient to support white water recreation and fisheries augmentations releases through 6 September and 16 September respectively. After those dates additional storage must be accumulated during the recreation season to make additional releases possible.

**The October 5 date will only occur if sufficient stored water is available. Release dates of 3, 4, 17 and 18 October take precedence over 5 October.

Total: 24 white water release dates planned, late season white water events and fisheries enhancement releases are dependent upon additional water storage becoming available during the year.

Details of planned operations are presented below.

Initial Filling:

For the 2009 season, the maximum storage level will be the same as last year, elevation 1370. On or before 1 April 2009 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 9 May 2009 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 (9 May). The pool elevation of 1370 is expected to be reached no later than midnight Friday 8 May 2009, in time for the first planned white water release to begin on Saturday 9 May 2009 at 1 AM. If for any reason the target pool elevation is not reached in time for the first white water release, the agencies will reconvene to determine the appropriate course of action.

Special operations will prevail for the first two weekends of trout season (11-12 April and 18-19 April). Releases will be restricted to a maximum of 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.

9 May- 30 June

White water weekend events are generally planned for every other weekend starting on May 9th. No white water release is planned for Mother's Day, 10 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 9 May through 30 June. 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 9 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 planned 12 hour periods. 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. On Wednesday June 9th, the existing situation will be evaluated to determine if sufficient storage remains above elevation 1365 to maintain the fisheries releases and the remaining June white water releases (13/14 and 27/28 June). If it is determined that sufficient storage does not remain, adjustments in operations for the remainder of June will be made to best utilize available storage. If necessary, cancellations or modifications of release plans will be then be announced (posted on Corps webpage).

July - August

Starting in July, there will no longer be any specific flow targets or limits on pool levels. In July, storage will be utilized for weekday and weekend fisheries enhancement releases of 100 cfs above inflow, up to a total of 300 cfs. On white water recreation weekends, for the 12 hour periods from 1AM until 1 PM on both Saturday and Sunday, releases will be set at inflow plus 700 cfs up to a maximum of 800 cfs. In August, fisheries enhancement releases will be 50 cfs plus inflow up to 300 cfs and white water releases will be 750 cfs plus inflow up to a maximum of 850 cfs. For the other 12 hour periods of the white water weekends, the release will revert to the fisheries enhancement augmentation release rate. Storage capacity at elevation 1365 at the end of June is sufficient to make the planned releases for white water weekends through 6 September and fisheries enhancements through 16 September.

September - October

The 2009 plan differs from the 2008 plan in that both fisheries enhancement and white water releases will utilize available storage as long as it is present and rely on additional inflow during the recreation season to make late season releases possible. Last year only white water releases were scheduled assuming additional water would become available during the season. This year it will also be done for fisheries enhancement releases recognizing that additional inflows are likely and that fisheries enhancements are more valuable in July and August than later in the season. If at any time precipitation occurs to allow sufficient additional water to accumulate; planned white water recreation releases and additional fisheries enhancement releases will be scheduled. The volume of accumulated water will be allocated equitably between the white water and fisheries enhancement purposes, and as precipitation dependent release weekends are scheduled,

fisheries enhancement releases will be increased from 50 cfs to 100 cfs, or additional release days of 50 cfs or 100 cfs will be added based on how much additional storage is accumulated and at what point in the season the additional storage becomes available as outlined in next paragraph. For the additional volume allocated for white water releases, priorities for water use for the September and October white water 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 releases become possible due to accumulation of water, the additional fisheries enhancement releases and white water release amounts will be announced.

Additional precipitation and additional releases from storage is proposed to occur in the following priority order through the July – October time period.

- When additional storage is accumulated to add whitewater releases on September 19 and 20 and additional fisheries releases, continue to front-load precipitation dependent 100 cfs fisheries enhancement releases from approximately July 28 through approximately August 10. Releases for fisheries enhancement will be the augmentation amount plus inflow up to a maximum of 300 cfs.
- When additional storage is accumulated to add whitewater releases on October 3 and 4, add 50 cfs fisheries enhancement flows through October 4.
- When additional storage is accumulated to add whitewater flows on October 17 and 18, add releases to encourage recreational fishing on October 10 and 11, and then October 12, 24 and 25 as storage allows. Maximum releases (inflow + augmentation) for recreational fishing will be 400 cfs to allow use by wading anglers.
- Storage in excess of above flow needs in early October may be released Monday, October 5 for a higher flow whitewater release. 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 by Wednesday, 30 September 2009.

Following this procedure may mean that white water events and additional fisheries enhancement releases become scheduled or modified with little advance notice.

A plot of the pool drawdown for the 2009 Recreation Plan assuming no additional water is accumulated over the season to provide additional releases is provided as Figure 1. Figure 2 shows nested rule curves showing priority use for additional storage as it may become available.

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	475
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	475
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-October 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	475
750	12	550	6	512.5
750	12	600	6	525
750	12	700	6	550
750	12	600	12	675
750	12	700	12	725
750	12	750	12	750

Maximum release rate will be 750 cfs in September-October

Figure 1

2009 F. E. Walter Rule Curve

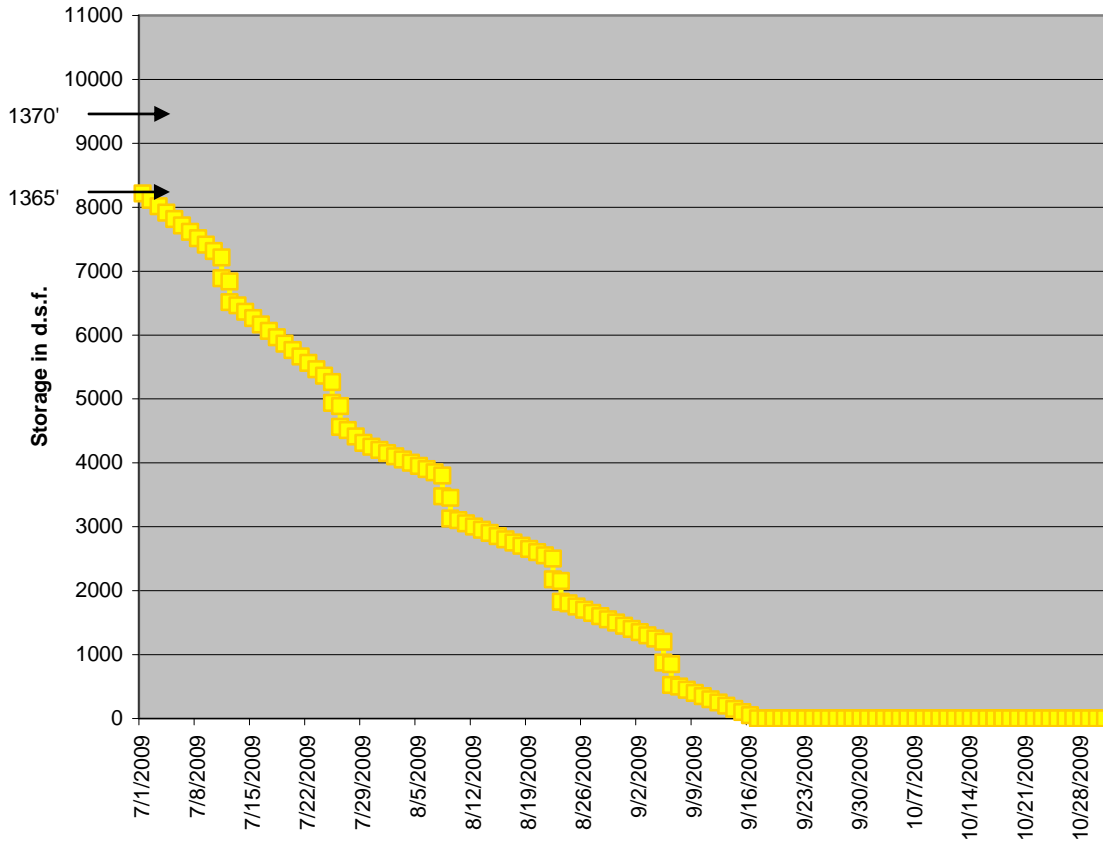


Figure 2

2009 F. E. Walter Nested Rule Curves

