



November 28, 2008

Army Corps of Engineers and Other Stake Holders

Subject: Comments on 2009 FEW Flow Plan

Dear Sirs:

On behalf of the Lehigh River Stocking Association (LRSA), the writer would like to thank the Army Corps and the operators at the FEW dam for their efforts at helping to balance the needs of the fishing and boating public. In general, the LRSA would like to see flow management prevent low flow conditions during the year. It is the low flow conditions that have the greatest potential for stressing the fishery.

In summary, the LRSA is strongly advocating for release regimes that have the following characteristics:

1. Avoid minimum flows, request increase of the minimum augmentation flow to 100 CFS during June through August and to achieve this through reduction in the maximum flows used in the white water releases
2. Maintain 400 CFS minimum flow if possible in summer through August
3. Limit augmentation to a maximum of 400 CFS in April and May
4. Attempt to taper the down at the end of the white water releases
5. Attempt to stabilize flows on off white water weekends to make angling possible for the wading public
6. Eliminate the Mothers Day release entirely and target 500 CFS augmentation
7. In future years, include anglers in meetings where the white water release dates are established (this was not the case during the 2009 plan development).
8. We subscribe to the flow regime Mark Hartle of PFBC has described with front loaded releases that among other things, extends more substantial minimum flows through the summer months.
9. It is understood that white water outfitters find that 1200 CFS provides optimal water and that 650 is a minimal flow. However, LRSA encourages more compromise on the upper flow numbers so that the water is there to meet the needs of the fishery. It was mentioned that approximately 50 CFS for 13 days is equivalent to two ½ days at 650 CFS. It is important to work through these numbers to get more water during low water periods for angling and trimming the top end off the rafting optimum. This compromise is necessary to get the fair balance between the needs of the anglers (and river ecosystem) and the boating which NRDC claims to be seeking.
10. Incidentally, the LRSA also supports adherence to the current 5 foot variation rule in the reservoir to protect spawning areas there.

The writer would like to take this opportunity to point out that the LRSA is the largest private fish stocking enterprise stocking legal sized hatchery raised trout into the Lehigh River Sections 7 and 8 (Glen Onoko to Northampton below Cementon Dam). The LRSA is a 501C3 non-profit that relies on financial donations to pay for the trout that are introduced to the river. While there are reports of an emerging wild trout population in the Lehigh main stem, and the PFBC has recently begun introduction of fingerling trout in section 7, the vast majority of legal sized trout are the result of the financial contributions from LRSA sponsors. Anglers (and particularly commercial guided angling businesses) who enjoy the trout fishing in Section 7 and 8 or who would



otherwise like to contribute to the vitality of this trout stocked fishery, are encouraged to financially support the LRSA.

Through LRSA water quality monitoring programs in Jim Thorpe, we see that the white water releases cause the depth of the river to rise about 1 foot within 1 hour. The end of the release was observed to either drop by 1 foot within 1 hour or in some cases the flow was stepped down in smaller increments. It is unclear what if any deleterious impacts this rapid rise and decline of the river have on the fishery. However it is assumed that because the rapid decline is like nothing seen in the natural world, it is likely that there are some negative impacts. Therefore some believe that tapering the flow after a release is better for the fishery, although this does consume water that might otherwise be available to augment during low flow conditions. The LRSA would like to see tapering where possible but not if it would jeopardize augmentation goals as previously stated. It is also observed that the water level begins to rise at Jim Thorpe at 12 noon and begins to fall at midnight. This corresponds to the FEW release plan of releasing at 1 a.m. until 1 p.m.. Therefore the travel time for the water pulse to get from FEW to Jim Thorpe appears to be ~ 11 hours.

The LRSA water quality monitoring program has also observed that the river dissolved solids are flushed during white water events. The specific conductance drops during white water events and then it re-establishes after the event to previous levels. It is not clear what if any impact (plus or minus) this has on the fishery but the writer's judgment is that this is flushing of dissolved solids is likely to be beneficial. However, we also observe a rise in turbidity due to flushing of suspended solids. At times, the flushing of large masses of algae make angling very difficult due to accumulation of this flushed algae on monofilament fishing line, which of course has negative impact on angling. Generally speaking, turbid water conditions are not conducive to good fishing. These relationships are illustrated in the figures below.

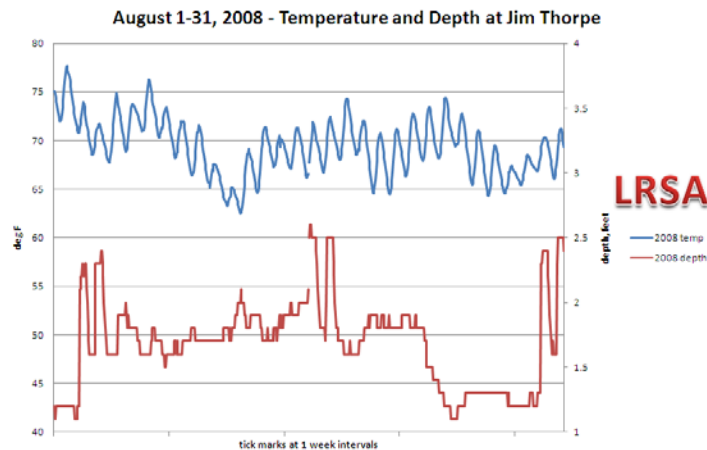
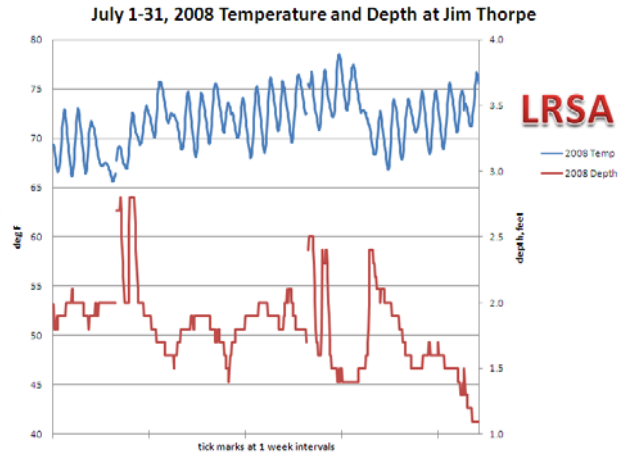
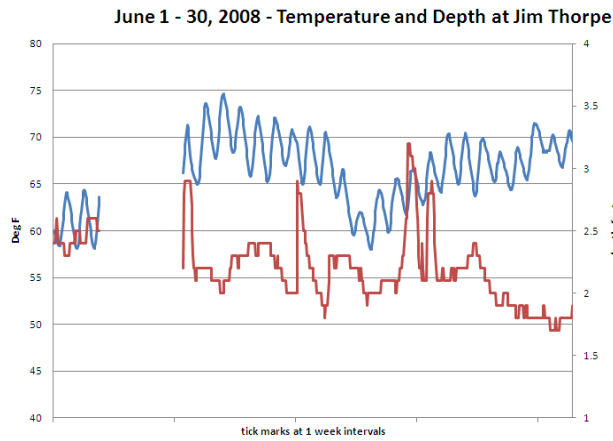
The LRSA is committed to the restoration of the trout fishery in the Lehigh River sections 7 and 8. For the most part, the trout stocked fishery has been restored thanks to our efforts over the last 15 years. Over the last 2 years we are pleased to acknowledge that the PA Fish and Boat is also adding a good number of trout fingerlings into these sections of the river. We are hopeful that this program will be continued and are collaborating with Dave Arnold, Daryl Pierce and others at the PFBC in this effort.

During the last three years the LRSA has run a dedicated water quality monitoring program in Jim Thorpe between the months of March and September. This program has enabled LRSA to contribute to the data base of scientific measurements that help in the understanding of this resource. The LRSA is currently working on a project that will stream this water quality data onto the worldwide web for wide public accessibility. Those who are interested in receiving log-on instructions for this data are encouraged to contact the writer.

A series of graphs are provided below that illustrate some of the water quality measurements that have been taken in Jim Thorpe over the last 3 years. The FEW Flow management plan has a direct effect on several parameters measured and some of these are discussed below. There is great interest in the river temperature at Jim Thorpe as part of the Phase 1 flow study and LRSA has collaborated with Greg Wascik at ACE to share this data. A series of figures below illustrate temperature profiles in conjunction with river depth (which lag the FEW release events by 11 hours and where depth changes are proportional to FEW volumetric flow releases).



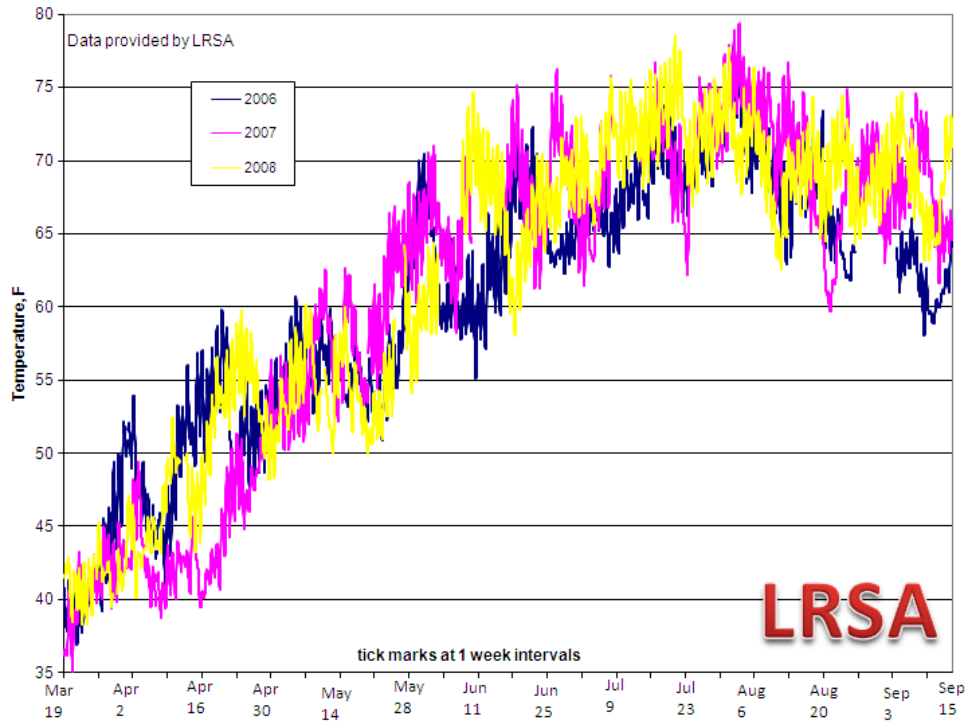
The three figures depict the profile of river depth and river temperature at Jim Thorpe (approximately 0.5 mile upstream of the Rt. 903 Bridge).



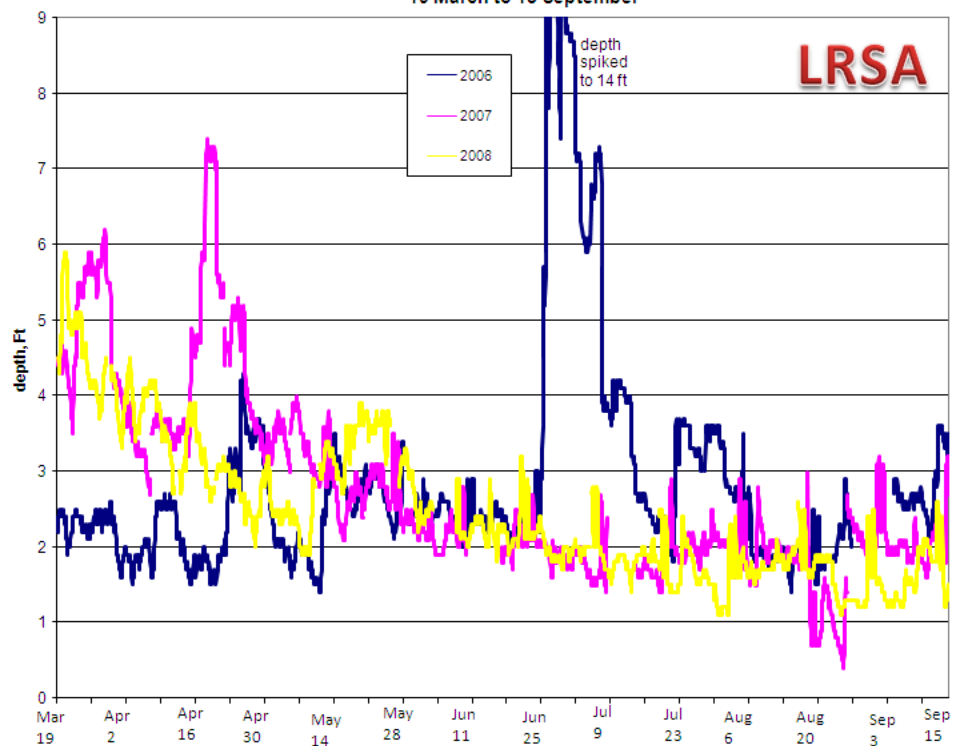
The figures below show the temperature profile and the depth of the river at Jim Thorpe over the last three years between March and September. There are no significant differences in the water temperature. Depth however does appear to be lower on average in 2008. LRSA would like to avoid low level conditions.



Lehigh River @ Jim Thorpe - Year to Year Comparison 2006, 2007 and 2008
19 March to 15 September

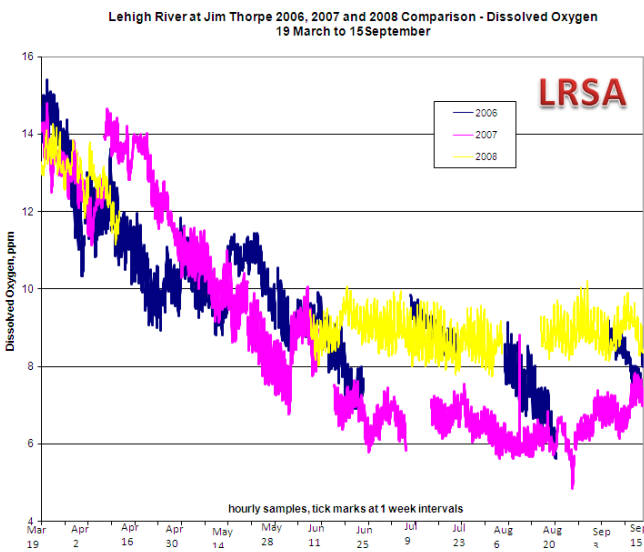


Lehigh River at Jim Thorpe 2006, 2007 and 2008 Comparison - Depth
19 March to 15 September

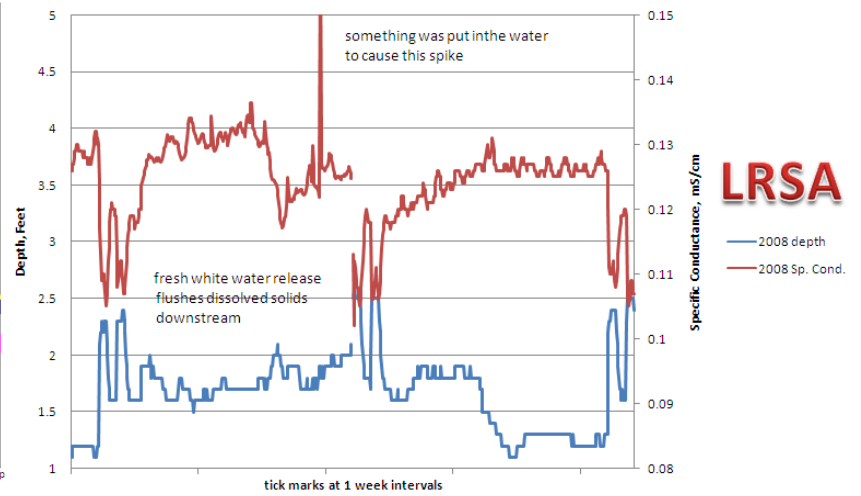




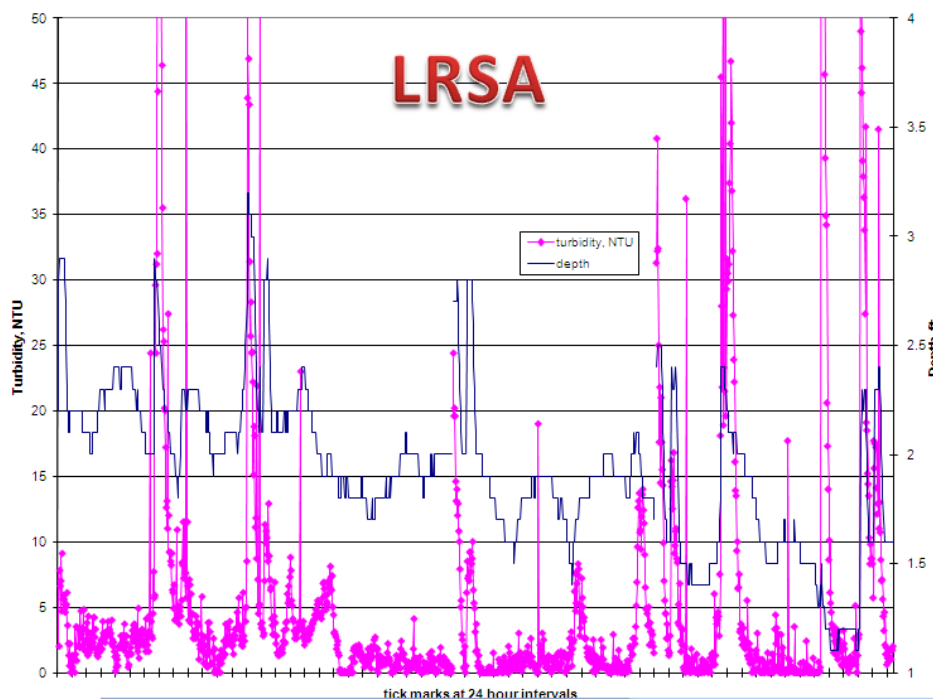
Dissolved oxygen conditions remained well within a healthy range for the trout fishery in 2008. Specific conductance (a measure of dissolved solids) is also illustrated below for August 2008 and clearly show that the white water releases lowering the dissolved solids in the river, this is assumed to be a benefit of the white water releases.



August 1-31, 2008 - Specific Conductance and Depth at Jim Thorpe



Lehigh River WQ at Jim Thorpe | Start June 8th @ at 11am to August 4, 2008



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The LRSA welcomes continued collaboration with Army Corps, PA Fish and Boat, Wildlands Conservancy, LCFA, TU, NRDC, Guided River Fishing Companies and other fishery stake holders in our efforts to balance the needs of the angling public, the health of the trout stocked fishery and emerging wild trout populations with those of the White Water Rafting and Kayaking commercial enterprises. If there are any specific experiments that LRSA could assist with in terms of water quality parameter monitoring or in terms of manpower needed on the river, please let us know. In the mean time, LRSA we will continue to expand both our trout stocking and river conservation programs. We look forward to the results from the 6 pre-determined model scenarios associated with the Phase 1 study and also look forward to the public forum on January 21st, 2009.

Sincerely,

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