

MEMORANDUM FOR RECORD

SUBJECT: Stonewall Jackson Water Control Manual Public Meeting

1. A public meeting was held at Lewis County High School on 3 May 2012 to present information to the public concerning formalization of the water control manual for Stonewall Jackson Lake and to solicit comments on current operations. Public meetings are required as per ER 1110-2-240, Water Control Management, which states that "The Corps of Engineers will sponsor public involvement activities, as appropriate... Conditions that require public involvement and public meetings include: development of a new water control manual that includes a water control plan; or revision or update of a water control manual that changes the water control plan."

Stonewall Jackson Lake began operation in 1986 and a formalized water control manual has never been completed. A General Design Memorandum has been used in the interim which developed release scheduled. Therefore, even though operations are not anticipated to change, the project delivery team determined that development of a new water control manual required a public meeting. A list of attendees that were present at the meeting is enclosed.

2. The order of the public meeting was as follows:

- a. Opening Remarks: Colonel Graham and Dan Jones (Public Affairs Office)
- b. Presentation on water control manuals and the draft water control plan: Katie Bates (Water Management Section)
- c. Question and answer session

3. The following is a summary of the discussion during the question and answer session:

- a. Question: Where will the presentation given today be located for others to access as needed?

Answer: The PowerPoint is going to be placed online at the water control manual public website: <http://www.lrp.usace.army.mil/wm/WCM.html>

- b. Question: The Corps is seeking public comments, but will a draft of the water control manual be available for public review prior to commenting or are only general public comments being accepted at this time?

Answer: General public comments are being accepted at this time concerning current water management practices. After completion of the document, it will be released to the public.

- c. Question: Will the same template be used for all other lakes?

Answer: Yes, the template is used nationwide (all Corps Districts must follow this template).

- d. Question: Is there a way to put out certain sections for public review or possibly publically release any changes that are anticipated?

Answer: The general design memorandum, which is what dictates the current operation of the lake is available for review and will be scanned and placed on the website for public viewing.

- e. Question: How can you ask the public to comment on a document that hasn't been publically released?

Answer: The Corps is looking at obtaining feedback on how the watershed is currently being run and trying to anticipate if there are any areas concerning water management that the public feels could be improved upon to better meet their needs. There are two major parts of a water control manual: one part is the water control plan and the second part is other information about the basin, structures in the basin, past drought or flood events, watershed conditions as well as the reservoir's downstream effects. The second part of the water control manual was not described in detail because the Corps is mainly interested in looking at whether the needs of the public are being met in regard to current operations. The primary objective of the public meeting is to describe current operations and determine if public needs are being met.

- f. Question: What is the most recent water control manual that could be used as an example for the public to look at? What other watersheds currently have water control manuals? Is Stonewall the last in the district being done or the first?

Answer: Stonewall Jackson Lake is the first water control manual that the district is developing based on most recent regulations. Stonewall is the priority because it is only based on the general design memorandum (GDM) and does not have any information written down about if it has performed the way it was originally designed in the GDM.

- g. Question: What kinds of things does the Corps monitor or watch that would trigger a change in the way the lake is operated for water quality purposes? If operations would be adjusted based on water quality reasons, what are the parameters that are monitored for?

Answer: The Corps has a low flow augmentation schedule which means that through the summer, flow is monitored at Clarksburg and Weston to assure that the pollution load (which was identified prior to the construction of the dam) would be diluted by the releases. The parameters of greatest concern are "biological oxygen demand" and acid mine drainage related parameters (such as iron, manganese, sulfates). More than 50 percent of the flow at Enterprise is from Stonewall Jackson, which in essence dilutes pollution by half. There are also selective withdrawals which allow for releases from different levels in the lake. Water temperature control is also important with water being selected from various elevations in order to meet downstream water temperature objectives.

Follow-up Question: Is this water quality activity being done manually or is it modeled?

Answer: there are water quality models that are used in the Monongahela (at Stonewall Jackson and Youghiogheny). Also, the Corps is looking into developing a model that will assess the operational benefit of our reservoirs. However, most decisions

are made manually based on water temperature monitors and downstream gage numbers. Real time instrumentation is used to make daily decisions.

- h. Question: It appears as though the minimum release is around 55 cfs during the Nov/Dec/Jan timeframe. How was that decided as the minimum timeframe when most of the water quality problems happen in the summer? And is there a possibility of changing releases and increasing the minimum releases?

Answer: The General Design Memorandum dictates 55 cfs as the minimum flow requirements at Clarksburg as agreed upon at that time between the Corps and the state of WV. This minimum release occurs from mid December throughout January. During the summer months the minimum flow is 117 cfs at Clarksburg much higher than it is during the winter months. Any changes to minimum releases would require a reallocation study which would be cost shared with a non-federal governmental or municipal organization for public use of water.

- i. Question: Water supply storage was mentioned in the presentation... is that currently contained in the reservoir? Since it is not being used, could that storage be changed to meet downstream flow needs for water quality?

Answer: Water supply is in the lake (as a block of water at the bottom of the lake for visualization purposes). If someone would like to enter into an agreement with the federal government to purchase that water (for example Clarksburg) then water would be added to the schedule and the river would be used as a pipe to distribute additional water downstream.

Follow-up Question: Could that flow be changed to increase the 7q10 and augment it to a higher number?

Answer: The 7q10 occurs in later October and includes uncontrolled water that comes from tributaries. In the winter, a lot of the time, the flow is not anywhere near the 7q10.

Background Information: "7Q10" refers to the lowest streamflow that occurs for seven days in row once every ten years. If the stream is flowing at a 7Q10 level, this means the stream has a very low flow and the capacity to dilute pollution is also very low. The state regulating agencies use the 7Q10 flow when creating permits for water use. If the 7Q10 level was higher, the stream could likewise handle more pollution.

Follow-up Question: The 7q10 is used by the Department of Environmental Protection (DEP) to determine how much water users can discharge. It appears that there is more storage in the lake that could be released downstream which would mean that the 7q10 could be increased and users could discharge more water. How did the 7q10 end up at 55 cfs?

Answer: Since the 7Q10 is low flows, then a simple calculation is to use the lowest flow that occurs at since Clarksburg construction of Stonewall Jackson Dam which is 55cfs. Since this is the lowest flow that is maintained it is an accurate representation of what the 7Q10 represents. Additional water cannot at this time be released that is being stored for any other purpose. A reallocation study would be necessary to redefine water stored in the reservoir.

Follow-up Question: If water storage isn't being used, could this then be used for more dilution potential when the 7q10 is being reached? Then could the Corps augment flows with water supply storage to increase the 7q10 which would allow people to discharge at current levels and treat the water discharges less?

Answer: Explanation of 7q10: q is flow, 7 equals 7 consecutive days average that occurs every ten years... this is a number that is statistically generated for discharge purposes. Anybody that discharges into the stream has to assume that much water is in the river for dilution purposes. 7q10 has been determined nationally to be an acceptable number for low flow which is why it is important to communities.

The Corps is unable to augment flows for water quality that currently serve the purpose of water supply storage. Any desire by the public to reallocate storage of flows would require a reallocation study which would be required to be partially funded by a non-federal public entity such as a state or local government or municipal authority.

Bottom line question: Is there any way to increase the 7q10 number by using water supply storage?

Answer: The Corps would have to release more water to increase the 7Q10 number, however, at this time the lake does not have the flexibility to immediately increase our outflows. We follow our reservoir allocation schedule, and changing that requires further engagement with the Corps. Limiting factors include ensuring there is enough storage to meet downstream needs during dry or drought years. For example, in 1991, a drought year, the lake dropped below average pool by 9 feet. Any increase in releases may affect our ability to mitigate drought effects.

Question: is this the same approach that is used at all the reservoirs for water quality purposes?

Answer: Not all reservoirs have a specific water quality mission. This means that there is no water stored in the reservoir specifically reserved or released to enhance water quality. For example, Tygart Lake, another Corps reservoir in West Virginia, does not have a water quality mission, but they maintain water for low flow augmentation to assist navigation of the river. Youghiogheny Lake in southern Pennsylvania does have a water quality mission, but we do not operate Youghiogheny Lake like we operate Stonewall Jackson Lake.

- j. Question: What is the schedule for updating all the other water control manuals in the Pittsburgh District and what is the priority list?

Answer: To do all sixteen water control manuals concurrently is infeasible. There is a priority list which is as follows: Stonewall Jackson Lake first, and Union City Dam second. These two are first because that they currently don't have water control manuals in place and have been operating from the General Design Memorandum since construction finished. The third reservoir that will have their water control manual updated is East Branch Dam. At this time the order beyond East Branch Dam has not been decided.

All sixteen reservoirs will be completed at the rate of two per year so all sixteen reservoirs will take about eight years to complete. There is also an extensive review process which is why it is only feasible to complete two each year.

- k. Question: Is this a standalone project or does this project interact with the Monongahela watershed assessment?

Answer: The same players are working on both of the projects. Some of the models and tools that are needed for the watershed assessment are the same that are needed for the water control manuals. However, they're funded by two different funding sources.