

US Army Corps of Engineers Questions & Answers - South Santiam - November 30, 2023  
(taken from <https://www.nwp.usace.army.mil/locations/willamette-valley/injunction/>)

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## DURATION OF INJUNCTION MEASURES

### 1. Are there plans to remove the dams?

A: There are no plans to remove the dams.

### 2. Will the deep drawdowns happen next year and for how long each year?

A: Deep drawdowns will be implemented each fall until the injunction is lifted (which should occur at the end of December 2024), and perhaps even longer. The Corps is currently ordered to implement the Green Peter Reservoir deep drawdown in the fall and hold the reservoir at the target elevation from 15 November – 15 December.

### 3. For how many years into the future does the Corps plan to perform the drawdowns?

A: Deeper reservoir drawdowns are currently being implemented at Cougar, Lookout Point and Green Peter reservoirs, and continuing, as in past years, at Fall Creek. In the Corps' Willamette Valley System (WVS) Operations and Maintenance Draft Programmatic Environmental Impact Statement (DEIS), the Corps evaluated structural and operational downstream fish passage measures. In the preferred alternative in the DEIS, a similar annual fall drawdown operation is proposed as the long-term strategy for downstream fish passage improvement at Green Peter Reservoir.

Deeper drawdowns may continue once the injunction is lifted and the Corps begins implementing the selected alternative in record of decision (ROD) following the publication of the WVS Final EIS (FEIS) and new WVS Biological Opinions. The DEIS Preferred Alternative includes deep drawdowns for long-term fish passage at Cougar, Fall Creek and Green Peter reservoirs and structural downstream fish passage as a solution at Lookout Point Dam. The drawdown at Lookout Point is expected to occur until the fish passage structure is in place. Future drawdowns would continue to be refined to reduce negative impacts to water quality such as elevated fall water temperatures, while working to maintain or improve conditions for downstream fish passage for ESA-listed salmonids.

See more about the Draft EIS alternatives and analysis  
at [www.nwp.usace.army.mil/Locations/Willamette-Valley/System-Evaluation-EIS/](http://www.nwp.usace.army.mil/Locations/Willamette-Valley/System-Evaluation-EIS/)

### 4. How long is the drawdown cycle supposed to last and when will the reservoirs be cleaned up again?

A: Refill from the deep drawdown is currently scheduled to begin December 16. Once the reservoir is refilled to the minimum conservation pool elevation or higher (which is estimated to

occur by early February. depending on weather conditions) , turbidity levels should return to normal.

Return to a new normal winter condition will be faster if we experience wetter winters with more storms in the near term. High flows and more reservoir elevation variability will more rapidly erode and transport stored sediments in the reservoir. Drier winters with fewer storms will prolong effects of increased sediment erosion and transport. In the long term, the drawn down reservoir is a less efficient trap of incoming sediment from the watershed, though it is expected to remain a sediment trap. The new long term normal sediment load from Green Peter during drawdown is expected to be higher than conditions prior to drawdown, but less than the sediment concentration of water entering Green Peter with some of the incoming sediment being deposited even during drawdown.

While every system is different, we can use the Fall Creek deep reservoir drawdown as an example. Suspended sediment levels discharged from Fall Creek dam during fall deep drawdowns reduced significantly following repeated annual drawdowns. However, the ability to make direct comparisons to Fall Creek is complicated by local conditions in the watershed (including geological conditions, type and amount of fine sediments exposed by the deeper drawdown) and due to the nature of the drawdown (partial vs to streambed). Turbidity levels downstream of Foster Reservoir as a result of the Green Peter deep drawdown indicate that the suspended sediment transported through Green Peter Dam, are remaining in suspension over long distances.

#### **5. How long will the lakes and rivers look like they currently do?**

A: Refill from the deep drawdown is currently scheduled to begin December 16. Once the reservoir is refilled to the minimum conservation pool elevation or higher (which is estimated to occur by early February, depending on weather conditions) , turbidity levels should return to normal.

#### **6. How will Green Peter be refilled? When?**

A: Refill from the deep drawdown is currently scheduled to begin December 16. Inflowing water will be captured and stored behind the dam to support refill to typical lake levels.

### **WATER QUALITY**

#### **7. Because of the impact to Sweet Home’s drinking water, will the Corps do any of the following:**

- a. Report this to the U.S. District Court for the District of Oregon showing that the negative impact to people far outweighs the consideration of the fish.**
- b. Assist the City in fixing its issues with the drinking water to mitigate the financial impact and ensure we don’t have to deal with high chlorine levels.**

A: a. The Corps will prepare information about impacts from the deep drawdowns that will be included in the biannual report due to the Court by 28 February 2024.

b. The City is responsible for treating its drinking water. The Corps does not have the authority to provide financial assistance to the City.

**8. Is the City or any other entity testing the water for heavy metals, arsenic, and mercury from the silt?**

A: The Corps defers to the City as to the nature of its testing.

As part of a separate project, the Corps collected sediment samples from Green Peter and Lookout Point Reservoirs in 2013 for analysis of pesticides and heavy metals. All results (from both reservoirs) were below Sediment Evaluation Framework (SEF) benthic toxicity screening levels for metals and pesticides. While the SEF screening levels are used mostly to determine the quality of dredge disposed sediments these metrics are a useful for determining the quality of sediments in the reservoirs. The sediment sample results were also compared against ODEQ baseline values for heavy metals and while metals were present in all sediment samples collected, quantities of metals were below baseline levels for soils typical of the Cascade Region. There are no indications that the elevated turbidity is a human health risk.

**9. If the reservoirs do refill, will they just be a muddy mess?**

A: When other reservoirs in the Willamette, such as Fall Creek, have been drawdown, turbidity in those lakes decreases as the reservoir refills. Every reservoir is different, however. Repeated drawdowns of Fall Creek to streambed over the past decade resulted in decreased annual sediment transport rates from the reservoir.

**10. In other studies of previous deep drawdowns, what was the level of turbidity in those bodies of water and did those bodies of water provide drinking water for cities?**

**a. If so, what level of turbidity did those communities see in their tap water?**

**b. How many days or months did the turbid waters last?**

A: Turbidity levels from the Fall Creek Reservoir deep drawdown in 2012/2013 resulted in turbidity levels ranging from 0 – 2,960 FNU (Formazin Nephelometric Units) directly downstream of the dam. A drinking water facility does not exist directly downstream of Fall Creek Dam. The Cougar Reservoir drawdown (of 27 feet) implemented in 2012/2013 did not result in elevated turbidity downstream.

For the present deep drawdowns:

Turbidity levels from the Lookout Point Reservoir deep drawdown in 2023 has resulted in turbidity levels ranging from 0 – 1,290 FNU (Formazin Nephelometric Units) directly downstream of the dam. A drinking water facility is located downstream of Lookout Point Dam and provides municipal water to the town of Lowell, OR. The Corps defers to the City of Lowell for questions about the level of turbidity in their tap water.

Turbidity levels from the Green Peter Reservoir deep drawdown in 2023 has resulted in turbidity levels ranging from 0.4 – 1,380 FNU (Formazin Nephelometric Units) directly downstream of the dam. A drinking water facility is located downstream of Green Peter Dam and provides municipal water to the town of Sweet Home, OR. The Corps defers to the City of Sweet Home for questions about the level of turbidity in their tap water.

**11. Since this drawdown is now proposed as an alternative in the Corps' Draft Environmental Impact Statement, how many years will it take for this level of turbidity to calm down?**

A: Every reservoir is different. Repeated drawdowns of Fall Creek Reservoir to streambed resulted in decreased annual sediment transport rates from the reservoir overtime.

## **FISH & ENVIRONMENT**

**12. Is the Corps aware of the kokanee salmon fish kill at Green Peter Dam? Did they all die? Will the mud and debris affect the kokanee spawning and populations long term?**

A: Kokanee typically spawn in September or October at age 4 and then die. They are known to spawn in streams which flow into Green Peter Reservoir. Not all Kokanee in the reservoir are mature and attempt to spawn in any one year. Kokanee access to spawning grounds upstream of the reservoir may have been impacted this year, however we do not have data to confirm this. Some Kokanee will remain in the reservoir after the drawdown and then mature and spawn in future years.

The deep drawdown of Green Peter Reservoir this year has resulted in large numbers of Kokanee passing downstream through the dam and being killed. Large numbers of Kokanee passing downstream has also been observed at Detroit Dam in previous years under typical operations. We do not know what percentage of the Kokanee in the reservoir have passed downstream. The total number of Kokanee present in Green Peter Reservoir prior to this year's drawdown is unknown, however densities of Kokanee in the reservoir were known to be high. ODFW and anglers reported that Kokanee growth rates has been constrained in the reservoir for several years, which has been attributed to the high densities. Although stocking of Kokanee occurs at Detroit Reservoir annually, ODFW has not stocked Green Peter Reservoir for several years because of the high densities of Kokanee in the reservoir.

**13. Has the Corps done any studies of the effect of the silt on the downstream fisheries and spawning beds?**

A: Turbidity levels downstream of Foster Reservoir as a result of the Green Peter deep drawdown indicate that the suspended sediment transported through Green Peter Dam are remaining in suspension over long distances. It is uncertain if sediments are impacting Chinook eggs laid into gravels (redds) below Foster Dam at this time. Impacts from elevated turbidity on downstream spawning beds was monitored during the drawdown of Cougar Reservoir when the water temperature control tower construction conducted in the early-2000s. Data from that monitoring showed minor impacts on redds.

In recent discussions with ODFW, the Corps has learned that fish located in the hatchery downstream of Foster Dam are experiencing higher parasitic loads and reductions in feeding, which may or may not be related to turbidity levels. Turbidity is known to cause inflammation in fish gills and could be causing respiratory distress.

Although immediate health impacts may occur, sediment transport downstream of dams could also provide habitat benefits for aquatic life. Assessing sediment deposition patterns below

Foster Dam after the drawdown and future high flow events will help determine any habitat changes that have occurred as a result of the sediment transported during the deep drawdown.

**14. How specifically does this action help fishing and local species (in simple terms)?**

A: The deep drawdown of Green Peter Reservoir has been designed to help ESA-listed Spring Chinook and winter steelhead juveniles move downstream of Green Peter Dam so they can migrate to the ocean and mature before returning to freshwater spawn. This operation was not designed to help recreational fishing or other fish species.

**15. Are there any potential plans for alternate methods of allowing salmon through or around the dams?**

A: Both structural and operational solutions for improved downstream fish passage are being considered at the Corps' Willamette Valley dams. Deeper reservoir drawdowns are currently being implemented at Cougar, Lookout Point and Green Peter reservoirs, and continuing as in past years at Fall Creek. Deeper drawdowns may continue into the future once the injunction is lifted and the Corps begins implementing the selected alternative in the ROD following the publication of the FEIS and new WVS Biological Opinions. The DEIS Preferred Alternative includes deep drawdowns for long-term fish passage at Cougar, Fall Creek and Green Peter reservoirs and structural downstream fish passage as a solution at Lookout Point Dam. The drawdown at Lookout Point is expected to occur until the fish passage structured is in place. Future drawdowns would continue to be refined to reduce negative impacts to water quality such as elevated fall water temperatures, while continually improving conditions for downstream fish passage for ESA-listed salmonids.

**16. How is the heavy sediment affecting the local ecosystem?**

A: Turbidity levels downstream of Foster Reservoir as a result of the Green Peter deep drawdown indicate that the suspended sediment transported through Green Peter Dam are remaining in suspension over long distances. It is uncertain if sediments are impacting Chinook redds below Foster Dam at this time. Impacts from elevated turbidity on downstream spawning beds was monitored during the drawdown of Cougar Reservoir during the water temperature control tower construction conducted in the early-2000s. Data from that monitoring showed minor impacts on redds.

In recent discussions with ODFW, the Corps has learned that fish located in the hatchery downstream of Foster Dam are experiencing higher parasitic loads and reductions in feeding. Turbidity is known to cause inflammation in fish gills and could be causing respiratory distress.

Although immediate health impacts may occur, sediment transport downstream of dams could also provide habitat benefits for aquatic life. Assessing sediment deposition patterns below Foster Dam after the drawdown and future high flow events will help determine any habitat changes that have occurred as a result of the sediment transported during the deep drawdown.

## FLOOD RISK MANAGEMENT

### **17. How is flood control in the Valley affected by the drawdown?**

A: Generally, the deep drawdowns improve flood risk reduction in the Valley by providing more storage to capture high flow/flood flow events.

## RECREATION

### **18. When do you expect the reservoirs and river to be usable for recreation again?**

A: Sunnyside boat ramp is currently available for access to Foster Reservoir. Refill of Green Peter Reservoir will begin 16 December. Linn County plans to open Thistle Creek when the boat ramp becomes usable due to the water level and the Corps estimates that will likely be by early February. Corp's parks adjacent to Green Peter are normally open in winter and have been closed to reduce access to the lakebed due to safety concerns. They will be back open before the spring park opening as levels come back up.

## LIMITS TO CORPS AUTHORITIES

### **19. What can be done to stop this injunction and prevent this from happening in the future?**

A: The Corps cannot provide you legal advice, you would need to consult with an attorney.

### **20. Is there any way affected communities can be compensated for the expense of addressing negative impacts?**

A: The Corps cannot provide you legal advice, you would need to consult with an attorney. However, the Corps does not have authority or appropriations to compensate communities.