

Data Submitted (UTC 11): 10/30/2025 3:15:51 PM

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Comments: RE: Spirit Lake Outflow Safety Improvement Project #66482

My Brief, Background and Personal History; I have been an eco-entrepreneur living and working in the shadow of Mt St Helens for over 51 years. I built, own and operate Eco Park Resort at Mt St Helens, next to the Sediment Retention Structure, since 1995. My family owned and operated Spirit Lake Lodge at Mt St Helens from 1973-May 18, 1980. I was an eyewitness to the event. This has provided me with knowledge and experience, witnessing the awesome beauty, the catastrophic devastation and natural recovery over the last 44 years.

Early Decisions were based on the view that the eruption was a disaster that devastated the cities roads, and man-made structures, even though many may have been built in harms way. This view was common in the 1980s, we did not look at a volcanic eruption as a natural event, but instead as a catastrophic disaster creating devastation and destroying mankind. Instead of a natural progression of this living landscape.

The decisions were made, to control the natural area with man-made engineered structures, in an attempt to control nature and save existing man-made infrastructure downstream. These decisions were made in the heat of the volcano, and under extreme stress from the population centers affected downstream. We did not have the science, knowledge and education that we have learned over the past 44 years.

The Engineered tunnel at Spirit Lake, was the first "Forever Life Changing Decision" attempting to control the natural recovery of Spirit Lake. This structure, nearly 2 mile long 11 foot in diameter tunnel board through a volcanic unstable area was intended to save the population centers downstream, by controlling the water level of Spirit Lake. The fear was that the lake may overflowing, cutting through the pumice plain, causing a flash flood devastating the cities and housed downstream. Of course, the tunnel did cut off Spirit Lake from all natural fish and aquatic life migration for the past 45 years. This Set back all-natural recovery of fish and aquatic life from returning to Spirit Lake.

The Sediment Retention Structure, (SRS) is the second "Forever Life-Changing Decision", that was made in an attempt to control and hold back sediment in the north fork to the river. This decision resulted in further cutting off all natural fish and aquatic migration back to the upper North Fork Toutle River. Instead, it continues to raise volcanic sediment, manipulating and delaying the natural recovery of this productive watershed. This engineering structure in its present state will require additional modifications and changes. It will both be detrimental to the natural recovery and expensive for future generations to come.

The Fish Collection Facility, FCF, was the third "Forever Life-Changing Decision" that was made back in that time. It is a man-made structure designed to stop all aquatic life from being able to go up stream naturally. A trap and truck program were adopted instead. This program has severely limited the return of aquatic life the North Fork Toutle River. For decades returning fish were limited to only two species by human choice. To date the average number of fish transported is approximately 400 per year. It also continues to have difficulty in its human assisted operation with breakdowns and delays. This has had a dramatic effect on the natural recovery of all aquatic life returning above the SRS.

All three of these decisions were made under an emergency action threat, that is still in place with the US Army Corp's projects on the North Fork, even though it has been 45 years since the eruption.

My Biggest Concern, with the Spirit Lake outflow project #66482 being conducted by the US Forest Service is that it only is addressing one issues, the nature outlet of Spirit Lake in the North-fork Toutle River valley.

Over the last 45 years of observation, I have learned that it is impossible to address the outlet for Spirit Lake without taking into consideration the rest of the North fork, Toutle and Cowlitz river drainage. Water and sediment flows downstream and will have a major effect on all infrastructure projects including the Sediment Retention Structure (SRS), The Fish Collection Facility (FCF) and communities downstream.

OPTION A OPEN CHANNEL OUTLET; Today, we have the opportunity to incorporate our 45 years of experience and observation. To include new nature engineered solutions for flood and sediment control that takes into consideration natural fish passage. But, in order to get the most success from our efforts we must address the entire river system.

I would recommend, the United States Government Department of Agriculture, Department of Interior and Department of Homeland Security work with the State of Washington and local communities to address a long-term management plan for the sediment management and fish passage from Spirit Lake to the Pacific Ocean.

Recommended Additional Plan will have to identify all affected areas, agencies and stake holders who area affected. These stakeholders, then would need to form a board of decision makers or organization that would be responsible for taking action and making decisions. It will have to develop a decision process to identify, prioritize and create a timeline for sediment and flood projects throughout the entire river drainage system that also address natural fish passage. In addition, it will have to create a funding structure that will provide immediate emergency, annual and a lifelong funding source to administrate and carry out the plan. These funds need to be dedicated, but also be more available as needed when situations change in real time.

Risk Analysis; Throughout the public meeting process I have yet to see any Risk Analysis of the current status of Spirit Lake, nor have we been presented with any risk analysis concerning any of the six proposed options.

It is difficult for me to make comments or recommendations on any proposed solution or action, without knowing the potential risk. I would recommend that a full current risk analysis be conducted so we can way the benefits of each proposal.

Therefore, please except my following recommendation even though I am reticent at this time pending future risk analysis findings.

I recommend option: (A) Open Channel Outlet \ Existing Outlet Tunnel Back-up; (with modifications)

Existing Option:

To construct a large open channel outlet that releases water when Spirit Lake levels are above 3440 feet in elevation. Keeping the Existing Outlet Tunnel service as a redundant back up outlet.

With My Recommended Modifications

To design and construct a nature base engineered outlet restoring the headwaters of the North Fork to the River.

This open channel would follow the South East natural drainage that has been developing over the last decade. This route will flow out to connect with the outflow from the crater and the two new small lakes forming in the valley floor.

We would utilize the large woody debris material that is currently available in Spirit Lake in the design of the outlet and engineered river channel, connecting with the Loowit falls and the crater outlet connecting down stream meeting with Cold Water outlet, creating the N Fork Toutle River.

The River Channel Design may need to be modified to incorporate some high flow bank bends and or ponds in order to help create bends, in the outlet channel. Keep in mind that the current tunnel outlet is narrow, only 11 feet wide or less and that the original lake outlet, prior to the eruption was very narrow and small in contrast to the size and depth of the original Spirit Lake.

This should allow engineer to design a flow control system that could help maintain the flow of water out of the Lake. We would need to establish a lake level that will allow the open channel to flow year-round to allow fish passage in order to supporting the natural recovery of aquatic life and migratory fish to Spirit Lake as defined in the 1982 Mt St Helens Monument Act. ?

The Existing Tunnel: We would use the existing tunnel to help maintain a safe level of the lake while the new natural outlet establishes itself and becomes a more native channel to the landscape. My hope is that overtime, the natural recovery around the outlet would establish itself so we no longer would have need of the tunnel.

In addition: We need to establish a long-range plan for the North Fork Toutle River Drainage Restoration; from Spirit Lake to the Columbia River. It is essential that we create and maintain natural fish passage connectivity from Spirit Lake to the Columbia River.

COMMENT ON OPTION D Existing Outlet Tunnel, and Buried Conduit Emergency Spillway (allows development of a pilot outlet channel with fail-safe protection)

There has been much talk that this proposal would provide a fail-safe protection. First in my observations of this proposal I see no fail-safe advantage that could not be incorporated in a small open channel design.

I am also reluctant to use the term "fail-safe" in describing this proposal, over the past 45 years I do not think I would call any of the proposed option to be "fail-safe". The one thing that is certain with this proposal is that we would be delaying natural fish passage to Spirit Lake for decades.

Only by engineering with nature, can we bring a solution that will be beneficial to the natural recovery, be cost-effective, and have the greatest long-term solution for both the ecological recovery and the economy of the area.

The decision we are going to make will affect the next 100 to 1000 years of future generations and natural recovery of the Mt St Helens National Volcanic Monument, we should not make this decision lightly, nor should we rush to judgement without collecting as much data, opinions and facts.

Attached: Additional questions:

Questions for the Spirit Lake Outflow Safety Improvement Project;
(These questions are in no specific order) October 23,2024

1.) What government agency or agencies will be responsible for making this decision?

a.) Who will be responsible for the construction?

b.) Who will be responsible for maintaining the outflow safety improvement project?

2.) What is the current Risk Factor for Spirit Lake?

a.) and the Risk Factor for each of the proposed solutions.

3.) How will these projects be funded for construction?

a.) How will Annual Maintenance be funded? a.) from who's Budget?

4.) Do all the Safety Improvement Projects meet the monument acts natural recovery requirements that will allow the natural recovery of Flora and Fauna, to include natural fish passage returning to Spirit Lake?