

# FOSTER DAM IMPROVEMENTS FOR UPSTREAM AND DOWNSTREAM FISH PASSAGE - UPDATE

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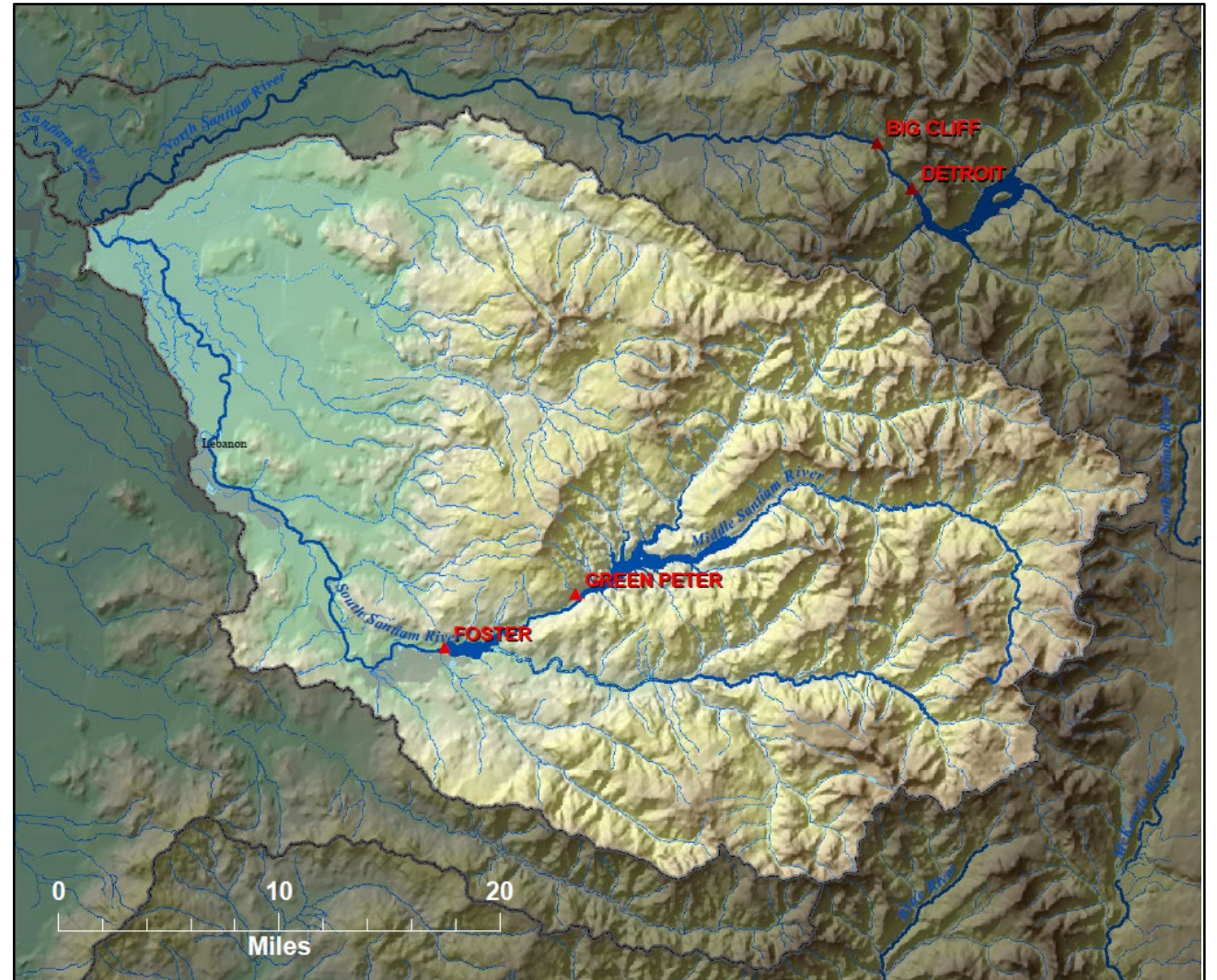


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# PRESENTATION OUTLINE

- Background.
- NMFS 2008 BiOp.
- Upstream Fish Passage.
- Downstream Fish Passage.
- Next Steps.



Courtesy of J. Macdonald



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# BACKGROUND

- Foster Dam is a 126 ft. tall multi-purpose dam; went into operation in 1968.
- Adult Fish Facility (AFF) was constructed because the dam blocked upstream passage.
  - Operated by Oregon Dept. of Fish and Wildlife (ODFW).
- Downstream fish passage occurred via the spillway or turbines.
  - A fish weir was installed in the spillway (Spill Bay 4) in 1984 as a surface outlet for juvenile steelhead.
  - The weir was operated for one month annually; April 15 – May 15.



Foster Dam – USACE file photo



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# NMFS 2008 BIOLOGICAL OPINION

- Reasonable and Prudent Alternative (RPA) included measures for improving up and downstream fish passage for threatened Spring Chinook salmon and winter steelhead in the South Santiam River.
- The RPA measures required:
  - An improvement to the Foster Adult Fish Facility for upstream passage.
  - Evaluation of the fish weir at the spillway for improvements to facilitate juvenile downstream passage.



Foster Dam – USACE file photo



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# UPSTREAM FISH PASSAGE

- Construction/upgrades of the AFF began in 2012 and was completed in February 2014.
- AFF went into operation March 2014.
  - Operated by ODFW.
  - Only unmarked winter steelhead and Spring Chinook salmon released upstream of Foster Dam.
  - Observed delays of adult fish in the Foster tailrace – fish not readily using the ladder.
  - Studies to evaluate possible causes for the delay was conducted by University of Idaho (2016 – 2017).
- **The Corps engineering team (PDT) is investigating alternatives/designs to improve collection at the ladder and facility.**



# DOWNSTREAM FISH PASSAGE

- Began focused research of the fish weir and other passage routes in 2012.
- Operated the weir year-round for fish passage studies; 2012 - 2016.
  - Studies were conducted at low (winter) and full (summer) reservoirs.
  - Results informed the need for a new/improved fish weir.
  - Product Delivery Team (PDT) designed a new weir with more flow, greater operational hydraulic head, capture/entrainment velocities and improved hydraulic conditions.



# THE NEW FISH WEIR (2018)

- Installed early March 2018.
- Commenced post-construction evaluation.
- The next three presentations will inform us of the results of the evaluation.



Courtesy of S. Swanson



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# QUESTIONS

