

# Icicle Workgroup Presentation

## Eight-Mile Lake Appraisal Study

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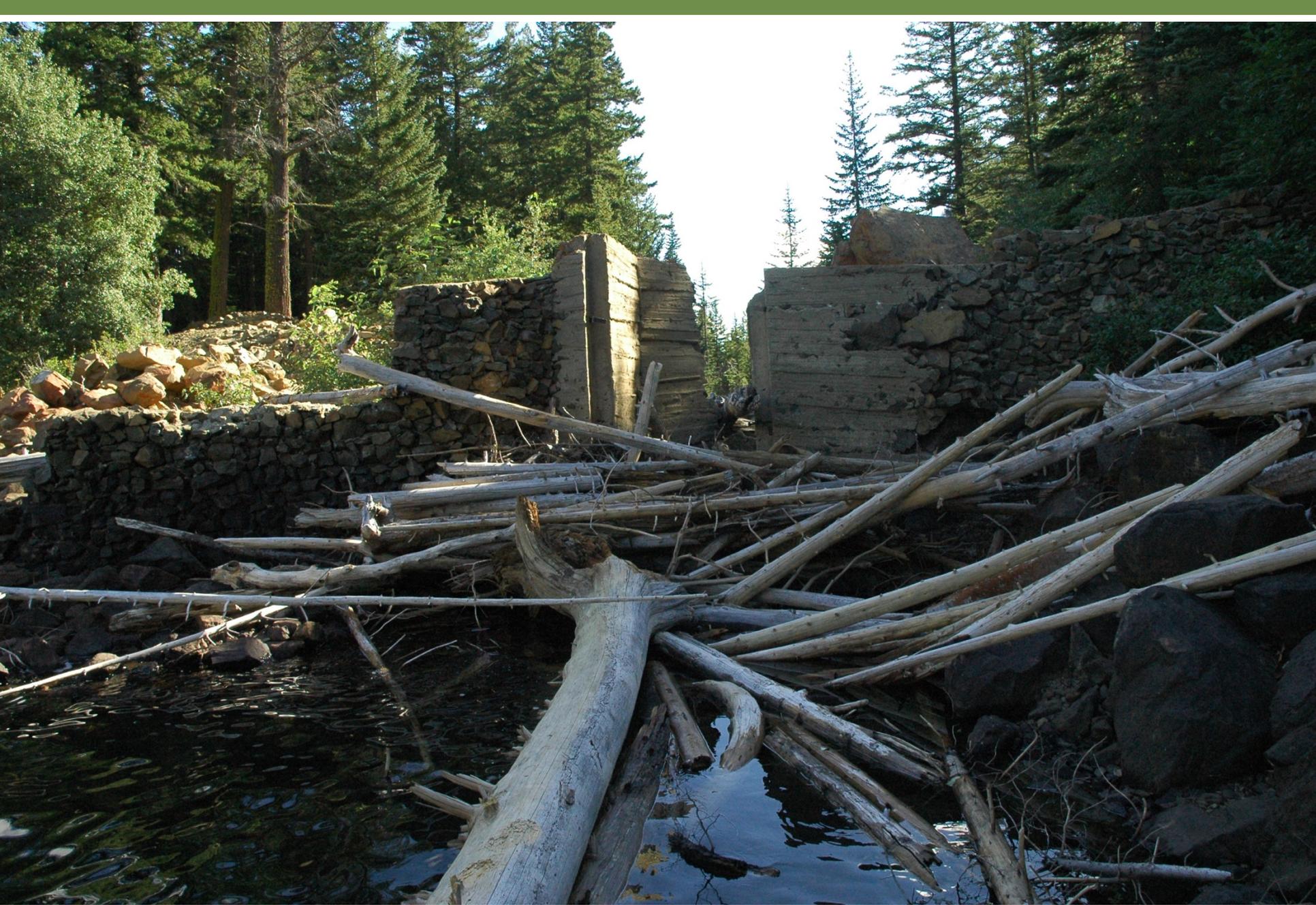
Dave Rice, PE



# OCR Grant Overview

## Eight-Mile Lake Restoration / Expansion Appraisal Study:

- Build on TU reconnaissance / site investigation
- Evaluate structural, operational, permitting, future use, and costs for four lake levels:
  - 1,827 acre-feet
  - 2,000 acre-feet
  - 2,500 acre-feet
  - 5,000 acre-feet



# Eight-Mile Lake Structural / Operational Overview

- Masonry Rock/Concrete Wall and Earthen Embankment Dam
  - Earthen Embankment has Eroded at Masonry Rock/Concrete Wall
  - Masonry Rock/Concrete Wall is Partially Deteriorated
- Spillway
  - Was Historically Controlled by Flash Boards at Opening in Masonry Rock / Concrete Wall
  - No Longer Controlled by Flash Boards, Debris in Spillway
  - Primary Spillway Well Appears to be Connected to Discharge Pipeline

# Eight-Mile Lake Structural / Operational Overview

- Overflow Spillway Channel
  - Filled with Large Rock, Boulders
  - Cutoff Walls Downstream of Dam
- Outlet Gate (Controls Flow to Discharge Pipeline)
  - Original Operator Damaged, Removed
  - Currently Operated by Inserting Come Along into Steel Piece Attached to Stem
  - Rock Above, Against Gate
  - Difficult to Operate and Fully Close

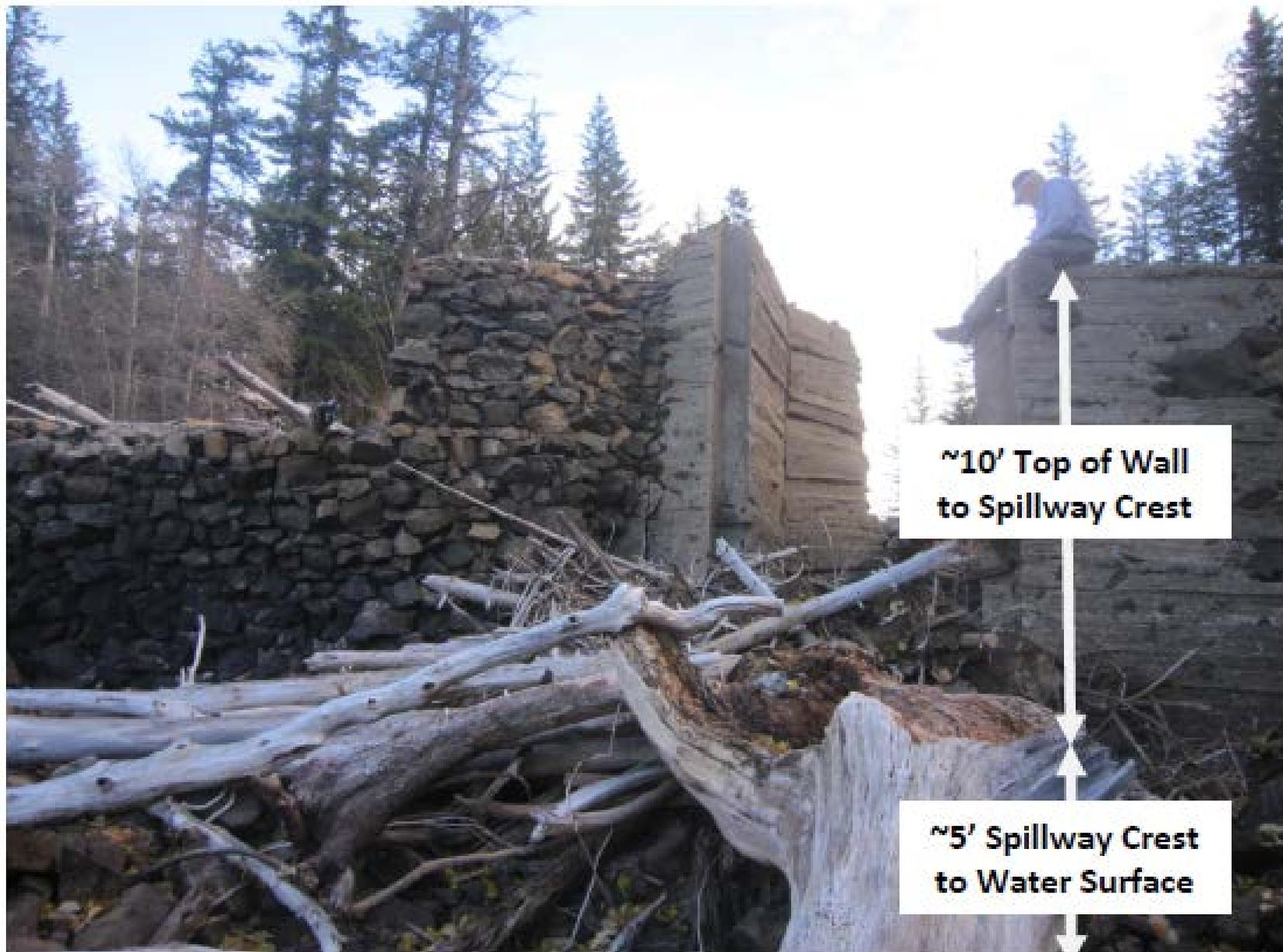
# Eight-Mile Lake Structural / Operational Overview

## ■ Discharge Pipeline

- ~36" Corrugated Metal Pipe (CMP)
- Submerged at Outlet, Rocks and Boulders
- Unable to inspect submerged Inlet

## ■ Rough Measurements

- ~10 Feet from Top of Wall to Spillway Inlet Crest
- ~5 Feet from Spillway Inlet Crest to Water Surface
- Outlet Pipe Invert ~8 to 9 Feet Below Water Surface



**~10' Top of Wall  
to Spillway Crest**

**~5' Spillway Crest  
to Water Surface**





# Permitting Investigation

Current focus is data gathering:

- District files / institutional knowledge
- Ecology files (water rights, dam safety, topic, adjudication files)
- Chelan County Auditor (parcel ownership) and Superior Court (adjudication files)
- DNR files
- USFS files
- BLM files

# Next Steps

- Develop restoration / expansion approach
- Conceptual design and cost estimates
- Documentation of existing permit authority
- Identification of required permit authority for each option
- Documentation of benefits / beneficial uses
- Operational changes
- Appraisal Report