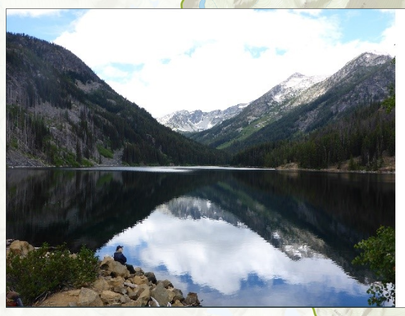
# NEW STORAGE

DEPARTMENT OF ECOLOGY
State of Washington

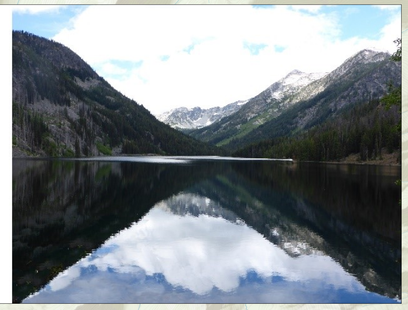
**In Alternative 4, the Draft PEIS contemplates enhanced storage at the Alpine Lakes. This additional storage would be used for instream flow enhancement and improved domestic supply.**

## EIGHTMILE LAKE STORAGE ENHANCEMENT

Eightmile Lake Storage Enhancement project proposes to replace the existing dam, low-level outlet pipeline, and controls at Eightmile Lake. Proposed facilities would increase the useable storage capacity to 3,500 acre-feet, which represents a 1,000-acre-foot increase over the volume that can currently be captured and released under IPID's water right. The project would increase the useable storage by increasing the dam height (11 ft) and draw down level (25 ft). This project would provide up to 17.9 cfs and 1,900 acre-feet of water for instream flow and domestic use. IPID would continue using up to 1,600 acre-feet of water from Eightmile Lake.



Existing Eightmile Lake High Water Level



Proposed Eightmile Lake High Water Level

### PROJECT SUMMARY

The enhancement increases the useable storage to approximately 3,500 acre-ft by rebuilding the dam, and raising the crest and increasing the available drawdown. This project is in the conceptual stage.

### PROJECT BENEFITS

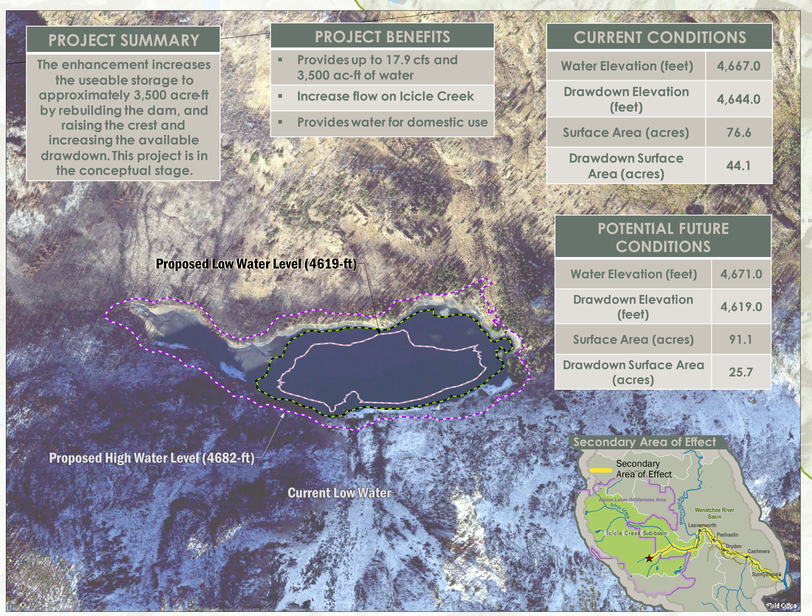
- Provides up to 17.9 cfs and 3,500 ac-ft of water
- Increase flow on Icicle Creek
- Provides water for domestic use

### CURRENT CONDITIONS

| | |
|---|---|
| Water Elevation (feet) | 4,667.0 |
| Drawdown Elevation (feet) | 4,644.0 |
| Surface Area (acres) | 76.6 |
| Drawdown Surface Area (acres) | 44.1 |

### POTENTIAL FUTURE CONDITIONS

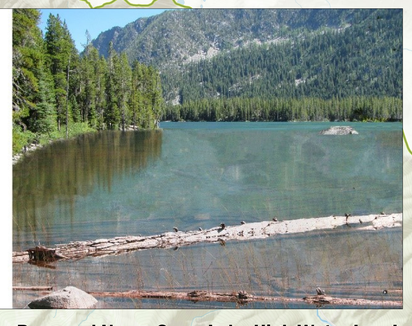
| | |
|---|---|
| Water Elevation (feet) | 4,671.0 |
| Drawdown Elevation (feet) | 4,619.0 |
| Surface Area (acres) | 91.1 |
| Drawdown Surface Area (acres) | 25.7 |




## UPPER AND LOWER SNOW LAKES STORAGE ENHANCEMENT

Upper and Lower Snow Lakes are situated within the Alpine Lakes Wilderness area of the Icicle Creek Subbasin. The combined surface area is approximately 189.3 acres, with a maximum water surface elevation of 5,420 feet (Upper Snow Lake) and 5,415 feet (Lower Snow Lake). The USFWS manages both lakes, with releases being used to meet instream flow and fish rearing obligations. The Upper and Lower Snow Lakes Storage Enhancement project would increase available storage by increasing the dam height by 5 feet and increasing draw down by 3 feet, providing up to 18 cfs and 1,079 acre-feet for instream flow and domestic benefit.

Existing Upper Snow Lake High Water Level



Proposed Upper Snow Lake High Water Level

### PROJECT SUMMARY

The enhancement would raise the dam on Upper Snow Lake to increase storage capacity by 1,079 acre-feet. This project is in the conceptual stage.

### PROJECT BENEFITS

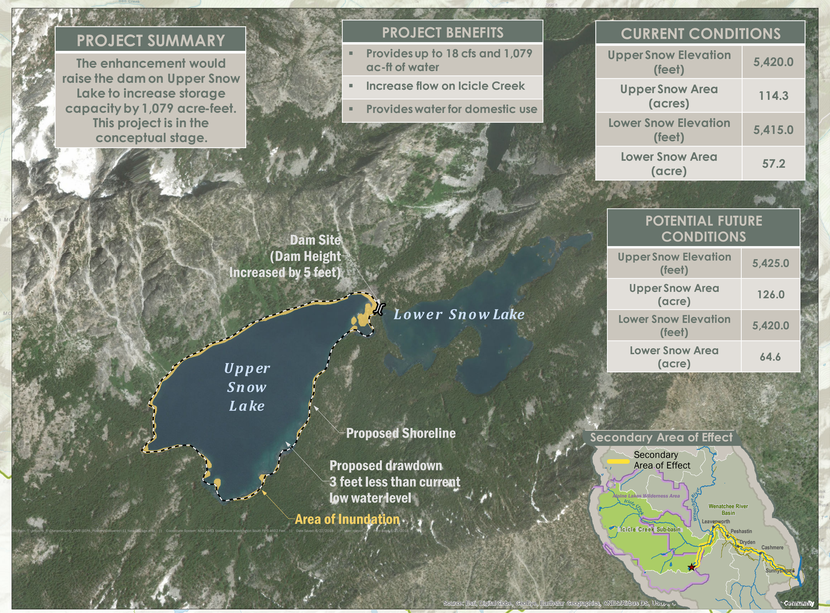
- Provides up to 18 cfs and 1,079 ac-ft of water
- Increase flow on Icicle Creek
- Provides water for domestic use

### CURRENT CONDITIONS

| | |
|---|---|
| Upper Snow Elevation (feet) | 5,420.0 |
| Upper Snow Area (acres) | 114.3 |
| Lower Snow Elevation (feet) | 5,415.0 |
| Lower Snow Area (acre) | 57.2 |

### POTENTIAL FUTURE CONDITIONS

| | |
|---|---|
| Upper Snow Elevation (feet) | 5,425.0 |
| Upper Snow Area (acre) | 126.0 |
| Lower Snow Elevation (feet) | 5,420.0 |
| Lower Snow Area (acre) | 64.6 |




## UPPER KLONAQUA LAKE STORAGE ENHANCEMENT

Upper Klonaqua Lake is located just west of Lower Klonaqua Lake. The Upper Klonaqua Lake Storage Enhancement project would convey storage water from Upper Klonaqua Lake to Lower Klonaqua Lake via a siphon, tunnel, or pumping. This project could provide up to 20 cfs and 2,443 acre-feet of additional water supply (50 foot draw down). Access to waters stored in Upper Klonaqua Lake would help to provide more reliable instream flows during critical times of year such as late summer/fall.

Lower Klonaqua Lake Current Conditions

Lower Klonaqua Lake with Simulated Upper Klonaqua Lake Outlet

### PROJECT SUMMARY

The enhancement takes advantage of potential storage in Upper Klonaqua Lake by installing infrastructure to draw down the lake. Options for drawdown include tunneling, pumping, and siphon. Bathymetry suggests up to 2,448.2 ac-ft of water could be available for release. This project is in the conceptual stage.

### PROJECT BENEFITS

- Provides up to 20 cfs and 2,448 ac-ft of water
- Increase flow on Icicle Creek
- Provides water for domestic use

### CURRENT CONDITIONS

| | |
|---|---|
| Volume | 4,388.9 ac-ft |
| Water Elevation | 5,198.1 feet |

### POTENTIAL FUTURE CONDITIONS

| | |
|---|---|
| High Volume | 4,388.9 ac-ft |
| High Water Elevation | 5,198.1 feet |