Cushman Reservoir Operations

Florian Leischner
Habitat Program Manager
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Cushman Reservoirs

- Historic Lake Cushman
- Cushman dams were built in 1924-30, created Lake Kokanee and increased Lake Cushman (~5 fold)
- Diverted most/all water from Lake Kokanee to Hood Canal
- Federal operating license expired in ‘70s
- New Cushman license in 2010
Cushman Reservoirs

New 38-year license includes elements to:

– re-establish anadromous salmon into reservoir and the upper NF Skokomish River basin
– manage reservoir shoreline
– monitor reservoir productivity, water temperature and fish populations
– manage reservoir levels and debris

– many other elements
Reservoirs at a Glance

North Fork Skokomish River

Cushman Reservoir

Kokanee Reservoir

North Fork Skokomish R.
Reservoirs at a Glance – Fish Passage

North Fork Skokomish R.
Cushman Reservoir
Kokanee Reservoir
North Fork Skokomish R.
Reservoirs at a Glance – Fish Passage

North Fork Skokomish R.

Cushman Reservoir

North Fork Skokomish R.

Kokanee Reservoir
Reservoirs at a Glance

Cushman Reservoir: 4,010 acres
Kokanee Reservoir: 150 acres

North Fork Skokomish R.
Reservoirs at a Glance

Cushman Reservoir: 4,010 acres
Kokanee Reservoir: 150 acres

North Fork Skokomish R.
Cushman Powerhouse #2 / Hood Canal

Storage
Regulate

North Fork Skokomish R. Minimum 120-300 cfs
Reservoirs at a Glance

- **Cushman Reservoir**: 4,010 acres
- **Kokanee Reservoir**: 150 acres

**Volume**:
- **Cushman Reservoir**: 450,000 Acre-feet
- **Kokanee Reservoir**: 7,500 Af

**North Fork Skokomish R.**

**Cushman Powerhouse #2 / Hood Canal**
Reservoirs at a Glance

Additional water into North Fork
1. For salmon and habitat according to license
2. Reservoir safety - spill
Reservoir Management – Lake Kokanee

Reservoir Elevation (ft)

Water elevation requirement

Lake Kokanee surface elevation

10/1/17
11/1/17
12/1/17
1/1/18
2/1/18
3/1/18
4/1/18
5/1/18
6/1/18
7/1/18
8/1/18
9/1/18
Lake Cushman Management

Elevation (ft.)

Month


738 ft

Lake level pre-license (mean daily 1995-2012)
Lake Cushman Management

Elevation (ft.)

- Lake level pre-license (mean daily 1995-2012)
- Lake level post license (mean 2012-2018)
- Minimum requirement

Month

738 ft
Lake Cushman Management

Elevation (ft.)

Month

Lake level during reporting period Oct 1, 2017 - Sep 30, 2018
Lake level post license (mean 2012-2018)
Minimum requirement
Lake Cushman Management

Elevation (ft.)

Lake level during reporting period Oct 1, 2017 - Sep 30, 2018
Lake level Oct 1, 2018 - Sep 8, 2019
Lake level post license (mean 2012-2018)
Minimum requirement
Drought 2019

Snow Water Equivalent

MOUNT CRAIG SNOTEL
Water Year 2019 - Elevation 4200 feet

POR Range 30Yr Avg 30Yr Med SWE Obs

Plot Created: 05/31/2019 10:05am PDT
Observations Provided by NRCS
Drought 2019

Monthly inflows (cfs) into Lake Cushman (2019)

- January: [Bar graph showing inflows in cubic feet per second (cfs) for January, with dark blue representing 2019 inflows and light blue representing average inflows.]
- February: [Bar graph showing inflows for February, with bars similar to January.]
- March: [Bar graph showing inflows for March, with bars similar to January and February.]
- April: [Bar graph showing inflows for April, with bars similar to January, February, and March.]
- May: [Bar graph showing inflows for May, with bars similar to January, February, March, and April.]

Dark Blue = 2019; Light Blue = Average
Drought 2019

Elevation (ft.)

- No diversion/power generation at Cushman #2
- Minimal power generation to keep North Fork flowing

Lake level Oct 1, 2018 - Sep 8, 2019
Lake level post license (mean 2012-2018)

Month
Lake Cushman Management

- **Elevation (ft.)**
- **Winter 2019/2020**
- **5-year spill gate inspection**

- **Lake level Oct 1, 2018 - Sep 8, 2019**
- **Lake level post license (mean 2012-2018)**

Month:
- 9/29
- 10/29
- 11/29
- 12/29
- 1/29
- 2/28
- 3/31
- 4/30
- 5/31
- 6/30
- 7/31
- 8/30
- 9/30
Lake Debris Management
Lake Debris Management
Lake Debris Management

ATTENTION

Boaters

A floating boom is placed mid-way across Lake Cushman to contain woody debris. **When passing through gates, reduce your speed and watch for floating debris.**
Lake Debris Management
Questions?