



CUSHMAN HYDROELECTRIC PROJECT

Pat McCarty, Generation Manager

TACOMA  **POWER**
TACOMA PUBLIC UTILITIES

AGENDA

A picture tour of Cushman

Relicense history

Relicense requirements

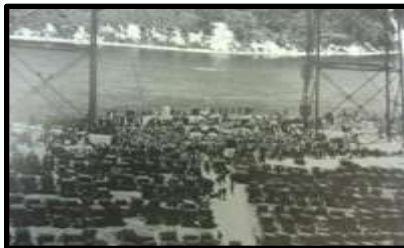
- Fisheries
- Flows & reservoir elevations
- Cultural/historical resources
- Recreation
- Wildlife
- Shoreline management

EARLY CUSHMAN HISTORY



1924

- Federal Power Commission issues a 50-year license
- Construction begins on Cushman No. 1



1926

- Enough water in reservoir to open gates and generate power
- President Coolidge hits a telegraph key in Washington, D.C., starting the turbines



1929

- Construction begins on Cushman No.2



1930

- Cushman No.2 starts generating power on New Year's Eve

**North Fork
Skokomish River**

Lake Kokanee

No. 2 Dam

**North Fork
Skokomish River**

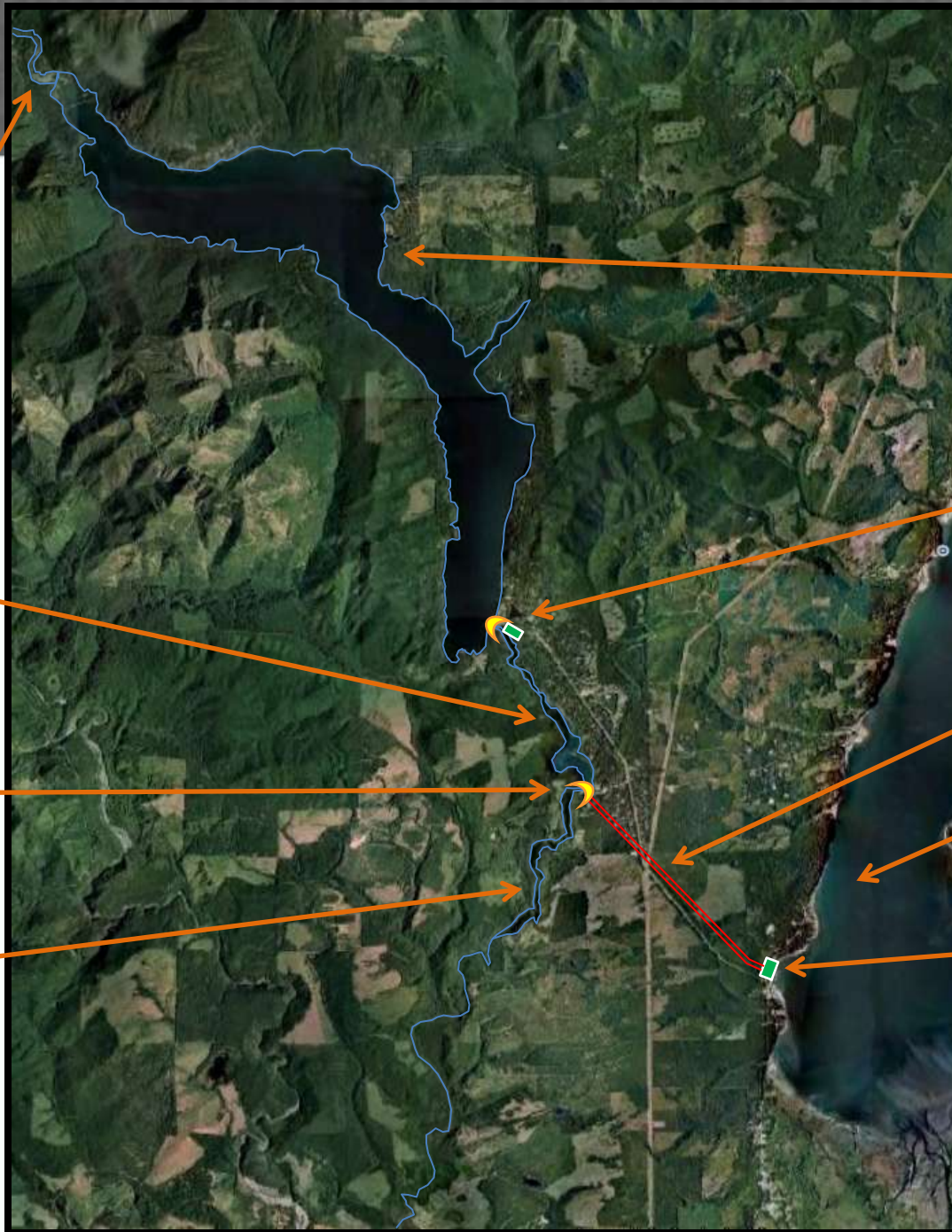
Lake Cushman

**No. 1 Dam and
Powerhouse**

**Power Tunnel
and Penstocks**

Hood Canal

**Cushman No. 2
Powerhouse**

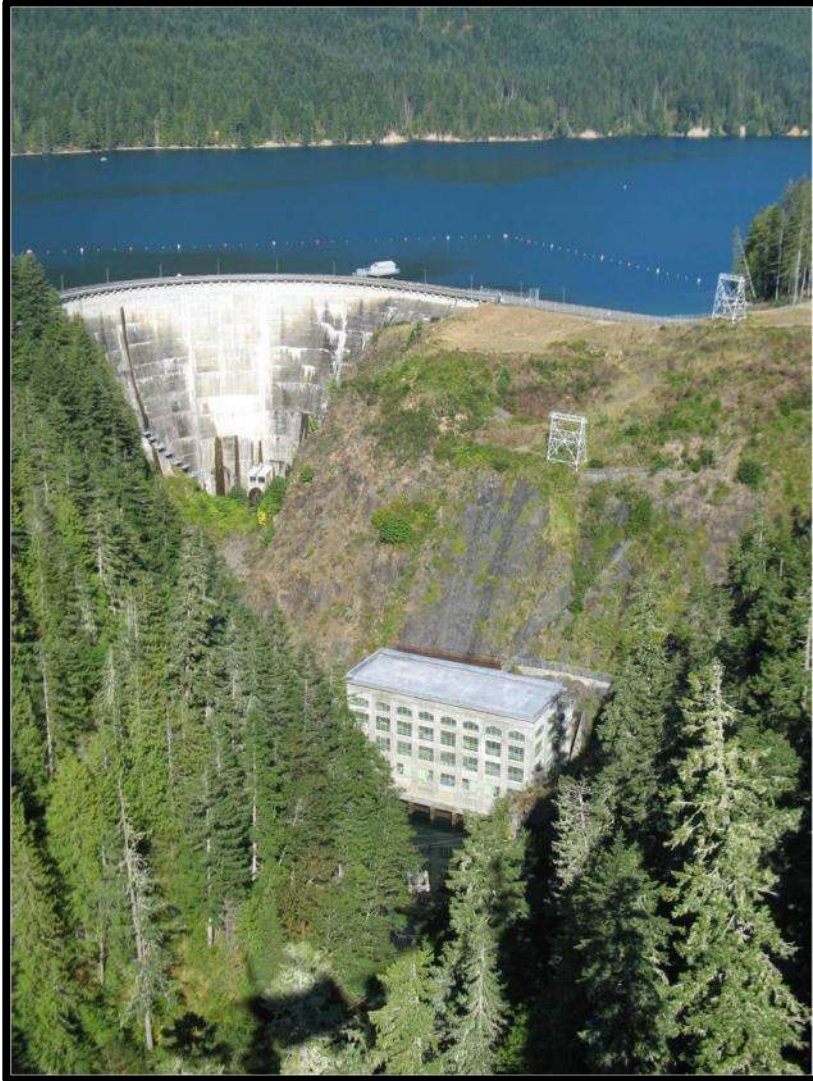


CUSHMAN NO. 1 DAM



- Completed in 1926
- 1100 feet long
- 235 feet tall
- Retains 10-mile long Lake Cushman

CUSHMAN NO. 1 POWERHOUSE



- Two, 22-megawatt turbine generators
- Accessible by aerial tram

CUSHMAN NO. 2 DAM



- Completed in 1930
- 175 feet tall
- 575 feet long
- Retains two-mile long Lake Kokanee

CUSHMAN NO. 2 POWERHOUSE



- Three, 27-megawatt turbine generators
- Water flows 2.5 miles through 17-foot-diameter power tunnel from Lake Kokanee

TACOMA POWER
TACOMA PUBLIC UTILITIES

RELICENSE HISTORY

- 1924:** Federal Power Commission issues the Cushman Project a license for 50 years
- 1974:** Original license expires, Tacoma submits application for relicense
- 1998-** Federal Energy Regulatory Commission (FERC)
- 2006:** issues relicense, appeals and lawsuits filed
- 2009:** Settlement agreement reached
- 2010:** 50-year FERC license issued (through 2048) with numerous requirements

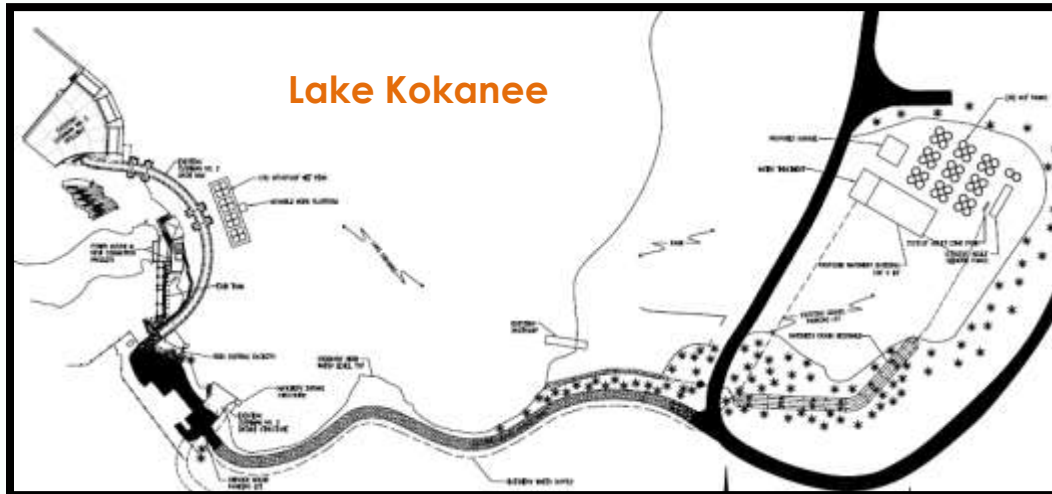
QUESTIONS

What is the clearing and work at Lake Kokanee?

What is the status of public parking at Lake Kokanee?

FISHERIES REQUIREMENTS

North Fork Hatchery

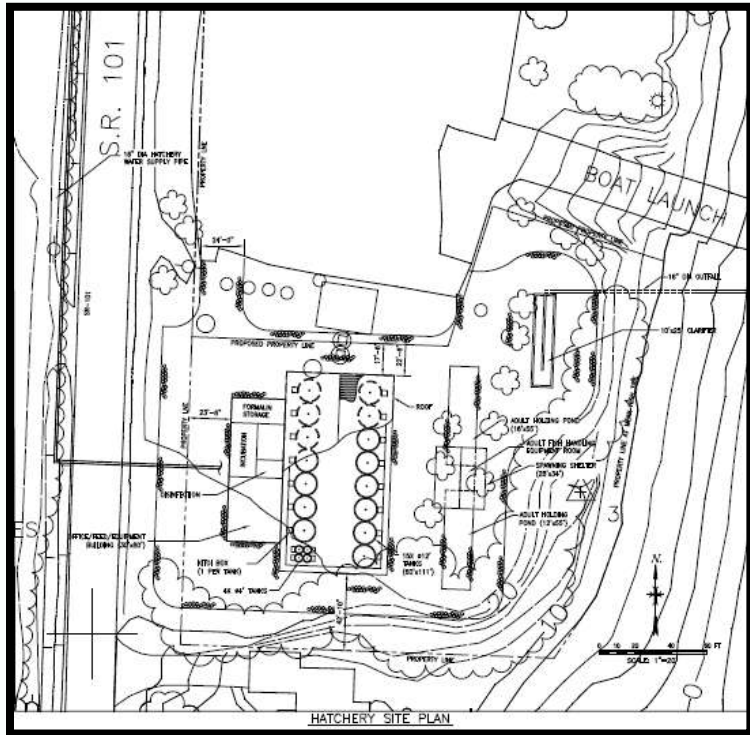


- Raise over 400,000 Chinook, Steelhead and Coho smolts to plant in the North Fork below the dam
- New 10 stall boat trailer and vehicle parking lot across from launch



FISHERIES REQUIREMENTS

Saltwater Park Hatchery



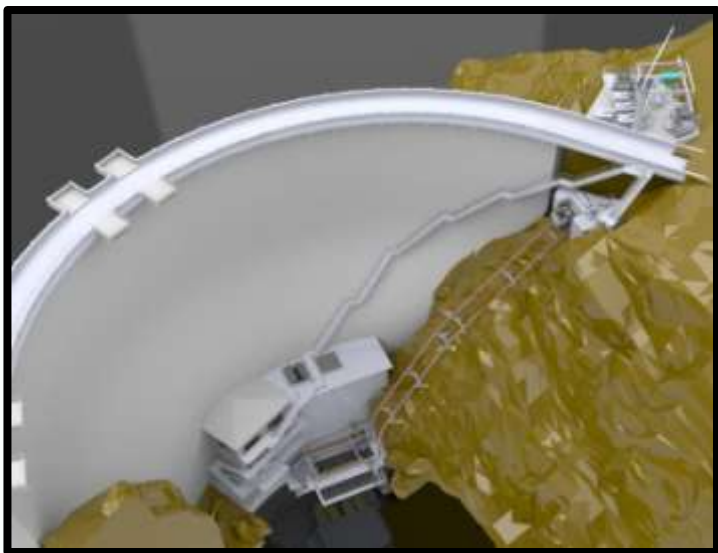
- Operational in 2015
- Raise 2 million sockeye fry per year to plant in Lake Cushman
- Uses spring water from hillside

FISHERIES REQUIREMENTS



Upstream fish passage

- The Fish Collection Facility provides fish passage over the Cushman No. 2 dam via tramway
- Includes two generator units to pass water into the North Fork while generating enough of clean, renewable energy to serve about 1,700 Northwest homes



QUESTIONS

What is in the white tent at Skokomish Park at Lake Cushman?

What is going on at the Dam at Lake Cushman?

FISHERIES REQUIREMENTS



Downstream fish passage

- Juvenile fish collector in Lake Cushman will collect juvenile salmon wanting to migrate to the ocean
- Nets will keep fish from entering the turbines
- Fish will be transported and released into the North Fork Skokomish River at the base of Cushman No. 2 Dam



OTHER RELICENSE REQUIREMENTS

Flows and elevation

- Continuous flows into the North Fork Skokomish
- Lake Cushman elevation between 735 and 738 feet from Memorial Day to Labor Day

Cultural/historical resources

Recreation

- Construction of 40 new campsites at Big Creek Campground
- Picnic sites on Staircase Road, new biking trail, trailhead improvements and more

Wildlife

- 2,700 acres of wildlife lands
- Habitat improvements for elk, osprey, wood ducks, bats

SHORELINE MANAGEMENT REQUIREMENTS

What is the shoreline management plan?

- Identifies rules Tacoma Power must enforce for environmental, safety and operational reasons
- Cushman plan similar to plans for other FERC licensed projects

Enforcement

- Tacoma Power must survey and identify structures out of compliance, report to FERC by Aug. 2015
- Permit renewal
- Cultural evaluation

Transition plan still in development

MEET SOME OF THE TACOMA POWER TEAM

Keith Underwood, **Natural Resources Manager**

Bret Forrester, **Wildlife and Lands Manager**

Dennis Koehn, **Cushman Hydro Project Manager**

Andy Ollenburg, **Cushman Fish Facilities Manager**

Steve Fischer, **Construction Project Manager**

WANT MORE INFO?

Stations located throughout room

Land Management / Recreation

- Shoreline and Lake Uses
- Wildlife
- Cultural Resources
- Recreation Construction
- Lake Cushman Debris Removal

WANT MORE INFO?

More stations

Fisheries and Facilities

- Juvenile Fish Collection at Cushman 1 Dam
- Fish Hatcheries
- Adult Fish Collection at Cushman 2 Dam
- Lake Kokanee Rainbow Trout Releases

Please help yourself to refreshments