

EPA Region 10 States Meeting

Hydropower, Compliance Schedules, and Upcoming UAA's

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What is the Ecology's regulatory role in relation to hydropower facilities?

Implementing Clean Water Act- Water Quality Program

- Adoption of Water Quality Standards (EPA approval)
- NPDES permitting of point source discharges (EPA delegated authority)
- 401 Water Quality Certification (independent state authority)

Water Rights - Water Resources Program

- Issuing non-consumptive water rights
- Setting Instream flows – habitat protection



Coastal Zone Management (CZM) – Shorelands and Environmental Assistance (SEA)

- Certification of federal consistency



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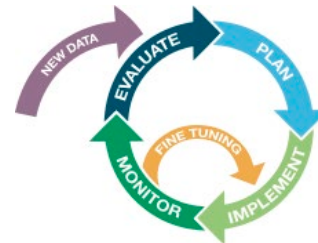
- Certification of federal consistency



A Look Back...

401 Water Quality Certifications issued in the last 20 years

- 22 Hydropower project 401s issued
- Majority were issued between 2008-2012
 - Most all were multi-year processes
- 2003 - Ecology adopted the '*Compliance Schedules for Dams*' process into the water quality standards.
 - Necessary for adaptive management process
 - Outlined expectations for *up to a* 10 year process to attain compliance.



A Look Back...



Dam Compliance Schedules

Requirements:

- **Attainment plan for each parameter not in compliance**
Examples – Temperature, TDG, Dissolved Oxygen, etc.
- **Identify all reasonable and feasible improvements**
 - May include WQ modeling exercises to evaluate alternatives
- **WQ Monitoring plan to track improvements**
- **Reporting of benchmarks to demonstrate progress**
- **Must be 10 years or less**



Where are we now?

Many Dam Compliance Schedules are nearing their end

Successes

Many projects have come into compliance with all water quality parameters.

Where more work is needed

Some hydropower dams have not yet attained water quality criteria set in the 401 WQ Certification

Options? *Provided in the Dam Compliance Schedule rule*

- Evaluate new technologies – begin a new compliance schedule (rare case)

Other
tools



Water Quality
Offsets

Site-specific
Criteria

Use Attainability
Analysis (UAA)



Where are we now?

Many Dam Compliance Schedules are nearing their end

Water Quality Offsets

- Requires a legal binding agreement
- Difficult to find large offset needed for WA impacts of dams
- May be feasible for smaller projects

Site-specific Criteria

- Based on assumption that conditions are natural and not a result of the dam
- Assumes that aquatic life will be fully protected

Use Attainability Analysis (UAA)

- Proposes to change underlying use therefore a modification to the criteria
- Provides **6 different pathways** to support a use change
- One pathway is specifically for dams - related to feasibility of attainment.
- May also consider social and economic impacts



What the future holds

Use Attainability
Analysis (UAA)



- Ecology is currently providing guidance to several utilities
- Requires a rulemaking to modify the WQ Standards

As with the 401 certification process – each will required a lots of collaboration, planning, communication and a full public process including government-to-government consultation with interested tribes.
- Ecology is considering one UAA proposal now
 - We could be initiating a rulemaking this fall.
 - May be the first successful UAA rulemaking in the state
- We expect several other utilities to propose UAAs



Current UAA Project: UAA Submittal - Chelan River



UAA Submittal - Chelan River

Background

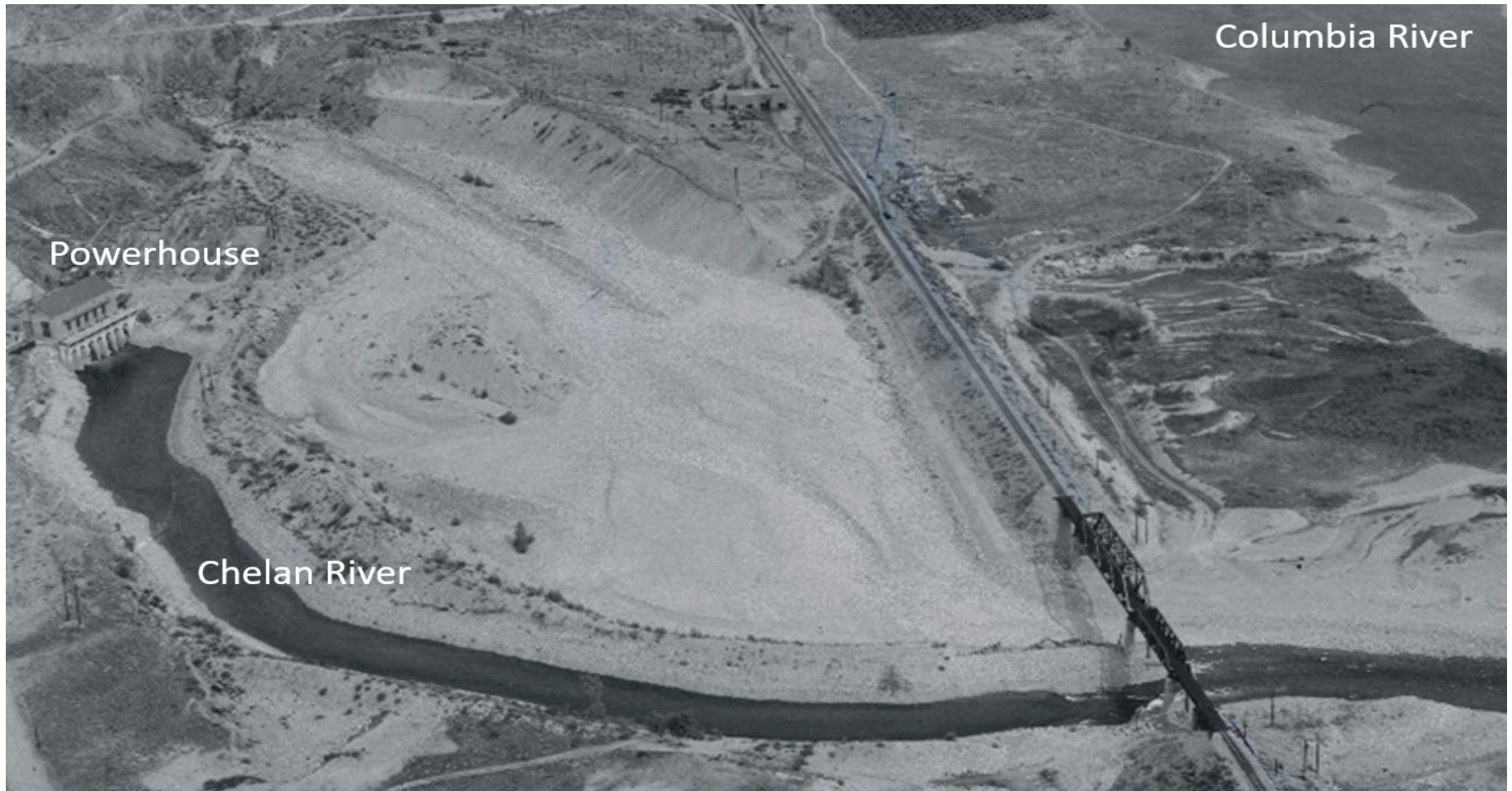
- Lake Chelan is owned and operated by Chelan PUD
- Chelan River originates at the Lake Chelan Dam and empties into the Columbia River (4 mi long)
- ~80 years flows were diverted from the river for power generation (except during high flows)
- FERC license issued in 2006
 - Established minimum instream flows in 2009



UAA Submittal - Chelan River



Reach 4 (1959)

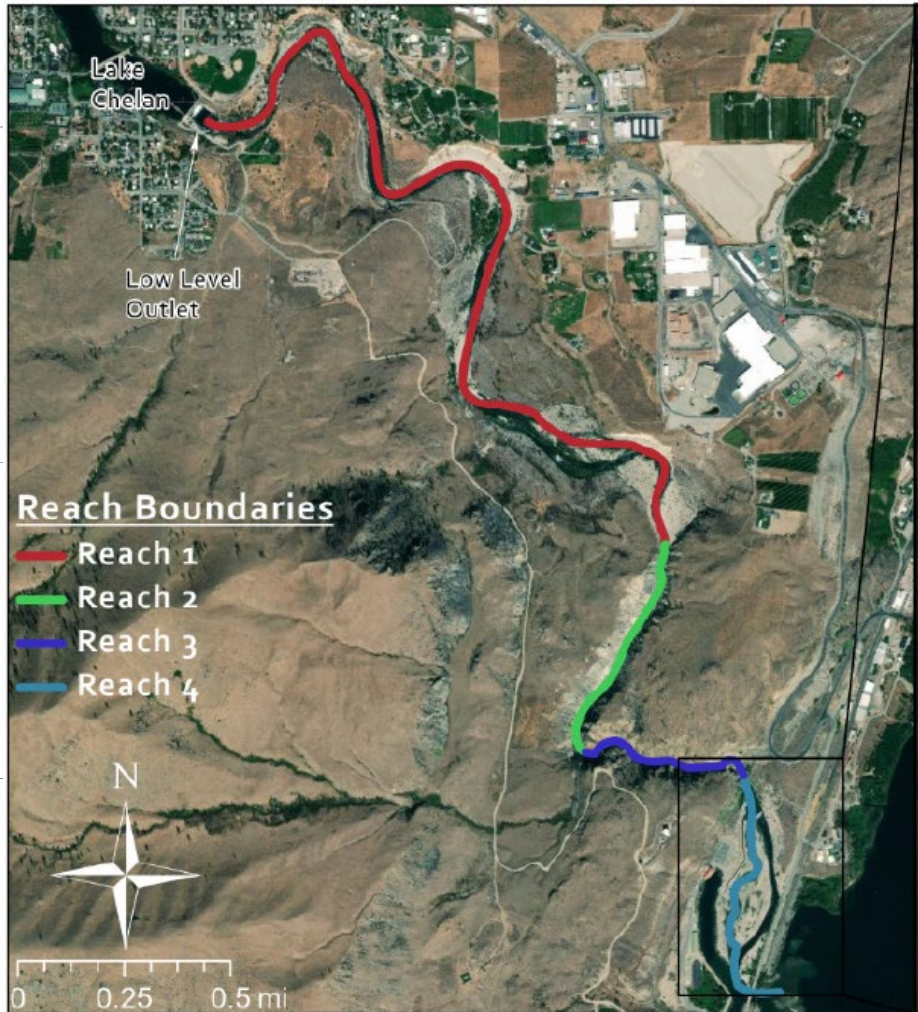
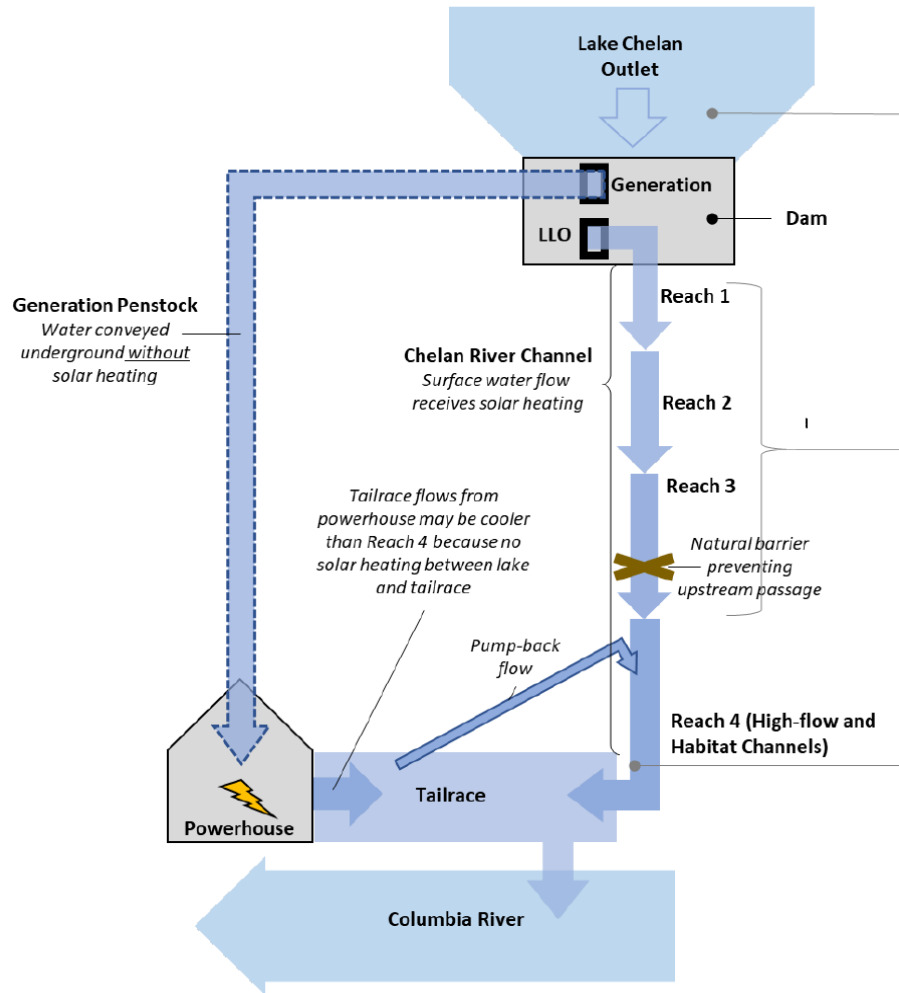


Background

- Annual flows were re-established
- Natural Salmon Barrier exists at the downstream end of reach 3
- Salmon Spawning returned in the newly created reach 4
- River temperatures driven by lake temperature and warming through reaches 1-3 do not meet numeric temperature criteria.



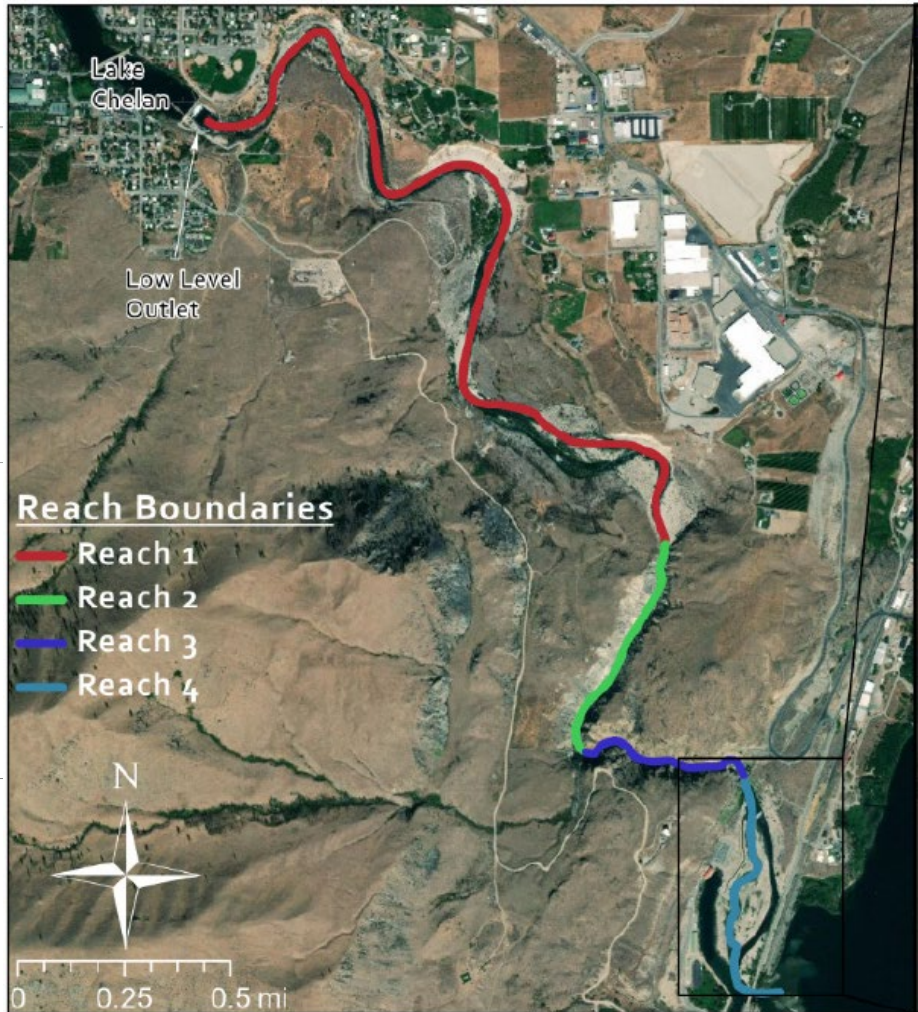
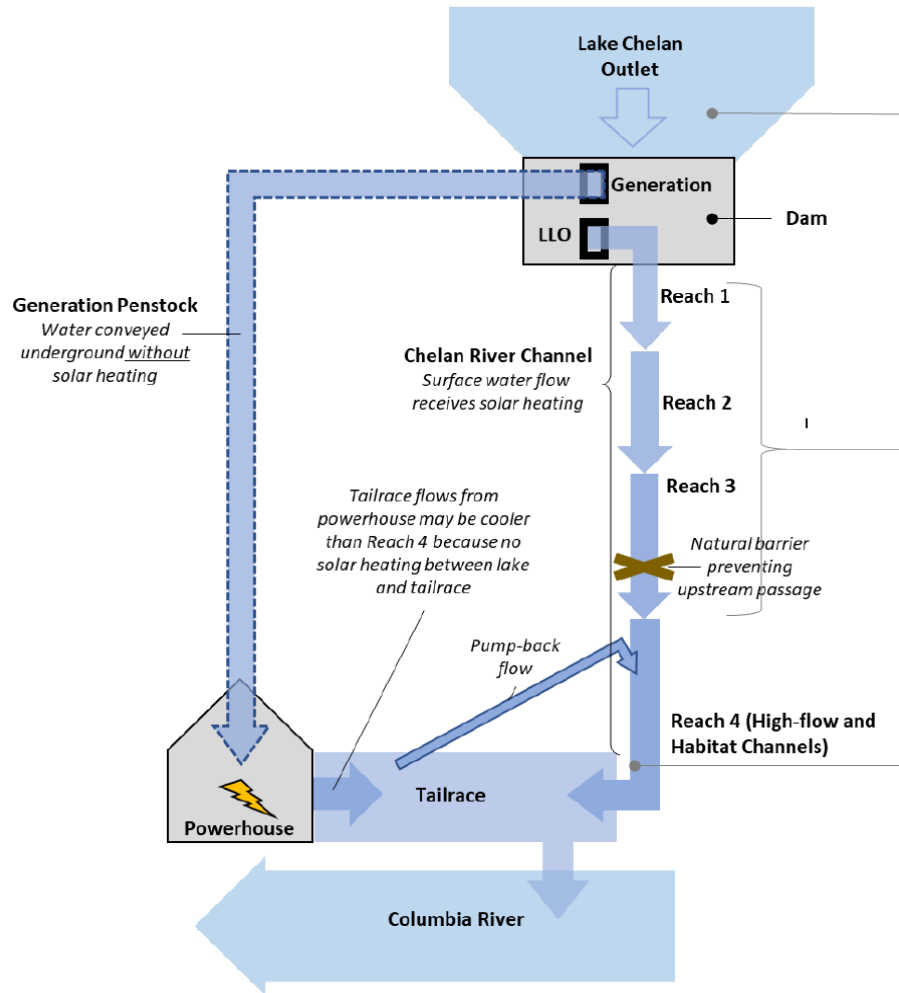
UAA Submittal - Chelan River



Reach 1



UAA Submittal - Chelan River

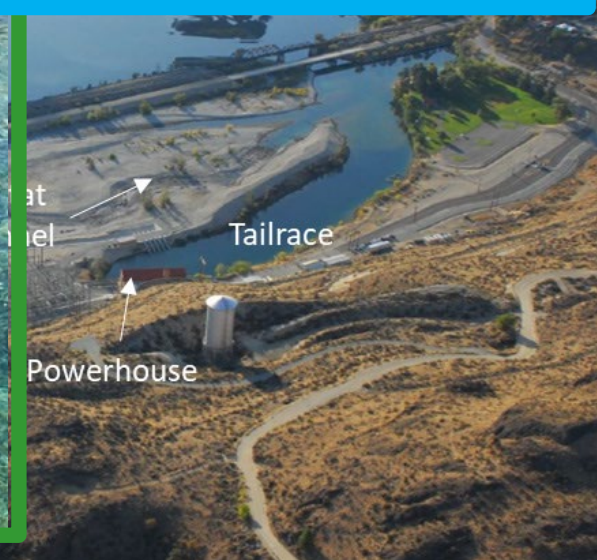
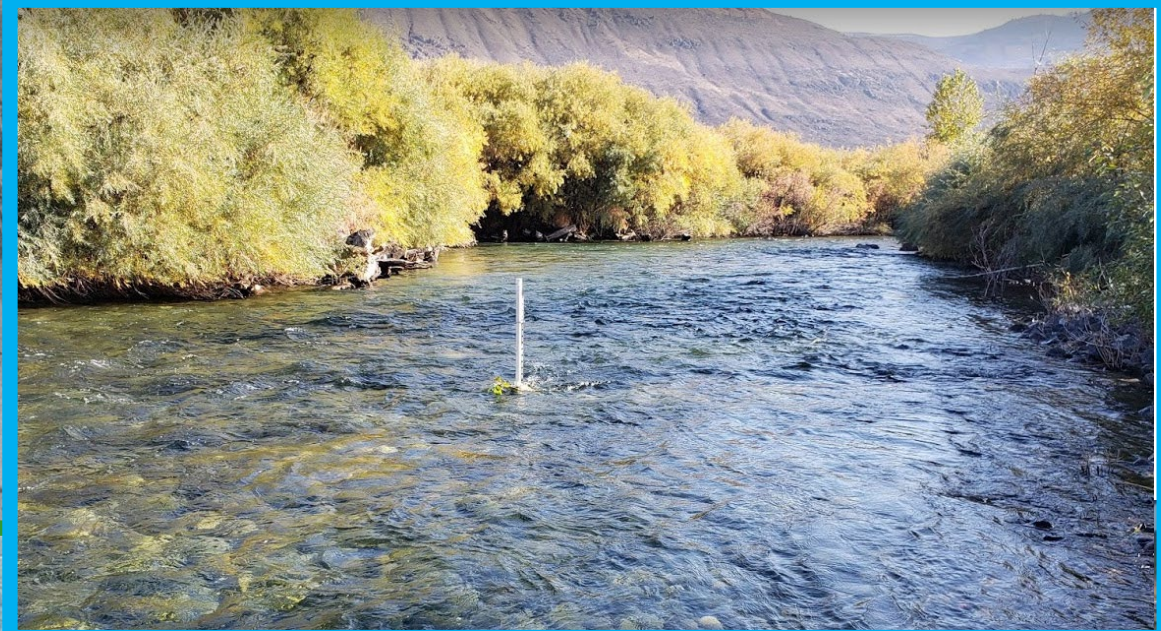


Reach 4 Flows Restored (2009)



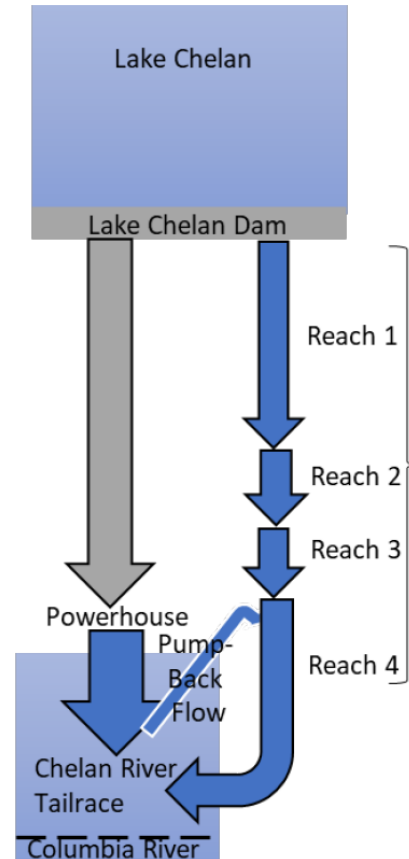
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UAA Submittal - Chelan River

- Chelan River has 4 distinct reaches:
 - Reach 1:** extends from Dam to 2.3 mi downstream
 - Large cobble & boulders, little riparian vegetation
 - Reach 2:** 0.75 mi long
 - Narrow channel and larger coarser substrate
 - Reach 3:** 0.38 mi long
 - Referred to as the gorge – steep confined bedrock with waterfalls
 - Prevents upstream fish passage
 - Reach 4:** 0.50 mi long and extends to the Columbia River
 - High flow channel with large cobbles and boulders
 - Engineered habitat channel in 2009
 - Salmonid spawning
 - Pump station provides supplemental incubation flows

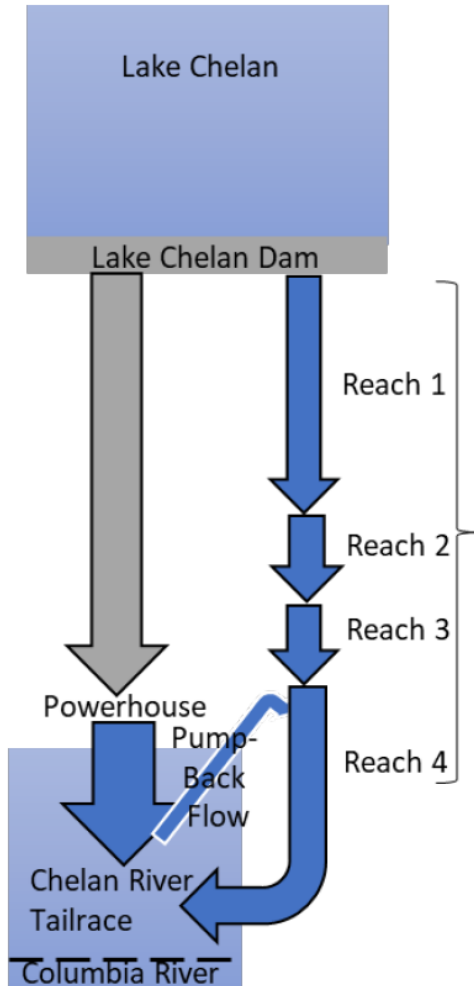


Current Designated Aquatic Life Use

All Reaches
Year-Round Salmonid
Spawning, Rearing, and
Migration

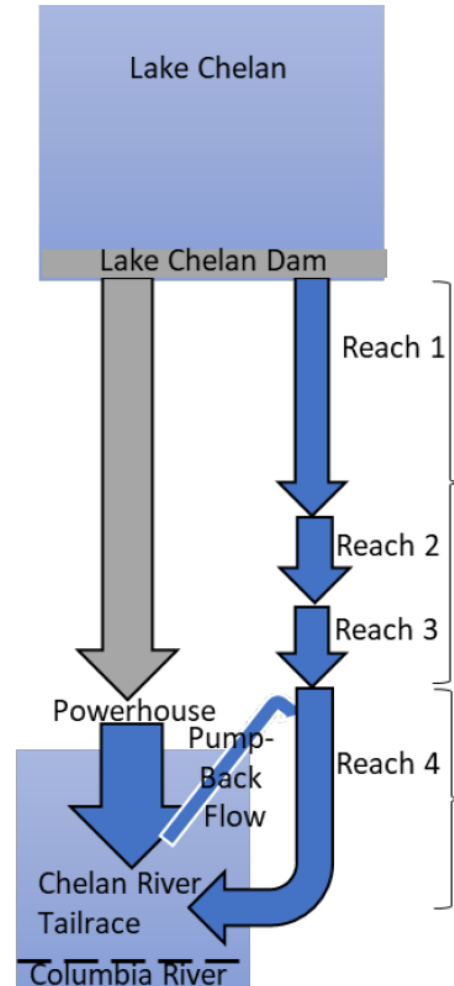


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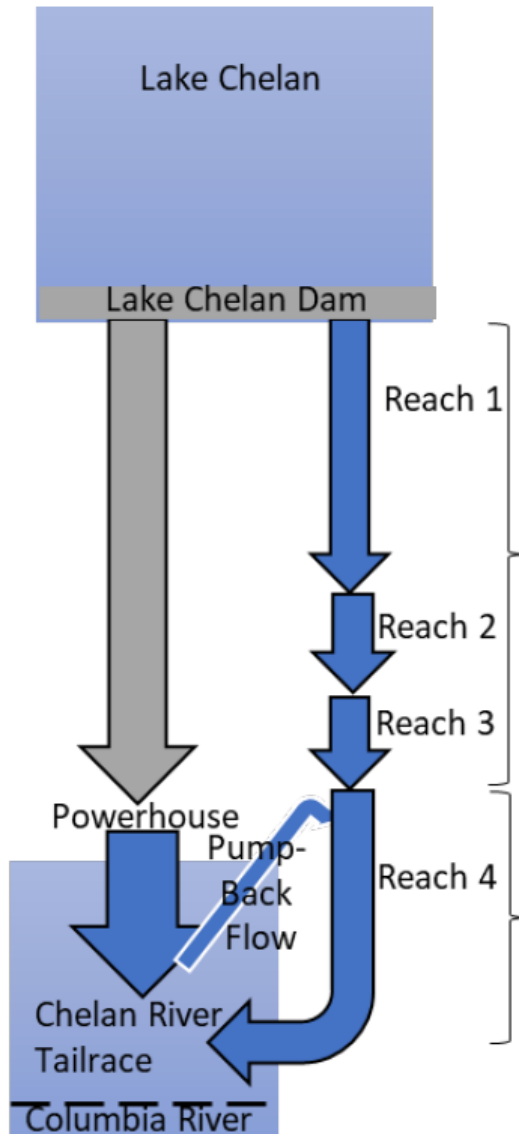
Proposed Designated Aquatic Life Use

Reaches 1 - 3
Limited downstream
migration as the highest
attainable use

**Reach 4 (habitat and high
flow channels and
tailrace)**
Limited Salmonid
Spawning, Rearing, and
Migration from October
16 to May 14 as the
highest attainable use



UAA Submittal - Chelan River



Proposed Designated Aquatic Life Use

Reaches 1 - 3
Limited downstream migration as the highest attainable use

Reach 4 (habitat and high flow channels and tailrace)
Limited Salmonid Spawning, Rearing, and Migration from October 16 to May 14 as the highest attainable use

Factor 5 - § 131.10 (g)(5)
Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses.

Factor 1 - § 131.10 (g)(1)
Naturally occurring pollutant concentrations prevent the attainment of the use



UAA Submittal - Chelan River

Process – Where we are now.

- Chelan PUD has worked with Ecology & EPA throughout the Dam Compliance Schedule
- The last year Ecology & EPA provided guidance on the UAA development.
- Chelan PUD submitted the UAA in December and Ecology accepted the application as complete.
- Ecology anticipates starting a rule process in summer 2020.



Questions?

