

# EPA Region 10 States Meeting

## Hydropower, Compliance Schedules, and Upcoming UAA's

Chad Brown  
Water Quality Program  
Washington Department of Ecology



# 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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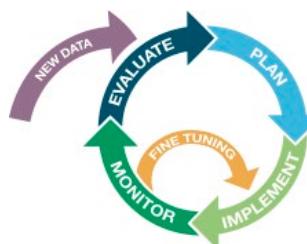
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# A Look Back...

# 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



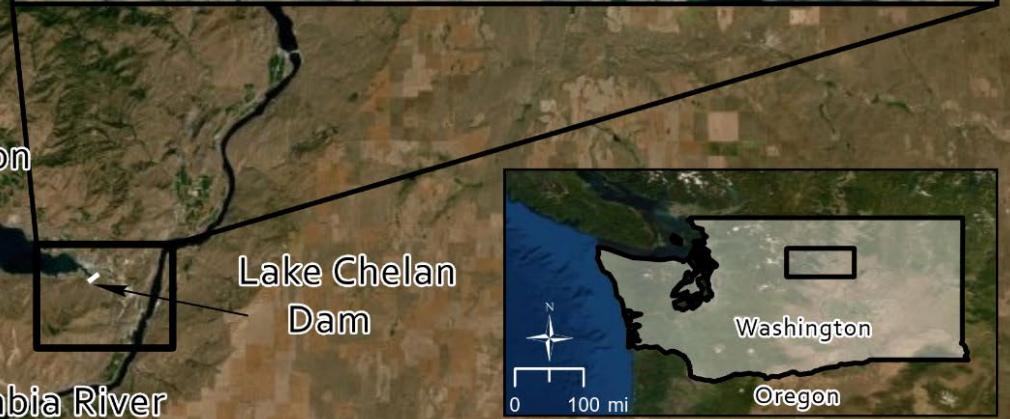
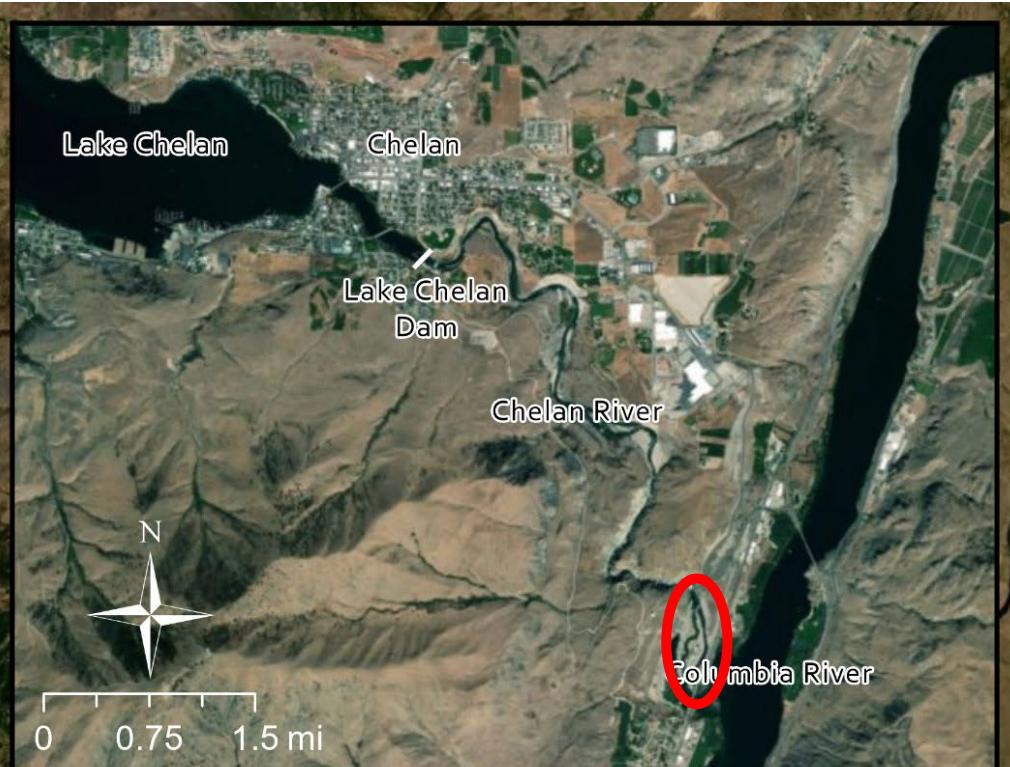
# UAA Submittal - Chelan River

## 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)

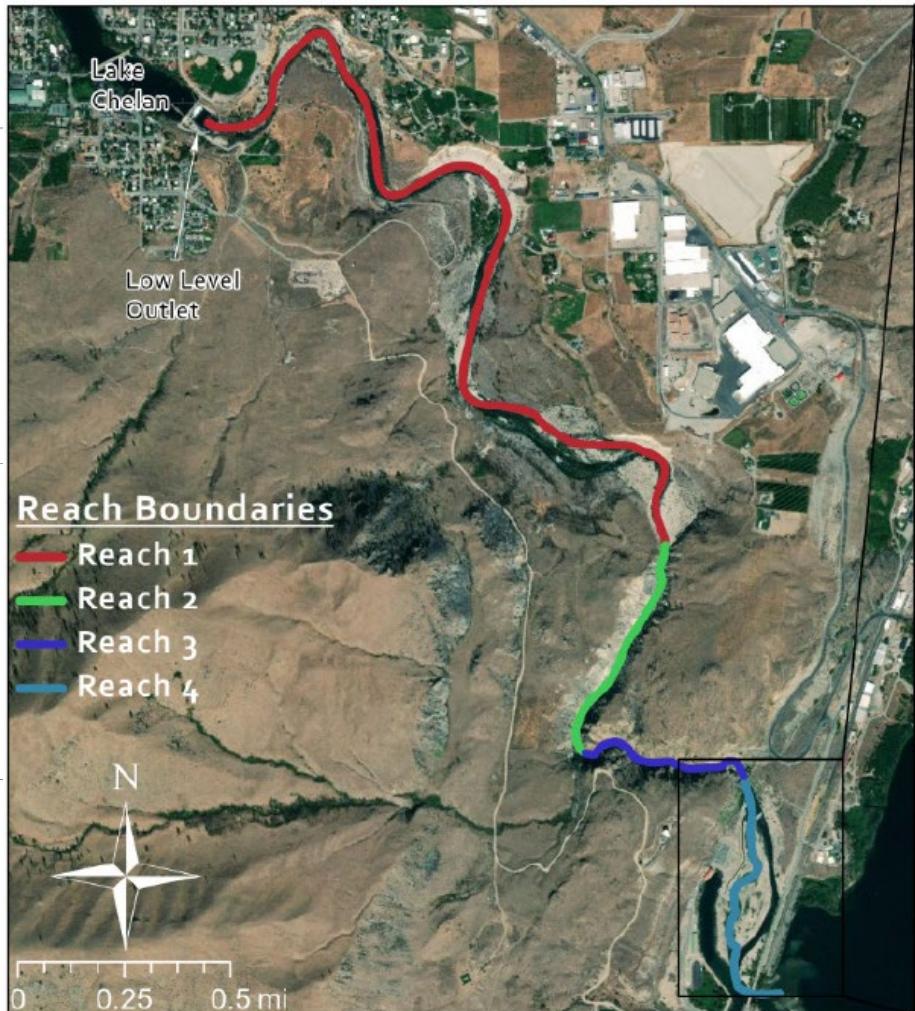
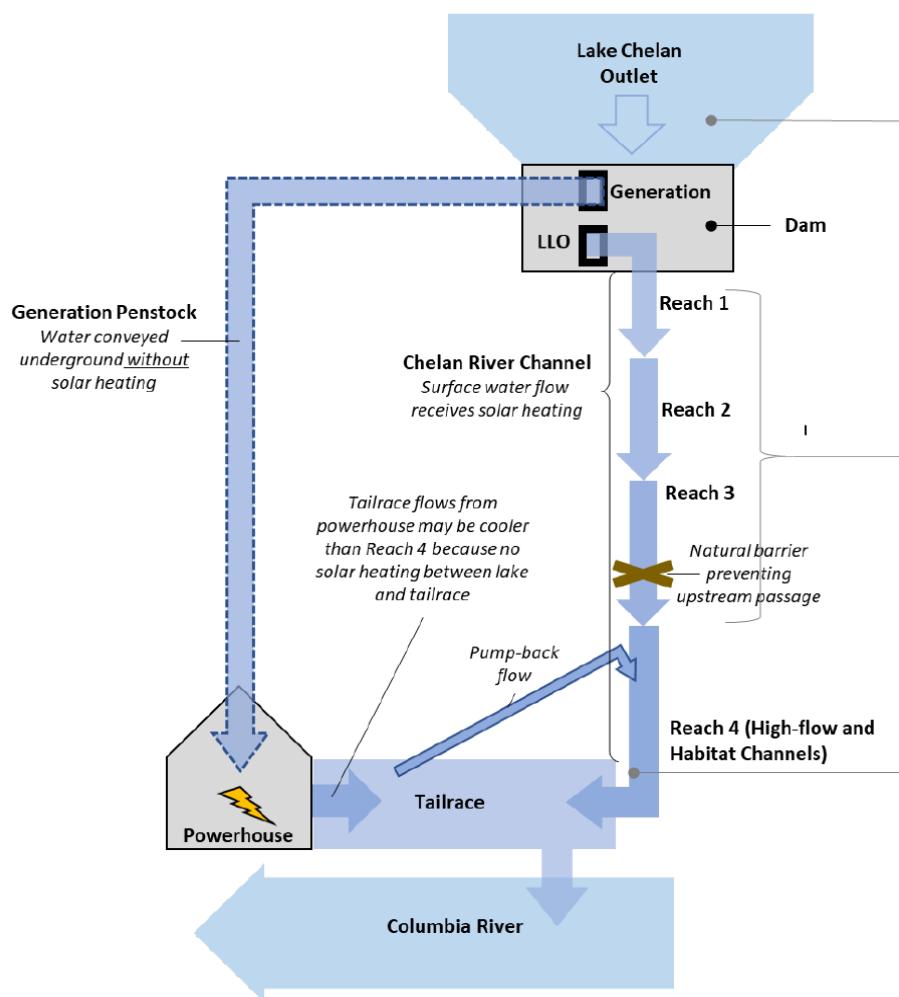


# Background

- 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.



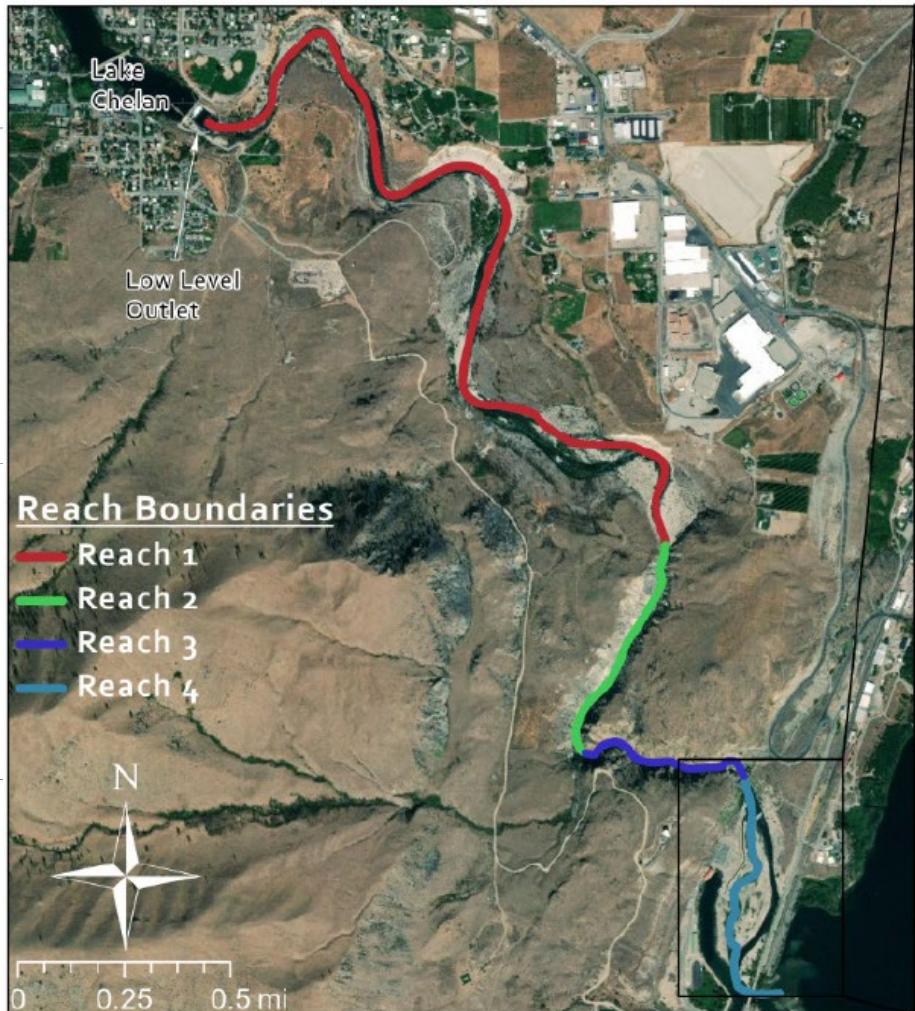
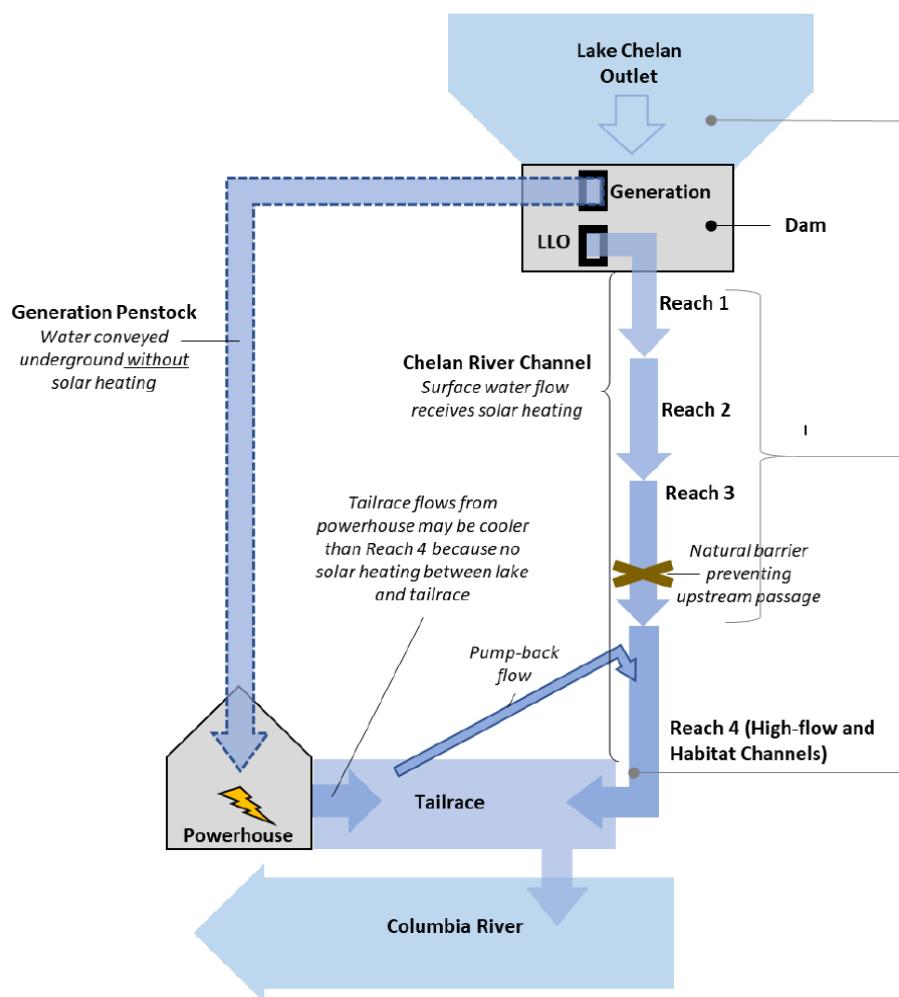
# UAA Submittal - Chelan River



# Reach 1



# UAA Submittal - Chelan River

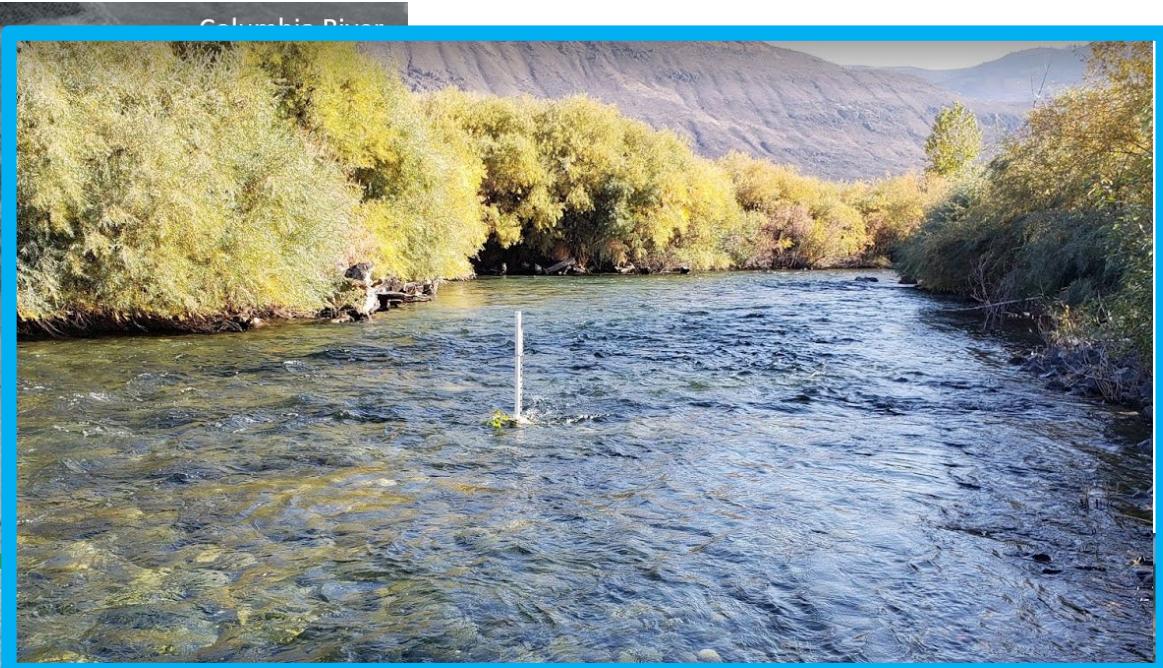


# Reach 4 Flows Restored (2009)



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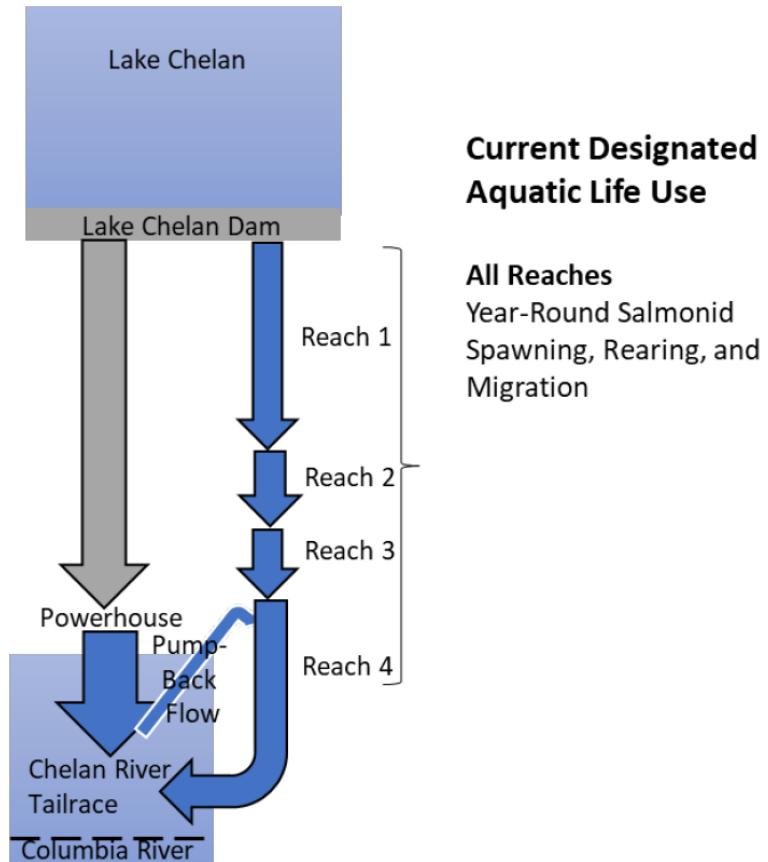




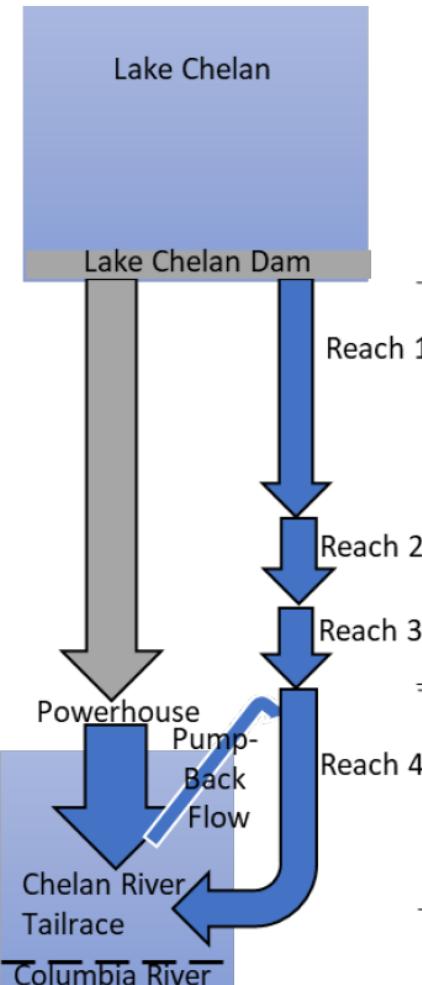
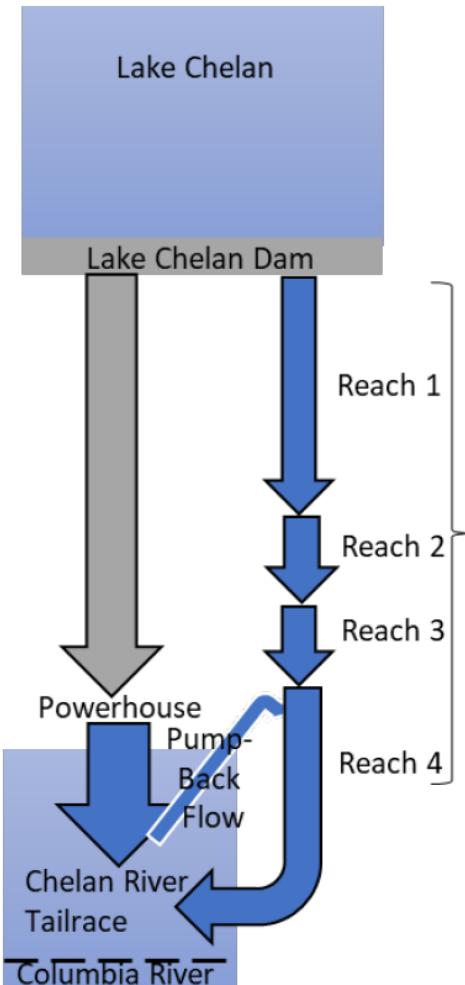
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- Chelan River has 4 distinct reaches:

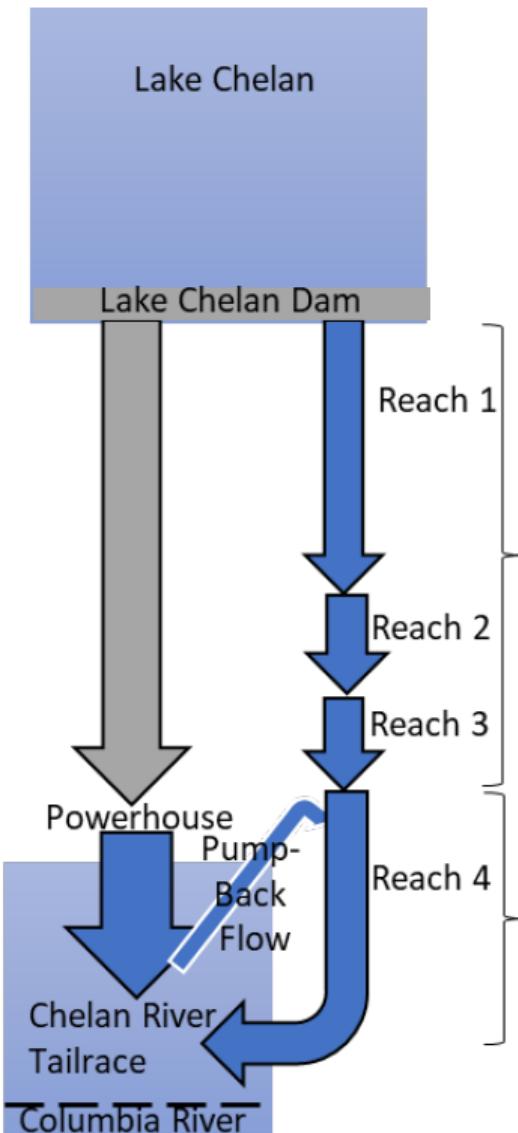
- Reach 1: extends from Dam to 2.3 mi downstream
  - Large cobble & boulders, little riparian vegetation
- Reach 2: 0.75 mi long
  - Narrow channel and larger coarser substrate
- Reach 3: 0.38 mi long
  - Referred to as the gorge – steep confined bedrock with waterfalls
  - Prevents upstream fish passage
- 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



# UAA Submittal - Chelan River



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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

## 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?

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