

# Fish Passage Improvements and Fisheries Program Update

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### TACOMA WATER

TACOMA PUBLIC UTILITIES

PUB Study Session December 11, 2024

# Agenda & Goals

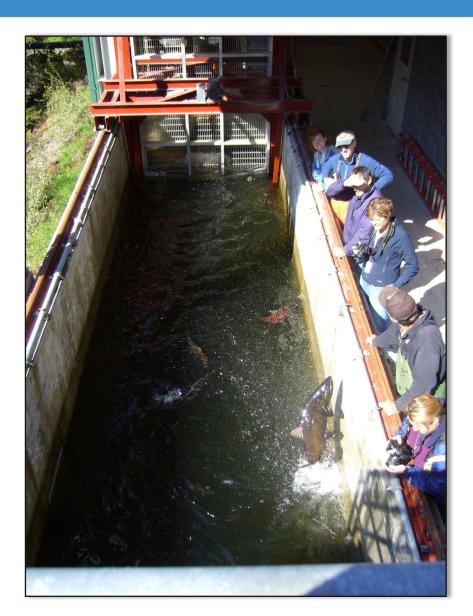


### Fisheries Program

- Regulating documents
- Authorities, stakeholders, and partners

### Fisheries Projects

- What has been done?
- What is coming?
- Why do we need these projects now?
- Questions & answers, clarification & resolution throughout

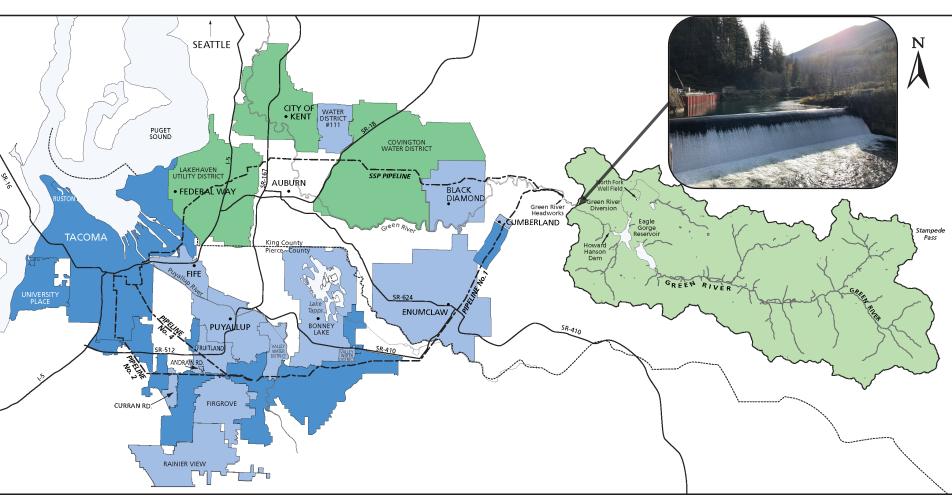


# Fisheries Program



# Water Supply & Service Area



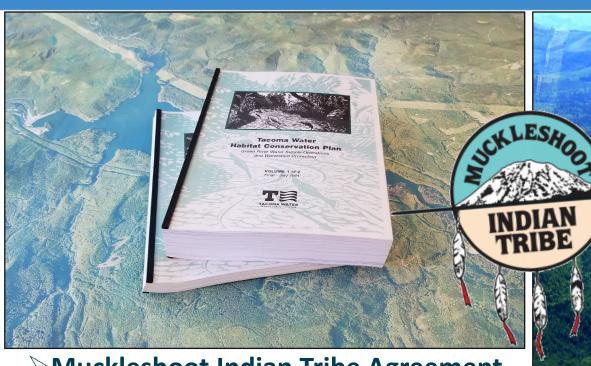


# LEGEND ■ Retail Service Area ■ Wholesale Service Area ■ Second Supply Project Partners

- **NOTES:** 1. Additional current wholesale customers include Mt. Terrace Homeowners Association and Shady Haven MHP. Additional new wholesale customers include the Cascade Water Alliance.
  - 2. This is a graphic representation of Tacoma Water's service area only and is not intended to represent individual tax parcel location.

# Regulating Documents





➤ Muckleshoot Indian Tribe Agreement 1995 (MIT)

➤ Habitat Conservation Plan 2001 (HCP)

➤ Additional Water Storage Project 2003 (AWSP)



# MIT Agreement



- Provisions within resolve disputes over water resources (i.e., First and Second Diversion Water Rights)
- Agree to work cooperatively





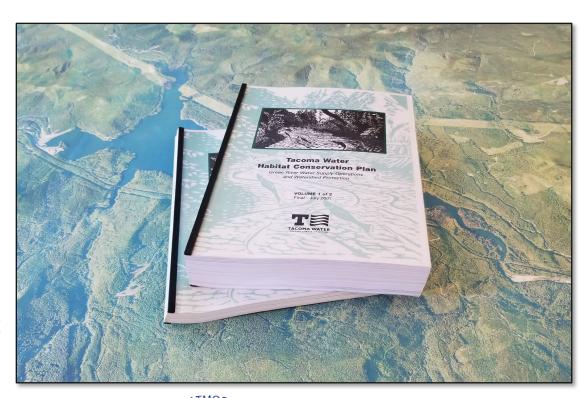
AGREEMENT BETWEEN
THE MUCKLESHOOT INDIAN TRIBE
AND
THE CITY OF TACOMA
REGARDING THE GREEN/DUWAMISH RIVER SYSTEM

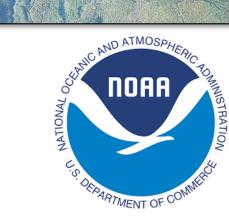
199

## **HCP**



- Endangered Species Act (ESA) requirement
- HCP = Incidental Take Permit
- Covers water withdrawal and watershed management activities
- 99 conservation, monitoring, and funding measures – including fish passage







## **AWSP**



- 20,000 acre-feet of water storage above Howard A. Hanson Dam (HAHD)
- Mitigation and ecosystem restoration measures are ESA requirements
- Project Cooperation Agreement signed in 2003

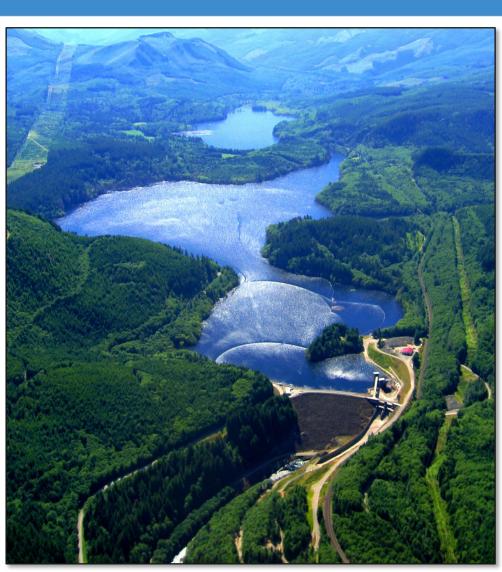


**US Army Corps** 

of Engineers®







# Authorities, Stakeholders, Partners













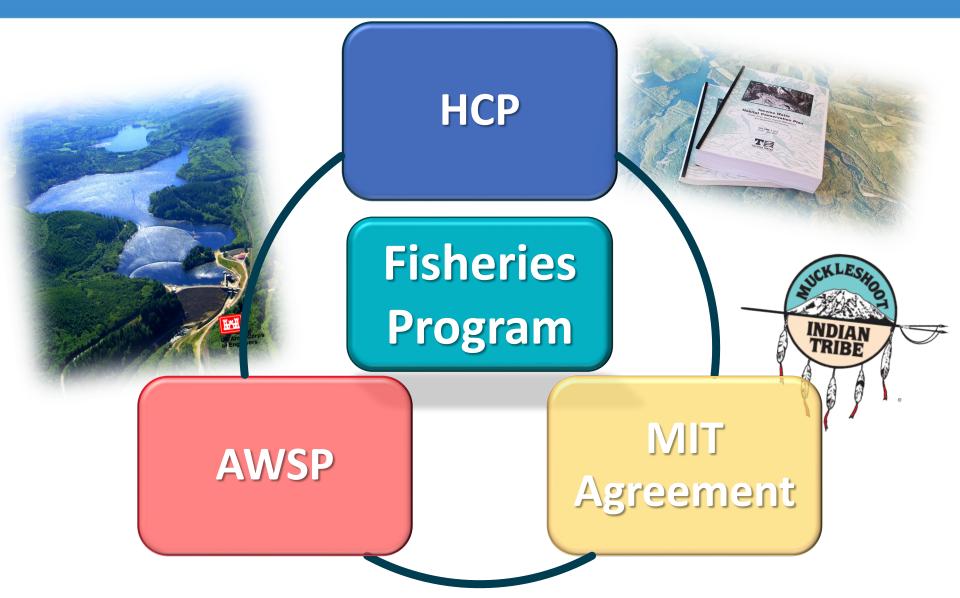






# Fisheries Program Scope of Work





## **But What About...?**



- Undefined / Undetermined Resolved Through:
  - Tacoma Water Policy
  - Business Case Evaluations
  - Adaptive Management
  - Stakeholder Input
  - E.g., species specific fish passage requirement
- Need Well Defined Goals
- Proactive Collaboration with Agencies





# Which law requires fish passage?

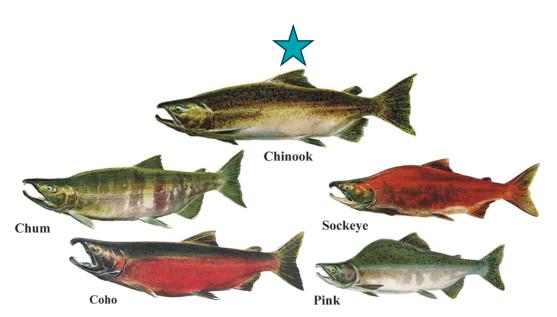


## Answer



Endangered Species Act (ESA)

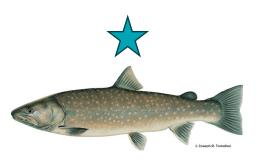
 Chinook salmon, steelhead trout, and bull trout are listed in the ESA



**Pacific Salmon Species** 



**Steelhead Trout** 



**Bull Trout** 

# Fisheries Projects



# Interrelated & Interdependence



### **HCP**

Green River Headworks
Fish Passage Facility Upgrade



### **AWSP**

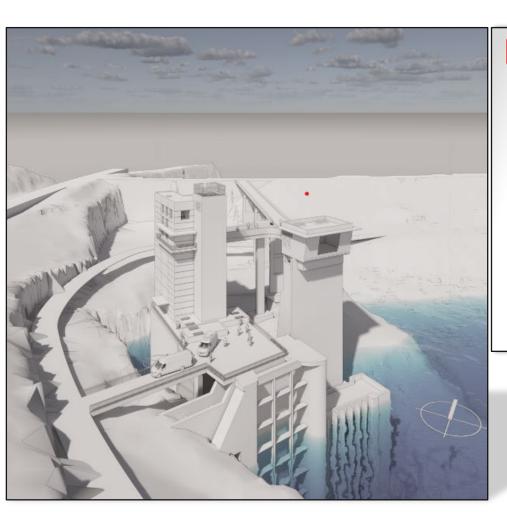
- Fish Habitat Mitigation & Restoration Projects
- HAHD Fish Passage

### **MIT Agreement**

Fish Restoration Facility

# AWSP – HAHD Fish Passage





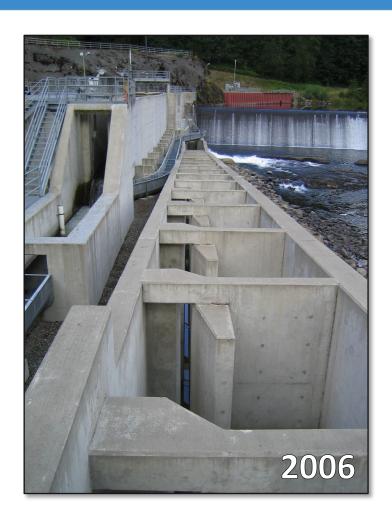
### IN-PROGRESS SCHEDULE

Anticipated completion in 2024

- Data collection
- Hydraulic Modeling
- 35% Design
- Contract Acquisition
   Anticipated completion in 2025
- Design, Plans, and Specifications
- Safety and Quality Reviews Construction 2026-2030

**Project update February 2025** 





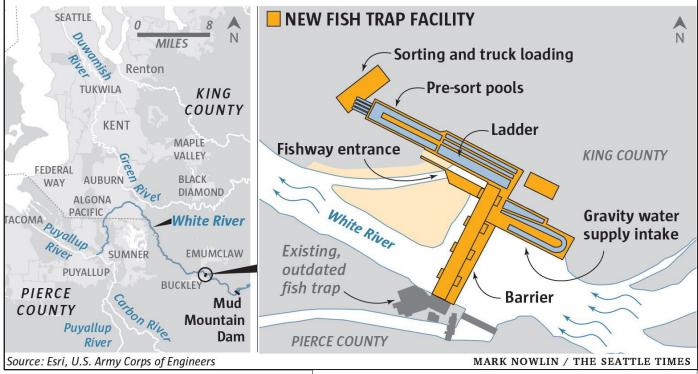


Then & Now and What We Didn't Learn



### **New fish trap on White River nearly complete**

The U.S. Army Corps of Engineers is building the biggest fish trap of its kind in North America near the Mud Mountain Dam on the White River. The new trap is much easier on the adults returning to the river, where they are captured and then hauled by truck to be released above the dam. The new trap is scheduled to be completed in October.



The Seattle Times. August 2, 2020

Pink Total Count

Rainbow Trout



	0000 14							_					_									
2023 Mud Mountain Dam Fish Passage Counts															S							
US Army Corps	Week Ending 12/23/2023	Sun 17-Dec	Mon 18-Dec	Tue 19-Dec	Wed 20-Dec		Fri 22-Dec	Sat 23-Dec	Weekly	Jan	F-1-	Mar	۸	Mass	h	hat	A	Sep	0-4	Nave	Dec	Year to Date
of Engineers ®	9 1	17-Dec	18-060	19-Dec	20-060	21-000		23-Dec			Feb		Apr	May	Jun	Jul	Aug		Oct	Nov		2407
Seattle District	Number of Trips	ļ	_	_	1.		1		1	1	2	4	16	15	22	32	573	1586	136	18	2	2407
Chinook	Wild Adults													10	80	239	128	36	1			494
	Wild Jacks														7	14	19					40
	Acclimation Pond Adults to Hatchery														5	192	56					253
	Acclimation Pond Jacks to Hatchery																					
	Acclimation Pont Adults Hauled													1	255	476	212	8				952
	Acclimation Pond Jacks Hauled														13	43	53					109
	Hatchery Adults to Hatchery														275	457	116	11				859
6,268	Hatchery Jacks to Hatchery																	2				2
	Hatchery Adults Hauled													17	48	116	66	60				307
	Hatchery Jacks Hauled				Ų.									1	19	70	66					156
Total Count	Broodstock Taken to Hatchery														28	68	20					116
	Unsampled Adults															3	1082	1224	56			2365
	Unsampled Jacks																303	282	30			615
Ctoolbood	Wild Adults										1	5	57	21	3							87
Steelhead	Wild Jacks																					
	Hatchery fish to Hatchery								=													
119	BroodStock Taken																					
	Coded Wire Tag										1		18	9	1							29
Total Count	Unsampled Adults									1						2						3
Total Godin	Unsampled Jacks																					
				_				_			-						_					
Bull Trout	260 Sampled												8	8	80	81	6					183
200 11000	Unsampled																46	24	5	2		77
Other	Coho						3		3								2179	20321	6584	548	3	29635
Other 5	29,635 Pink															10	325853			43		1357141
	Coho Total Count Chum																		1	12		13
	Sockeye														1	4	12	23	5	2		47
1,357,141	Whitefish									2	1	1	50	169	159	12	10	2	21	74	1	502
1,557,141	Cutthroat Trout											1	1		1	1						4
Diel Total Commi	5								_									_				

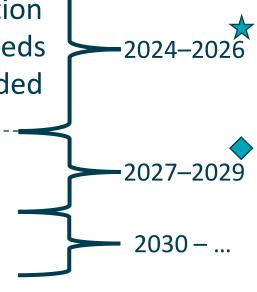


### Project Description:

Fully functional facility completed concurrently with passage at HAHD, ready for 2030 salmon run.

### • In-Progress Schedule:

- 1. Stakeholder Engagement
- 2. Make existing facility operational for evaluation
- 3. Perform facility assessment to determine needs
- 4. Develop conceptual designs and recommended alternatives
- 5. Design and permit upgrades
- 6. Construction
- 7. Operations, maintenance, and adaptive management



# MIT – Fish Restoration Facility





# AWSP – Fish Habitat Projects



Mitigate for increased reservoir inundation

Tacoma 100% construction costs

Address dam operational impacts through ecosystem restoration

USACE 65%: Tacoma 35% construction costs

 Tacoma 100% responsible for monitoring and maintenance of both, per operation and maintenance (O&M) Manual



# AWSP – Fish Habitat Projects



### **Construction:**

2003-2010

### Fish Passage Postponed:

2012

### **O&M?**

Deferred maintenance, just monitoring

### Floods:

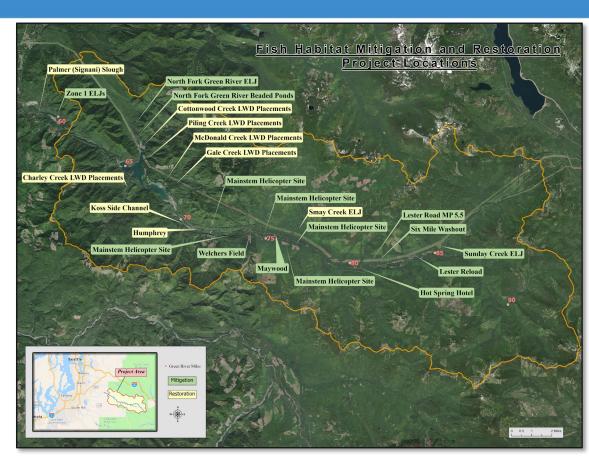
2006, 2009, 2020

### **Draft O&M Manual:**

Does not include clear objectives or measures of success

### **Solution:**

Tacoma developed O&M Manual



# AWSP – Fish Habitat Projects

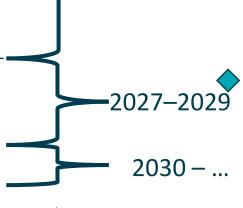


### Project Description:

Finalize and implement O&M Manual to meet fish habitat obligations. Watershed prepared by 2030 for reintroduction.

### • In-Progress Schedule:

- 1. Stakeholder engagement
- 2. Background review and workplan development
- Assessment of remaining projects and current habitat conditions
- 4. Final O&M Manual developed and approved
- 5. Design and permit
- 6. Construction (implement O&M Manual)
- 7. Long-term monitoring and maintenance



# Why do we need these projects now?



# Answer



Water

