

Yakima River Basin Integrated Water Resource Management Plan – Technical Projects update

YRBWEP Workgoup Meeting
Prosser, WA
September 20, 2017



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Cle Elum Pool Raise Project



14,600 acre-feet managed for instream flows

- **Modify radial gates**
- **Shoreline protection**
- **Land acquisition**



Cle Elum Pool Raise

- **Final EIS; Record of Decision signed June 2015**
- **Radial Gate Modification**
 - Awarded contract in September 2015
 - Construction completion April 2017
- **Shoreline Protection**
 - Dikes raised and update completed September 2016
 - Preparing bid packages
 - Continued coordination with USFS and landowners
 - Awarded contract for Cle Elum River Campground Sep 2017, Construction September/October 2017



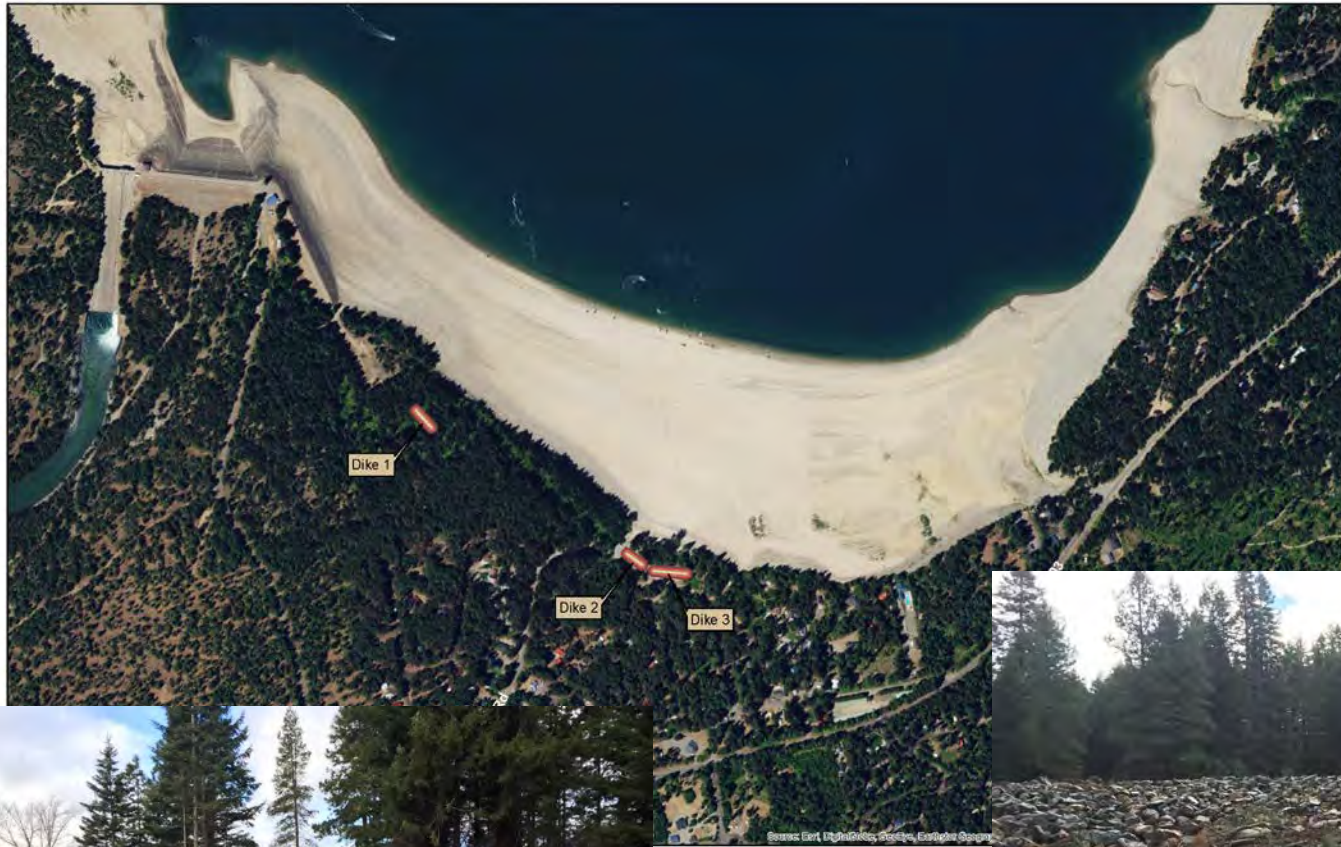
Cle Elum Dam Pool Raise Construction



Cle Elum Dam Pool Raise Radial Gates Complete



Cle Elum Pool Raise - Dikes





Cle Elum Pool Raise

Shoreline Protection



Cle Elum Reservoir Existing Shoreline



Cle Elum River Campground



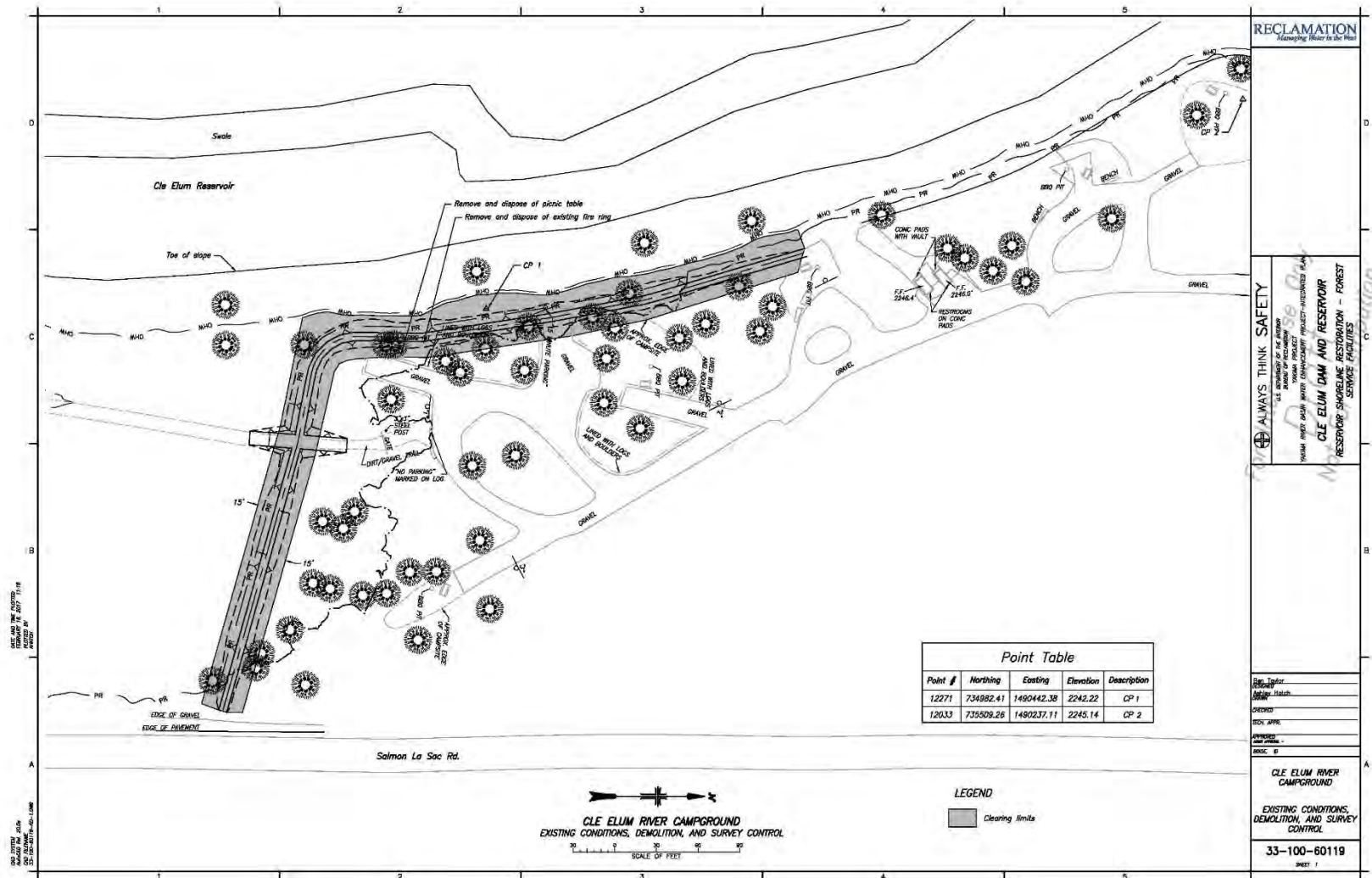
Cle Elum Reservoir Existing Shoreline



Cle Elum River Campground



Cle Elum Reservoir Shoreline Construction



Cle Elum River Campground



Cle Elum Pool Raise Project

Contracts/Timeline

Cle Elum Dam Pool Raise Contracts	Duration	Status
Radial Gates	2 to 3 years	Completion – April 2017
Cle Elum River Campground	1 year	Award - 2017
Speelyi Beach Day Use, Wishpoosh & Speelyi Beach	1 to 2 years	Award - 2018
Sandelin	1 to 2 years	Award - TBD
Domerie Bay	1 to 2 years	Award - TBD
Timber Cove	1 to 2 years	Award - TBD
Anna Bell	1 to 2 years	Award - TBD
Morgan Creek & Night Sky Drive	1 to 2 years	Award - TBD



Kachess Drought Relief Pumping Plant and Keechelus-to-Kachess Conveyance Supplemental DEIS



KDRPP Milestones

Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance Projects NEPA-SEPA Process



Time not to scale



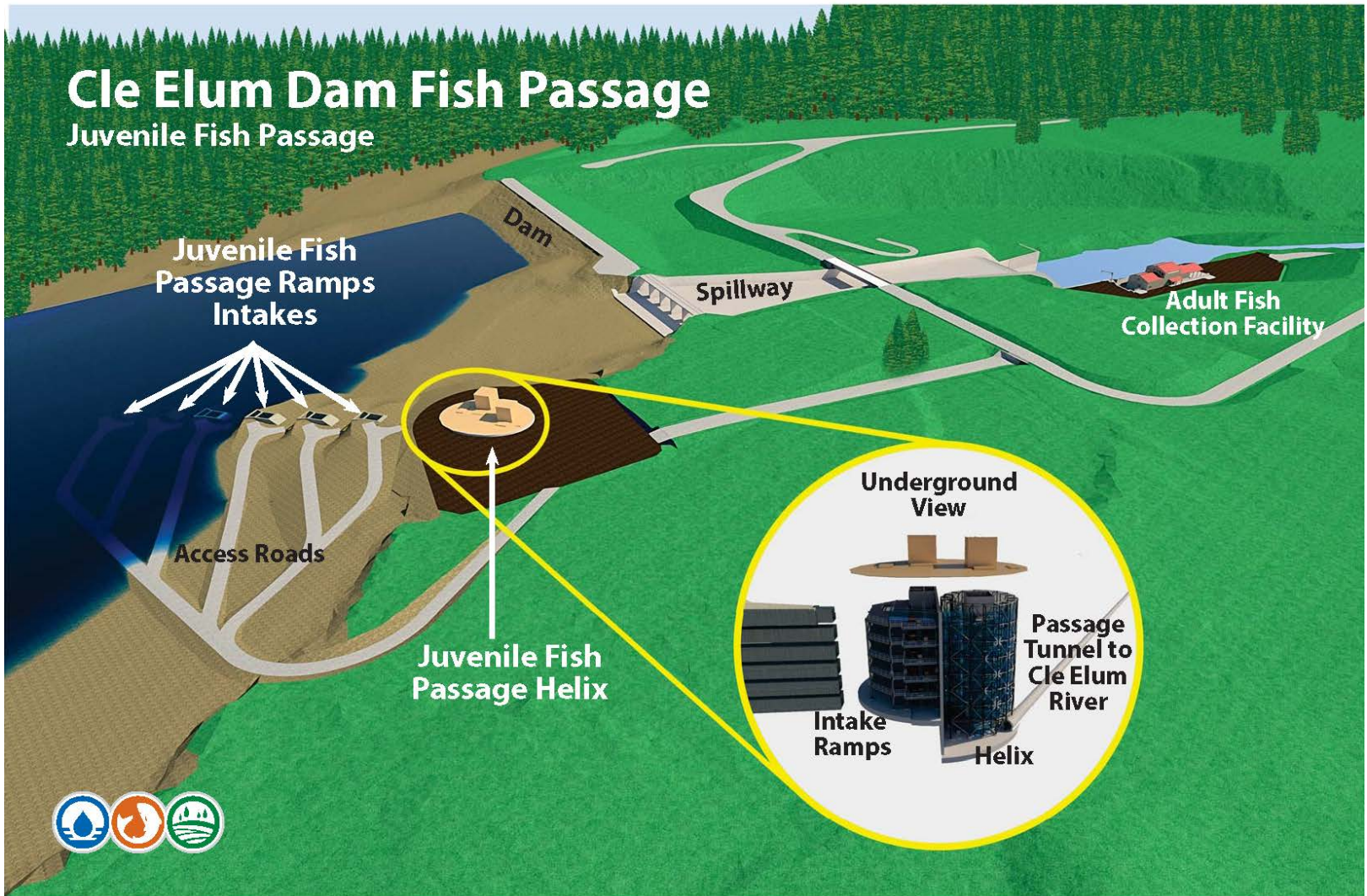
RECLAMATION
Managing Water in the West



Cle Elum Fish Passage Project



Cle Elum Dam Fish Passage



Cle Elum Dam Fish Passage Construction

7/15/2014



7/13/2017



Cle Elum Fish Passage Secant Construction – Cofferd Dam



Cle Elum Fish Passage Secant Construction – Guide Wall



Secant Pile Example



Cle Elum Fish Passage Secant Construction – Drilling



Cle Elum Fish Passage - Secant Construction – Rebar Construction & Placing



Cle Elum Fish Passage

Secant Construction – Time Lapse Photos



Cle Elum Fish Passage Secant Construction – Schedule



Added a Night Shift in July

Fire Slow Down for a Week in September

Piles Complete As of 9/13

- Primary 52%
- Secondary 42%
- Piles Expected to Be Complete By Early November
- Excavation Starting in Spring 2018



Cle Elum Dam Fish Passage Facilities

Contracts/Timeline

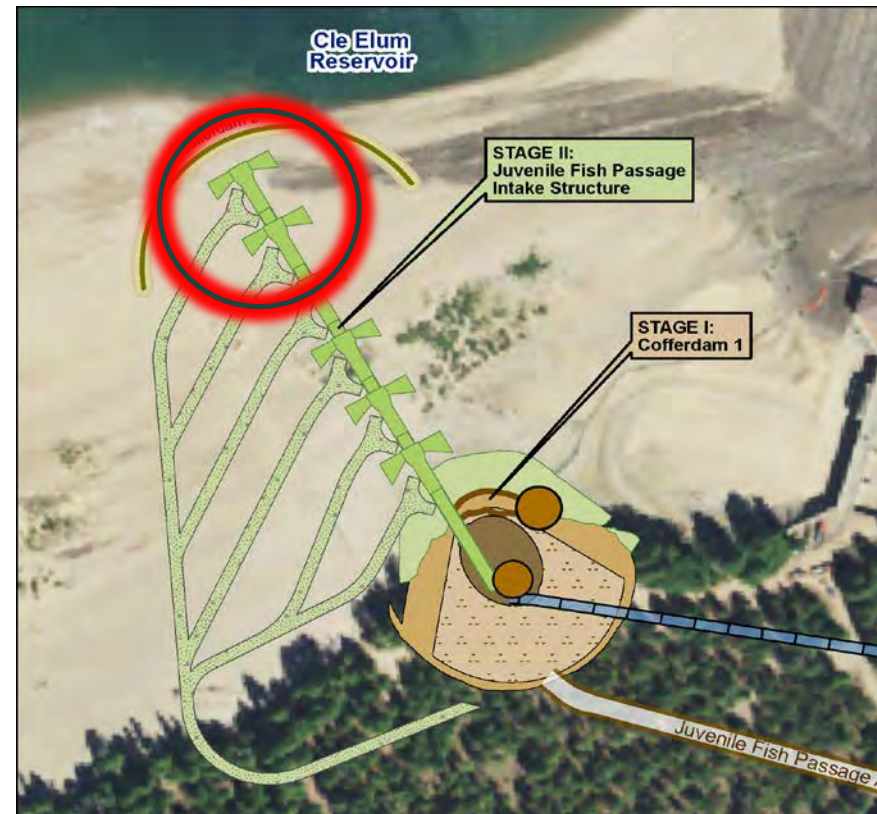
Cle Elum Dam Fish Passage Project Contracts	Construction Duration	Status
Roads and Bridge	1 year 3 mo	Completed - 10/16
Secant Pile	2 to 3 years	Construction In Progress
Tunnel	2 Years	Awarded - 08/17 Construction 2018-19
Intake Structure, Gate & Helix	3 years	Award – 2018 Construction 2019-21
Splitter Wall	Less than a year	TBD
Adult Facility	2 years	TBD



Cle Elum Fish Passage Gates, Helix and Intake Structures Contract Intake Structures Construction - Drawdown

Contract specification for drawdown:

- Drawdown to below 2170 for at least 75 days
- Drawdown will occur in 1 out of 3 years (2019 – 2021) depending on water year
- Drawdown from end of August into November
- Reclamation will consult with Stakeholders and determine the drawdown year



Cle Elum Dam Fish Passage Whooshh Testing Update

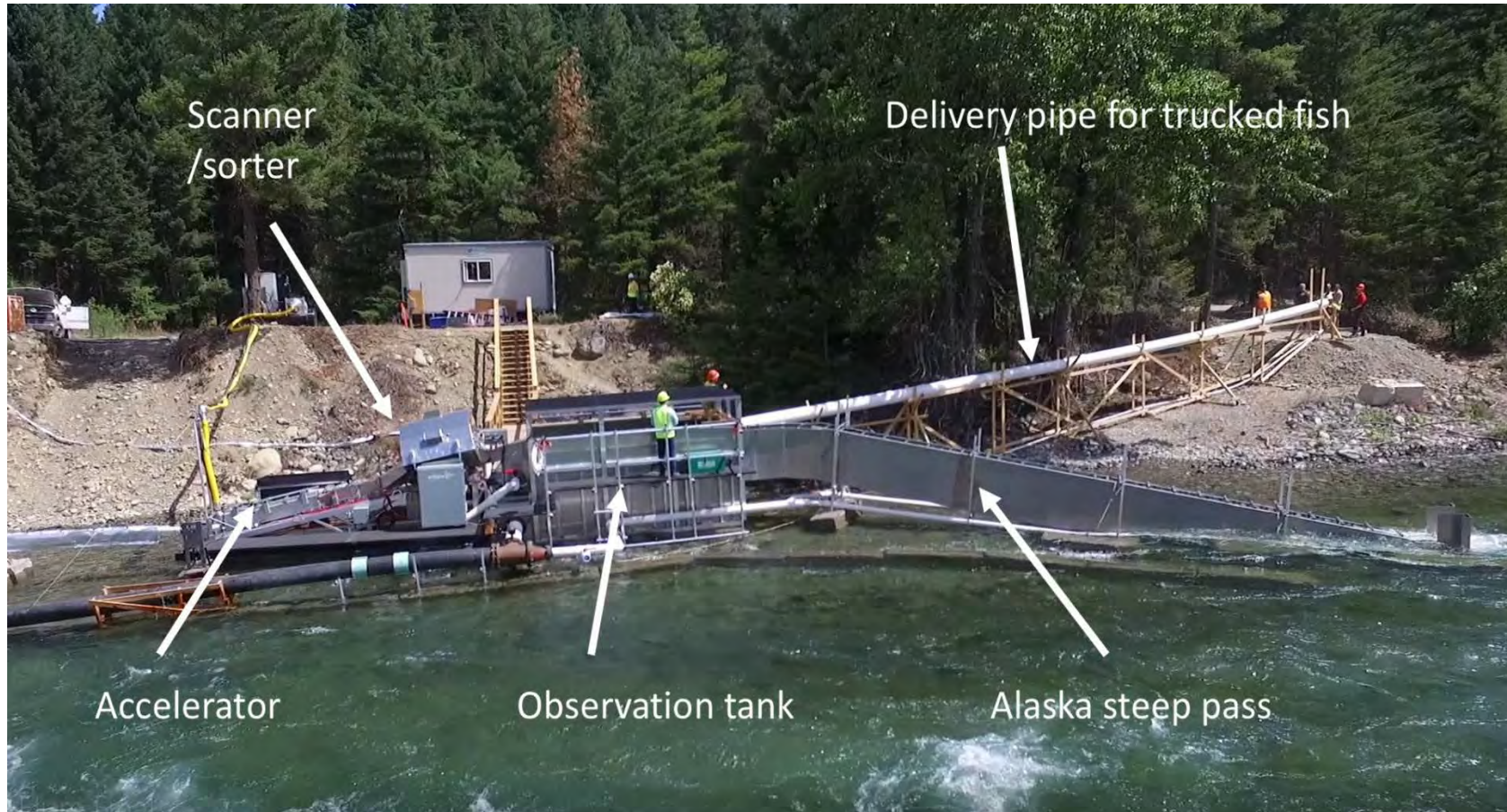


2013 - First Sockeye to be born and raised in the Yakima River Basin in over 100 years to return, released into Cle Elum Lake

Year	Adult Sockeye Released in Reservoir	Returning Sockeye
2009	1,000	
2010	2,500	
2011	4,100	
2012	10,000	
2013	4,000	800
2014	10,000	2,600
2015	10,000	300
2016	10,000	4,600
2017	1,000	350 - estimate



Cle Elum Fish Passage Test Whooshh Fish Transport System,



Cle Elum Fish Passage Whooshh Fish Transport System



Approximately 1700' long, 150' high,
Less than 60 seconds transport time for fish



Cle Elum Fish Passage - Adult Facilities

Whooshh Fish Transport System

- **Moves fish through a flexible conduit, using pressure differentials to either push or pull the fish through the tube**
- **The Yakama Nation in cooperation with Reclamation, worked with Whooshh Innovations to test the technology for the Cle Elum Fish Passage Project at Roza Dam in August 2016, and at Prosser Dam October 2016, and is currently being tested at Cle Elum Dam**
- **The Cle Elum Test Transported Sockeye July 2017 with Study Results Expected in December 2017**
- **Initial indications are that this technology is economical and fish friendly**
- **<http://www.whooshh.com/fish-passage.html>**





Sockeye Research - Cle Elum 2017

2017 Cle Elum River Sockeye returns at Roza as 9/6/17 = 137 according to ykfp.org

2017 Columbia River Sockeye count at Bonneville as of 9/6/17 = 87,686

Bonneville count is only 27.8% of the ten-year average which is 315,610 according to the Fish Passage Center

2017 is lowest count since the 24,376 count in 2007, highest recent count was in 2015 615,179.

Tag Date	# Fish Delivered	# WFTS Transported	Weight Range	Forklength Range	Comments
July 14,	35	35	0.5-2.1 kg	35-56 cm	25 PIT- and Radio-tagged, 10 PIT-tagged
July 17,	28	27	0.6-2.1 kg	38-56 cm	
July 18,	32	32	0.5-1.9 kg	37-57 cm	
July 19,	31	31	0.7-2.0 kg	40-56 cm	
Totals	126	125**	Ave wt 1.38 kg	Ave FL 50 cm	Ave passage time 56 sec*



Whooshh Video July 2017



Questions?

For further information on the web:

<http://www.usbr.gov/pn/programs/yrbwep/2011integratedplan/>

<http://www.ecy.wa.gov/programs/wr/cwp/YBIP.html>

