

Cowlitz Basin Fishery Management Issues

Cindy LeFleur
Region 5 Fish Program Manager
Eric Kinne
Hatchery Systems Manager

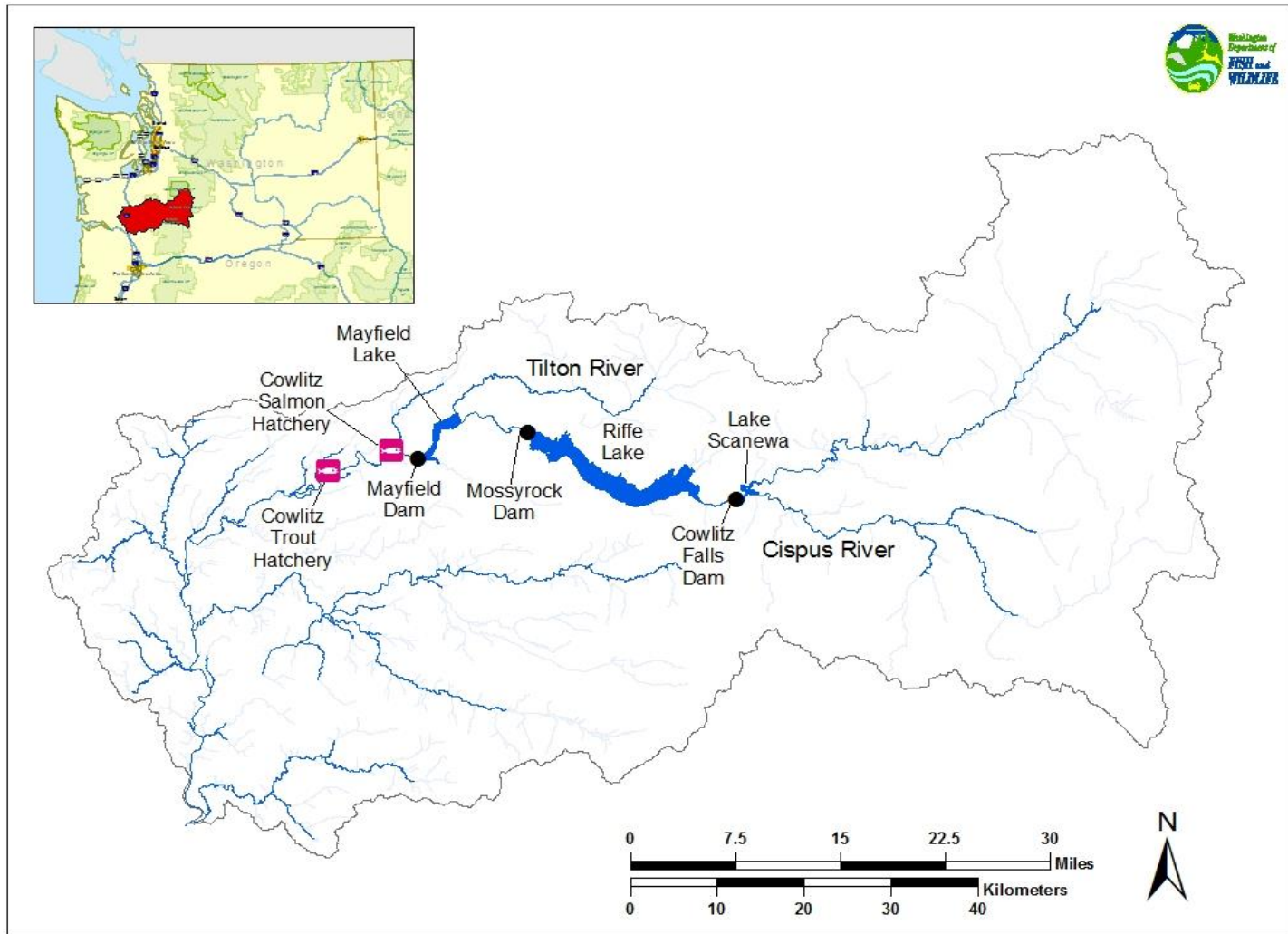


Topics for Discussion

- ▶ Background
 - Overview of the basin
 - FERC, SA, FTC, FHMP
 - ▶ Current Focus – Reintroduction, Recovery
- ▶ Hatcheries, Monitoring, Fisheries
- ▶ Recent events
- ▶ Summary



Cowlitz Basin



Federal Regulatory Energy Commission (FERC) Licensing

- ▶ Tacoma Power (TP) operates dams in basin and responsible for funding:
 - Hatcheries
 - Monitoring activities
 - Passage facilities and operations
- ▶ Initial agreements focused on mitigation hatchery production
 - Original FERC license effective in 1951
 - Salmon mitigation agreement in 1967
 - Steelhead mitigation agreement in 1986

Original Settlement Agreement (SA)

- ▶ Agreement driven by mitigation to replace fish production due to lost habitat
- ▶ Resulted in construction of Cowlitz Salmon and Trout Hatcheries
- ▶ Initial mitigation goal for anadromous species based on adults returning to Mayfield Dam

Current Settlement Agreement

- ▶ Agreement driven by ESA requirements
- ▶ Provides mitigation for lost habitat
- ▶ Prioritizes conservation, recovery and passage
- ▶ Recognizes importance of sustainable fisheries and hatchery production
- ▶ Established Fisheries Technical Committee (FTC)
- ▶ Required development of Fisheries and Hatchery Management Plan (FHMP)

Fisheries and Hatcheries Management Plan (FHMP)

- ▶ Two plans completed, 2004 and 2011
- ▶ Plans effective for 6 years
- ▶ Plan must:
 - Contribute to recovery and conservation of ESA listed species
 - Provide fish production for sustainable fisheries
- ▶ Currently updating FHMP
 - To be completed by July 31, 2017 (optimistic goal)
 - Focus on reintroduction into upper basin

Fisheries Technical Committee (FTC)

- ▶ Established through the current Settlement Agreement
- ▶ Includes seven parties that were signatories to the Settlement Agreement
- ▶ Purpose of FTC is to:
 - “provide recommendations regarding actions to maximize the effectiveness of fisheries mitigation, protection and enhancement measures”

Ad Hoc Advisory Group

- ▶ Made up on interested constituents
- ▶ Includes variety of user groups
- ▶ Meets several times per year
- ▶ Provides input to the Department



Upper Cowlitz Basin Goals and Objectives

- Reintroduce native stock salmon and steelhead
 - ✓ Coho
 - ✓ Winter Steelhead
 - ✓ Spring and fall Chinook
- Recover populations to healthy and harvestable levels
- Develop and maintain sustainable fisheries

Upper Cowlitz Anadromous Fish Reintroduction

- Juvenile fish collection at Cowlitz Falls Dam allowed reintroduction to begin
- Cowlitz Falls Northshore Collector – Complete in 2017



Hatcheries



Trout Hatchery

Salmon Hatchery



Annual Smolt Releases / Programs

Species	Current	Programs
Spring Chinook	1,800,000	Segregated
Fall Chinook	3,500,000	Integrated/Segregated
Coho	2,178,000	Integrated/Segregated
Winter Steelhead	647,000	Integrated
Summer Steelhead	650,000	Segregated
Cutthroat	100,600	Segregated

Mayfield Net Pens

- ▶ Built and began operation in 2014
- ▶ 2 million fall Chinook currently raised there
- ▶ May be options for other species



Cowlitz River Monitoring and Evaluations

- ▶ **Adult Monitoring**
 - Chinook, coho and steelhead abundance
 - Creel surveys
 - Tributary weir operations
 - Hatchery brood sampling
 - Natural-origin fall Chinook and winter steelhead brood collection
- ▶ **Cowlitz Falls Fish Facility Operations**
- ▶ **Lower Cowlitz smolt abundance and timing**
- ▶ **Funded primarily by Tacoma Power**



Adult Monitoring for Population Estimates – Fall Chinook

- ▶ Boat surveys to sample spawned fish
 - 2–4 days per week
 - Biological data collected
 - Genetic samples collected



- ▶ Aerial surveys to count redds
 - Bi-weekly

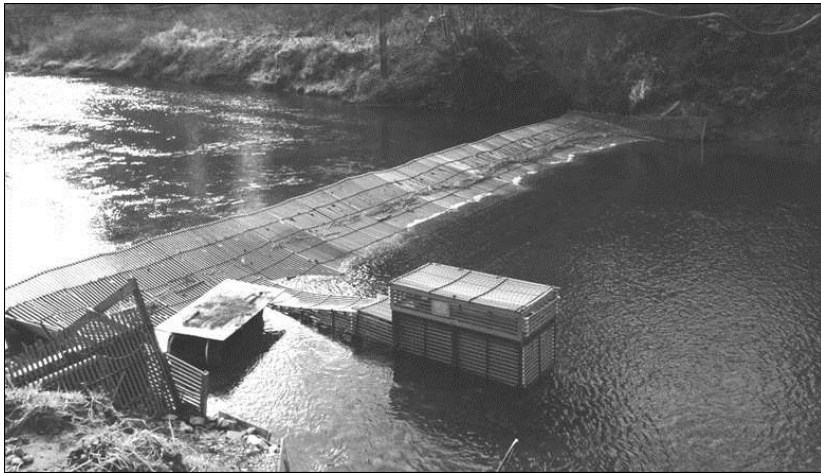
Juvenile Trapping

- ▶ Rotary Screw Smolt trap in lower river
- ▶ Collect genetic samples from Chinook juveniles
- ▶ Monitor outmigration of all species



Tributary Weirs

- ▶ Weirs in place in four lower river tributaries
- ▶ Primary purposes are:
 - Control pHOS
 - Abundance estimates
 - Collect wild steelhead broodstock
- ▶ Data allows for recycling of summer steelhead



Wild Broodstock Collection

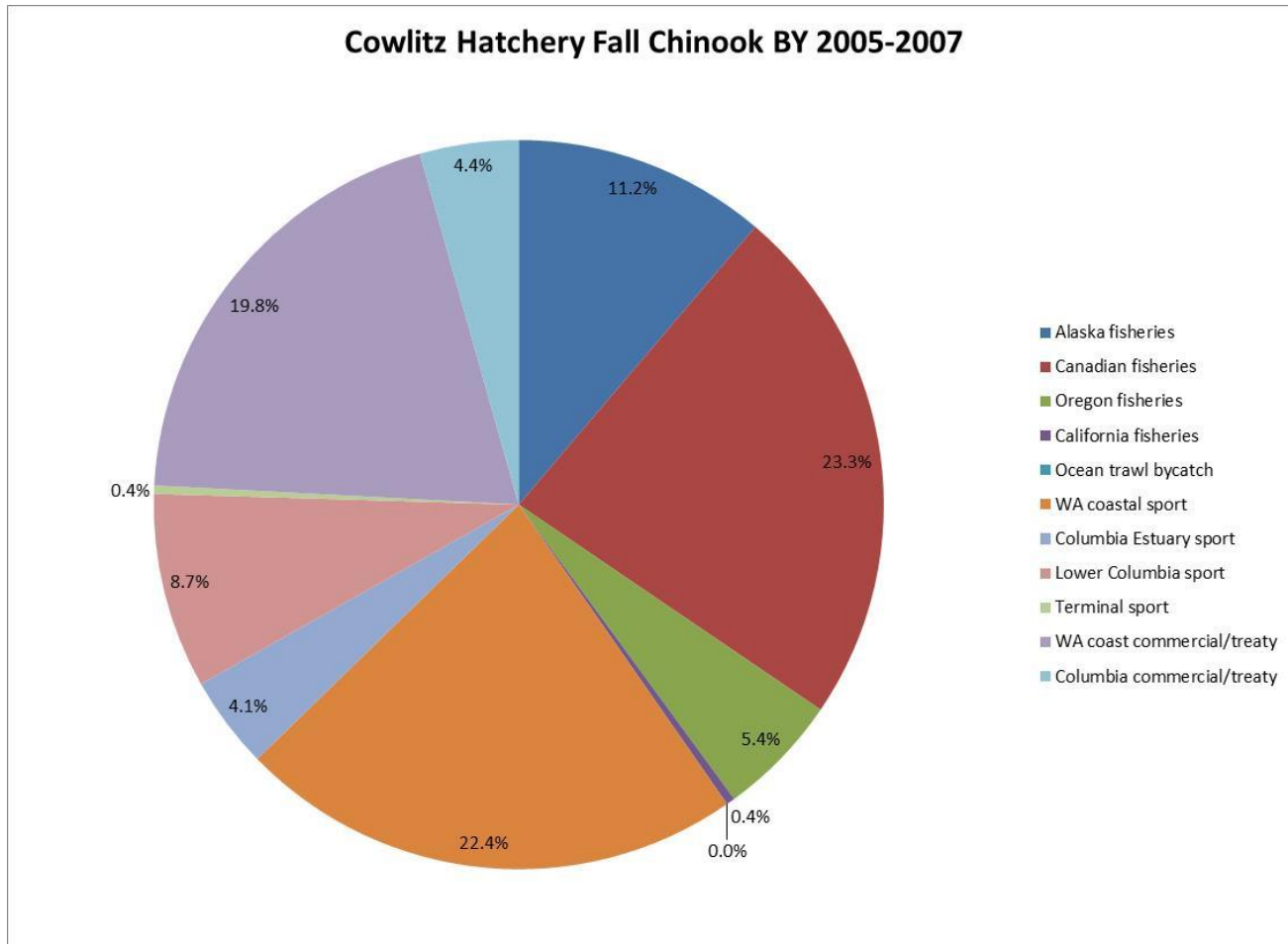
- ▶ Winter steelhead collected at tributary weirs and Barrier Dam Adult Facility
- ▶ Coho collected at Barrier Dam Adult Facility
 - Integrated fish put upstream upon return
- ▶ Fall Chinook collected in lower river
 - From participating anglers and staff



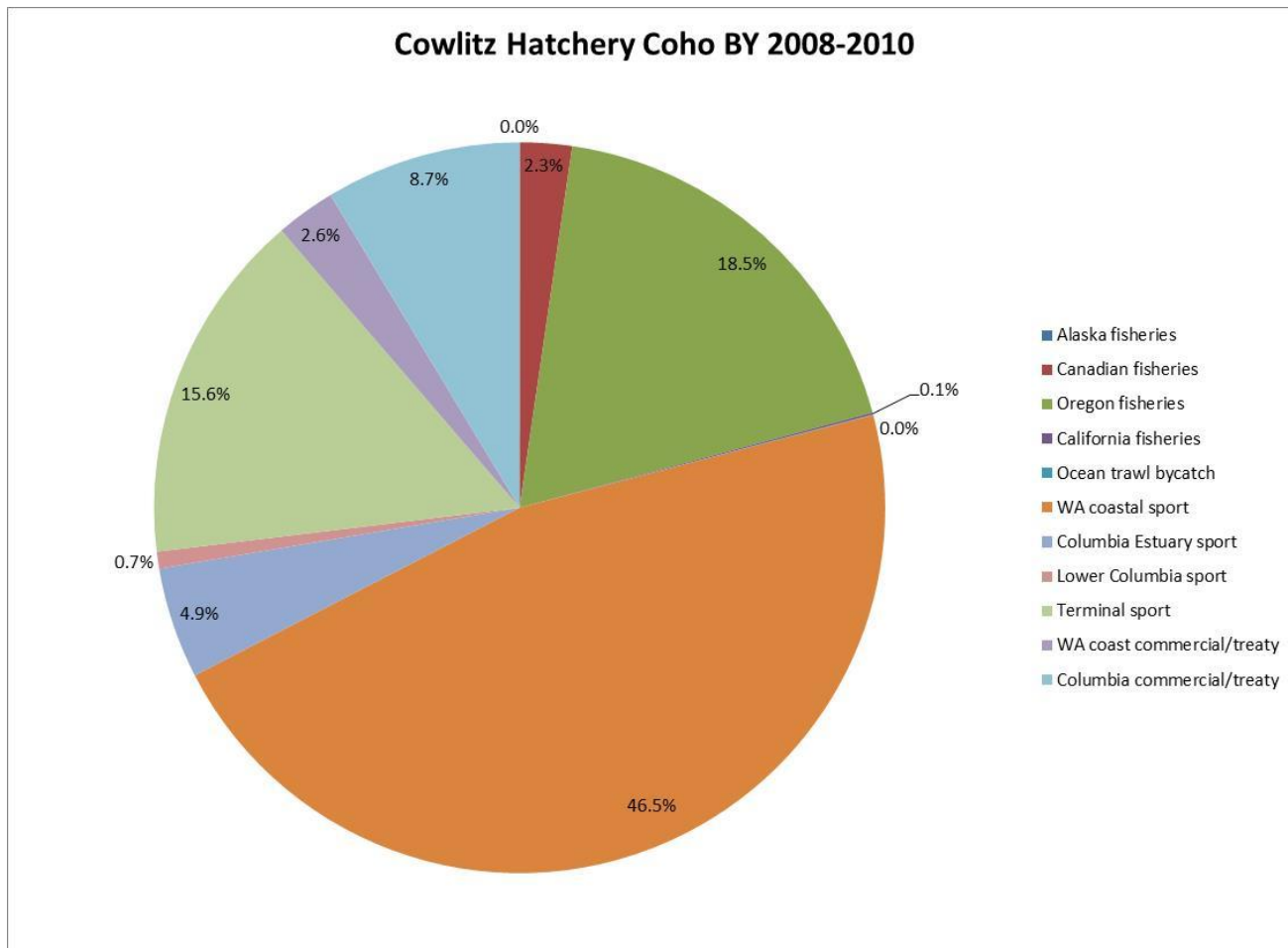
Foundation for Fisheries

- ▶ Monitoring allows us to have fisheries and provides information for recovery of natural populations
- ▶ Cowlitz basin is a high priority for recovery
- ▶ The Cowlitz River supports very popular and productive fisheries
 - Sport fisheries in the Cowlitz River
 - Sport, commercial and tribal fisheries in the Columbia River and Washington coast
- ▶ Department recognizes importance of these fisheries

Contribution of Cowlitz Fall Chinook to Fisheries

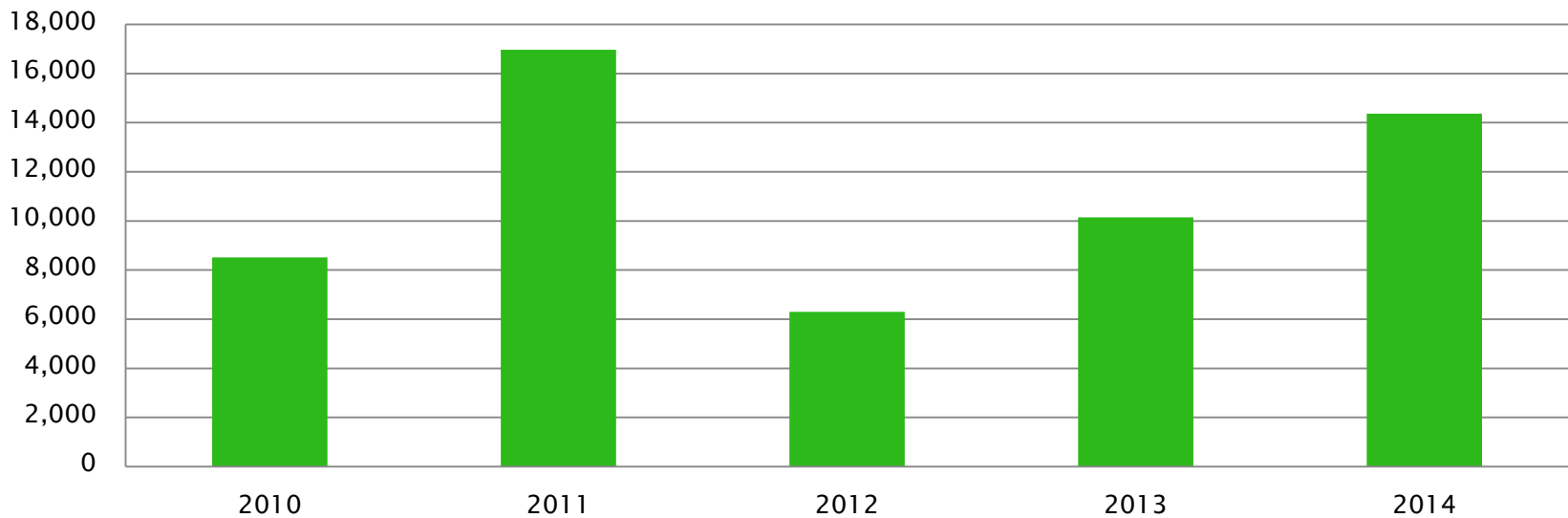


Contribution of Cowlitz Coho to Fisheries



Cowlitz River Fisheries – Winter Steelhead

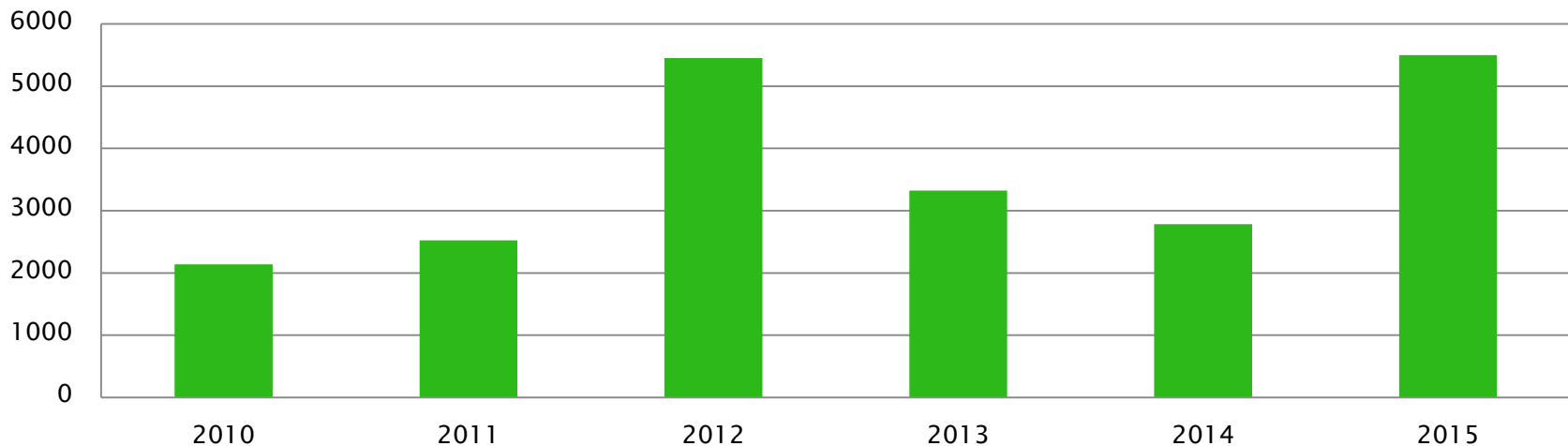
Lower Cowlitz Winter Steelhead Harvest



- ▶ Season – November 1 through April 30
- ▶ 3 fish bag limit

Cowlitz River Fisheries – Spring Chinook

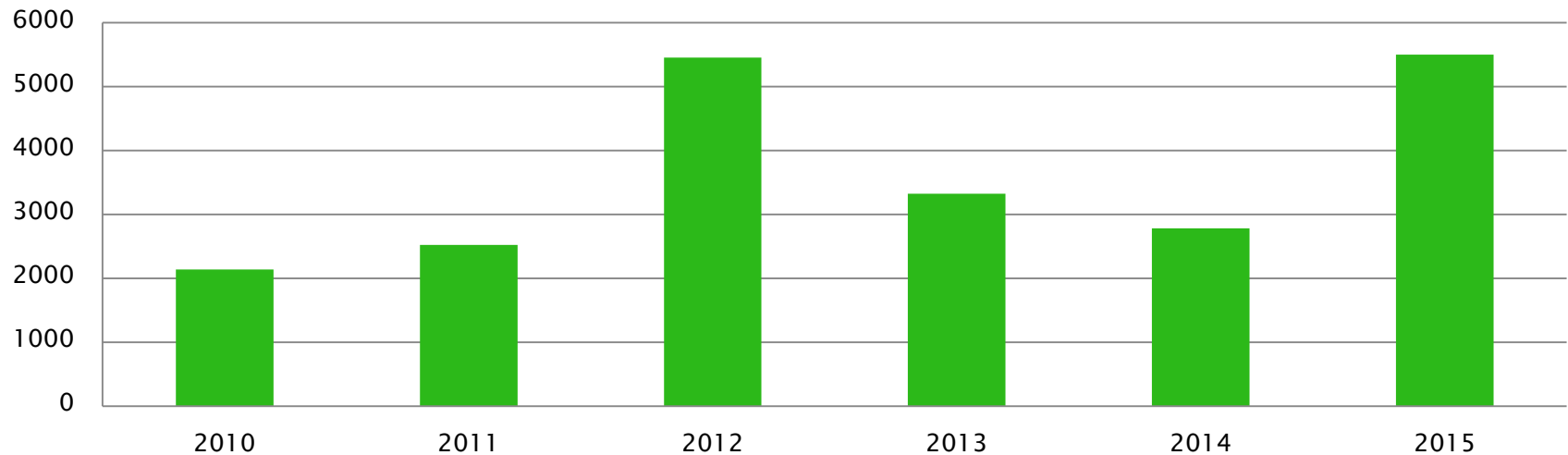
Lower Cowlitz Spring Chinook Harvest



- ▶ Season – January 1 through April 30
- ▶ 2 fish bag limit

Cowlitz River Fisheries – Summer Steelhead

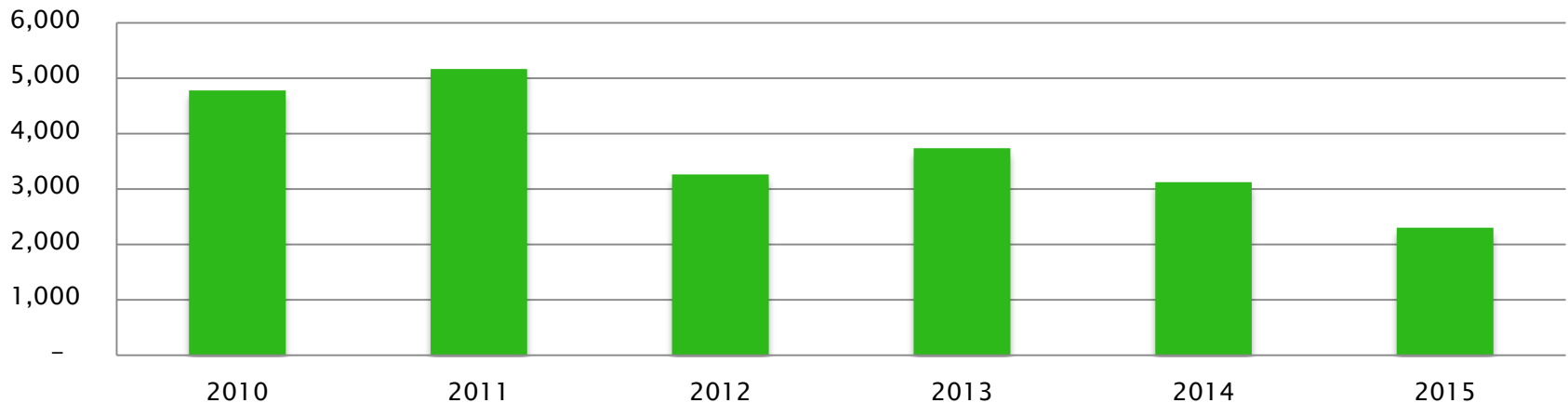
Lower Cowlitz Summer Steelhead Harvest



- ▶ Season – May 1 through October 31
- ▶ 3 fish bag limit

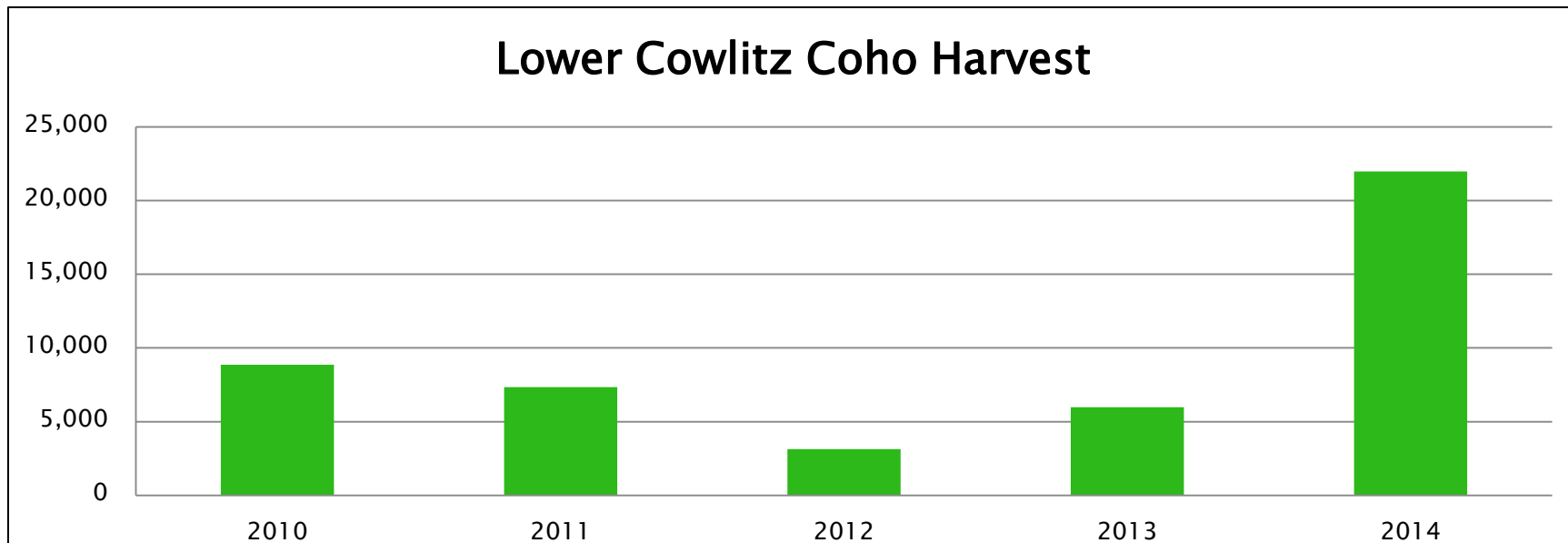
Cowlitz River Fisheries – Fall Chinook

Lower Cowlitz Fall Chinook Harvest



- ▶ Season – August 1 through December 31
- ▶ 2 fish bag limit

Cowlitz River Fisheries – Coho



- ▶ Season – Year round
- ▶ 2–6 fish bag limit

Fishing Access



Bank Fishing near Barrier Dam

Blue Creek Boat Launch



ADA site at Blue
Creek Boat Launch



ADA site near
Barrier Dam



Recent Events – Summer Steelhead Loss

- ▶ Loss of summer steelhead and cutthroat trout
 - Planned release was 625,900 summer steelhead and 90,600 cutthroat trout
 - Actual release was 202,000 combined
- ▶ Root cause analysis conducted
- ▶ Actions identified



Fish culture challenges

- Three 5-acre rearing lakes; one 2.5-acre lake
 - 5-acre lakes partially netted
 - 2.5 acre lake is fully netted
- ▶ Existing infrastructure limits ability for full netting
- ▶ Fish counter issues



Root causes

- ▶ Bird predation
- ▶ Counter reliability
- ▶ Disease/environmental factors



Compounding factor:
Inability to enumerate
fish once in lakes

Long term actions

- ▶ Hatchery remodel expected to be completed in 3–6 years
- ▶ Implement design solutions to address production challenges



Completed actions

- ▶ Smaller mesh netting installed to deter predators
- ▶ Increased hazing contract to all daylight hours
- ▶ Fish counter was sent to manufacturer for recalibration
- ▶ Department staff are testing the use of high visibility fishing line suspended across the open portion of one of the lakes to deter birds

In the works

- ▶ Tacoma Power has ordered shoreline nets to deter Blue Herons
 - First net is scheduled to arrive next week.
- ▶ Tacoma Power is working to secure a lethal hazing contract (with USDA)
- ▶ WDFW and Tacoma Power staff are exploring methods to estimate in-season estimates



Adult returns

- ▶ Summer steelhead expected to return in 2018–2019
- ▶ Not certain how adult return will be affected
- ▶ Favorable ocean conditions could still produce an average adult return



Summary

- ▶ Cowlitz River basin is unique
 - Vast challenges
 - High profile
 - Numerous fisheries
 - Massive production
 - Significant funds
 - Intensive monitoring
 - Considerable potential for wild fish
 - Strong partnership



Questions?



Harvest vs Plant – Summer Steelhead

