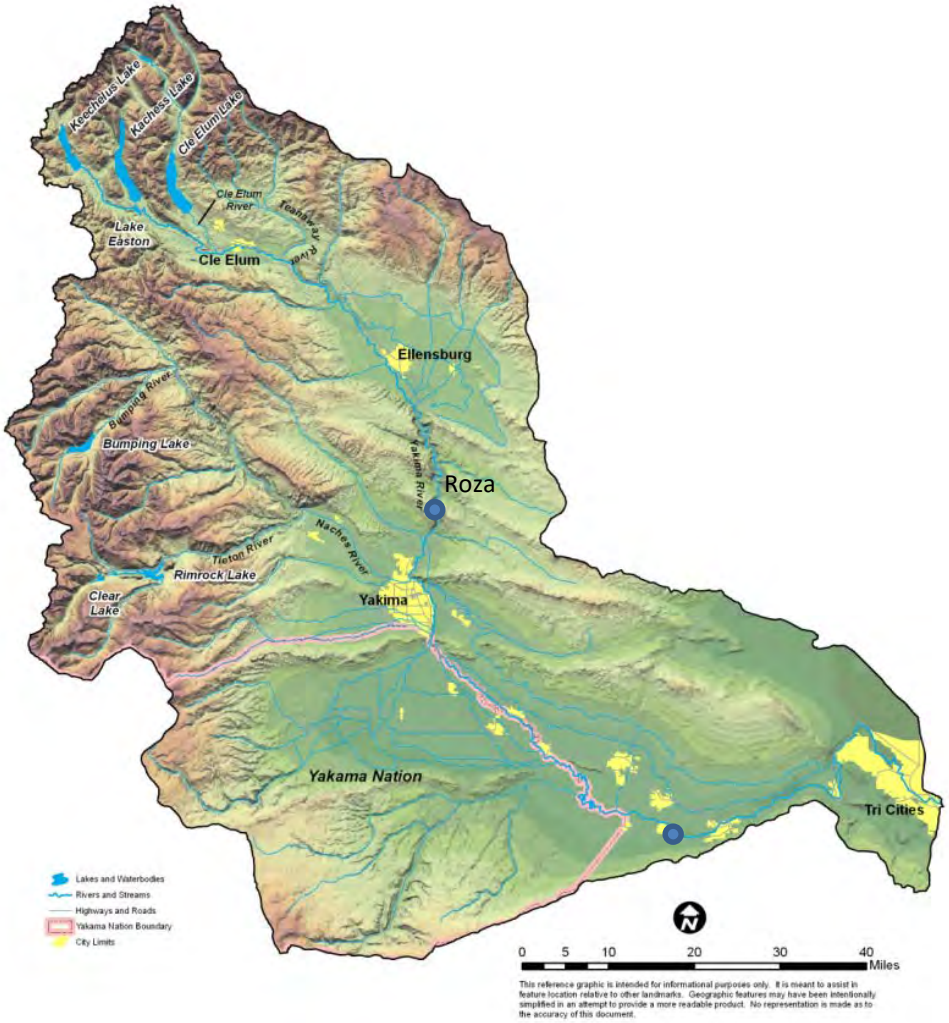
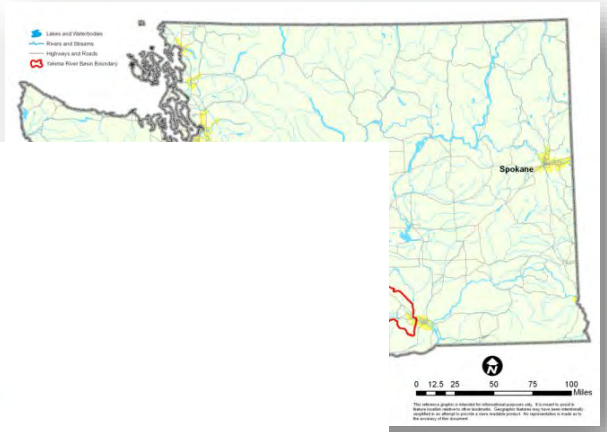
Melvin R. Sampson Coho Hatchery

Presentation to YRBWEP Workgroup
September 2018

Basin Overview





- **Basin size = 6,155 sq. miles**
- **Population = 360,000**
- **Irrigated Area = 464,000 acres**
- **Economic Impacts (USDA 2012)**
  - **Food Processing Industry Benefits = $1.4B**
  - **Agricultural Production = 1.8B**
- **Historically, second only to Snake River in supporting Columbia River salmon and steelhead runs**

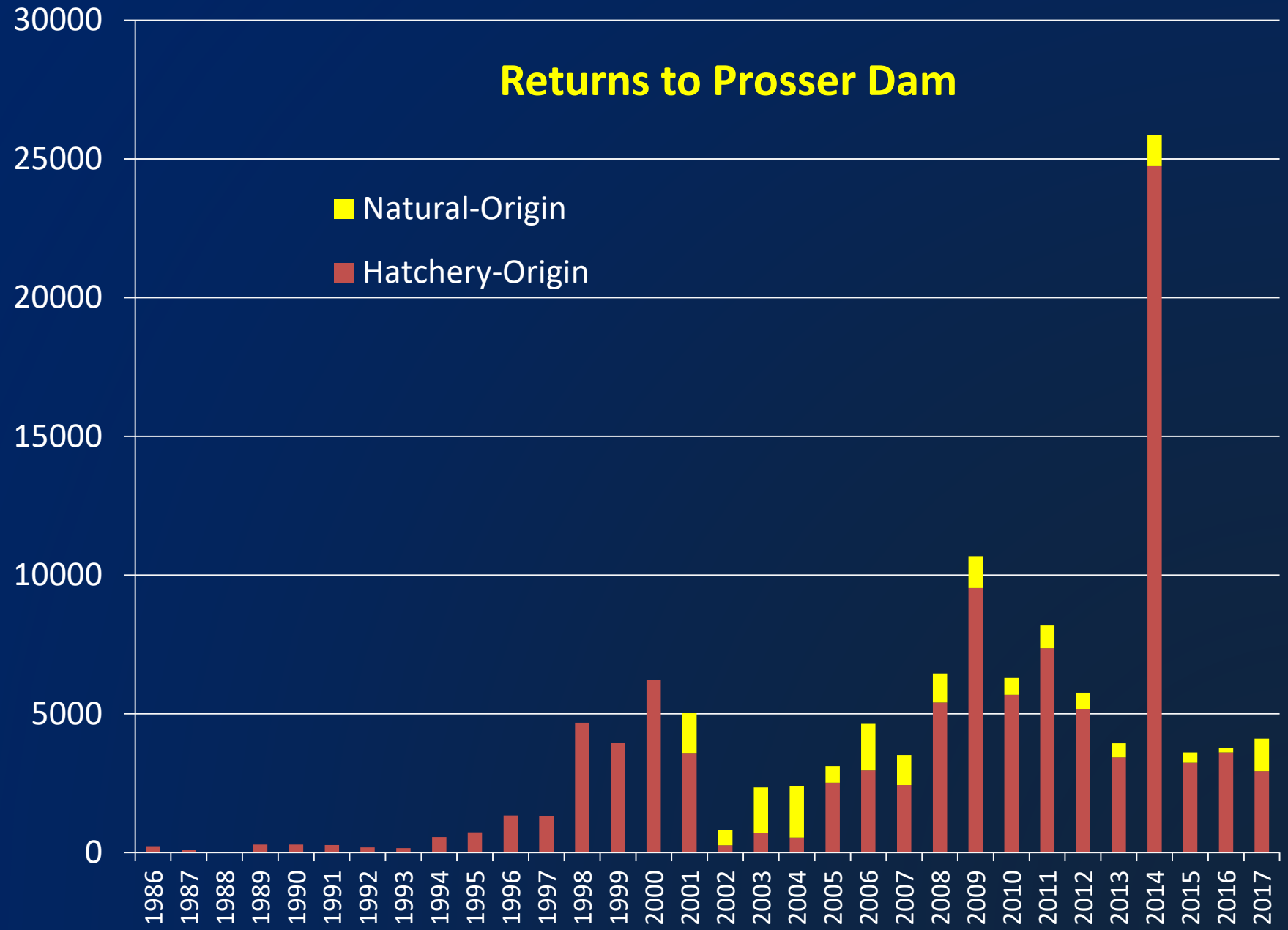
Presentation Topics

- Project History and Background
- 2012 Master Plan Review
- Existing and new facilities
- Schedule and Costs

Yakima Coho Hatchery Project History

- By 1985 counts of coho at Prosser reached zero
- 1986 Transfers from LCR Hatcheries under *U.S. v OR* for harvest
- 1994 Subbasin and Master Planning efforts begin - All Stock Initiative
- 1996 Feasibility study to reestablish coho begins
- 2007 Initial evaluation proves feasibility
- 2012 Step 1-2 Master Plan submitted
- 2018 MRS Coho Hatchery ready to proceed

Yakima Basin Coho Status



2012 Master Plan Elements

Segregated Program (not addressed today)

- ~500,000 smolts
- Reared and released at Prosser Hatchery
- Adult Returns not targeted for spawning

Integrated Program

- Targets natural spawning in Upper Yakima and Naches watersheds
- Using combination of adult outplants, and parr and smolt releases in targeted tributaries
- Move brood collection upstream to Roza Dam
- Spawning and rearing at new MRS Hatchery

ISRP 2018-6 Issues

Prosser Hatchery / Segregated Program

- **Size of program / # of fish for brood stock**
- **Infrastructure modifications and utilization**

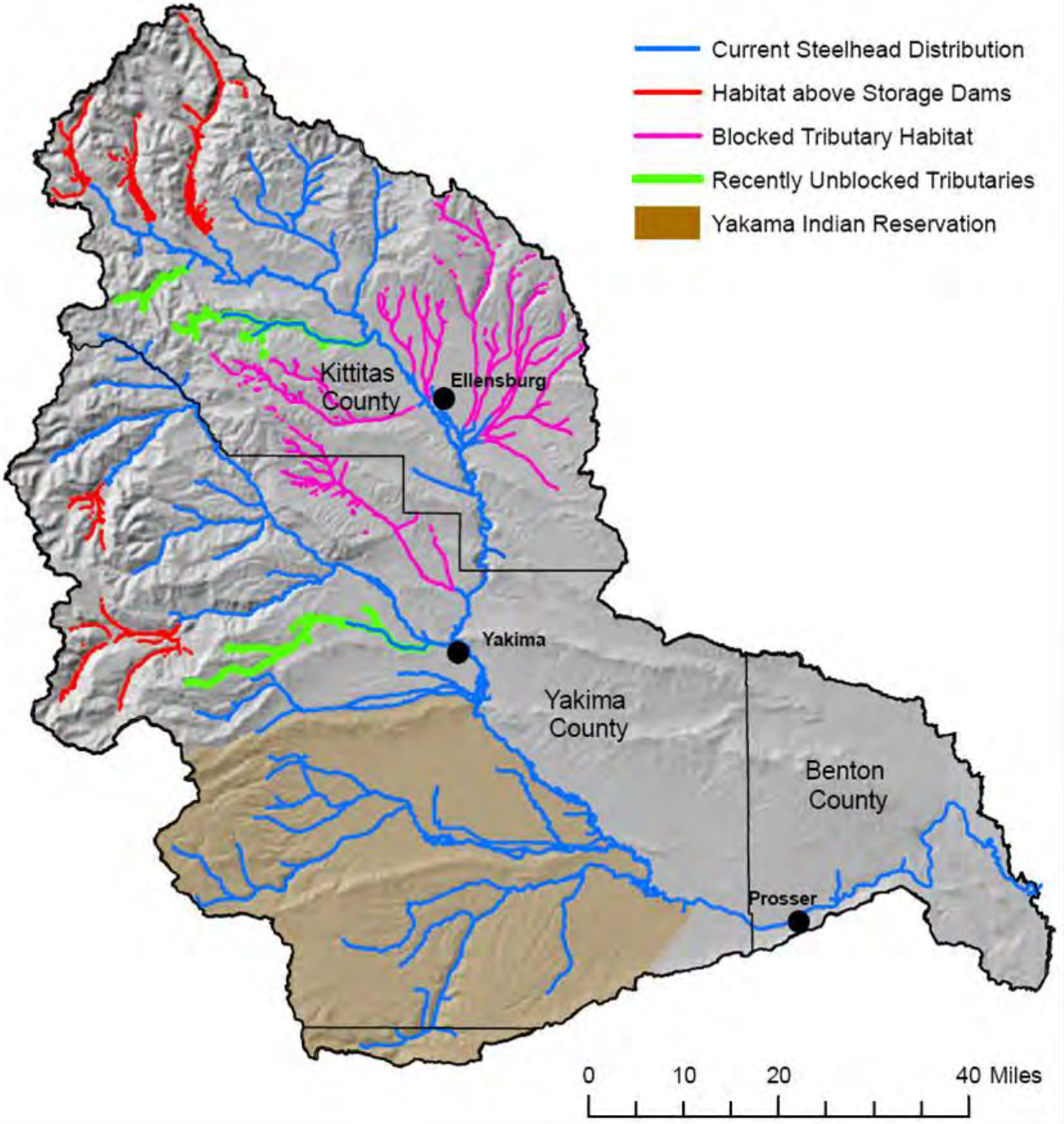
Monitoring and Evaluation

- **Biological metrics**
- **Performance by release site and life stage**
- **Clarification of productivity and capacity**

Other

- **More information on Adaptive Management and Decision Rules**
- **Consider Naches / Upper Yakima adaptations**

Will address in Prosser Hatchery Upgrade Master Plan submittal in 2019 (Update of 2012 MP)


Current Steelhead Distribution
Habitat above Storage Dams
Blocked Tributary Habitat
Recently Unblocked Tributaries
Yakama Indian Reservation
Kittitas County
Ellensburg
Yakima
Yakima County
Benton County
Prosser
0
10
20
40 Miles

Comprehensive Yakima Restoration Strategy

Yakima Basin Integrated Plan

- **Fish Passage Improvements**
- **Instream Flow Enhancement**
- **Floodplain Enhancement**
- **Additional Habitat Restoration Actions**

BPA Projects

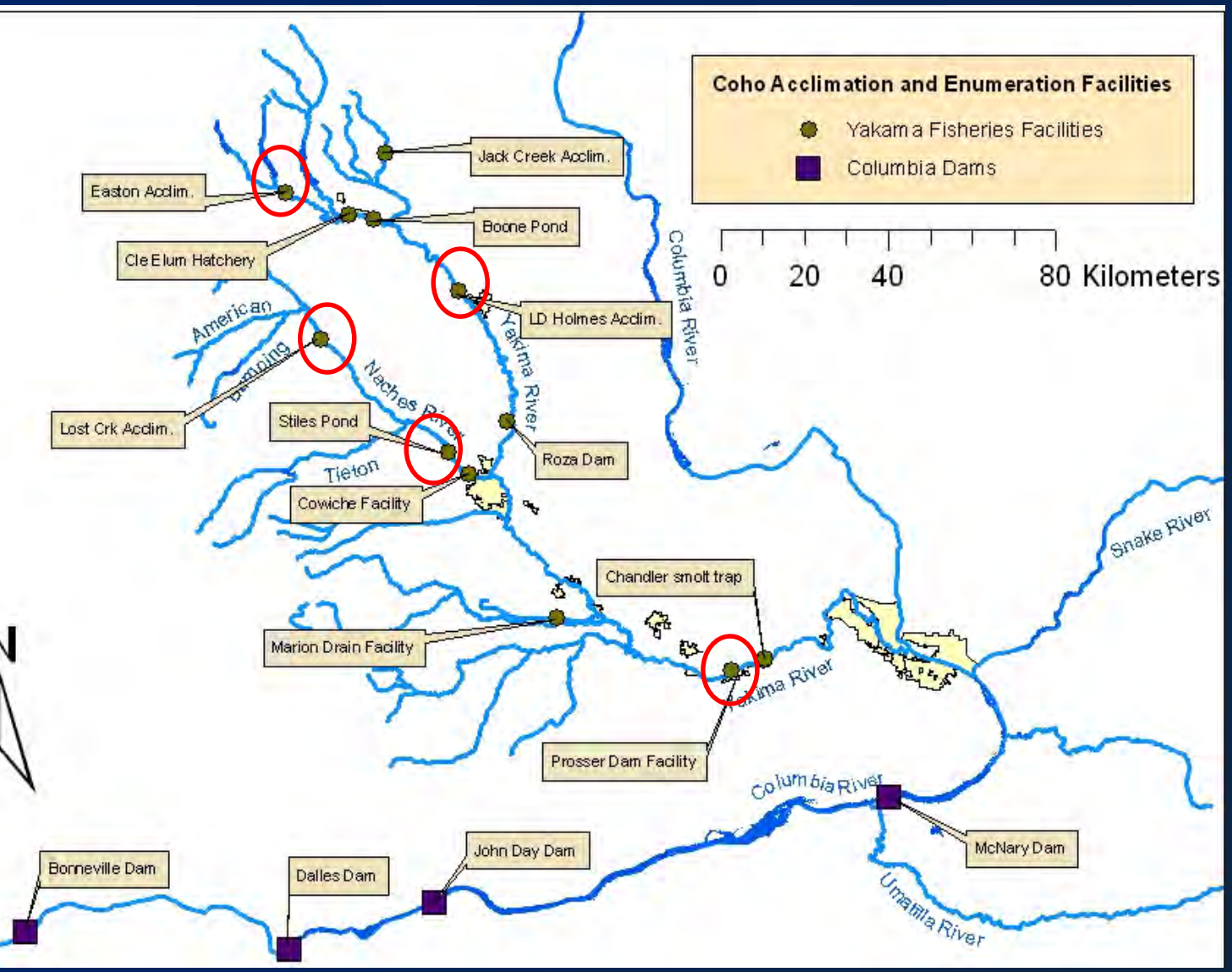
- **Habitat Restoration – 1997-051-00**
- **Monitoring & Evaluation – 1995-063-25**
- **Artificial Propagation & Salmon Reintroduction – 1997-013-25**

Harvest Management

- **Co-managed under *U.S. v Oregon***
- **BIA, BPA, and State funding for monitors**

Yakima Basin Integrated Coho Program Current vs. Proposed with MRS

Yakima Basin Coho - Current Program

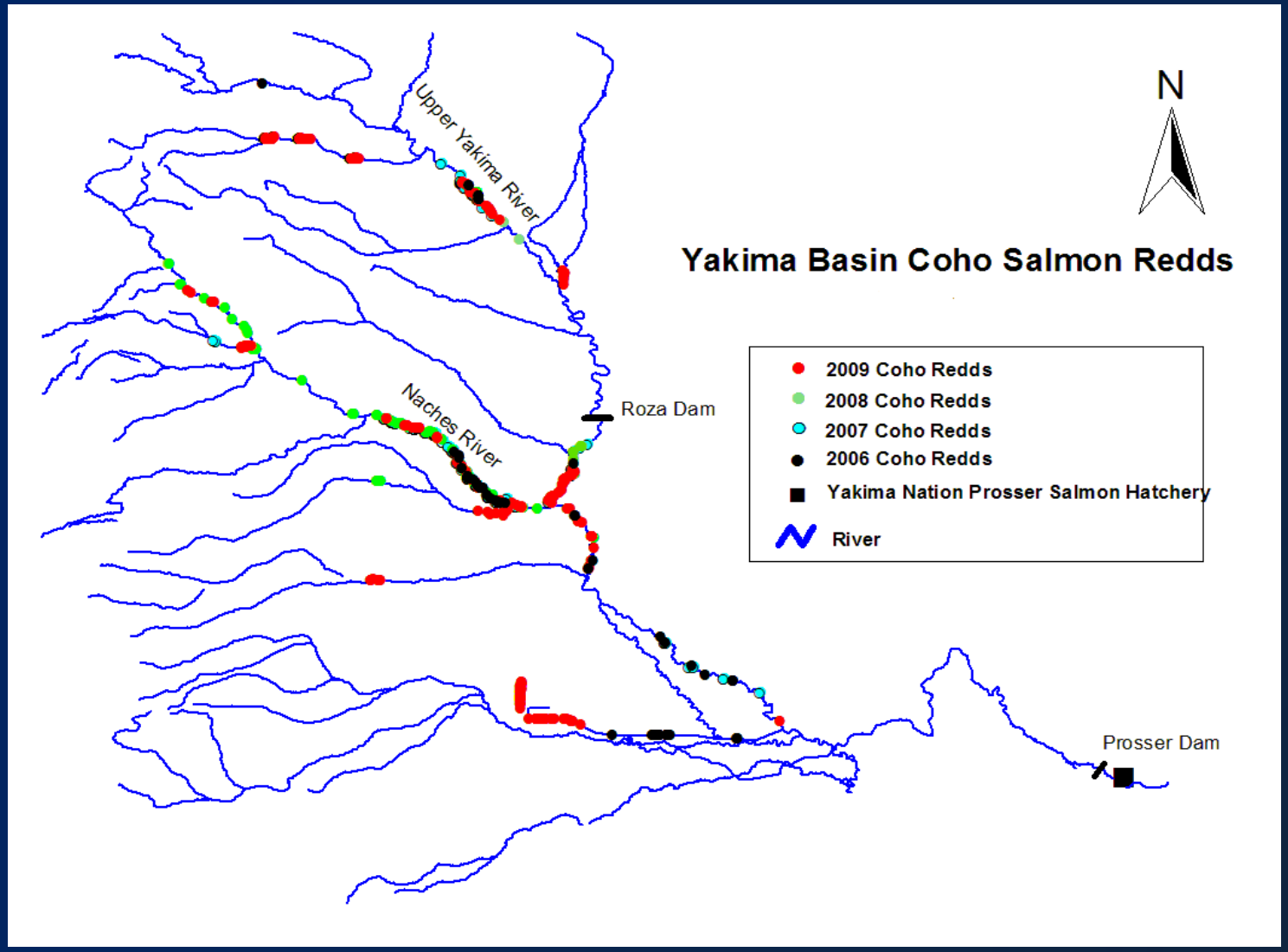


Brood Source
- 50% Local
- 50% Out-of-Basin

Rearing Location
- Prosser

Releases (~900k)
- Easton 20%
- Holmes 15%
- Lost Cr 15%
- Stiles 20%
- Prosser 25%
- Other 5%

Present Spawning Distribution



Yakima Basin Coho Current vs MRS

	Current	With MRS
Brood Source	50% Local	100% Local
Brood Adults	1,200	~ 1,000
Collect Location	Out-of-Basin Prosser	Prosser Roza
Rearing Location	Prosser	Prosser – Seg MRS - Int
Release Locations	Mainstem	Tributaries

New Coho Program

Brood Source

100% Local

Adult Brood Collection

Prosser – Segregated (450)

Roza – Integrated (600)

Rearing (Smolts/Parr)

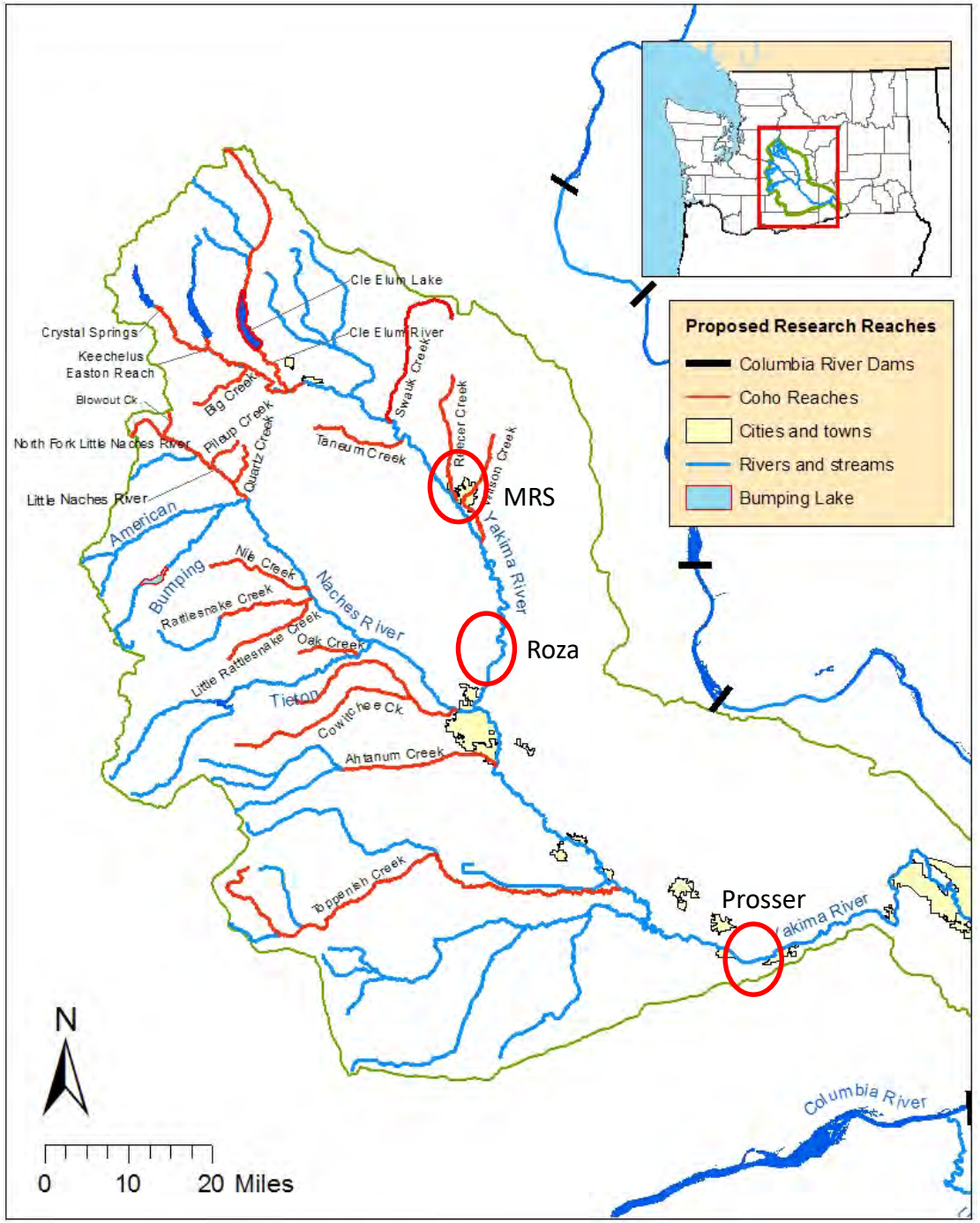
Prosser – Segregated (500k)

MRS – Integrated (700k)

Releases

Segregated @ Prosser

Integrated in targeted tributaries shown on map



Yakima MRS Coho Hatchery Project Products and Schedule

Step 1

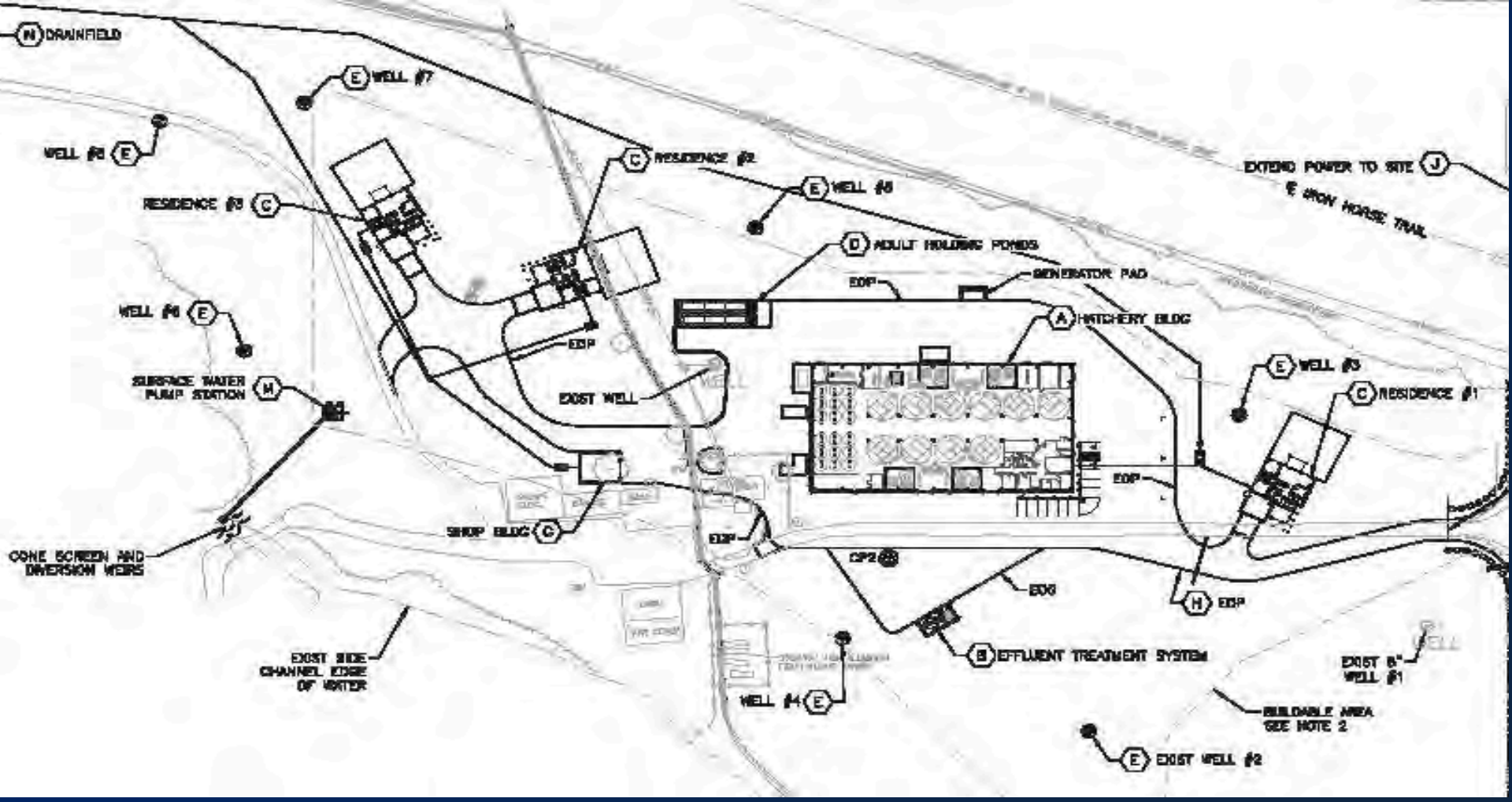
- **Master Plan and preliminary design May 2012**
- **Council approved Master Plan July 2013**

Step 2 and 3

- **Design updates & NEPA/EIS 2015 - 2016**
- **Final designs & NEPA/EIS 2017 – 2018**
- **M&E draft plan 2018; M&E final plan 2019**

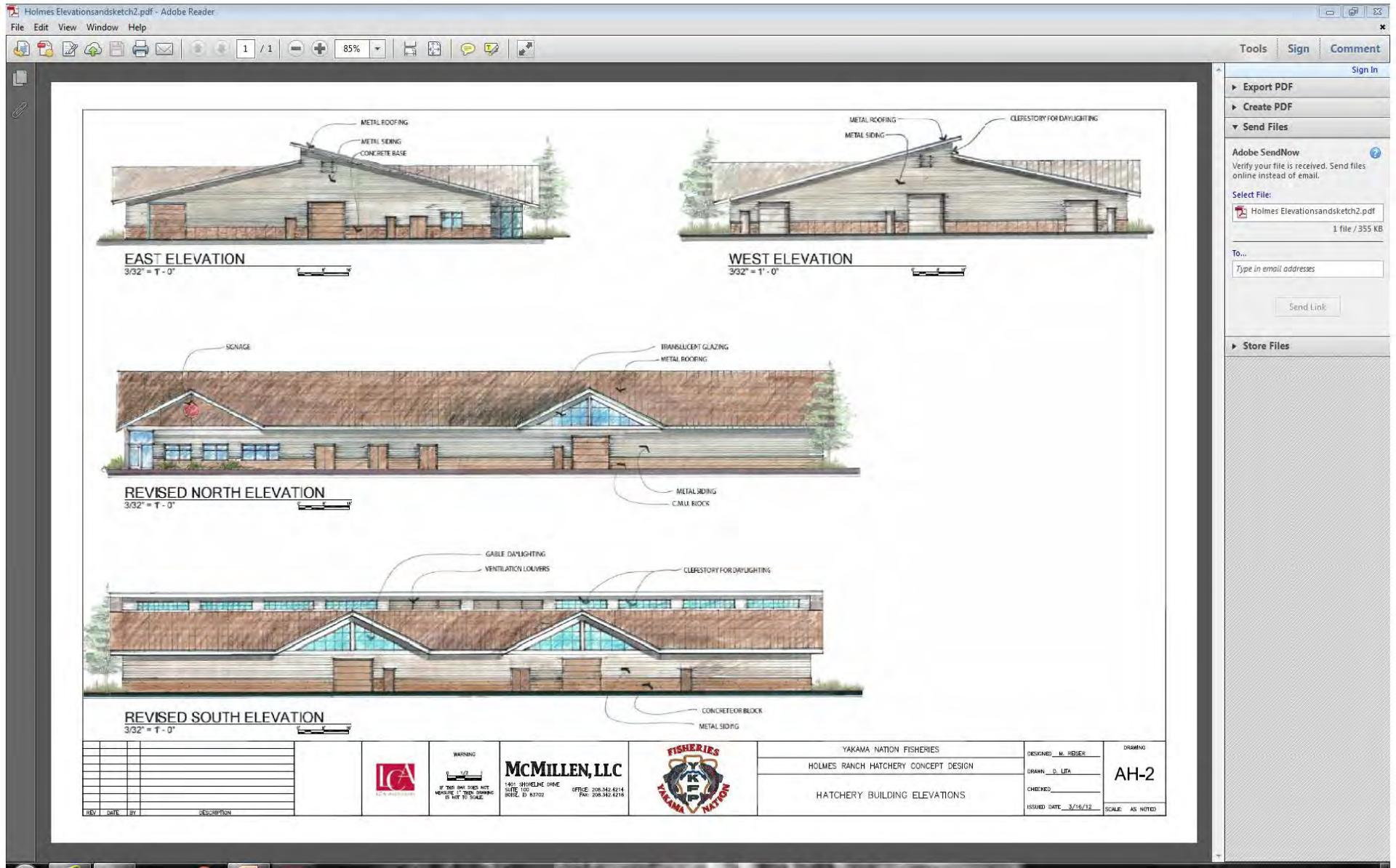
Construction and Operations Start-up

- **Construct hatchery September 2018 – late 2019**
- **First brood 2019; first smolt release April 2021; first adult return 2022**



- 30k sf hatchery building
- Early rearing grow-out
- 10 circular rearing ponds
- 9 groundwater wells
- Effluent treatment
- Utilities

Proposed YKFP Coho Facility



Yakima MRS Coho Hatchery Timeline and Costs

	Occurence	2014-2017	2018	2019	2020
Environmental Compliance	One Time	$600 k			
Design	One Time	$1.55 m			
Construction	One Time		$14.4 m		
O&M	Annual			→	
M&E	Annual	→	→	→	→

Yakima River Coho Reintroduction

An example of Hatchery Reform

1. ***Yakima River Coho goes extinct***
2. ***Use lower Columbia Coho stocks cultured for many generations for reintroduction***
3. ***Establish a locally adapted coho stock in 20 years***
4. ***Moving from a couple hundred adults annually to several thousand***
5. ***Begin to move localized coho back into historic habitats***
6. ***Build a high tech fish hatchery and begin using Natural Origin Adults for reintroduction***
7. ***Use a phased approach to fill all historic coho habitat with progeny of Natural Origin Coho, all the while providing large numbers of hatchery coho for tribal and non tribal fisheries***
8. ***Captured "the essence of hatchery reform"***