

Joan M. Dukes
Chair
Oregon

Bruce A. Measure
Montana

James A. Yost
Idaho

W. Bill Booth
Idaho



Rhonda Whiting
Vice-Chair
Montana

Bill Bradbury
Oregon

Tom Karier
Washington

Phil Rockefeller
Washington

March 29, 2012

MEMORANDUM

TO: Fish and Wildlife Committee Members

FROM: Peter Paquet, Manager Wildlife & Resident Fish

SUBJECT: WDFW Hatchery/Supplementation Policies and Activities

Heather Bartlett, WDFW hatchery division manager and Shaun Seaman, Chelan County PUD fish and wildlife director will brief the Committee on WDFW policies and activities related to hatcheries and supplementation. See the attached PowerPoint handout for further detail.

Washington State Hatchery System

Historical Context, Legal Basis, Endangered Species Act and Hatchery Reform

Heather Bartlett, Hatcheries Division Manager (Fish Program)



Organization of hatchery series

1. Historical and legal context – December 2010
2. Historical and contemporary production, and economic value – January 2011
3. Endangered Species Act, salmon recovery and hatchery reform – June 2011
 - <http://wdfw.wa.gov/hatcheries/overview.htm>

Salmon in Washington

Prior to 1900, abundance legendary
Important protein on international scale
First dramatic collapse evident just prior to turn of century

- Over-fishing
- Land and water use practices



Development of hatcheries

Harvest demand

Public works initiatives

Mitigation



Mitigation

- Major obstructions
- Minor obstructions
- Pollution or deforestation
- Water withdrawal



Phase 1 of 6

1890 – 1905 Period of concentration on taking large numbers of eggs with fry releases and very limited or no rearing and feeding.


- Kalama River
- Soos Creek*
- Kendall Crk.
- Samish
- Dungeness



Phase 2 of 6

1906-1936 Period of large egg taking and short term rearing.

- Wallace*
- Voights Creek
- Minter Creek
- Lewis River




7

Phase 3 of 6

1937 - 1945 Period of smaller egg takes, intensive rearing in ponds, and initiation of migration and disease studies.

- Marblemount
- Bingham Crk
- Issaquah*




8

Phase 4 of 6

1945 - 1949 Expansion and modernization of hatchery system with new stations and rebuilding of old stations.

- Klickitat
- North Toutle
- Renovated Wallace
- Dungeness*
- Kalama




9

Phase 5 of 6

1950 to 1981 Development of production hatcheries that maximize use of all available fresh and salt water areas.

- Nemah
- Naselle
- Forks Crk
- Humptulips
- George Adams*
- Hoodspout




10

Phase 6 of 6

1982 to present Development of large facilities and modernization of older facilities to produce fewer salmon with better survival.

- Lyons Ferry*
- Eastbank
- Methow



11

State legal foundation

- Policy that hatcheries can be used to mitigate the damage caused by dams is embodied in state statute.
 - Arose out of controversy when Elwha Dam built
 - Initially enacted in 1915 and today is contained in RCW 77.57.050
 - Operating agency shall provide fishways, facilities and hatcheries contained in RCW 43.52.350

12

State-tribal legal foundation

- Series of court cases in Columbia River and Puget Sound related to fishery management
 - Belloni decision – 1969, “fair and equitable”. Remains an active case today known as *US v Oregon*.
 - Boldt decision – 1974, defined “fair and equitable” as 50:50 sharing of the fish not needed for spawning. Remains an active case today known as *US v Washington*.
 - Judge Belloni adopted Judge Boldt’s definition of fair and equitable.

State-tribal legal foundation

- Case within *US v Washington* articulated that hatchery fish count in determining treaty/non-treaty fair sharing (9th Circuit 1985). Rationale of the court was
 - ...“the mitigating function of the hatchery fish programs”.
 - “For the tribes to bear the full burden of the decline caused by the non-Indian neighbors without sharing the replacement achieved through the hatcheries, would be an inequity and inconsistent with the Treaty.”

Cooperative management

- Based on principles of government-to-government relationship.
- Embodied in the 1985 PS Salmon Management Plan
 - “No modifications may be made to the equilibrium brood document without prior agreement of the affected parties.”
- Embodied in the 1986 Hood Canal Management Plan
 - “In no case will the loss of production in Hood Canal be disproportionate to the overall cutback in the aggregate of the WDF, USFWS, and tribal facilities.”
- Embodied in series of agreements for the Columbia River – 2008 – 2017 *US v Oregon* Mgmt. Agreement.
- Cooperative process in place to track and report production
 - Future Brood Document
 - http://wdfw.wa.gov/hatcheries/future_brood.html

Statewide Hatchery Salmon and Steelhead Releases 1960-2008 (All Operators)

■ Est'd Non-WDFW 1991-1994

* WDFW’s reconstructed releases from all agencies across the state. Releases from 1960-1989 are estimated from state’s *Salmon 2000* report. Releases from 1989+ are from the WDFW Hatchery Plants database and PSC data (for non-WDFW estimates).

Economic Impacts

Economic Impacts:

What data forms the basis of the report (TCW 2009)

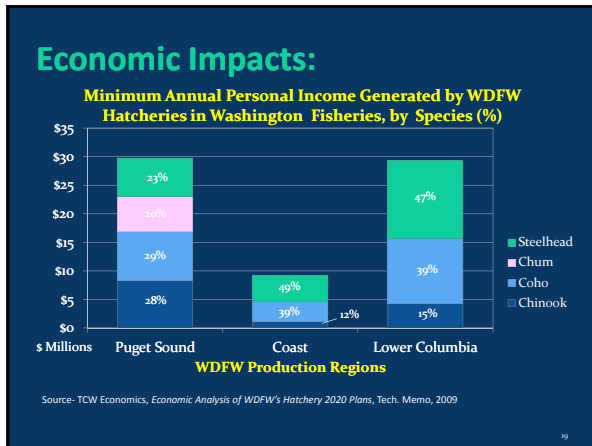
- Treaty and non-treaty fisheries in Washington
- Average fishery contribution in years 2000 – 2005

* Not all WDFW hatchery production is represented in the following estimate. Economic indicators represent only a monetary value.

Source: TCW Economics, *Economic Analysis of WDFW’s Hatchery 2020 Plans*, Tech. Memo, 2009. Reported in 2007 dollars

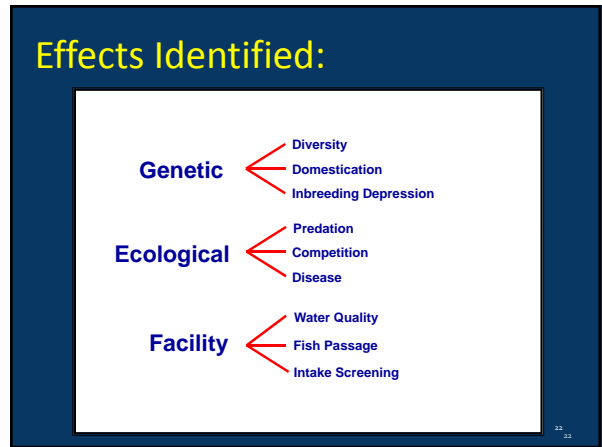
Minimum Annual Personal Income Generated by WDFW Salmon & Steelhead Hatcheries in Washington Fisheries 1999-2005

WDFW Production Region	Personal Income Generated (Millions)
Puget Sound	\$30
Coast	\$9
Lower Columbia	\$29
Total	\$68 million Annually*



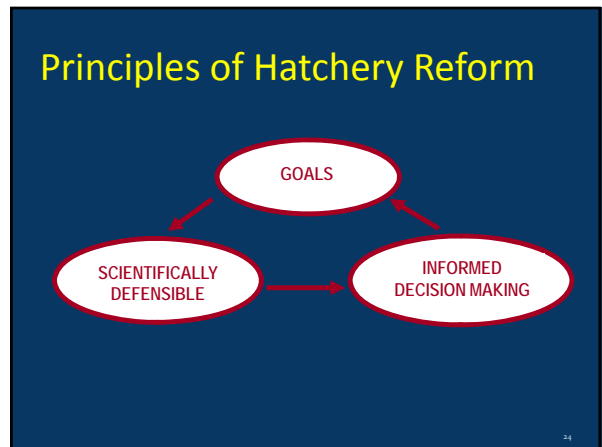
- ### Key points
- Long history of hatchery production that has changed over the decades with new information and science.
 - Provide significant harvest opportunity and economic value
 - Over 75% of fish harvested are hatchery origin
 - Almost \$70 million dollars in local personal income generated between sport and commercial fisheries across Puget Sound, Washington Coast and lower Columbia River.
 - Hatchery fish can pose risks to natural spawning populations
 - Hatchery reform is initiative to reduce the risks posed by hatchery fish while providing fish for harvest.

- ### Federal Endangered Species Act
- Hatcheries identified as factor contributing to the decline of wild populations.
 - ESA-authorization is needed to continue hatchery operations.
 - Hatchery and Genetic Managements Plans—HGMP
 - Currently, 20 programs are formally permitted under ESA
 - ~150 HGMPs have been submitted state-wide for consultation
 - Currently two federal hatchery reviews underway- The Puget Sound and Mitchell Act NEPA



Hatchery Scientific Review Group (HSRG)

- Independent scientific panel
- Developed and recommend approaches to reduce the risks of hatchery programs
- Review of Puget Sound and WA Coast from 2000-04 and Columbia R. from 2005-09



Fish and Wildlife Commission Policy C-3619

“...to advance the conservation and recovery of wild salmon and steelhead by promoting and guiding the implementation of hatchery reform.”

- Use the principles, standards and recommendations of the HSRG
- Designate programs as Conservation or Harvest

25

Fish and Wildlife Commission Policy- guidelines:

- Develop watershed-specific plans to implement hatchery reform
- Implement HSRG broodstock management standards for all WDFW programs by 2015
- Externally mark all fish produced for harvest
- Bring WDFW facilities into compliance with environmental standards

26

Watershed-level Plans

- Puget Sound
 - State-tribal coordinated Hatchery Action Implementation Plans (HAIP)
 - Coordinated with the PS Federal Hatchery NEPA EIS
 - Completion in early 2012
 - Initiation of citizen-based advisory group
- WA Coast
 - HAIP process initiated with treaty-tribes
 - Completion in mid 2013

27

Watershed-level Plans cont.

- Lower Columbia River
 - Conservation and Sustainable Fisheries Plan drafted.
 - Aligns WDFW production with Recovery Plan objectives
 - SEPA will be initiated with the completion of the Mitchell Act NEPA process
- Interior Columbia Basin
 - Current production agreement under *US v OR (08-2017)*
 - Revised steelhead production in the Lower Snake River
 - Revised Wenatchee spring Chinook & summer steelhead
 - Revised Methow River steelhead production
 - More opportunities for revision...

28

Implementing HSRG Broodstock Management Standards

Year	Meeting or will meet HSRG standards (%)	Needing agreements (%)	Not meeting HSRG standards (%)
1998	18	0	82
2008	25	0	75
2010	48	0	52
2011	50	0	50
2012	55	15	30
2013	58	15	27
2014	60	20	20
2015	65	25	10

29

Mass-marking of Harvest Production

- All Coho salmon WDFW produces for harvest are mass-marked
 - 23.3 million released in 2010
- All steelhead WDFW produces for harvest are mass-marked
 - 6.5 million released in 2010
- Chinook WDFW produces for harvest
 - 96 million released in 2010 (96%)
 - 3.8 million not mass-marked (Priest Rapids Hatchery)

30

Achieve Environmental Standards by 2025

(21st Century Salmon Steelhead Benchmark)

- Hatchery Reform Capital Projects Prioritized
 - 2011-2013 State capital budget request:
 - Hatchery-related fish passage barriers- \$450K (\$1.28M received)
 - Full facility rebuilds/planning- \$15.8 million (\$1M received)
 - Hatchery Intakes- \$3.8 million (\$3.4M received)
 - Minor works- broodstock mgmt- \$1.6 million (\$0 received)
 - 2009-2010 Federal-funding request- Mitchell Act & PCSRF
 - Hatchery-related fish passage barriers- \$720K (100% funded)
 - Hatchery intakes (design and repair)- \$1 million (100% funded)
 - Broodstock management- \$4 million (100% funded)

39

Summary

- Hatchery Reform Policy represents a paradigm shift for hatchery production
- ESA authorization offers additional impetus for hatchery reform
- Policy Progress
 - Watershed Plans:
 - Lower Columbia River completed
 - Puget Sound- 2012 completion
 - WA Coast- 2013 completion
 - Implementing HSRG Broodstock Standards:
 - Currently 45% statewide meet standards
 - Schedule is in place to meet the 2015 timeline for 90% of programs

32

Summary *(continued...)*

- Mass-marking of harvest production
 - 100% of coho and steelhead
 - >95% of Chinook mass-marked
- Hatchery Reform capital and operational projects are prioritized by WDFW for all budget requests.

38

Questions?

31

Overview of Hatchery Programs Chelan County PUD

Northwest Power & Conservation Council
April 2012 Meeting

Presented By:
Shaun Seaman
Chelan County PUD

Presentation Overview

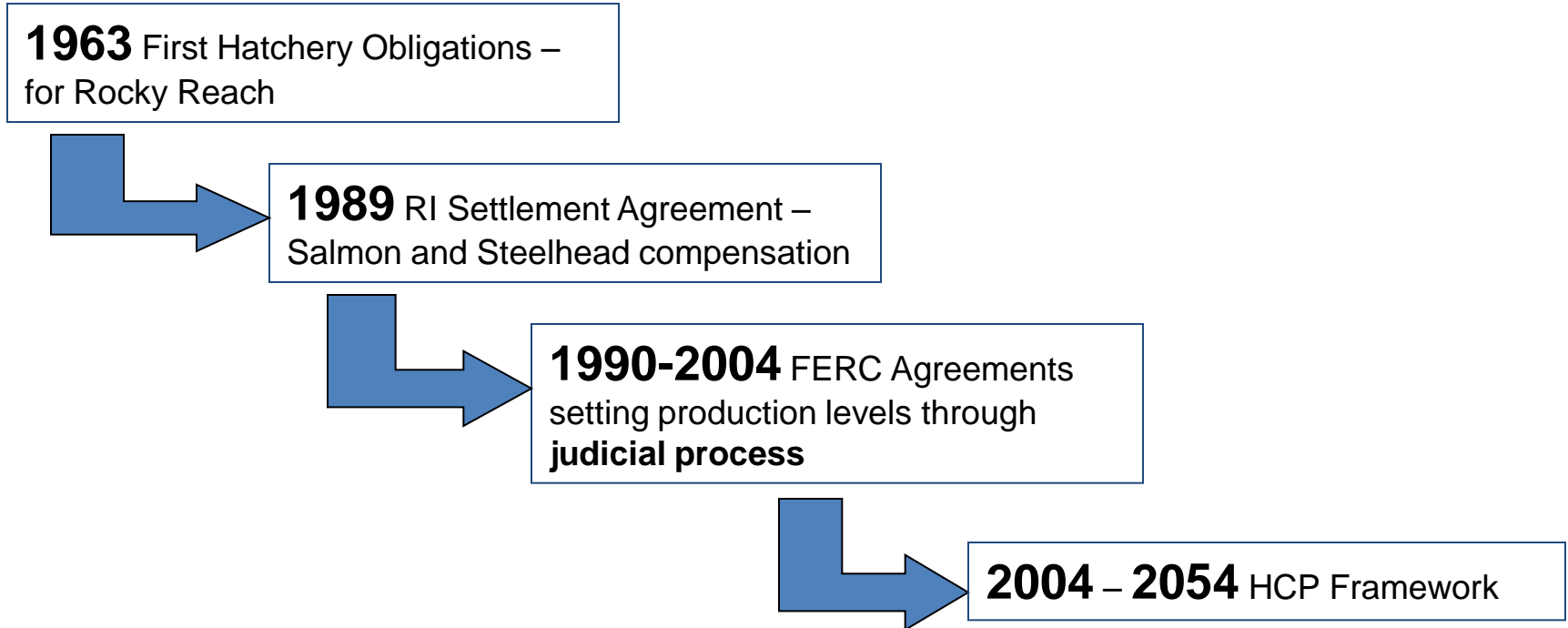
- Habitat Conservation Plan
- Hatchery Programs
 - Operations and M&E
- Adaptive Management
- Alignment with:
 - Hatchery reform
 - Recovery planning
 - NPCC F&W Program



CHELAN COUNTY
POWER

www.chelanpud.org

History of Chelan PUD Hatcheries



Habitat Conservation Plans

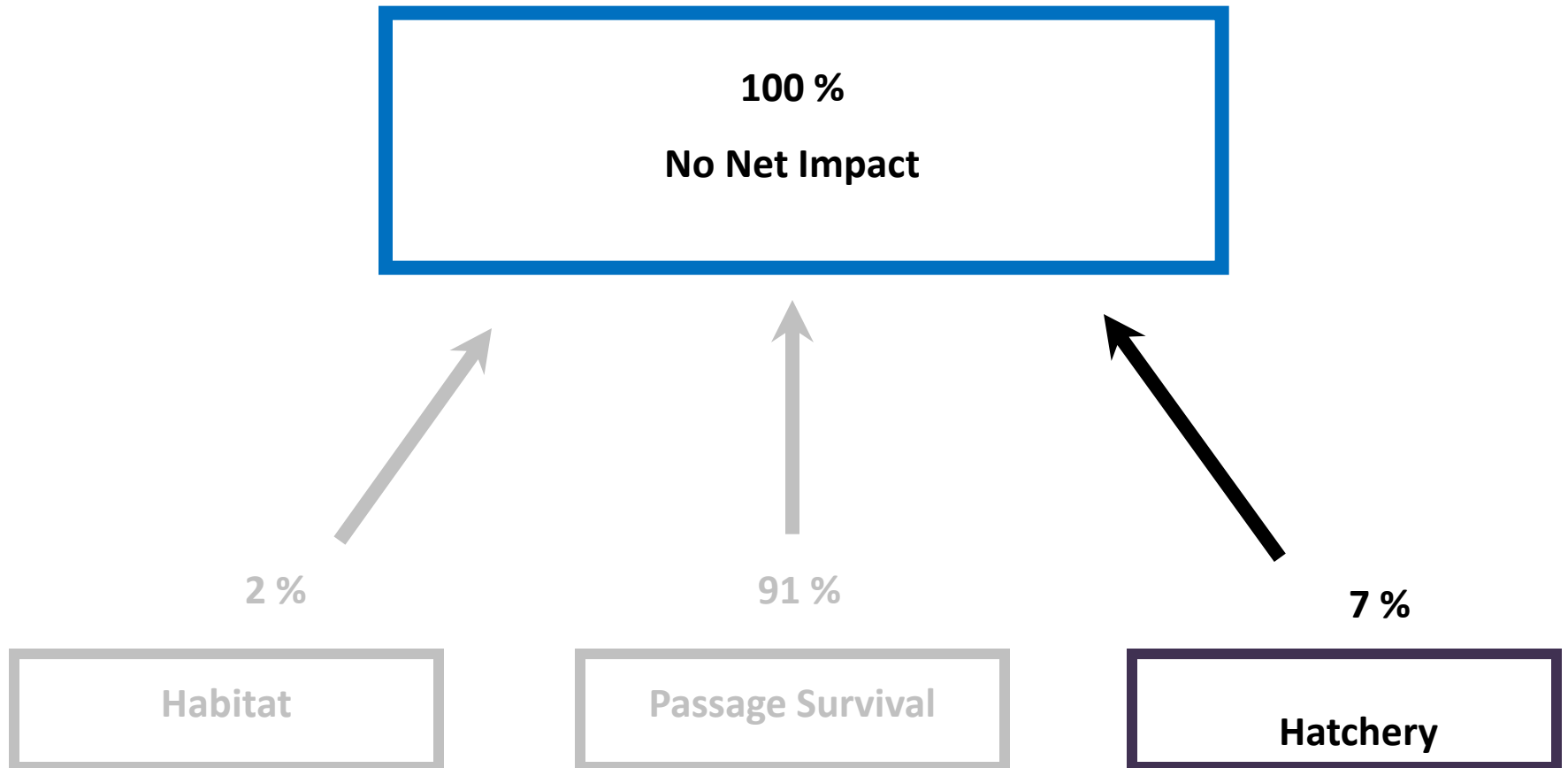
- Signed by:
 - Chelan County PUD
 - Colville Confederated Tribes
 - National Marine Fisheries Service
 - U.S. Fish and Wildlife Service
 - Washington Department of Fish and Wildlife
 - Yakama Nation

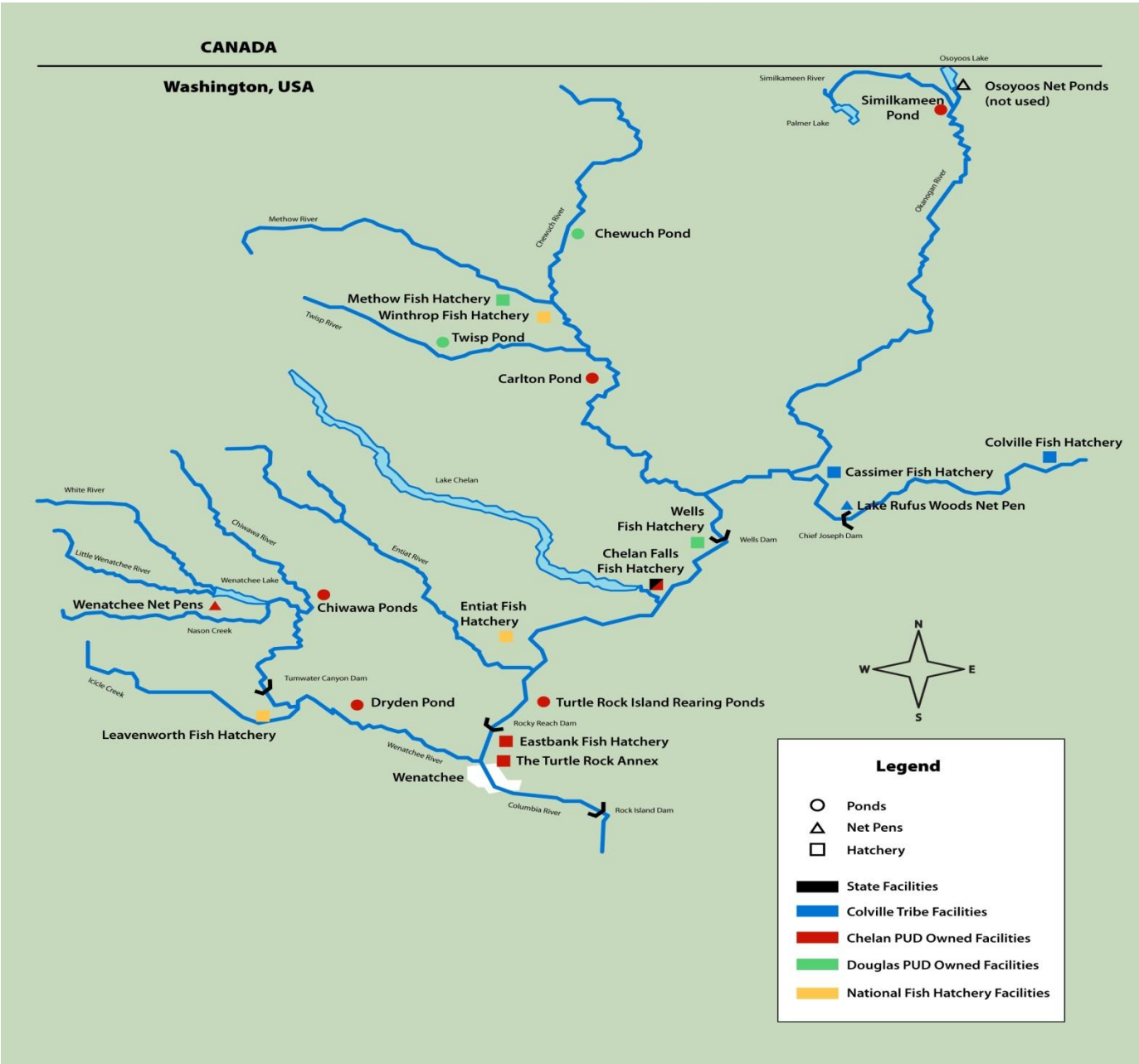


CHELAN COUNTY
POWER

www.chelanpud.org

Habitat Conservation Plans





Hatchery Operations and Contracted Productions

Washington Department of Fish and Wildlife

Contracted Production

Okanagan Nations Alliance

Douglas County PUD

Colville Confederated Tribes

Yakama Nation



CHELAN COUNTY
POWER

www.chelanpud.org

Conceptual Approach to Monitoring and Evaluating the Chelan County Public Utility District Hatchery Programs

Final Report

Andrew Murdoch
Chuck Peven

Prepared for:
Chelan PUD Habitat Conservation
Plan's Hatchery Committee
Committee members:

Brian Cates (USFWS)
Jerry Marco (Colville Tribes)
Kristine Petersen (NMFS)
Shaun Seaman (Chelan PUD)
Tom Scribner (YN)
Kirk Truscott (WDFW)

July 2005



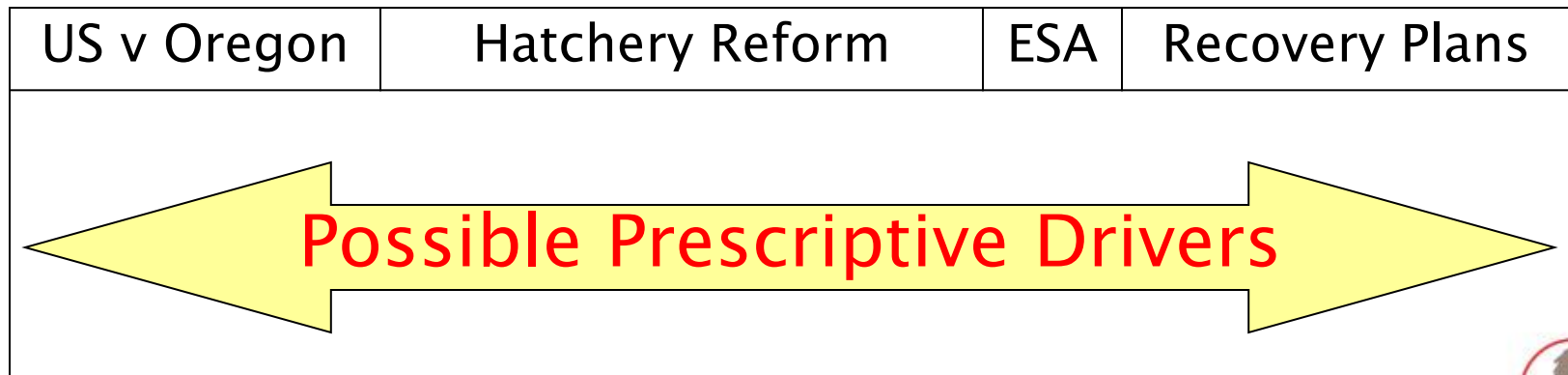
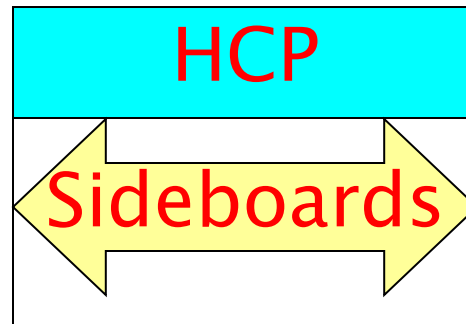
CHELAN COUNTY
POWER



CHELAN COUNTY
POWER

www.chelanpud.org

Program Influences & Alignments



HSRG Review and Actions

- HSRG review in 2008
- Many changes completed or underway
 - Spring Chinook
 - Summer/Fall Chinook
 - Steelhead
 - Sockeye

Upper Columbia River Recovery Plan

- Drafted by the UCSRB
- Adopted by NOAA Fisheries in 2007
- Short and long term objectives
- Short and long term actions
- Research and Monitoring Objectives and Actions



CHELAN COUNTY
POWER

www.chelanpud.org

Summary

- Overview of the HCPs
- Hatchery component of mitigation
- Hatchery programs
- Coordination with Hatchery Reform
- Coordination with Upper Columbia Salmon Recovery Plan

Questions

Shaun Seaman
Chelan County PUD
509-661-4459
Shaun.seaman@chelanpud.org