

# Hatchery Reform in Washington State

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**REFORMER**



**REFORMED**



# Key Points

1. Commission policy
2. HSRG Standards
3. Hatchery Statistics
4. Accomplishments
5. Future Actions
6. Questions

# Fish and Wildlife Commission Hatchery and Fishery Reform Policy C-3619

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

# Hatchery and Fishery Reform Policy C-3619

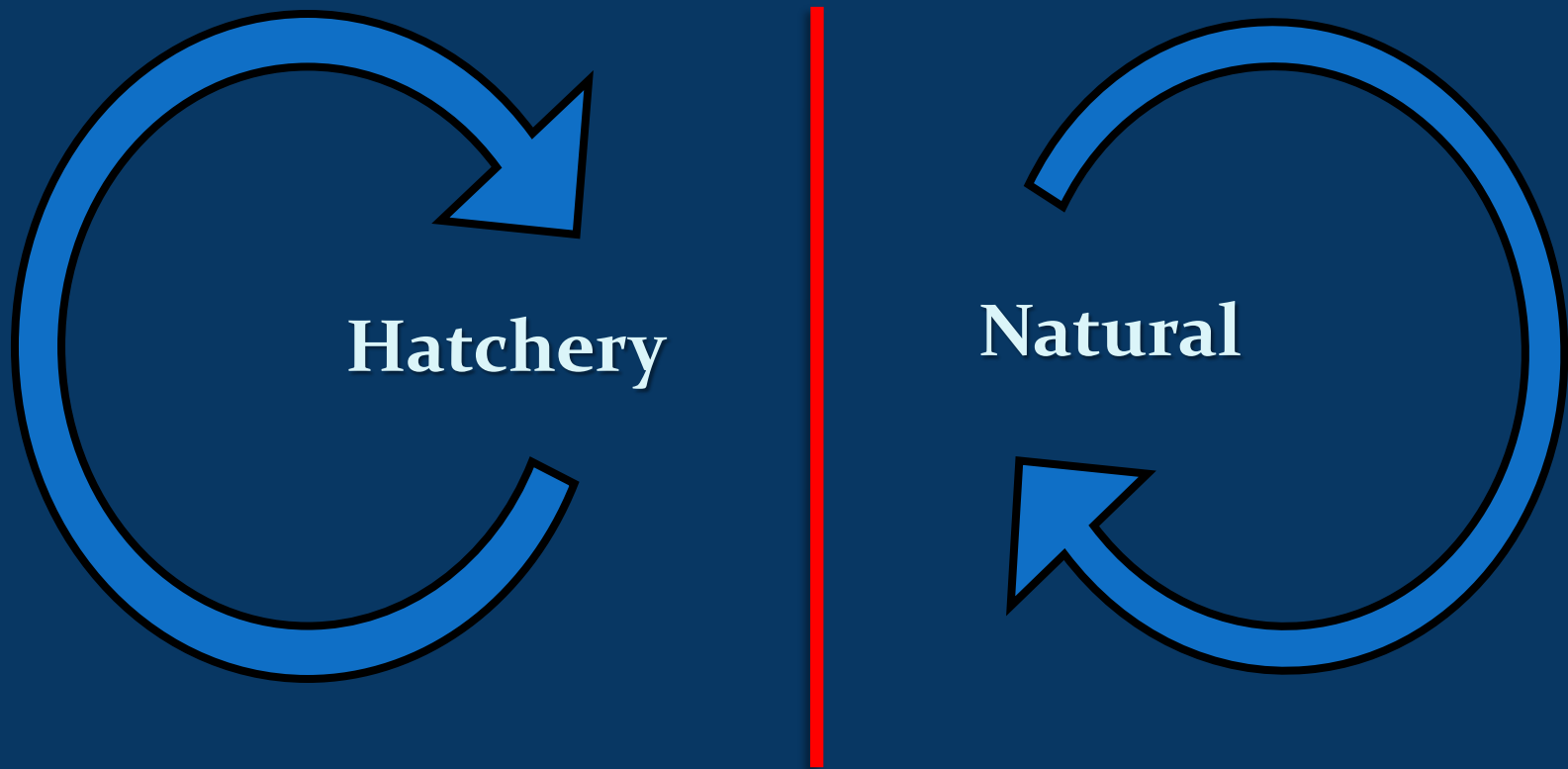
- “...work *toward* a goal of achieving the HSRG broodstock standards for 100% of the hatchery programs by 2015.”
- “Secure necessary funding to ensure that Department-operated hatchery facilities comply with environmental regulations...”
- “Establish a network of Wild Salmonid Management Zones”

# Terminology

- **pHOS** – Proportion of Hatchery-Origin Spawners on the spawning grounds
- **PNI** – Proportionate Natural Influence
- **pNOB** – Proportion of Natural-Origin Broodstock used in an integrated hatchery program

# Segregated Hatchery Population

Hatchery and natural populations are genetically isolated



# Segregated Program Goals

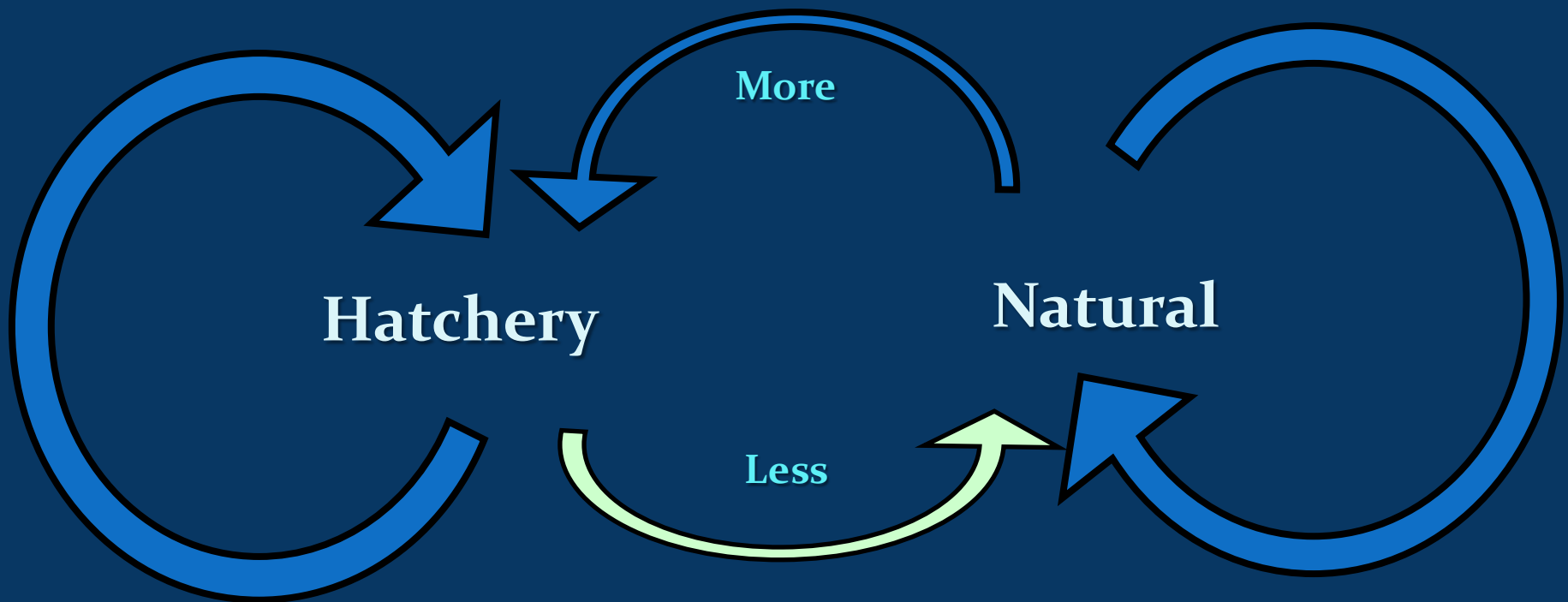
## Associated Natural Populations & pHOS GOALS

<b>Primary</b> (highly significant for recovery)	5%
<b>Contributing</b> (moderately significant for recovery)	10%
<b>Stabilizing</b> (less significant for recovery)	Current



# Integrated Hatchery Population

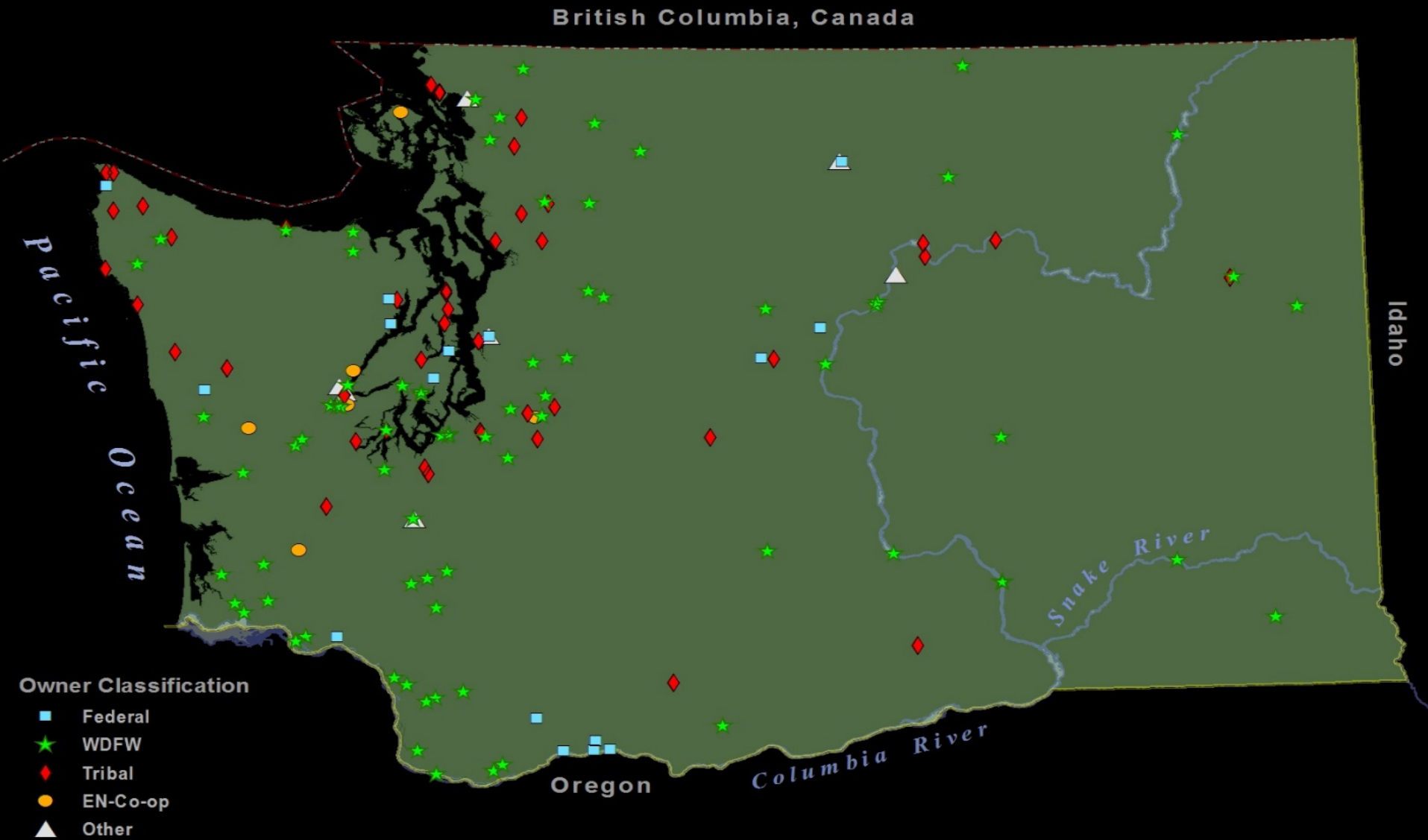
Hatchery and natural spawning populations are genetically connected



# Integrated Program Goals

Associated Natural Populations	PNI	pNOB & pHOS
Primary (highly significant for recovery)	> 67%	pNOB 70% pHOS 30%
Contributing (moderately significant for recovery)	>50%	pNOB 50% pHOS 30%
Stabilizing (less significant for recovery)	Current	pNOB = minimum 10% to avoid divergence from the natural population pHOS = current levels

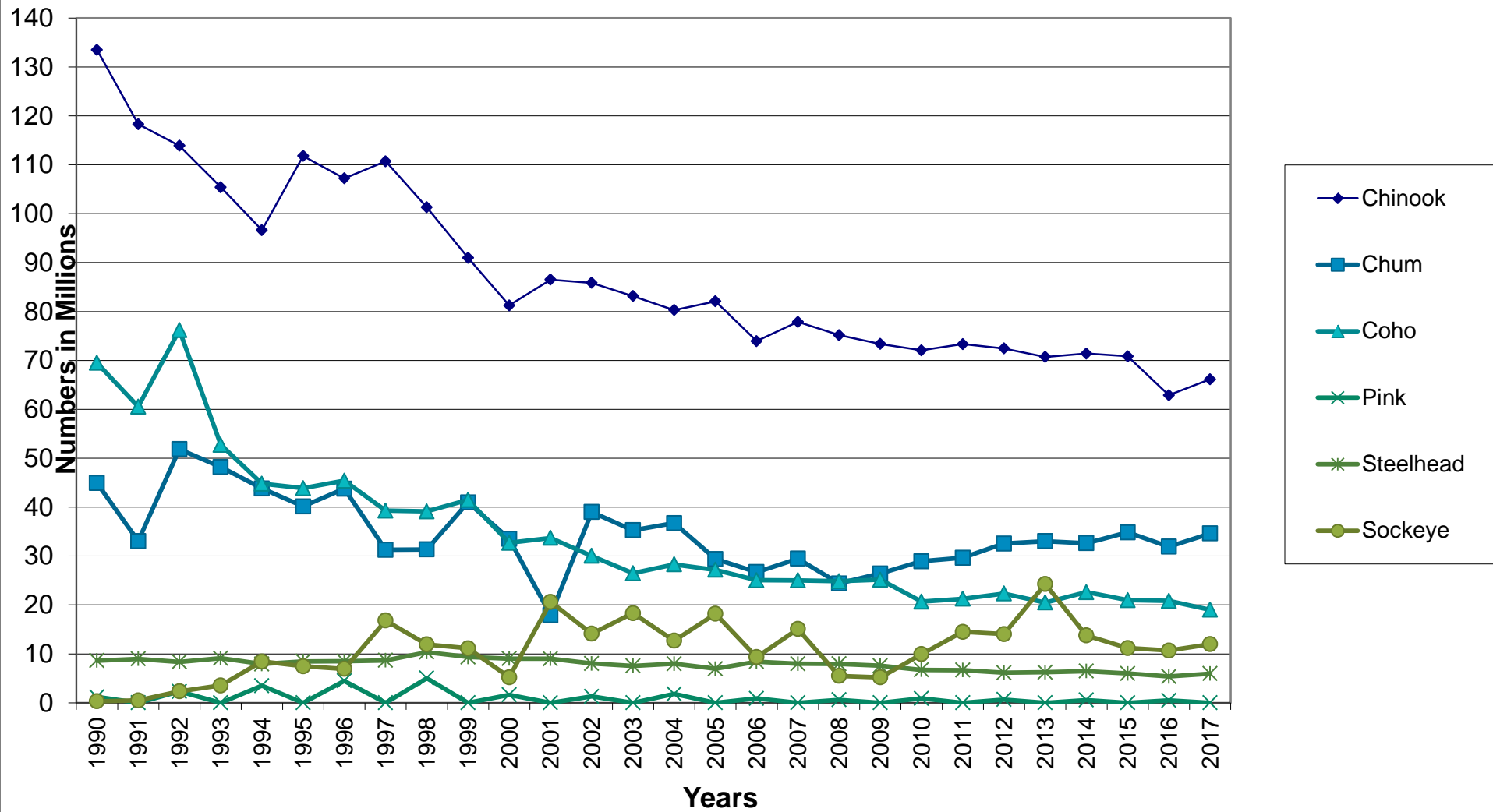
# Hatcheries in Washington



# Hatchery Stats

- ~60 Salmon and steelhead hatcheries
- ~168 Programs
- 138M Fish produced (2017)
  - 66M Chinook
  - 19M coho
  - 34.5M chum
  - 491.5K pink
  - 11.9M sockeye
  - 6M steelhead

# Washington State Department of Fish and Wildlife Hatchery Salmon Releases 1990-2017



# Current HGMP Permit Status

- 94 percent statewide have been submitted
- ~40 percent NOAA review complete
- 6 percent have not been submitted
  - 4 percent under comanager review
  - 2 percent on hold
- ~53 HGMPs statewide fully permitted













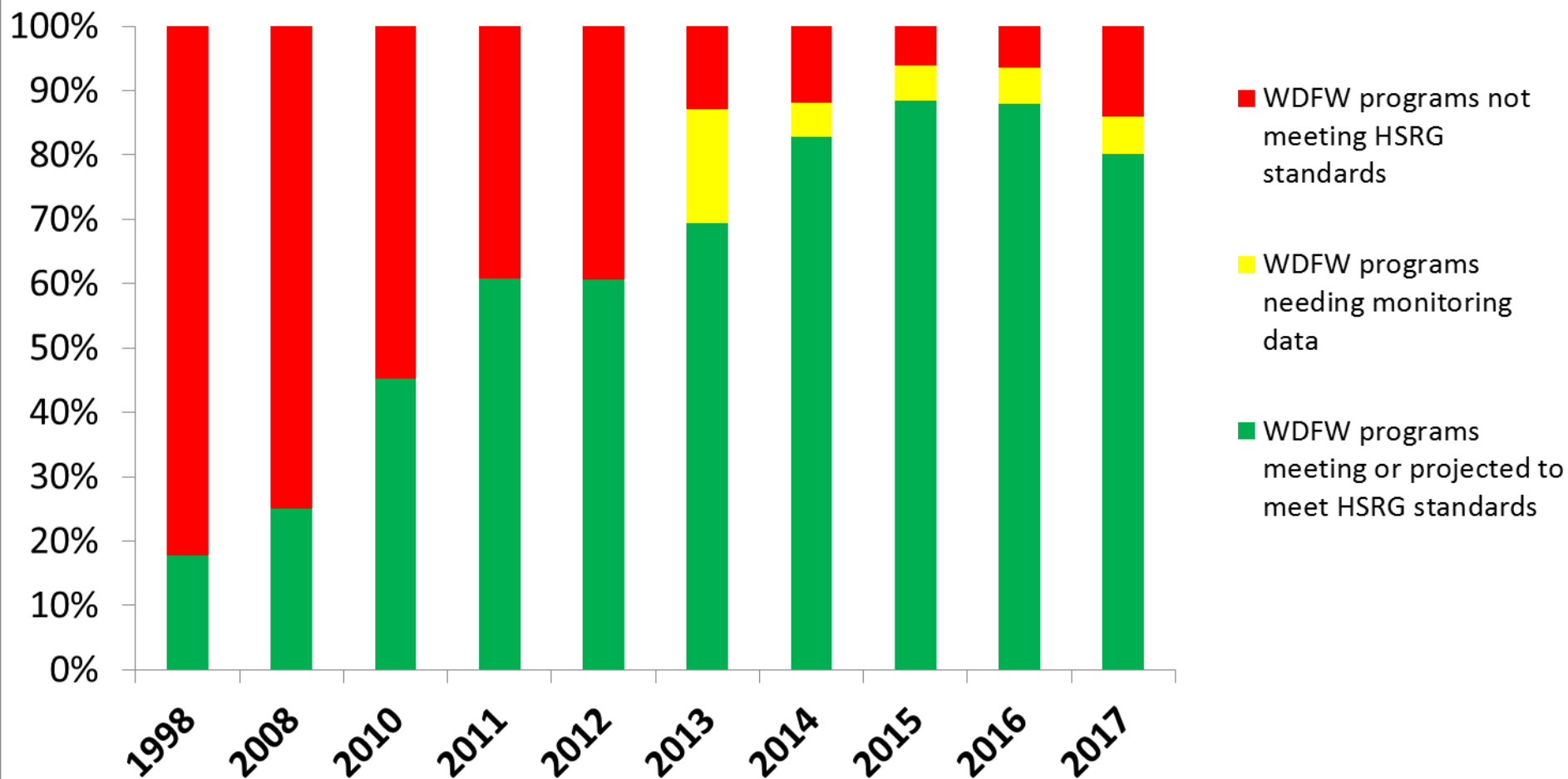






# Where are we

**WDFW Statewide Hatchery Broodstock Management Implementation  
Per FWC Pol C-3619**





# Accomplishments

- Modifications to hatchery programs
  - Reduced or eliminated programs
  - Eliminated off station plants in some areas
  - Installed weirs to capture HOS and NOB
- Secured capital funds
  - facility limitations
- Finalized and submitted 109 HGMPs statewide



# Accomplishments Con't.

- 80% of programs meeting HSRG goals
- Secured approximately 37M in funding to upgrade facilities
- Established Wild Salmonid Management Zones
  - Wind, EF Lewis, Green (Toutle)-Lower Columbia DPS
  - Grays River-SW Washington DPS
  - Sol Duc-Olympic DPS

# Future Actions

- Develop biologically based and measurable ‘triggers’ for the phases of recovery
  - Preservation, recolonization, local adaptation, full recovery
- Continue to prioritize capital budget requests
- Continue working with Science Division to develop sound M&E protocols
- Collect samples to refine gene flow/introgression/PBT data
- Establish WSMZs in Puget Sound
- Complete and submit remaining HGMPs

# Questions?

