

# 2015 Hatchery Reform Update

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# Outline

1. Key Policy Provisions
2. HSRG Concepts and Goals
3. Current Status Meeting HSRG & Policy Goals
4. Next Steps
5. Summary

# Key Policy Provisions

# 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.”

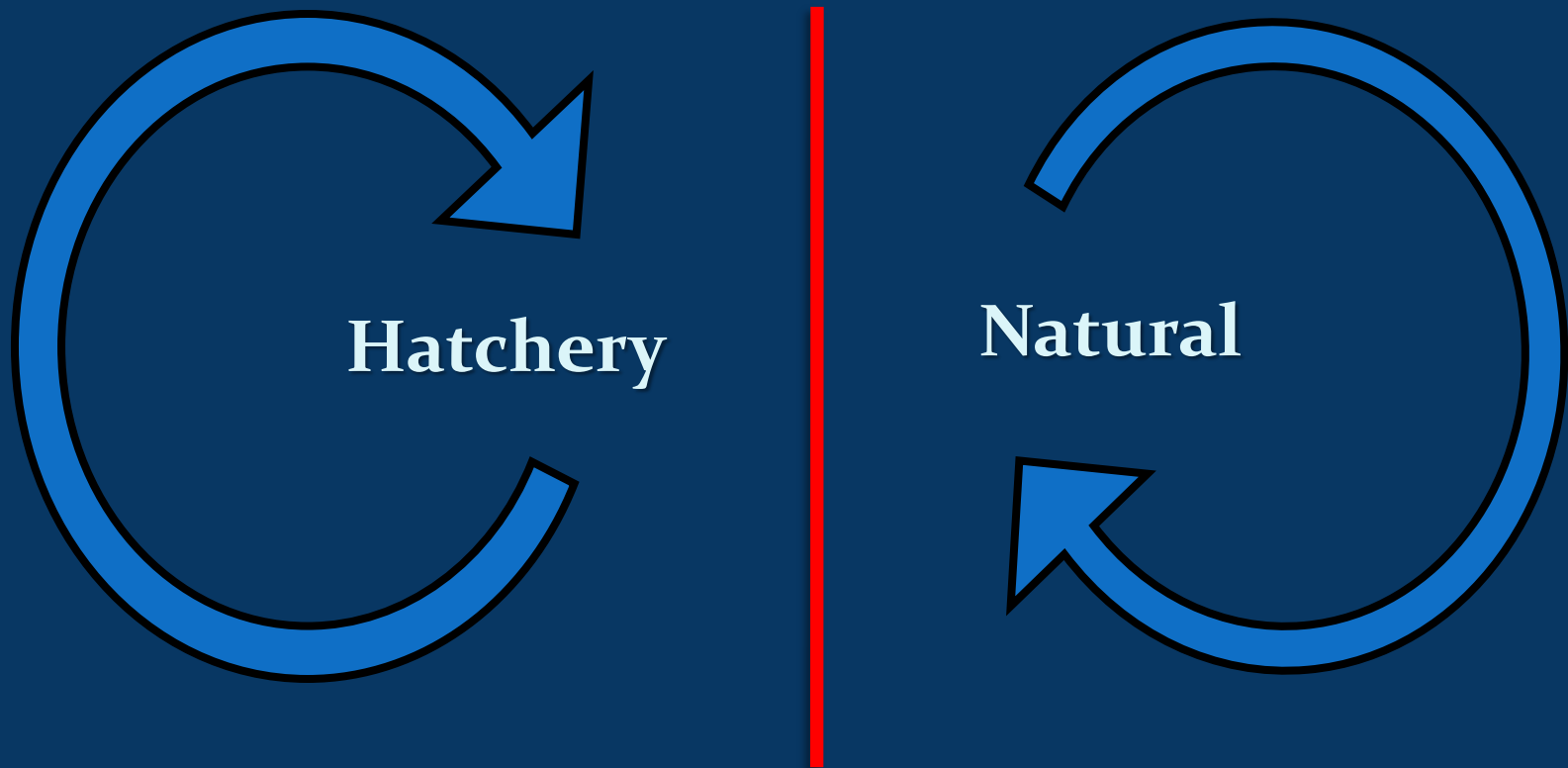
# Hatchery and Fishery Reform Policy C-3619

- “...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”

# HSRG Concepts & Goals

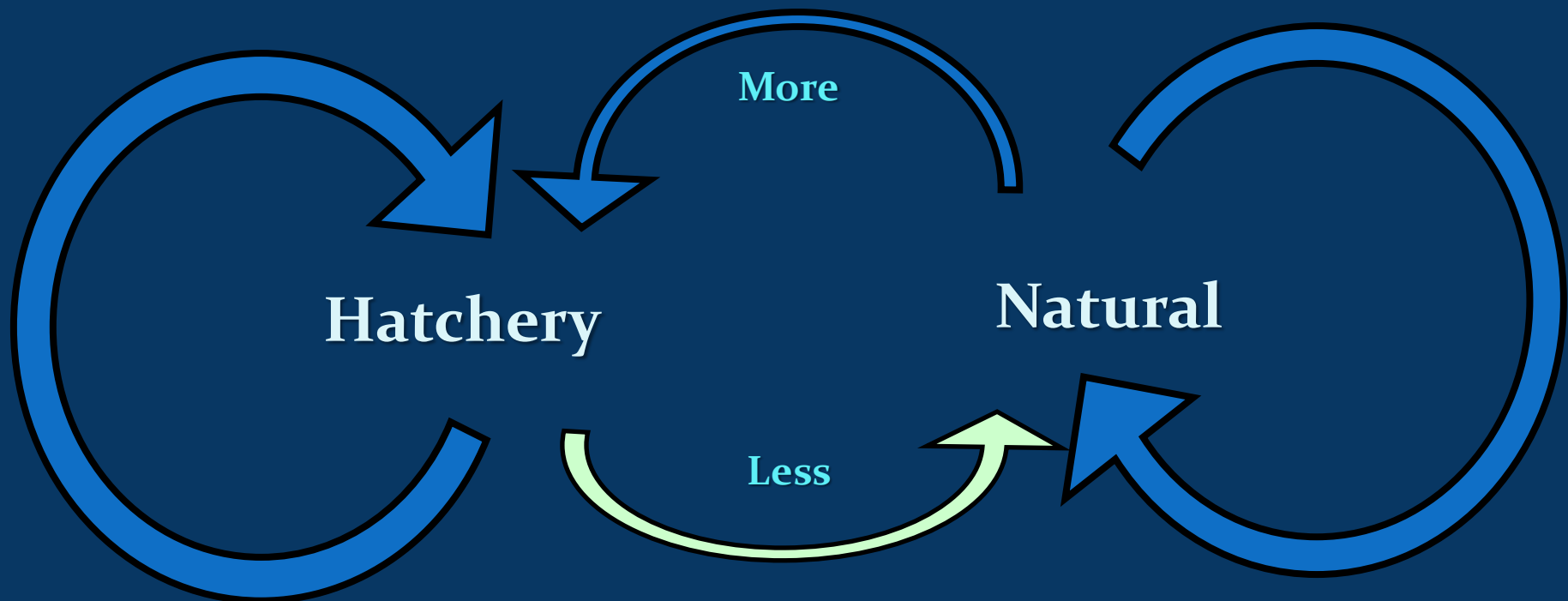
# Segregated Hatchery Population

Hatchery and natural populations are genetically isolated



# Integrated Hatchery Population

Hatchery and natural spawning populations are genetically connected





# Terminology

Used to estimate the direction and amount of gene flow:

- **PNI** – Proportionate Natural Influence

$$PNI = pNOB / (pNOB + pHOS)$$

- **pNOB** – Proportion of Natural-Origin Broodstock used in an integrated hatchery program
- **pHOS** – measure of Hatchery-Origin fish on the spawning grounds – **three methods**

# Terminology Continued

- **pHOS census** – Percent of Hatchery-Origin fish on the spawning grounds – rough estimate
- **pHOS effective** – Estimated percent of Hatchery-Origin fish on the spawning grounds that actually reproduce returning adults – better estimate
- **PEHC** – Proportion Effective Hatchery Contribution – Actual measurement of gene flow through the use of genetic techniques, best estimate

# 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

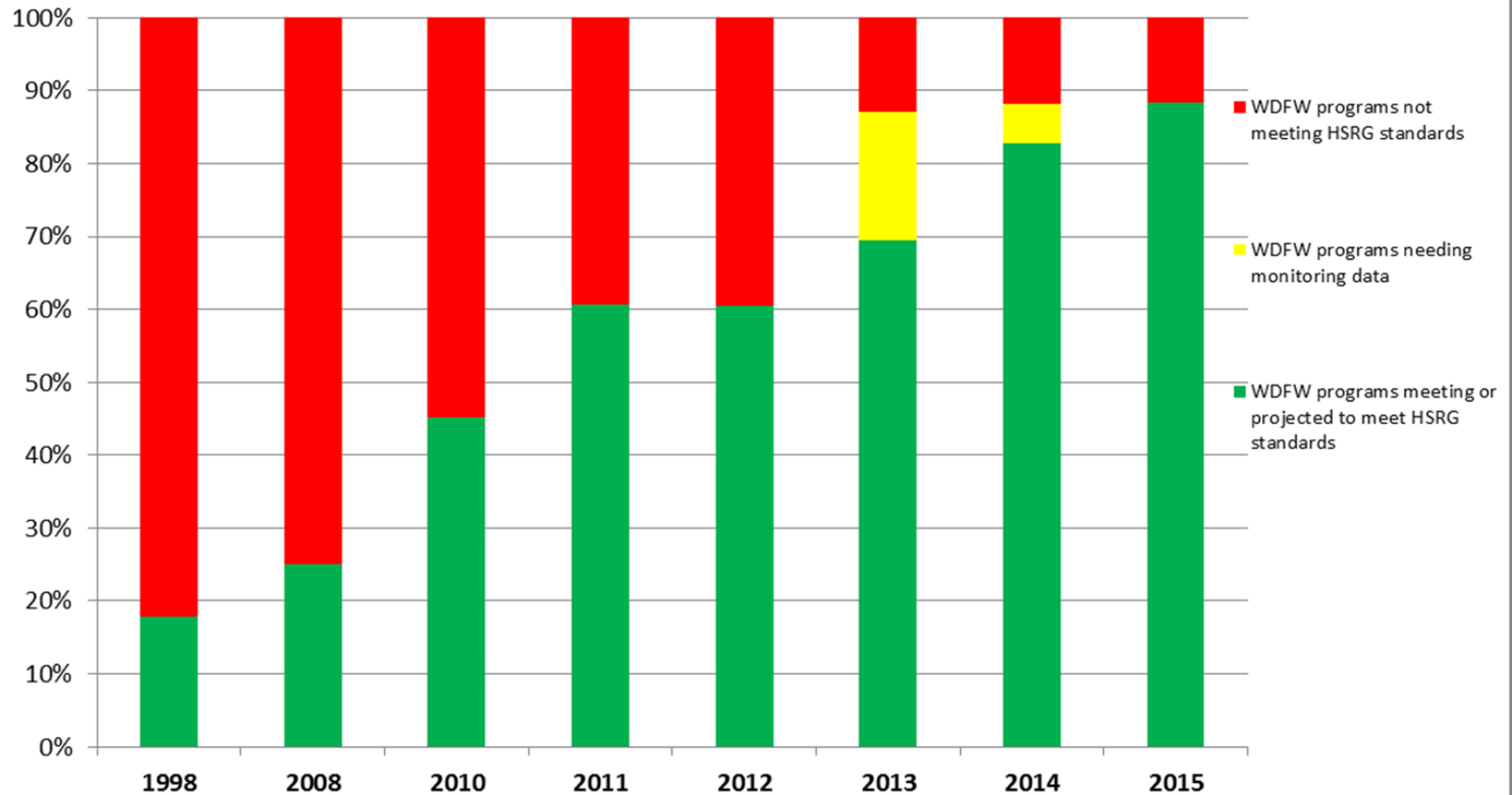
# Integrated Program Goals

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

# Current Status

# HSRG Broodstock Standards

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



# What We Have Accomplished

- Modifications to hatchery programs
  - Reduced programs
  - Eliminated hatchery programs
  - Integrating hatchery programs
- Secured capital funds to address facility limitations in order to meet benchmarks described in the 21st Century Salmon and Steelhead Framework
- Held policy compliance strategy meetings with Regional Fish Program Managers
- Established Wild Salmonid Management Zones in LCR and are working on identifying in PS
- Finalized and submitted 102 Hatchery and Genetic Management Plans (HGMPs) statewide

# Current Permit Status

- 13 HGMPs have been approved by NOAA
- Approximately 25 HGMPs have Letters of Sufficiency from NOAA
- 88 under NOAA review, 24 out of 88 are being updated based on NOAA comments (mainly LCR), 10 still under comanager or operator negotiation, 5 on hold
- Consulting with USFWS on bull trout



# Next Steps

# Future Actions

- Develop biologically based and measurable ‘triggers’ with Regional staff to move the remaining conservation based programs toward HSRG standard compliance
- Continue to prioritize capital budget requests to address facility limitations in order to meet benchmarks described in the 21<sup>st</sup> Century Salmon and Steelhead Framework
  - Working with Habitat to develop criteria for evaluating screens and intakes (field work beginning this summer)

# Future Actions

- Monitoring and Evaluation
  - Continue working with Science to develop sound M&E protocols and work to evaluate Relative Reproductive Success of hatchery fish
  - Collect samples to refine gene flow/introgression data
  - Establish WSMZs in Puget Sound by completing Public Meeting schedule currently underway and select WSMZ candidates by 2016
  - Complete and submit remaining HGMPs

# Summary

# Policy Provisions

“...work *toward* a goal of achieving the HSRG broodstock standards for 100% of the hatchery programs by 2015.”

88% of programs meeting broodstock management goals

# Policy Provisions

“Secure necessary funding to ensure that Department-operated hatchery facilities comply with environmental regulations...”

Secured approximately 37M in funding to upgrade facilities

# Policy Provisions

“Establish a network of Wild Salmonid Management Zones”

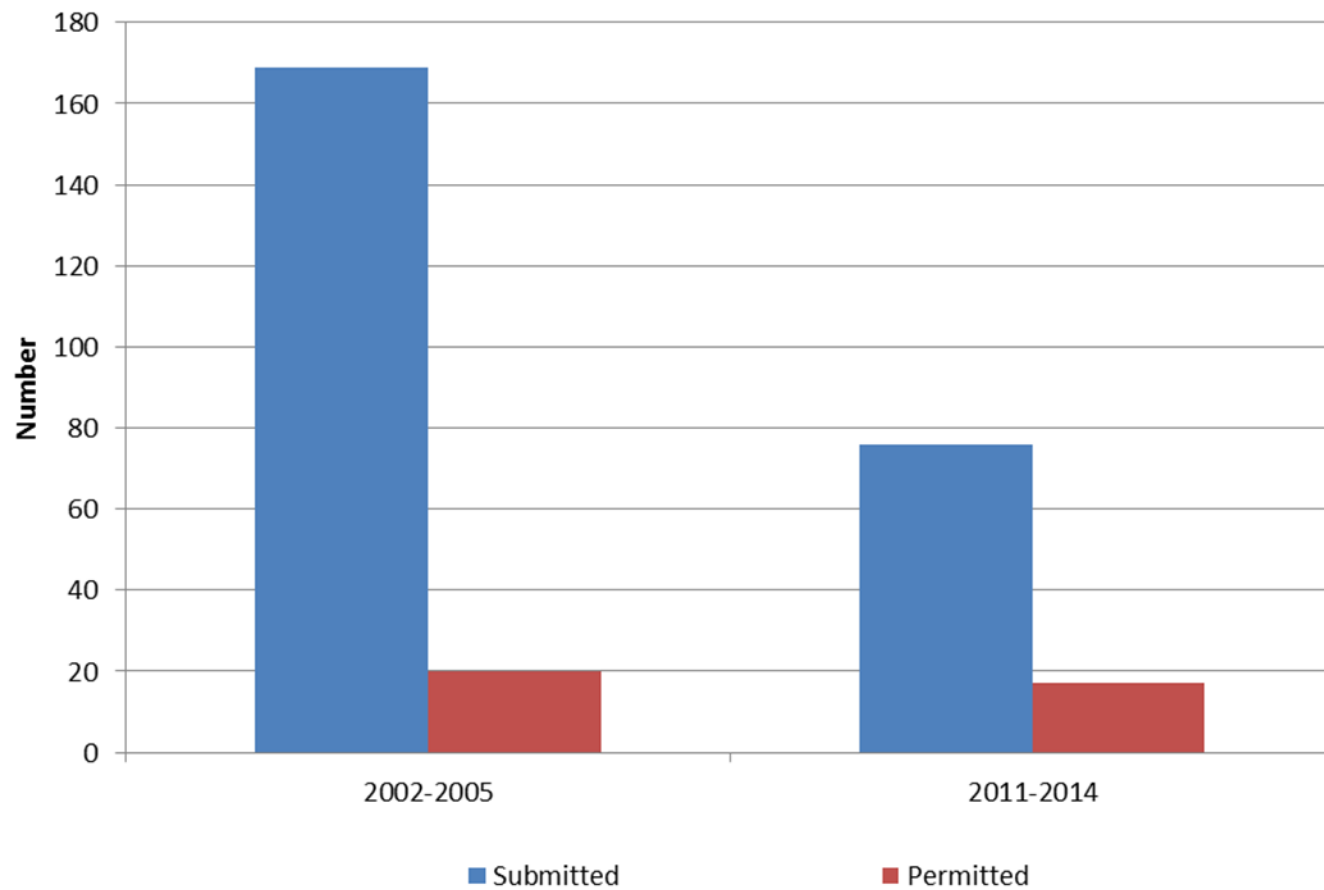
Wild Salmonid Management Zones have been designated in the LCR and are being identified through public process in Puget Sound

# Questions?

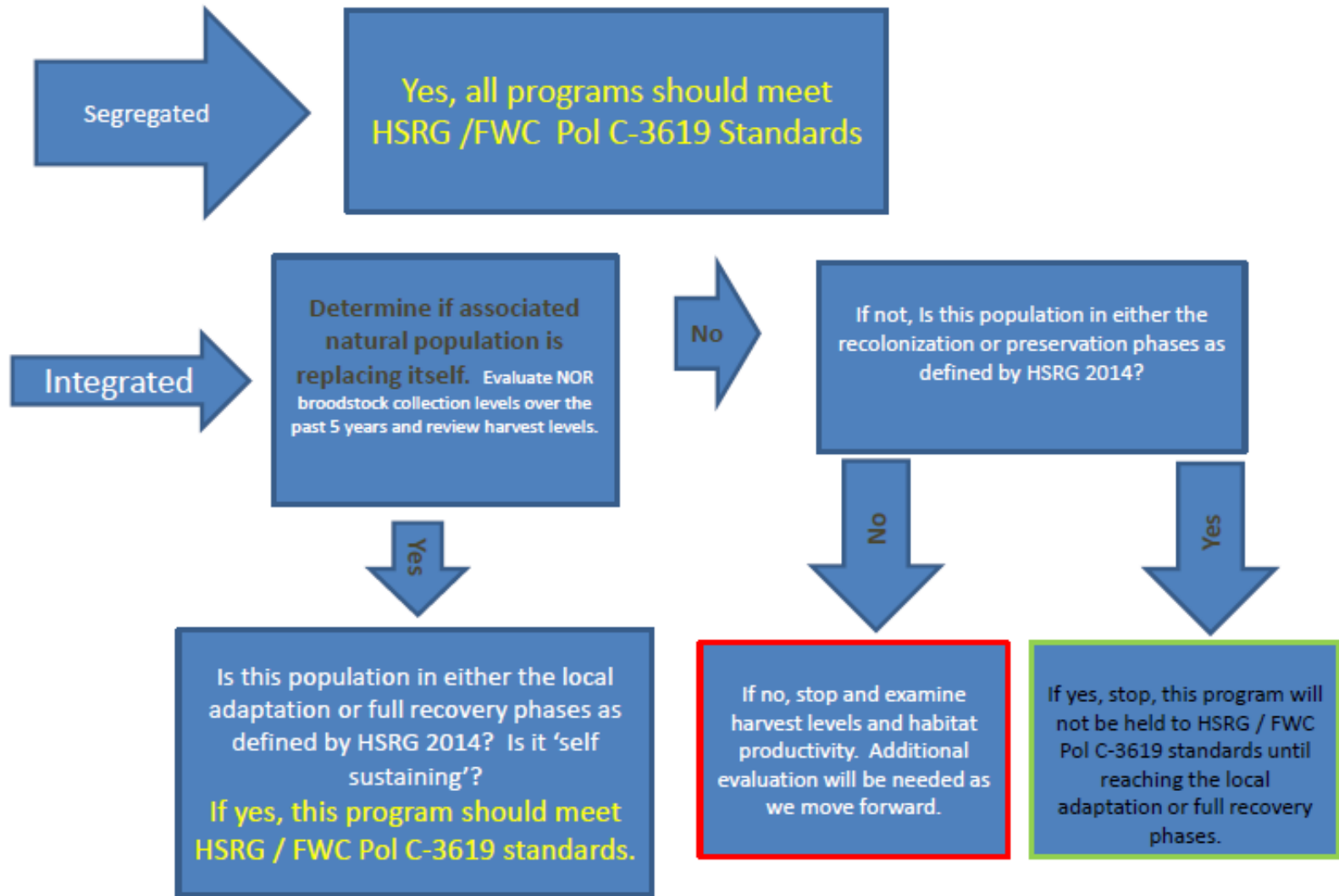




## Number of HGMP's Submitted to NMFS 2002 to 2014



# Recovery Phase Exercise Step One



# Recovery Phases Per HSRG 2014

Natural Population		Hatchery Program Purpose			
Designation	Status	Seg.Harv	Int. Harv	Cons+Harv	Cons. Only
Primary	Fully Restored	pHOS<5%	PNI>0.67	PNI>0.67	
	Local Adapt.	pHOS<5%	PNI>0.67	PNI>0.67	PNI>0.67
	Re-coloniz.	pHOS<5%	Not Specified	Not Specified	Not Specified
	Preservation	pHOS<5%	Not Specified	Not Specified	Not Specified
Contrib	Fully Restored	pHOS<10%	PNI>0.50	PNI>0.50	
	Local Adapt.	pHOS<10%	PNI>0.50	PNI>0.50	PNI>0.50
	Re-coloniz.	pHOS<10%	Not Specified	Not Specified	Not Specified
	Preservation	pHOS<10%	Not Specified	Not Specified	Not Specified
Stabil.	Fully Restored	Current conditions	Current conditions	Current conditions	
	Local Adapt.	Current conditions	Current conditions	Current conditions	Current conditions
	Re-coloniz.	Current conditions	Current conditions	Current conditions	Current conditions
	Preservation	Current conditions	Current conditions	Current conditions	Current conditions