

Hatchery Reform Measures

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Puget Sound Wild Steelhead Gene Banks
Educational Workshop
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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.”

and

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

Statewide Steelhead Management Plan

- The Hatchery Reform Project is a systematic science-driven redesign of our hatchery system to achieve two goals:
 - 1) Conserve naturally spawning populations
 - WSGB
 - 2) Support sustainable fisheries

Terms

pNOB = % Natural Origin fish in the hatchery broodstock

pHOS = % Hatchery Origin fish on the spawning grounds

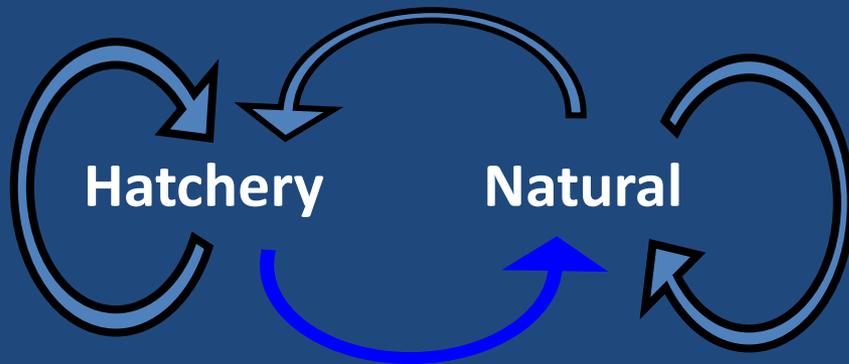
PNI = Proportionate Natural Influence
$$\text{pNOB}/(\text{pNOB}+\text{pHOS})$$

Genetic *Integration* or *Segregation*

Integrated Broodstock

Goal: *One population,*
Minimize genetic divergence

(Natural-origin fish in broodstock)

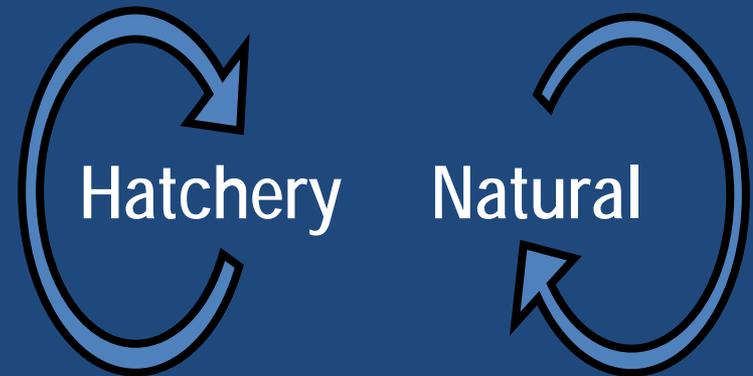


One gene pool

Segregated Broodstock

Goal: *Two populations,*
Allow genetic divergence

(Only Hatchery fish in broodstock)



Two gene pools

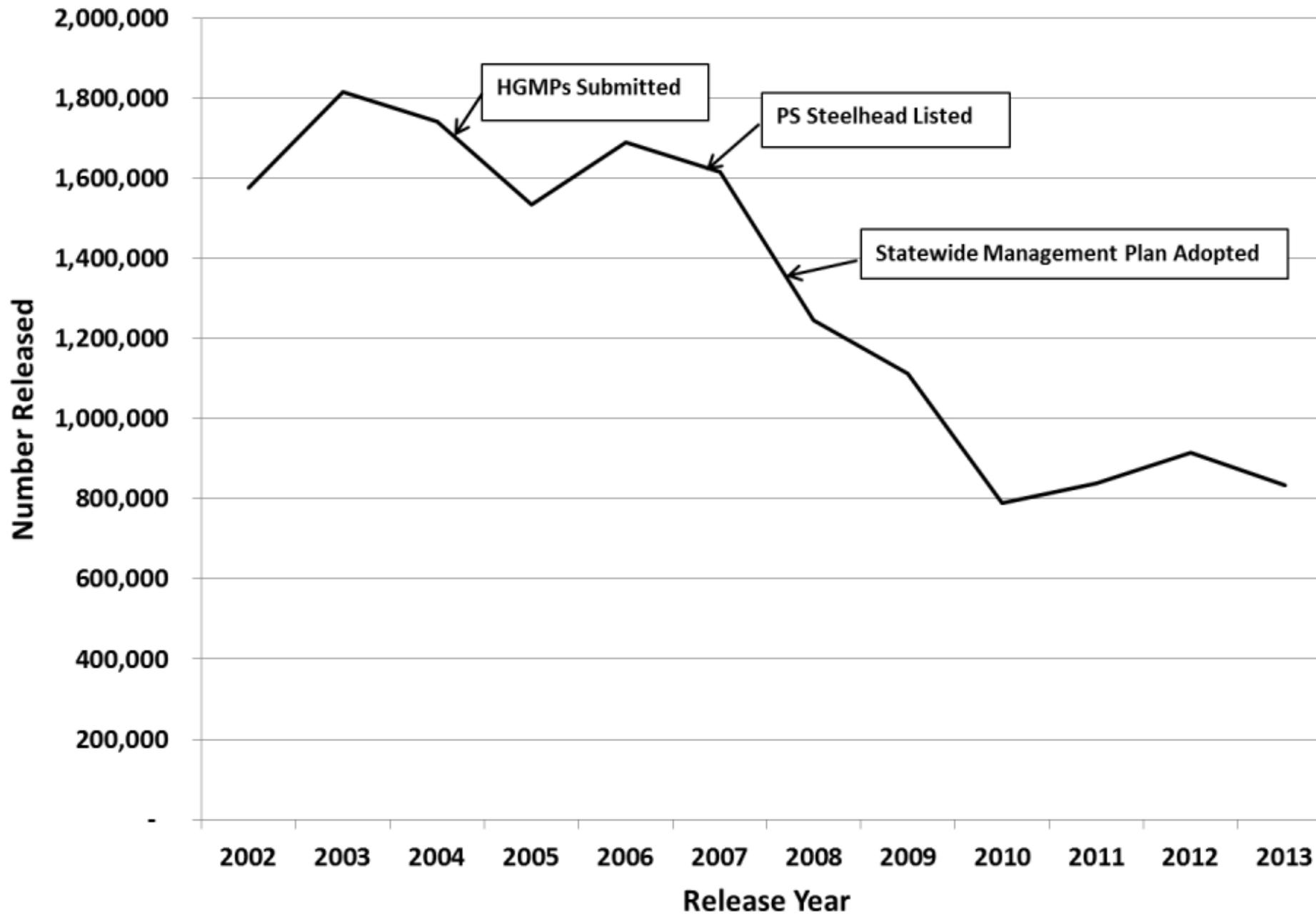
Segregated Program Goals

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

Integrated Program Goals

	PNI	pNOB & pHOS
Primary	> 67%	pNOB = 70% pHOS = 30%
Contributing	> 50%	pNOB = 50% pHOS = 30%
Stabilizing	Current	pNOB = minimum 10% to avoid divergence from the natural pHOS = current levels

Early Winter Steelhead Releases



Risk Reduction Measures

- >50% reduction in hatchery releases since '05
- > 65% reduction in release location since '08
- Elimination of cross-basin transfers, off-station releases, adult recycling, and fry releases into anadromous waters
- Volitional smolt releases to minimize interaction with natural origin fish
- Hatchery broodstock collection by January 31 to enhance separation between hatchery and natural origin fish
- Established wild steelhead gene banks
- Genetic monitoring of hatchery strays into natural spawning areas

Questions