

**NOAA**  
FISHERIES


# Impacts *Hatchery*

Columbia Basin Partnership Task Force  
June 2019


MAFAC CBP TASK FORCE

## Hatchery Impact

% reduction in natural productivity  
due to hatchery straying &  
interactions

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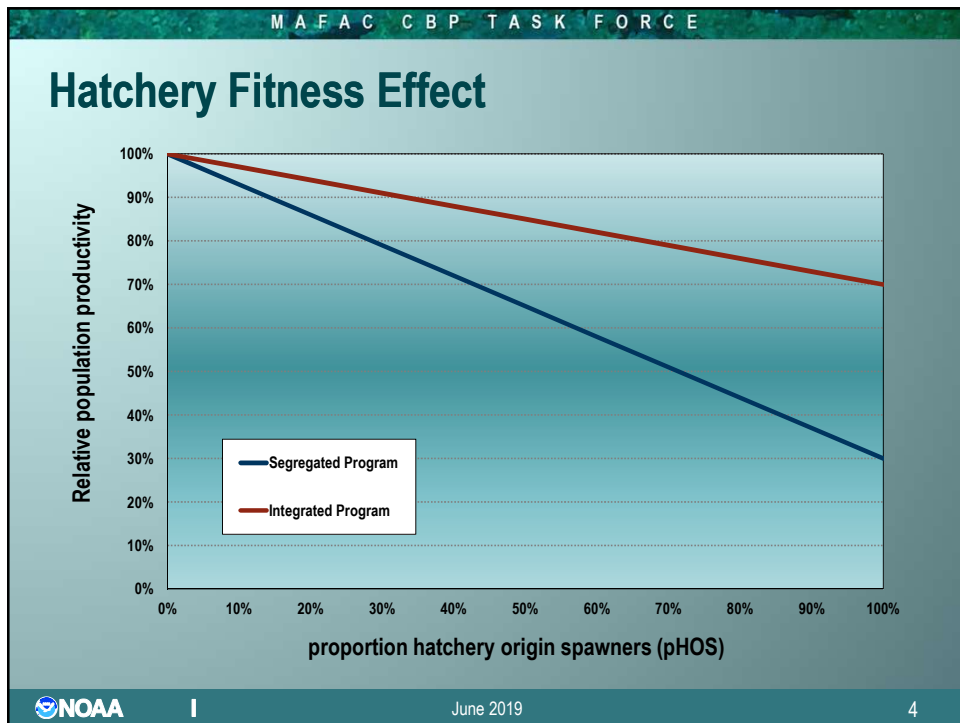
**ON THE SCIENCE OF HATCHERIES**  
An updated perspective on the role of hatcheries in salmon and steelhead management in the Pacific Northwest  
June 2014

Equilibrium Point

Hatchery selective forces ← → Natural selective forces

Hatchery Optimum      Natural Optimum

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**Included:**

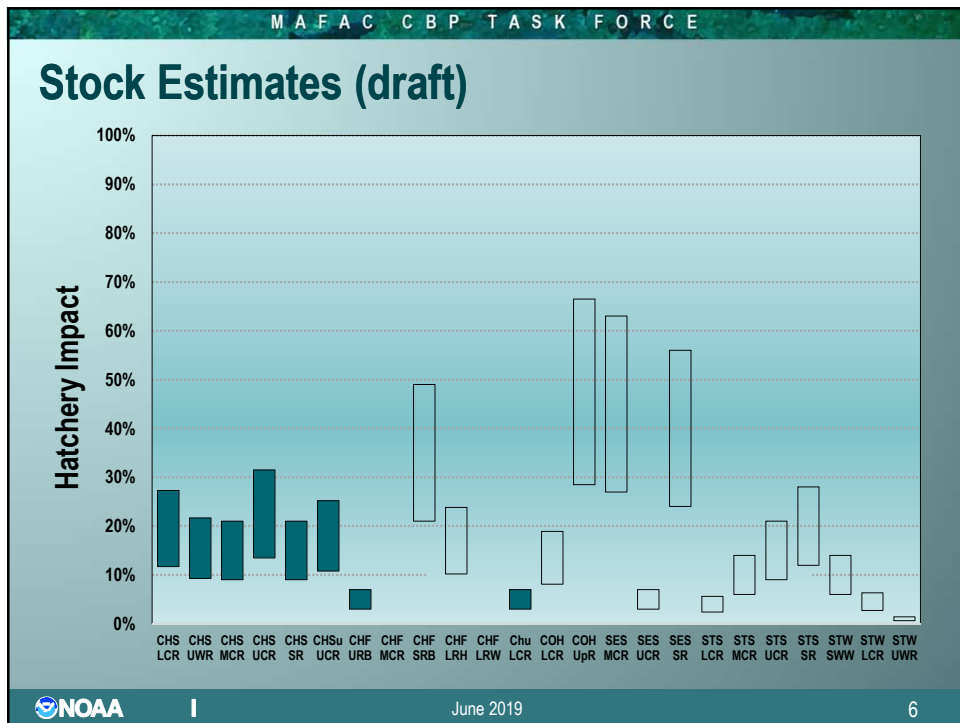
- Number of Hatchery “Strays” (-)
- Genetic Composition of Hatchery Fish (-)

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**Not included:**

- Legacy Effects (-)
- Freshwater Competition (-)
- Predation (-)
- Disease Transmission (-)
- Out-of-basin Interactions (-)
- Supplementation Benefits (+)
- Reintroduction Benefits (+)
- Mitigation Needs (+)

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Example Actions

<b>Management Strategy</b>	<ul style="list-style-type: none"> <li>Program Elimination</li> <li>Production Limits</li> <li>Broodstock Integration</li> <li>Segregation</li> <li>Refuge Areas</li> </ul>
<b>In-Hatchery Practices</b>	<ul style="list-style-type: none"> <li>Limit Brood Transfers</li> <li>Factorial Mating</li> <li>Fish Health</li> <li>Natures Rearing</li> </ul>
<b>Release Practices</b>	<ul style="list-style-type: none"> <li>Acclimation</li> <li>Volitional Release</li> <li>Release size and time</li> </ul>
<b>Limit Contribution</b>	<ul style="list-style-type: none"> <li>Increase Natural Production</li> <li>Exclusion Weirs</li> <li>Hatchery Selective Fisheries</li> </ul>

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