Southern Oregon Northern California Coast coho salmon

Hatchery Program Assessment

Lance Kruzic

Shirley Witalis

Southern Oregon Northern California Coast coho ESU

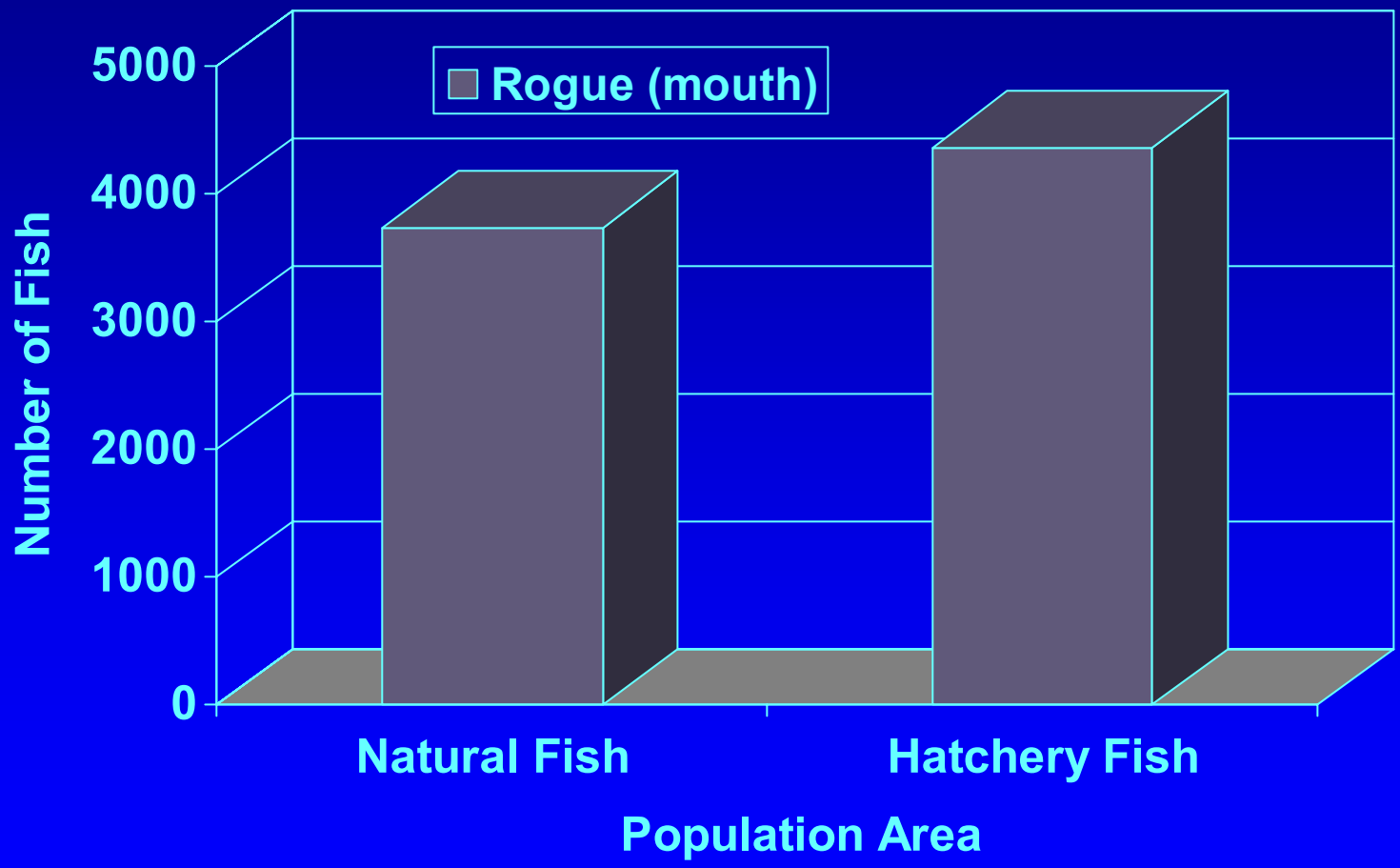
- SONCC coho included in the ESU
  - Rogue natural fish and Cole Rivers hatchery program
  - Klamath natural fish and Iron Gate hatchery program
  - Trinity natural fish and Trinity hatchery program
  - Several other natural populations in OR and CA.
- SONCC coho NOT included in the ESU
  - None

SONCC Coho ESU

Population area (hatchery stock)	Isolated or integrated	Program type	Purpose	Production goal	In operation since
Artificial Propagation Programs that Produce Fish Included in ESU					
Rogue (Cole Rivers)	Integrated	Smolt	Mitigation	200,000	28
Klamath (Iron Gate)	Integrated	Smolt	Mitigation	75,000	39
Trinity (Trinity)	Integrated	Smolt	Mitigation	500,000	44

ESU SUMMARY:

Population Area Abundances



Estimated mean number of fish 1980-2003.

"The effects of hatchery fish on the likelihood of extinction of an ESU, depend on how hatchery fish affect four key attributes"

Viable Salmon Populations

Abundance

Productivity

Spatial Structure

Diversity

Effect on Abundance

- Some benefit of the hatchery stocks that are included in the ESU on the total abundance of 3 populations.
- Few hatchery fish spawning naturally in some rivers. Trinity River dominated by naturally spawning hatchery fish.
- The hatchery programs included in the ESU could be a “reserve” for future recovery or reintroduction efforts.

Effect on Productivity

- Little to no benefit on the productivity of the ESU from hatchery fish.
- Only three rivers throughout the ESU have hatchery program influences.
- Natural runs depressed throughout ESU (not just where hatchery programs exist).

Effect on Spatial Structure

- Little to no effect of the hatchery programs on the spatial structure of the ESU as a whole.
- Some populations negatively affected by the operation of hatchery facilities and weirs.
- Most populations not affected at all by coho hatcheries.

Effect on Diversity

- Little to no benefit of the current hatchery programs on the diversity of the ESU as a whole.
- Some programs incorporating natural fish into broodstocks (beneficial).
- For two hatchery programs, is not known the degree natural fish have been incorporated into the broodstocks.

Effect of Artificial Propagation on VSP Attributes SONCC Coho Salmon

Viability Criteria	BRT VSP Risk Score	Decreases Risk	Neutral or Uncertain	Increases Risk
Abundance	3.8	√		
Productivity	3.5		√	
Spatial Structure	3.1		√	
Diversity	2.8		√	

Recommendation: No Change to BRT's Finding

What is the biological status of the ESU in total (including hatchery stocks/populations, mixed populations, and natural populations)?

SONCC coho	Biological Status for the ESU in-total		
	"in danger of extinction throughout all or a significant portion of its range"	"likely to become endangered within the foreseeable future throughout all or a significant portion of its range"	Neither "in danger of extinction…" or "likely to become endangered…"
BRT's findings for the ESU natural components	22%	67%	11%
Workshop consensus finding			