

# Development of the Lower Snake River Compensation Plan: A Brief History

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# Purpose of the LSRCP

To provide the number of salmon and steelhead needed in the Snake River system to help maintain commercial and sport fisheries for anadromous species on a sustaining basis in the Columbia River and Ocean (NMFS & FWS 1972)

# LSRCP Steelhead Goal

- Escapement prior to construction estimated to be 114,800.
- Loss based on 15% mortality of smolts at each dam for a total mortality of 48%.
- Estimated number lost adults in escapement = 55,100.
- This established adult return goal back to project area.
- Other than broodstock for hatcheries, no other use of returning fish identified.

# Fishery Mitigation Impacts

- Assumed a 2:1 catch to escapement ratio.
- $2 \times 55,100 = 110,200$  lost harvest.
- 34 % of lost harvest to commercial fisheries, primarily in mainstem Columbia = 37,000.
- 66% of lost harvest to sport fisheries = 73,200
- 130,00 angler days of effort in the Project Area.

# Hatchery Development Plan

- Desire to replace lost steelhead back to the watersheds where loss occurred.

Drainage	Washington	Oregon	Idaho
Snake River	2,208	1,368	1,368
Clearwater River			20,736
Tucannon	1,632		
Asotin	816		
Grande Ronde River		7,632	
Imnaha River		1,920	
Salmon River			16,896
Small tributaries		264	264
Total by State	4,656	11,184	39,264
Program Total	55,104		
Percent of Program	8.4%	20.3%	71.3%

# Hatchery Production Assumptions

<b>Adult Escapement loss</b>	<b>55,100</b>
<b>Estimated smolt to adult survival rate back to Lower Granite Dam after harvest</b>	<b>0.5</b>
<b>Estimated number of smolts that would have to be produced</b>	<b>11,020,000</b>
<b>Target size of smolts in fish per pound</b>	<b>8</b>
<b>Target number of pounds of smolts to be produced</b>	<b>1,377,500</b>
<b>Estimated percent survival from eggs to smolt</b>	<b>65%</b>
<b>Estimated number of eggs needed</b>	<b>16,950,000</b>

# The Hatcheries & Satellite Facilities

<b>Primary Rearing Facility (Operator)</b>	<b>Pounds of smolt</b>	<b>Associated Facilities</b>
<b>Irrigon (ODF&amp;W)</b>	<b>279, 600</b>	<b>Wallow, Big Canyon and Little Sheep Creek</b>
<b>Lyons Ferry (WDFW)</b>	<b>116,400</b>	<b>Tucannon Hatchery, Dayton Pond, Cottonwood Pond, Curl Lake</b>
<b>Hagerman National (FWS)</b>	<b>340,000</b>	<b>Sawtooth Hatchery, East Fork</b>
<b>Clearwater (IDFG)</b>	<b>350,000</b>	<b>Red, River, Crooked River</b>
<b>Magic Valley (IDFG))</b>	<b>291,500</b>	<b>Sawtooth</b>

# Funding

- 1975: COE Report - Operations & maintenance funded through future appropriations.
- 1977: COE, FWS & NMFS sign agreement that FWS will administer the program.
- COE determined 100% of benefits are assigned to generating electric power.
- BPA, as marketer of power, must reimburse treasury for all costs, including construction.
- 2001: FWS & BPA agree to a direct funding agreement that sets stage for new partnership.



# Decades of Dynamic Change

- Assumptions used to size program not realized & flow of benefits has shifted.
- Survival rate of smolts less than assumed.
- ESA listing of steelhead has resulted in curtailment of fisheries & higher percent of returning adults to & above project area.
- U.S. vs. OR Management Plan & ESA has diversified programs in response to conservation concerns for wild stocks.