

# Lower Snake River Compensation Plan ISRP and M&E Updates - 2025



*Chinook Salmon*  
*Oncorhynchus tshawytscha*

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## Rod Engle USFWS-LSRCP



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# Rod's ISRP Updates and M&E Presentation



- ISRP Reviews
- Program Performance and a Mystery Solved?!
- Fish Hatchery Infrastructure and Vulnerability Analysis
- Structured Decision Making
- FINS
- Know Your Program



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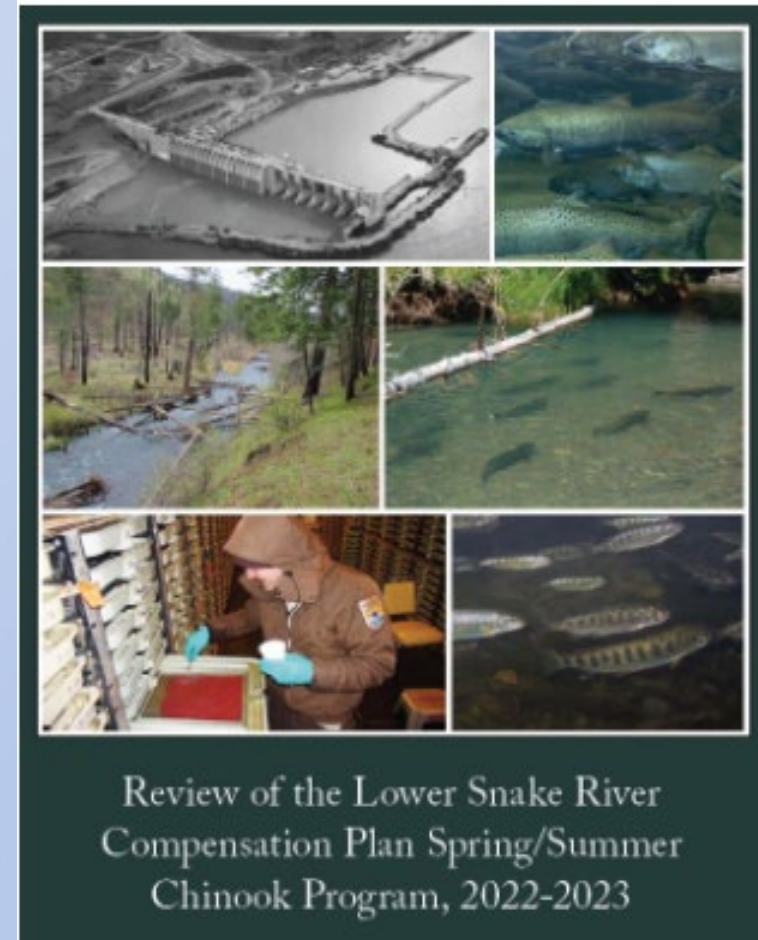


# ISRP Reviews of LSRCP Programs

## Spring/Summer Chinook Review 2022 (n=12)

<https://www.nwcouncil.org/reports/isrp2023-01/>

1. Consider adaptive changes to meet adult return goals and smolt survival objectives
2. Enhance the monitoring and evaluation of benefits and risks of supplementation and increase emphasis on ESA considerations
3. Reduce straying of Grande Ronde hatchery fish into the Minam and Wenaha rivers
4. Consider density dependence in supplementation and for future production increases
5. Modify programs to address early age-at-maturity and decreased representation of age-five adults across the LSRCP program
6. Conduct a program-wide assessment to identify factors influencing in-river smolt survival, SARs, and early age-at-maturity



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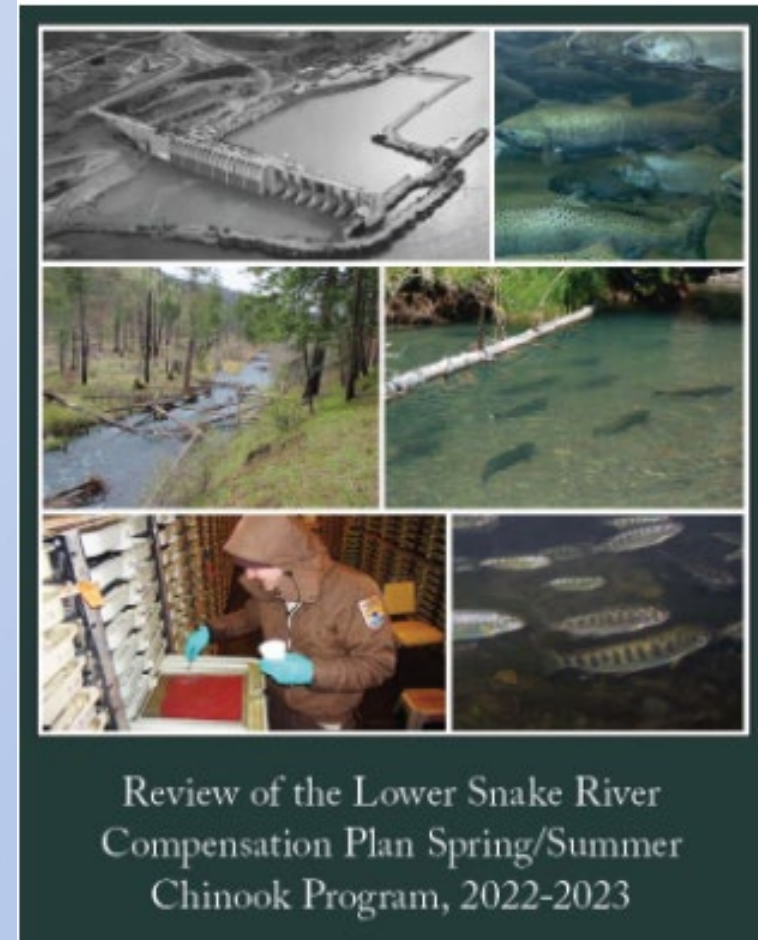


# ISRP Reviews of LSRCP Programs

Spring/Summer Chinook Review 2022 (n=12)

<https://www.nwcouncil.org/reports/isrp2023-01/>

7. Implement actions to better achieve tribal harvest share (50%) and incorporate Indigenous Knowledges
8. Complete the proposed climate change assessments for existing and new facilities on an expedited schedule and consider impacts on post-release survival
9. Expand structured decision making and adaptive management
10. Improve centralized access to methods, indicators, and metadata for performance assessments
11. Use consistent methods for all metrics and for inclusion of jacks in SARs, adult returns, recruits-per-spawner, and LSRCP mitigation goals assessments
12. Incorporate additional metrics into the comprehensive LSRCP objectives and performance metric assessment table



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# ISRP Reviews of LSRCP Programs

## Steelhead Review 2025 (07/2025 Final Report)

- Small supplementation programs
  - East Fork Salmon
  - Little Sheep Creek
  - Touchet River Endemics
- Structured decision making
- Tribal and Sport harvest metrics
- Infrastructure and FHIVA



*Image from IDFG – Matt Gibson*

## Snake River Fall Chinook 2027



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# LSRCP Program Goals and Harvest Objectives

Species	Project Area Goals	Coastwide Harvest Objectives	Total Adults (Goals + Objectives)
Fall Chinook	18,300	73,200	91,500
Spring/Summer Chinook	58,700	234,800	293,500
Steelhead	55,100	110,200	165,300
Rainbow Trout	86,000 pounds stocked		



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Table 1. Computation of Lower Snake River Compensation Measures from COE (1975) and modified from Herrig (1990) to include trout. Year, or years, of maximum counts at McNary Dam between 1954-67 are provided in parentheses. Trout mitigation was specific to the State of Washington for lost fishing opportunity due to inundation from the projects. A higher percent passage (68%) for fall Chinook salmon was observed during the passage period but was discounted by the fisheries agencies (Herrig 1990).

	Fall Chinook Salmon (1958)	Spring-Summer Chinook Salmon (1957)	Steelhead Trout (1962-63)	Trout
McNary Dam Count	97,500	222,100	172,600	
Ice Harbor Dam Maximum Percent Passage (1962-67)	33.5%	55%	66.5%	
Estimated Snake River Pre-Project Run	32,663	122,200	114,800	
Lower Snake River Compensation Goals	18,300	58,700	55,100	86,000 pounds into local waters (WA-79,800, ID- 6,200).



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# Columbia River Salmon and Steelhead abundance over time: late 1800s

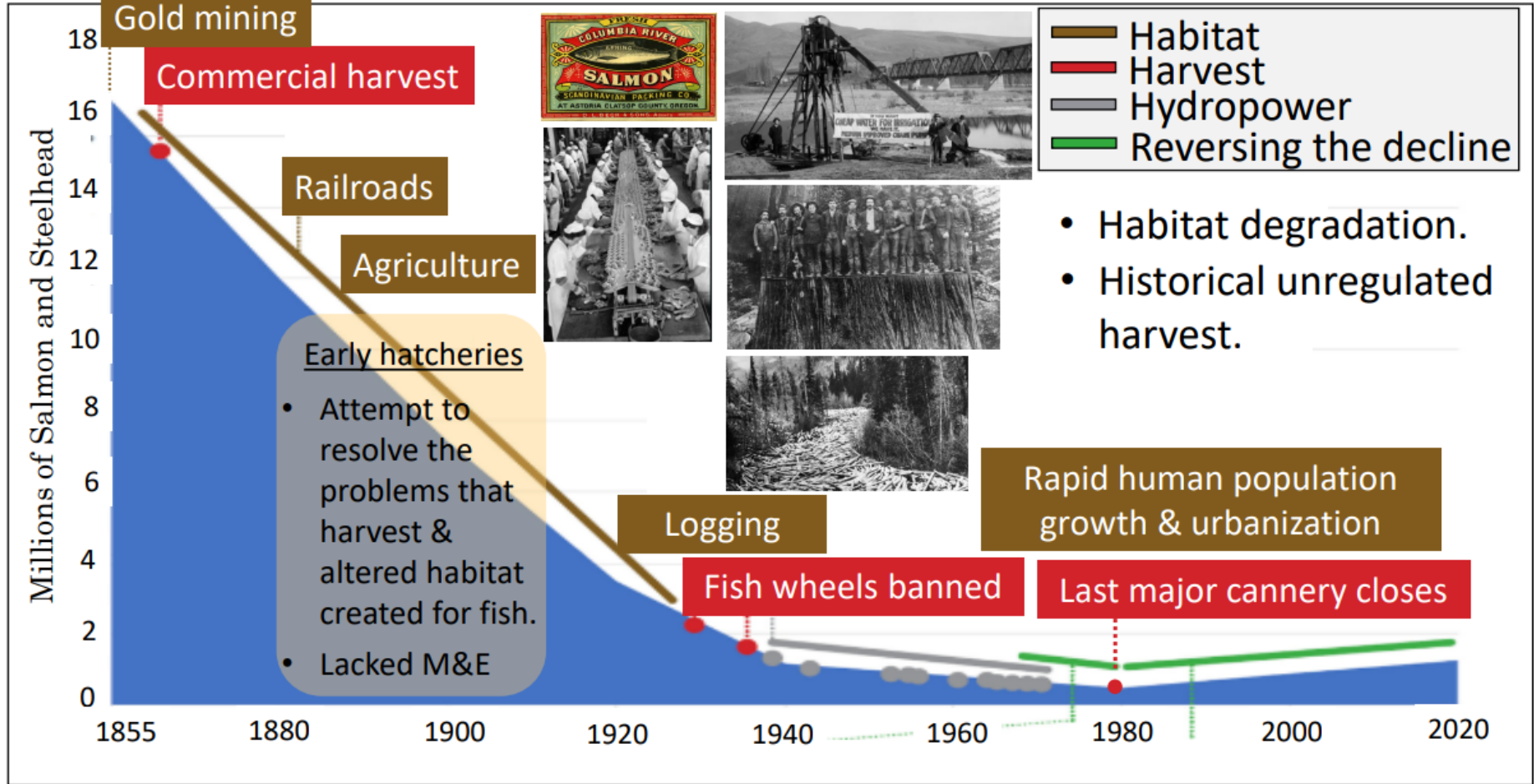


Figure adapted from *Fivecrows et. al. 2023* and Maureen Hess NPCC



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Table 2. Distribution of salmon and steelhead requiring hatchery compensation by the Columbia Basin Fisheries Technical Committee's Lower Snake Hatchery Subcommittee in 1974 (WDFW 1974). Values were derived by multiplying 48% loss rate to estimated run escapements developed within the U.S. Army COE Special Report (COE 1975) except for fall Chinook salmon. Rounding errors with the LSRCP goals were acknowledged by the subcommittee.

Area	Fall Chinook salmon	Spring-Summer Chinook salmon	Steelhead
Snake River			
Below Lewiston	5,000		
Lewiston to China Gardens	3,580		2,208
China Gardens to Pleasant Valley	1,689		
Pleasant Valley to Hells Canyon	4,459		
Hells Canyon Dam Fish Facilities	3,648	1,200	2,736
Tucannon River		1,152	1,632
Clearwater River	68	288	20,736
Asotin Creek			816
Grande Ronde River		5,856	7,632
Salmon River		46,656	16,896
Imnaha River	68	3,216	1,920
Small Tributaries		288	528
<b>Totals</b>	<b>18,512</b>	<b>58,656</b>	<b>55,104</b>



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Table 3. Allocation of compensation (adults) by State as suggested by Columbia Basin Fisheries Technical Committee (reproduced from WDFW 1974). This allocation was not to be used as a specific indicator of release sites.

Area or Basin	Washington			Oregon		Idaho	
	Spring Chinook salmon	Fall Chinook salmon	Steelhead	Spring Chinook salmon	Steelhead	Spring-Summer Chinook	Steelhead
Snake River							
Below Lewiston		5,000					
Lewiston – Hells Canyon		9,728	2,208				
Hells Canyon Dam		3,648			1,368	1,200	1,368
Tucannon River	1,152		1,632				
Clearwater River		68				288	20,736
Asotin Creek			816				
Grande Ronde River				5,856	7,632		
Salmon River						46,656	16,896
Imnaha River		68		3,216	1,920		
Small Tributaries					264	288	264
<b>Totals</b>	<b>1,152</b>	<b>18,512</b>	<b>4,656</b>	<b>9,072</b>	<b>11,184</b>	<b>48,432</b>	<b>39,264</b>



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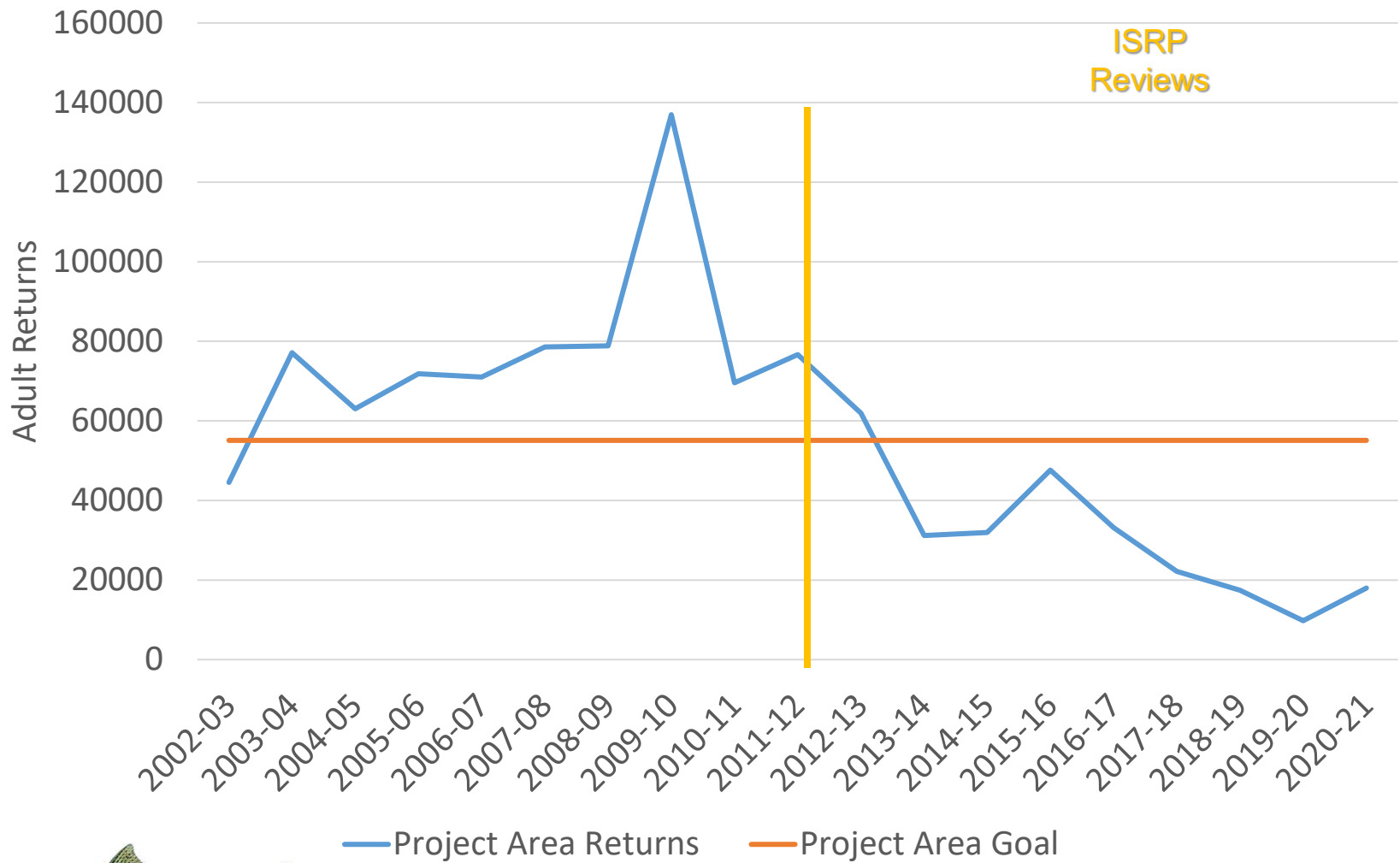
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# LSRCP Steelhead Returns



Let's talk about steelhead!



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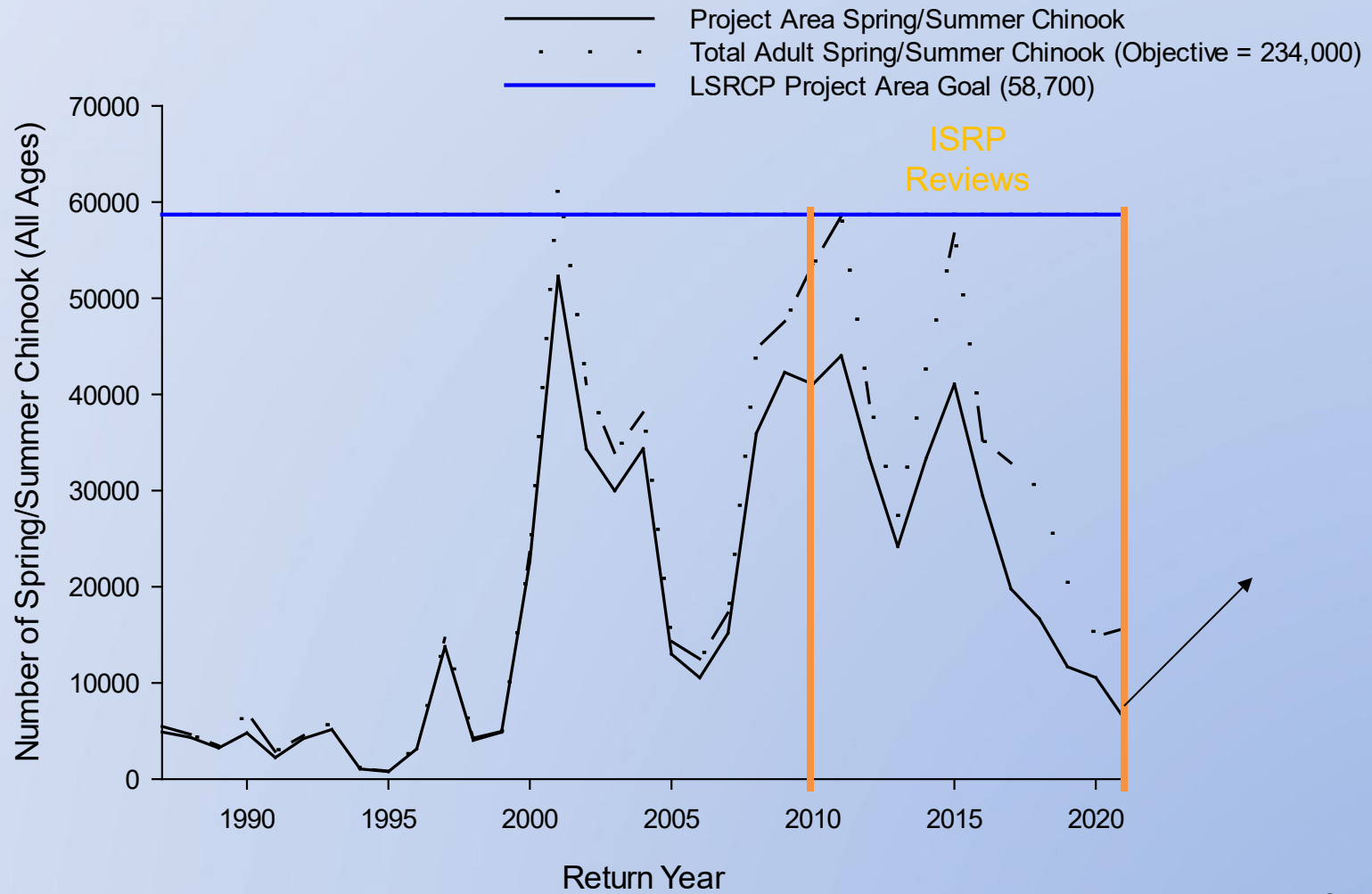


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# Project Area and Total Adult Spring/Summer Chinook Return Years 1987-2021



Reporting not complete for 2021



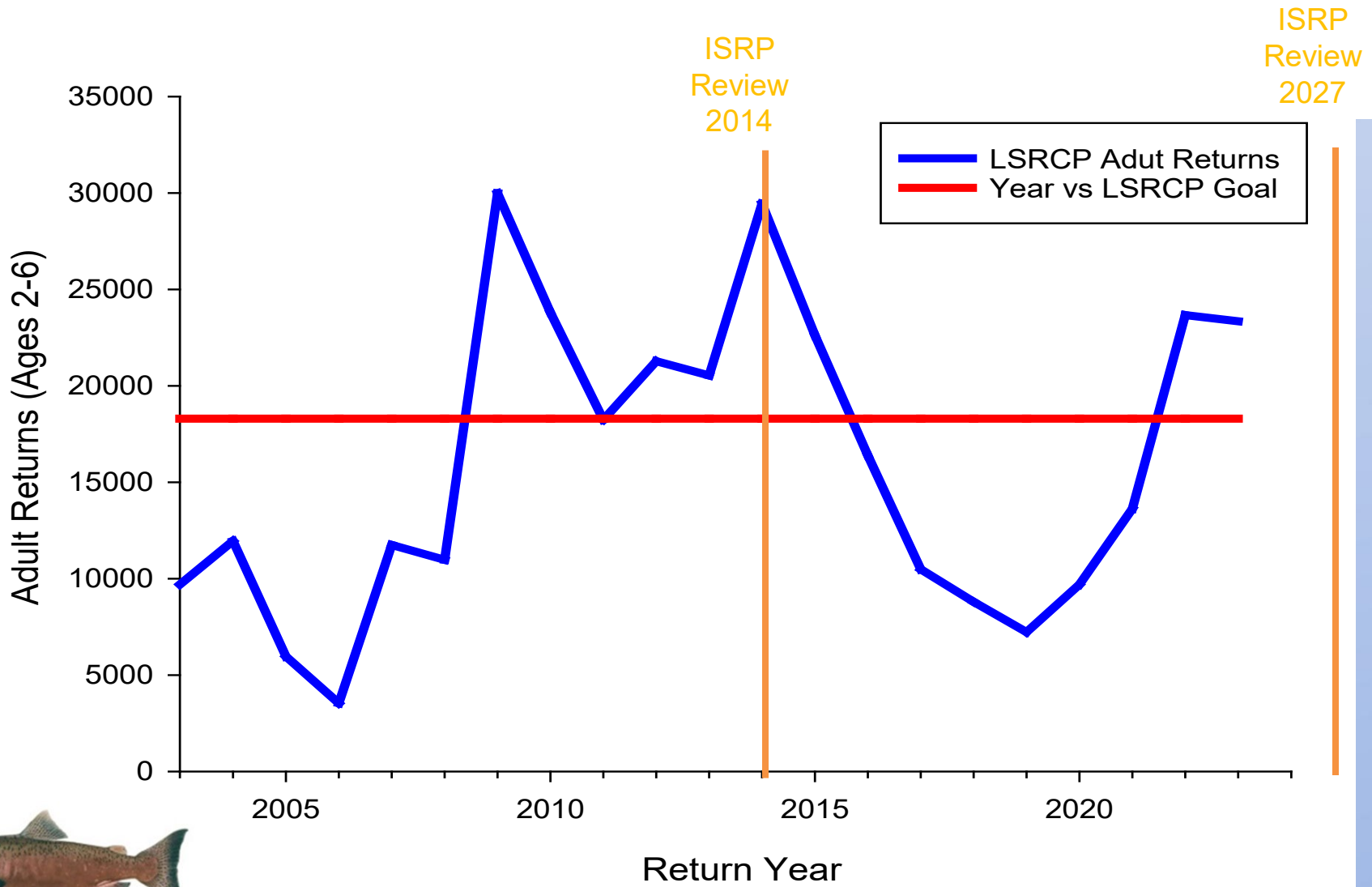
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# LSRCP Fall Chinook Salmon Returns



Data Summary by Bill Young - NPT



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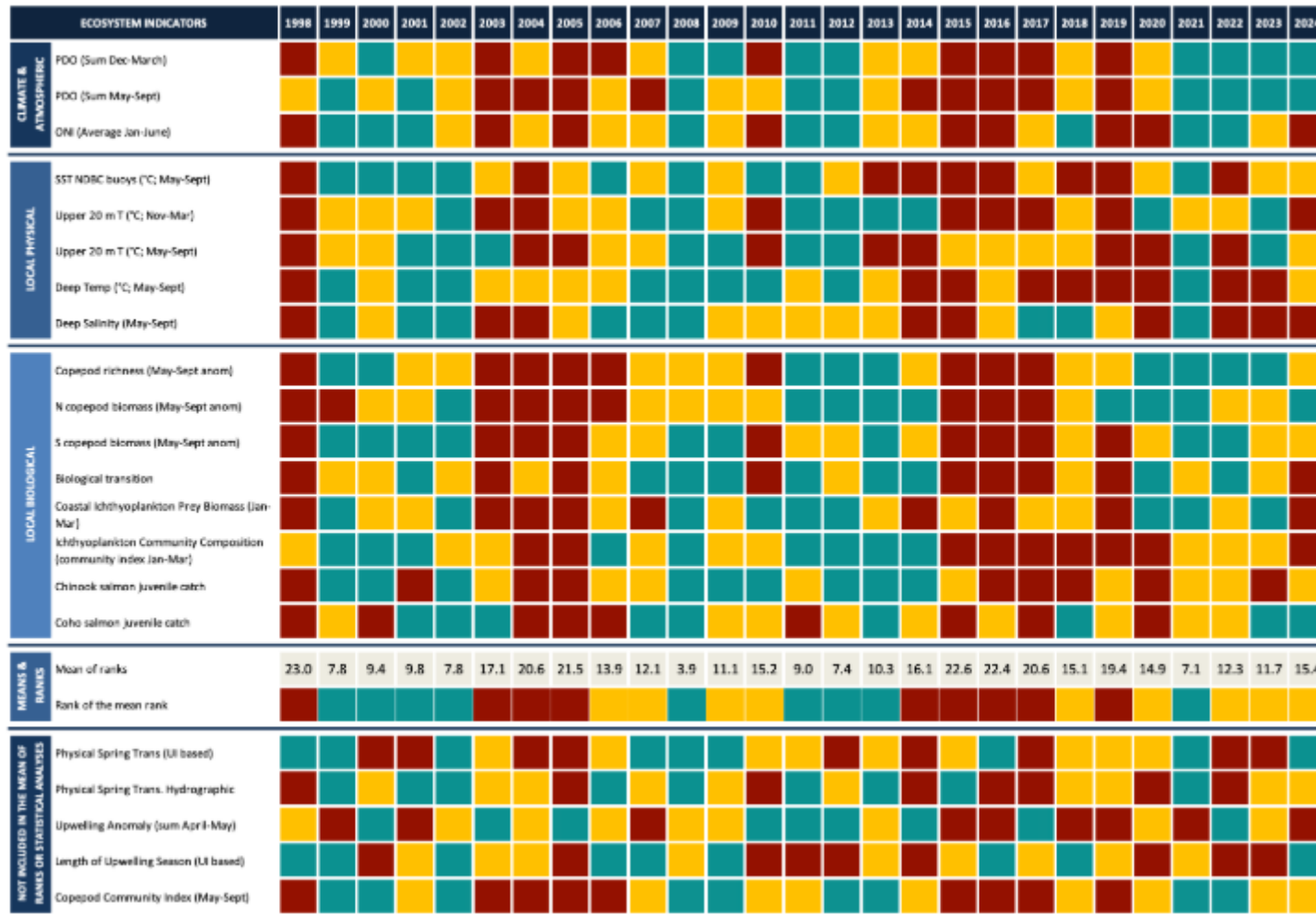
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# 2024 OCEAN CONDITIONS INDICATORS TREND

good fair poor



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# Fish Hatchery Infrastructure and Vulnerability Analyses

*Table 1. Prioritized list of Lower Snake River Compensation Plan facilities/programs for conducting Climate Change Vulnerability Assessments. Species as well as particular release or acclimation sites are additionally identified.*

Priorit Y	Location	Facility	Species	Associated release sites	Associated non-LSRCP Programs	Starting-Ending Timeframe
1	South Fork Salmon River	McCall Fish Hatchery	Summer Chinook salmon	South Fork Salmon River (Satellite Facility)	Johnson Creek/JCAPE (BPA)	2022-
2a	Upper Salmon River	Sawtooth Fish Hatchery	Summer Chinook salmon	Yankee Fork	Sockeye Salmon program (BPA)	2022-
2b	Upper Salmon River	Sawtooth Fish Hatchery	Steelhead	NA	N/A	TBD
3a	Clearwater River – Dworshak spring Chinook salmon	Dworshak National Fish Hatchery	Spring Chinook salmon		Dworshak B-Steelhead Program (COE)	TBD
3b	Clearwater River – Clearwater Fish Hatchery	Clearwater Fish Hatchery	Spring Chinook salmon	Red River (South Fork Clearwater), Powell Acclimation Site (Lochsa River)	N/A	TBD
4	Tucannon River	Tucannon Fish Hatchery	Spring Chinook salmon	Tucannon River (On-station, Curl Lake acclimation, mouth release)	N/A	TBD
5	SE Washington Release Sites	Tucannon/Lyons Ferry Fish Hatchery	Steelhead	On-station, Tucannon River, Grande Ronde-WA, Walla Walla/Touchet rivers	N/A	TBD
6	Snake River	Lyons Ferry Hatchery and Fall Chinook Acclimation Project (FCAP)	Snake River Fall Chinook	FCAP Facilities (Salmon River, Big Canyon, Captain Johns), On-station Lyons Ferry, Big Canyon	NPTH Fall Chinook (BPA), Idaho Power Company	TBD
7	NE Oregon	Lookingglass Fish Hatchery	Spring/summer Chinook salmon	Imnaha, Upper Grande Ronde, Catherine Creek, Lookingglass Creek, Lostine River	N/A	TBD
8a	NE Oregon	Irrigon Fish Hatchery	Steelhead	Little Sheep (Imnaha), Big Canyon (Wallowa).	N/A	TBD
8b	NE Oregon	Wallowa Fish Hatchery	Steelhead	On-station, Big Canyon (Wallowa)	N/A	TBD



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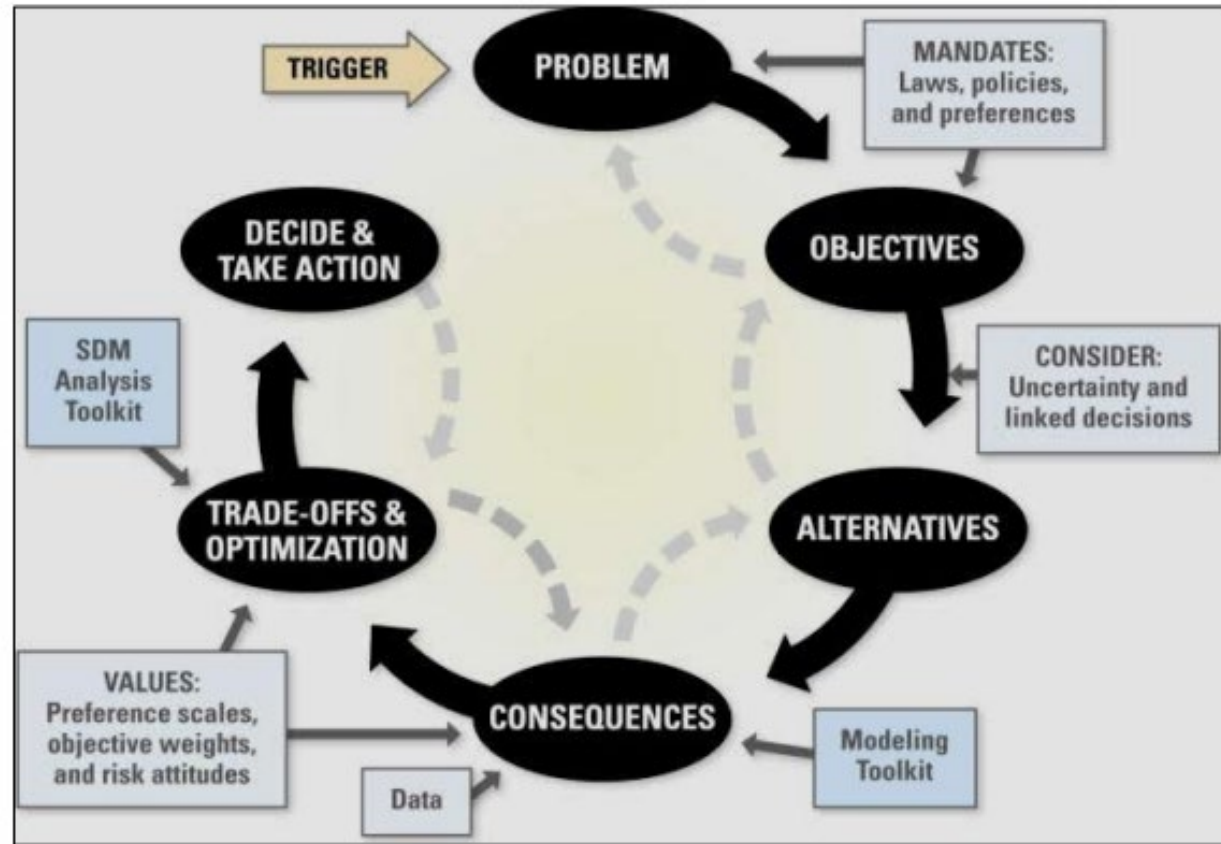
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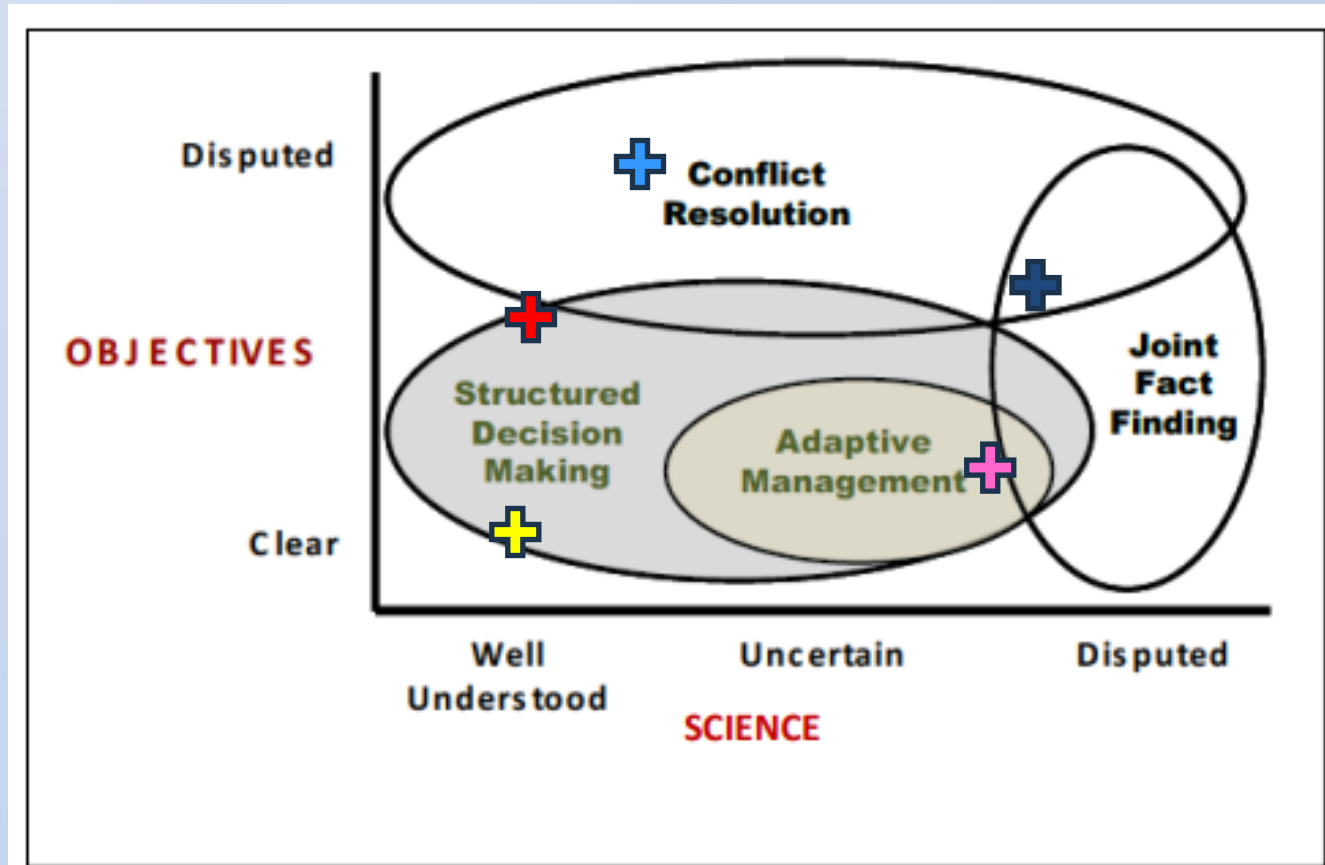
# Structured Decision Making

- AKA Decision Analysis
- PrOACT model
- National Conservation Training Center Course/Cert.
- ISRP reviews identify and ask how SDM is being applied to LSRCP decisions for transparency, suggest its use.



# SDM in LSCRP

- + A/B steelhead changes
- + Upper Grande Ronde beaver dam analogs and chinook spawning habitat impacts
- + Implementation of the reciprocal study.
- + Evaluation of fall Chinook acclimation with Russel Bar
- + Lyons Ferry Lakes Lining Evaluation



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Status Quo Magic Valley Fish Hatchery - Current Production Program								
Option		Release Site	Stock Priority	A smolts	B smolts	Smolts/Fe male	Project Area SAR	Adults
Status Quo	MVFH	Sawtooth Weir	SawA	279,000		3,929	0.89%	2,483
	MVFH	Little Salmon R. - Stink	PahA	186,000		4,133	0.97%	1,804
	MVFH	Pahsimeroi Weir 1	USRB		248,000	4,679	0.38%	942
	MVFH	Pahsimeroi Weir 2	DworB		93,000	4,227	0.22%	205
	MVFH	Yankee Fork 1	USRB/DworB		527,000	4,400	0.30%	1,581
	MVFH	Little Salmon R. - Stink	USRB/DworB		217,000	4,400	0.30%	651
	SubTotal			465,000	1,085,000			7,666
				Total Smolt:	1,550,000			
		A Brood	B Brood	Total		USAL B %		
	Brood	116	244	360		56%		
Option 1. Little Salmon B to A, Prioritize USAL B stock for use at Pahsimeroi, increase Pahsimeroi release to 428K	GROUP PREFERRED OPTION							
		Release Site	Stock Priority	A smolts	B smolts	Smolts/F	SAR	Adults
	MVFH	Sawtooth Weir	SawA	279,000		3,929	0.89%	2,483
	MVFH	Little Salmon R. - Stink	PahA	186,000		4,133	0.97%	1,804
	MVFH	Pahsimeroi Weir 1	1 - USAL B		248,000	4,679	0.38%	942
	MVFH	Pahsimeroi Weir 2	2 - USAL B		180,000	4,679	0.38%	684
	MVFH	Yankee Fork 1	3 - USAL B		440,000	4,679	0.38%	1,672
	MVFH	Little Salmon R. - Stink	SawA/PahA	217,000	-	3,929	0.89%	1,931
	SubTotal			682,000	868,000			9,517
				Total Smolt:	1,550,000			
		A Brood	B Brood	Total		USAL B %		
	Brood	171	191	363		100%		



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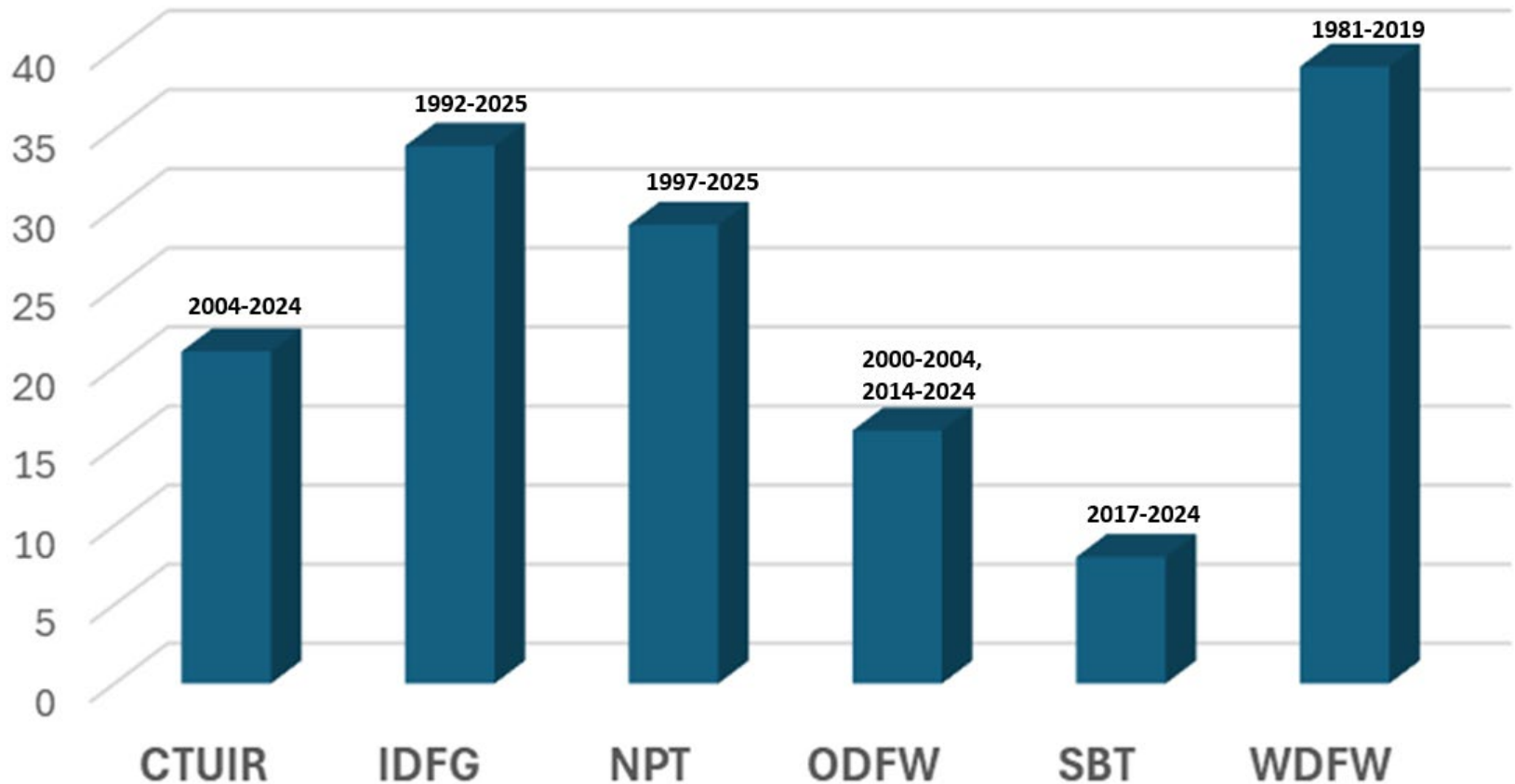


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# FINS

## Years of Trapping Data in FINS - by Agency



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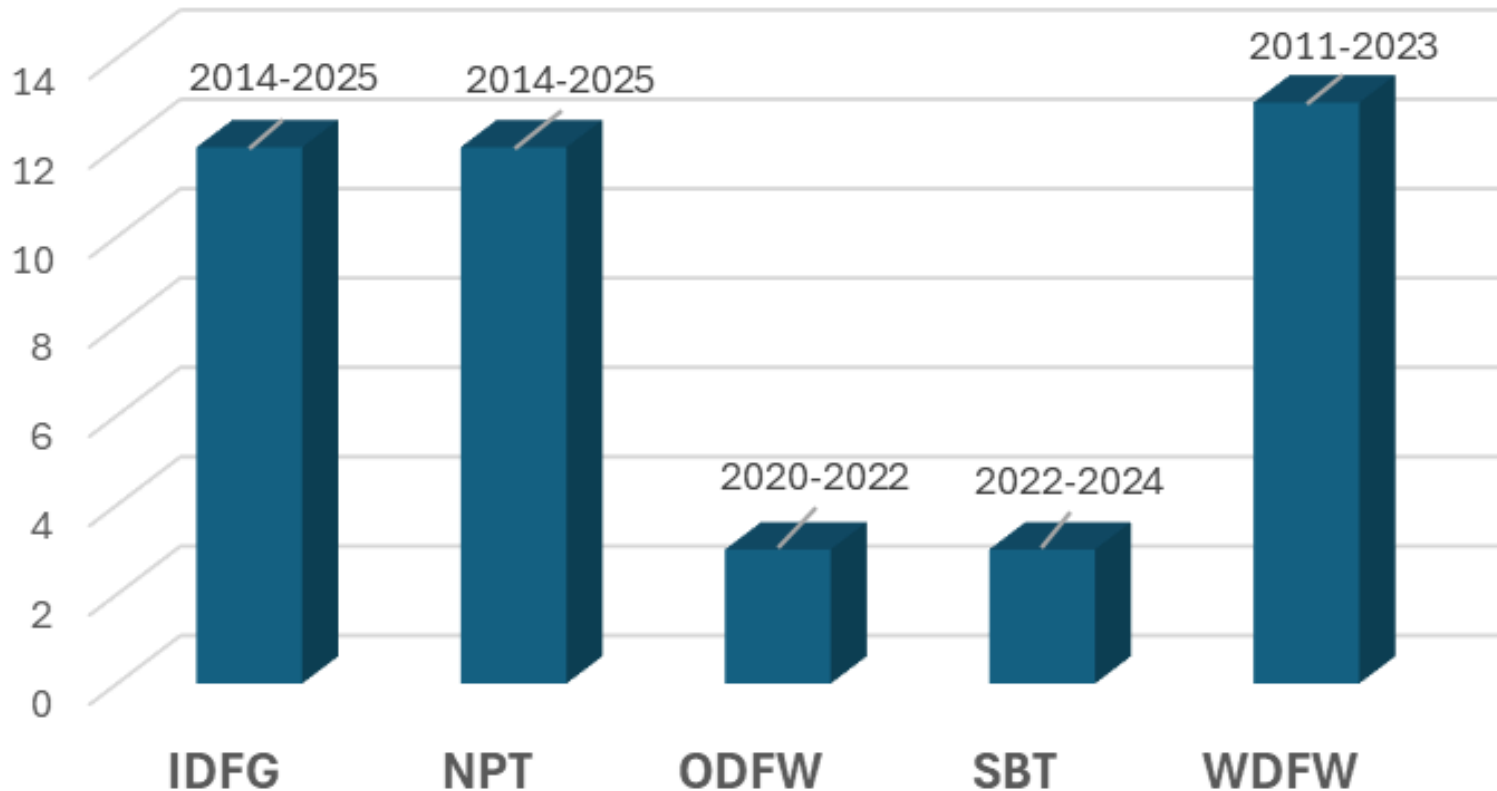
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# FINS

## Years of Spawning Data in FINS - by Agency



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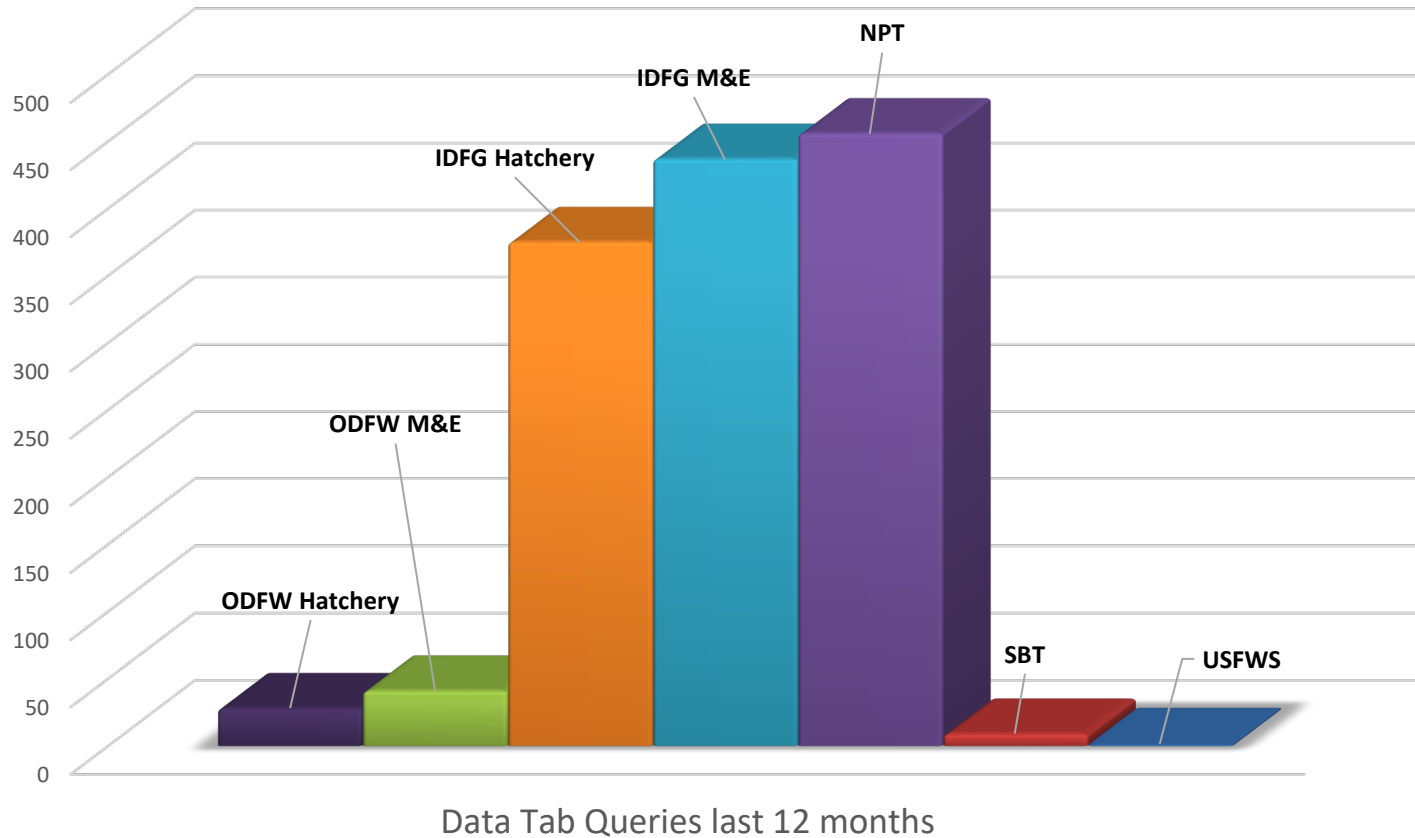
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# FINS

FINSNet.org Data Tab Query Tool Usage



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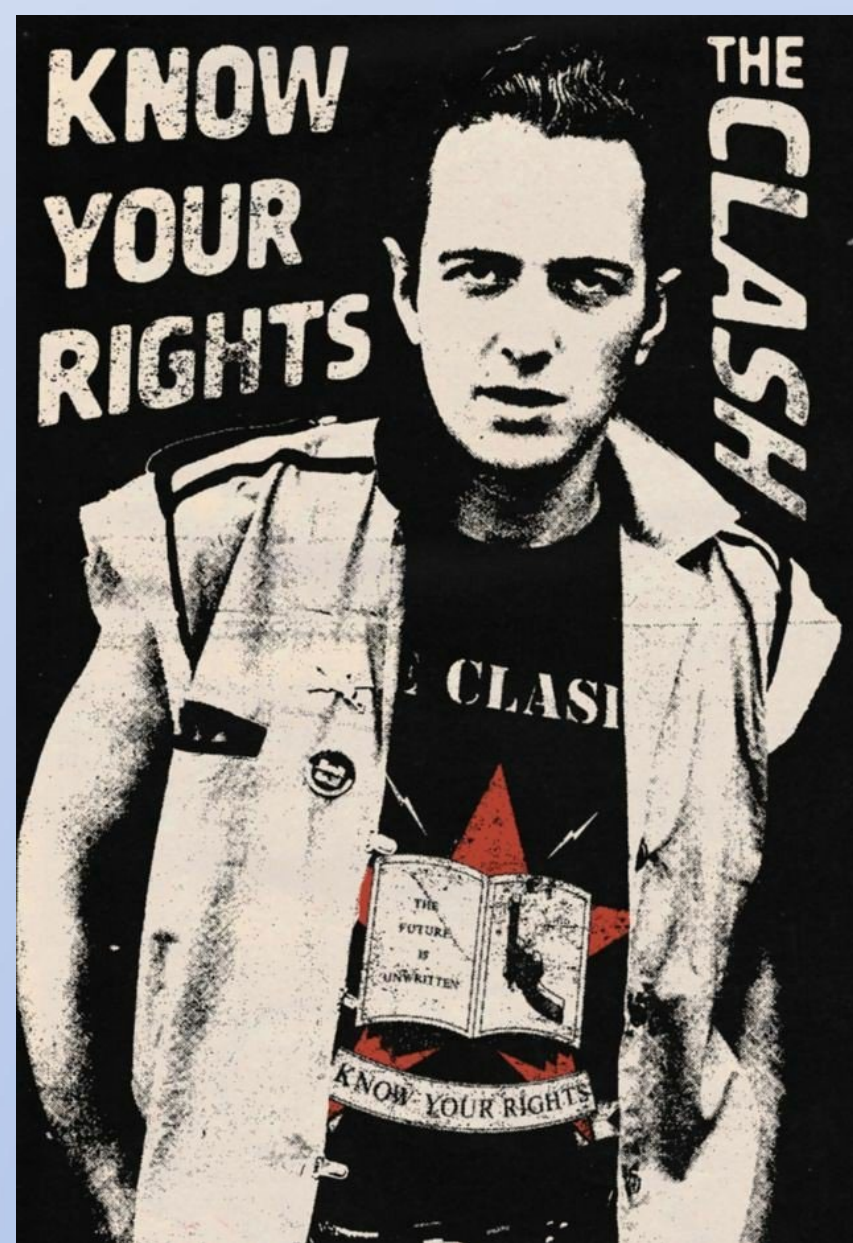
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# Know Your Program

- I. Fish and Wildlife Coordination Act of 1934 (amended in 1958 P.L. 85-624)
  - a. 1972 FWCA Report by NMFS and USFWS
  - b. 1975 COE Report
- II. In 1976, Congress authorized COE for LSRCP “*substantially in accordance*” with their Special Report - P.L. 94-587, October 22, 1976
  - a. *“The U.S. Fish and Wildlife Service should be designated to fund the operation and maintenance of all fish rearing facilities”* and,
  - b. *“Transfer of jurisdiction over all compensation plan fish hatcheries, appurtenant facilities and land to the U.S. Fish and Wildlife Service for operation, maintenance and replacement upon completion of construction by the Corps of Engineers”.*
- III. 1985 COE Report becomes law by P.L. 99-662 on November 17, 1986, reaffirms above language and FWS role.



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# Questions?



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# Additional Slides



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# Spring/Summer Chinook Example

		LSRCP Total Production					
		6,000,000	7,000,000	8,000,000	9,000,000	10,000,000	11,000,000
Project Area SAR	1.00%	60,000	70,000	80,000	90,000	100,000	110,000
	0.90%	54,000	63,000	72,000	81,000	90,000	99,000
	0.80%	48,000	56,000	64,000	72,000	80,000	88,000
	0.70%	42,000	49,000	56,000	63,000	70,000	77,000
	0.60%	36,000	42,000	48,000	54,000	60,000	66,000
	0.50%	30,000	35,000	40,000	45,000	50,000	55,000
	0.40%	24,000	28,000	32,000	36,000	40,000	44,000
	0.30%	18,000	21,000	24,000	27,000	30,000	33,000
	0.20%	12,000	14,000	16,000	18,000	20,000	22,000
	0.10%	6,000	7,000	8,000	9,000	10,000	11,000
		Where LSRCP Goal is met (58,700)					

## Increased Performance

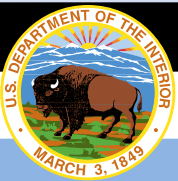
- Low Densities
- Better release sites
- Good homing
- Releases that are ready-to-migrate
- Better in-river survival, hydrosystem survival.
- Smolt programs over parr programs
- Endemic or localized stock

Increasing Costs (\$)

Increased Brood Need (and Reduced Fisheries)

Started program with 6.74 M with expected survival of 0.87% = 58,700

Current program is 10.4 M with measured, mean survival of 0.42% (BY07-16) = 43,783



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# Overall Summary

- LSRCP Steelhead program performance has declined with declining steelhead populations coastwide.
- Decline in performance affects harvest opportunity both within and downstream of LSRCP project area.
- Stocks and programs perform differently based on location and other factors.
- Presentations this week will illustrate performance toward LSRCP in-place, in-kind goals and highlight...
  - Stock/management decisions
  - Infrastructure connections to performance
  - Science informing decision making, SDM concepts and tools
  - Adaptive management examples within LSRCP program
  - Opportunities for feedback and change.



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