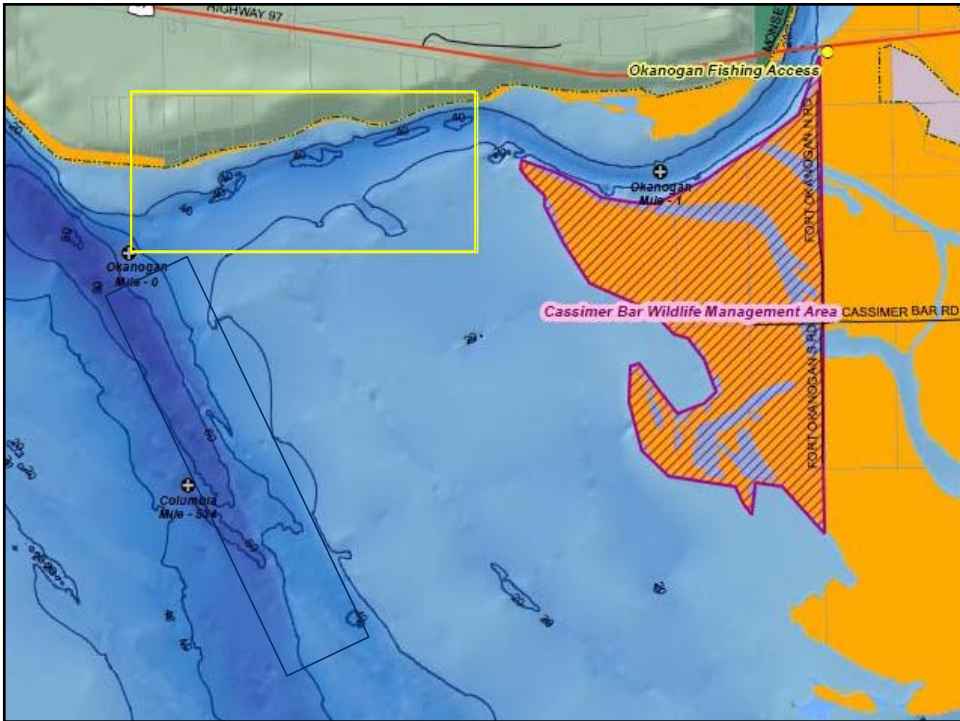


**2021 Harvest Review &
2022 Forecast**

Isaiah Martin Harvest Manager
Brian Dietz Salmon Biologist

CCT Fish & Wildlife

Grant County PUBLIC UTILITY DISTRICT
CHELAN COUNTY P.U.D.
DJWA
DOUGLAS COUNTY PUD



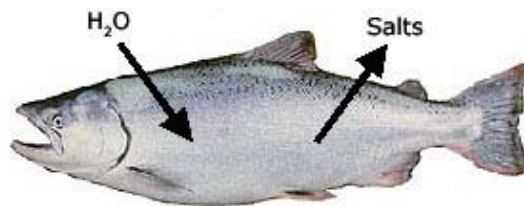


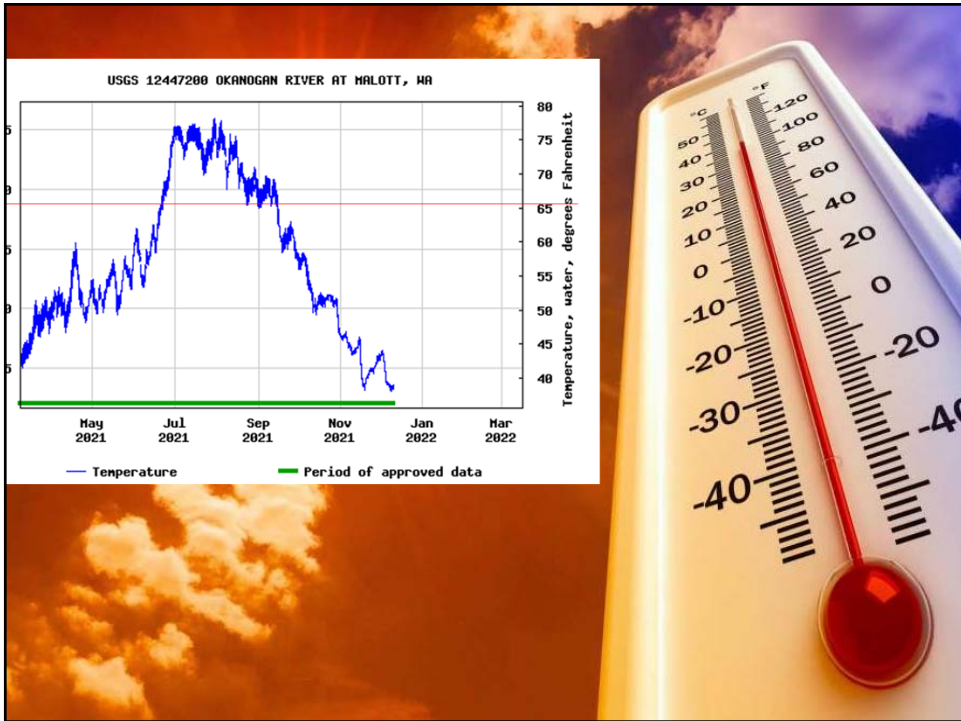
Why Does it Work?





Osmoregulation





CCT Harvest Program Goals

- * Collect summer Chinook broodstock for the hatchery: natural-origin (NOR) & hatchery-origin (HOR)
- * Affect pHOS and improve PNI in summer/fall Chinook spawning areas
 - * Selectively removing HORs
 - * Successfully releasing NORs
- * Provide harvest data to hatchery staff for help in setting the yearly, hatchery-production target

2021 Upper Columbia Summer Chinook Allocations

(All data preliminary and includes kept + release mortalities)

	Pre		Post	
Runsize	→ 78,810	→ 56,800		
Harvest allocated	Allowed		Actual	Actual/
Fishery	Pre	Post	Take	Allowed
PFMC Ocean Fisheries	7,394	4,189	4,189	100%
Below Priest Rapids Dam (PRD)	35.8%	23.6%	25.8%	
Commercial below BON	1,193	492	7	1%
Recreational Below Bonneville	4,057	1,674	2,284	136%
Recreational BON to PRD	716	295	102	35%
Below PRD Total	5,966	2,462	2,393	97%
Above Priest Rapids Dam (PRD)	64.2%	76.4%	74.2%	
Wanapum Tribal	315	95	62	65%
→ Colville Tribal →	→ 5,894 →	→ 3,985 →	→ 1,583 →	→ 40%
Recreational above PRD	4,507	3,890	5,246	135%
Above PRD Total	10,717	7,970	6,891	86%
Non-Treaty Total	24,076	14,621	13,473	92.1%

Collection Data


2021 Purse Seine fishing effort



HOR brood collected	587
NOR brood collected	665
NOR Chinook released	117
HOR Released	156
HOR Harvested	33
Sockeye harvested	1,745
Sockeye released	497

Activity	Summer/Fall Chinook										Sockeye	
	<u>NOR Adult Broodfish</u>	<u>HOR Adult Broodfish</u>	<u>NOR Adults Released^{1/}</u>	<u>NOR Adults Retained</u>	<u>NOR Jacks Released^{1/}</u>	<u>NOR Jacks Retained/Morts</u>	<u>HOR Adults Retained/Morts</u>	<u>HOR Adults Released^{1/}</u>	<u>HOR Jacks Retained</u>	<u>Total Adults Removed</u>	<u>Sockeye Harvested/Morts</u>	<u>Sockeye Release</u>
CCT F&W Purse Seine	665	587	117	0	179	0	33	156	70	1,285	1,596	490
Tribal Member Alt Fishery ^{3/}	0	0	0	0	0	0	0	0	0	0	0	0
CJD Tailrace Fishery (expanded; includes snag, dip net and hook and line effort and a calculated release mortality) ^{4/}	0	0	21	160	0	0	1,283	192	30	1,443	121	0
CCT F&W Okanogan Weir	10	0	27	0	5	0	9	0	5	9	22	7
Chief Joseph Hatchery Ladder Surplus	0	0	184	0	13	0	1,559	220	145	1,559	0	0
Harvest sub-total (includes post release mortality)	0	0	13.9	160	0.0	0	1,316	99.8	0	1,589.4	1,740	0
Sub-total Fish Released	0	0	349	0	197	0	0	568	0	0	0	497
Sub-total Handling and Release Mortality	0	0	13.9	0	1.9	0	0	99.8	0	114	0	5
Total Fish Removed	675	587	13.9	160	1.9	0	2,884	99.8	250	4,419	1,740	5
Grand Total of Adult Fish Removed	Chinook Broodstock			Chinook Harvested			Chinook Surplus			Sockeye		
	→ 1,262			→ 1,589.4			→ 1,568.0			→ 1,745		

Activity	Steelhead				Coho	
	<u>Ad present Released</u> <i>2/</i>	<u>Ad absent Released</u>	<u>Ad Present Harvest</u>	<u>Ad Absent Harvest</u>	<u>Released</u>	<u>Harvested</u>
CCT F&W Purse Seine	1	1	0	0	0	0
Tribal Member Alt Fishery ^{3/}	0	0	0.0	0.0	0	0
CJD Tailrace Fishery (expanded; includes snag, dip net and hook and line effort and a calculated release mortality) ^{4/}	0	0	7.8	2.2	0	20
CCT F&W Okanogan Weir	6	4	0	0	8	0
Chief Joseph Hatchery Ladder Surplus	0	0	0	0	0	0
Harvest sub-total (includes post release mortality)	0.07	0.05	7.8	2.2	0	20
Sub-total Fish Released	7	5	0	0	8	0
Sub-total Handling and Release Mortality	0	0	0	0	0.1	0
Total Fish Removed	0.1	0.1	7.8	2.2	0	20
Grand Total of Adult Fish Removed	Steelhead → 10.1				Coho → 20.3	

	Spring Chinook													SubTotal Harvest -Chinook Adults Only	Sockeye	Steelhead					SubTotal Coho Harvested
	HOR Adult Broodfish (CJH) ¹	Leavenworth NFH Brood ²	NOR Adults Released	NOR Adults Harvested/Morts	NOR Jacks Released	NOR Jacks Harvested/Morts	10J Harvest	10J Adult Released	10J Jack Released	HOR Adults Harvested/Morts	HOR Adults Released	HOR Jacks Harvested	HOR Jacks Released			AD- Present	AD Present Harvested/Morts ³ **	AD Present Released ³	AD Absent Harvested	AD Absent Released ³	
Chief Joseph Dam, Creel (May 27-June 30) Expanded with calculated release mortality . Includes 10J proportion	-	-	 No CJH Spring Chinook Fishery in 2021										-	-	-	-	-	-	-	-	
Chief Joseph Hatchery and Ladder Surplus	251	338	66	0	1	0	0	278	10	2	28	0	4	0.0	0	0	42.3	0	66.7	0	0
Cicle Creel ⁴	0	0	0.0	16.0	0	4	0	0.0	0	197	0	13	0	197.0	0	0	0	0	0	0	0
Post Release Mortality	0	0	0.66	0	0.01	0.0	0	2.78	0.1	0	0.3	0	0.04	3.7	0	0	0.42	0	0.667	1	0
Sub Total of Adult Fish Handled	251	338	66.7	16.0	1.0	4.0	0.0	280.8	10.1	199.0	28.3	13.0	0.0	-	0	0	42	66.7	1	0	
Grand Total of NOR Handling Mortality	0	0	0.7	0.00	0.0	0.00	0.00	0.00	0.10	0.00	0.28	0.00	0.04	-	0.00	0.4	0.7	1.1	0.00	0.00	
Adult Harvest Total Counted Towards Allocation	0	0	Spring Chinook Harvest										0.0	Sockeye Harvested	Steelhead Harvested					Coho Harvest	
													0.0	0	1.1					0	
Spring Chinook Adults Removed from the System						791.7															

2022 Forecast

Summer Fall Chinook Run: 57,500

PFMC Draft Allocation of ~ 3,100

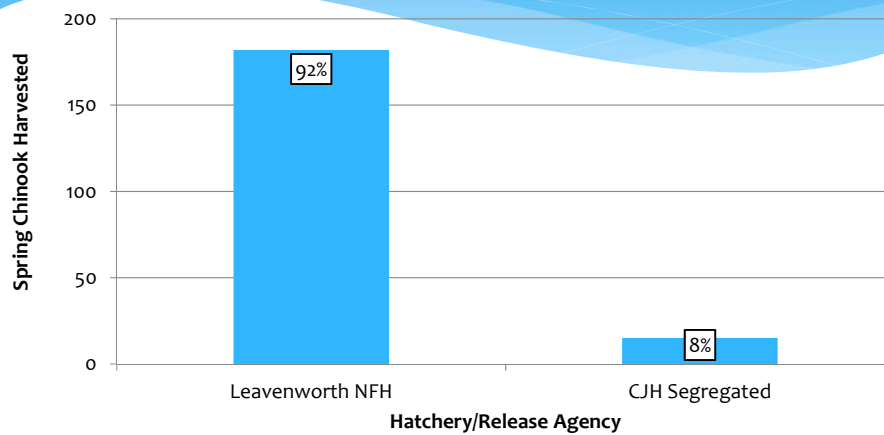
Okanogan Origin Sockeye Run: 175,700

Allocation = Excess of Escapement
Or
10% of Run

Icicle Spring Chinook Creel

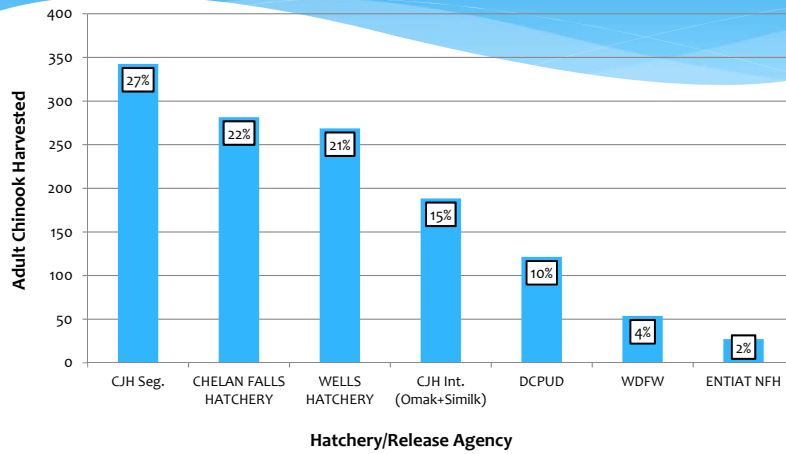
by CWT Analysis

n=197



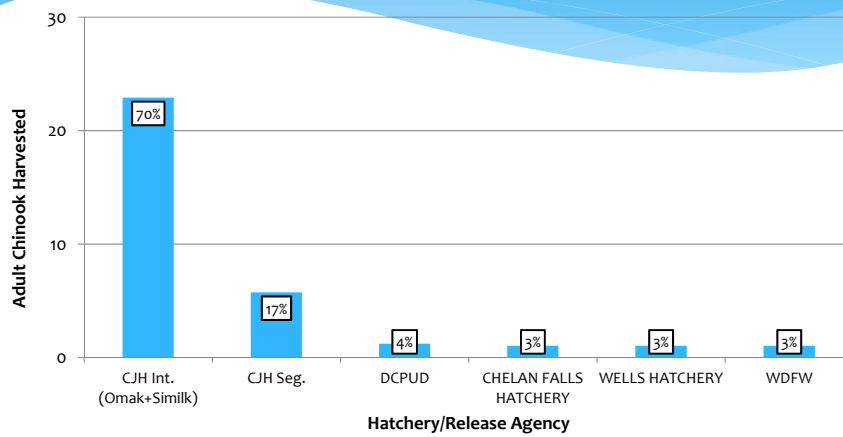
CJD Adult Summer Chinook Creel by CWT Analysis

n=1283



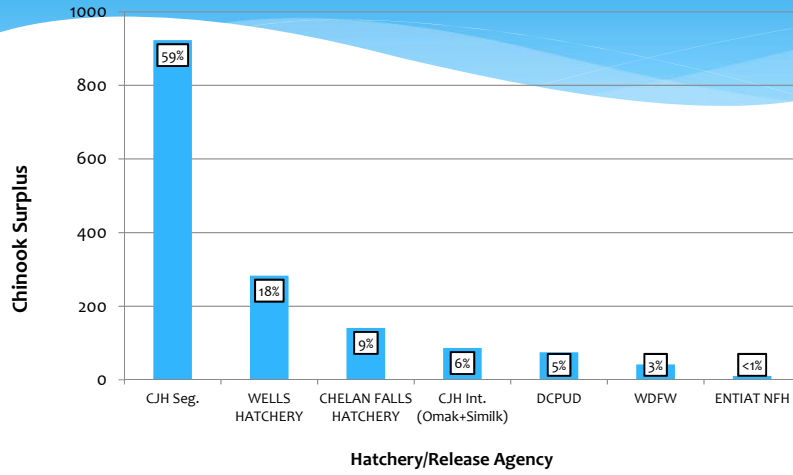
Purse Seine Adult Summer Chinook Harvest by CWT Analysis

n=33

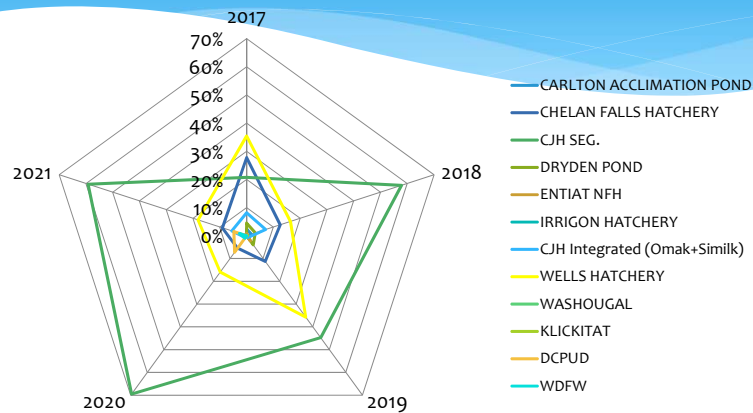


Summer Chinook Ladder Surplus

n=1559

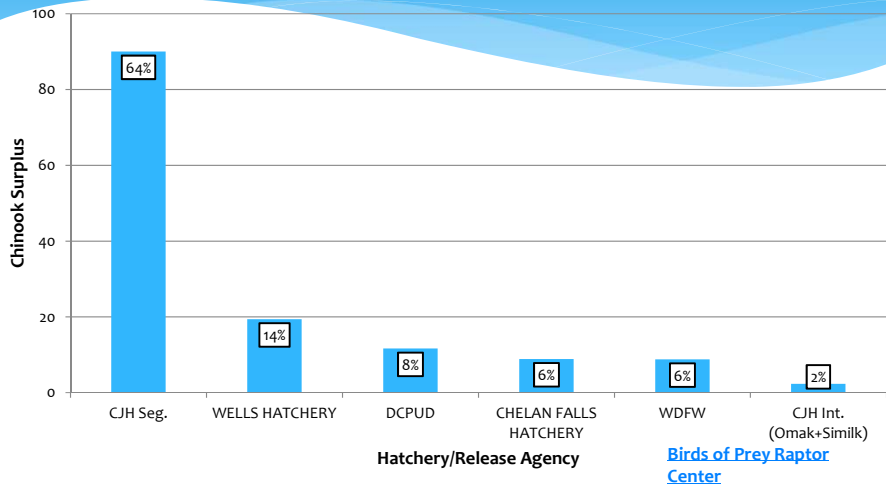


5 Year Ladder Returns



Raptor Center Ladder Surplus

n=141



Questions?