

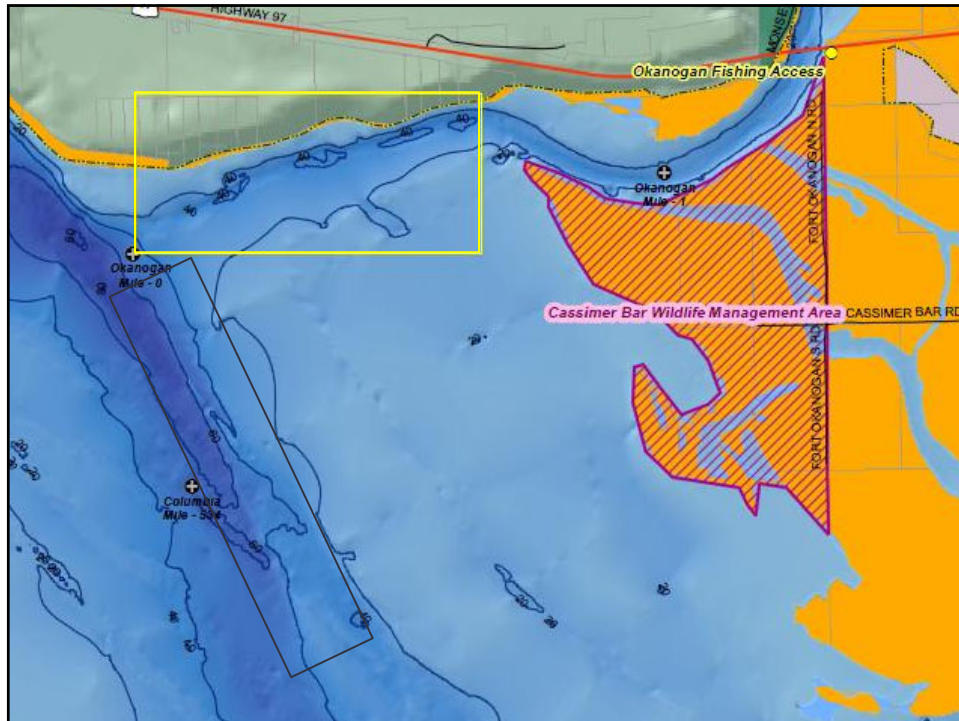


2020 Harvest Review & 2021 Forecast

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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*

Key Harvest Management Questions

- *KMQ-2*
 - *What is the current status and recent historical trend for hatchery returns and harvest?*
 - *Local exploitation of UCR summer Chinook in the upper Columbia*
 - *Overall exploitation on the entirety of UCR summer Chinook*

- *KMQ-5*
 - *Are targets for catch contribution and selectivity for HORs met in Fisheries above Wells Dam?*
 - *For all hatchery-origin summer Chinook above Wells*
 - *For Okanogan HOR Chinook above Wells*

Mark Studies and Selective Fishing

Overview

- *Allows harvest of target species while minimizing impacts on non-target fishes and or weak stocks in a mixed-stock fishery*

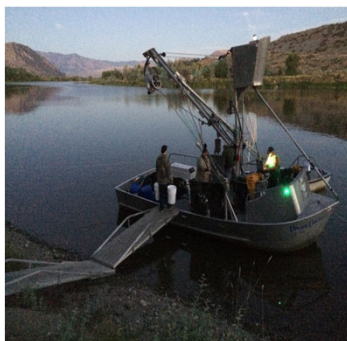
- *Allows for removal of predatory and invasive species*

- *Allows opportunity for PIT and radio tag interrogation*

- *Share harvest monitoring data with CJHM&E staff, project partners and regional entities*

Harvest Data

2020 Purse Seine fishing effort



Total # adult salmon caught	6,980
Days fished	25
Number of sets	115
Average sets/day	5
Average set duration (in min)	25.8
HOR brood collected	611
NOR brood collected	592
NOR Chinook released	410
NOR Mortality	1
HOR Released	235
HOR Harvested	25
Sockeye harvested	3,890
Sockeye released	1,216

Table 1. 2020 CCT Harvest Data - Columbia River and Okanogan River July 1 - December 17

Activity	Summer/Fall Chinook										Sockeye		Steelhead		Coho
	NOR Adult Broodfish	HOR Adult Broodfish	NOR Adults Released ^{1/}	NOR Adults Retained	NOR Jacks Released ^{1/}	NOR Jacks Retained/Morts	HOR Adults Retained/Morts	HOR Adults Released	HOR Jacks Retained	Total Adults Removed	Sockeye Harvested/Morts	Sockeye Released	Wild Released ^{2/}	Hatchery Released	Released
CCT F&W Purse Seine	592	611	410	1	121	0	25	234	145	1,229	3,890	1,216	0	0	0
CCT F&W Tangle Net++	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tribal Member Net Fishermen	0	0	0	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)	0	0	0	90	0	49	1,609	0	49	1,699	15	0	30	7	0
CCT F&W Okanogan Weir	84		606		19		154	3.0	6	238		13	9	18	9
Chief Joseph Hatchery Ladder Surplus			59	0	3	0	1,053	0	88	1,053	0	0	0	0	0
Harvest sub-total (includes post release mortality)	0	0	0	91	0	49	1,788	0	200	1,879	3,905	0	0	0	0
Sub-total Fish Released	0	0	1,075	0	143	0	0	237	0	0	0	1,229	39	25	9
Sub-total Handling and Release Mortality	0	0	11	0	1	0	0	2	0	13	0	12	7	3	0
Total Fish Removed	676	611	11	91	1	49	2,841	2	0	4,232	3,905	12	7	3	0
Grand Total of Adult Fish Removed	Chinook										Sockeye		Steelhead		Coho
	4,232										3,917		10		0

^{1/} - Purse seine, weir and surplus related releases not included as harvest

^{2/} - Derived from total adipose present steelhead released by month and angler type and wild proportion in the adipose present population sampled at Wells Dam (0.851)

Table 2. 2020 CCT Harvest Summary - Columbia River May 21 - June 30, 2020

Activity	Spring Chinook														Sockeye	Steelhead					Coho
	HOR Adult Broodfish	^{1/} NOR Adults Released	^{1/} NOR Adults Retained	^{1/} NOR Jacks Released	^{1/} NOR Jacks Retained	^{2/} 10J Adult Retained	^{2/} 10J Adult Released	^{2/} 10J Jack Retained	^{2/} 10J Jack Released	^{3/} HOR Adults Retained/Morts	^{3/} HOR Adults Released	^{3/} HOR Jacks Retained	^{3/} HOR Jacks Released	Total Chinook Adults Removed		Retained	^{4/} AD Present Retained/Morts	^{4/} AD Present Released	AD Absent Retained/Morts	AD Absent Released	
Chief Joseph Hatchery Broodstock Ladder Collection	483	70	0	6	0	0	256	0	34	0	40	0	15	483	0	0	4	0	36	0	0
Chief Joseph Dam, Creel (May 27- June 30) Expanded with calculated release mortality . Includes 10J proportion	0	16	0.0	0	0	0	60	0.0	0	112	0	0	0	112	0	0	0	0	0	0	0
Total Harvest Release Mortality (mortality associated with harvest actions only)	0	1	0.0	0.0	0.0	0	3.0	0.0	0.0	0	0	0	0	4	0	0	0	0	0	0	0
Harvest Sub-total	0	1	0	0	0	0	3	0.0	0	112	0	0	0	116	0	0	0	0	0	0	0
Handling Mortality Sub-total (mortality associated with non-harvest actions (i.e.CJH broodstock))	0	1	0	0	0	0	3	0	0	0	0	0	0	4	0	0	0.0	0	0	0	0
Total Fish Removed	483	1	0.0	0	0.0	0.0	6	0.0	0	112	0	0.0	0	603	0	0	0	0	0	0	0
Adult Harvest Total Counted Towards Allocation	Spring Chinook Harvest														Sockeye Harvested	Steelhead Harvested					Coho Harvest
	116														0	0					0
Total Adults Removed from the System	Spring Chinook														Sockeye	Steelhead					Coho
	603														0	<1					0

^{1/}- Adiposepresent/no marks/no tags

^{2/}- Adipose present, CWT/PIT

^{3/}- Adipose clipped

^{4/}- NOTE: Wild proportion within the ad-present population sampled at Wells Dam is 0.851

Data exchange

Helping inform the hatchery production decision tree

Data exchange between harvest, hatchery and M&E programs

- *Pre-season*
 - *TAC run forecast*
 - *CCT harvest allocation*
 - *broodstock collection schedule and quota*
- *In-season*
 - *track fish passage, fish harvest & environmental conditions*
 - *revise Chinook broodstock collection quota, if necessary*
- *Post-season*
 - *report Sockeye & Chinook harvest*
 - *by run, by origin (HOR v NOR), by gear type & by fishing location*
 - *analyze and submit tag data (CWT, PIT, radio, anchor, etc.)*

In-season

Tracking fish passage, fish harvest & environmental conditions

- *Weekly monitoring of salmon passage at multiple Columbia River dams.*
 - *Data retrieved from FPC and Columbia River D.A.R.T.*
- *At minimum, weekly tracking of fish harvest and brood collection totals*
- *In-river temperature and discharge monitoring*
 - *USGS Malott provides real-time data on river condition*
 - *Temperature & discharge*
 - *Wells Dam forebay elevation*

Summer Chinook Allocation

2020 CCT allocation with assumptions of ocean harvest

- Initial CCT summer Chinook harvest allocation estimate based on the pre-season TAC run forecast 38,300 which allotted 1,601 fish for the CCT
- Revised CCT summer Chinook harvest allocation estimate was based on the final, TAC run update of 65,494 which allotted 4,120 for the CCT
 - Actual CCT Summer Chinook Harvest 1,879

2020 TAC Returns
Post season
actual

		Columbia River Adult Salmon Returns: Actual and Forecasted [*]		
		2020	2020	2021
		Forecast	Return	Forecast
Spring Chinook	Upriver Total *	\$1,700	\$1,300	75,200
	Upper Columbia	13,600	12,815	13,000
	Upper Columbia natural-origin	2,300	2,189	2,200
	Snake River Spring/Summer **	56,400	51,605	40,000
	Snake River natural-origin **	9,600	14,374	11,100
	Lower River Total	\$4,100	61,194	68,000
	Total Spring Chinook	135,800	142,494	143,200
	<u>Area-specific detail</u>			
	Willamette River	40,800	45,965	50,000
	Sandy River	5,200	7,518	5,300
	Select Areas***	4,300	3,714	6,300
	Cowitz River	1,400	908	1,800
	Kalama River	1,000	1,215	2,200
	Lewis River	1,400	1,874	2,400
	Wind River***	2,000	2,076	1,200
	Drano Lake/Little White Salmon River***	4,600	3,850	3,900
	Hood River***	2,300	n/a	n/a
	Klickitat River***	1,800	1,517	1,500
	Deschutes River***	n/a	1,015	n/a
	John Day River***	2,800	2,095	n/a
	Umatilla River***	900	516	900
	Yakima River***	2,800	2,830	3,200
Summer Chinook	Upper Columbia	38,300	65,494	77,600
Sockeye	Total Sockeye	246,300	345,018	155,600
	Wenatchee	39,400	56,111	27,300
	Okanogan	201,800	273,667	127,300
	Yakima	2,500	11,790	200
	Deschutes	300	n/a	100
	Snake River	2,300	734	700

* All forecasts are rounded to the nearest 100s place.
^{*} Upriver totals are developed by TAC for use in management of U.S. v. OR Fisheries. Wild components are included in the stock total. Area-specific estimates for upriver tributaries detailed here are provided by other agencies/entities and may not sum to TAC's upriver abundance estimates.
^{**} 2020 return is based on current TAC run reconstruction methodology.
^{***} Return to tributary mouth.

12/11/2020

Allocation Options Before Start Date

- Ocean Harvest option 1. (60k Chinook and 120k Coho)--
--resulting CCT allocation 5,528 Chinook
- Ocean Harvest option 2. (50k Chinook and 110k Coho)--
--resulting CCT allocation 5,795 Chinook
- Ocean Harvest option 3. (Closed to non-treaty fishing) --
--resulting CCT allocation 6,572 Chinook (this option is
extremely unlikely, but for legal reasons the PFMC has to consider it)





CJH Ladder Surplus Data

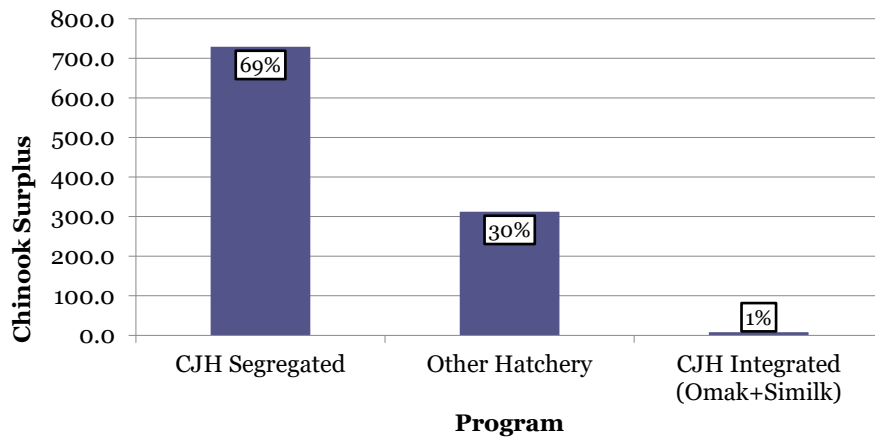
CJH volunteer ladder Chinook removal; June 1- September 30, 2020

Month-	Removed		Returned to Stream		
	HOR Adults	HOR Jacks *	HOR Adults	NOR Adults	NOR Jacks
Jun-2020	-	-	-	-	-
Jul-2020	-	-	-	-	-
Aug-2020	1053	88	-	59	3
Sep-2020	-	-	-	-	-
Total - Summer	1053	88	-	59	3

*includes mini jacks

CJH Ladder Surplus Composition by CWT Analysis

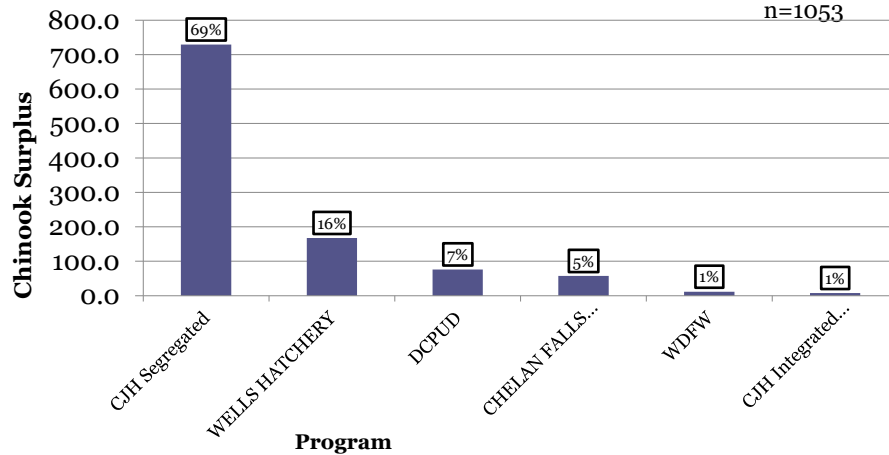
n=1053



CJH Ladder Surplus by CWT Analysis

Adult Fish Only

n=1053





In-season

Tribal member fishing harvest monitoring

*Harvest and effort data collected at Chief Joseph Dam
Tailrace by creel technician*

- *Hook & Line*
 - *May 25 – June 30* *Spring Chinook*
 - *Mid-October – December 7* *Fall Chinook, Coho*
 - *Selective fisheries*
 - *Mandatory release of NOR summer Chinook, Bull trout, sturgeon and all steelhead*
- *Snag Fishery*
 - *July 1– mid-October* *Summer Chinook, Sockeye, steelhead*
 - *Non-selective fishery*
 - *includes a 50% mortality assessed on fish hooked but not landed.*

