

**Mcclellan, Barbara A (DFW)**

---

**From:** Willapa Bay (DFW)  
**Sent:** Thursday, October 03, 2019 2:38 PM  
**To:** Andy Mitby; Bob Lake ; Francis Estalilla; Greg McMillan; Jack Hollingsworth; Jim Sayce; Lance Gray ; Mara Zimmerman ; Marlisa Dugan; Norm Reinhardt; Ross Barkhurst ; Steve Boerner; Tim Hamilton; Aaron Miller; Al Ramsaur ; Allan Hollingsworth; Amy Fenlon ; Andrew Olson; Angel Lund; Angie Butrick ; Anthony Koehn; Art Holman; Bill Buchkowski; Bill Lushenko; Bill Mabe ; Bill Osborn ; Bill Ward ; Bob Haefs; Bob Lucas; Bob Muhlhauser ; Bob Smith; Brian Davern ; Brian Kraemer; Bruce Ogren ; Bruce Urquhart; Bud Wild ; C Biener ; Carl Kellogg; Cary Hofmann; Casey Bradley ; Charles McKown; Chris Holm; Chris Phillips; Chris White ; Dale Beasley ; Dan Dettmann ; Dan Quaschnik ; Dave Hamilton ; Dave Nettin ; David Hadsell ; David Hollingsworth; David Patrick; Dean Antich; Dean Takko; Dennis Harman; Dennis Parks; Diana Bone ; Don Porter; Dottie Dunthorn ; Duane Inglin; Duane Rogers ; Dwayne Everson; Earl Davis; Ed Tharp; Eric Mitby; Frank Blake ; G. Blevins; Gail Petersen; Gary Mawhorter; George Leach ; Greg Kluh ; Greg Larson; Gunther Boettcher; Hope Rieden ; Jack Berryman; James Caron ; Jason Lake ; Jeff Clemons; Jeff McKean; Jeff Skriletz; Jerry Charlton; Jerry Lowe ; Jim Babcock; Jim Paul; Joe Durham; Joe Koski; Joe Muller; Joe Superfisky; Joe Weber ; John Baugher; John Campbell ; John Rabey; John Stanislav; John Stigall; John Tieder ; Josh Bradley; Kelli Erickson; Ken Wirkkala; Kirby Denger ; Kirk Johnston ; Kristi Nelson; Lane Chilman; Larry Brown; Leah Thomas; LeeRoy Wisner; Leslie Pederson; Lisa Olsen; Loren Gee; Lori Craig Ashley; Lucas Stigall; Lyle Cabe; Mark Coleman; Mark Eastham; Mark Lund ; Mark Miller ; Melanie Rabaglia; Michael Bos ; Mike Ainsworth ; Mike Backman ; Mike Morris ; Mike Nordin ; Mike Riggs; Mike Runyon ; Mike Shirley ; Mike Stephens; Mike Wallace; Miranda Wecker; Nicholas Kato ; Nick Larson; Nick Nikkila; Pat Edwards ; Patric Gaffney; Paul Beese; Ray Brown; Ray Gilbertson; Rebecca Chaffee; Rich Runyon; Richard Chaney; Richard Lapinski; Rick Durkin; Rick Lovitt ; Rob Nowowiejski; Robert Coty ; Robert Groves; Robert Rao; Roger Shaw ; Roland Culver; Ron Meek; Ron Rinear ; Ron Schweitzer; Ross Kary ; Russ Perkins; Ryan Moore; Sam Arvan; Sam Arvan ; Shawn Murray; Shawn Murray; Shelley Willet; Steve Aust; Steve Aust; Steve Fransen ; Steve Gacke; Steve Gray ; Ted Schuman; Tim Williams; Todd Bennington; Tom Gibbs WBGN; Tom Guntle ; Tom Moonan; Tom Moonan; Tom Peterson; Walt Weber; Wayne Banta ; Wes Bradley ; William Thomas WBGN; Woody Pierson Jr.; Woody Pierson Sr.  
**Cc:** Herring, Chad J (DFW); Jennings, Lyle F (DFW); Zimmer, Ryan C (DFW); Allan, Robert C (DFW); Losee, James P (DFW); Phillips, Larry C (DFW); John, Ryan W (DFW)  
**Subject:** 2019 Willapa Bay weekly update for stat weeks 39 and part of week 40  
**Attachments:** 2019 WB Recreational Marine Area Catch Estimate thru weeks 39 & 40 10.03.19.pdf; 2019 WB Commercial Fishery Data thru 10.02.19.pdf; 2019 WB Hatchery Chinook Broodstock Summary 10.03.19.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hi Everyone,  
Below is the weekly update for Willapa Bay.

Willapa Bay Recreational Marine Creel Fishery and Monitoring

September 30 was the last day of our recreational creel monitoring of the marine fishery. Effort has dropped way off given it was the end of September but there were still a few boats that went fishing especially over the last weekend of September. For weeks 39 and 40 (Sept 22 - 30), there were no hatchery Chinook landed but there were two coho landed by those few boats that did go fishing. There were no unmarked Chinook encounters. *See attached file: 2019 WB Recreational Marine Area Catch Estimate through weeks 39 & 40 10.03.19.pdf.*

The overall rate for the boat survey work we conducted this year showed that 92.6% of the boats fishing this year in the marine area are exiting the fishery either in Tokeland or South Bend. These are locations where we had staff dockside monitoring four days a week.

Overall, the season went fairly well. Since August 1, we managed to creel an estimated 49% of the entire marine recreational fishery this year. We sampled just over 4,400 anglers out of about 2,000 interviews (boats). We sampled an estimated 600 hatchery Chinook and 600 coho on the dock.

#### Willapa Bay Commercial Fishery and Monitoring

Effort has been low as anticipated in our model. Coho catch has been much lower than predicted to-date. Hatchery Chinook landed was considerably lower for the week compared to the preseason prediction. Currently to-date, we are below the prediction for unmarked Chinook encounters, coho, and chum.

*See attached file: 2019 WB Commercial Fishery Data thru 10.02.19.pdf*

#### Hatchery Rack Returns:

From this point forward, the hatchery information that will be provided will have Chinook broodstock information relative to the Chinook program release goal for each of our facilities.

*See attached file: 2019 WB Hatchery Chinook Broodstock Summary 10.03.19.xlsx*

#### Naselle Hatchery:

There is a new Chinook program release goal for the Naselle Hatchery starting this year of 5,000,000. Last year's program release goal was 2,500,000 Chinook. This additional production is directed at increasing prey availability for Southern Resident Killer Whales. To-date, we have spawned 75 female Chinook. To make the new program goal, we still need an additional 1,592 female Chinook. Currently, we have 663 adult Chinook on-hand in the pond. These fish on-hand will be kept in the pond until next week when we will attempt to spawn again. We also have a high proportion of coho that have volunteered into the hatchery.

#### Nemah Hatchery:

The Chinook program release goal for the Nemah Hatchery is 3,300,000. To-date, we have spawned 93 female Chinook. To make program goal we still need an additional 1,007 female Chinook. Currently, we have 1,458 adult Chinook on-hand in the pond. These fish will remain in the pond until next week's spawn.

#### Forks Creek Hatchery:

There is a new Chinook program release goal for Forks Creek Hatchery starting this year of 400,000. Last year's program release goal was 350,000 Chinook. This additional production is directed at increasing prey availability for Southern Resident Killer Whales. To-date, we have not spawned any Chinook at Forks Creek. To make program goal, we will need 133 female Chinook. Currently, we have 25 adult Chinook on-hand in the facility. These fish will remain in the pond until next week's spawn.

#### Spawning Ground Surveys

We started walking all of our Chinook indexes last week (week 39) and most of the Chum indexes as well. We started to see Chinook spawning two weeks ago (week 38) in the Willapa, Nemah, and Naselle rivers and spawning is beginning to pick up. Peak Chinook spawning will be over the next month. We will likely start our Chinook supplemental surveys next week. Chinook mortalities this week (week 40) so far have come down compared to last week (week 39) and are currently at normal levels. We still have a large proportion of coho staging below the Naselle weir. To-date, we have not seen any chum in our spawning ground surveys.

#### Willapa Bay Salmon Advisory Group:

We have scheduled two advisory group meetings; one October 24 and one November 21. The purpose of these meetings is to review the draft comprehensive review document. These meetings are open to the public and both meetings will be held at the Raymond Elk Lodge in Raymond, WA from 6 p.m. to 8 p.m. The meetings have been posted to the advisory group page of our website. The link to the Willapa Bay advisory group page is listed below.

As always, in-season data is preliminary and subject to change.

If you have any questions regarding any of the information provided, please reply to this email or send an email to [WillapaBay@dfw.wa.gov](mailto:WillapaBay@dfw.wa.gov).

Thank you,

Barbara McClellan  
Willapa Bay Fisheries Biologist  
WDFW Region 6 Montesano

WDFW online links:

Willapa Bay Marine Area 2.1 Recreational Creel Monitoring: <https://wdfw.wa.gov/fishing/reports/creel/willapa-bay>

Willapa Bay Advisory Group: <https://wdfw.wa.gov/about/advisory/wbsag>

Willapa Bay & Grays Harbor (non-treaty) commercial salmon fisheries (regulations & landed catch)  
<https://wdfw.wa.gov/fishing/commercial/gillnet#information>



2019 Willapa Bay Marine Area Recreational Catch Estimate

PRELIMINARY/DRAFT

updated 10/2/2019

CHK = Chinook  
AD = Adipose clipped (hatchery origin)  
UM = Unmarked

CPUE = Catch per unit effort  
Effort = An individual angler trip

July (Ocean 2 Rules)

Stat Week	Expanded Data				Expanded Data				Expanded Data			
	# Boats	# Anglers	Estimated Total Chinook Kept	Total Chinook CPUE	Estimated Total UM Chinook Kept	Willapa Origin Chinook UM Impacts	Estimated Total AD Chinook Kept	Willapa Origin Chinook AD Impacts	Estimated Total Coho Kept	Estimated Total AD Coho Kept	Estimated Total UM Coho Kept	Total Coho CPUE
25 & 26	31	70	4	0.057	0	0	4	1	0	0	0	0.000
27	62	169	24	0.142	4	1	20	6	5	5	0	0.030
28	77	176	45	0.256	3	1	42	12	16	16	0	0.091
29	40	93	15	0.161	3	1	12	4	14	14	0	0.151
30	196	443	222	0.501	28	8	194	57	43	43	0	0.097
31	81	153	32	0.209	6	2	26	8	2	2	0	0.013
Season Total	487	1,104	342	0.310	44	13	298	86	80	80	0	0.072

August and September

Stat Week	Dates	Strata	Strata Description	Actual Data			Expanded # Total Boats	Sample Rate	Actual Data			Chinook Retained				Chinook Released				Marked Coho			Unmarked Coho			Total Coho					
				# Boats Sampled	# Boats Not Sampled	# Total Boats			# Anglers Sampled	# Anglers per boat	Expanded # Total Anglers	# CHK AD Kept	CHK AD CPUE	Expanded # CHK AD Kept	# WB Origin CHK AD Impacts	# CHK UM Kept	CHK UM CPUE	Expanded # CHK UM Kept	# CHK UM Released	CHK UM CPUE	Estimated Expanded CHK UM Encounters	Estimated Total CHK UM Impacts	# WB Origin CHK UM Impacts	# Coho AD Kept	Coho AD CPUE	Expanded # Coho AD Kept	# Coho UM Kept	Coho UM CPUE	Expanded # Coho UM Kept	Total Coho CPUE (AD+UM)	Total Expanded # Coho Kept (AD + UM)
31	08/01/19	1	Thur	26	1	27	29	89%	55	2.12	62	5	0.091	6	4	0	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0.018	1
31	8/2 - 08/4	2	Fri - Sun	46	2	48	78	59%	99	2.15	167	11	0.111	19	12	0	0.000	0	5	0.051	8	1	1	4	0.040	7	0	0.000	0	0.040	7
32	8/5 - 8/8	1	Mon - Thur	97	3	100	216	45%	199	2.05	443	44	0.221	98	62	0	0.000	0	15	0.075	33	5	3	4	0.020	9	1	0.005	2	0.025	11
32	8/9 - 8/11	2	Fri - Sun	128	26	154	249	51%	281	2.20	547	74	0.263	144	91	1	0.004	1	13	0.046	25	4	2	14	0.050	27	4	0.014	8	0.064	35
33	8/12 - 8/15	1	Mon - Thur	100	2	102	220	45%	213	2.13	469	21	0.099	46	29	1	0.005	1	9	0.042	20	3	2	9	0.042	20	3	0.014	7	0.056	26
33	8/16 - 8/18	2	Fri - Sun	240	23	263	426	56%	551	2.30	978	90	0.163	160	101	0	0.000	0	47	0.085	83	12	7	19	0.034	34	3	0.005	5	0.040	39
34	8/19 - 8/22	1	Mon - Thur	177	12	189	408	43%	381	2.15	878	51	0.134	118	75	0	0.000	0	21	0.055	48	7	4	15	0.039	35	6	0.016	14	0.055	48
34	8/23 - 8/25	2	Fri - Sun	294	49	343	555	53%	697	2.37	1,317	104	0.149	196	125	0	0.000	0	62	0.089	117	16	10	42	0.060	79	19	0.027	36	0.088	115
35	8/26 - 8/29	1	Mon - Thur	171	2	173	373	46%	358	2.09	782	66	0.184	144	91	2	0.006	3	51	0.142	111	16	10	21	0.059	46	5	0.014	11	0.073	57
35	8/30 - 9/01	2	Fri - Sun	115	8	123	199	58%	293	2.55	507	19	0.065	33	21	1	0.003	2	24	0.082	42	6	4	29	0.099	50	24	0.082	42	0.181	92
36	9/2-9/5	1	Mon - Thur	100	8	108	233	43%	216	2.16	504	16	0.074	37	24	0	0.000	0	21	0.097	49	7	4	51	0.236	119	15	0.069	35	0.306	154
36	9/6-9/8	2	Fri - Sun	168	14	182	393	43%	372	2.21	870	50	0.134	117	74	0	0.000	0	39	0.105	91	13	8	80	0.215	187	37	0.099	87	0.315	274
37	09/6-9/12	1	Mon - Thur	98	2	100	216	45%	197	2.01	434	17	0.086	37	24	0	0.000	0	11	0.056	24	3	2	49	0.249	108	40	0.203	88	0.452	196
37	9/13-9/15	2	Fri - Sun	127	2	129	209	61%	280	2.20	460	17	0.061	28	18	0	0.000	0	21	0.075	35	5	3	59	0.211	97	26	0.093	43	0.304	140
38	9/16-9/19	1	Mon - Thur	6	7	13	28	21%	11	1.83	51	0	0.000	0	0	0	0.000	0	0	0.000	0	0	0	0	0.000	0	2	0.182	9	0.182	9
38	9/20-9/22	2	Fri - Sun	25	6	31	67	37%	53	2.12	142	2	0.038	5	3	0	0.000	0	4	0.075	11	1	1	17	0.321	46	6	0.113	16	0.434	62
39	9/23-9/26	1	Mon - Thur	5	0	5	11	46%	5	1.00	11	0	0.000	0	0	0	0.000	0	0	0.000	0	0	0	0	0.000	0	0	0.000	0	0.000	0
39	9/27-9/29	2	Fri - Sun	10	2	12	19	51%	10	1.00	19	0	0.000	0	0	0	0.000	0	0	0.000	0	0	0	1	0.100	2	1	0.100	2	0.200	4
40	9/30/2019	1	Mon - Thur	2	0	2	4	46%	2	1.00	4	0	0.000	0	0	0	0.000	0	0	0.000	0	0	0	0	0.000	0	0	0.000	0	0.000	0
TOTALS				1,935	169	2,104	3,930	49%	4,273	2.21	8,646	587	0.137	1,188	753	5	0.001	7	343	0.080	688	98	62	415	0.097	866	192	0.045	404	0.142	1,270

**Willapa Bay Origin PreSeason Recreational Data**

Preliminary/Draft

Stat Wk	Date	Harvest Rate Proportions	Willapa Bay <b>Natural-Origin</b> Fall Chinook				Willapa Bay <b>Hatchery-Origin</b> Fall Chinook				
			Preseason Prediction		In-season Estimate		Harvest Rate Proportions	Preseason Prediction		In-season Estimate	
			NOR	Cumulative Total	WB Origin	Cumulative Total		HOR	Cumulative Total	WB Origin	Cumulative Total
25-26	6/22 - 6/29	0.0043	1	1	0	0	0.0046	1	1	1	1
27	6/30/2007	0.0043	1	2	1	1.2	0.0046	7	8	6	7
28	7/8 - 7/14	0.0022	0	2	1	2	0.0070	10	18	12	20
29	7/15 - 7/21	0.0119	2	4	1	3	0.0102	15	33	4	23
30	7/22 - 7/28	0.0043	1	5	8	11	0.0297	44	77	57	81
31	7/29 - 8/3	0.0142	2	7	3	14	0.0287	42	119	23	104
32	8/4 - 8/10	0.0857	15	22	6	20	0.1062	157	276	153	257
33	8/11 - 8/17	0.1490	25	47	11	31	0.1343	198	474	131	388
34	8/18 - 8/24	0.2299	39	86	15	45	0.2176	321	794	199	587
35	8/25 - 8/31	0.2829	48	134	18	64	0.2487	367	1,161	112	699
36	9/1 - 9/7	0.1013	17	152	12	76	0.1167	172	1,333	98	797
37	9/8 - 9/14	0.0826	14	166	5	81	0.0664	98	1,431	41	838
38	9/15 - 9/21	0.0194	3	169	1	82	0.0251	37	1,468	3	842
39	9/22 - 9/28	0.0073	1	170	0	82	0.0015	2	1,470	0	842
40	9/29 - 9/30	0.0037	1			82	0.0014	2	1,472		842
41		0.0000	0			82	0.0007	1	1,473		842
			170		82			1,474		842	

## 2019 Willapa Bay Chinook Broodstock Summary

### Naselle Hatchery

Program Release	Fecundity # eggs/female	# of Females Needed	# Females Broodstocked to-date	# Females still needed	# Adults On-hand at the facility
5,000,000	3,000	1,667	75	1,592	663

### Nemah Hatchery

Program Release	Fecundity # eggs/female	# of Females Needed	# Females Broodstocked to-date	# Females still needed	# Adults On-hand at the facility
3,300,000	3,000	1,100	93	1,007	1,458

### Forks Creek Hatchery

Program Release	Fecundity # eggs/female	# of Females Needed	# Females Broodstocked to-date	# Females still needed	# Adults On-hand at the facility
400,000	3,000	133	0	133	25



2019 Willapa Bay CHINOOK Landed Catch

MSF

Preliminary Draft

COMMERCIAL

Stat Week	Dates	Catch Areas																				Basin Total Landed	Basin Willapa Origin NOR Landed	Basin Willapa Origin HOR Landed
		2T				2U				2N				2R				2M						
		Total Landed	UM %	Landed NOR	Landed HOR	Total Landed	UM %	Landed NOR	Landed HOR	Total Landed	UM %	Landed NOR	Landed HOR	Total Landed	UM %	Landed NOR	Landed HOR	Total Landed	UM %	Landed NOR	Landed HOR			
36	Sept. 2 - 8	Closed				Closed				258	N/A	258		Closed				428	N/A	428		686	0	686
37	Sept. 9 - 15	Closed				Closed				78	N/A	78		Closed				Closed				78	0	78
38	Sept. 16 - 22	179	N/A	179		187	N/A	187		15	N/A	15		Closed				243	N/A	243		624	0	624
39	Sept. 23 - 29	12	N/A	12		29	N/A	29		9	N/A	9		Closed				15	N/A	15		65	0	65
40	Sept. 30 - Oct. 6	14	N/A	14		22	N/A	22		3	N/A	3		Closed				15	N/A	15		54	0	54
41	Oct. 7 - 13		N/A	0			N/A	0			N/A	0		Closed					N/A	0		0	0	0
42	Oct. 14 - 20	Closed				0	0	0																
43	Oct. 21 - 27	Closed				0	0	0																
44	Oct 28. - Nov. 3		N/A	0			N/A	0			N/A	0		Closed					N/A	0		0	0	0
45	Nov. 4 - 10		N/A	0			N/A	0			N/A	0		Closed					N/A	0		0	0	0
46	Nov. 11 - 17		N/A	0			N/A	0			N/A	0				0	0		N/A	0		0	0	0
47	Nov. 18 - 24		N/A	0			N/A	0			N/A	0				0	0		N/A	0		0	0	0
48	Nov. 25 - Dec. 1		N/A	0			N/A	0			N/A	0				0	0		N/A	0		0	0	0
<b>Total Landed</b>		<b>205</b>	<b>0</b>	<b>205</b>		<b>238</b>	<b>0</b>	<b>238</b>		<b>363</b>	<b>0</b>	<b>363</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>701</b>	<b>0</b>	<b>701</b>		<b>1,507</b>	<b>0</b>	<b>1,507</b>

Stat Weeks	2T		2U		2N		2R		2M		In-season NOR Impacts	In-season HOR Impacts	PRESEASON Total NOR Impacts (Local + Non local)	PRESEASON Total HOR Impacts (Local + Non local)	Totals
	NOR Impacts	HOR Impacts													
36	0	0	0	0	13	263			28	436	41	698	37	489	36
37	0	0	0	0	6	81			0	0	6	81	49	626	37
38	33	189	22	193	2	15			21	253	77	651	228	1,164	38
39	7	13	17	31	9	10			16	17	50	72	112	393	39
40	16	21	15	28	4	4			18	22	52	75	61	202	40
41	0	0	0	0	0	0			0	0	0	0	30	94	41
42	0	0	0	0	0	0			0	0	0	0	0	0	42
43	0	0	0	0	0	0			0	0	0	0	0	0	43
44	0	0	0	0	0	0			0	0	0	0	0	0	44
45	0	0	0	0	0	0			0	0	0	0	2	6	45
46	0	0	0	0	0	0			0	0	0	0	0	0	46
47	0	0	0	0	0	0			0	0	0	0	0	2	47
48	0	0	0	0	0	0			0	0	0	0	0	0	48
<b>Totals</b>	<b>57</b>	<b>223</b>	<b>54</b>	<b>252</b>	<b>33</b>	<b>374</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>83</b>	<b>728</b>	<b>1,577</b>	<b>519</b>	<b>2,976</b>	<b>Totals</b>

2019 WB Total CHINOOK NOR Fishery Impacts Summary

MSF

Actual Catch + impacts

Preliminary Draft

Stat Weeks	2T			2U			2N			2R			2M			Stat Weeks	In-season Estimated Natural-Origin Impacts		Preseason Predicted Natural-Origin Impacts	
	In-season Total NOR Impacts	In-season Local NOR Impacts	Predicted NOR Impacts	In-season Total NOR Impacts	In-season Local NOR Impacts	Predicted NOR Impacts	In-season Total NOR Impacts	In-season Local NOR Impacts	Predicted NOR Impacts	In-season Total NOR Impacts	In-season Local NOR Impacts	Predicted NOR Impacts	In-season Total NOR Impacts	In-season Local NOR Impacts	Predicted NOR Impacts		Weekly	Cumulative	Weekly	Cumulative
36	0	0	0	0	0	0	13	9	16	0	0	0	28	26	13	36	36	36	30	30
37	0	0	0	0	0	0	6	4	36	0	0	0	0	0	0	37	4	40	36	66
38	33	21	41	22	20	95	2	1	14	0	0	0	21	19	44	38	62	101	194	260
39	7	5	31	17	16	18	9	7	5	0	0	0	16	15	38	39	43	144	92	352
40	16	10	11	15	14	32	4	3	1	0	0	0	18	16	8	40	43	187	53	405
41	0	0	13	0	0	6	0	0	0	0	0	0	0	0	4	41	0	187	24	429
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	0	187	0	429
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	0	187	0	429
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	0	187	0	429
45	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	45	0	187	2	431
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	0	187	0	431
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	0	187	0	431
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48	0	187	0	431
<b>Totals</b>	<b>57</b>	<b>36</b>	<b>97</b>	<b>54</b>	<b>51</b>	<b>152</b>	<b>33</b>	<b>24</b>	<b>72</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>83</b>	<b>76</b>	<b>107</b>	<b>Totals</b>	<b>187</b>	<b>187</b>	<b>431</b>	<b>431</b>

Tangle Net

13

26

Stat	2T			2U			2N			2R			2M			WB In-season			WB Preseason Predicted						
	Landed Catch	UnMarked %	Estimated NOR	Landed Catch	UnMarked %	Estimated NOR	Landed Catch	UnMarked %	Estimated NOR	Landed Catch	UnMarked %	Estimated NOR	Landed Catch	UnMarked %	Estimated NOR	Landed Catch	UnMarked %	Estimated NOR	Landed Catch	UnMarked %	Estimated NOR				
36	Closed			Closed			77	0.241	19	58	Closed			109	0.174	19	90	38	148	186	30	379	409		
37	Closed			Closed			113	0.212	24	89	Closed			24	89	113	139	670	809						
38	1,635	0.299	489	1,146	0.113	131	1,025	0.189	17	72	Closed			1,434	0.224	322	1,112	959	3355	4314	1,892	5,523	7,415		
39	262	0.373	98	164	0.390	499	304	0.413	27	38	Closed			366	0.368	135	231	454	738	1192	681	4,496	5,177		
40	266	0.52	137	129	0.513	459	224	0.300	11	27	Closed			247	0.495	122	125	506	504	1010	2,094	5,600	7,694		
41			0	0		0	0		0	0	Closed					0	0	0	0	3,120	1,500	4,620			
42	Closed			Closed																					
43	Closed			Closed																					
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,267	506	1,773		
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	122	84	206		
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	452	212	664		
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72	25	97		
Total	2,163		724	1,439	2,114		561	1,553	382		98	284	0	0	0	0	2,156	598	1,558	1,981	4,834	6,815	9,869	18,995	28,864

**2019 Estimated WB Commercial CHUM Mortalities**

yellow = Chum release required

*Preliminary Draft*

Gillnet release mortality 0.59 includes drop off

Stat Week	Landed Chum	Chinook Landed	Coho Landed	Encounter Ratio	Chum Encounters	Stat Weeks	In-season Estimated Chum Impacts		Preseason Predicted Chum Impacts	
							Weekly	Cumulative	Weekly	Cumulative
36	0	686	186		0	36	0	0	3	3
37	0	78	113		0	37	0	0	2	5
38	10	624	4,314		0	38	10	10	23	28
39	17	65	1,192		0	39	17	27	98	126
40	39	54	1,010		0	40	39	66	395	521
41		0	0		0	41	0	66	2,099	2,620
42	Closed					42	0	66	0	2,620
43	Closed					43	0	66	0	2,620
44		0	0		0	44	0	66	0	2,620
45		0	0		0	45	0	66	1,291	3,911
46		0	0		0	46	0	66	613	4,524
47		0	0		0	47	0	66	175	4,699
48		0	0		0	48	0	66	95	4,794
<b>Totals</b>	<b>66</b>	<b>1,507</b>	<b>6,815</b>		<b>0</b>	<b>Totals</b>	<b>66</b>		<b>4,794</b>	

