CB 5-26-16
5-26-16

TABLE 2A: COHO FISHERY IMPACT SUMMARY HIGHLIGHTS 05/26/16

Estimated fishery impacts from regulations described by the following FRAM run: 10:47 AM

FRAM Run Number: Coho1637 1

Run Description: PFMC April 14 Final Ocean/WA Coast Term - May 2016 NOF

Impacts are expressed as total fishery-related mortality, incl. landed catch, non-retention mort., and other fishery-related mort.

FISHERY	SKAGIT Wild	STILLY Wild	SNOHOM Wild	HOOD CANAL Wild	JUAN DE FUCA TRIBS Wild
Projected Spawning Escapement	8,264	2,553	15,666	20,804	4,203
Spawning Low/Normal Esc. Breakpoint	25,000	10,000	50,000	14,350	11,000
Projected Exploitation Rate (all fisheries)	7.4%	8.0%	6.6%	41.3%	5.2%
Exploitation Rate Ceiling (updated annually)	10%	10%	10%	45%	10%
Exploitation in Southern U.S. Fisheries	5.3%	6.8%	5.4%	38.3%	2.5%
CANADIAN	183	32	199	1,065	95
ALASKA	0	0	0	10	24
S. of Falcon Troll	1	0	3	12	2
S. of Falcon Sport	5	2	11	21	16
NORTH OF CAPE FALCON OCEAN:					
Treaty Troll	5	1	5	21	1
NT Troll N. Leadbttr	10	3	20	64	3
NT Troll S. Leadbttr	3	1	7	10	2
Sport: Area 1	2	0	3	11	1
Buoy 10	0	0	0	6	0
Area 2	14	3	20	72	7
Area 3	4	1	8	19	2
Area 4 *	29	5	28	133	5
PUGET SOUND:					
Treaty Troll	2	1	4	10	0
Sport: Areas 5	18	3	16	88	6
Area 6	1	0	1	8	0
Area 7	15	1	7	15	0
Area 8-1,2	1	1	7	1	0
Area 9	19	2	14	82	0
Area 12	1	0	0	1,210	0
Area 10	18	2	10	64	0
Area 11	2	1	4	19	0
Area 13	8	0	1	6	0
Freshwater Sport	11	1	17	70	0
Pre-terminal net:					
6/7/7A NTrty	11	0	2	11	4
6/7/7A Trty	35	1	7	34	10
4B/5/6C NTrty	0	0	0	0	0
4B/5/6C Trty	21	6	34	164	36
	--	--	--	--	--
	--	--	--	--	--
Terminal net:					
Skagit Bay (8) NTrty	0	0	0	0	0
Skagit Bay (8) Trty	0	0	0	0	0
Area 8A Ntrty	0	0	0	0	0
Area 8A Trty	0	0	0	0	0
Hood Canal NTrty	1	0	2	1,690	4
Hood Canal Trty	5	2	11	7,535	11
South Pgt Snd NTrty	1	0	2	87	0
South Pgt Snd Trty	1	0	2	132	1
B'ham Bay(7B) Ntrty	26	1	5	3	0
B'ham Bay(7B) Trty	58	2	10	8	0
Local Extreme Terminal Net:					
Nontreaty	0	0	0	131	0
Treaty	0	149	646	1,847	0
Test	149	n/a	n/a	n/a	n/a

TABLE 2D: COHO FISHERY IMPACT SUMMARY HIGHLIGHTS

Estimated fishery impacts from regulations described by the following FRAM run: 05/26/16

FRAM Run Number: Coho1637 10:47 AM

Run Description: PFMC April 14 Final Ocean/WA Coast Term - May 2016 NOF

Impacts are expressed as total fishery-related mortality, incl. landed catch, non-retention mort., and other fishery-related mort. Trty/NonTrty splits are NOT based on CWT recovery data.

FISHERY	SOUTH PUGET SOUND Wild	Marked	UnMarked	SOUTH PU Total	NOOKSACK-SAMISH Wild	Marked	UnMarked	NOOKSACK Total
Projected Spawning Escapement	7,706	20,864	8,604	29,468	3,215	6,398	3,248	9,646
Spawning Escapement Objective	n/a				n/a			
Projected Exploitation Rate (all fisheries)	22.7%				64.6%			
Exploitation in Southern U.S. Fisheries	21.2%				61.6%			
CANADIAN	148	1,704	164	1,868	264	3,030	268	3,298
ALASKA	0	2	0	2	1	4	1	5
S. of Falcon Troll	3	8	3	11	1	5	1	6
S. of Falcon Sport	6	59	7	66	4	55	4	59
NORTH OF CAPE FALCON OCEAN:								
Treaty Troll	5	16	6	22	5	15	5	20
NT Troll N. Leadbttr	12	34	14	48	8	24	8	32
NT Troll S. Leadbttr	3	9	4	13	1	3	1	4
Sport: Area 1	2	30	3	33	1	21	1	22
Buoy 10	0	1	0	1	0	2	0	2
Area 2	15	41	17	58	12	39	13	52
Area 3	5	12	5	17	5	17	5	22
Area 4 *	29	78	32	110	26	82	27	109
PUGET SOUND:								
Treaty Troll	1	4	2	6	0	1	0	1
Sport: Areas 5	18	49	20	69	12	39	13	52
Area 6	1	3	1	4	1	3	1	4
Area 7	4	10	4	14	26	77	26	103
Area 8	0	17	7	24	0	0	0	0
Area 9	33	90	36	126	0	1	0	1
Area 12	0	0	0	0	90	275	92	367
Area 10	77	211	47	258	1	3	1	4
Area 11	42	114	86	200	0	0	0	0
Area 13	58	133	63	196	0	0	0	0
Freshwater Sport	9	55	12	67	67	987	68	1,055
Pre-terminal net:								
6/7/7A NTrty	4	13	4	17	75	239	76	315
6/7/7A Trty	11	29	12	41	213	624	216	840
4B/5/6C NTrty	0	0	0	0	0	0	0	0
4B/5/6C Trty	26	71	29	100	12	36	12	48
	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Terminal net:								
Skagit Bay (8) NTrty	0	0	0	0	0	0	0	0
Skagit Bay (8) Trty	0	0	0	0	0	0	0	0
Area 8A Ntrty	0	0	0	0	0	0	0	0
Area 8A Trty	0	0	0	0	0	0	0	0
Hood Canal NTrty	13	38	15	53	2	5	2	7
Hood Canal Trty	55	151	61	212	5	15	5	20
South Pgt Snd NTrty	62	182	71	253	2	5	2	7
South Pgt Snd Trty	1,211	1,894	1266	3,160	1	4	1	5
B'ham Bay(7B) Ntrty	6	16	7	23	1,172	3,814	1,190	5,004
B'ham Bay(7B) Trty	13	35	15	50	2,671	8,668	2,712	11,380
Local Extreme Terminal Net:								
Nontreaty	n/a			n/a	n/a			n/a
Treaty	366	1508	420	1,928	1,177	4553	1199	5,752
Test	25				n/a			n/a

TABLE 2C: COHO FISHERY IMPACT SUMMARY HIGHLIGHTS

Estimated fishery impacts from regulations described by the following FRAM run:

FRAM Run Number: Coho1637 05/26/16

Run Description: PFMC April 14 Final Ocean/WA Coast Term - May 2016 NOF 10:47 AM

Impacts are expressed as total fishery-related mortality, incl. landed catch, non-retention mort., and other fishery-related mort. Trty/NonTrty splits are NOT based on CWT recovery data.

FISHERY	QUIL FALL Wild	HOH Wild	QUIL FALL H&W Marked	QUIL FALL H&W UnMarked	QUEETS Wild	QUEETS Hatchery	GRAYS HARBOR Marked	GRAYS HARBOR UnMarked	GRAYS HARBOR Wild	GRAYS HARBOR Marked	GRAYS HARBOR UnMarked	WILLAPA BAY Wild
Projected Ocean Escapement	4,340	1,924	4,785	5,715	3,155	3,738	3,158	3,735	34,481	20,455	35,500	37,391
Spawning Escapement Objective												
*Revised 2016 value	*4,000	*1,800			*2,900				*31,000			
Projected Marine Exploitation Rate	3%	7%			8%				3%			
Projected Exploitation Rate (all fisheries)	10%	14%			17.6%				14%			
Exploitation in Southern U.S. Marine Fisheries	2%	3%			5%				1%			
CANADIAN	52	66	106	68	95	324	307	110	474	699	487	
ALASKA	3	9	3	4	5	7	6	7	156	87	159	
S. of Falcon Troll	6	3	7	9	9	11	10	11	23	13	24	
S. of Falcon Sport	10	10	49	13	34	126	121	39	159	230	164	
NORTH OF CAPE FALCON OCEAN:												
Treaty Troll	4	3	4	4	4	6	5	6	11	6	11	
NT Troll N. Leadbttr	15	9	17	20	27	33	28	31	46	26	47	
NT Troll S. Leadbttr	3	3	3	4	7	9	8	8	27	16	28	
Coastal terminal area "dip-ins"	13	12	14	18	100	159	133	126	192	109	197	
Sport: Area 1	5	3	25	6	11	59	57	13	45	126	46	
Buoy 10	1	1	5	1	1	7	7	2	18	49	18	
Area 2	15	15	17	20	39	49	41	46	123	70	126	
Area 3	3	4	4	5	5	7	6	6	15	8	15	
Area 4 *	5	5	6	7	10	12	10	11	19	11	20	
PUGET SOUND CATCHES:												
Treaty Troll	0	0	0	0	0	0	0	0	0	0	0	
Sport: Areas 5	2	1	3	3	2	2	2	2	5	3	5	
Area 6	0	0	0	0	0	0	0	0	0	0	0	
Areas 7-13	2	0	2	2	0	0	0	0	0	0	0	
Nontreaty Net	0	0	0	0	4	4	3	4	2	1	2	
Treaty Net	3	3	3	4	12	12	11	12	19	11	20	
LOCAL TERMINAL												
Nontreaty Net	--	--	--	--	--	--	--	--	575	------>>	------>>	
Treaty Net	279	151	------>>	------>>	254	2325	------>>	------>>	2269	------>>	------>>	
Sport	5	1	------>>	------>>	0	38	------>>	------>>	731	------>>	------>>	

TABLE 2E: COHO FISHERY IMPACT SUMMARY HIGHLIGHTS

Estimated fishery impacts from regulations described by the following FRAM run: 05/26/16

FRAM Run Number: Coho1637 10:47 AM

Run Description: PFMC April 14 Final Ocean/WA Coast Term - May 2016 NOF

Impacts are expressed as total fishery-related mortality, incl. landed catch, non-retention mort., and other fishery-related mort.

ISH / FISHERY	Lummi Bay Hatchery	Skookum Crk Hatchery	Skagit/ Marblemount	Snoh/ Wallace	Tulalip Hatchery	Issaquah/ Lake WA	Green River (Soos+Keta)	Puyallup/ Voights	Minter Hatchery	Nisqually Hatchery	George Adams	Quilcene NFH	Dungeness Hatchery	Elwha Hatchery
Projected Spawning Escapement	**3,339**	**3,091**	**3,430**	**1,695**	**14,254**	**3,121**	**9,813**	**5,310**	**911**	**959**	**13,454**	**17,078**	**1,243**	**681**
Hatchery Escapement Goal	3,500	3,500	400	5,750 goal w/2,400 priority MOU		2,000	8,000	1,800	2,410	1,280	550	1,500	500	350
Preterminal NT SUS ER	17.1%	16.1%	2.1%	0.9%	1.2%	3.8%	4.0%	4.1%	4.0%	4.1%	8.3%	12.0%	1.5%	1.2%
Projected Exploitation Rate (all fisheries)	61.9%	84.6%	14.3%	5.3%	23.6%	11.2%	13.4%	30.5%	11.7%	11.9%	44.6%	54.9%	57.5%	7.8%
Exploitation in Southern U.S. Fisheries	51.2%	74.2%	5.9%	1.3%	18.5%	5.0%	7.4%	24.4%	5.6%	5.8%	35.6%	45.6%	51.2%	2.4%
CANADIAN	944	2086	337	71	959	215	682	462	63	66	2159	3531	171	36
ALASKA	1	3	0	0	0	0	0	0	0	0	6	10	14	4
S. of Falcon Troll	1	4	0	0	3	1	3	2	0	0	9	13	1	0
S. of Falcon Sport	17	38	6	2	43	8	23	15	2	2	56	92	19	5
NORTH OF CAPE FALCON OCEAN:														
Treaty Troll (Area 2/3/4/4B)	5	10	2	0	6	1	6	4	0	0	15	23	1	0
NT Troll N. Leadbttr (Area 2/3/4/4B)	7	17	4	2	21	4	14	11	1	3	43	71	3	0
NT Troll S. Leadbttr (Area 1)	1	2	1	1	7	1	3	2	0	0	6	11	1	0
Sport: Area 1	7	15	3	1	14	4	12	8	1	1	29	48	4	1
Buoy 10	1	1	0	0	0	0	1	0	0	0	16	26	0	0
Area 2	12	27	6	2	21	5	17	11	2	2	49	81	5	1
Area 3	5	11	1	1	8	2	5	3	0	0	13	21	1	0
Area 4 *	26	57	12	3	30	10	32	22	3	3	89	148	3	1
Columbia River Fisheries	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PUGET SOUND:														
Treaty Troll (Area 5-6C)	0	1	1	0	4	0	2	1	0	0	7	11	0	0
Sport: Areas 5	12	27	8	2	17	6	20	13	2	2	60	98	4	1
Area 6	1	2	0	0	1	0	1	1	0	0	5	9	0	0
Area 7	24	53	6	0	7	1	4	3	0	0	10	16	0	0
Area 8-1,2	0	0	0	1	4	2	7	5	1	1	0	1	0	0
Area 9	0	0	9	1	16	11	38	25	3	3	55	93	0	0
Area 12	86	190	0	0	0	0	0	0	0	0	778	1337	0	0
Area 10	1	2	8	1	11	27	88	58	8	8	43	70	0	0
Area 11	0	0	1	0	5	14	47	32	4	4	13	21	0	0
Area 13	0	0	4	0	1	16	52	36	6	7	4	5	0	0
Freshwater Sport	0	988	4	2	0	0	5	51	0	1	0	0	454	0
Pre-terminal net:														
6/7/7A NTrty	74	167	6	0	3	2	5	3	0	1	8	12	2	0
6/7/7A Trty	193	434	15	1	7	3	13	7	1	1	23	33	7	1
4B/5/6C NTrty	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4B/5/6C Trty	11	25	9	3	36	9	29	20	3	3	106	190	23	6
Terminal net:														
Skagit Bay (8) NTrty	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skagit Bay (8) Trty	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Area 8A Ntrty	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Area 8A Trty	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hood Canal NTrty	1	3	0	0	3	4	17	10	1	1	671	2278	2	0
Hood Canal Trty	5	10	1	0	12	17	66	42	5	5	3721	11150	8	2
South Pgt Snd NTrty	1	3	0	0	2	13	57	48	6	6	62	100	0	0
South Pgt Snd Trty	1	3	0	0	2	10	65	47	7	5	83	140	0	0
B'ham Bay (7BCD) Ntrty	1222	2611	11	0	5	2	6	4	1	1	2	4	0	0
B'ham Bay (7BCD) Trty	2773	5936	25	1	11	4	15	9	1	1	5	9	0	0
Local Extreme Terminal Net:														
Nontreaty					0								498	
Treaty		4257	94		3153	0	184	1370		2	2668	1172	461	0
Coastal Terminal Net & Sport:	0	0	0	0	0	0	0	0	0	0	1	2	0	0

TABLE 4: SUMMARY OF COHO EXPLOITATION RATES BY FISHERY AGGREGATE

Predicted Exploitation Rates for Total Fishery-Related Mortality

FRAM Run Number: Coho1637

Run Description: PFMC April 14 Final Ocean/WA Coast Term - May 2016 NOF

05/26/16
10:47 AM

STOCK->		Skagit Wild	Stilly Wild	Snohom Wild	HdCnl Wild	JDF Tribs Wild	South Sound Wild	Nooksack Wild	Quillayute Fall Wild	Hoh Wild	Queets Wild	Grys Hbr Wild
Predicted Spawning Escapement		8,264	2,553	15,666	20,804	4,203	7,706	3,215	n/a	n/a	n/a	n/a
Ocean Escapement *		n/a	n/a	n/a	n/a	n/a	n/a	n/a	4,340	1,924	3,155	34,481
RUN RECONSTRUCTION[1]												
Ocean/Pre-term. Marine Fishery Mortality		408	66	411	3,156	214	503	758	129	135	265	1,142
Nonlocal Mixed-terminal Fishery Mortality		92	5	32	230	16	87	10	13	12	100	192
Local Mixed Term. Marine Fishery Mortality		0	0	0	9,225	0	1,273	3,843	n/a	n/a	n/a	n/a
Extreme Terminal & FW NTRTY		11	1	17	201	0	9	67	n/a	n/a	n/a	n/a
Extreme Terminal & FW TRTY		0	149	646	1,847	0	366	1,177	n/a	n/a	n/a	n/a
Extr. Term. TEST		149	0	0	0	0	25	-	n/a	n/a	n/a	n/a
Escapement[2]		8,264	2,553	15,666	20,804	4,203	7,706	3,215	4,340	1,924	3,155	34,481
TOTAL ABUNDANCE[3]		8,924	2,774	16,772	35,463	4,433	9,969	9,070	4,469	2,059	3,420	35,623
"TOTAL" PREDICTED EXPL. RATE[4]		7.4%	8.0%	6.6%	41.3%	5.2%	22.7%	64.6%	2.9%	6.6%	7.7%	3.2%
Canada		2.1%	1.2%	1.2%	3.0%	2.1%	1.5%	2.9%	1.2%	3.2%	2.8%	1.3%
Alaska		0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.1%	0.4%	0.1%	0.4%
Subtotal Southern U.S. EXPL. RATE[5]		5.3%	6.8%	5.4%	38.3%	2.5%	21.2%	61.6%	1.7%	2.9%	4.8%	1.4%
S. Of Falcon Ocean		0.1%	0.1%	0.1%	0.1%	0.4%	0.1%	0.1%	0.4%	0.6%	1.3%	0.5%
NOF Ocean Troll:	NTrty	0.1%	0.1%	0.2%	0.2%	0.1%	0.2%	0.1%	0.4%	0.6%	1.0%	0.2%
	Trty	0.1%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%
Ntrty NOF Ocean & Buoy10 Spt		0.5%	0.3%	0.4%	0.7%	0.3%	0.5%	0.5%	0.6%	1.4%	1.9%	0.6%
Total Ocean ER		**0.8%**	**0.6%**	**0.6%**	**1.0%**	**0.9%**	**0.8%**	**0.7%**	**1.5%**	**2.7%**	**4.3%**	**1.4%**
Pgt Snd 5,6C Troll	Trty	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	All Puget Sound Combined:			
Pgt Snd 5,6 Sport		0.2%	0.1%	0.1%	0.3%	0.1%	0.2%	0.1%	0.2%	0.2%	0.5%	0.1%
Pgt Snd 7 Sport		0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%				
Pgt Snd 8 Sport		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%				
Pgt Snd 9 Sport		0.2%	0.1%	0.1%	0.2%	0.0%	0.3%	0.0%				
Pgt Snd 10,11,13		0.3%	0.1%	0.1%	0.3%	0.0%	1.8%	0.0%				
Pgt Snd 12 Sport		0.0%	0.0%	0.0%	3.4%	0.0%	0.0%	1.0%				
Pgt Snd Extr. Term. & FW Sport		0.1%	0.0%	0.1%	0.2%	0.0%	0.1%	0.7%				
PS Preterminal Net**:	Ntrty	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.8%				
	Trty	0.6%	0.3%	0.2%	0.6%	1.0%	0.4%	2.5%				
Nonlocal Term. Net:	Ntrty	0.3%	0.0%	0.1%	0.3%	0.1%	0.2%	0.0%				
	Trty	0.7%	0.1%	0.1%	0.4%	0.3%	0.7%	0.1%				
Local Terminal Net:	Ntrty	0.0%	0.0%	0.0%	4.8%	–	0.6%	12.9%				
	Trty	0.0%	0.0%	0.0%	21.2%	–	12.1%	29.4%				
Extreme Term. Net	Ntrty	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%				
	Trty	0.0%	5.4%	3.9%	5.2%	0.0%	3.7%	13.0%				
	TEST	1.7%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%				

* Model-predicted Escapement for Washington Coastal stock aggregates represents run returning to their terminal area or "Ocean Escapement".

Footnotes:

[1] From TAMM Tables 2.

[2] Puget Sound Stocks' values are Spawner Escapement ; Coastal stocks' values are "escapement from pre-terminal fisheries" equivalent to "Runsize Entering Terminal Area".

[3] TOTAL ABUNDANCE is 'Fishery-related Mortality Plus Escapement', does not include 'natural mortality' nor 'dip-in mortality' of non-local stocks in coastal terminal fisheries.

[4] For coastal stocks the presented ER is for pre-terminal fisheries only. See Table 2 for Total ER for coastal stocks.

[5] Sum of exploitation rates for Southern U.S. only: SoF, Ocean areas 1-4, Col. R., Puget Sound; however does not include WA coastal terminal area impacts.

		Skagit	Stilly	Snohom	HdCnl	JDF Tribs	South Sound	Nooksack	Quillayute	Hoh	Queets	Grys Hbr
SUS ER	NT	3.09%	0.97%	1.12%	10.81%	1.17%	4.16%	16.60%				
	T	2.26%	5.84%	4.29%	27.50%	1.33%	17.06%	45.03%				
SUS TOTAL		**5.3%**	**6.8%**	**5.4%**	**38.3%**	**2.5%**	**21.2%**	**61.6%**				
Ocean SUS ER	NT	0.76%	0.54%	0.60%	0.98%	0.86%	0.75%	0.64%	1.41%	2.57%	4.18%	1.33%
	T	0.06%	0.04%	0.03%	0.06%	0.02%	0.05%	0.06%	0.09%	0.15%	0.12%	0.03%
Ocean SUS TOTAL		**0.8%**	**0.6%**	**0.6%**	**1.0%**	**0.9%**	**0.8%**	**0.7%**	**1.5%**	**2.7%**	**4.3%**	**1.4%**

Manage as Total SUS

Coastal Stock Exploitation Rates - Including Dip-In Mortality.

		Quillayute	Hoh	Queets	Grys Hbr
Ocean SUS ER	NT	1.41%	2.56%	4.06%	1.33%
	T	0.09%	0.14%	0.11%	0.03%
DipIn ER	NT plus T	0.29%	0.58%	2.84%	0.54%
Ocean SUS TOTAL (wDipIn)		**1.8%**	**3.3%**	**7.0%**	**1.9%**