

**2019 – 2020 Co-Managers' List of Agreed  
Fisheries  
(May 1, 2019 – April 30, 2020)**

*Robert F. [Signature]*

*4/22/2019*

*W. Mike Adair*

*4-22-19*

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**Part I. Treaty/Non-Treaty OCEAN Fisheries (FRAM #2719 (Chinook) & #1925 (Coho))**

Treaty Troll Quota	35,000 Chinook; 55,000 Coho
Non-treaty TAC	52,500 Chinook and 190,000 marked Coho.
NT Troll TAC	26,250 Chinook and 30,400 marked Coho.
Recreational TAC	26,250 Chinook and 159,600 marked Coho.

**1.1 Treaty Troll: Areas 2, 3, 4 & 4B**

5/1-6/30	Chinook directed fishery with sub quota of 17,500 Chinook. May 1 through June 30 or attainment of 17,500 Chinook sub quota, whichever comes first. All salmon except Coho. If the Chinook quota for the May-June fishery is not fully utilized, the excess fish may be transferred into the later all-salmon season on an impact-neutral basis for limiting stocks into the later all-salmon season. If the Chinook quota is exceeded, the excess will be deducted from the later all-salmon season.
7/1-9/15	All salmon species, with quota of 55,000 Coho and sub quota of 17,500 Chinook plus any portion of uncaught Chinook rolled over from the May 1 through June 30 time period on an impact neutral basis. Chum release 8/1-8/31 Open from July 1 through September 15, or attainment of either the Coho quota or the Chinook sub quota, whichever comes first.

**1.2 Non-Treaty Troll: U.S./Canada border to Cape Falcon**

<p>5/6- thru earliest of 6/28 or pre-season Chinook sub-quota of 13,200 (no more than 5,000 of which may be caught in the area between the U.S./Canada border and the Queets River and no more than 1,800 of which may be caught in the area between Leadbetter Pt. and Cape Falcon)</p>	<p>All salmon except Coho with 13,200 Chinook quota; no more than 5,000 of which may be caught in the area between the U.S./Canada border and the Queets River and no more than 1,800 of which may be caught in the area between Leadbetter Pt. and Cape Falcon; Open seven days per week. May 6 – May 15, a landing and possession limit of 100 Chinook per vessel for the open period is in effect in the area between the U.S./Canada border and the Queets River and in the area between Leadbetter Point and Cape Falcon; May 16 – June a landing and possession limit of 50 Chinook per vessel per landing week (Thurs-Wed) is in effect in the area between the Queets River and Leadbetter Point and Cape Falcon. An in-season conference call will occur when it is projected that 60% of the overall Chinook quota has been landed or 60% of any sub-area quota has been landed to consider modifying the open period and landing and possession limits. Mandatory Yelloweye Rockfish Conservation Area, Columbia and Cape Flattery Control Zones closed. Trip limits, gear restrictions, and guidelines may be implemented or adjusted in-season. Vessels must land their fish within 24 hours of any closure of this fishery; under state law, vessels must report their catch on a state fish receiving ticket. Vessels in possession of salmon north of the Queets River may not cross the Queets River line without first notifying WDFW with area fished, total Chinook and halibut catch aboard, and destination. Vessels in possession of salmon south of the Queets River may not cross the Queets River line without first notifying WDFW with area fished, total Chinook and halibut catch aboard, and destination. Vessels fishing, or in possession of salmon while fishing north of Leadbetter Point must land and deliver all species of fish in a Washington port and must possess a Washington troll license. Vessels may not land fish east of Sekiu river or east of the Megler-Astoria bridge. For delivery to Washington ports south of Leadbetter Point, vessels must first notify WDFW with area fished, total Chinook and halibut catch aboard, and destination with approximate time of delivery. Vessels fishing, or in possession of salmon while fishing south of Leadbetter Point must land and deliver their fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land their fish in Garibaldi. During any single trip, only one side of the Leadbetter Point line may be fished.</p>
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<p>7/1 thru earliest of 9/30 or pre- season Chinook sub-quota of 13,050 or Coho quota of 30,400.</p>	<p>All salmon with 13,050 Chinook quota and no more than 30,400 marked Coho quota. Open seven days per week. A landing and possession limit of 150 coho per vessel per landing week (Thurs-Wed) is in effect in all areas. All retained Coho must be marked with a healed adipose fin clip. No Chum retention north of Cape Alava, Washington beginning August 1. An in-season conference call will occur when it is projected that 60% of the overall Chinook quota has been landed or 60% of any subarea quota has been landed to consider modifying the open period and adding landing and possession limits. Mandatory Yelloweye Rockfish Conservation Area, Cape Flattery and Columbia Control Zones closed. Grays Harbor Control Zone closed beginning August 12. Trip limits, gear restrictions, and guidelines may be implemented or adjusted in-season. Vessels must land their fish within 24 hours of any closure of this fishery. Under state law, vessels must report their catch on a state fish receiving ticket.</p> <p>Vessels in possession of salmon north of the Queets River may not cross the Queets River line without first notifying WDFW with area fished, total Chinook, Coho, and halibut catch aboard, and destination. Vessels in possession of salmon south of the Queets River may not cross the Queets River line without first notifying WDFW with area fished, total Chinook, Coho, and halibut catch aboard, and destination. Vessels fishing, or in possession of salmon north of Leadbetter Point must land and deliver all species of fish in a Washington Port and must possess a Washington troll license. Vessels may not land fish east of Sekiu River or east of the Megler-Astoria bridge. For deliver to Washington ports, south of Leadbetter Point, vessels must first notify WDFW with area fished, total Chinook, Coho, and halibut catch aboard, and destination with approximate time of delivery. Vessels fishing, or in possession of salmon south of Leadbetter Point must land and deliver their fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land their fish in Garibaldi. During any single trip, only one side of the Leadbetter Point line may be fished.</p>
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### 1.3 Non-Treaty Recreational

#### Area 1: Leadbetter Point to Cape Falcon (Oregon)

6/22-9/30 (79,800 Mark Selective Fishery Coho sub quota)	Open 7 days per week; 2 fish per day, only one of which may be a Chinook; retained Coho must have a healed adipose fin clip; Chinook minimum size limit 24 inches and Coho minimum size 16"; Chinook guideline: 7,150; closed in Columbia Control Zone. In-season management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon.
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#### Buoy 10

6/16-7/31	Open 7 days/week; Release all salmon Closed from the Megler-Astoria Bridge downstream.
8/1-8/20	Open 7 days/week; 2 fish per day, only 1 Chinook Chinook minimum size 24", Coho minimum size 16", Release all salmon other than Chinook and hatchery Coho. Coho must have a healed adipose fin clip.
8/21-9/30	Open 7 days/week; 2 fish per day (minimum size 12 inches), Coho must have a healed adipose fin clip. Release all salmon other than hatchery Coho. .
10/1-12/31	Open 7 days/week; 6 fish per day, up to 2 adults (minimum size 12 inches); Release all salmon other than hatchery Coho, retained Coho must have a healed adipose fin clip;
1/1-3/31	Open 7 days/week, Daily limit 6, Up to 2 adults, (minimum size 12"), Hatchery Chinook only.
North Jetty	Open 7 days per week when Area 1 or Buoy 10 area is open. When Buoy 10 area and Area 1 are open concurrently, the daily limit and minimum size restrictions follow the most liberal regulations of those areas.

#### Area 2: Queets River to Leadbetter Point

6/22-9/30 (59,050 Mark Selective Fishery Coho sub quota)	Open 7 days per week; 2 fish per day, only one of which may be a Chinook; retained Coho must have a healed adipose fin clip; Chinook minimum size limit 24 inches and Coho minimum size 16 inches; Chinook guideline: 12,700. In-season management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon. Grays Harbor Control Zone closed beginning August 12.
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**Area 2-1 (east of a line from Leadbetter Point to Cape Shoalwater): Willapa Bay**

7/1-7/31	Open concurrent with Area 2, when Area 2 is open for salmon. Area 2 rules apply.
8/1-1/31	6 fish limit, 2 adults, 12" min size limit. Release wild Chinook. 2 pole endorsement.

**Area 2-2 (east of line between tips of exposed jetties): Grays Harbor**

West of Buoy 13 line 7/1-8/21	Open concurrent with Area 2, when Area 2 is open for salmon. Area 2 rules apply.
East of Buoy 13 line, when open	All salmon required to be released may not be totally removed from the water, except anglers fishing from boats 30' or longer as listed on either their State or Coast Guard regulation are exempt. Single-point barbless hooks required.
East of Buoy 13 line 7/1-7/31	Closed.
East of Buoy 13 line 8/1-9/15	1 fish limit, 1 adults, 12" min size limit. Release wild Chinook and wild Coho. Open to salmon angling only in the area described as Humptulips – North Bay (the area conforms to the commercial SMCRA 2C).
East of Buoy 13 line 9/16-11/30	2 fish limit, 12" min size limit. Release Chinook. Open to salmon angling only in the area described as East Grays Harbor (the area conforms to the commercial SMCRA 2D).

**Westport Boat Basin and Ocean Shores Boat Basin**

8/16-1/31	6 fish limit, 4 adults; 12" min size limit. Release Chinook.
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**Area 3: Cape Alava to Queets River**

6/22-9/30 (4,050 Mark Selective Fishery Coho sub quota)	Open 7 days per week; 2 fish per day; retained Coho must have a healed adipose fin clip; Chinook minimum size limit 24 inches and Coho minimum size 16 inches; Chinook guideline: 1,100. In-season management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon.
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10/1-10/13 (100 Mark Selective Fishery Coho sub quota)	Open 7 days per week; 2 fish per day; retained Coho must have a healed adipose fin clip; Chinook minimum size limit 24 inches and Coho minimum size 16 inches; Chinook guideline: 100. In-season management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon.
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**Area 4: U.S./Canada border to Cape Alava and east to Sekiu River**

6/22-9/30 (16,600 Mark Selective Fishery Coho sub quota)	Open 7 days per week; 2 fish per day; retained Coho must have a healed adipose fin clip. No Chum retention beginning August 1. Chinook minimum size limit 24 inches and Coho minimum size 16 inches; Chinook guideline: 5,200; no Chinook retention east of Bonilla-Tatoosh line beginning August 1. Closed waters: east of a true north-south line running through Sail Rock in July; <b>Closed to salmon angling</b> inside the area bounded by a line from Kydaka Point to Shipwreck Point. In-season management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon.
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**Area 4A: Makah Bay Treaty Evaluation Marine Set Net Fishery**

Chinook	Trty	Open 6/15 through 8/31 in Area 4A, except closed inside an area bounded by a line running from Strawberry Rock Point (48° 19' 07"N, 124° 40' 00"W) to the group of rocks (48° 19' 46"N, 124° 40' 35"W) which are located off Hobuck Beach and a line to the mouth of Hobuck Creek (48° 19' 94"N, 124° 39' 66"W), to be implemented per agreement between the Makah Tribe and WDFW.
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**Part II. PUGET SOUND including STRAIT of JUAN de FUCA and SAN JUAN ISLANDS fisheries (All fisheries modeled in FRAM #2719 (Chinook) & #1925 (Coho))**

**2.1 Strait of Juan de Fuca Pre-terminal Areas**

**Areas 5, 6, 6C Treaty Troll (Ntrty net closed)**

**NOTE: Area 4B: 5/1-10/31 see Ocean Troll. For 11/1-12/31 & 1/1-4/15 see below.**

5/1-6/15	Closed
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6/16-9/30	<p>Open for salmon, Chum release; Freshwater Bay closed, south of Angeles Pt./Observatory Pt. line; Pt. Angeles Harbor closed west of line from tip of Ediz Hook to ITT Rayonier Dock; Hoko Bay closed inside the area bounded by a line from Kydaka Point to Shipwreck Point; Area 6 closed east of a line true north from Green Point; 1,000-foot closure around stream mouths.</p> <p>The catch estimates for this fishery modeled in FRAM are statistically-derived predictions, and are the best available pre- season estimates of catch in this fishery. In order to have the actual catch reflect run strength, however, these estimates will not be treated as a ceiling when the managers make in-season fishery management decisions.</p>
10/1-10/31	Closed.
11/1-4/15	<p>In Areas 4B, 5, 6, 6C the treaty troll fishery will be open from November 1, 2019 through April 15, 2020, or when the catch reaches the harvest ceiling of 8,500 Chinook, whichever comes first. 1,000-foot closures around stream mouths. Hoko Bay closed inside the area bounded by a line from Kydaka Point to Shipwreck Point for the month of November.</p> <p>The catch estimates for this fishery modeled in FRAM are statistically-derived predictions, and are the best available pre- season estimates of catch in this fishery. In order to have the actual catch reflect run strength, however, these estimates will not be treated as a ceiling when the managers make in-season fishery management decisions. The winter troll catch ceiling is 8,500 Chinook.</p>
4/16-4/30	Closed

**Areas 4B, 5, & 6C Treaty Net (Ntrty net closed)**

Note: The catch estimates for this fishery modeled in FRAM are statistically-derived predictions, and are the best available pre-season estimates of catch in this fishery. In order to have the actual catch reflect run strength, however, these estimates will not be treated as a ceiling when the managers make in-season fishery management decisions.

Chinook	<p>Open for setnet gear only, 6/16 through 8/17; 7 days a week; Hoko Bay closed, inside the area bounded by a line from Kydaka Point to Shipwreck Point; Freshwater Bay closed, south of Angeles Pt./Observatory Pt. line; 1,000-ft. closure around stream mouths.</p>
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Sockeye/Pink	Start to be determined by Fraser River Panel. The Co-managers have identified the following management actions to control by-catch of Chinook. Estimated by-catches are best estimates and are not quotas or ceilings. The priority for this fishery is to harvest the full Treaty share of Sockeye and pink salmon, while managing the fishery so as to not greatly exceed the projected incidental harvest of Chinook salmon. All Chinook by-catch in this fishery will be promptly reported by each Tribe to the NWIFC TOCAS database and reported to the U.S. section of the Fraser Panel at least weekly, including take home and ceremonial and subsistence (C&S). If in-season the Chinook by-catch in this fishery exceeds 1,300, the Tribes will consider management actions to limit the Chinook by-catch, such as time or area restrictions, while continuing the priority objective of harvesting Sockeye salmon. If in-season the fishery is projected to result in a total Chinook by-catch exceeding 3,300 Chinook, the Tribes will, effective with that scheduled fishery opening, prohibit any commercial sales of Chinook salmon, and any Chinook salmon landed must be delivered to the fishers' respective Tribe.
Coho	Open for gillnets starting at 6 days per week with in-season adjustments based on cumulative catch. Fishery will target Coho from the end of Fraser Panel control, through 10/12; 1,000 ft. closure around stream mouths. Hoko Bay closed, inside the area bounded by a line from Kydaka Point to Shipwreck Point.
Chum	Open for gillnets, starting at 6 days per week (day may be added if effort is low), 10/13 through 11/9; 1,000-foot closure around stream mouths. Hoko Bay closed, inside the area bounded by a line from Kydaka Point to Shipwreck Point.

**Area 5 Recreational**

**Kydaka Point Closure: Waters south of a line from Kydaka Point westerly approximately 4 miles to Shipwreck Point closed to salmon angling 7/1-8/15.**

5/1-6/30	Closed
7/1-9/30	2 fish limit, (Chinook 22" min size); release Chum, wild Coho and wild Chinook. Release all Chinook 8/16-9/30.
10/1-2/29	Closed
3/1-4/30	2 fish limit (Chinook 22" min size), release wild Coho and wild Chinook.

**Area 6 Recreational**

5/1-6/30	Closed
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7/1-9/30	2 fish limit, release Chinook, wild Coho, and Chum; except W. of true N/S line through "2" buoy near tip of Ediz Hook retention of marked Chinook allowed (Chinook 22" min size);. South of Angeles Pt. /Observatory Pt. line – closed to angling. Pt. Angeles Hbr. W. of line from tip of Ediz Hook to ITT Rayonier Dock – closed to salmon angling. Release all Chinook 8/16-9/30.
10/1-2/29	Closed
3/1-4/15	2 fish limit (Chinook 22" min size). Release wild Coho and wild Chinook.

## 2.2 Strait of Juan de Fuca Terminal Areas

### Area 6D Dungeness Bay Net

Note: The following applies to all 6D Dungeness Bay Coho fisheries (Tribal & WDFW): Co-managers agree to examine the feasibility of creating an in-season runsize update for the 6D coho fishery prior to the start of the 2019 season. If Co-managers agree on the usefulness of the update model, the update will be used in-season to evaluate the likelihood of achieving the hatchery egg take goal and guide subsequent management of the bay and river fisheries. Absent in-season conditions that support the likely achievement of egg take goals, Dungeness Bay fisheries may close early.

Chinook	All	Closed
Pink	Trty	Closed
	Ntrty	Closed
Coho	Trty	Open 9/21 through 10/31; Additional days beyond 10/31 may be considered; 9/21 through 10/10, seven days per week, fishing 7 am to 7 pm only, nets must be attended by fisher, Chinook and Chum release; 10/11 through 10/31 (or 11/5 should conditions allow), seven days per week, 24 hours per day; 1,500 ft closure around mouth of Dungeness River.
	Ntrty	Open Wk 38 (wb 9/15) through Wk 44 (wb 10/27) for skiff gillnet gear; 7AM – 7PM; Wk 38 Sa; Wk 39 T-F, Wks 40-44 M-F; Chinook and Chum NR, release by cutting ensnaring meshes; 1,500 ft. (1/4 nautical mile) closure around each river mouth, and 500ft closure around Meadowbrook Cr. mouth. Fishery may close early pending in-season information. Openings possible in Wk 45 (wb 11/3) based on in-season information.
Chum	All	Closed

**Dungeness River (Treaty and Recreational)**

**Note:** The following applies to all Dungeness River Coho fisheries (Tribal & WDFW): Co-managers will meet on, or prior to October 14, 2019 to review current in-season conditions and the results of an in-season runsize update if available. Absent in-season conditions that support the likely achievement of egg take goals, Dungeness River fisheries may remain closed. If flows are precluding coho from moving upriver to the hatchery, the Dungeness River fishery will remain closed until conditions allow coho movement upriver.

**Dungeness River Treaty (Ntrty net closed)**

Chinook	Trty	Closed
Pink	Trty	Closed
Coho	Trty	Commercial fishing up to 3 days/wk, to be determined in-season, for Coho only, is scheduled to open on 10/16 and will be restricted to areas below the Dungeness hatchery intake using species selective (hand-held) gear. Subsistence fishing using selective gear is scheduled to open on 10/16. Refer to the co-management agreement above for possible emergency closures.
Chum	Trty	Closed

**Elwha River Treaty (Ntrty net closed)**

Chinook	Trty	Closed except Ceremonial Harvest of 4 fish in July.
Coho	Trty	Closed
Chum	Trty	Closed

**Dungeness Bay Recreational**

5/1-9/30	Closed to salmon.
10/1-10/31	2 fish limit, hatchery Coho only.
11/1-4/30	Closed to salmon.

**Dungeness River Recreational**

mouth to the forks at Dungeness Forks Campground	10/16-11/30	4 fish limit, hatchery Coho only; 12" min size.
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**Elwha River Recreational**

Closed to salmon and gamefish
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**Hoko River Recreational**

mouth to cement bridge (mile 7.0) on Hoko/Ozette Hwy.	Closed to salmon
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**All other STRAIT OF JUAN DE FUCA REGION freshwater recreational closed to salmon angling.**

**2.3 San Juan Islands/Point Roberts Area**

**Areas 6, 7, & 7A Net**

Chinook	All	Closed
Sockeye	Trty	<p>Schedule to be determined. The Co-managers have identified the following management actions to track and control by-catch of Chinook. Estimated by-catches are best estimates and are not quotas. The priority for this fishery is to harvest the full treaty share of Sockeye salmon, while managing the fishery so as to not greatly exceed the projected incidental harvest of Chinook salmon. All Chinook by-catch in this fishery will be promptly reported by each Tribe to the NWIFC TOCAS database and reported to the U.S. Section of the Fraser Panel at least weekly, including take home and ceremonial and subsistence (C&amp;S).</p> <p>Prior to achieving a by-catch of 4,200 Chinook there will be no restrictions on the retention or sale of Chinook salmon. If, during the season, the Fraser Panel schedules a fishery that is projected to result in a total Chinook by-catch exceeding 4,200 fish, the Tribes will, effective with that scheduled fishery, prohibit any commercial sales of Chinook salmon, and any Chinook salmon landed must be delivered to the fisher's respective Tribe. Reef net wild coho, wild Chinook, and chum NR. Reef net may retain marked Chinook through 9/30. Further policy discussion may occur among the affected parties prior to the season.</p>

	Ntrty	Schedule to be determined. The Co-managers have identified the following management actions to track and control by-catch. Modeled by-catches are best estimates and are not quotas. All vessel operators must complete best fishing practices certification prior to fishing. PS: brailing required. Chinook, Coho, and Chum NR. Reef net wild Coho, Chum, and unmarked Chinook NR. Reef net: fishers may retain hatchery Chinook, with a cap of 300 for all gears through 9/30. Estimates of by-catch will be shared at least weekly in the U.S. Section of the Fraser River Panel. Purse seine and gillnet fisheries will be managed to ensure that the non-treaty impact does not exceed 1,974 total Chinook (120% of pre-season estimate).
Pink	Trty	Purse seine, gill net, and reef net: schedule dependent upon Fraser Panel. See Chinook and coho bycatch in-season actions description in sockeye section above. Reef net: wild coho, wild Chinook, and chum NR. Reef net may retain marked Chinook through 9/30.
	Ntrty	Schedule to be determined. All vessel operators must complete best fishing practices certification prior to fishing. PS: brailing required. Chinook, Coho, and chum NR. Reef net: Chum, wild Chinook, and wild Coho NR. See Chinook by-catch in-season actions description in Sockeye section above.
Coho	Trty	Reef net: 7 days/wk beginning at end of Fraser Panel management through 11/9; Chinook NR after 9/30; wild Coho NR through 9/30, then Coho retention. Chum NR through 9/30.
	Ntrty	Reef net: 7 days/wk beginning at end of Fraser Mgmt through Chum mgmt wk 41 (wb 10/6); Chinook NR after 9/30; unmarked-Coho release through 9/30, then Coho retention. Chum retention prohibited until after 9/30. All vessel operators must complete best fishing practices certification prior to fishing.
Chum	Trty	The Treaty fishery will open October 10 (dependent on run status updates from CDFO) and remain open. See attached 2019 7/7A Chum Fishing Plan. Reef nets open from end of Fraser Panel management through end of Chum management (11/9), 7 days/wk. Reef net release requirements listed in Coho fishery description, above.

	Ntrty	Dependent on update of run status from CDFO. PS and GN open wk 41 (wb 10/6) through wk 45 (wb 11/3). Open 10/11, 10/12, 10/14, 10/15 and will re-open through the end of the season on 10/18 or 10/19 based on conditions outlined in the attached agreement. Co-managers will meet via conference call on Thursday 10/17 to discuss catch to date. PS: brailing required, Chinook and Coho NR. GN: during wk 41, Chinook and Coho NR, live box required and limited soak times in effect. Reef nets open from end of Fraser Panel management through wk 45 (wb 11/3), 7 days/wk, must release all Chinook and unmarked Coho. All vessel operators must complete best fishing practices certification prior to fishing.
Subsistence	Trty	12/1 – 4/30 subsistence troll fishery (Chinook 22” min size). Bellingham Bay closed 4/1 – 4/30.

**Area 7 Recreational**

5/1-6/30	Closed
7/1-7/31	2 fish limit, (Chinook 22” min size); release wild Chinook; Bellingham and Samish Bay closed to salmon.
8/1-8/31	Closed to salmon angling.
9/1-9/30	2 fish limit, (Chinook 22” min size); Release Chinook.
10/1-1/31	Closed
2/1-4/15	2 fish limit, (Chinook 22” min size), release Coho and wild Chinook; Bellingham Bay and Samish Bay closed to salmon 4/1-4/30.



## 2.4 Nooksack/Samish Terminal Region

### Bellingham Bay (Areas 7B, 7C, 7D; 7A On-Reservation) Net

Chinook/Pink	Trty	<p>Areas 7B, &amp; 7D: August 1 through September 6, open weekly 4 PM Sunday to 4 PM Friday. Fishing pattern: 2,5,5,5,5,5.</p> <p>Area 7C: August 1 through September 13, open weekly 4 PM Sunday to 4 PM Friday. Fishing pattern: 2,5,5,5,5,5.</p> <p>Samish Bay is closed southeasterly of a line from Oyster Creek to the fisheries marker on Samish Island, except that hand pull gillnets may fish from 4 PM Sunday to 4 PM Wednesday south to a line from Oyster Creek to Fish Point on Samish Island, August 4 through September 11 Sunday 4 PM to Wednesday 4 PM, weekly. Fishing pattern: 3,3,3,3,3,3. 6 ½" mesh in 7C and off-reservation areas of 7B, except when open for sockeye in Area 7 and 7A.</p>
	Ntrty	<p>Areas 7B &amp; 7C: Wks 33 (wb 8/11) - 36 (wb 9/1); PS Coho NR through wk 35. GN fishing pattern: 3,4,4,5; PS fishing pattern: 1,1,1,1.</p>
Coho	Trty	<p>Area 7A on-reservation fishery: September 8 through October 2. Open weekly 4 PM Sunday to 4 PM Wednesday. Fishing pattern: 3,3,3,3.</p>
		<p>Areas 7B and 7D: September 8 through October 19, open Sunday 4 PM to Saturday 4 PM. Fishing pattern: 6,6,6,6,6,6.</p>
		<p>7C: On September 27, a Co-manager conference call will be held to determine the status of Samish Chinook escapement. If the escapement goal appears to be attainable, and through development of a Co-manager agreed in-season update methodology it is determined that there is a harvestable surplus of Samish Coho, then a Coho fishery will open September 29 to October 16, Sunday 4 PM to Wednesday 4 PM, weekly. Fishing pattern: 3,3,3.</p>
	Ntrty	<p>Area 7B: Wks 37 (wb 9/8) - 43 (wb 10/20); GN fishing pattern: 5,5,7,7,7,7,7 (24 hrs for all days); PS fishing pattern: 3,3,7,7,7,7,7.</p>
Chum	Trty	<p>Areas 7B &amp; 7D: Oct. 20 – Dec.11; open weekly 4 PM Sunday to 4 PM Wednesday; Fishing pattern: 3,3,3,3,3,3,3,3.</p>

	Ntrty	Area 7B: Wks 44 (wb 10/27) - 49 (wb 12/1); PS/GN; 7,5,5,5,5,5. Whatcom Creek Zone (east of line from Post Point to flashing red light at west entrance of Squalicum Harbor) open 7 days per week.
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**Nooksack River Treaty Net (Ntrty net closed)**

**Note: On a weekly basis, Nooksack Tribe commercial fisheries on the Nooksack River will open at 12:01 AM Sun, except that portion of the river between Marine Drive Bridge and the first turn (“Big Bend”) in the river upstream of the Slater Road Bridge (approximately ¼ mile upriver from the Slater Road Bridge), which will open at 4:00 PM Sunday. On a weekly basis the Nooksack Tribe’s commercial Chinook fisheries will close 4:00 PM Friday; Coho fisheries will close 4:00 PM Saturday and Chum fisheries will close 4:00 PM Wednesday.**

Chinook/Pink	4/5-6/15	April to mid-June: limited ceremonial and subsistence fishery will be managed for a total mortality of 17 NOR Chinook. A traditional fishery will occur 500 feet upriver from the Highway 9 bridge in the lower North Fork and 500 feet downriver from the Nugents Corner Boat Launch in the mainstem (the boat launch is located just down river from Nugent’s Corner Bridge) (RM 30.6 and 36.8). A total of 148 Chinook are projected in this fishery with an anticipated 5 NORs among the 148. This fishery is by permit only. Another fishery will occur in the lower Nooksack River between the Slater Road bridge and the river mouth (between RM 0.0 and 3.5). The lower river fishery will be selective and is projected to encounter 40NOR Chinook with an expected survival rate of 70% and an estimated mortality of 12 NOR Chinook.
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	8/1 - 9/7	<p>Open weekly 4 PM Sunday to 4 PM Saturday, August 1 through 4 PM September 7. Fishing pattern: 3,6,6,6,6,6. The river is divided into five zones during this period. These zones open in subsequent weeks, proceeding upriver, to protect migrating spring Chinook.</p> <p>Zone 1 is from Marine Drive Bridge to Slater Bridge.</p> <p>Zone 2 is from Slater Bridge to Hannegan Bridge In Lynden.</p> <p>Zone 3 is from Hannegan Bridge to Nugents Corner Bridge.</p> <p>Zone 4 is from Nugents Corner Bridge to the confluence of the north and south forks. The area in Zone 4, 1.3 miles downstream of the confluence (down to Nooksack Tribe blue colored automotive shop) will remain closed to protect holding Spring Chinook.</p>
Coho	9/8 – 10/19	<p>Open weekly 4 PM Sunday through 4 PM Saturday. Fishing pattern: 6,6,6,6,6,6. The area in Zone 4, 1.3 miles downstream of the north and south Fork confluence (down to Nooksack Tribe blue colored automotive shop) will remain closed through 4 PM September 23 to protect holding Spring Chinook.</p>
Chum	11/1-2 or 11/8-9 11/7-8 or 11/14-15	<p>Subsistence harvest only. The Lummi Nation and Nooksack Tribe will determine in-season which two days to hold this subsistence fishery.</p>
	10/20 – 12/11	<p>Commercial. Open weekly 4 PM Sunday to 4 PM Wednesday. Fishing pattern: 3,3,3,3,3,3,3,3.</p>

**Bellingham Bay Terminal Area Recreational**

5/1-8/15	Closed to Salmon
8/16-9/30	4 fish limit, 2 Chinook (Chinook 22" min size); Samish Bay closed.
10/1-11/31	Closed to Salmon.
2/1-3/31	Same as Area 7
4/1-4/30	Closed to Salmon

**Nooksack River Recreational; mainstem and North Fork**

from Lummi Indian Reservation boundary to yellow marker at the FFA high school barn in Deming	9/1 – 12/31	2 fish limit, plus 2 additional hatchery Coho; 12" min size. Release wild Chinook through 9/30.
from yellow marker at the FFA high school barn to confluence of North and South forks	10/1 – 12/31	2 fish limit, plus 2 additional hatchery Coho; 12" min size.

**Nooksack River Recreational, South Fork**

from mouth to Skookum Creek	10/1 – 12/31	2 fish limit, plus 4 additional hatchery Coho; 12" min size. Release Chumand release wild Chinook 10/1 – 10/15.
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**Nooksack River Recreational, North Fork**

Hwy 9 bridge to Maple Creek	10/1 – 11/30	2 fish limit, plus 2 additional hatchery Coho; 12" min size.
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**Samish River Recreational**

from mouth to I-5 Bridge	8/1 – 9/22	2 fish limit, 12" min size. Release wild Coho.
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**Dakota Creek Recreational**

mouth to Giles Road Bridge	10/1 – 12/31	2 fish limit, 12" min size. Release wild Chinook.
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**Whatcom Creek Recreational**

mouth to yellow markers below foot bridge below Dupont St. in Bellingham	8/1 – 12/31	6 fish limit, 2 adults; 12" min size.
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**All other NOOKSACK/SAMISH TERMINAL REGION freshwater recreational: Closed to salmon angling.**

## **2.5 Skagit Terminal Region**

**Terminal area fisheries will be managed so as not to exceed total projected incidental fishery mortalities of Skagit wild summer/fall Chinook. Treaty schedules may be changed in-season as necessary to meet management objectives and harvestable shares and to address river and weather conditions. Swinomish, Sauk-Suiattle, and Upper Skagit Tribes' fisheries will be managed so as not to exceed their individual shares based on the pre-season forecast and any in-season update that becomes available. The modeled inter-tribal catch distributions are forecasts only and do not set a precedent for future years.**

**The Skagit co-managers will utilize the same update models for Sockeye (Baker Trap method), Coho (Blakes/Spudhouse test fishery method), and Chum ISU (Bay/Jetty/Blakes test fishery method) consideration (with data from 2018 added) that have been used in recent years. Other models may be considered with co-manager agreement should they become available before the fishery.**

**NOTE: See appendix for details for the conduct, monitoring, reporting, assessment, and in-season co-manager actions upon which the following fisheries are agreed to. WDFW will share creel sampling and enforcement reports in-season as fisheries progress. The Skagit River recreational sockeye fishery, and upper river recreational Spring Chinook fishery will follow sampling plans provided in past years. Communication: Co-managers will share available information from the Area 4, 5, and 6 recreational fisheries (species, mark, size, catch, encounter) the second week of August. This information will be evaluated against pre-season expectation and provide co-managers with additional information which may be useful in management considerations.**

**Skagit Bay (Area 8) Net**

Note: Fishing schedules for Skagit Bay, Skagit River, and Baker River are pre-season projections. Schedules may be changed in-season as necessary to meet management objectives and harvestable shares.

Chinook	Area 8 – Trty	Swinomish Tribe may elect to take some or all of their C&S reserved Chinook in Area 8.
Spring Chinook	Area 8 – Trty	<u>Swinomish Tribe fishing pattern</u> : wk 19 (wb 5/5) thru wk 22 (wb 5/26);5,5,5,5. Additionally, Swinomish will fish the following schedule in 2020 during the timeframe of the 2019-2020 LOAF: wk 17 (wb 4/19/2020) thru wk 18 (wb 4/26/2020): 2,2. Once a 2020 spring Chinook forecast is available, Chinook impacts for these April 2020 fishing days will be modeled during the 2020-21 NOF/PFMC process such that they are applied to the correct biological return year. <u>Upper Skagit Tribe fishing pattern</u> : No scheduled fishery.
Sockeye	Area 8 – Trty	<u>Swinomish Tribe fishing pattern</u> : wk 26 (wb 6/23) thru wk 29 (wb 7/14); 3,5,5,5; Swinomish fishery will be managed so as not to exceed their individual Sockeye share based on the preseason forecast and any in-season update that becomes available. Additional fishing dependent on ISU. <u>Upper Skagit Tribe fishing pattern</u> : No scheduled fishery.
	Ntrty	Closed
Pink	Area 8 – Trty	<u>Swinomish Tribe fishing pattern</u> : No scheduled fishery. <u>Upper Skagit Tribe fishing pattern</u> : No scheduled fishery.
	Area 8 - Ntrty	Closed. May open pending co-manager agreement on ISU that indicates harvestable run size.
Coho	Trty	If ISU changes abundance status, treaty shares may be modified following co- manager discussions.
	Area 8 – Trty	<u>Swinomish Tribe fishing pattern</u> : wk 38 (wb 9/15) thru wk 41 (wb 10/6); 1,2,2,1. Swinomish tribe may elect to take some or all of their C&S reserved coho in Area 8. <u>Upper Skagit Tribe fishing pattern</u> : No scheduled fishery.
	Ntrty	Closed

Chum	Area 8 – Trty	<u>Swinomish Tribe fishing pattern</u> : No preseason harvestable. <u>Upper Skagit Tribe fishing pattern</u> : No preseason harvestable.
	Ntrty	Closed. May open pending co-manager agreement on ISU that indicates harvestable runsize.
Chum Test	Area 8	1 boat at Jetty 1 day/wk 44 (wb 10/27) & 45 (wb 11/3) and 1 boat in Bay 1 day/wk 44 (wb 10/27) & 45 (wb 11/3).
	Ntrty	Closed. May open pending co-manager agreement on ISU that indicates harvestable runsize.

**Skagit River Treaty Net (Ntrty net closed)**

Note: Fishers from the Sauk-Suiattle Tribe are invited to participate in the 2019 Swinomish salmon fishery in Skagit River Area 78C from the Mount Vernon bridge to the Spud House, pending Swinomish Senate resolution, subject to and in accordance with all provisions of fishing ordinances and regulations of the Swinomish Indian Tribal Community that apply to such fishery.

The Upper Skagit Tribe reserves the opportunity to take C&S reserved Chinook across the entire duration of this LOAF agreement, May 1, 2019 through April 30, 2020.

Chinook	Ceremonial and Subsistence – 1,000 fish (100 spring and 900 summer/fall) total: Swinomish (25 spring, 400 summer/fall), Sauk-Suiattle (25 spring, 100 summer/fall), and Upper Skagit (50 spring, 400 summer/fall) Tribes.
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Spring Chinook	Area 78C	<p><u>Swinomish Tribe fishing pattern:</u> wk 19 (wb 5/5) thru wk 22 (wb 5/26):5,5,5,5. Additionally, Swinomish will fish the following schedule in 2020 during the timeframe of the 2019-2020 LOAF: wk 17 (wb 4/19/2020) thru wk 18 (wb 4/26/2020): 2,2. Once a 2020 spring Chinook forecast is available, Chinook impacts for these April 2020 fishing days will be modeled during the 2020-21 NOF/PFMC process such that they are applied to the correct biological return year.</p> <p><u>Sauk-Suiattle Tribe fishing pattern:</u> wk 19 (wb 5/5) thru wk 21 (wb 5/19):3,3,3</p> <p><u>Upper Skagit Tribe fishing pattern:</u> wk 19 (wb 5/5) thru wk 22 (wb 5/26):1.0, 1.0, 0.833, 0.167. Additionally, Upper Skagit will fish the following schedule in 2020 during the timeframe of the 2019-2020 LOAF: wk 17 (wb 4/19/2020) thru wk 18 (wb 4/26/2020): 2,2. Once a 2020 spring Chinook forecast is available, realized Chinook impacts for these April 2020 fishing days will be modeled during the 2020-21 NOF/PFMC process such that they are applied to the correct biological return year.</p>
	Area 78D	<p><u>Upper Skagit Tribe fishing pattern:</u> wk 19 (wb 5/5) thru wk 22 (wb 5/26):1.0, 1.0, 0.833, 0.167. Additionally, Upper Skagit will fish the following schedule in 2020 during the timeframe of the 2019-2020 LOAF: wk 17 (wb 4/19/2020) thru wk 18 (wb 4/26/2020): 2,2. Once a 2020 spring Chinook forecast is available, realized Chinook impacts for these April 2020 fishing days will be modeled during the 2020-21 NOF/PFMC process such that they are applied to the correct biological return year.</p>
Sockeye	Ceremonial and Subsistence 200 fish Upper Skagit Tribe. Swinomish, Sauk-Suiattle, and Upper Skagit Tribes may elect to collect some of their allocation from the Baker River upstream fish trap.	



	Area 78C	<p>Swinomish, Sauk-Suiattle, and Upper Skagit Tribes' fisheries will be managed so as not to exceed their individual Sockeye shares based on the preseason forecast and any in-season update that becomes available.</p> <p><u>Swinomish and Sauk-Suiattle Tribes fishing pattern:</u> wk 26 (wb 6/23) thru wk 29 (wb 7/14):3,5,5,5; Additional fishing dependent on ISU.</p> <p><u>Upper Skagit Tribe fishing pattern:</u> wk 26 (wb 6/23) thru wk 29 (wb 7/14): 0.500,0.625,0.625,0.208.; Additional fishing dependent on ISU.</p>
Sockeye	Area 78D Area 78O	<p>Swinomish and Upper Skagit Tribes' fisheries will be managed so as to not exceed their individual Sockeye shares based on the preseason forecast and any in-season update that becomes available.</p> <p><u>Swinomish Tribe fishing pattern (Area 78D-4 and Baker River):</u> Wk 29 (wb 7/14): 1; Additional fishing dependent on ISU;</p> <p><u>Upper Skagit Tribe fishing pattern:</u> Areas 78D-2, 78D-3, 78D-4, and 78O (Baker River): wk 26 (wb 6/23) thru wk 29 (wb7/14): 0.500,0.625,0.625,0.208; Additional fishing dependent on ISU.</p>
Pink	Area 78C	<p><u>Swinomish and Sauk-Suiattle Tribes fishing pattern:</u> No scheduled fishery. Fishing dependent on ISU.</p> <p><u>Upper Skagit Tribe fishing pattern:</u> No scheduled fishery. Fishing dependent on ISU.</p>
	Area 78D	<p><u>Upper Skagit Tribe fishing pattern:</u> No harvestable surplus and no fisheries planned. Fishing dependent on ISU.</p>
Coho	<p>If ISU changes abundance status, treaty shares may be modified following co-manager discussions. Ceremonial and Subsistence 300 fish total Swinomish, Sauk-Suiattle, and Upper Skagit Tribes (100 each).</p>	
	Area 78C:	<p><u>Swinomish and Sauk-Suiattle Tribes fishing pattern:</u> Wk 38 (wb 9/15) thru wk 41 (wb 10/6): 1,2,2,1. Upper Skagit Tribe fishing pattern: wk 39 (wb 9/22) thru wk 43 (wb10/20): 0.458,0.667,1.0,0.333,0.167.</p>
	Area 78D	<p><u>Upper Skagit Tribe fishing pattern:</u> wk 39 (wb 9/22) thru wk 43 (wb 10/20): 0.458,0.667,1.0,0.333,0.167.</p>

Chum	Area 78C	<u>Swinomish and Sauk-Suiattle Tribes fishing pattern</u> : No pre-season harvestable. <u>Upper Skagit Tribe fishing pattern</u> : No pre-season harvestable.
	Area 78D	<u>Upper Skagit Tribe fishing pattern</u> : No pre-season harvestable.
River Test	Chinook	Area 78C - Blakes wk 19 (wb 5/5) thru wk 35 (wb 8/25);1 boat, 6 hours/wk.
	Sockeye	Area 78C – Blakes wk 24 (wb 6/9) thru wk 29 (wb 7/14); 1 boat, 12 hours/wk; Area 78D-3 - Upper Skagit - wk 23 (wb 6/2) thru wk 30 (wb 7/21);1 boat, 4 hrs/wk.
	Coho	Area 78C - Blakes Drift wk 38 (wb 9/15) thru wk 42 (wb 10/13), 12 hours/wk; Area 78C – Spudhouse Drift, Upper Skagit, wk 34 (wb 8/18) thru wk 42 (wb 10/13);1 boat, 12 hours/wk; Area 78D-3 Wk 35 (wb 8/25) thru wk 44 (wb 10/27);1 boat, 4 hours/wk.
	Chum	Area 78C - Blakes Drift wk 44 (wb 10/27) and wk 45 (wb 11/3);1 boat, 12 hours/wk.
	Steelhead (tangle net)	Area 78D-3 Wk 5 (wb 1/26/20) thru wk 17 (wb 4/21/20). Steelhead tagged and released.

**Swinomish Channel Treaty Net (Ntrty net closed)**

Coho	No separate openings. Area opens during Area 8 openings.
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**Area 8-1 Recreational**

5/1-7/31	Closed
8/1 – 10/31	2 fish limit, release Chinook.
11/1-1/31	Closed
2/1-4/30	2 fish limit, (Chinook 22" min size) release Coho and wild Chinook..

**Baker River/Lake Recreational**

mouth to Dam	Closed to salmon.	
Baker Lake	7/7-9/16	3 fish limit, Sockeye only, 18" min. size.

**Cascade River Recreational**

mouth to Rockport-Cascade Road Bridge	6/1 – 7/15	4 fish limit, only 2 may be adults, hatchery Chinook only, 12” min. size.
	9/16 – 11/30	4 fish limit, Coho only, 12” min. size.

**Skagit River Recreational**

Specific gear conflict closure dates have not been identified but recreational fishing for all species will close two days per week from the mouth to highway 530 bridge in Rockport during weeks 26-29 for Sockeye and weeks 39-41 for Coho.

Mouth to Hwy 536 at Mt. Vernon (Memorial HWY Bridge)	9/1 – 12/31	3 fish limit, release Chinook and Chum. 12” min size
from Memorial Hwy Bridge to Gilligan Creek	5/1-5/31	2 fish limit, hatchery Chinook only. (12” min. size)
	6/16-7/15	3 fish limit, Sockeye only (12” min size).
	9/1 – 12/31	3 fish limit, (12” min size). Release Chinook and Chum.
Mouth of Gilligan creek to Dalles Bridge at Concrete	9/1 – 12/31	3 fish limit, (12” min size). Release Chinook and Chum.
Dalles Bridge at Concrete to Hwy 530 Bridge at Rockport	9/1 – 12/31	3 fish limit, (12” min size). Release Chinook and Chum.
Hwy 530 Bridge at Rockport to Cascade River Rd	6/1 – 7/15	4 fish limit, (12” min size). Only 2 may be adults, Release wild Chinook.
	9/1 – 12/31	3 fish limit, (12” min size). Release Chinook and Chum.

**All other SKAGIT TERMINAL REGION freshwater recreational closed to salmon angling.**

## 2.6 Stillaguamish/Snohomish Terminal Region

### Area 8A Net

Chinook	Trty	Closed (Ceremonial set-aside of up to 100 Chinook, July-September period).
	Ntrty	Closed
Pink	Trty	Wk 36 (wb 9/01): 3 days per week
	Ntrty	Closed
Coho	Trty	Tulalip Tribes: (9/08 – 9/21, 9/29 – 10/19) 3 days per week; (9/22 – 9/28) 4 days per week. Manage for 50,000 escapement to the Snohomish River (see Snohomish River Natural Coho Rebuilding Plan), with ISU at weeks 39 and 40.
	Test	Closed
	Ntrty	Closed.
Chum	Trty	Closed
	Test	Closed
	Ntrty	Closed

### Area 8D Net

Chinook	Trty	BS, RH, GN gear outside Tulalip Bay may be open during the following periods: (5/05 – 5/30) 5 days per week (6/03 – 8/10) 3 ½ days per week: 12:01 PM Mon – 11:59 PM Thu (8/11 -9/07) 5 days per week  Setnets inside Tulalip Bay may be open during the following period: (5/05 – 9/07) 5 days per week
	Ntrty	Closed (see recreational SAF)
Coho	Trty	(9/08 – 10/26) BS, RH, GN gear outside Tulalip Bay may be open 4 days per week to target Tulalip hatchery Coho. Setnet may be open 5 days per week.

	Ntrty	Wk 39 (wb 9/22) - 45 (wb 11/3); PS Chinook NR; PS fishing pattern: 1,1,1,1,1,1,2; GN fish each night Sunday through Thursday night (5,5,5,5,5,5,5); also open daylight hours Tuesdays and Wednesdays (2,2,2,2,2,2,2). Closed east of the line from Mission Point to Hermosa Point.
Chum	Trty	(10/27 – 11/30) Open to target Tulalip hatchery Chum. Managed to allow for hatchery egg take needs based on Tulalip hatchery escapement updates and projections. All Area 8D fisheries will close concurrently as agreed to by Tulalip and WDFW to ensure egg take requirements are met.
	Ntrty	Wk 46 (wb 11/10) - 48 (wb 11/24); PS fishing pattern: 1,1,1; GN fishing pattern: 3,3,3 daylight hours. Closed east of the line from Mission Point to Hermosa Point. Managed to allow for hatchery egg take needs based on Tulalip hatchery escapement updates and projections. All Area 8D fisheries will close concurrently as agreed to by co-managers to ensure egg take requirements are met.

**Stillaguamish River Treaty Net (Ntrty net closed)**

Chinook	Ceremonial fishery only; Open 5/1 – 8/15; Up to 7 days per week; maximum catch of 15 Chinook; Open from mouth of Hatt Slough (RM 0) to Danielson Hole (RM 14).
Pink	C&S fishery only; Open 8/1 – 9/30; Up to 7 days per week; Open from mouth of Hatt Slough (RM 0) to Danielson Hole (RM 14).
Coho	Commercial fishery; Open 9/1 – 10/31; Up to 5 days per week; Open from mouth of Hatt Slough (RM 0) to Danielson Hole (RM 14).
Chum	C&S fishery only; Open 11/1 – 12/5; Up to 3 days per week; max catch of 300 Chum; Open from mouth of Hatt Slough (RM 0) to Danielson Hole (RM 14).

**Snohomish River Treaty Net (Ntrty net closed)**

Chinook, Pink, Coho, Chum	Closed
Coho Test	Closed

**Area 8-2 Recreational**

5/1-8/15	Closed
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8/16-9/15	2 fish limit, release Chinook and wild Coho. Open south of a line from Clinton to Mukilteo ferry terminals.
9/16-1/31	Closed
2/1-4/30	2 fish limit (Chinook 22" min size). Release Coho and wild Chinook.

**Tulalip Special Area Recreational Fishery**

Same as Area 8-2 Recreational, except during the period 6/1-9/23:	6/1-9/2	Open 12:01 AM Friday – 11:59 AM Monday each week. Closed June 15. Open within Tulalip Special Area boundaries only. Closed to all angling east of the line from Mission Point to Hermosa Point. 2 fish limit salmon, 2 pole endorsement (Chinook 22" min. size).
	9/7-9/29	Open Saturday and Sunday each week. Open within Tulalip Special Area boundaries only. Closed to all angling east of the line from Mission Point to Hermosa Point. 2 fish limit salmon, 2 pole endorsement (Chinook 22" min. size).

**Snohomish River Recreational**

mouth to confluence of the Skykomish and Snoqualmie rivers	9/1 – 9/30	1 fish limit, Coho only, 12" min. size. Continuation of fishery past Septemeber dependent on ISU.
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**Snoqualmie River Recreational**

mouth to Snoqualmie Falls	9/1 – 9/30	1 fish limit, adults only, Coho only, 12" min. size. Continuation of fishery past Septemeber dependent on ISU.
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**Skykomish River Recreational**

from mouth to Wallace River	5/25–7/31	4 fish limit, only 2 may be adults, hatchery Chinook only, 12" min. size.
mouth to confluence of North and South forks	9/1-9/30	1 fish limit, Coho only, 12" min. size. Continuation of fishery past September dependent on ISU..

**Wallace River Recreational**

mouth to 200' upstream of water intake of salmon hatchery	9/16 – 9/30	1 fish limit, 12" min. size. Coho only. Continuation of fishery past September dependent on ISU.
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**Stillaguamish River Recreational**

mouth to forks	9/16- 11/15	2 fish limit, Coho Only, 12" min size, selective gear rules.
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See appendix for gamefish season regulations.

**All other STILLAGUAMISH/SNOHOMISH TERMINAL REGION freshwater recreational closed to salmon angling.**

**2.7 Admiralty Inlet Area**

The co-managers have agreed to develop a comprehensive chum management plan over the course of the next three years. It is the intent of co-managers to address catches of Hood Canal Origin fall chum, including catches in marine areas 9, 10, and 11 in this comprehensive chum plan. Co-managers have agreed to review the balance of pre-terminal impacts to Hood Canal Origin chum between tribal and non-tribal fisheries beginning with the 2019 season. This information will identify any overly imbalanced condition that would require further co-manager discussion for future seasons in the interim period.

Area 9 Net

Chinook	Trty	Ceremonial and Subsistence – Up to 500 Chinook as agreed upon by those Tribes with U&A in Area 9, (PS and Hook & Line, release all Chum 6/1 – 9/30).
	Ntrty	Closed
Chum	Research	Wk 43 (wb 10/20) – 46 (wb 11/10) research fishery to develop stock composition/timing information. Research catch quota of up to 2,400 Chum. Reference 2019 Area 9 Chum Salmon Research Fishery Plan to be developed by NWIFC and tribal staff prior to beginning this research.

	Trty	The Area 9 fall chum fishery north of the HC bridge will open wk 43 (wb 10/20) through wk 45 (wb 11/3); fishing pattern: GN 3,4,3; and PS 4,3,3. Open area restricted to that portion of North Hood Canal bounded to the south by the Hood Canal Bridge and bounded to the north by a line from White Rock due east to landfall. Tribes with adjudicated U&A in the open section of Area 9 may choose to participate. Coho and Chinook model inputs have been modeled during NOF that anticipate the participation levels of 2018. If the fishery reaches a catch threshold of 30,000 chum salmon before 11/2, there will be a conference call among the participating Tribes to discuss any needed fishery management actions. Participating tribes agree to sample tissue for DNA analysis of their tribe's chum catch and wild coho bycatch to the extent practicable.
	Ntrty	Closed

**Area 9 Recreational**

5/1 – 7/24	Closed
7/25 – 8/15	2 fish limit, (Chinook 22" min size) release wild Coho, Chum and wild Chinook. Closed south and west of a line from Foulweather Bluff to Olele Point.
8/16 – 9/30	2 fish limit; release wild Coho, Chum and Chinook.
10/1 – 1/31	Closed.
2/1 – 4/15	2 fish limit, (Chinook 22" min size), release wild Coho and wild Chinook.
4/16 – 4/30	Closed

**Edmonds Pier Recreational**

Year-Round	2 fish limit, 1 Chinook (Chinook 22" min size), release Chum 8/1-8/31.
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**3.0 South Sound Region**

**3.1 Area 10 Sub region**

**Area 10 Net**

Chinook	Closed	
Sockeye	Trty	Fishery dependent upon ISU (Ballard lock counts)



	Ntrty	Closed
Pink	Trty	Closed (No pink salmon fishery proposed)
	Ntrty	Closed
Coho	Test	Gillnet: Wk 37 (wb 9/8) - wk 39 (wb 9/22); 3 boats, 3 sites; fishing pattern: 2,2,2.
	Trty	On-Reservation only; wk 38 (wb 9/15) – wk 43 (wb 10/20); gillnet/beach seine; 7 days/wk.  Off Reservation: Wk 36 (wb 9/1) – wk 40 (wb 9/29). Fishing schedule for Area 10 shall be set consistent with the MST agreement (1983).
	Ntrty	Closed
Chum	Test	Purse Seine: Wk 41 (wb 10/6) - wk 46 (wb 11/10); 1 site, fishing pattern: 1,1,1,1,1,1.
	Trty	Suquamish-Tulalip -Treaty allocation based on intertribal sharing agreement; wk 41 (wb 10/6) – wk 45 (wb 11/3) fishing pattern – ISU dependent; Fishing schedule for Area 10 shall be set consistent with the MST agreement (1983).  Suquamish- If Area 10 Suquamish allocation not obtained through week 45, Suquamish will continue to fish into week 46 (wb 11/10) with the following guidelines: week 46 catch not to exceed 3,500 or remaining allocation, and open area restricted to north of Jefferson Head and west of the north bound shipping lane. <u>Suquamish</u> – On-Reservation only (set net gear only): wk 42 (wb 10/13) – wk 50 (wb 12/8) up to 7 days per week dependent upon Chum return to the Grovers Creek Hatchery.
	Ntrty	Wk 42 (wb 10/13) - 45 (wb 11/3); PS Chinook and Coho NR; PS fishing pattern: 1,1,1,2; GN fishing pattern: 1,2,2,2. The area east of a line from Four Mile Rock south to Alki Point is closed. PS and GN restricted from fishing in modified closure areas 10(5) and 10(6) as described in WAC 220-354-080.

**Area 10A Treaty Net (Ntrty net closed): That portion of Elliott Bay east of the line from Pier 91 to the light at Duwamish Head.**

Chinook	Trty Test	Gillnet: Wk 29 (wb 7/14 <sup>th</sup> ) – Wk 31 (wb 7/28 <sup>th</sup> ); 7/17 <sup>th</sup> , 7/24 <sup>th</sup> & 7/31 <sup>st</sup> (Wednesday nights); 5 fishing sites (one boat per site). 8 PM to 8 AM. One night per week; 8 PM to
	Trty	Gillnet: Wk 32 (wb 8/4 <sup>th</sup> ) 8/7 <sup>th</sup> ; 8 PM to 8 AM. Based on ISU: Wk 33 (wb 8/11 <sup>th</sup> ) 8/14 <sup>th</sup> 8PM to 8 AM. Based on the ISU. (Any additional openings (after the 14 <sup>th</sup> ) will be discussed & agreed by the co-managers)
	Trty	Ceremonial and subsistence fisheries
Pink	Trty	Gillnet: Wk 35 (wb 8/25); with the fishing pattern Sunday thru Friday.
Coho	Trty	Gillnet: Fishery will open Wk 36 (wb 9/1 <sup>st</sup> ) – Wk 42 (wb 10/13 <sup>th</sup> ) with the fishing pattern Sunday thru Friday. (Fishery will close if the Duwamish/Green River ISU is executed and does not show harvestable coho. If the ISU shows harvestable coho the fishing pattern will be as stated above).
	Trty	Ceremonial and subsistence fisheries
Chum	Trty	Gillnet: Wk 43 (wb 10/20 <sup>th</sup> ) - Wk 48 (wb 11/24 <sup>th</sup> ); with the fishing pattern Sunday thru Friday.
	Trty	Ceremonial and subsistence fisheries

**Duwamish/Green River (Area 80B) Treaty Net (Ntrty net closed)**

Chinook	Trty	Gillnet: Wk 32 (wb 8/4 <sup>th</sup> ) 8/7 <sup>th</sup> ; 8 PM to 8 AM. Based on ISU: Wk 33 (wb 8/11 <sup>th</sup> ) 8/14 <sup>th</sup> 8PM to 8 AM. Based on the ISU. (Any additional openings (after
	Trty	Ceremonial and subsistence fisheries
Pink	Trty	Gillnet: Wk 35 (wb 8/25); with the fishing pattern Sunday thru Friday.

Coho	Trty Test (if executed)	Wk 37 (wb 9/8 <sup>th</sup> ) Coho ISU test fishery on the river (from the mouth of the East and West waterways up to 16 <sup>th</sup> Ave. Bridge). The 6 sites are as follows: East Waterway, West Waterway, Old Riverside Marina, Kellogg Island, 1 <sup>st</sup> Ave Bridge and 16 <sup>th</sup> Ave Bridge.
Coho	Trty	Gillnet: Fishery will open Wk 38 (wb Sept 15 <sup>th</sup> ) up to the 16 <sup>th</sup> Ave bridge. Starting on Wk 39 (wb Sept 22 <sup>nd</sup> ) the fishery will open up to the Boeing St Bridge. Starting Wk 40 (wb Sept 29 <sup>th</sup> ) the fishery will open up to the HWY 99 bridge. Fishing pattern will be Sunday thru Friday. (Fishery will closed if the treaty test ISU is executed and does not show harvestable coho. If the ISU shows harvestable coho the fishing pattern will be as stated above).
	Trty	Ceremonial and subsistence fisheries
Chum	Trty	Gillnet: Wk 44 (wb 10/27 <sup>th</sup> ) – Wk 48 (wb 11/24 <sup>th</sup> ) with the fishing pattern Sunday thru Friday
	Trty	Ceremonial and subsistence fisheries

**Area 10E Treaty Net (Ntrty net closed; see below for recreational SAF)**

Chinook	Trty	Wk 30 (wb 7/21) - wk 38 (wb 9/15); fishing pattern: 7 days/wk. Possible extension for Sinclair Inlet.
Coho	Trty	On-Reservation only; wk 38 (wb 9/15) - wk 43 (wb 10/20); gillnet/beach seine; 7 days/wk.
Chum	Trty	Wk 43 (wb 10/20) - wk 50 (wb 12/8); schedule dependent upon ISU.

**Lake Washington System (includes Lake, Lake Union, Ship Canal, & Lake Sammamish)**

**Areas 10F, 10G, 10C, 10D Treaty Net (Ntrty net closed)**

Sockeye	Wk 23 (wb 6/2 <sup>nd</sup> ) – Wk 32 (wb 8/4 <sup>th</sup> ) Based on ISU (lock counts).
	Wk 23 (wb 6/2 <sup>nd</sup> ) – Wk 33 (wb 8/11 <sup>th</sup> ) Bio-sample program
	Wk 25 (wb 6/16 <sup>th</sup> ) PSC test fishery
	Ceremonial and subsistence fisheries
Chinook	Closed.
	Ceremonial and subsistence fisheries

Coho	Coho fisheries in the four following areas are dependent upon the ISU (if lock counts project run size < 10,000 coho entering the lake), then the coho fishery will remain closed in all four areas including Lake Sammamish):	
	Ceremonial and subsistence fisheries	
	Lower ship canal (below Ballard Locks)	If the ISU is > than 10,000 the fishery could open as early as Wk 38 (wb 9/15 <sup>th</sup> ) – Wk 44 (wb 10/27 <sup>th</sup> ) with the fishing pattern up to 7 days per week (Sun – Sat).
	Upper ship canal (above Ballard Locks):	If the ISU is > than 10,000 the fishery could open as early as Wk 38 (wb 9/15 <sup>th</sup> ) – Wk 44 (wb 10/27 <sup>th</sup> ) with the fishing pattern Sunday thru Friday.
	North end Lake Washington (North of Hwy. 520 bridge):	If the ISU is > than 10,000 the fishery could open Wk 39 (wb 9/22 <sup>nd</sup> ) – Wk 46 (wb 11/10 <sup>th</sup> ) with the fishing pattern Sunday thru Friday.

**Lake Sammamish Treaty Net**

Chinook	Based on ISU – hatchery surplus.
	Ceremonial and subsistence fisheries
Coho	If the ISU is > than 10,000 the fishery could open Wk 41 (wb 10/6 <sup>th</sup> ) – Wk 47 (wb 11/17 <sup>th</sup> ) with the fishing pattern Sunday thru Friday.
	Ceremonial and subsistence fisheries

**Area 10 Recreational**

5/1-5/31	Closed
6/1-7/24	2 fish limit, release Chinook and Chum.
7/25-8/31	2 fish limit, (Chinook 22" min size), release wild Chinook and release Chum.
9/1-11/15	2 fish limit, release Chinook and release Chum through 9/15.
11/16-12/31	Closed
1/1-3/31	2 fish limit, (Chinook 22" min size), release wild Chinook..
4/1-4/30	Closed.

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**Shilshole Bay (East of Meadow Point/West Point line) closed to salmon 7/1-8/31.**

**Outer Elliott Bay (E of West Pt. /Alki Pt line to Pier 91/Duwamish Head line) closed to salmon 7/1-8/31.**

Inner Elliott Bay (E of Pier 91/Duwamish Head line) closed to salmon 7/1-8/31.

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**Area 10 Piers Recreational**

Seacrest Pier, Pier 86, Waterman Pier, Bremerton Boardwalk, Illahee State Park Pier	Year-Round	2 fish limit, 1 Chinook (22" min size), release Chum 8/1-9/15.
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**Elliott Bay Recreational SAF**

5/1- 6/30	Same as Area 10.
7/1- 8/1	Closed
8/2 – 8/5 (noon)	2 fish limit. Inner Elliot bay waters open east of a line from Pier 91 to Duwamish head. Additional openings contingent upon ISU model results.
8/6 – 8/31	Closed
9/1- 4/30	Same as Area 10.

**Sinclair Inlet Recreational SAF**

5/1-6/30	Same regulations as Area 10.
7/1-9/30	Open S of Manette Bridge, S of line drawn true W from Battle Point, and W of line drawn true S from Point White; 3 fish limit, (Chinook 22" min size), release wild Chinook and wild Coho, release Chum 8/1-9/15, 2 pole endorsement.
10/1-4/30	Same regulations as Area 10.

**Green River Recreational**

WDFW and MIT commit to developing and executing a monitoring plan to assess Chinook encounter rates and non-retention mortality rates in both directed Chinook fisheries and non-Chinook directed fisheries within the system prior to the beginning of the 2019 river fishery. The implementation of either portion of the plan is contingent on available funding. The portion of the plan to estimate encounter rates is likely to cost significantly less than the portion to estimate mortality rates and will be prioritized due to the higher likelihood there will be sufficient funds available to cover its implementation.

From an east-west line extending through the southernmost tip of Harbor Island to Tukwila International Boulevard/Old Hwy. 99	8/20 – 12/31	Daily limit 6. No more than 3 adults may be Coho and Chum, 12” min size, release Chinook.
Tukwila International Boulevard/Old Hwy. 99 to the South 212nd Street Bridge	8/20 – 12/31	Daily limit 6. No more than 3 adults may be Coho and Chum, only 1 Chinook, 12” min size.
South 212 <sup>th</sup> Street Bridge to Auburn-Black Diamond Road Bridge	9/16 – 12/31	Daily limit 6. No more than 3 adults may be Coho and Chum, 12” min size, release Chinook. Closed within 150’ of the mouth of Big Soos Creek (from the eastbound Bridge of highway 18 to Auburn Blackk Diamond Rd. Bridge
from Auburn-Black Diamond Rd Bridge to Tacoma Headworks Dam	11/1 – 12/31	Daily limit 6. No more than 3 adults may be Coho and Chum, 12” min size, release Chinook, Closed waters - within 150’ of the mouth of Keta (Crisp) Creek.

Chinook fishery is dependent upon ISU and co-manager agreement.

The 2019/2020 WDFW sport pamphlet will reflect the following season end dates for trout and other game fish fall/winter season.

Mouth to Tacoma Headworks Dam: Dec. 31

#### **Soos Creek Recreational**

Closed to salmon.

#### **Lake Washington Recreational**

August-October	Closed to salmon.  Re-opening dependent upon ISU (lock counts) and co-manager agreement. Potential fishery starting date to be determined: Coho: 12” min. size. 4 fish limit, Coho only.
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#### **Lake Sammamish Recreational**

10/1 – 11/30	Fishery dependent upon ISU (lock counts) and co-manager agreement. 4 fish limit, Coho only. 12” min size.
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12/1 – 5/31	Landlocked salmon rules apply. Hatchery Coho may be retained as part of the trout daily limit. 12-inch minimum size.
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**All other SOUTH SOUND AREA 10 REGION freshwater: Closed to salmon angling**

**3.2 Area 11 Sub region**

**Area 11 Net**

Chinook	All	Closed
Pink	Trty	Closed due to poor Pink Forecast.
	Ntrty	Closed
Coho	Trty:	Commercial fishery opens Wk 36 (wb 9/1) – Wk 42 (wb 10/13) Gillnets 7 nights a week. Beach Seines daylight hours only, 7 days/week.
	Ntrty:	Closed
Chum	Trty:	Commercial fishery open Wk 43 (wb 10/20) - Wk 45 (wb 11/3); gillnets 7 nights/wk, could close at any time. Beach seine daylight hours only, 7 days/wk.
	Ntrty	Wk 42 (wb 10/13) - 45 (wb 11/3); PS Chinook and Coho NR; PS fishing pattern: 1,1,1,2; GN fishing pattern: 1,2,2,2. <u>PS and GN restricted from fishing in modified closure areas 11(2) as described in WAC 220-354-080.</u>

**Area 11A Net Treaty Net (Ntrty net closed)**

Chinook	Closed
Coho	Commercial fishery open Wk 36 (wb 9/1) – Wk 42 (wb 10/13)
Chum	Commercial fishery open Wk 43 (wb 10/20) – Wk 53 (wb 12/29) 3 nights/wk.

**Puyallup River (Area 81B) Treaty Net (Ntrty net closed)**

Chinook	Spring Chinook	Ceremonial and Subsistence
	Summer – Fall	Commercial fishery Wk 33 (wb 8/11) and Wk 34 (wb 8/18) fishing pattern: 6 hours. TBD
Coho	Commercial fishery Wk 36 (wb 9/1) - Wk 42 (wb 10/13) fishing pattern: 1,2,2,2,2,2,2.	

Chum	Test fishery Wk 43 (wb 10/20) - Wk 44 (wb 10/27) 1 day/wk, drift net only.
Winter Chum	Commercial fishery Wk 45 (wb 11/3) – Wk 53 (wb 12/29) 1 to 3 days a week. Opening may be postponed to week 47 depending on In Season Information to protect Fall Chum.

**White River Treaty Net**

Coho	Gillnet fishery will open Wk 36 (wb 9/1 <sup>st</sup> ) – wk 42 (wb 10/13 <sup>th</sup> ) with the fishing pattern: 1,2,2,2,2,2,2 from Puyallup/White River confluence upstream to Stewart St. Bridge.
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Ceremonial and subsistence fisheries open up to 7 days/wk.

**Area 11 Recreational**

5/1-6/31	Closed	
7/1-9/30	2 fish limit (Chinook 22" min. size), only 1 Chinook, release wild Chinook; Commencement Bay (E. of Cliff House Restaurant/Sperry Ocean Dock line) closed to salmon through 7/31.	
10/1 – 12/31	Closed	
1/1-4/30	2 fish limit (Chinook 22" min size), release wild Chinook, Commencement Bay (E. of Cliff House Restaurant/Sperry Ocean Dock line) closed to salmon 4/1-4/30.	
Dash Point Dock, Point Defiance Boathouse Dock, Les Davis Pier, Des Moines Pier and Redondo Pier	Year-Round	2 fish limit, 1 Chinook (Chinook 22" min size).



**Puyallup River Recreational**

from 11 <sup>th</sup> St. Bridge to E. Main Bridge	8/15 – 12/31	Closed Sundays 8/15-8/31. Closed Sunday – Tuesday 9/1-10/31. 6 fish limit, 2 adults, 12” min size, release Chum and wild Chinook.
From E. Main Bridge to Carbon R.	8/15 – 12/31	6 fish limit, 2 adults, 12”min size, release chum and wild Chinook.

**Carbon River Recreational**

From mouth to Voight Creek	9/1 – 11/31	6 fish limit, 2 adults, 12” min size, release Chum and wild Chinook.
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**All other SOUTH SOUND AREA 11 REGION freshwater recreational Closed to salmon angling.**

**3.3 Area 13 Sub region**

**Fox Island/Ketron Island (Area 13)**

Chinook	Treaty	8/1-9/15, 7 days/wk
	Ntrty	Closed
Coho	Treaty	9/15 – 10/20, 7 days/wk
	Ntrty	Closed
Chum	Treaty	Closed unless opened by Medicine Creek Treaty Tribes’ agreement
	Ntrty	Closed

**Area 13 Treaty Net (Ntrty net closed)**

Chinook	Closed
Pink	Closed
Coho	Closed
Chum	Closed

**Carr Inlet (Area 13A) Treaty Net <sup>1</sup>(Ntrty net closed)** <sup>1</sup>Based on Medicine Creek Treaty Tribal proposal annual regulations. Individual Tribal regulations may deviate from this schedule.

Chinook	8/1 – 9/21, 7 days/wk, opens in sections.
Coho	9/15 – 10/26, 7 days/wk, opens in sections.
Chum	10/27 – 12/7, 7 days/wk, opens in sections.

**Chambers Bay (Area 13C) Treaty Net<sup>1</sup> (Ntrty net closed)**

Chinook	7/28 – 10/12; Beach seines Sunday noon to Tuesday noon. Set nets Wednesday noon to Friday noon.
Coho	10/13 – 11/2; Beach seines Sunday noon to Monday noon. Set nets Monday noon to Tuesday noon.
Chum	Closed for conservation.

**Area 13D Treaty Net (Ntrty net closed)**

Chinook	7/15 - 9/9 or earlier date dependent on in-season management needs; 7 days/wk
Coho	9/10 - 10/31 or earlier date dependent on in-season management needs.
<b>Dana Pass (13D-1)</b>	7 days/wk
<b>Pickering Pass (13D-2)</b>	7 days/wk
<b>Peale Pass (13D-3)</b>	7 days/wk
<b>Southern Case (13D-4)</b>	7 days/wk
Chum	Open approximately 10/7 2-4 days per week; managed by weekly escapement updates (~10/7).
<b>Area 13E Net</b>	Closed to all fishing

**Budd Inlet (Area 13F) Treaty Net (Ntrty net closed)**

Chinook	7/15-9/9 or earlier date dependent on in-season management needs; 7 days/wk 9/10-9/22 extended opening dependent on in-season monitoring to meet hatchery escapement needs.
Coho	Closed
Chum	Open approximately 11/4, 2-4 days per week, managed by weekly in-season updates

**Eld Inlet (Area 13G) Treaty Net (Ntrty net closed)**

Chinook	7/15-9/9; opening dependent upon in-season data, outer portion only.
Coho	Closed

Chum	Open approximately 11/4, 2-4 days per week, managed by weekly escapement updates
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**Totten Inlet (Area 13H) Treaty Net (Ntrty net closed)**

Chinook	8/1-9/9; schedule dependent on in-season data
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Coho	Closed
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Chum	Open approximately 10/7, 2-4 days per week; managed by weekly escapement updates
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**Little Skookum Inlet (Area 13I) Treaty Net (Ntrty net closed)**

Chinook	8/1-9/9; schedule dependent upon in-season data
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Coho	Closed
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Chum	Open approximately 11/4, 2-4 days per week; managed by weekly escapement updates
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**Hammersley Inlet (Area 13J) Treaty Net (Ntrty net closed)**

Chinook	8/1-9/9 or earlier date dependent on in-season management needs
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Coho	Closed
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Chum	Open approximately, 10/7 - 12/31, 2-4 days/wk; managed by weekly escapement updates
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**Northern Case Inlet (Area 13K) Treaty Net (Ntrty net closed)**

Chinook	7/15-9/9
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Coho	9/10-10/31 or earlier date dependent on in-season management needs
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Chum	Open approximately 10/7 -12/31; 2-4 days/wk; managed by weekly escapement updates
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**Nisqually River (Area 83D) Treaty Net (Ntrty net closed)**

Chinook/Pink	<p>Gill Net 1 day (24hrs) wk 32 (wb 8/4) then 2 days (48 hrs) per wk during the following weeks: wk 33 (wb 8/11) through wk 35 (wb 8/25) then 32 hrs wk 36 (wb 9/1).</p> <p>Selective gear staff driven testing. 1-7 days/wk, wk 31 (wb 7/21) through wk 40 (wb 9/29) or until 450 adult Chinook are encountered.</p> <p>Change In Ratio data collection staff driven TN 1-3 days/wk, wk 35 (wb 8/25) through wk 45 (wb 11/3) or when 110 Chinook or 200 Coho are encountered. Release all fish.</p>
Coho	<p>Gill Net 2 days wk 41 then 3 days/wk wks 42 (wb 10/7) through wk 47 (wb 11/17).</p> <p>Change In Ratio data collection staff driven TN 1-3 days/wk, wk 35 (wb 8/25) through wk 45 (wb 11/3) or when 110 Chinook or 200 Coho are encountered. Release all fish.</p>
Chum	<p>Gill Net 2 days/wk during the following weeks: wk 48 (wb 11/24) through wk 53 (wb 12/29). Yelm Escapement ISU must reach 181 live count on or before January 2nd to proceed fishing 2-3 days/wk, wk 2 (wb 1/5) through wk 4 (wb 1/19). Prior to wk 53 and absent Yelm Live Count of 181, the Boat ISU will be used wk 51 and wk 52 to inform management decisions. Fishing boundary: Mouth of Nisqually River up to approximate RM 5 at the confluence of Clear Creek and Mainstem.</p>

**McAllister Creek (Area 83F) Treaty Net (Ntrty net closed)**

Chinook/Pink	Gill Net up to 5 days/wk during the following weeks: wk 31 (wb 7/28) through wk 42 (wb 10/13). Freshwater courses.
Coho	Closed.
Chum	Closed.

**Area 13 Recreational**

5/1-4/30	2 fish limit (Chinook 20" min. size), release wild Coho and wild Chinook. 2 pole endorsement. Minter Creek mouth closed 4/16 - 9/15; Lower Budd Inlet closure zone 7/16-10/31.
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**Fox Island Pier Recreational**

Year-Round	2 fish limit, 1 Chinook (Chinook 22" min size), release Coho. Closed 9/1-10/30.
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**Chambers Creek Estuary Recreational**

downstream of markers 400' below Boise-Cascade Dam to Burlington Northern Railroad Bridge	7/1 – 11/15	6 fish limit, 2 adults; 12" min size, release wild Chinook, wild Coho, and Chum.
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**Deschutes River Recreational**

Capitol Lake (from outlet to 400' below lowest Tumwater Falls (Deschutes River) fish ladder).	7/1 – 10/15	Closed
from Old Hwy 99 Bridge on Capitol Blvd in Tumwater upstream	6/1 – 7/30/2020	6 fish limit, 2 adults, 12" min size, release wild Coho.

**Kennedy Creek Recreational**

mouth to northbound Hwy. 101 Bridge	10/1 – 11/30	6 fish limit, 2 adults, 12" min size, release wild Coho.
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**McLane Creek Recreational**

from a line 50' north of and parallel to the Mud Bay Rd. Bridge to a line 100' upstream of and parallel to the south bridge on Hwy.101	Same as Area 13	Same as Area 13.
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**Minter Creek Recreational**

mouth to 50' downstream of hatchery rack	9/15 – 12/31	6 fish limit, 4 adults of which 2 are Chinook or Coho release wild Coho, 12" min size.
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**Nisqually River Recreational**

mouth to the military tank crossing bridge, one mile upstream of the mouth of Muck Creek	7/1 – 11/15	6 fish limit, 2 adults, 12" min. size; release Chum and wild Chinook. Closed Sundays.
	11/16-1/31	Closed to salmon angling. May open pending Yelm Escapement ISU. If ISU reaches 181 live count on or before January 2 <sup>nd</sup> , open to Chum: 6 fish limit, 2 adults, release Coho and wild Chinook, 12" min size.  Prior to wk 53 and absent Yelm Live Count of 181 the Boat ISU will be used to inform management decisions. Chum opening co-manager agreement.
McAllister Cr. - mouth to Olympia-Steilacoom Rd Bridge	7/1 – 11/30	6 fish limit, 2 adults, 12" min size. Release Coho and Chum.

**All other SOUTH SOUND AREA 13 REGION freshwater recreational closed to salmon angling.**

**4.0 Hood Canal Region (All fisheries modeled in FRAM #2719 (Chinook) & #1925 (Coho))**

Hood Canal Mainstem (Areas 12, 12B, 12C, 12D)

**Treaty: 1,000 feet closure around streams that are closed to net fishing. Beach seines and hook and line gear release Chum through 9/30 (through 10/10 if within 500' of western shore of Areas 12B and 12C).**

**Nontreaty: See WAC 220-47-307 for Nontreaty exclusion zones.**

Chinook/Pink	Trty	Areas 12, 12B and 12D: Closed
		Area 12C: Gillnets and Beach Seines wb 7/21 - wb 7/28 3 d/wk; Gillnets wb 8/4-8/18 4d/wk; Beach Seines wb 8/4-8/25 4d/wk . Beach Seines Release chum 8/1-8/31 And Gillnets Restricted to 7" min. mesh starting 8/1 per the SCSCI.
		Area 12H: Open wb 7/14 through 9/14; hook and line gear continuous; beach seines and dipnets daylight hours Mon and Wed each week; possible in- season modifications; Chum release.
	Ntrty	Area 12H (12C): Hoodsport Hatchery Zone Only, Wks 31 (wb 7/28) – 36 (wb 9/1); 10,000 Chinook quota.BS fishing pattern: 2,2,2,2,2,2; release all Chum per the SCSCI.; Release all Chum per the SCSCI.
Coho	Trty	Area 12: Open 9/25 through 10/12 for gillnets. Beach seines for Coho only (release all Chinook and Chum through 9/30) may start no earlier than 9/16. Both gear types open 5 days/wk.
		Area 12B: Open 10/1 through 10/19 for gillnets; 500-foot closure along western shore through 10/10; beach seines for Coho only (release all Chinook and Chum through 9/30) may start no earlier than 9/16. Both gear types open 5 days/wk.
		Area 12C: a) Gillnets: 10/1-10/19 7 d/wk. b) Beach Seines: 10/1-10/20 7 d/wk. DAYLIGHT HOURS ONLY. c) 500 foot beach closure from Ayock Pt. to approx. 2,000 feet south of Lilliwaup (at the large house, north of Octopus Hole) through 10/10 for both gear types.

Coho	Trty	Area 12D (west of Madrona Pt. - local name): Open for gillnets no earlier than 10/1. Weekly schedules identical to Area 12C.
	Ntrty	Closed
Chum	See comanager agreed-to Hood Canal MOU in appendix.	
	Trty	Area 12: Open 10/13 through 11/20; 7 d/wk
		Area 12B: Open 10/20 through 11/20; 7 d/wk; except north of an East-West line from Zelatched Point to Seal Rock open through 11/27.
		Area 12C: Open 10/20 through 11/27; 7 d/wk.
		Area 12D: Closed.
		Area 12H: Hook and line gear open from 10/13 through 11/23; beach seines open Tuesday and Thursday of each week; possible in-season adjustments to 3 days/wk. Starting 11/3, hatchery escapement control measures will go into effect.
	Ntrty	Areas 12 and 12B: Wks 42 (wb 10/13) - 47 (wb 11/17): PS Chinook and Coho NR; PS fishing pattern: 1,1,1,2,1,1; GN fishing pattern: 1,2,2,2,2 daylight hours. Hazel Point closed to PS in weeks 42-47 and closed to GN in weeks 42 and 45-47.
Area 12C: Fisheries scheduled Wks 45 (wb 11/3) - 48 (wb 11/24): PS Chinook and Coho NR; PS fishing pattern: 2,1,1,1; GN fishing pattern: 2,2,2,2 daylight hours. Fishing is contingent upon the results of the agreed-to ISU.		
Hoodsport Hatchery Zone (12H): Beach seine fishery wks 45-48; fishing pattern: 2,2,2,2. Fishing is contingent upon the results from the agreed-to ISU.		
Area 12D Closed		



**Port Gamble (Area 9A)**

No gillnet may be operated within the boundaries as described: From the head/mouth of Port Gamble Bay along both the eastern and western shores, along the southeastern edge of Pt. Julia and then north of a straight line drawn to west to the southern edge of the old mill site designated by markers (map in appendix).

Chinook	All	Closed
Coho	Trty	Open wb 8/11 through wb 10/26; 7 days/wk; gillnet only. Ceremonial Harvest of 20 Chinook in August.
Coho	Ntrty	Open Wks 34 (wb 8/19) - 44 (wb 10/28) skiff GN limited to 100 fathoms length and 60 meshes in depth; 7 days/wk; Chinook NR; Chum NR through 9/30; release NR fish by cutting ensnaring meshes. The beach area of the Port Gamble Indian Reservation, between Pt. Julia and the boundary marker at the south end of the reservation - closed to all fishing.
Chum	Trty	Open 10/27 through 11/23; 7 days/wk; gillnet only.
	Ntrty	Closed

**Quilcene / Dabob (Area 12A)**

Coho	Trty	Open 8/21 through 10/12; Chum and Chinook release from hook and line and beach seine gear through 9/30; beach seines 5 days/wk, daylight hours. Hook and line fisheries for Coho only, open continuously. Gillnets closed until Summer Chum escapement exceeds 1,500, then (1) GN day/wk; when escapement reaches 2,500 (2) GN day/wk; when escapement reaches 3,500 GN will be determined. Beach seine advance notification required prior to fishing.
	Ntrty	Beach seine open wks 34 (wb 8/18) – 40 (wb 9/29); Limited participation; Chinook and Chum NR; fishing pattern 3,5,5,5,5,5; GN closed unless Treaty GN opening. Fishery will be managed consistent with SCSCI.
Chum	Trty	Open to set and drift gillnets wb 10/13 through 11/20, South of an E-W line through Pt. Whitney.
	Ntrty	Closed

**Big Quilcene River (Area 82F) Treaty (Ntrty net closed)**

Coho	Openings to be determined in-season, for Coho only, from 9/1 through 10/12. Closed below Rogers St. From Rogers St. to U.S. Hwy 101, dipnets, hook and line gear only, release all other salmon. The hatchery area, from U.S. Hwy 101 to the Quilcene Hatchery rack, may be opened for short periods to take surplus Coho. Hand held gear only (dipnets, hand lines, etc.).
Chum	Closed

**Skokomish River (Area 82G) Treaty (Ntrty net closed) Purdy Creek (Area 82J) Treaty Net (Ntrty net closed)**

**Note: The Skokomish Tribe will continue to sample all agreed to fisheries in order to provide weekly in-season updates (i.e. CWT, species, mark status, and mark rates). The WDFW will provide weekly in-season updates for Chinook returns to the George Adams Hatchery rack. Note: Hook and line gear and beach seines release Chum through 10/15 above Hwy 106 Bridge.**

**Skokomish River – Mouth to HWY 106 Bridge (Area 82G) Treaty**

Coho	Open 10/06 – 11/02, 7 days/wk.
Chum	Open wb 11/03 through 11/30, 7 days/wk.

**Skokomish River – HWY 106 Bridge to HWY 101 Bridge (Area 82G) Treaty**

Chinook	Open wb 8/04 - wb 8/25, 3 days/wk.
Coho	Open wb 10/06 – wb 10/27, 7 days/wk.
Chum	Open wb 11/03 through wb 11/24; 7 days/wk.

**Purdy Creek (Area 82J)**

Note: Treaty Net 250 feet from the confluence/mouth of Purdy Creek to the HWY 101 Bridge (fishing nets may not be attached to any abutment or railings on the HWY 101 Bridge).

Chinook	Gill Nets only: Open Saturdays only beginning July 06 – August 10. In-season adjustments will occur to ensure weekly broodstock targets are achieved.
Chum	Gill Nets, Dip Nets and Hook & Line: Open 11/10 as necessary to reach tribal share.

**Misc. Hood Canal Rivers (Dosewallips, Duckabush, Hamma Hamma, Tahuya, Dewatto, Union)**

All species	Closed to commercial harvest.
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**Area 12 Recreational**

**Note: Release all Chum from 8/1 to 10/15, per the SCSCI. 7/1-10/15: All waters within channels created by exposed tidelands including - the free flowing waters of the Skokomish River downstream (north) of the City of Tacoma PUD overhead transfer powerlines are CLOSED to fishing for finfish; the State and Tribe will meet and resolve issues prior to a fishery occurring in this area. Mouth closures apply to Dosewallips, Duckabush, Dewatto, and Hamma Hamma Rivers.**

5/1-6/30	Closed
7/1-7/31	Closed North of Ayock.
7/1-9/30	South of Ayock Pt. – 4 fish limit, (Chinook 20" min size); release Chum and wild Chinook. 2 pole endorsement.
8/1-9/30	North of Ayock Pt. – 4 fish limit, release Chinook and Chum. Closed Tarboo Bay north of Broad Spit 9/16-9/30. Hook measuring ½ inch or less from point to shank from 8/1-8/15.
10/1-12/31	4 fish limit, 2 Chinook (Chinook 22" min size). Release wild Chinook, release Chum through 10/15. Closed in Tarboo Bay N of Broad Spit. 2 pole endorsement 10/1-10/31 South of Ayock.
1/1-4/30	2 fish limit, (Chinook 22" min size), release wild Chinook.

**Quilcene/Dabob Bay Recreational**

5/1-7/31	Same as Area 12
8/1-8/30	4 fish limit, Coho only
9/1-4/30	Same as Area 12

**Hoodsport Hatchery Zone Recreational, Same as Area 12 (above) except:**

7/1-12/31	4 fish limit, no minimum size; Release wild Chinook and release Chum 7/1-10/15. 2 pole endorsement 7/1-10/31.
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**Dewatto River Recreational**

mouth to Dewatto-Holly Rd. Bridge	Closed to salmon.
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**Dosewallips River Recreational**

mouth to ONP boundary	11/1 – 12/15	2 fish limit, 12" min size, Chum only.
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**Duckabush River Recreational**

mouth to ONP Boundary	11/1 – 12/15	2 fish limit, 12" min size, Chum only.
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**Quilcene River Recreational**

Rodgers St. to Hwy 101 Bridge	8/16 – 10/31	6 fish limit, 4 adults, 12" min size, Coho only. Night closure.
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**Skokomish River Recreational**

The State and Tribe will meet and resolve issues prior to a fishery occurring.

**Tahuya River Recreational**

Closed to salmon

**All other HOOD CANAL REGION freshwater recreational closed to salmon angling**

## **2018 – 2019 List Of Agreed Fisheries Appendix**

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## 1.1 2019 7/7A Chum Fishing Plan

04/15/2019

Chum salmon fisheries in Areas 7 and 7A will be regulated to comply with Chapter 6 of Annex IV of the United States – Canada Pacific Salmon Treaty (PST 2019). Chapter 6 of the PST specifies that U.S. commercial fisheries for Chum salmon in Areas 7 and 7A will not occur prior to October 10. Further, per Chapter 6 Chum salmon fisheries in Areas 7 and 7A will be regulated to comply with a base harvest ceiling of 125,000 Chum salmon, unless a critically low level of abundance is identified for those stocks migrating through Johnstone Strait (“Inside Southern Chum salmon”). Paragraph 9 (a-b) specifies run sizes below 1.0 million as critical (estimated by Canada). For run sizes below the critical threshold, the U.S. catch of Chum salmon in Areas 7 and 7A will be limited to those taken incidentally to other species and in other minor fisheries, and shall not exceed 20,000 pieces. When the Fraser River chum run-size is greater than 1.6 million, the US share shall be 160,000 chum.

In 2013, the co-managers enacted a fishing plan intended to result in the full harvest of chum salmon allowed to be caught in Area 7/7A under the existing Chapter 6 of the PST. Adoption of these annual pre-season chum fishing plans for Area 7/7A has resulted in the full harvest of the U.S. share in recent years (Table 1).

Table 1. U.S. 7/7A chum catches, 2009-2018

Year	NT catch	Treaty catch	Total U.S. catch	Total U.S. Share <sup>A</sup>	Uncaught share	Overage	Paid Back
2009	16,406	7,667	24,073	20,000 <sup>B</sup>	N/A	0	
2010	6,062	17,342	23,404	20,000 <sup>B</sup>	N/A	0	
2011	24,084	36,401	60,485	130,000	69,515	0	
2012	32,157	40,709	72,866	130,000	57,134	0	
2013	30,239	49,411	79,650	130,000	50,350	0	
2014	60,135	86,436	146,571	130,000	0	16,571	
2015	59,754	65,303	125,057	130,000	4,943	0	4,943
2016	66,531	51,705	118,236	130,000	11,764	0	11,764
2017	56,830	66,366	123,196	130,000	6,804	0	
2018	37,806	28,605	66,411	N/A <sup>C</sup>	N/A	0	

<sup>A</sup> Between 2009-2018, the base US share was 130,000 chum per year. Starting in 2019, the base US share shall be 125,000 chum per year.

<sup>B</sup> In 2009 and 2010, the Inside Southern Chum run size was below the critical threshold of 1.0 million; thus, per Chapter 6 of the PST the harvest ceiling was 20,000 additional chum following the notice from Canada that the run size was below the critical threshold.

<sup>c</sup> In 2018 the inside Southern chum was above the critical threshold, allowing the US to open fisheries. However, Fraser River chum were below the critical threshold of 900,000, which required the US to close 7/7A chum fisheries.

To continue to promote fishing opportunity that allows both the treaty and non-treaty fleets to catch their full shares, the co-managers will use the management approach below for the 2019 season.

- Tribal and non-tribal reef net fisheries will remain open continuously from the end of Fraser management to the end of the chum season or until their respective shares are harvested, whichever comes first. Reef nets will release all chum, unmarked coho and unmarked Chinook through September 30. Release all Chinook beginning October 1.
- Tribal purse seine (PS) and gillnet (GN) fisheries will open on Wednesday October 10 and remain open continuously until the end of the season or until the treaty share is harvested, whichever comes first.
- Non-tribal PS and GN fisheries will open on Friday October 11, Saturday October 12, Monday October 14, and Tuesday October 15.
- Non-treaty purse seine and gillnet fisheries will be evaluated relative to the thresholds below based on non-treaty chum catch reported on the in-season co-manager conference call scheduled for Thursday, October 17, 2018. Non-treaty fisheries will re-open on the prescribed dates and remain open continuously until the end of the season or until the non-treaty share is harvested, whichever comes first.

Table 2. 2019 Treaty Indian and All Citizen Chum Fishing Schedule for Marine Areas 7 and 7A

	10 Oct	11 Oct	12 Oct	13 Oct	14 Oct	15 Oct	16 Oct	17 Oct
	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu
TI and AC Reef Net								
TI Gill Net and Purse Seine								
AC Gill Net and Purse Seine								
Co-Manager Conference Call								

- If total non-treaty catch is:
  - <29,000; non-treaty fishery will reopen Friday, October 18.
  - >29,000; non-treaty fishery will reopen Saturday, October 19.

In-season the co-managers will:

- exchange data on by-catch throughout the season, and take appropriate management actions should levels of by-catch greatly exceed expectations.



- meet by conference call and adjust schedules if needed in response to in-season notification by Canada's Department of Fisheries and Oceans that chum salmon returns are below the critical thresholds identified in Chapter 6, paragraph 9 of the Pacific Salmon Treaty.

#### Conduct of Scientific Research

Should the tribes and/or WDFW seek to open limited fisheries in an attempt to collect tissue samples from Area 7 West, Area 7 East and Area 7A for Genetic Stock Identification analysis, fishery plans will be exchanged among the Area 7/7A tribal and state co-managers for discussion, in an effort to reach agreement. These fishery plans will include clear objectives, and will be clearly defined and closely regulated. US Southern Panel members will notify their Canadian counterparts of this intent in an expeditious manner. As described in PST Chapter 6, paragraph 9(b), catches taken for the purpose of GSI sampling will not count toward the 20,000 catch limit allowed when critical thresholds are not being met.

## 1.2 Lummi Nation's Nooksack River Spring Chinook Radio Tag Study

This proposal communicates Lummi's interest in conducting a research fishery in the Nooksack River not to exceed 1% ER, as per section 7 (Research and Monitoring) of the Chinook Management Plan. The Lummi Natural Resources Department has received funding to implement a radio tag study to evaluate spatial distribution, temporal distribution and post-release mortality of natural and hatchery origin South Fork Nooksack spring Chinook entering the Nooksack River between April and June.

No data currently exist on holding area preferences or Nooksack River-specific thermal preferences of SF Chinook, which has a significant bearing on future broodstock collection efforts and habitat restoration projects. Additionally, it is hypothesized that a seasonal thermal barrier may be creating vulnerability to SF Chinook by affecting entry to the South Fork Nooksack which may be delaying spawn timing and inducing temperature related pre-spawn mortality.

A secondary benefit of this project may be the ability to demonstrate that removal of surplus adult North Fork Nooksack Chinook HORs during the spring selective drift fishery does not affect the Chinook recovery programs in the Nooksack basin by inducing significant mortality to released HOR and NOR South Fork Chinook and NOR North Fork Chinook.

In this study we intend to gather baseline data that will guide the efforts of the South Fork Chinook recovery program operated at Skookum Creek Hatchery and habitat restoration projects throughout the Nooksack River.

A tangle net (4.75" gill net mesh size) will be used to capture Chinook in the Nooksack River below the Slater Road Bridge. Three boats are used in this process: The primary fishing boat to deploy and manage the net, a tail boat to control the tail board end of the net, and a recovery boat. All natural origin Chinook, all suspected SF hatchery Chinook (CWT only), and some hatchery origin NF/MF Chinook (identified with a mark) will be tagged with radio transmitters and tracked using ground and aerial surveys on a weekly basis. A portion of the marked hatchery Chinook will be harvested for C&S use.

Up to 50 Lotek MCFT2 radio transmitters will be deployed each year using esophageal deployment. All released fish will receive a metal jaw tag with a unique identification number, will be tissue sampled for genetic stock assignment, be measured for fork length, sampled for scales, and sexed. For evaluating temporal and spatial distribution, weekly ground surveys in road-accessible areas of the main stem and forks will be conducted. Ground surveys will be used for accurately estimating entry timing to sub-basins, estimating spawn timing, pinpointing preferred holding areas, and recovering tags from mortalities. Weekly aerial surveys will be used to track spatial distribution throughout the entire Nooksack basin.

For 2019, this radio tag study will be limited to no more than 10 natural origin encounters. Applying the co-manager agreed 30% release mortality to these 10 encounters results in 3 natural origin mortalities. These 3 mortalities result in a 0.82 ER on natural-origin Nooksack spring Chinook. Five steelhead are also anticipated to be encountered during this research. Applying an 18.5% release mortality rate, the

same rate as applied to steelhead released during the Lummi spring Chinook C&S fishery with tangle-net gear, results in approximately one steelhead mortality as a result of these research efforts.

### 1.3 Skagit Encounter Monitoring During Recreational Coho Season

#### Objectives:

The objective of the creel is to estimate the Chinook encounter rate, and estimate encounters/retained catch during the fishery for all other species by mark type if applicable. We will also evaluate the distribution of effort within pamphlet reaches.

#### Methods:

Sampling will occur across the reach of the Skagit River that is open to coho, from the mouth to Marblemount during the months of September and October when chinook encounters may occur. Sampling will occur 5 days a week, on weekend days plus three randomly selected week days. Sampling will be random, and sampling effort will be conducted in equal proportions to angling effort. In order to assess effort distribution, on one day a week selected randomly, the number of anglers participating in the fishery will be estimated by counting vehicles and boat trailers in the fishery. The fishery effort counts will be broken into reaches that coincide with reach breaks in the sport rules pamphlet, thus effort for each reach can be calculated in relative proportion to all other reaches. The creeler will be randomly assigned to sample the reaches at the same proportion as effort calculated across the season.

At the end of the season, total encounters and fish retained can be tallied by reach. To estimate total encounters the percentage of effort sampled will be estimated by a simple ratio of coho catch observed retained from the sampling during the fishery, divided by the catch record card estimate. The total encounter rate or catch of the species of interest can then be solved for. The description is as follows:

#### Description of ratio estimate method

Total Coho Catch =X

Creeled Coho Catch =Y

Total catch of interested species A=A

Creeled species B catch=B

So  $A/B=X/Y$ . Solved for  $A=(X/Y)*B$

#### Description of Reaches Surveyed:

Mouth to Memorial Highway

Memorial Highway to Gilligan Creek

Gilligan Creek to Dalles Bridge in Concrete

Dalles Bridge to Hwy 530 Bridge in Rockport

Hwy 530 Bridge to Marblemount Bridge

Cascade River mouth to Rockport-Cascade Road

## 1.4 Lower Skagit River Spring Chinook Selective Fishery Proposal

### Proposal

The proposal is to conduct a spring Chinook mark selective sport fishery in the Skagit River from the Memorial Highway Bridge located in Mt. Vernon at river mile 11.4 to Gilligan Creek located at river mile 28.9. The fishery will open May 1, and close May 31, unless the wild Chinook or steelhead impacts limits are met prior to the anticipated end date. The daily limit will be two ad-clipped Chinooks only per day per angler, no retention of any other species allowed consistent with current gamefish regulations. Time and gear restrictions will include no fishing at night, and barbless hooks required.

### Fishery Guidelines

#### *Spring Chinook:*

Because a mark selective spring Chinook fishery in the lower Skagit has never been conducted, and the last spring chinook fishery occurred 40+ years ago, no contemporary data is available to estimate expected catch or impacts on wild fish from sport fisheries. From treaty catch data on fisheries conducted in the month of May, the percent of hatchery chinooks expected encountered would be 84.2%. The forecast for hatchery fish is for 4112 3-5 age hatchery fish of which 67.1% are marked. The wild forecast is for 2000 3-5 age fish. And total terminal spring return is 6112. Thus the mark rate in the fishery is expected to be 56.6%. (Spreadsheet available on request) For 2019, we will use as a proxy for the expected total encounter rate to be 10%. That equates to 611 fish encountered, of which 15.8% (96 fish) would be wild. A hooking mortality rate of 10% is used for freshwater sport fisheries on fish encountered. The terminal area impacts will be limited to 96 encounters on wild Chinooks, which equates to a 0.48% total impact rate.

#### *Wild steelhead:*

Both pre spawn and post spawn (kelts) Steelhead are expected to be encountered in this fishery at some unknown rate. The Skagit River Steelhead Fishery Resource Management Plan defines a tiered harvest regime, in which the total allowable wild harvest rate depends upon total wild terminal abundance. The pre-season forecast for Skagit wild steelhead abundance was 6567, so fisheries are planned such that the total harvest rate would not exceed 20%, 10% in non-treaty fisheries for the 2018-19 steelhead year.

The expected non treaty harvest rate in all non-targeted steelhead fisheries planned or executed in the July 1, 2018 - June 30, 2019 time frame is ~0.30. 8.0% has been set aside (but is expected to be much lower) for the Skagit Catch and Release steelhead fishery. To stay well within the harvest rate bounds allowed, the terminal area impacts will be limited to 328 encounters on wild steelhead, which equates to a 0.5% total impact rate. The actual calculated impact rate on steelhead post season will be lower, but undetermined at this point, due to some percentage of those fish being kelts.

## **Skagit Creel Census and Monitoring Plan**

To assess angler effort, catch, total harvest and impacts to other stocks and species WDFW will conduct a creel survey on the Skagit River during the selective Chinook fishery. A two-stage sampling design will be used to conduct the creel survey. Days of the month will be divided into two strata, weekdays and weekends. Each stratum has a fishing day length of approximately 16 hours that will be divided into two substrata, an early and late period. On weekend days, creel surveyors will sample both days and both the early and late periods. On weekdays, sampling will occur also both time periods, on three randomly selected days per week.

During the creel survey two pieces of information will be collected, angler effort and catch data. Effort counts will be made by counting the number of boat trailers and/or cars at the known access sites within the fishery boundary twice a day. In addition tie in counts will be conducted twice a week via jet sled to estimate/verify total effort. Information collected from angler interviews include number in party, angler type (i.e., boat or shore), whether or not anglers have completed their trip, start and stop time, number of trailers and cars associated with the party, and the number of fish kept and released by species and mark.

Methods used to expand effort and angler catch data to estimate total effort and harvest are outlined in WDFW Methods Manual-Creel Information from Sport Fisheries (Hahn 2000). Total catches and impacts to wild stocks will be calculated on a weekly basis. Impacts to stocks of concern nearing maximum impact levels will be immediately communicated to concerned parties and an emergency closure of the fishery will occur to avoid further impacts.

## **1.5 Pacific Salmon Commission Chum Technical Committee 2019 Juan de Fuca Strait Chum Salmon Sampling Program**

The Pacific Salmon Commission Southern Panel has again identified the establishment of a chum sampling program for the Strait of Juan de Fuca as a top research priority for proposals through the Southern Endowment Fund for 2019. The Chum Technical Committee submitted a proposal to continue the Strait of Juan de Fuca GSI sampling program which was begun in 2016, and this proposal was once again selected for funding. The sampling program will follow the same methodology as in 2016, 2017 and 2018. Therefore, the analysis of potential impacts to ESA-listed Puget Sound steelhead and Puget Sound Chinook, described below, remains unchanged from previous years.

### **Sampling Program Objectives:**

For stock reconstruction for Southern BC and Washington Chum salmon, one significant data gap is the diversion of chum populations through the Southern Route via Juan de Fuca Strait. This project will work towards addressing that data gap by sampling this migration route in both US and Canadian waters to determine:

- Spatial & temporal stock composition of chum salmon migrating through the Southern Diversion route,
- Provide sampling platform for stock identification, migration rate studies etc.
- Develop time series of Catch per Unit effort data to pair with the Johnstone Strait Test Fishery to determine the diversion rates of various chum populations.

This multi-year program is a structured sampling program in Juan de Fuca Strait (Canadian Area 20 and US Area 5). This research involves chartering a Purse Seine vessel to fish 4 days/week starting the 1<sup>st</sup> week of October for 5 weeks (2 vessel-days on each side of the international boundary). Catch per Unit Effort information is collected as well as biological samples for stock identification purposes. All fish are released except for the 400 samples/week (a total of 2,000 chum) that are collected during the program.

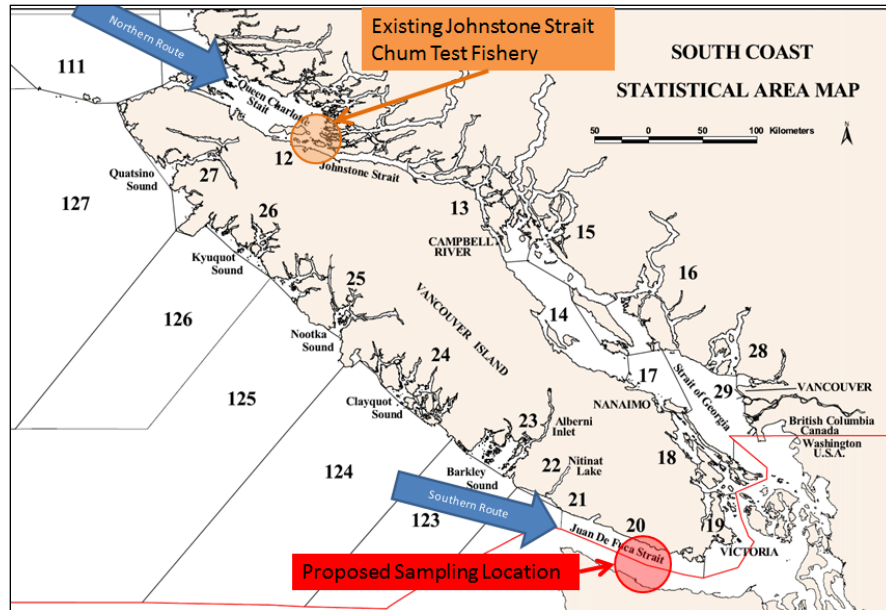


Figure 1. Map of Vancouver Island with migration pathways and proposed sampling location.

**Sampling Program Methodology:**

**Gear:** In order to reduce selectivity, a Purse Seine vessel will be chartered to conduct the sampling following a typical Test Fishery pattern (Fig 2). The vessel will fish using a standard WCVI Seine net (300 fathom 6 ½ Strips) that will be constructed for this program.

**Timing:** The sampling program will cover the main fall chum migration time period through the month of October. The vessel will fish a total of 4 days per week (2 days in Canadian waters and 2 days in U.S. waters) over a 5 week period starting the first week of October.

**Location:** The 2 days per week of fishing in U.S. waters will occur entire within Catch Area 5. The charter vessel will complete a minimum of 6 sets/day fishing along a North-South line perpendicular to the coast of Vancouver Island across to Washington State. Set locations will be established along that line based on past sockeye samplings conducted by the Pacific Salmon Commission. There will be flexibility in the set location especially during this pilot phase of the program to determine optimum set locations (i.e. the fish maybe predominantly shore-oriented so most of the effective fishing effort would be near-shore).

**Monitoring:** An observer trained by DFO will be onboard at all times during fishing operations. The observers’ duties will include collection and recording of all catch data, such as date, time, set location, number of sets, and catch by set and species. Data collected will be recorded on paper set logs and entered into an electronic logbook for real-time data transmission using a satellite system. This satellite system will also provide the Vessel Monitoring System (VMS) for real time monitoring of vessel positioning to a predetermined frequency. Enumeration procedures:

- Once the bunt is dried up alongside or at the stern of the vessel fish will be sampled by dip-netting a portion of the catch out of the net.
- The remaining fish will be counted by species as they swim out of the bunt over the breast line.
- Lowering and raising the breast line controls the speed with which the fish swim out of the net.



- The observer will count all chum salmon while crew members will count any salmon and steelhead by-catch.
- All fish will be released except those being sampled.
- All catch data including biological samples will be entered and stored and accessible over the web through the Fishery Operating System (FOS).

**Sampling:** A total of 400 chum will be sampled for biological information in each week (200/ week on the Canadian side and 200/week on the U.S. side). Sampling will be done across sets attempting to sample proportionate to the CPUE. Information collected will be:

- Scale samples for age determination
- Length samples (Post Orbital Fork)
- Sex composition
- Tissue samples for DNA extraction DNA tissue samples will be collected as adipose tissue and mounted on Whatman paper. Alternatively, samples can be collected and preserved in 95% ethanol.

If required, other species may also be sampled following similar protocols.

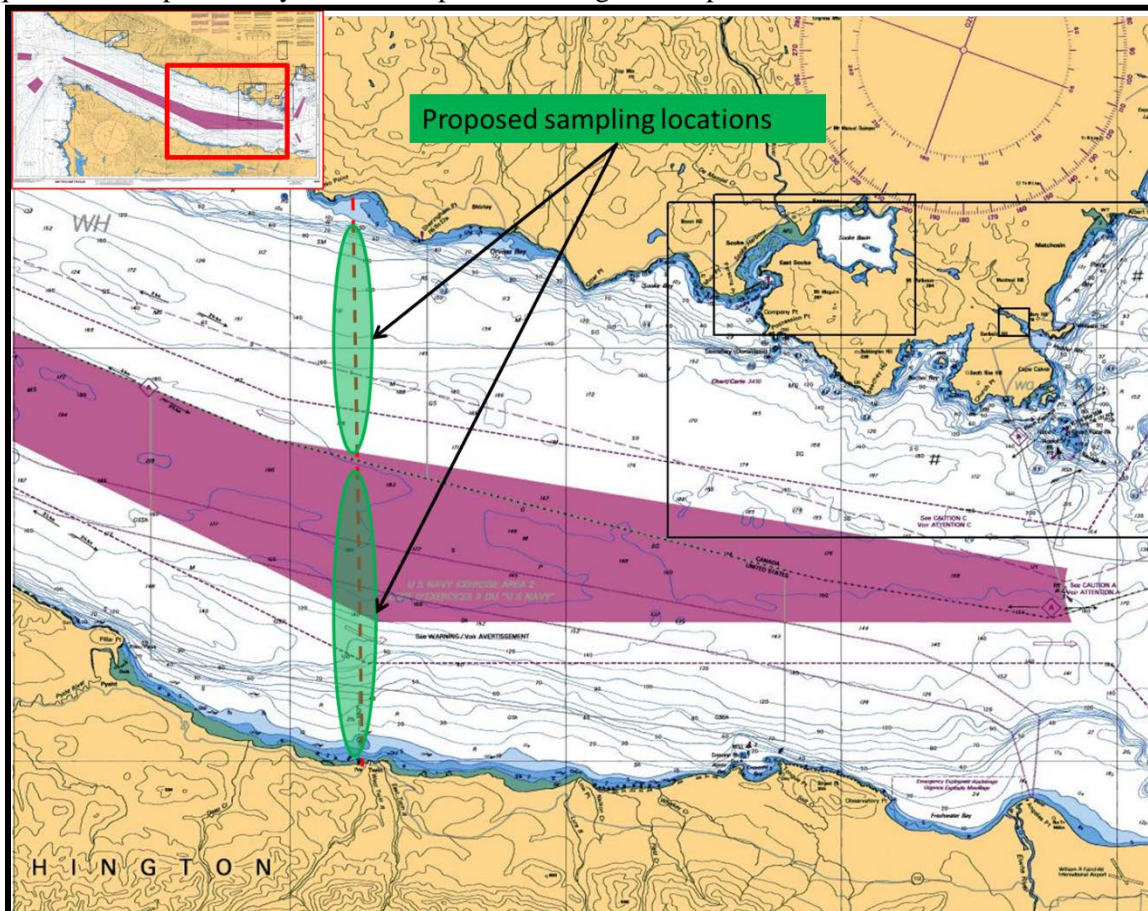


Figure 2. Proposed initial sampling locations for program initiation following similar pattern to past sampling programs for sockeye by the Pacific Salmon Commission. Fishing in US waters will be limited to Catch Area 5.

**Mitigation Measures to Minimize the Potential for Take:**

Sampled chum will be dip-netted out the seine. The remainder of the fish in the seine (including any potential listed fish) will not be brought aboard the vessel, but rather released directly from the seine while still in the water, by submerging the cork line.

**Take Estimation and Reporting:**

Table 1 shows the number of observed encounters with potentially ESA-listed salmonids during years 2016, 2017 and 2018 of this research, which were below the anticipated take analysis presented here. The same fishing protocols will be used during the 2019 operations. Therefore, the following take estimates (developed in 2016) represent very conservative impact expectations for the 2019 research.

Table 1. Observed encounters of potentially ESA-listed salmonids in the Juan de Fuca Strait Chum Salmon Sampling Program during 2016, 2017 and 2018.

	Observed Encounters (all released)		
	Adult Chinook	Immature Chinook	Steelhead
2016	0	21	1
2017	3	27	0
2018	0	69	0

**Puget Sound Steelhead:** Based on fish tickets from 5 recent years (2011-2015), October and November steelhead catches in all commercial fisheries within Areas 4B and 5 ranged from zero (in 2013, 2014 & 2015), to one (in the 2012 troll fishery), to three (in 2011 gillnet fisheries). Therefore, we would conservatively expect our research activities to encounter less than 10 adult steelhead in total, with all being released alive with minimal actual handling. Since all steelhead will be released without being brought aboard the vessel, a 20% release mortality will be assumed. This mortality rate is higher than the 10% rate assumed for recreational hook & line fisheries, but lower than the release mortality rates assumed for adult Chinook (33%) or Coho (26%) assumed for purse seine fisheries where the fish are brought aboard the vessel prior to being released. A 20% assumed release mortality rate suggests that this sampling program could potentially result in 2 dead steelhead of unknown production origin and listing status during 2019 operations. Steelhead that are potentially encountered in Area 5 may not be part of the listed Puget Sound ESU.

**Puget Sound Chinook:** Typically, only immature "blackmouth" Chinook should be present in Area 5 during October and November. Based on WDFW estimates of Chinook encounters in October mark-selective fisheries in Area 5, we anticipate encountering less than 200 immature Chinook in the course of this research during 2019. Should any immature Chinook become entrained in the seine, smaller ones would likely escape through the mesh. Any entrained Chinook will be released over the cork line along with the excess chum. As with steelhead, no Chinook are expected to be brought aboard the vessel. Therefore, a lower release mortality rate than the rate that is usually assumed for immature Chinook that are hauled aboard purse seiners (45%) is appropriate. Assuming a release mortality rate of 30% suggests that this research might result in a total of 60 incidental mortalities of immature Chinook in Area 5 during October and early November. Based on FRAM modeling of those impacts, total adult equivalent (AEQ) mortalities expected in this research sampling program during 2019, by stock, are shown in Table 2.

Table 2. Total Adult Equivalent (AEQ) mortalities of all Chinook stocks estimated to occur incidentally in the Juan de Fuca Strait Chum Salmon Sampling Program during 2019.

<b>Stock</b>	<b>AEQ mortalities</b>
UnMarked Nooksack/Samish Fall	1
Marked Nooksack/Samish Fall	19
Marked Mid PS Fall Fing	1
UnMarked South Puget Sound Fall Fing	2
Marked South Puget Sound Fall Fing	26
UnMarked Fraser River Late	3
UnMarked Lower Columbia Naturals	1

The potential net increases in total 2019 exploitation rates of Puget Sound Chinook stocks managed under the Co-manager Comprehensive Management Plan for Puget Sound Chinook are shown in Table 3.

Table 3. FRAM-derived estimates of increases in total 2019 Exploitation Rates (over those occurring in fisheries) of Puget Sound Chinook stocks anticipated to result from incidental release mortalities in the Juan de Fuca Strait Chum Salmon Sampling Program, rounded to the nearest one-hundredth of one percent.

Stock	Increase in Total ER
<b>Spring/Early:</b>	
Nooksack (n) - Total	0.00%
Skagit (n) - Total	0.01%
White	0.00%
Dungeness	0.00%
<b>Summer/Fall:</b>	
Skagit - Total	0.01%
Stillaguamish (n) - Total	0.00%
Snohomish (n) - Total	0.00%
Lake Wa. (Cedar R.)	0.01%
Green	0.01%
Puyallup	0.01%
Nisqually	0.04%
Western Strait-Hoko	0.00%
Elwha	0.00%
Mid-Hood Canal tribs. (n)	0.00%
Skokomish	0.08%

These low exploitation rates, when combined with the other research fishing activities consulted under the 2019 Chinook Harvest Management Plan (to our knowledge), still fall well below the level reserved for this type of research activity, as described in the 2010 Co-manager Comprehensive Management Plan for Puget Sound Chinook:

*Mortality associated with certain monitoring and research activities (e.g. test fisheries and update fisheries), that primarily inform in-season harvest management decisions, will be accounted with other fishery related mortality under the ER ceilings defined for each MU. **Mortality associated with other research and monitoring, which have broader applicability to stock assessment, will not be accounted under the ER ceilings, Mortality in this latter category will not exceed a level equivalent to 1% of the estimated annual abundance (i.e. 1% ER), for any MU.***

## 1.6 2019 Area 9 (NHC sub-area) Treaty Commercial Chum Fishing Plan

### Pre-Season Planning:

The 2019-20 Co-Managers' List of Agreed Fisheries (LOAF) states in *Part 2, Section 2.7* (Admiralty Inlet Area) that "The Area 9 fall Chum fishery north of the HC bridge will open wk 43 (wb 10/20) through wk 45 (wb 11/3); fishing pattern: GN 3,4,3; and PS 4,3,3. Open area restricted to that portion of North Hood Canal bounded to the south by the Hood Canal Bridge and bounded to the north by a line from White Rock due east to landfall. Tribes with adjudicated U&A in the open section of Area 9 may choose to participate. Coho and Chinook model inputs have been modeled during NOF that anticipate the participation levels of 2018. If the fishery reaches a catch threshold of 30,000 Chum salmon before 11/2, there will be a conference call among the participating Tribes to discuss any needed fishery management actions. Participating tribes agree to sample tissue for DNA analysis of their tribe's Chum catch and wild Coho bycatch to the extent practicable."

During the North of Falcon salmon planning process, expected Coho and Chinook impacts for all five tribes with treaty fishing rights in the proposed fishing zone were modeled in pre-season FRAM model runs.

### Objective:

The purpose of this management plan is to provide a management framework for this Area 9-NHC treaty commercial Chum fishery to improve coordination, compliance, safety, and management of the fishery.

### Eligible Tribes:

Jamestown S'Klallam Tribe, Lower Elwha Klallam Tribe, Port Gamble S'Klallam Tribe, Skokomish Tribe, and Suquamish Tribe.

### Fishery Area:

That portion of Area 9 north of the Hood Canal Bridge and south of a line true east from White Rock to landfall on the Kitsap Peninsula.

Fishery Period: Management weeks 43 through 45

### Proposed Weekly Fishery Schedule:

Week 43 (GN 3, PS 4)

Week 44: (GN 4, PS 3)

Week 45: (GN 3, PS 3)

Gillnets Open –

Week 43: 8:00 am Sunday through 8:00 am Wednesday,

Week 44: 8:00 am Sunday through 8:00 am Thursday,

Week 45: 8:00 am Sunday through 8:00 am Wednesday.

Purse Seines Open – Daylight Hours Only.

Week 43: 8:00 am Wednesday through 8:00 pm Saturday,

Week 44: 8:00 am Thursday through 8:00 pm Saturday,

Week 45: 8:00 am Thursday through 8:00 pm Saturday.

**Expected Total Season Boat-Days:**

Total Season Gillnet Effort\* = 153

Total Season Purse Seine Effort\* = 10

\* As modeled in the 2019 preseason FRAM model runs.

**By-catch inputs for Coho and Chinook FRAM modeling:**

Over the 2017 and 2018 seasons the average gillnet Coho encounter was 0.56 fish per boat-day, this average was rounded up to one Coho encounter per boat-day for estimating potential Coho mortalities. Resulting gillnet retention of 153 was expanded for drop-off mortality (2%), and purse seine retention of 10 Coho was added. Pre-season FRAM modeled input totaled 166 Coho. Chinook have not been encountered in this fishery, thus model input remains at 1 as a placeholder.

**Other Restrictions:**

Purse seine release of Chinook;

Purse seine opening shall be scheduled to occur on the same days and times for all participating Tribes;

Gillnet openings shall be scheduled to occur on the same days and times for all participating Tribes;

All catch shall be recorded on treaty commercial fish tickets.

**Central/South Sound Tribal Agreements:**

Estimated interceptions of South/Central Sound origin Chum shall be considered a pre-terminal interception and will be deduct from the South/Central Sound computed Treaty share of harvestable Chum entering Area 10 using weekly stock composition (Table 1).

**In-Season Coordination, Catch Monitoring, and Conference Calls:**

A conference call will be held at (1:00 pm) on (Monday) of each fishing week to report and review the effort and catches to date, as well as anticipated effort and catches, to help ensure a successful fishery for all parties. If the fishery reaches a catch threshold of 30,000 Chum salmon before 11/2, there will be a conference call among the participating Tribes to discuss any needed fishery management actions. Each participating tribe shall monitor the catch and bycatch of its fishers and be prepared to report these numbers on that week's in-season conference call.

Broodstock collection at the Little Boston Hatchery (Port Gamble Bay) shall be monitored to ensure that Fall Chum broodstock collection goals will be met. If the hatchery is not meeting its broodstock collection needs, then harvest management actions will be taken to ensure a sufficient passage of Chum salmon to the hatchery.

Catch Sampling:

The participating tribes plan to continue collecting Chum tissue samples for weekly stock composition data. A sampling design to distribute the collection of 200 weekly samples over the geographic area being fished will be coordinated among the participating tribes.

Enforcement:

Each participating tribe shall maintain an enforcement presence to ensure that its fishers comply with this management plan and their individual tribal fishery regulations.

Region of Origin	Weekly Portion of Total Catch		
	WK 43	WK 44	WK 45
Data source (GSI 2011, 2013, 2014, 2015, 2016, 2017)			
Total catch estimate	TBD	TBD	TBD
<b>Hood Canal</b> (average %/wk)	0.881	0.865	0.909
<b>South Sound</b> ( average %/wk)	0.113	0.114	0.072
<b>North Sound</b> (average %/wk)	0.000	0.011	0.004
<b>PS Lates</b> (average %/wk)	0.001	0.000	0.008
<b>Other (non-local)</b> (average %/wk)	0.006	0.009	0.008

**Table 1.** Portion of weekly harvest to attribute to Puget Sound regions of origin for the purpose of fulfilling obligations under the Inter-Tribal Allocation Agreement for South/Central Sound stocks; the total weekly harvest will be determined by in-season landings. These values were derived from the gsi data analyzed to date resulting in average regional contribution rate by week. Under the Inter-Tribal Allocation Agreement for South/Central Sound stocks, Area 9 is a pre-terminal fishery and treaty interceptions of South/Central Sound origin fish will be deducted from the treaty share of harvestable Chum entering Area 10.

## 1.7 2019 Nisqually Tribe Selective Fishing Experiment

### Nisqually Indian Tribe

The Nisqually Indian Tribe will be implementing the first year of our search for selective gear to be used in our traditional in-river chinook fishery. We have previously implemented tangle-net gear in previous years with mixed results. The approach for the 2019 season will be to experiment with several different types to evaluate their future consideration for an in-depth assessment in 2020. We will not attempt to evaluate short-term release mortality in 2019, but will focus that research on mortality on a couple of successful gear type coming out of this experiment in 2020. Due to the unknown nature of the release mortality associated the tested gear types, we will limit the experiment to the first 450 chinook encountered. Assuming 100% mortality (worst case scenario), it will keep us under the agreed to ER set-aside of 2% (approximately 1.8% 2019 based on final PFMC model Chin2419).

The following agreed to language will provide direction for our work in 2019:

***A study plan for this effort will be presented prior to the 2019 preseason planning process with estimates of mortality associated with this critical activity, including gear types to be considered. This Plan will inform the preseason planning process. All Stock Management Plan goals will be met with the additional annual encounters of 900 adult chinook (marked + unmarked) for the entire colonization phase (NOTE: specific implementation language being developed and will not impact any fisheries management actions outside of the Nisqually River). Elements of the experimental fishing plan will include the following:***

- ***Criteria to evaluate success of program***
- ***Identify feasible gears (tangle net, beach seines, circular seines, mesh sizes, etc?)***
- ***Different strategies for different locations***
- ***Implementation details***
- ***Methodology to estimate short term mortality associated with tested gear types.***
- ***Final report - Strategy to establish HR in fishery for selected gear type(s)***

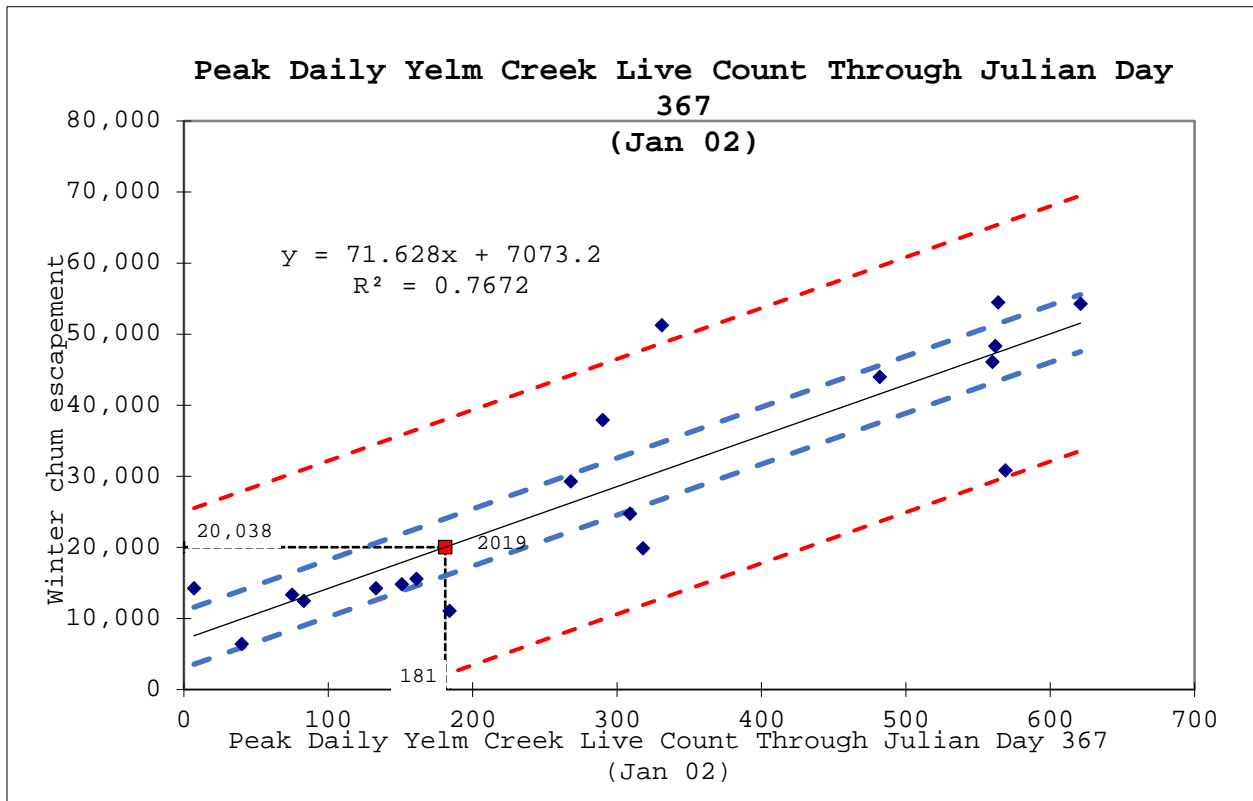
1. Evaluation criteria – we will be looking at multiple gear types to and consider their usefulness using the following criteria:
  - a. Ability to be implemented by fishers
  - b. Ability to harvest fish successfully
  - c. Ability to release unmarked fish
  - d. Likelihood of acceptance by the fishing community
2. We will look at the following gear types intended to be low impact and deployed by 1-2 fishers and have similar physical footprints to traditional gear:
  - a. Tangle net – we will be considering a more precise use of this gear type
  - b. Cedar/willow traditional weir



- c. Pound trap
  - d. Throw nets/cast nets
  - e. Dip net
3. The co-managers commit to work with NMFS SFD staff prior to the test fishery implementation in 2019 to further develop the assessment elements for this year.
  4. We will look at these gears in tide water below I-5 and the main-stem above I-5 to the Clear Creek hatchery.
  5. This will be staff driven with some fisher assistance.
  6. We will not be estimating short term mortality in the first year – focus on identifying useful gear types.
  7. We will provide a report of our findings during the 2020 pre-season planning process. The co-managers will provide an opportunity for a post experiment briefing prior to the drafting of the final report. This will either be a meeting or a call to share preliminary findings.
  8. We will prepare a plan for continuing this experiment including identification of selected gear types for further study and a plan to evaluate short term release mortality.

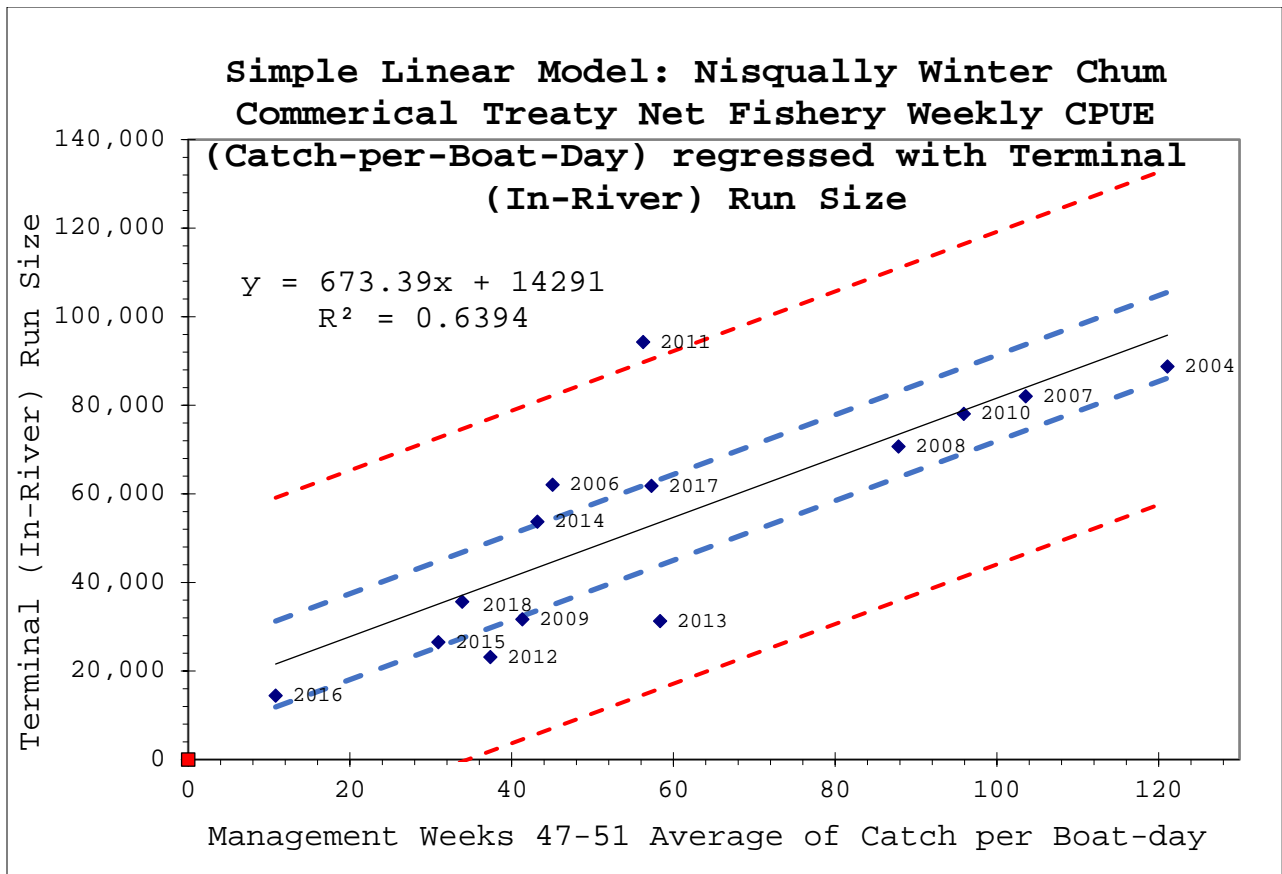
### 1.8 Nisqually Winter Chum Escapement vs. Yelm Creek Live Count Regression Model

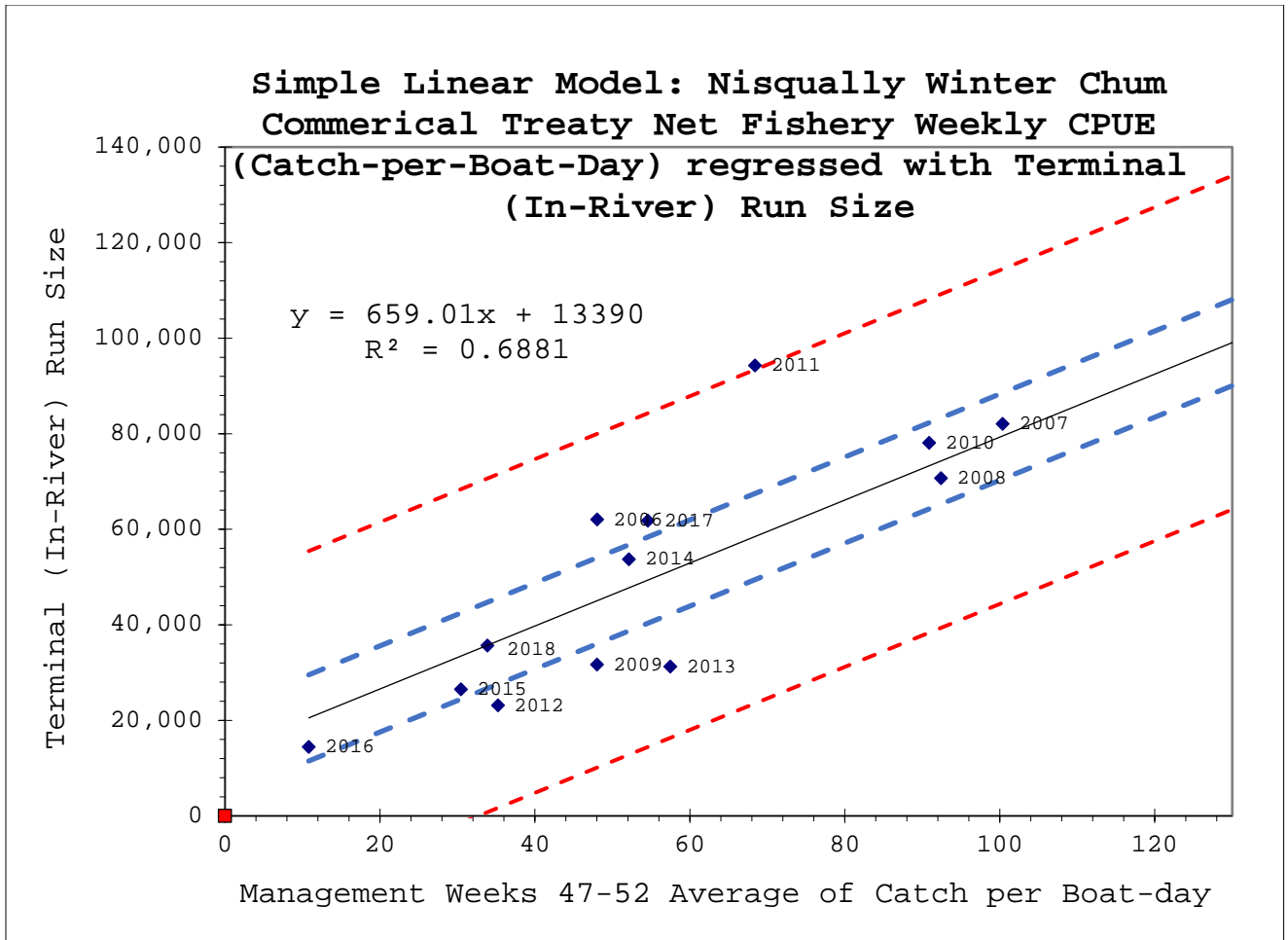
The Nisqually Indian Tribe and NWIFC staff have built an in-season update model that predicts escapement using historical and current live counts in Yelm Creek, a small tributary at River Mile 13.5 in the Nisqually River. Live counts have been consistently surveyed weekly for over 40 years in Yelm Creek and recent years since 1990 have been regressed with total escapement for an escapement prediction tool. We plan to use this tool to predict an escapement with the management intent to escape 2,000 fish over the escapement goal of 18,000.



Simple Linear Model: Nisqually Winter Chum Commercial Treaty Net Fishery Weekly CPUE (Catch-per-Boat-Day) regressed with Terminal (In-River) Run Size

The Nisqually Boat ISU is a CPUE model using catch per boat day fished during the recent 14 years (void 2005) regressed with the total runsize for a runsize prediction tool. We plan to use this tool to inform in season management prior to week 53 absent 181 live fish counted in Yelm Creek. Week 51 and week 52 graphed below.





## 1.9 Green River Management Objectives

For 2019, WDFW, the Muckleshoot Tribe, and Suquamish Tribe will manage the unmarked returns to the Green River for 1,200 natural origin adults on the spawning grounds. This management action will occur through a combination of fisheries actions modeled in FRAM/TAMM<sup>i</sup> and transportation of unmarked adult Chinook (excluding double index tagged fish) from hatchery facilities within the Green River basin to the spawning grounds.

Terminal fisheries directed at the Green River stock are managed based upon an in-season update (ISU) with a test fishery during statistical weeks 29-31 in Elliott Bay that updates the terminal run-size (marked and unmarked adult returns). Terminal fisheries are contingent on confirmation of the pre-season forecast. Initial results from this ISU will be available during statistical week 31 (the 1st week of August). The co-managers will make in-season decisions consistent with the projected run size and natural escapement estimates. NOAA Fisheries will be informed of any subsequent management actions taken by the state and tribal co-managers that deviate from the pre-season fishery structure in the 2019 List of Agreed to Fisheries.

The 2019 FRAM/TAMM model run (Chin2719) projects that 2,954 natural origin recruits (NORs) will escape fisheries and return to the Green River. Of these NORs, 2,161 will spawn naturally in the Green River with the remaining 793 trapped at Soos Creek Hatchery weir between week 31-44 (August – late October) with a peak between week 36-42 (early September – mid October). The co-managers do not expect any NOR adults will be transferred to the spawning grounds, but will continue to evaluate escapements through the season and take actions as warranted.

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<sup>1</sup> This is based on Chin2719

## **1.10 Monitoring pre-spawn mortality of Chinook salmon in the Green-Duwamish River: 2019**

The Green-Duwamish River (hereafter Green) basin is one of the most highly urbanized basins in western Washington. Water temperatures in the Green River consistently exceed 21 °C during the fall Chinook freshwater entry period and have exhibited high levels of pre-spawn mortality. Severely degraded habitat and high levels of pre-spawn mortality are among the hypothesized reasons for declines in productivity of this population.

The Muckleshoot Indian Tribe has collected five years of telemetry and thermal data on Chinook in the Green River. The objectives of this research are to document the migratory characteristics of Chinook in the Green River with respect to freshwater entry timing and thermal exposure as well as evaluate pre-spawn mortality both on and off the spawning grounds as related to migratory characteristics.

The Muckleshoot Indian Tribe would like to cover the 2019 tagging for this research under the 1% ER research allowance allowed under the 2010 Puget Sound Harvest Management Plan. This plan states that mortality associated with other research and monitoring, which have broader applicability to stock assessment, will not be accounted under the ER ceilings, mortality in this latter category will not exceed a level equivalent to 1% of the estimated annual abundance (i.e. 1% ER), for any management unit.

Chinook are captured in the Duwamish River turning basin (river mile 5.3) with a beach seine in approximate proportion to freshwater entry timing. To estimate mortality for the 2019 research needs, average and maximum encounters and mortalities were calculated based on 2014-2018 observations.

The average encounter rate is 2.2% with a maximum encounter rate of 3.3% in 2014. The projected terminal run size is 25,379 adult Chinook which means that 558-838 adult Chinook will be encountered during 2018. It is important to note that terminal run sizes were much smaller during 2014 and 2015, which resulted in more required effort to tag at least 250 adult Chinook, than when terminal run sizes are larger and a lower effort is required.

The average mortality rate of encountered Chinook is 2.6% with a maximum mortality rate of 4.8% in 2016. Under average conditions, we expect to encounter 558 adult Chinook which will result in 15 total adult mortalities. However, under the worst case scenario, we could handle as many as 838 adult Chinook and experience a 4.8% mortality rate, resulting in 40 total adult mortalities.

In 2018, natural origin adult Chinook are expected to make up 19.1% of the terminal abundance, resulting in 3-8 adult natural origin adult Chinook mortalities. Under the worst case scenario (8 NOR mortalities), total natural origin mortalities make up only 0.16% terminal harvest rate. The corresponding ER would be lower after accounting for mortalities in pre-terminal fisheries. This research fits well under the 1% ER allowance for this type of stock assessment work which has broader application to the management and conservation of the Green River stock.



## 1.11 Green/Duwamish coho salmon in-season update model

The Muckleshoot Indian Tribe conducted a coho test fishery during statistical week 36 from 2003-2010, 2016, and 2018. This test fishery was revived in 2016 due to the unprecedentedly low run sizes projections for many stocks in Puget Sound, including the Green River stock. This test fishery uses gill net catches from six sites in the lower Duwamish River between the mouth in the East and West Waterway and the 16<sup>th</sup> Avenue Bridge. One net (300 feet of 5 inch mesh webbing) is fished at each site from 7 PM to 7 AM. Coho from each net are enumerated and combined with the terminal run size to project returns for the current year.

This in-season update methodology models escapement as a function of test fishery catches. Initial modeling examined multiple metrics to predict escapement. These metrics included the maximum catch among the six sites and the geometric mean of the n (n = 2, 3, 4, and 6) largest catches (Table 1). These models were fit in R using a general linear model with a Poisson distribution. The model with the lowest Akaike’s Information Criteria value was used to project the in-season run size.

Table 1. Available data for the Green River in-season update model. TRS is the terminal run size and projected is the projection from the model.

Year	Max	2	3	4	All	TRS	Projected
2003	71	70.5	69.3	62.9	29.4	80,414	64,220
2004	709	543.7	327.7	248.9	154.2	168,411	169,680
2005	44	37.5	28.2	24.1	17.0	75,060	60,017
2006	69	59.9	45.4	37.4	24.1	85,494	62,838
2007	98	77.3	69.4	59.3	37.4	52,101	65,126
2008	88	46.9	32.8	27.4	19.5	65,951	61,184
2009	52	39.5	32.0	28.8	22.5	43,021	60,260
2010	34	33.5	33.3	29.3	23.5	32,396	59,522
2016	182	96.3	53.0	37.3	25.5	52,146	65,893
2018	43	35.9	33.4	28.6	17.8	78,089	70,648

Over the ten years of available data, the average projection was 9.2% greater than the observed terminal run size (Table 1).

## 1.12 Puyallup River Management Objectives

For 2019, WDFW, the Puyallup Tribe, and Muckleshoot Tribe will manage the returns to the Puyallup River for a total of 1,170 adults with at least 750 natural origin adults on the spawning grounds. This management action will occur through a combination of fisheries actions modeled in FRAM/TAMM<sup>ii</sup> and transportation of unmarked adult Chinook (excluding double index tagged fish) from hatchery facilities within the Puyallup River basin to the spawning grounds.

Terminal fisheries directed at the Puyallup River stock are managed based upon a pre-season forecast and modeled through the FRAM/TAMM. The 2019 FRAM/TAMM model run (Chin2719) projects that 1,115 natural origin recruits (NORs) will escape fisheries and return to the Puyallup River with an additional 1,580 hatchery origin recruits straying to the spawning grounds for a total natural escapement of 2,695. The co-managers do not expect any NOR adults will need to be transferred to the spawning grounds, but will continue to evaluate escapements through the season and take actions as warranted.

<sup>1</sup> This is based on Chin2719

### **1.13 2019-2020 Warm Water Test Fishery**

This proposal put forth is designed to prosecute a test fishery that will collect a third year of information on the feasibility and potential impacts of a directed fishery (C&S and commercial) on warm-water fishes in the Lake Washington basin. The results of this test fishery will inform management moving forward with a full scale commercial fishery as well as a number of secondary considerations. To date, the tribe has collected data from January 2017 – June 2017, March 2018 – June 2018, and March 2019-April 2019 to inform potential impacts to listed salmonids.

One major consideration is to determine the impact on ESA listed salmonids. This test fishery is scheduled to encompass times we can minimize impacts to ESA listed salmonids. Chinook adults typically start migrating into the lake in mid-June with spawning concluding the first week of November. The timing of the test fishery proposed, May-June 15, 2019 and January –April 2020, will eliminate impacts on migrating adult Chinook. This test fishery will only occur in Lake Sammamish to eliminate impacts to adult migratory Chinook and steelhead. Using large mesh gillnets will eliminate impacts on age-0 Chinook and any potential steelhead smolts migrating out to sea. The probability of encountering an adult wild steelhead is very low to zero. If one is encountered, it would likely be a wild stray fish from a neighboring watershed such as the Green River. Steelhead surveys in the Sammamish River tributaries, including Lake Sammamish, were discontinued at the end of 2003 after five years of surveys in which no steelhead or steelhead redds were observed. Therefore, no risk of encounters exists in Lake Sammamish. There are very few remaining steelhead spawning in the Cedar River. From 2009 through 2015, redd-based escapement estimates for the Cedar River have averaged just over two (2) steelhead per year and no steelhead redds were observed during 2017. Further, several of these redds may be the result of large cutthroat trout that are known to overlap with steelhead.

The Lake Sammamish test fishing area will be divided into 2 zones (zone 7-8). Each fisher will locate nets in a single zone a maximum of four 300 foot gillnets deployed. Up to 6 fishers will participate in this effort. The gillnet mesh will range from 3 ½ to 6 inch stretch mesh. Fishing will occur from one to four nights per week. Nets will be initially set on Monday and be retrieved no later than Friday and checked often to further minimize interactions with steelhead. Any steelhead caught will be immediately released (ancillary to this project we have successfully tagged and released multiple walleye). The cold water in the lake during this period will help reduce mortality of any released fish.

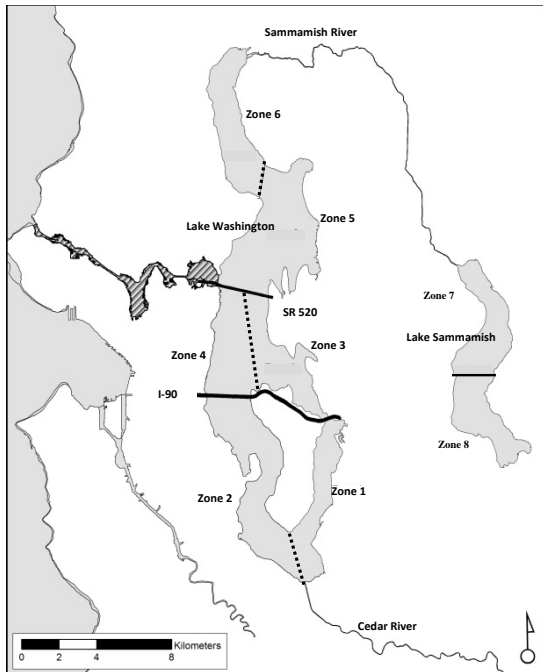


Figure 1. Proposed warmwater test fishery zones (7-8) in Lake Sammamish.

A second consideration is that catch rates of targeted species (i.e. smallmouth bass, walleye) may be high enough to result in an economically viable fishery. The test fishery proposed will address this issue. Data collected will inform managers of areas and times that a tribal net fishery could be economically viable as well as areas to avoid/target minimizing bycatch and optimizing harvest.

Prosecuting this test fishery will allow us to address a number of other issues that will benefit salmonid management in the Lake Washington basin. A new predator, walleye, which likely has negative impacts to salmonids, has been introduced and a lack of information is available on adult diets and distribution in Lake Sammamish is available. A second highly invasive predator, northern pike, was captured during the first year of our test fishery. We will instrument up to 15 walleye (or northern pike) with multi-year acoustic transmitters during this time to assess their overlap with migrating juvenile salmonids in addition to locating areas these invasive predators may be targeted in subsequent fisheries. Instrumented walleye (or pike) will be monitored with a network of fixed station acoustic receivers through the Lake Washington and Sammamish basin. This network is used to monitor the migratory behavior of smolting Coho salmon as well as returning adult Sockeye and Chinook salmon. We will use the overlap of juvenile Coho and walleye as a model of the potential interactions with ESA listed Chinook.

Take estimation and reporting

We believe there is a very small to zero potential impact for this test fishery to interact with adult steelhead in Lake Washington and no potential for interaction with adult migratory Chinook. Even with that we have designed this test fishery to minimize these interactions. Should there be an encounter, steelhead or Chinook will be handled carefully by trained professional staff and as much biological data will be taken as possible. Lengths, fin clips for genetic analyses, marks, and locations. Further, should staff believe survival upon release is questionable; the steelhead will be retained and reported as ceremonial and subsistence treaty catch.

Understanding the potential for interaction with the public, we propose monthly reporting on this test fishery to NOAA. These reports will contain gear used, area fished, and effort. Further, any natural adult steelhead or Chinook encountered will be immediately reported. This test fishery will be immediately shut down if and when a third natural origin adult steelhead is encountered or fifth natural origin adult Chinook.

## 1.14 Relative Abundance and Diet of Piscivorous Fishes In the Lake Washington Shipping Canal During Late Spring and Early Summer

4/14/2019

**Objective 1:** Describe the relative abundance and size structure of piscivorous fishes inhabiting the Lake Washington Shipping Canal (LWSC) during the salmon smolt out-migration period.

**Objective 2:** Determine the relative proportion of juvenile salmonids in the stomach contents of piscivorous fishes that inhabit different habitat types within the LWSC.

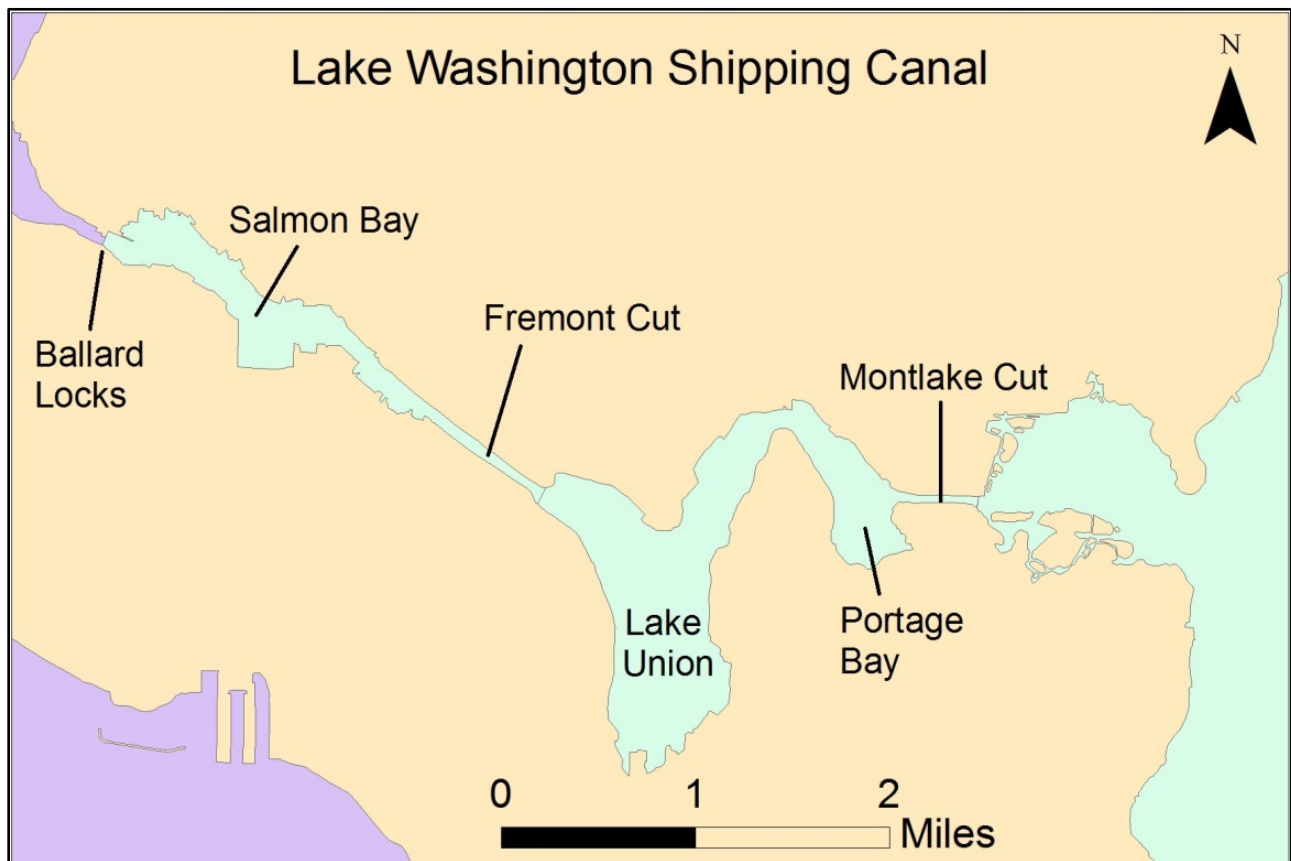


Figure 1. The Lake Washington Ship Canal (1040 acres) includes Salmon Bay (directly upstream of the locks), the Fremont Cut, Lake Union (includes Portage Bay), and the Montlake Cut.

### Study Area

The LWSC includes Salmon Bay, Fremont Cut, Lake Union (including Portage Bay), and the Montlake Cut (Figure 1). Previous sampling work in the LWSC indicates the majority of bass reside in north Lake Union, Portage Bay and the Fremont Cut during April - June.

## Methods

Gill netting will occur over multiple sampling days between early-May and early-July, 2019. Variable-mesh monofilament gill nets will be set during the salmon smolt out-migration period within the study area (Figure 1). Nets will be deployed at night with 12-16 hour set times. A range of mesh sizes (2-inch, 2.5-inch, 3-inch, and 4-inch) will be used in an effort to capture a broad range of fish species and sizes. All species will be measured to the nearest millimeter. Stomachs of predatory fishes >150 mm TL will be pumped using gastric lavage; stomach contents will be stored in a -80F freezer until they can be processed by NMFS (Roger Tabor).

## ESA Considerations

The Puget Sound Chinook Harvest Management Plan (PSCHMP; NMFS 2010) as extended allows for limited take of listed species during research activities within each Management Unit (MU): "Mortality associated with certain monitoring and research activities (e.g. test fisheries and update fisheries), that primarily inform in-season harvest management decisions, will be accounted with other fishery related mortality under the ER ceilings defined for each MU. Mortality associated with other research and monitoring, which have broader applicability to stock assessment, will not be accounted under the ER ceilings. Mortality in this latter category will not exceed a level equivalent to 1% of the estimated annual abundance (i.e. 1% ER), for any MU." As such, there is limited take for Puget Sound Chinook available to this proposed project under the PSCHMP, in combination with other projects within the MU. Steelhead take for research purposes has historically been covered separately, but was written into the NMFS 2016-17 biological opinion for the Puget Sound salmon fisheries, which effectively extend the 2010 PSCHMP.

Similar studies conducted in recent years indicate that this monitoring effort will remove many piscivorous fish from the LWSC that would otherwise prey on juvenile Chinook and PS steelhead, and will therefore benefit these species. The study is not likely to result in the take of listed anadromous species (PS Chinook and PS steelhead), and estimated take values are provided below:

1. Steelhead adults: The probability of encountering an adult steelhead is low. Adult steelhead were not encountered during previous sampling efforts (conducted in 2017 and 2018) in the LWSC. Spawning ground surveys indicate that few (if any) steelhead spawn in the Lake Washington watershed, and steelhead adults are not expected to be migrating through the LWSC during the proposed sampling period. The take is estimated as zero juvenile steelhead.
2. Steelhead juveniles: The probability of encountering a juvenile steelhead is low. Juvenile steelhead were not encountered during previous sampling efforts (conducted in 2017 and 2018) in the LWSC. Spawning ground surveys indicate that few (if any) steelhead spawn in the Lake Washington watershed, and the number of steelhead smolts migrating through the LWSC is expected to be low. Any steelhead smolt migrants that may be present will not be affected by the sampling gear as the proposed gillnet mesh size is too large to entangle juveniles (2 to 4 inch stretch mesh). The take is estimated as zero juvenile steelhead.
3. Chinook adults: Chinook adults typically begin migrating through the LWSC in mid-June with the peak migration period occurring in mid to late August (Figure 5). Relatively small numbers of adult Chinook would be migrating through the LWSC while the proposed sampling would occur, however some adult Chinook may encounter the sampling gear as they migrate through the action area. Chinook adults migrating through the LWSC are likely to use deep-water offshore habitats where sampling gear is less likely to be deployed. Most sampling effort will occur in near-shore or off-channel, weedy habitats where adult Chinook are less likely to migrate. Adult Chinook were not encountered during previous sampling efforts (conducted in 2017 and 2018) in the LWSC. Due to the early timing of the proposed sampling and the off-channel areas where sampling will occur, the number of adult Chinook encountering

sampling gear will likely be small. A combined gear take of 5 Chinook adults (NOR and/or HOR) is estimated.

4. Chinook juveniles: Juvenile Chinook will actively be migrating through the LWSC during the proposed sampling period (early-May through early-July). Small numbers of juvenile Chinook smolts may encounter the sampling gear, however the mesh size (2 to 4 inch stretch mesh) is too large to entangle a Chinook juvenile and poses very little threat. Juvenile Chinook were not encountered during previous sampling efforts (conducted in 2017 and 2018) in the LWSC. The take is estimated as zero juvenile Chinook.

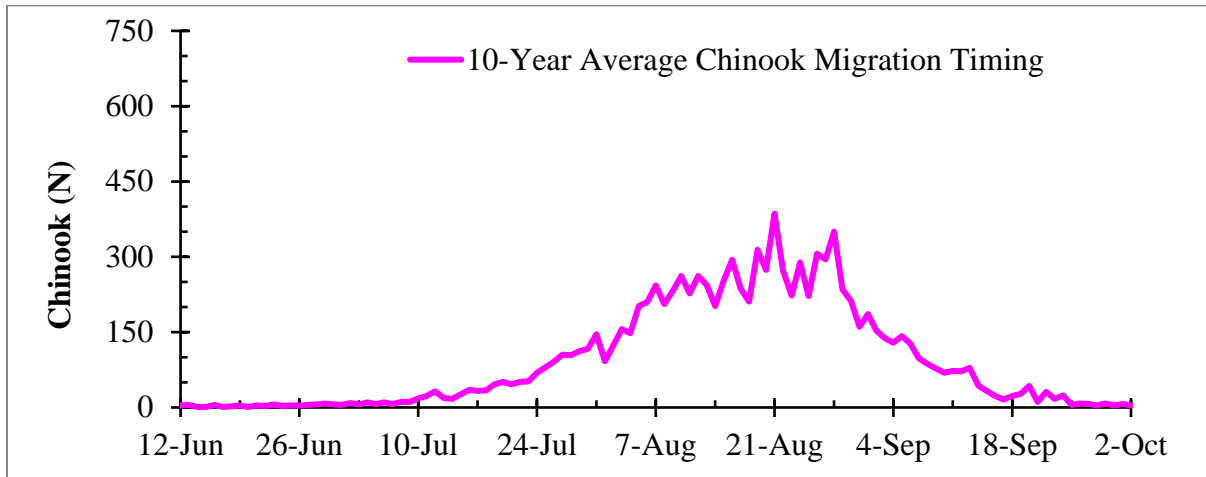


Figure 5. Recent ten-year average Chinook migration timing through the Ballard Locks.

As outlined above, the PSCHMP as extended provides coverage allotment for take of both Puget Sound Chinook and steelhead. Expected steelhead take is zero fish (bullets 1 and 2 above). Chinook take (HOR and NOR combined) may not exceed a level equivalent to 1% of the estimated annual abundance (i.e. 1% ER). Average total abundance for Lake Washington Chinook was 7952 adults during a recent (2010-2017) 8-year time period (Table 1). The estimated take of 5 adult Chinook represents an exploitation rate of 0.06% ( $5/7952=0.0006$ ), which is well below the 1% ER limit.

Year	Total Abundance	Natural Abundance	Source
2017	6550	1225	Final New BP pre-season
2016	6873	1550	Unofficial New BP pre-season
2015	4903	688	Unofficial New BP pre-season
2014	4598	672	New BP Aug 2017 post-season
2013	9663	2628	New BP Aug 2017 post-season
2012	15721	2173	New BP Aug 2017 post-season
2011	7189	1039	New BP Aug 2017 post-season
2010	8122	876	New BP Aug 2017 post-season
Average	7952	1356	

Table 1. Total (HOR and NOR) abundance and natural abundance of Lake Washington Chinook.

In summary, project impacts are significantly below the 1% allotment for Chinook annual abundance provided for in the PSCHMP. The estimated take of HOR and NOR combined is 5 adults, and 0 smolts, which is 0.06% of annual abundance.



### 1.15 2019 Stillaguamish River Sport Gamefish Rules

2019 in-river sport gamefish seasons were reduced to minimize impacts on Stillaguamish Chinook which are forecast at 376 wild and 567 hatchery.

2019 gamefish rules are as follows;

- Statewide gamefish rules; open unless closed, Saturday before Memorial Day through Oct 31<sup>st</sup>, 2 fish limit, 8 inch minimum size.
- Exceptions to statewide gamefish rules;
  - Mainstem Stillaguamish
    - Below Marine Drive,
      - Open year-round, trout minimum size 14", daily limit 2, night closure and anti-snagging rule Aug 1-Nov 30.
    - From Marine Drive to forks,
      - Closed May 1<sup>st</sup> through Sept. 15<sup>th</sup>
      - Open Sept 16<sup>th</sup> through Nov 30<sup>th</sup>, catch and release except up to 2 hatchery steelhead may be retained, selective gear rules (no bait), night closure.
      - Open Dec. 1 through Jan 31, 2020, minimum size 14".
      - Closed to fishing from the diversion dam downstream of I-5, downstream 200 feet.
  - Pilchuck Creek,
    - from mouth to Hwy. 9 Bridge,
      - Closed May 1-Sept. 15<sup>th</sup>
      - Open Sept. 16<sup>th</sup> through Jan 31<sup>st</sup> 2020, selective gear rules (no bait) from Sept 16<sup>th</sup> through Nov. 30<sup>th</sup>.
  - North Fork Stillaguamish,
    - From mouth to Swede Heaven Bridge,
      - Closed May 1-Sept 16<sup>th</sup>
      - Open Sept. 16<sup>th</sup> through Nov. 30<sup>th</sup>, fly-fishing only, catch and release except up to 2 hatchery steelhead may be retained.
      - Open Dec. 1 through Jan 31<sup>st</sup>, trout minimum size 14".
      - Additional opening in the Whitehorse Hatchery terminal area, from mouth of French Creek to the Swede Heaven Bridge, Feb 1<sup>st</sup> through Feb 15<sup>th</sup>, minimum size 14".
      - Night closure Sept 16<sup>th</sup> through Nov. 30<sup>th</sup>.
      - Fishing from a floating device prohibited upstream of the Hwy 530 Bridge, motors prohibited downstream of the Hwy 530 Bridge.
    - From Swede Heaven Bridge to North Fork Falls,
      - Closed May 1 through Sept 15<sup>th</sup>
      - Open Sept. 16<sup>th</sup> through Nov. 30<sup>th</sup>, catch and release except up to 2 hatchery steelhead may be retained, selective gear rules (no bait).

- North Fork Tributaries,
  - Boulder River from mouth to Boulder Falls,
    - Closed May 1 through Sept 15<sup>th</sup>
    - Open September 16<sup>th</sup> through Oct 31<sup>st</sup>, catch and release except up to 2 hatchery steelhead may be retained, selective gear rules (no bait).
  - Squire Creek,
    - Closed May 1 through Sept 15<sup>th</sup>
    - Open Sept. 16<sup>th</sup> through Oct 31<sup>st</sup>, catch and release except up to 2 hatchery steelhead may be retained, selective gear rules (no bait).
- South Fork Stillaguamish,
  - From mouth to 400' below Granite Falls fishway outlet,
    - Closed May 1 through Sept. 15<sup>th</sup>
    - Open Sept 16<sup>th</sup> through Jan 31<sup>st</sup>, minimum size 14".
    - Sept 16<sup>th</sup> through Nov 30<sup>th</sup>, night closure and anti-snagging rules.
  - From Mountain Loop Hwy upstream,
    - Open Sat before Memorial Day through Nov 30<sup>th</sup>.
- South Fork Tributaries,
  - Canyon Creek,
    - Closed May 1 through Sept. 15<sup>th</sup>

Open Sept. 16<sup>th</sup> through Jan 31<sup>st</sup>, catch and release except up to 2 hatchery steelhead may be retained, selective gear rules (no bait).

## **1.16 2019 Co-Management Agreement for Hood Canal Chum Salmon Fisheries.**

### 2019 Co-Management Agreement for Hood Canal Chum Salmon Fisheries.

The Hood Canal Treaty Tribes (Skokomish Tribe, Port Gamble S'Klallam Tribe, Jamestown S'Klallam Tribe and Lower Elwha Klallam Tribe) and the Washington Department of Fish and Wildlife (WDFW) have reached agreement on application of an in-season abundance estimation (ISU) process for the 2019 season. All parties to this agreement have responsibility for ensuring their fisheries management actions are appropriate to ensure harvest of available shares. Both the treaty Indian and non-Treaty chum salmon fishing schedules are described in the List of Agreed Fisheries (April 2019). For the 2019 Hood Canal chum salmon season, the Hood Canal Tribes and WDFW agree:

- 1) To exchange information and meet (if necessary) prior to June 29, 2019 to update the dataset to be used in conjunction with the "early" and "extended" ISU methods recommended by Tribal and WDFW biometricians, as described in the memorandum dated July 10, 2012 (2012 memorandum) with the purse seine catch and effort data window periods subsequently modified by co-manager agreement. Any additional analyses to inform/modify the ISU models must be agreed-to by both parties by this date.
- 2) Those waters of Area 12 east of the Area 12/12B boundary and south of a line projected 94° true from Hazel Point to the light on the opposite shore will be closed to purse seines for the entirety of the season. WDFW managed gillnet fisheries will be authorized in this area during management weeks 43 and 44.
- 3) Waters within 1,000 ft of fish bearing streams in marine area 9A (Port Gamble Bay) are closed to fishing.
- 4) That on-water enforcement will be sufficient to ensure compliance with all regulations.
- 5) To convene a conference call no earlier than 1:00 pm on Friday, November 1, 2019 to discuss results of the "early season" ISU model; s the independent predictor variable, and will be used on Friday, November 8<sup>th</sup>, not before that date, to determine any remaining fishing opportunity.
  - a. During the call co-managers would apply the "early" CPUE ISU method recommended by Tribal and WDFW biometricians to catch and effort estimates obtained from the Hood Canal non-Treaty Purse Seine fishery operating from October 20 through October 31; the resulting run size would then be the basis for calculating total allowable catch shares of Hood Canal fall chum for managing Treaty and non-Treaty Hood Canal fall chum fisheries through November 7<sup>th</sup>.
  - b. The "extended" model using data collected from October 20<sup>th</sup> through November 7<sup>th</sup> will be applied only if non-Treaty purse seine data is available after October 31st. The "extended model" will use NT PS CPUE as the independent predictor variable, and will

be used on Friday, November 8<sup>th</sup>, not before that date, to determine any remaining fishing opportunity.

Authorized Signatures:

The following parties agree to the above for the management of the 2019 Hood Canal chum salmon season, and the undersigned persons have authority to enter into this agreement:



Jamestown S'Klallam Tribe

4-15-19

Date



Lower Elwha Klallam Tribe

4-15-19

Date



Port Gamble S'Klallam Tribe

4/15/19

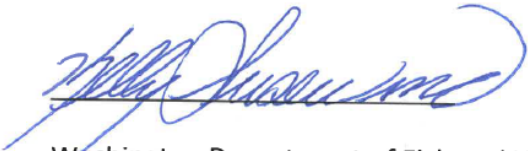
Date



Skokomish Tribe

4-15-19

Date



Washington Department of Fish and Wildlife

4-15-19

Date

## 1.17 2019 South South Chum In-Season Management Process

Prior to running the first ISU model, the assumed South Sound runsize will be the pre-season agreed forecast of South Sound NORs and HORs (295,916 and 147,808, respectively). Unlike previous years, the 2019 forecast does not include the non-local chum that are intercepted in Areas 10 and 11. This non-local contribution will therefore need to be estimated using the procedures described here. First, the maximum allowable harvest rate on South Sound chum will be evaluated by subtracting the aggregate South Sound NOR escapement goal from the South Sound NOR forecast. For 2019, the NOR escapement goal will be an average (72,275) of the existing even- and odd-year aggregate escapement goals (80,200 and 64,350, respectively). The goal will then be doubled (to 144,550) for the purpose of calculating the non-treaty maximum allowable NOR harvest rate. This currently estimated to be 51%. Applying that harvest rate to the combined NOR and HOR forecasts provides the total catch share of South Sound chum stocks, but the number of interceptions of non-local chum associated with accessing this catch share in Area 10/11 must still be estimated and included in the non-treaty target catch quota. From GSI-based assumptions developed previously, the mean proportion (2007-2017) of non-local chum in Area 10/11 catches is currently estimated to be 27% of the catch (Table 1). The Area 10/11 catch share of South Sound chum must therefore be expanded (by dividing it by 1 minus 0.27) in order to set the total non-treaty Area 10/11 catch quota (155,460, based on the pre-season forecasts).

Table 1. Estimated proportions of non-local chum in the catches of Area 10 and 11 based on catches from TOCAS and current GSI assumptions. New GSI stock composition information from the 2018 Area 10/11 fishery is expected to become available before chum management begins. The assumed proportion of non-locals associated with the Area 10/11 catch shares may be revised accordingly.

	<b>Area 10 Estimated SS Catch</b>	<b>Area 11 Estimated SS Catch</b>	<b>Area 10 Total Catch</b>	<b>Area 11 Total Catch</b>	<b>Area 10+11 Estimated SS Catch</b>	<b>Area 10+11 Total Catch</b>	<b>Percent non- local of 10+11 Total Catch</b>
<b>2009</b>	63,996	54,550	84,091	63,738	118,546	147,829	20%
<b>2010</b>	111,051	86,297	175,600	110,883	197,347	286,483	31%
<b>2011</b>	127,966	53,845	183,023	65,781	181,810	248,804	27%
<b>2012</b>	102,917	74,474	209,577	107,465	177,392	317,042	44%
<b>2013</b>	120,345	89,870	171,444	109,569	210,215	281,013	25%
<b>2014</b>	101,094	72,735	157,418	92,754	173,829	250,172	31%
<b>2015</b>	166,938	59,509	217,651	69,240	226,447	286,891	21%
<b>2016</b>	97,292	44,808	119,838	50,544	142,101	170,382	17%
<b>2017</b>	156,679	79,644	219,267	96,209	236,323	315,476	25%
<b>2018</b>	109,689	39,863	164,764	49,931	149,552	214,695	30%
<b>Average</b>							<b>27%</b>

Once the ISU models become available in-season, the process changes and requires an additional step. The South Sound chum runsize estimates that are generated by the ISU models represent the combined

total abundance of the whole South Sound run plus the non-local chum accessible to being intercepted in Areas 10/11. The non-locals will therefore need to be separated from the in-season South Sound chum runsize estimate in order to re-evaluate the maximum allowable South Sound NOR harvest rate so that catch shares of South Sound chum can be adjusted. To do that, an estimate of the non-local proportion of the total South Sound runsize (19%) will be applied. This proportion is based on the mean ratio (2011-2017) between the reconstructed South Sound runsizes that include non-local interceptions and those that exclude non-locals by use of GSI-based assumptions (Table 2).

Table 2. Estimated proportions of non-locals in the reconstructed South Sound runsizes. The 2018 run reconstruction (both GSI-enhanced and traditional) should be available before chum management begins. The assumed proportion of non-locals in the South Sound runsize may be revised accordingly.

<b>Year</b>	<b>SS GSI Run Size</b>	<b>SS Run Size</b>	<b>% Non Local</b>
<b>2011</b>	439,448	548,484	20%
<b>2012</b>	438,062	611,675	28%
<b>2013</b>	499,720	597,762	16%
<b>2014</b>	475,525	589,762	19%
<b>2015</b>	416,868	503,501	17%
<b>2016</b>	356,146	401,462	11%
<b>2017</b>	473,730	584,264	19%
		<b>Average</b>	<b>19%</b>

The South Sound component of the ISU abundance will thus be calculated as 81% of the ISU estimate (1 minus 0.19), and then split into natural and hatchery components using the pre-season forecast NOR proportion (67%). The maximum allowable harvest rate on South Sound NORs will be re-assessed each time the runsize is updated, and the catch shares of South Sound chum will be reset based on that rate. Finally, as with the forecast-derived catch shares, these South Sound chum shares must again be expanded by the number of expected interceptions of non-local chum (once again by dividing by 1 minus 0.27) in order to set the total non-treaty Area 10/11 catch quota.

The total treaty allocation will be set in a similar manner, with the following two differences. The allowable harvest rate calculation will not include doubling the escapement goal. Also, non-local contributions will be estimated based only on the portion of the treaty share that is allocated to Areas 10 and 11.

## 1.18 Comprehensive Chum Management Plan Components and Objectives

### Stock Assessment

- Update Forecasts – the forecast methodologies need to be updated in each management area or for each river system to accurately predict the management unit.
  - *Management-unit-specific forecasts will require management-unit-specific age data from multiple return years. For those systems where age data is lacking, scales samples will need to be collected from terminal fisheries and/or spawning escapements for a number of years. Also, full reconstruction of all recruits will require estimates of stock composition in all pre-terminal mixed-stock chum fisheries. Sampling plans for can be developed prior to the 2019 management period. Run reconstructions going back to the mid-1990s will be corrected using GSI data this year. Existing mean stock composition data can be implemented now, and additional GSI analyses can be incorporated as they become available.*
- Update Escapement Goals – Many river systems in Puget Sound have escapement goals that have not been updated since the 60s or 70s. Contemporary estimates of MSH for each river system should be calculated to update escapement goals where possible. This can be done after run reconstructions going back to the mid-90s are corrected using GSI data (i.e. enough years of data to parameterize stock-recruit functions).
  - *Like forecasts, spawner-recruit functions will require system specific time series of age compositions spanning multiple years as well as multiple years of GSI-corrected reconstructed runs. The process for updating escapement goals will be developed during 2019, and a timeline for completing escapement goal updates for each management unit will be determined. Spawner-recruit functions, as well as habitat-based or production-goal-based approaches to establishing escapement objectives should be considered.*

### Fisheries Management

- Refine Management Units – Individual populations in North Puget Sound and South Puget Sound have failed to make their escapement goals consistently over the past decade. Management units should be established at the finest resolution possible based on existing GSI data from commercial and test fisheries, run reconstruction rules, run timing, etc. to protect weak stocks to allow for escapements to achieve MSH.
  - *The resolution of GSI analyses are dependent on the degree to which populations are genetically discernable, which is a factor of both intrinsic population genetics as well as the completeness of the GSI baseline. Prior to the 2019 chum management period, an evaluation of WDFW SNPs chum baseline will be made, and a plan for collecting additional genetic samples from terminal populations will be developed, with a focus on un-sampled and under-sampled populations.*

- Develop Abundance-Based Breakpoints – Fisheries will be managed to pass more fish to the terminal areas in years of low abundance. In years of higher abundance larger pre-terminal opportunities will be provided for. Appropriate breakpoints for the refined management units should be based on past observations of returns as well as reasonable predictions of future run sizes.
  - *Establishing appropriate abundance-based fishery management breakpoints will require the same GSI-corrected run reconstructions that are needed for revising forecasts and updating escapement goals. Such breakpoints will also be dependent upon the revised forecasts and the updated escapement goals, so completion of this task must follow development of those tools.*
- Conservation Measures to Protect Weak Stocks – Thresholds will be defined for each management unit below which critical harvest measures will apply. Harvest rates or other measures to minimize impacts will be applied fairly and consistently across preterminal areas consistent with the intent to pass more fish to terminal area fisheries and escapement during years of low abundance.
  - *Policy meetings will need to be conducted in the first year to establish harvestable objectives and maximum allowable impacts for critical stocks that are designed to achieve rebuilding. Existing management plans and agreements as well as GSI-corrected run reconstructions will need to be reviewed for equitability of impacts across fisheries.*

#### Monitoring and Research

- Fisheries should be sampled for GSI data. Samples should be representative of the fishery to allow accurate estimation of stock composition in the fishery.
  - *Sampling plans will be developed prior to 2019 chum returns.*
- Hatchery programs should also be sampled for GSI to understand the impacts of fisheries on supplementation programs.
  - *Sampling plans will be developed prior to 2019 chum returns.*
- Test fisheries should continue to be conducted for inseason management (i.e. estimating run sizes) and GSI collection. Additional test fisheries should be considered where they may improve the understanding of stock composition in a management area or where a refined management unit may warrant a new inseason estimation. These may include mark-recapture experiments in addition to GSI sampling.
  - *A technical evaluation of potential new test fisheries will be undertaken prior to 2019 in-season chum management.*
- Genetic samples should be collected from terminal areas to improve the resolution of genetic stock identification. Emphasis should be placed on unsampled river systems. Note: this is likely a lower priority as GSI is unlikely to be able to resolve stocks at the individual watershed level.



- *Prior to the 2019 chum management period, an evaluation of WDFW SNPs chum baseline will be made, and a plan for collecting additional genetic samples from terminal populations will be developed.*

#### Habitat and Hatcheries

- Habitat plans for each river system will provide recommendations for protecting existing fish habitats and projects to restore functioning habitats. Emphasis will be placed on habitat protections and restoration that will increase MSH for a population.
  - *Co-manager habitat biologists will be consulted to begin development of habitat plans.*
- Co-Managers will review existing hatchery production and develop plans for increased production using existing capacity as well as funding proposals to increase hatchery capacity and production. Increased production is designed to meet the needs for treaty tribal harvest and non-tribal fisheries.
  - *Co-manager hatchery biologists will be consulted to begin development of increased hatchery production plans.*

## **1.19 2019 Skokomish Fall Chinook Late-Timed Performance Report and Program Plan**

### **Introduction**

In 2018, the Washington Department of Fish and Wildlife and the Skokomish Tribe continued to implement a program at George Adams Hatchery to evaluate the development of a late spawning mode from the extant hatchery Chinook population, as part of a strategy to recover fall Chinook in the Skokomish River. We hypothesize that the river entry and sexual maturity timing of this later mode would be more conducive to environmental conditions in the Skokomish River than the current hatchery stock. The late-timed fall Chinook hatchery program currently provides for 330,000 eggs to be taken after October 1 with the peak of the late egg take being approximately five weeks later than the current peak, which is the third week of September. The current release goal is 200,000 fingerlings in May at a size of 70 fish per pound, consistent with release body size and timing of the regular program. In addition, two releases of 50,000 fish in April at 80 fpp are planned into the North Fork Skokomish and Vance Creek.

The success of this program will be predicated on achieving Objective 1 of the 2015 Addendum to the 2014 Fall Chinook Management Plan in the Skokomish River, to develop the late-timed mode through consistent hatchery returns. To that end WDFW made the first release of progeny of late-timed spawners in 2015 and secured the program egg take goal of 330,000 for the upcoming BY 2018 release. The co-managers expect to continue with this program through the 2019 spawning cycle.

The contribution of this program to the ultimate goal of recovery will depend on Objective 2, the ability of these fish to colonize natural spawning habitat and produce natural-origin returns at sustainable levels. Importantly, in order to achieve success in the long term, naturally spawning late-timed fish must exhibit population productivity rates that exceed replacement. A detailed discussion of appropriate program size and various strategies for achieving a minimum of 10% natural spawners from the late-timed program are given in the 2015 addendum. The purpose of this document is to describe a plan for putting late-timed returns and their progeny on the natural spawning grounds. Supplementation with both adult and smolt releases provides the most efficient means providing natural spawners from the late-timed program while maintaining a manageable program size.

### **Production**

Reliance on passive colonization through straying would require a program size as high as 550 to 750 thousand eggs (see Task 1-4 of the 2015 Addendum late-timed fall Chinook Program Plan). Such a program would result in large surplus returns of adults to the hatchery with no role in the broodstock program. Moreover, passive colonization would be likely to occur on a timescale inconsistent with objectives for the numerical expansion of the late-timed stock.

The co-Managers adopted a more efficient approach through active supplementation, with a program size of 330,000. This program bolsters hatchery program strays with active seeding of key habitats through a combination of off-station juvenile releases and transport of adult hatchery returns to the spawning grounds (Table 1). The program return to the hatchery

continues to be supported with the original 200,000 release. Additionally, both adult and juvenile releases are used to recruit more adults to the natural spawning grounds. Adult release groups (ARG) are derived from excess unripened broodstock at the hatchery.

**Table 3. Skokomish late Fall Chinook Program plan.**

Program Component	Release location	Supplementation strategy	Release number	Release size	Timing	Mark
Hatchery Late	Purdy Creek	Fingerling (SRG)	200,000	70 fpp	May	Unclipped, GA Late cwt
Natural Late	Nouth Fork (RM 13.3)	Fingerling (SRG)	50,000	80 fpp	April	Unclipped, NF Late cwt
	South Fork (RM 2.2)	Adult (ARG) <sup>a/</sup>	200	0.1 fpp	Oct	Site-specific Floy
	Vance Creek (RM 3.0) <sup>b/</sup>	Fingerling (SRG)	50,000	80 fpp	April	Unclipped, Vance Late cwt
		Adult (ARG) <sup>a/</sup>	200	0.1 fpp	Oct	Site-specific Floy
<b>Total release</b>			<b>300,000</b>			
<b>Egg take goal</b>			<b>330,000</b>			

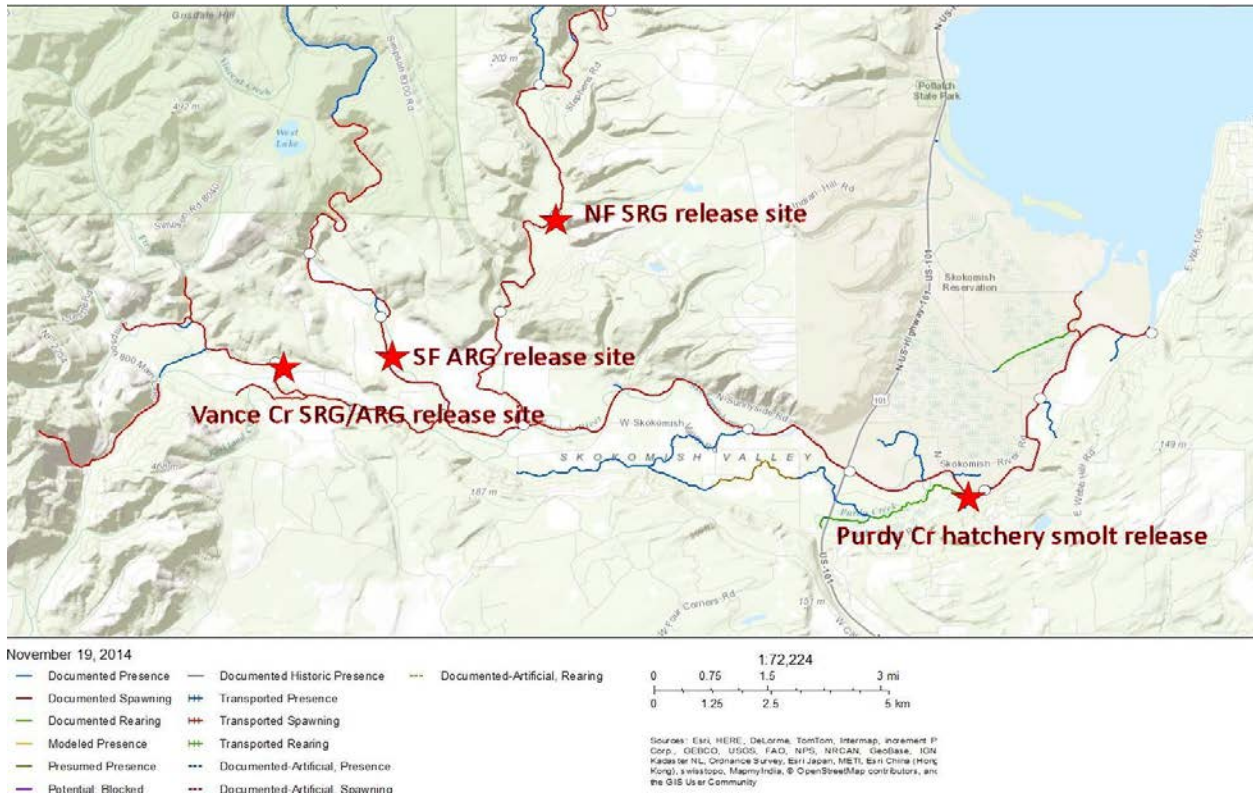
<sup>a/</sup> Adult releases are planned from hatchery adult surpluses from late maturing fish and will be dependent on availability

<sup>b/</sup> Up to three locations have been identified for ARG and SRG releases in Vance Creek below RM 3.0 to distribute spawners

The hatchery late-timed Chinook program goal for release location, timing and size is the same as for the regular timed release into Purdy Creek, at 70fpp in May. Given the volatility of the south fork Skokomish and mainstem, the co-managers had originally identified Vance Creek and the North Fork as the best locations for both adult and smolt releases. However, further consideration of other reintroduction and supplementation programs currently underway in the North Fork led to a decision to focus all adult releases of late-timed fall Chinook into Vance Creek and the South Fork (Figure 1).

Two smolt release groups (SRG) of 50,000 each are produced for two locations in the Skokomish River basin where environmental conditions are most conducive to successful natural production. These groups would be reared at McKernan on well water in order to reduce their imprinting to Purdy Creek, and maximize imprinting to release sites. These groups are released just prior to smolting in order to allow some degree of acclimation and imprinting to potential spawning locations. These releases therefore occur slightly earlier and potentially at smaller size due to their stage of development, which is currently expected to be in April, at approximately 80fpp. All three juvenile release groups are unclipped and uniquely coded wire tagged.

Program goals must be achieved in the following order. The 200k egg take for the hatchery portion of the program must be met before adults are surplus and transported to release sites. Moreover, the 220k egg take must also be met before eggs can be set aside for smolt releases. As surplus adults and eggs in excess of those needed to produce the 220k are acquired, release sites would be prioritized, 1) South Fork, 2) Vance Creek, 3) North Fork, up to the total program size outlined in Table 1.



**Figure 1. Proposed locations for off-station releases of late-timed fall Chinook in the Skokomish Basin.**

## Marking and Monitoring

In order to assess the success of late-timed Chinook program returns to George Adams hatchery, WDFW currently coded wire tags (CWT) the 200k hatchery release with a unique code. Assessments of off-station smolt release groups (SRG's) is also be contingent on unique CWT codes. Each of these three groups, in addition to the regular double index tag (DIT) groups, will be recovered at the hatchery, on the spawning grounds, and in fisheries providing critical information on survival, fidelity, and susceptibility to fisheries. In fall of 2015 WDFW added staff to continue spawning surveys in October in the mainstem and south fork and increase the frequency of carcass surveys. However, we recommend doubling the survey frequency to provide a more thorough schedule for maximizing recoveries.

In order to monitor behavior and distribution of adult releases, an external mark will be necessary; adult releases should be marked with floy tags, color-coded based on release site and uniquely numbered for each individual. Observations of live fish and carcass recoveries will be used to assess the effectiveness of this release strategy. However, existing resources can only provide a cursory assessment.

## Additional Resources

In order to implement this program, the co-managers will require additional resources (Table 3). While some of this work can be accomplished with existing staff, additional time and resources

will be needed. This budget includes minimal resources outlined in the 2015 Plan, plus additional costs of rearing, marking, and transporting smolt release groups, as well as monitoring adult returns of off-station supplementation fish outlined in this plan. It does not include any of the monitoring costs identified for monitoring productivity for natural spawning fish or for genetic analysis.

An additional three months of hatchery specialist 2 time will be needed in order to conduct broodstocking, sampling and spawning of the late-timed fall Chinook hatchery program and to mark and transport adult release groups (ARG) and smolt release groups (SRG) to release sites. Four months of field technician time and 5,500 in equipment and transportation will be needed to conduct the October/November spawning and carcass surveys. Two months of Biologist 4 time will provide for supervision, analysis, and reporting on the performance of this program. A significant portion of the anticipated budget will be incurred through the cost of coded wire tagging, with \$40,500 needed each year to tag 300,000 Chinook.

**Table 4. Budget for the 2018/19 implementation of late-timed Chinook program in the Skokomish River.**

	<b>Unit cost</b>	<b>Units</b>	<b>Total</b>
<b>Fish Culture</b>			
Hatchery specialist 2	\$5,000	3	\$15,000
Rearing	\$1,000	3	\$3,000
Tagging	\$125/1000	300,000	\$40,500
Transport			\$2,000
<b>Field Assessment</b>			
Scientific technician 2	\$5,000	4	\$20,000
Sampling equipment and supplies			\$2,500
Vehicle mileage / motor pool			\$3,000
<b>Analysis and Reporting</b>			
Biologist 4	\$8,000	2	\$16,000
GIS analyst (IT Specialist 4)	\$8,506	1.5	\$12,759
<b>Total</b>			<b>\$114,759</b>

## References

2015 Addendum to the 2014 Fall Chinook Management Plan in the Skokomish River. Washington Department of Fish and Wildlife and Skokomish Tribe. Olympia, Washington. October 2015.



## 1.21 Puget Sound Chinook Mark-Selective Sport Fisheries Sampling and Monitoring Plan Attachment A

Based on agreements between the State of Washington and the Northwest Treaty Tribes, the Washington Department of Fish and Wildlife (WDFW) has been conducting recreational mark-selective Chinook fisheries (MSFs) in the marine catch areas of Puget Sound since 2003. This attachment outlines the general intent, data needs, sampling and monitoring plans, estimation methodologies, and reporting schedules associated with these fisheries.

### *Fishery Intent*

Agreed-to Chinook salmon MSFs (see attached Fishery Management Plans for specific fisheries and dates) will be conducted in Marine Areas 5-13 during the summer and winter seasons to provide recreational fishing opportunity directed at hatchery Chinook salmon, while limiting impacts on wild stocks of conservation concern, particularly Endangered Species Act (ESA)-listed Puget Sound Chinook salmon. Sampling and monitoring programs will be implemented along with these fisheries in order to provide the information necessary to evaluate and plan potential future Chinook salmon MSFs. Prior to next fishing season, WDFW and the tribes will jointly review and analyze results of the sampling and monitoring programs for these fisheries to evaluate the effectiveness at achieving the intended objectives.

### *Data Needs for Evaluating the Fishery*

Monitoring, sampling and reporting programs will be implemented by WDFW for the purpose of providing the data necessary to estimate the impact of these MSFs on unmarked Chinook salmon and to support the evaluation of future MSFs.

These monitoring and sampling programs are designed to provide data to estimate the following parameters:

- Mark rate in the fishery – marked and unmarked encounters will be estimated using test fishing, salmon trip reports (STR) or dockside sampling programs.
- Number of marked Chinook salmon retained – estimated using dockside sampling programs
- Number of unmarked Chinook salmon retained – estimated using dockside sampling programs
- Number of marked Chinook salmon released – estimated using dockside sampling and test fishing or STR programs
- Number of unmarked Chinook salmon released – estimated using dockside sampling and test fishing or VTR programs
- Number of Chinook salmon encounters of sublegal size - estimated using dockside sampling and test fishing or STR programs
- Stock composition of mortalities – estimated using coded-wire tag (CWT) data collected during dockside sampling
- Mortalities of marked and unmarked double-index tagged (DIT) and other CWT stocks

The co-managers agree to implement these fisheries with the understanding that the capability to estimate stock-specific unmarked fish mortalities is preserved. Methods for estimating unmarked mortalities of DIT-CWT stocks within these MSFs have been determined jointly by the co-managers, considering recommendations of the Selective Fisheries Evaluation Committee of the Pacific Salmon Commission. WDFW will be responsible for reporting the necessary fishery information and data to the Pacific States Marine Fishery Commission that allows these estimates to be generated.

Estimates of total fishery related mortalities, including the total exploitation rate or the Southern US exploitation rate, that represents the management objective for Puget Sound Chinook salmon management units under the co-managers' Harvest Management Plan, will be made by combining the mortality estimate for each Marine Area's mark-selective fishery with mortality estimates in other selective and non-selective fisheries. To ensure that all information necessary to make these estimates is collected, plans for sampling and monitoring of all fisheries will be included as a component of the co-managers' annual pre-season agreement.

### *Sampling Components*

#### Dockside Sampling

WDFW samplers collect biological data and information regarding effort and catch by conducting angler interviews at assigned access sites. During interviews, samplers acquire data on the number of anglers fishing in each boat, the Marine Catch Area(s) fished, trip duration, trip intent (targeted species) and fish encounter composition (kept and/or released by species). When an interviewed party possesses Chinook or coho salmon, samplers inspect the fish for CWTs using wand detectors and collect snouts from CWT-positive individuals for later lab processing. Samplers also take length measurements and collect scale samples from landed Chinook salmon. Lastly, samplers attempt to obtain information on fishing method in order to inform test-fishing methodologies.

#### Effort Surveys

##### *On-the-Water Surveys*

On-the-water Interviews (Boat Surveys) are conducted to provide information on the proportion of effort in a fishery originating from certain access sites. During these surveys, samplers attempt to intercept all anglers on the water in a given fishery and determine where they intend to tie up or exit the fishery upon completing their trip. This provides us with a list of sites (ramps/launches) used to access the fishery as well as information on the relative amount of use (number of anglers) each site receives. Based on this information we designate a "sample-frame" of 5-6 of the highest use access sites for each fishery, from which we select sample sites for dockside creel sampling. Information from the boat surveys also allows us to estimate the total effort that originates from non-sampled sites and include it in our estimates.

##### *Aerial Surveys*

Aerial effort surveys are conducted in fisheries where Boat Surveys are infeasible due to large survey areas and unsafe boating conditions. During these surveys flights are conducted to count the total number of boats on the water in a fishery. The sample-frame (sites where we station samplers) consists of the three to four access sites expected to be of highest use in the fishery. Paired with interviews conducted at these sites, the aerial surveys provide information on the proportion of total fishery effort that originates from non-sampled sites, enabling expansion of observed dockside counts to fishery-wide totals.



## Size/Mark-status Composition Estimates

### *Test Fishing*

Test fishing is used to obtain accurate estimates of the size and mark-status composition of the Chinook salmon population being targeted by a fishery. When included in the sampling design for a given fishery, it is conducted for the duration of the fishery. Test fishers spend approximately five days per week on the water attempting to mimic the behavior of the recreational fishing fleet. Fishing method information from dockside interviews is used to inform the methods used by test fishers and efforts are focused at locations that mirror choices made by the at-large private fleet. For each salmon brought to the boat, test fishers record the encounter number, time sampled, species and mark-status. For all Chinook salmon, test fishers record the fork length and total length and collect DNA and scale samples.

### *Voluntary Trip Reports*

Salmon Trip Reports (STRs) are completed and returned by a subset of private and charter fleet anglers to obtain additional information on Chinook salmon encounter rates by size class and mark-status. Anglers are asked to record the date, number of anglers, target species, Marine Catch Area, and for each Chinook or Coho salmon hooked, whether the fish was kept or released, legal or sublegal sized, and marked (adipose clipped) or unmarked.

## ***Sampling and Monitoring Plans***

For complete details regarding the following sampling plans and associated assumptions, see the WDFW Methods Report (WDFW 2012).

### Full Murthy

The Full Murthy sampling design is the most intensive of the four sampling plans. It utilizes intensive dockside sampling, on-the-water effort surveys and test fishing data to provide precise estimates of Chinook salmon catch and effort, along with total encounters and associated mortalities. STRs are also collected to be used as supplements to test fishing data, if necessary.

Dockside sampling is conducted on five days during each week. Sampling strata are divided into weekday (Monday through Thursday) and weekend (Friday, Saturday and Sunday) strata. During each week,  $n=2$  out of  $N=4$  days are randomly selected for sampling from the Monday through Thursday stratum. In addition, every Friday, Saturday, and Sunday is sampled. Samplers are stationed at two ramps on each of the selected sampling days. Samplers achieve 100% sampling coverage at the assigned ramps from approximately dawn until dark in order to intercept all boats. All anglers and fish exiting the fishery through the sampled sites will be counted. Any boats that are missed at the sampled sites will be counted and recorded on the sampling forms.

Sites from the sample frame for a given fishery are selected for sampling via a weighted-random site selection process (probability proportional to size). Initially, site selection is based on site size measures calculated from on-the-water survey data obtained during the previous year's fishery. Once the initial surveys are completed during the current year, updated size measures of sites in our sample frame are calculated based on the current year's data.

### Reduced Murthy

The Reduced Murthy sampling design is a scaled-back version of the Full Murthy sampling design. It utilizes intensive dockside sampling, on-the-water effort surveys and test fishery or STR data, depending on the fishery.

The main difference between the Reduced Murthy and Full Murthy is a reduced dockside sampling frequency. Dockside sampling is conducted on  $n=6$  out of  $N=14$  days during each two week period. Sampling strata are divided into weekday (Monday through Thursday) and weekend (Friday, Saturday and Sunday) strata. During each two-week period,  $n=2$  out of  $N=8$  days are randomly selected for weekday sampling. In addition,  $n=2$  out of  $N=3$  days are randomly selected for sampling during each weekend. Samplers are stationed at two ramps on each of the selected sampling days. Samplers achieve 100% sampling coverage at the assigned ramps from approximately dawn until dark in order to intercept all boats. All anglers and fish exiting the fishery through the sampled sites will be counted. Any boats that are missed at the sampled sites will be counted and recorded on the sampling forms.

Sites from the sample frame for a given fishery are selected for sampling via a weighted-random site selection process (probability proportional to size). Initially, site selection is based on site size measures calculated from on-the-water survey data obtained during the previous year's fishery. Once the initial surveys are completed during the current year, updated size measures of sites in our sample frame are calculated based on the current and previous year's data.

Unlike the Full Murthy sampling design, where test fishing is a mandatory component, some fisheries sampled with the Reduced Murthy sampling design will utilize a test fishery while others will use STR data to estimate the size and mark-status composition of the targeted Chinook salmon population. For details regarding a specific fishery, see the attached management plan for that fishery.

#### Aerial Access

The Aerial Access sampling design is a modified version of the Reduced Murthy sampling design that uses aerial effort surveys in place of on-the-water effort surveys. Dockside sampling frequencies are the same as those for the Reduced Murthy, however, instead of sampling at two sites (selected from the sampling-frame) on each sample day; samplers are stationed at all sites designated in the sample-frame (three to four sites of moderate to high effort). For each flight, the sample fraction is estimated by pairing the aerial total boat counts with the sample-frame total for boats active during the flight period (determined from dockside interviews). This allows for an expansion of estimates to account for out-of-frame effort.

As with the Reduced Murthy, fisheries monitored using the Aerial Access design may or may not include a test fishery. Those with no test fishery will use STRs to provide an estimate of the size and mark-status composition of the targeted Chinook salmon population.

#### Baseline

The Baseline sampling design is a less intensive monitoring program that includes dockside sampling and interviews and the collection of STR data. Baseline sampling is opportunistic in nature, with overall sampling effort allocated across space and time in a manner that maximizes the number of angler interviews obtained per sample effort. While dockside sampling procedures remain the same as in other sampling designs, the frequency of sample days may be slightly reduced. The main difference between Baseline and other, more intensive, sampling designs is the absence of effort surveys. Due to this, Baseline sampling data cannot be used to produce in-season or immediate post-season estimates absolute catch and effort. These estimates become available at a later date through the WDFW Catch Record Card system, allowing further fishery evaluation including total Chinook salmon encounters and associated mortalities by size and mark-status.

#### *Estimation Methods*

For fisheries monitored using the Full Murthy, Reduced Murthy and Aerial Access sampling designs, WDFW will produce periodic in-season and post-season estimates of catch and effort. To estimate total

Chinook salmon encounters and associated mortalities by size and mark-status category, WDFW will use the agreed-to 'bias-corrected M2' methodology (Conrad & McHugh 2008, WDFW 2012).

Fishery-total catch and effort estimates for fisheries monitored using the Baseline sampling design will be available approximately 1 to 1½ years after the close of the fishery, via the WDFW Catch Record Card system. Once these estimates are available, the appropriate methods for estimation of total encounters and mortalities will be determined using the decision support schematic provided in the 'CRC for Encounters' report (WDFW & NWIFC 2013). For fisheries with adequate sample sizes of STR encounters, this involves the 'bias-corrected M2' approach, as mentioned above. In situations where STR sample sizes are insufficient, total encounters and mortalities will be estimated using an 'M1' approach, where the size and mark-status composition of the Chinook salmon population is estimated using dockside sampling data (see WDFW & NWIFC 2013 for details).

### ***Reporting***

For some fisheries, WDFW will provide the co-managers with in-season updates of fishery performance (see attached Fishery Management Plans for details).

Following each summer and winter season, WDFW will compile a comprehensive post-season report for all Chinook MSFs conducted in Marine Areas 5-13. These reports will include a summary of the information collected as part of each fishery's sampling and monitoring program. In addition, for fisheries sampled using the Full Murthy, Reduced Murthy and Aerial Access sampling designs, the reports will also include:

- Weekly estimates of effort and number of Chinook salmon caught and released, by mark-status
- Estimates of total Chinook salmon encounters and associated mortalities by size and mark-status
- Comparisons of total encounters with pre-season FRAM modeled projections
- Comparisons of mortalities with pre-season FRAM modeled projections
- Estimated fishery-total mortalities of marked and unmarked DIT Chinook salmon, by stock and age

### ***References***

- Conrad R and McHugh P. 2008. Assessment of Two Methods for Estimating Total Chinook Salmon Encounters in Puget Sound/Strait of Juan de Fuca Mark-Selective Chinook Fisheries. Northwest Fishery Resource Bulletin, Manuscript Series Report No 2. <http://wdfw.wa.gov/publications/00492>
- Washington Department of Fish and Wildlife (WDFW). 2012. Methods Report: Monitoring Mark-Selective Recreational Chinook Fisheries in the Marine Catch Areas of Puget Sound (Areas 5 through 13). Revised Draft Report: January 30, 2012. Olympia, Washington. <http://wdfw.wa.gov/publications/01357/>
- Washington Department of Fish and Wildlife (WDFW) and Northwest Indian Fisheries Commission (NWIFC). 2013. Estimating Total Chinook Encounters using Catch Record Card-Based Estimates of Harvest. Draft Report: November 26, 2013. Olympia, Washington.

## 1.22 2019 Summer Mark-Selective Sport Fishery Marine Area 5

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 5 during the 2019 summer season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

### Fishery Regulations

The summer Chinook salmon MSF in Marine Area 5 will occur from **July 1, 2019 through August 15, 2019**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

### Fishery Controls

The preseason prediction of total legal-sized Chinook salmon encounters in Area 5 is **8,294** (FRAM Chin2719). WDFW plans to manage this fishery as a season, beginning and ending on the agreed-to dates (above). WDFW will ensure that the fishery does not exceed **9,953** predicted legal-sized Chinook salmon encounters.

### Sampling Design and Estimation Methodologies

WDFW will employ the 'Reduced Murthy' sampling design to monitor the Area 5 summer MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). WDFW will employ the appropriate number of staff during the Area 5 summer MSF in an effort to meet or exceed the sampling rate goal of 20%.

### Reporting Schedule

WDFW will provide the co-managers with bi-weekly in-season catch and effort estimates by Friday **July 19, 2019**.

WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 5 summer MSF, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other coded-wired tagged stocks as described in Attachment A.

## 1.23 2019 Summer Mark-Selective Sport Fishery Marine Area 6

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 6 during the 2019 summer season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

### Fishery Regulations

The summer Chinook salmon MSF in Marine Area 6 will occur from **July 1, 2019 through August 15, 2019**, only in the portion of the area west of a true north/south line through buoy #2 near the tip of Ediz Hook. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

### Fishery Controls

WDFW will manage this fishery as a season, beginning and ending on the agreed-to dates (above).

### Sampling Design and Estimation Methodologies

Sampling efforts will be conducted consistent with the 'Baseline Sampling Design' (see Attachment A). The size and mark-status of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). Total Chinook salmon encounters and associated mortalities resulting from the Area 6 summer MSF will be estimated using the 'CRC for Encounters' methodology, described in Attachment A. WDFW will employ the appropriate number of staff during the Area 6 summer MSF in an effort to meet or exceed the sampling rate goal of 20%.

### Reporting Schedule

WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 6 summer MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 6 MSF, in addition to estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other coded-wired tagged stocks as described in Attachment A will be provided at a later date, as Catch Record Card estimates become available (see Attachment A).

## 1.24 2019 Summer Mark-Selective Sport Fishery Marine Area 7

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 7 during the 2019 summer season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

### Fishery Regulations

The summer Chinook salmon MSF in Marine Area 7 will occur from **July 1, 2019 to July 31, 2019**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon.

### Fishery Controls

The preseason prediction of total legal sized Chinook salmon encounters in Area 7 is **3,622** (FRAM Chin2719). WDFW plans to manage this fishery as a season, beginning and ending on the agreed-to dates (above).

### Sampling Design and Estimation Methodologies

WDFW will employ the 'Aerial Access' sampling design to monitor the Area 7 summer MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using test fishing data. WDFW will employ the appropriate number of staff during the Area 7 summer MSF in an effort to meet or exceed the sampling rate goal of 20%.

### Reporting Schedule

WDFW will provide the co-managers with bi-weekly in-season catch and effort estimates by Friday **July 19, 2019**.

WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 7 summer MSF, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of Double index-tagged and other coded-wire tagged stocks as described in Attachment A.

## 1.25 2019 Summer Mark-Selective Sport Fishery Marine Area 9

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement Chinook salmon mark-selective fisheries (MSFs) in Marine Area 9 during the 2019 summer season. These fisheries will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of these fisheries on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate these mark-selective fisheries.

### Fishery Regulations

The summer Chinook salmon MSF in Marine Area 9 will occur between **July 25 and August 15, 2019**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

### Fishery Controls

The preseason modeled expected catch is **3,491** Chinook salmon in Area 9 (FRAM Chin2719). WDFW will manage this fishery not to exceed the above catch quota.

### Sampling Design and Estimation Methodologies

WDFW will employ the 'Full Murthy' sampling design to monitor the Area 9 summer MSFs and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using test fishing data. WDFW will employ the appropriate number of staff during the Area 9 summer MSFs in an effort to meet or exceed the sampling rate goal of 20%.

### Reporting Schedule

WDFW will provide the co-managers with preliminary weekly in-season estimates of effort, landed catch, and encounters starting **Friday August 2, 2019**. WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 9 summer MSF, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other CWT stocks as described in Attachment A.

## 1.26 2019 Summer Mark-Selective Sport Fishery Marine Area 10

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement Chinook salmon mark-selective fisheries (MSFs) in Marine Area10 during the 2019 summer season. These fisheries will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of these fisheries on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate these mark-selective fisheries.

### Fishery Regulations

The summer Chinook salmon MSF in Marine 10 will occur between **July 25 and August 30, 2019**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

### Fishery Controls

The preseason modeled expected catch is **3,057** Chinook salmon in Area 10 (FRAM Chin2719). WDFW will manage these fisheries not to exceed the above catch quota.

### Sampling Design and Estimation Methodologies

WDFW will employ the 'Full Murthy' sampling design to monitor the Areas 10 summer MSFs and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using test fishing data. WDFW will employ the appropriate number of staff during the Area10 summer MSFs in an effort to meet or exceed the sampling rate goal of 20%.

### Reporting Schedule

WDFW will provide the co-managers with weekly in-season estimates of effort, landed catch, and encounters beginning **Friday August 2, 2019**. WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 10 summer MSFs, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other coded-wire tagged stocks as described in Attachment A.



## 1.27 2019 Summer Mark-Selective Sport Fishery Marine Area 11

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 11 during the 2019 summer season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

### Fishery Regulations

The summer Chinook salmon MSF in Marine Area 11 will occur from **July 1, 2019 through September 30, 2019**, although the season could close earlier to stay within the Chinook catch quota specified in the *Fishery Controls* section below. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

### Fishery Controls

The preseason modeled expected catch is **2,805** Chinook salmon in Area 11 (FRAM Chin2719). WDFW will manage this fishery not to exceed the above catch quota.

### Sampling Design and Estimation Methodologies

WDFW will employ the 'Reduced Murthy' sampling design to monitor the Area 11 summer MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). WDFW will employ the appropriate number of staff during the Area 11 summer MSF in an effort to meet or exceed the sampling rate goal of 20%.

### Reporting Schedule

WDFW will provide the co-managers with bi-weekly in-season estimates of effort, landed catch, and encounters beginning **July 19, 2019**.

WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 11 summer MSF, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of double index-tagged (DIT) and other CWT stocks as described in Attachment A.

## 1.28 2019 Summer Selective Sport Fishery Marine Area 12

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 12 during the 2019 summer season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

### Fishery Regulations

The summer Chinook salmon MSF in Marine Area 12 will occur from **July 1, 2019 through September 30, 2019**, only in the portion of the area located south of Ayock Point. Anglers will be allowed a daily limit of up to four salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

### Fishery Controls

WDFW will manage this fishery as a season, beginning and ending on the agreed-to dates (above).

### Sampling Design and Estimation Methodologies

Sampling efforts will be conducted consistent with the 'Baseline Sampling Design' (see Attachment A). The size and mark-status of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). Total Chinook salmon encounters and associated mortalities resulting from the Area 12 summer MSF will be estimated using the 'CRC for Encounters' methodology, described in Attachment A. WDFW will employ the appropriate number of staff during the Area 12 summer MSF in an effort to meet or exceed the sampling rate goal of 20%.

### Reporting Schedule

WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 12 summer MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 12 MSF, in addition to estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other CWT stocks as described in Attachment A will be provided at a later date, as Catch Record Card estimates become available (see Attachment A).

## 1.29 2019 Summer Mark-Selective Sport Fishery Marine Area 13

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 13 during the 2019 summer season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

### Fishery Regulations

The summer Chinook salmon MSF in Marine Area 13 will occur from **May 1, 2019 through September 30, 2019**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

### Fishery Controls

WDFW will manage this fishery as a season, beginning and ending on the agreed-to dates (above).

### Sampling Design and Estimation Methodologies

Sampling efforts will be conducted consistent with the 'Baseline Sampling Design' (see Attachment A). The size and mark-status of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). Total Chinook salmon encounters and associated mortalities resulting from the Area 13 summer MSF will be estimated using the 'CRC for Encounters' methodology, described in Attachment A. WDFW will employ the appropriate number of staff during the Area 13 summer MSF in an effort to meet or exceed the sampling rate goal of 20%.

### Reporting Schedule

WDFW will compile a comprehensive post-season report for all summer Chinook salmon MSFs conducted in Marine Areas 5-13 by February 1, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 13 summer MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 13 MSF, in addition to estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other coded-wired tagged stocks as described in Attachment A will be provided at a later date, as Catch Record Card estimates become available (see Attachment A).

### **1.30 2019-20 Winter Mark-Selective Sport Fishery Marine Area 5**

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 5 during the 2019-2020 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

#### Fishery Regulations

The winter Chinook salmon MSF in Marine Area 5 will occur from **March 1 to April 30, 2020**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

#### Fishery Controls

WDFW will manage this fishery as a season, beginning and ending on the agreed-to dates (above).

#### Sampling Design and Estimation Methodologies

Sampling efforts will be conducted consistent with the 'Baseline Sampling Design' (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). Total Chinook salmon encounters and associated mortalities resulting from the Area 5 winter MSF will be estimated using the 'CRC for Encounters' methodology, described in Attachment A. WDFW will employ the appropriate number of staff during the Area 5 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

#### Reporting Schedule

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 5 winter MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 5 MSF, in addition to estimates of marked and unmarked mortalities of double index-tagged (DIT) and other coded-wire tagged stocks as described in Attachment A will be provided at a later date, as estimates from Catch Record Card become available (see Attachment A).

### 1.31 2019-20 Winter Mark-Selective Sport Fishery Marine Area 6

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 6 during the 2019-2020 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery-origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

#### Fishery Regulations

The winter Chinook salmon MSF in Marine Area 6 will occur from **March 1 to April 15, 2020**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

#### Fishery Controls

The preseason prediction of total Chinook salmon encounters in Area 6 is **3,860** (FRAM Chin2719). WDFW plans to manage this fishery as a season, beginning and ending on the agreed-to dates (above). Co-managers will initiate an in-season call sometime during the week starting **March 22, 2020** to discuss fishery progress. If at any time during the fishery in-season estimates indicate that total encounters for the fishery will significantly exceed this preseason modeled estimate, WDFW will modify the fishery to control impacts on stocks of concern.

#### Sampling Design and Estimation Methodologies

WDFW will employ the 'Aerial Access' sampling design to monitor the Area 6 winter MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using test fishing data. WDFW will employ the appropriate number of staff during the Area 6 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

#### Reporting Schedule

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 6 winter MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 6 MSF, in addition to estimates of marked and unmarked mortalities of Double index-tagged and other coded-wire tagged stocks as described in Attachment A will be provided at a later date as estimates from Catch Record Card become available (see Attachment A).

### **1.32 2019-20 Winter Mark-Selective Sport Fishery Marine Area 7**

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 7 during the 2019-2020 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

#### Fishery Regulations

The winter Chinook salmon MSF in Marine Area 7 will occur from **February 1, 2020 to April 15, 2020**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

#### Fishery Controls

The preseason prediction of total Chinook salmon encounters in Area 7 is **9,752**, and the predicted total unmarked encounters (legal-unmarked plus sublegal-unmarked) is **3,380** (FRAM Chin2719). WDFW plans to manage this fishery as a season, beginning and ending on the agreed-to dates (above). However, if in-season estimates indicate that total Chinook salmon encounters, total unmarked encounters, or legal-unmarked encounters are projected to be at 80% of the preseason modeled encounters, WDFW will initiate co-manager discussion regarding potential fishery actions. WDFW will ensure the fishery does not exceed 4,057 total unmarked Chinook encounters and/or 11,702 total Chinook encounters.

#### Sampling Design and Estimation Methodologies

WDFW will employ the 'Aerial Access' sampling design to monitor the Area 7 winter MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using test fishing data. WDFW will employ the appropriate number of staff during the Area 7 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

#### Reporting Schedule

WDFW will provide the co-managers with bi-weekly in-season catch and effort estimates by **February 21, 2020**.

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 7 winter MSF, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other CWT stocks as described in Attachment A.

### 1.33 2019-20 Winter Mark-Selective Sport Fishery Marine Areas 8-1 and 8-2

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement Chinook salmon mark-selective fisheries (MSFs) in Marine Areas 8-1 and 8-2 during the 2019-2020 winter season. This fisheries will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of these fisheries on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate these mark-selective fisheries.

#### Fishery Regulations

The winter Chinook salmon MSFs in Marine Areas 8-1 and 8-2 will occur from **February 1, 2019 through April 30, 2020**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

#### Fishery Controls

The preseason prediction of total Chinook salmon encounters in Area 8-1 and 8-2 is **4,330** (FRAM Chin2719). WDFW plans to manage this fishery as a season, beginning and ending on the agreed-to dates (above). However, if in-season estimates indicate that total Chinook salmon encounters, total unmarked encounters, or legal-unmarked encounters are projected to be at 80% of the preseason modeled encounters, WDFW will initiate co-manager discussion regarding potential fishery actions. WDFW will ensure that the fishery does not exceed **5,196** predicted total Chinook salmon encounters.

#### Sampling Design and Estimation Methodologies

WDFW will employ the 'Reduced Murthy' sampling design to monitor the Area 8-1 and 8-2 winter MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). WDFW will employ the appropriate number of staff during the Area 8-1 and 8-2 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

#### Reporting Schedule

WDFW will provide the co-managers with bi-weekly in-season catch and effort estimates starting Friday **February 21, 2020**.

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2020. This report will include a summary of the information collected as part of our sampling and monitoring programs during the Area 8-1 and 8-2 winter MSFs, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other CWT stocks as described in Attachment A.

### **1.34 2019-20 Winter Mark-Selective Sport Fishery Marine Area 9**

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 9 during the 2019-2020 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

#### Fishery Regulations

The winter Chinook salmon MSF in Marine Area 9 will occur from **February 1 to April 15, 2020**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

#### Fishery Controls

The preseason prediction of total encounters in Area 9 is **4,677** (FRAM Chin2719). WDFW plans to manage this fishery as a season, beginning and ending on the agreed-to dates (above). However, if in-season estimates indicate that total Chinook salmon encounters, total unmarked encounters, or legal-unmarked encounters are projected to be at 80% of the preseason modeled encounters, WDFW will initiate co-manager discussion regarding potential fishery actions. WDFW will ensure that the fishery does not exceed **5,613** predicted total Chinook salmon encounters.

#### Sampling Design and Estimation Methodologies

WDFW will employ the 'Aerial Access' sampling design to monitor the Area 9 winter MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using test fishing data. WDFW will employ the appropriate number of staff during the Area 9 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

#### Reporting Schedule

WDFW will provide the co-managers with bi-weekly in-season catch and effort estimates beginning Friday **February 21, 2020**.

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 9 winter MSF, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other coded-wire tagged stocks as described in Attachment A.



### 1.35 2019-20 Winter Mark-Selective Sport Fishery Marine Area 10

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 10 during the 2019-2020 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

#### Fishery Regulations

The winter Chinook salmon MSF in Marine Area 10 will occur from **January 1, 2019 through March 31, 2020**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

#### Fishery Controls

The preseason prediction of total Chinook salmon encounters in Area 10 is **2,933** (FRAM Chin2719). WDFW plans to manage this fishery as a season, beginning and ending on the agreed-to dates (above). However, if in-season estimates indicate that total Chinook salmon encounters, total unmarked encounters, or legal-unmarked encounters are projected to be at 80% of the preseason modeled encounters, WDFW will initiate co-manager discussion regarding potential fishery actions. WDFW will ensure that the fishery does not exceed **3,520** predicted total Chinook salmon encounters.

#### Sampling Design and Estimation Methodologies

WDFW will employ the 'Reduced Murthy' sampling design to monitor the Area 10 winter MSF and estimate total encounters and associated mortalities of legal, sublegal, marked and unmarked Chinook salmon (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using test fishing data. WDFW will employ the appropriate number of staff during the Area 10 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

#### Reporting Schedule

WDFW will provide the co-managers with bi-weekly in-season catch and effort estimates beginning the week ending **January 17, 2020**.

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 10 winter MSF, a full analysis of impact estimates (total encounters and mortalities by size and mark-status), and estimates of marked and unmarked mortalities of double index-tagged (DIT) and other coded-wire tagged stocks as described in Attachment A.

### 1.36 2019-20 Winter Mark-Selective Sport Fishery Marine Area 11

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 11 during the 2019-2020 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

#### Fishery Regulations

The winter Chinook MSF in Marine Area 11 will occur from **January 1, 2019 to April 30, 2020**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

#### Fishery Controls

WDFW will manage this fishery as a season, beginning and ending on the agreed-to dates (above).

#### Sampling Design and Estimation Methodologies

Sampling efforts will be conducted consistent with the 'Baseline Sampling Design' (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). Total Chinook salmon encounters and associated mortalities resulting from the Area 11 winter MSF will be estimated using the 'CRC for Encounters' methodology, described in Attachment A. WDFW will employ the appropriate number of staff during the Area 11 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

#### Reporting Schedule

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 11 winter MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 11 MSF, in addition to estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other coded-wire tagged stocks as described in Attachment A will be provided at a later date, as Catch Record Card estimates become available (see Attachment A).

## 1.37 2019-2020 Winter Mark-Selective Sport Fishery Marine Area 12

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 12 during the 2019-2020 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

### Fishery Regulations

The winter Chinook salmon MSF in Marine Area 12 will occur from **October 1, 2019 to April 30, 2020**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

### Fishery Controls

WDFW will manage this fishery as a season, beginning and ending on the agreed-to dates (above).

### Sampling Design and Estimation Methodologies

Sampling efforts will be conducted consistent with the 'Baseline Sampling Design' (see Attachment A). The size and mark-status of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). Total Chinook salmon encounters and associated mortalities resulting from the Area 12 winter MSF will be estimated using the 'CRC for Encounters' methodology, described in Attachment A. WDFW will employ the appropriate number of staff during the Area 12 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

### Reporting Schedule

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 12 winter MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 12 MSF, in addition to estimates of marked and unmarked mortalities of double index-tagged (DIT) and other coded-wire tagged stocks as described in Attachment A will be provided at a later date, as Catch Record Card estimates become available (see Attachment A).

### 1.38 2019-20 Winter Mark-Selective Sport Fishery Marine Area 13

The Northwest Treaty Tribes and the Washington Department of Fish and Wildlife (WDFW) have reached agreement to implement a Chinook salmon mark-selective fishery (MSF) in Marine Area 13 during the 2019-2020 winter season. This fishery will be implemented consistent with management objectives defined by the co-managers' Puget Sound Chinook Harvest Management Plan, the WDFW-Tulalip management plan for hatchery origin fish, and established principles concerning the allocation of harvestable salmon and the exercise of treaty rights. The co-managers will seek to minimize or eliminate any unintended effects of this fishery on individual treaty fisheries, including dislocation and/or disruption. Therefore, treaty fisheries will not be modified in order to accommodate this mark-selective fishery.

#### Fishery Regulations

The winter Chinook salmon MSF in Marine Area 13 will occur from **October 1, 2019 to April 30, 2020**. Anglers will be allowed a daily limit of up to two hatchery Chinook salmon. All sub-area closures included in the 2019-20 Co-Managers' List of Agreed Fisheries will remain in effect for the agreed-to dates.

#### Fishery Controls

WDFW will manage this fishery as a season, beginning and ending on the agreed-to dates (above).

#### Sampling Design and Estimation Methodologies

Sampling efforts will be conducted consistent with the 'Baseline Sampling Design' (see Attachment A). The size and mark-status composition of the targeted Chinook salmon population will be estimated using Salmon Trip Reports (STRs). Total Chinook salmon encounters and associated mortalities resulting from the Area 13 winter MSF will be estimated using the 'CRC for Encounters' methodology, described in Attachment A. WDFW will employ the appropriate number of staff during the Area 13 winter MSF in an effort to meet or exceed the sampling rate goal of 20%.

#### Reporting Schedule

WDFW will compile a comprehensive post-season report for all winter Chinook salmon MSFs conducted in Marine Areas 5-13 by November 30, 2020. This report will include a summary of the information collected as part of our sampling and monitoring program during the Area 13 winter MSF. A full analysis of impact estimates (total encounters and mortalities by size and mark-status) resulting from the Area 13 MSF, in addition to estimates of marked and unmarked mortalities of Double index-tagged (DIT) and other coded-wire tagged stocks as described in Attachment A will be provided at a later date, as Catch Record Card estimates become available (see Attachment A).

### **1.39 Draft Charter Boat Sampling Program for Puget Sound Marine Recreational Salmon Fisheries**

Based on agreements between the State of Washington and the Northwest Treaty Tribes, the Washington Department of Fish and Wildlife (WDFW) has been conducting recreational mark-selective Chinook salmon fisheries (MSFs) in the marine catch areas of Puget Sound since 2003. Attachment A provides the general intent, data needs, sampling and monitoring plans, estimation methodologies, and reporting schedules associated with these fisheries.

As an addition to Attachment A, this document describes the proposed sampling plan specific to charter vessels participating in recreational mark-selective Chinook salmon fisheries and/or Chinook salmon non-retention (NR) fisheries in the marine areas of Puget Sound.

#### ***Data Needs for Evaluating the Fishery***

A sampling program for charter vessels will be implemented, in addition to the sampling program for private boats, for the purpose of providing the data necessary to estimate impacts of MSFs and/or NR fisheries on unmarked Chinook salmon and to support the evaluation of future such fisheries. In addition to conducting dockside sampling to collect biological information on landed catch, WDFW will coordinate collection of salmon encounter information and angler effort counts with membership of the Charter Association of Puget Sound and other charter operators in Puget Sound. Participants in this program will provide the data described below to enable an overall assessment of Chinook salmon MSFs and NR fisheries in Puget Sound. Additionally, in a coordinated effort with charter boat operators, WDFW samplers will ride along aboard charter boats to enumerate salmon encounters and collect biological data on encountered Chinook, as detailed further below.

The charter boat sampling program is designed to provide data that, in combination with the data collected during private boat sampling, will enable estimation of the following parameters:

- Number of Chinook salmon encounters (retained and released), by size class (legal/sublegal) and mark status (marked/unmarked): estimated using salmon trip report (STR) logbooks, WDFW-staffed charter ride-along trips, and dockside sampling programs.
- Mark rate in the fishery: estimated using salmon trip report (STR) logbooks, WDFW-staffed charter ride-along trips, and dockside sampling programs.
- Stock composition of mortalities: estimated using coded-wire tag (CWT) data collected during dockside sampling.
- Mortalities of marked and unmarked double-index tagged (DIT) and other CWT stocks.

#### ***Sampling Components***

##### Dockside Sampling

WDFW samplers collect biological data and information regarding effort and catch by conducting angler interviews at assigned access sites. Samplers will record on their sampling form whether the boat sampled is a charter vessel or private boat. During interviews, samplers acquire data on the number of anglers fishing in each boat, the Marine Catch Area(s) fished, trip duration, trip intent (targeted species) and fish encounter composition (kept and/or released by species). When an interviewed party possesses Chinook or coho salmon, samplers inspect the fish for CWTs using wand detectors and collect snouts from CWT-positive individuals for later lab processing. Samplers also take length measurements and collect scale samples from landed Chinook.

### On-water Effort Surveys

On-the-water interviews (Boat Surveys) are conducted to provide information on the proportion of effort in a fishery originating from certain access sites. During these surveys, samplers record the vessel type (charter or private boat). Samplers attempt to intercept all anglers on the water in a given fishery and determine where they intend to tie up or exit the fishery upon completing their trip. This provides WDFW with a list of sites (ramps/launches) used to access the fishery as well as information on the relative amount of use (number of anglers) each site receives. Based on this information we designate a “sample-frame” of 5-6 of the highest use access sites for each fishery, from which we select sample sites for dockside creel sampling. Information from the boat surveys also allows us to estimate the total effort that originates from non-sampled sites and include it in our estimates.

### Salmon Trip Reports

Salmon trip reports (STRs) will be completed and returned by charter operators on at least a weekly basis to obtain additional information on Chinook encounter rates by size class and mark-status. The information recorded will include the date, number of anglers, target species, Marine Catch Area, and for each Chinook or coho hooked, whether the fish was kept or released, legal or sublegal sized, and marked (adipose clipped) or unmarked. Electronic submission of these data will be possible via WDFW’s new STR smartphone application in the future, and paper forms will still be available for charter operators to use as well. Charter operators can also take a photo of the STR and e-mail it to [STR@dfw.wa.gov](mailto:STR@dfw.wa.gov). The sooner the data can be provided to WDFW the sooner the data can be utilized for in-season management, when applicable.

### Charter Boat Ride-alongs:

In coordination with charter boat operators, WDFW observers will ride along aboard charter boats, collecting the following data for each observed encounter on the boat: date, Marine Catch Area fished, species hooked, result of hookup (fish kept, released, or dropped off), mark status, and size class (legal vs. sublegal). Also WDFW ride-along samplers will collect biological data, including length and scale samples, on each observed Chinook salmon that is encountered.

### Reporting

At the conclusion of the 2019 season, WDFW will compile all data collected from charter boats and volunteer reports from other participating anglers. A summary of data collected and estimates of total angler effort for each fishery will be documented and available for review by December 1, 2019.

As described in Attachment A, following each summer and winter season, WDFW will compile a comprehensive post-season report for all Chinook salmon MSFs conducted in Marine Areas 5-13. These reports will include a summary of the information collected as part of each fishery’s sampling and monitoring program, for both charter boats and private boats. In addition, for fisheries sampled using the Full Murthy, Reduced Murthy and Aerial Access sampling designs, the reports will also include:

- Weekly estimates of effort and number of Chinook salmon caught and released, by mark-status
- Estimates of total Chinook salmon encounters and associated mortalities by size and mark-status
- Comparisons of total encounters with pre-season FRAM modeled projections

- Comparisons of mortalities with pre-season FRAM modeled projections
- Estimated fishery-total mortalities of marked and unmarked DIT Chinook salmon, by stock and age.

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<sup>ii</sup> This is based on Chin2719