

# Status of the Hoodspout Beach Seine Fisheries Report to the Legislature

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Washington  
Department of  
**FISH and  
WILDLIFE**

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## EXECUTIVE SUMMARY

This report provides a five-year analysis and status update for the Non-Treaty beach seine chinook fishery, and implications to future beach seine opportunities. In 2016 the Washington Department of Fish and Wildlife (WDFW) implemented a new, experimental beach seine fishery, targeting a summer Chinook run to the Hood Canal, Marine Catch Area 12C. Under existing Emerging Commercial Fisheries Act regulations, WDFW was able to issue experimental fisheries permits for this new fishery. The Chinook beach seine fishery at the Hoodport Hatchery was designated as an experimental fishery allowing for limited participation to selected permit holders.

The five-year progression of this Chinook fishery saw increased participation and harvest, managed as a quota. Regulations were set during each year's North of Falcon process. WDFW monitored and collected data from each season, allowing the fishery to be rigorously studied. This level of engagement has played an important role in understanding how small-scale, terminal area experimental fisheries can best be implemented. WDFW is continuously working to adaptively manage salmon harvest opportunities. Beach seines may offer a unique means of fishing in near-terminal areas where other gear types may not be suitable, while still providing for the economic viability of the commercial sector. With the information we have gathered during this experimental fishery, WDFW feels confident in its ability to prosecute future beach seine fisheries.

WDFW is supportive of maintaining the Hoodport Chinook beach seine fishery in its experimental fisheries status. While the Agency will continue to explore constituent interest in creating a separate beach seine license, any future beach seine fisheries are dependent on a harvestable surplus available to co-managers while ensuring the conservation and recovery goals of natural stocks throughout Puget Sound



## BACKGROUND

Beach seining is a long-standing fishing method that has seen wide use globally, as it is a relatively low tech, cost effective means of harvesting fish in small-scale fisheries. In Washington, beach seining for pacific salmon (*Oncorhynchus* sp.) is currently used by both tribal and non-tribal commercial fishers to harvest of Chinook, coho, pink and chum salmon. Beach seines are primarily fished along beaches in terminal areas where salmon congregate in large schools close to shore prior to returning to their natal streams or hatcheries. These fisheries are managed and regulated by the Washington Dept of Fish & Wildlife (WDFW) and tribal co-managers.

The implementation of Washington’s Non-Treaty beach seining for salmon began after the Washington State Legislature passed the Emerging Commercial Fisheries Act (EFA) in 1992 (RCW 75.28.140, 77.70.160, 170, & 180). The EFA specified that any fishery not already subject to a limited effort program may be designated as “emerging” if a need to limit participation is determined. Once a fishery is brought under EFA management, commercial harvest may only be conducted by fishers who hold “Experimental Fishery Permits”, thus limiting participation. To make recommendations on the appropriate number of permit holders, the EFA stipulated that the Department shall appoint a five-person advisory board. This new tool gave the director of the Department the authority to designate fisheries as emerging or expanding. However, beach seines were not designated as an emerging commercial fishery for salmon until 1996 with an initial coho fishery that took place in marine catch area 12A, in Quilcene Bay targeting hatchery Coho returning to the USFWS Quilcene National Fish Hatchery and the Quilcene Bay Net Pens (WDFW, 2001).

While limited in use, beach seine fisheries are being examined for the future as a means to adaptively manage Puget Sound commercial salmon harvest. There is increased interest by WDFW and tribal co-managers, to focus salmon harvest in terminal areas where hatchery surplus may exist, making beach seines a viable gear option. Additionally, there is ample interest from the commercial sector in creating a separate beach seine license. This report provides a fishery analysis of the Hoodsport beach seine Chinook fishery needed to address such interest.

## 12C HOODSPORT BEACH SEINE CHINOOK FISHERY

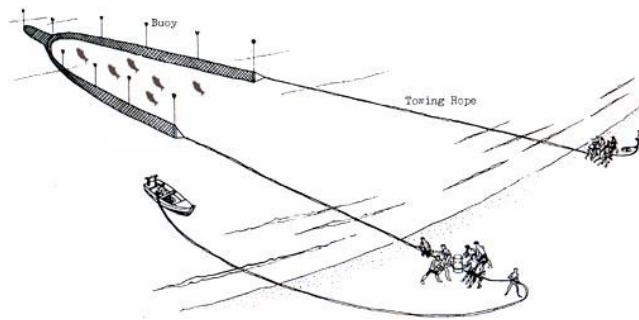
In 2016, because of pre-season negotiations, recreational fishing was halted in the Skokomish River in the lower end of Washington’s Marine Area 12 (Hood Canal). In an effort to maintain the state’s share of harvestable Hatchery Chinook, WDFW successfully negotiated commercial access to a Hatchery Chinook share by utilizing its authority under the EFA. The Chinook beach seine fishery at the Hoodsport Hatchery was designated as an experimental fishery allowing for limited participation to selected permit holders.

### Beach Seine Fishing

Similar to other seine methods, beach seining exploits the salmon’s natural schooling behavior, entrapping the fish using a small dimension mesh net. Beach seine nets vary in construction but generally consist of a top line or cork line supported by buoyant floats keeping that line on the surface, mesh net webbing hung in panels from the cork line, and a heavy weighted “lead line”, strung through the bottom of the net webbing. The beach seine is deployed by anchoring one end to the beach, while a small boat motors away from the beach, letting the net go over the side. Once the net is completely deployed, the small boat tows the net in a round haul pattern back to the beach, where it is detached from the boat. The downward force of the lead line countering the buoyancy of the float line keeps the



net open while it is pulled through the water during the tow and net retrieval Crews from the small boat hand pull the cork and lead lines of both net ends simultaneously until the net is completely returned to the beach. Washington law requires beach seine nets to not exceed 990 feet in length and 200 meshes in depth (measured vertically from cork line to lead line). Mesh size may be no less than three inches or greater than 4 inches.



Beach seining is considered a selective fishing method as Salmon are landed live and not entangled, allowing for the live release of bycatch, wild fish, or small fish. For the 12C Chinook fishery, this selective gear allows WDFW to manage with release requirements in place for non-target salmon species like chum and sockeye.

### Eligibility and Selection

Eligibility for the Hoodsport beach seine experimental fishery permit was given to all Puget Sound commercial salmon license holders, regardless of gear type. Though the Department was aware of the disproportion of gear group license holders (gill net licenses are the most abundant), it did not feel the need to restrict applications or apply any weighting to the license holder pool. The experimental permit status granted access to this fishery without creating a separate Puget Sound license under a new gear type. While this process is convenient for current license holders it does not allow for a person new to commercial fishing to apply and cannot be transferred between or to other license holders.

The Department currently issues five experimental permits for the beach seine fishery. Selecting permit holders from permit applicants was done via a random lottery, with the exception of the 2016 season. The department entered the first beach seine season with only two permits issued and acknowledged that it would hold a random lottery to select future permit holders from future applicants after the creation of the Beach Seine advisory board. Applications were sent to all Puget Sound license holders and the license holders who returned applications were placed in the random lottery.

Permit holders are required to participate in the beach seine fishery every year they hold the permit and the Department uses fish tickets to verify participation. If the permit holder fails to participate, or violates permit conditions, their permit will be voided, and a new salmon beach seine experimental permit may be issued at the Director's discretion through a random drawing from the applicant pool.

### Management and Monitoring

The Hoodsport Beach seine fishery is a limited entry, quota fishery for which the Department sets a total allowable catch (TAC). To establish the TAC, fisheries managers analyzed the Hood Canal Chinook forecast, the expected recreational Chinook catch and the reduction in in-river harvest. Staff established a catch per unit effort (CPUE) for the fishery by looking at beach seine efficiency metrics and previous beach seine landings in other fisheries. WDFW conservatively estimated a 5000 chinook TAC. This catch number was proposed during the 2016 North of Falcon, and agreed to by representatives of the Skokomish Indian Tribe.



To avoid fishing when listed Hood Canal summer chum are present, tribal and non-tribal co-managers agreed to a six week fishery window from July through August for the Non-Treaty beach seine fishery. Within this window the fishery occurs two days per week, staggering fishing days with the tribal commercial fishery to avoid gear conflict. This Chinook fishery takes place within a relatively small portion of Marine Catch Area 12C referred to as the Hoodspport Hatchery Zone (Figure 2). In-season management of the fishery is coordinated between tribal and non-tribal fishery managers, and the Hoodspport Hatchery manager to ensure that hatchery egg-take goals are met.

## DETAILING CHANGES: 12C BEACH SEINE TIMELINE

Fish management staff approached this fishery using an adaptive management strategy giving the Department the ability to make quick in-season decisions, all while working closely with fishers, co-managers, and hatchery staff. The following timeline provides a look at seasonal management changes and adjustments to the first five years of the experimental fishery.

### 2016

During the pre-season, WDFW initiated an Experimental Fishery for the first beach seine permits. This was in response to Non-Treaty closure of the Skokomish river, per the 2016 NOF and 2016 LOAF. The Non-Treaty Chinook share would otherwise remain unharvested. Only two participants with existing Puget Sound commercial licenses were selected.

The inaugural season's fishery schedule was set and agreed to as Mondays and Wednesdays of managements weeks 31 to 36, open from 7am to 7pm with a set quota of 5,000 chinook. WDFW also put in place release requirements for chum and sockeye, taking into consideration the Summer Chum Management Plan. Additionally, WDFW implemented an intensive monitoring plan for 2016. Staff from the Puget Sound Commercial Monitoring Program made an effort to conduct a census of the fishery, monitor every day of fishing. Data collected included: Catch Per Unit Effort (CPUE) of sets, by-catch, catch composition, effort distribution by location, and other fishery metrics. This information was critical to fishery managers understanding of the new fisher. Staff from the Puget Sound Sampling Unit (PSSU) collected Sex/Lengths, scale, Coded Wire Tag (CWT), and marked status.

### 2017

The 2017 season saw the Initiation of the Beach Seine Advisory Board per WAC 220-360-030, and requirements under RCW 77.70.160. WDFW's Beach Seine Advisory Board agreed to increase the experimental permit holders to four, allowing for an increase of two additional licensees/permits. Pink salmon retention was allowed during the 2017 beach seine fishery, as pink salmon were retained in the concurrent Area 12 recreational fishery.

During the first opening of week 33, fishers landed 4,383 fish. WDFW and tribal co-managers agreed to increase the quota to an in-season adjusted 7,250 Chinook. Fishers caught an additional 2,159 chinook during that week bringing the season total to 6, 955 Chinook (Table 1). The 2017 NT season was closed after week 33.

### 2018

The 2018 season began with WDFW's Beach Seine Advisory Board having agreed to increase the experimental permit holders to six, allowing again for another addition of two licensees/permits. WDFW



proposed an increased quota of 10,000 hatchery Chinook, modeled and agreed to during the 2018 NOF meetings.

An in-season regulation change came in week 36 after the previous five weeks of fishing saw a cumulative catch of 8,978 chinook. Fishers expressed interest in targeting the remainder of the quota and agreed to a 250 fish cap per permit holder for the week 36 fishery.

## 2019

The 2019 season represented the first season with a significant management change from the preceding year. During the 2019 NOF process WDFW and tribal co-managers agreed to shift the non-treaty beach seine schedule to Tuesdays and Thursdays. Catch and reported landings were significantly lower during the Tuesday/Thursday fisheries (Figure 1). Total harvest was 7,303 Chinook, falling short of the 10,000 fish quota (Table 1). 2019 was the first year during this fishery that the Hoodsport Hatchery facility failed to make their egg-take goal. Due to circumstances out of WDFW's control, not all permits were fished the entirety of the season, however all six permit holders did participate.

## 2020

During the 2020 NOF process WDFW and tribal co-managers agreed to switch the Non-treaty fishing schedule back to Mondays and Wednesdays. The department and tribal co-managers maintained the 10,000 Chinook quota, with high expectations for the fishery. Post-season showed that Hoodsport Hatchery did not meet egg-take goals for the 2020 returns.

The catch distributions between the Monday and Wednesday fisheries were highly disproportional, with 81% of the total catch being landed during the Monday fisheries (Fig. 1).

2020 was also the first year fishers were able to arrange a tender to deliver catch to, as well as a buyer on the beach. While this made it simpler for the small beach seine boats to offload their catch, they were still required to land catch directly on the beach. WDFW staff maintained a presence during the fishery and selected dates to sample, limiting their time in the field.

## DISCUSSION AND FUTURE RECOMMENDATIONS

At the outset, experimental and emerging commercial fisheries, warrant a fair amount of oversight. The work by WDFW from 2016 – 2020 allowed the Department to thoroughly understand the scientific and management aspects of the new fishery. To this end, WDFW remains committed to monitoring and sampling this fishery in whatever future form it takes.

### Harvest and Monitoring

The 12C beach seine fishery was designed to be relatively simple in execution with little allowance for in-season adjustments to factors outside of the agreed to schedule and quota updates. This gave WDFW a stable program from which to monitor and collect pertinent data

Harvest expectations had little concern for impacts to wild Chinook encountered in this fishery. Managers assumed the vast majority of fish would be marked (adipose fin clipped and of hatchery origin) primarily due to the extreme terminal location of the beach seine. However, to validate the assumption, PSSU staff sampled at the buyer or near the landed catch to obtain the rate of marked fish and collect biological information. As expected, the marked rate was above 95% for all years, with



combined average of 97% mark rate for sampled Chinook. Table 2 shows the annual percentage of marked fish sampled, and the total number of fish sampled.

Bycatch for this fishery was modeled preseason and monitored in-season. Similar to the harvest expectations, there was little concern expressed regarding impacts to non-target species like coho, sockeye and pink. However, with summer chum occurring in the Hood Canal during the same period as the 12C beach seine WDFW, tribal co-managers expressed interest in appropriately sampling the fishery.

### Economic Analysis

Small scale fisheries such as this require a lower capital investment than larger scale methods such as purse seining. They also operate in a limited range and thus can take advantage of localized, surplus hatchery stocks while still fishing selectively. As a result, the Chinook Beach Seine Fishery has proven useful to both the managers as well as the fishermen who participate. Table 3 shows a breakdown of the annual catch and ex-vessel value to the fishermen. The efficiency and low impact of this fishery provide a moderate profit to the fishermen and give fisheries managers a tool to utilize hatchery production that otherwise might go unharvested, while maintaining the Department's ability to also access the state's share of these stocks.

### Land access issues

Over the course of the fishery there were several land use issues concerning the public use of privately owned beaches surrounding the Hoodspout Hatchery. While Tribal beach seiners have access to all public and private shores within their designated Usual and Accustomed fishing areas, non-Treaty fishers have limited access to the shoreline in this area to support fishing activities. WDFW recognized the property issue and attempted to find solutions with concerned property owners. Land access will need to be resolved in order to support the long-term viability of this fishery.

### Recommendations for Future Beach Seine Fisheries

The five year progression of this Chinook fishery has played an important role in understanding how small-scale, terminal area experimental fisheries can best be implemented. WDFW is continuously working to adaptively manage salmon harvest opportunities. Beach seines may offer a unique means of fishing in near-terminal areas where other gear types may not be suitable. The adaptability and flexibility of this fishing method make it an excellent management tool for small scale use during periods of low abundance, while still providing for the economic viability of the commercial sector. With the information we have gathered during this experimental fishery, WDFW feels confident in its ability to prosecute future beach seine fisheries.

WDFW is supportive of maintaining the Hoodspout Chinook beach seine fishery in its experimental fisheries status. While the Agency will continue to explore constituent interest in creating a separate beach seine license, any future beach seine fisheries are dependent on a harvestable surplus available to co-managers while ensuring the conservation and recovery goals of natural stocks throughout Puget Sound.





## Tables and Figures

Table 1: Yearly catch summaries by management week.

<i>Hoodspport Chinook Fishery</i>	<i>Mgt. Wk.</i>	<i>Catch</i>	<i>Landings</i>	<i>Permits</i>	<i>% wk</i>	<i>CPUE (Landings)</i>
<b>2016 (Mon, Wed)</b>	31	71	4	2	1%	17.8
Forecast: 42694	32	875	5	2	18%	175.0
TRS RR: 66162	33	2135	6	2	44%	355.8
Quota: 5000	34	934	5	2	19%	186.8
Catch: 4898	35	883	5	2	18%	176.6
	36	-	-	-	-	-
<b>2017 (Mon, Wed)</b>	31	58	8	4	1%	7.3
Forecast: 41247	32	355	8	4	5%	44.4
TRS RR: 105018	33	6542	19	4	94%	344.3
Quota: 7250	34	-	-	-	-	-
Catch: 6955	35	-	-	-	-	-
	36	-	-	-	-	-
<b>2018 (Mon, Wed)</b>	31	509	12	5	5%	42.4
Forecast: 57558	32	351	14	5	4%	25.1
TRS RR: 73257	33	4228	18	6	42%	234.9
Quota: 10000	34	2146	17	6	22%	126.2
Catch: 9978	35	1744	11	6	17%	158.5
	36	1000	4	4	10%	250.0
<b>2019 (Tue, Thu)</b>	31	641	12	4	9%	53.4
Forecast: 66877	32	1219	12	4	17%	101.6
TRS RR: 63524	33	2011	12	4	28%	167.6
Quota: 10000	34	1863	11	4	26%	169.4
Catch: 7303	35	991	13	5	14%	76.2
	36	578	8	4	8%	72.3
<b>2020 (Mon, Wed)</b>	31	223	12	5	3%	18.6
Forecast: 71927	32	1331	17	5	17%	78.3
* TRS RR: 23880	33	2154	18	5	27%	119.7
Quota: 10000	34	1584	15	5	20%	105.6
Catch: 8045	35	1866	14	5	23%	133.3
	36	887	8	5	11%	110.9

Table 2. Commercial monitoring and sampling data.

<i>Year</i>	<i>Observed sets</i>	<i>Chinook sampled</i>	<i>% Marked</i>	<i>% Jacks</i>	<i>Coho</i>	<i>Pink</i>	<i>Chum</i>
2016	111	4673	95%	24%	22	0	5
2017	31	2066	97%	29%	3	190	10
2018	42	5195	97%	21%	1	0	0
2019	21	4444	98%	16%	0	263	0
2020	31	3672	97%	26%	2	0	0
<b>Total</b>	<b>236</b>	<b>20050</b>	<b>97%</b>	<b>24%</b>	<b>28</b>	<b>453</b>	<b>15</b>

Table 3: Total and Ex-Vessel Value per year.

<i>Years</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>
Landings	20	24	64	50	68
Catch	4,898	6,955	9,978	7,303	8,045
Pounds	40,548	68,114	103,818	81,112	86,000
Total \$	\$121,473	\$222,100	\$301,475	\$211,872	\$233,089
Boats	2	4	6	6	5
Ex-Vessel \$	\$60,736.50	\$55,525.00	\$50,245.83	\$35,312.00	\$46,617.80



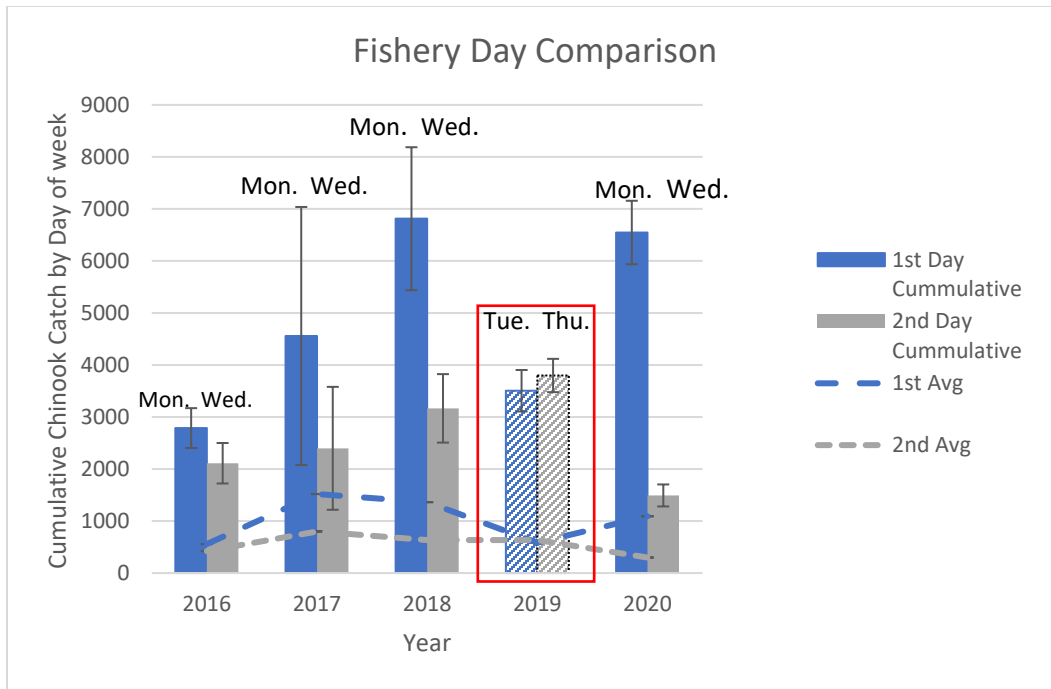


Figure 1. Daily fishery comparison.



Figure 2. Hoodspport Hatchery Zone



## Appendix A.

### Public Comments Received by Date: See Attached Document

WDFW solicited comments from the public comments on the draft of this report. The attached Appendix lists and transcribes the comments, received via email to fishery managers at WDFW.

