

SIXTH EDITION

# 2021 Washington Pink Shrimp Fishery Newsletter



Welcome to the latest WDFW Pink Shrimp Newsletter!

Inside you will find information about the 2020 commercial pink shrimp fishery season, historical trends and news about the upcoming 2021 season.

For additional fishery information go to: <http://wdfw.wa.gov/fishing/commercial/shrimp/>



## Another productive season in 2020

### 2020 Season

**13.5 M** pounds landed  
**\$6.9 M** ex-vessel value

#### Catch Areas

**35%** Destruction Island

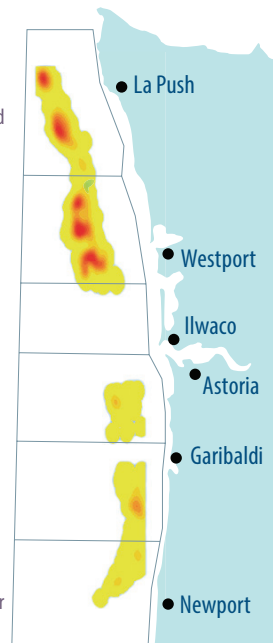
**47%** Grays Harbor

**0%** Columbia River

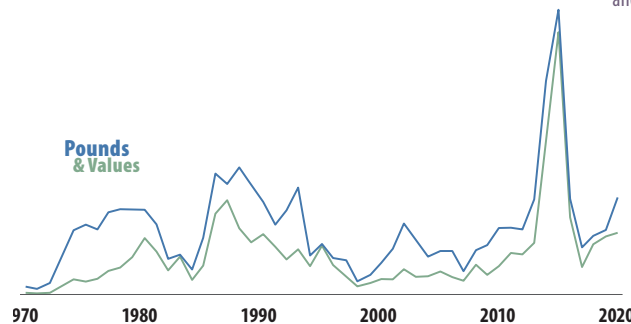
**<1%** Tillamook Head

**10%** Cape Lookout

**8%** Cape Foulweather and south



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**13th Highest** price per pound

**Improved** catch rate

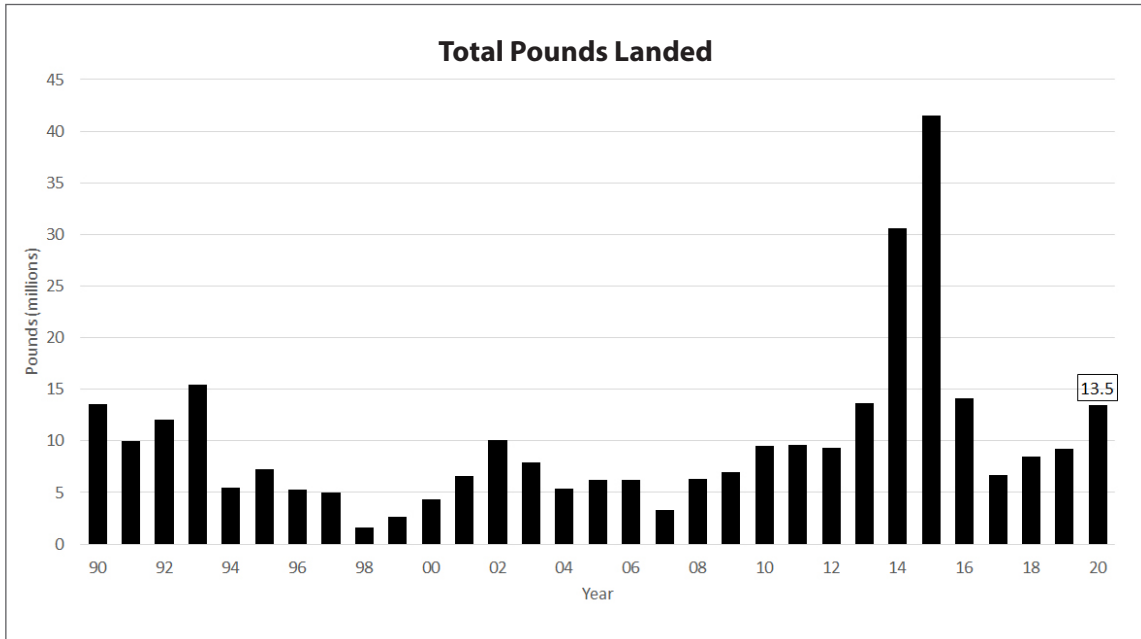
Washington Department of Fish and Wildlife  
Region 6 Shellfish Management Program  
48 Devonshire Road, Montesano, WA 98563  
Lorna Wargo | Zach Forster | Dan Ayres

#### New for 2021!

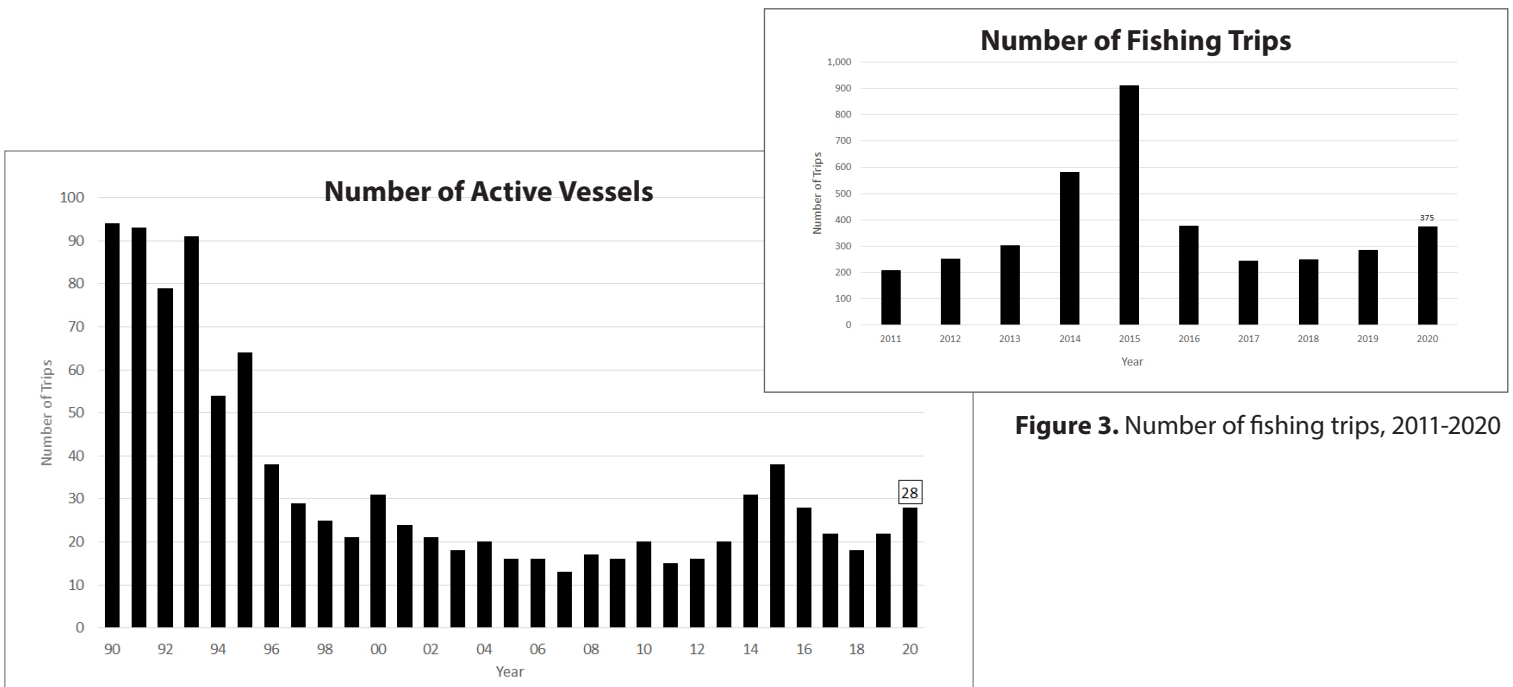
- Look for Gear and Season Start Survey
- New logbooks
- Alert – Avoid Scientific Moorings near DI

# 2020 Season Summary

The 2020 landings of pink shrimp into Washington ports were higher than in both 2018 and 2019 (Figure 1). Similarly, the number of vessels making landings increased as well, from 22 to 28 (Figure 2). Because the Washington Pink Shrimp Trawl fishery is under a limited entry program, any license that is not renewed annually year, sunsets (or goes away). From the inception of the limited entry program in 1996 the total number of licenses has declined from 129 to 77 in 2020. Most of the decline occurred by 2004, since then an additional 10 licenses have sunsetted. One measure of effort is the number of trips taken. The total made in 2020 was slightly above the average excluding the two high seasons of 2014 and 2015 (Figure 3).



**Figure 1.** Annual landings (millions of pounds) of pink shrimp into Washington, 1990-2020

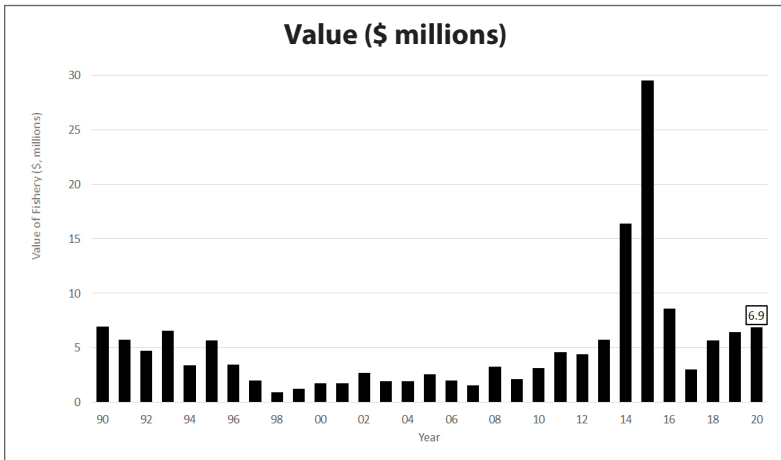


**Figure 3.** Number of fishing trips, 2011-2020

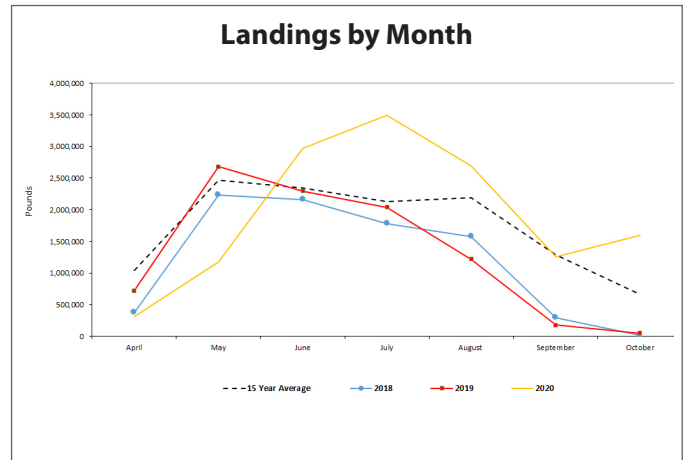
**Figure 2.** Number of vessels actively fishing, 1990-2020

Total 2020 fishery ex-vessel value (paid to the fisher at the time of landing) was \$6.9 million, an increase of \$500,000 from 2019 (Figure 4). Landings by month during 2020 were lower early in the season than in the previous two seasons and in the 15-year average (Figure 5). Like previous seasons (with the

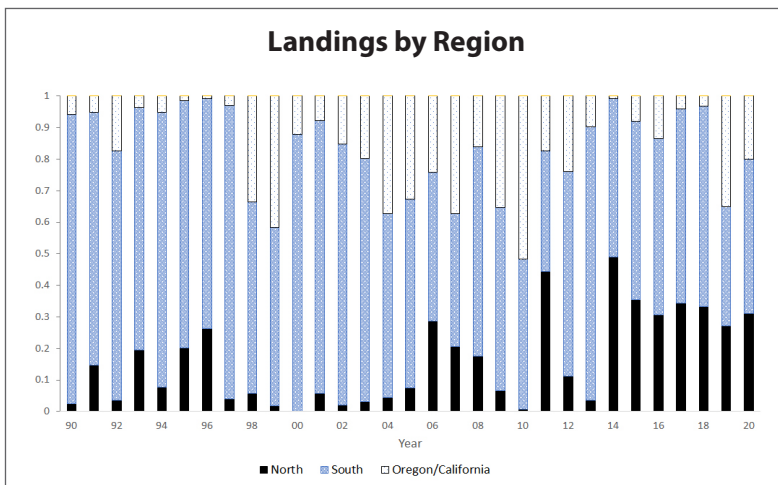
exception of 2019) a large portion of the shrimp landed into Washington in 2020 was also caught in waters off Washington (Figure 6). The average price per pound was the 13th highest on record (Figure 7).



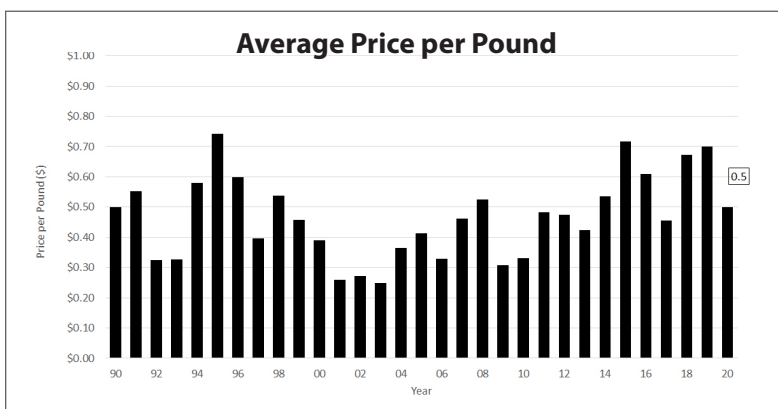
**Figure 4.** Ex-vessel value of Washington pink shrimp landings, 1990-2020.



**Figure 5.** Pink shrimp landings by month for 2017-2020, and the 15-year average.

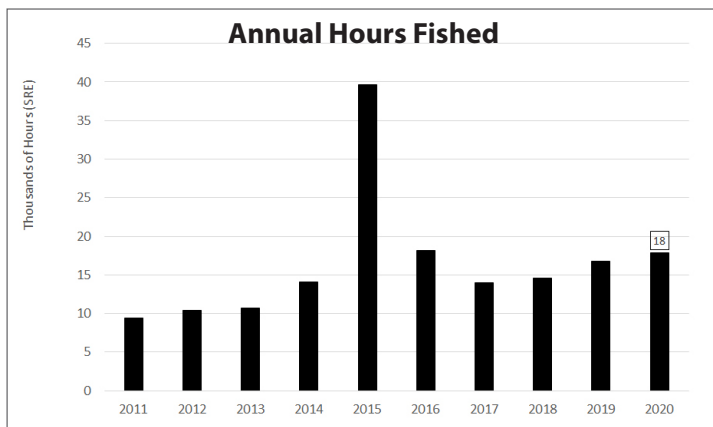


**Figure 6.** Shrimp fishery landings by region, 1990-2020

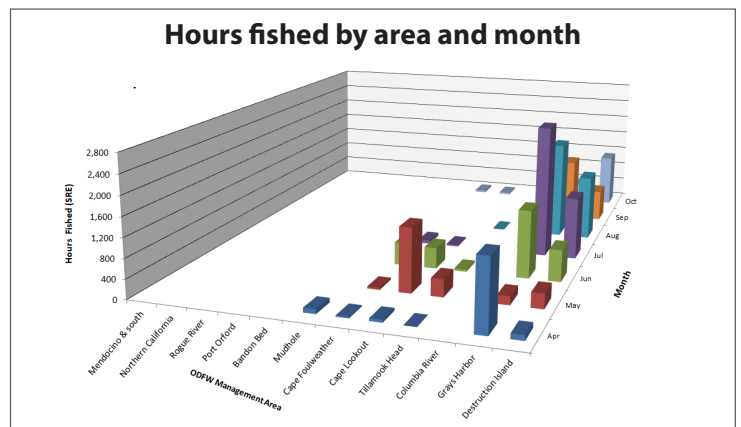


**Figure 7.** Average price per pound, 1990-2020.

# Fishery Research and Monitoring



**Figure 8.** Estimated total annual hours fished (1000s), 2011-2020.



**Figure 9.** Estimated total hours fished by management area and month for 2020.

## Effort

Effort is measured by the number of hours fished. In 2020, the number of hours fished increased about 7% from 2019 (Figure 8). Here, fishing hours are estimated as “single-rig equivalents” or SREs. In the past, most vessels towed only one net, i.e., single rig. Now, double rig vessels are most common but to maintain a consistent data set, fishing hours for “double-rig” vessels are multiplied by 1.6.

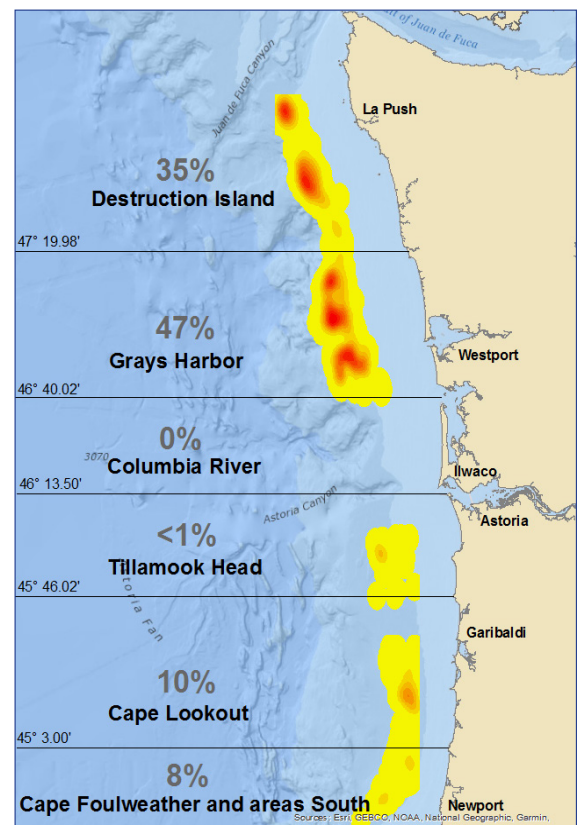
Overall, shrimpers shifted their fishing effort to the north and to later in the season in 2020 compared to 2019 (Figures 5 and 6). Except for a few vessels that ventured south to fish off Oregon in the spring, shrimping in 2020 centered on the Washington mid-coast (Figure 9). Just over half of the season was spent fishing the “Grays Harbor” area. Effort peaked in July, and unlike the past few years when fishing largely ceased in September, fishing continued through the fall months, particularly in the “Destruction Island” area, up to the season closure on October 31.

## Catch Distribution

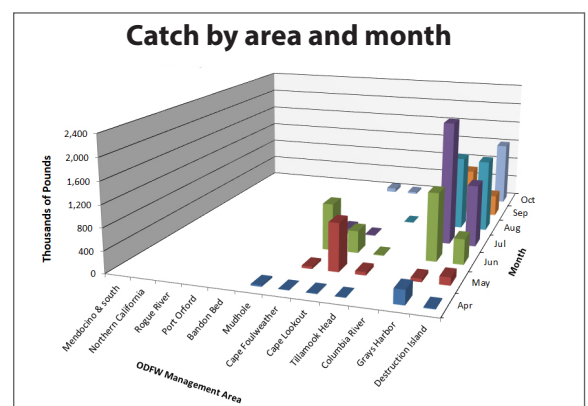
The heat map (Figure 10) shows where the shrimp landed in Washington were caught; the deeper or darker the color the more catch that came from that location. In 2019 over a third over the shrimp landed in Washington were harvested off Oregon, reversing a near decade long period where most landings originated in Washington waters. In 2020 the trend continued, but the volume of landings from Oregon dropped significantly, comprising a little over 18% of the total annual landings.

Figure 11 also shows by month where shrimp landed into Washington were caught in 2020 by management area, including all of Oregon and areas of northern California.

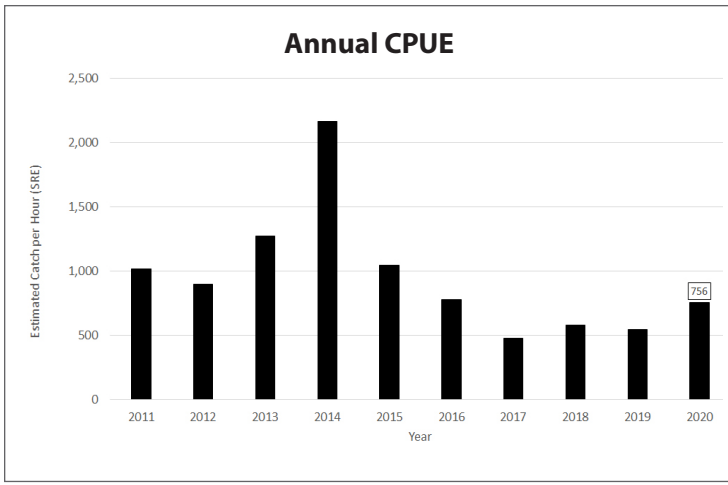
Over the season the volume of landings tended to increase from spring into fall and from south to north. Most of the year’s shrimp were caught in July and August in the Grays Harbor and Destruction Island areas. As noted above, fishing extended to the very end of the season closure on October 31 with the majority of shrimp caught in the Destruction Island area.



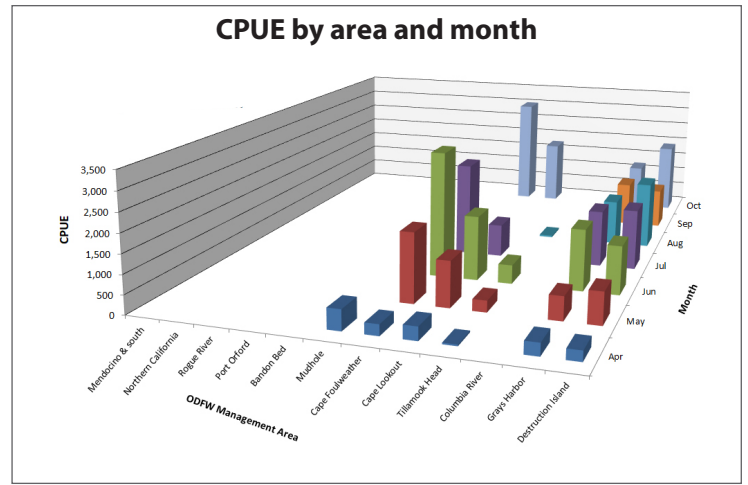
**Figure 10.** The percentage of 2020 catch by area.



**Figure 11.** Estimated pink shrimp pounds landed into Washington by area and month, 2020



**Figure 12.** Estimated pounds of catch per SRE hour, 2011-2020.



**Figure 13.** Estimated pounds of shrimp caught per hour (SRE) by area and month, 2020

## Catch Rates

Fishing efficiency or catch per unit of effort (CPUE) was 756 pounds per hour (a single rig equivalents) for the 2020 season (Figure 12). This represents a 38% increase from 2019 CPUE and reflects the greater shrimp abundance in 2020. Overall, CPUE was highest in the late spring and through mid-summer off Oregon, and lower but more consistent through the season off Washington (Figure 13). The seasonal decline is typical as the shrimp stock is fished down.

## Biological Sampling

Our sampling program aims to collect count per pound, length, and sex data. Due to a limited number of staff, samples are collected only at Westport. The vast majority of the Washington landings occur here and we assume the landings there are generally representative of the fishery and catch landed at other Washington ports. However, we do monitor the fishery for significant changes in landing patterns and will adjust our sampling as needed.

Samples are collected monthly from catch that originated offshore Washington and Oregon. In addition to samples we collect ourselves, we receive biological data from ODFW that their biologists have collected from vessels that fished off Washington and offloaded at Oregon ports. The 2020 data set includes 3,500 shrimp sampled by WDFW technicians and another 5,200 shrimp sampled by Oregon staff, primarily at Astoria.

### Count per Pound

Shrimp size in the fishery is managed by count per pound. The legal maximum is 160 shrimp per pound.

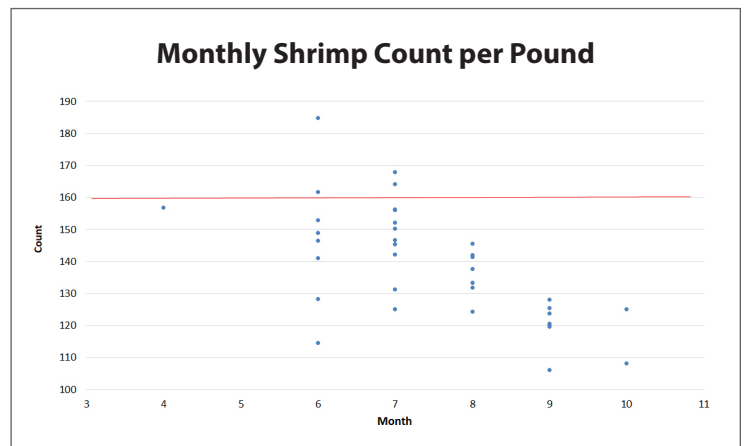
Shrimp count per pound in 2020 (Figure 14):

- Season average (from WA and OR): 137
- Only 4 samples in 2020 exceeded the 160 count

## Annual estimate of shrimp caught off Washington and landed in Oregon.

Not all the shrimp caught off Washington are landed here. If they hold the appropriate state license, shrimpers can land in either Washington or Oregon.

Year	Millions of Pounds
2020	6.7
2019	5.1
2018	5.0
2017	2.8
2016	11.0



**Figure 14.** Average count per pound from WDFW samples, 2020. Each point represents a sample of 100 shrimp.

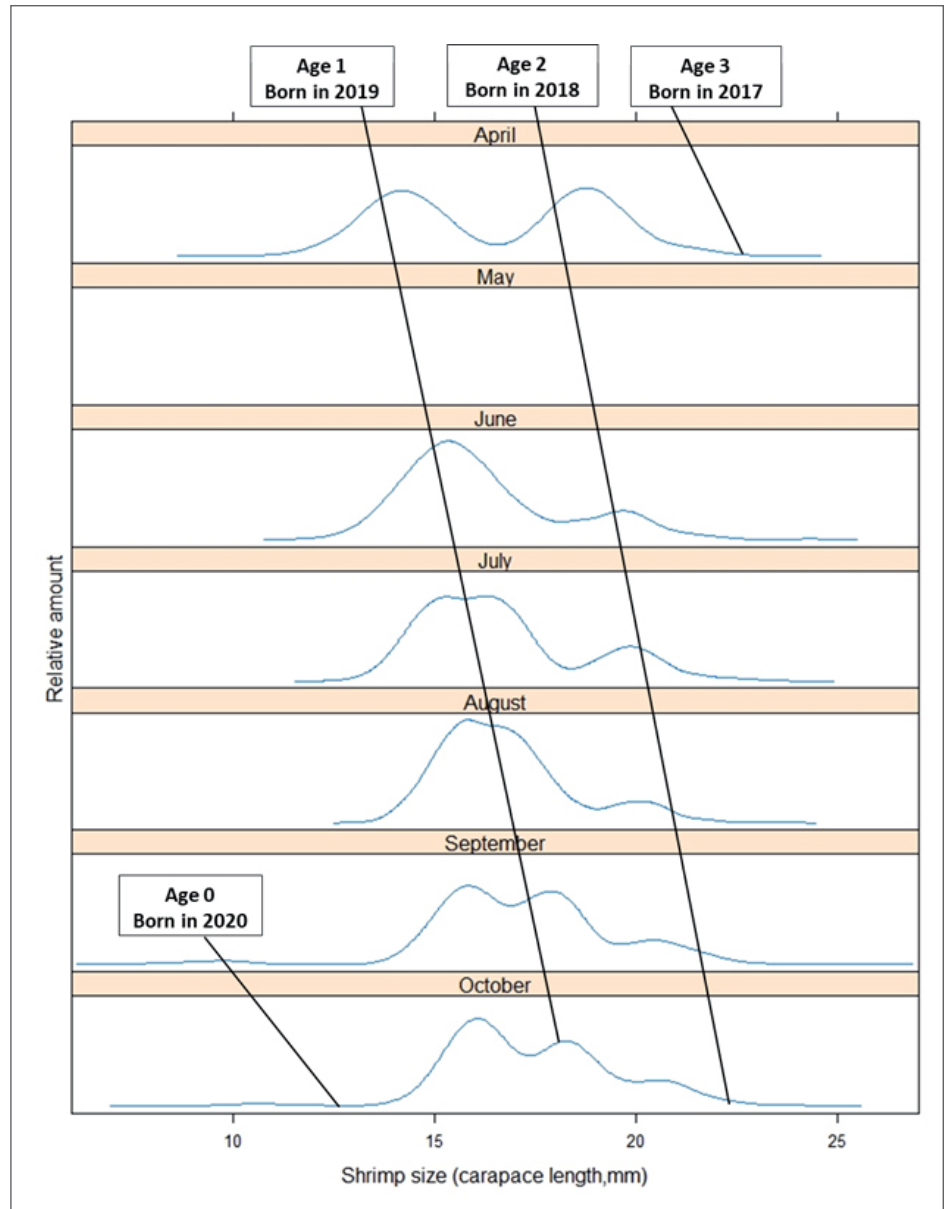
## Shrimp Age Classes

Shrimp lack physical “age” structures or body parts like otoliths (ear-bones) or scales that are typically used to age fish. Instead, the carapace length is measured (see photo). Because shrimp eggs are released at the same general time, shrimp of similar size are assumed to be the same age. By grouping carapace lengths and plotting these data, we can visually characterize the age classes present in the fishery.

In Figure 15 each month of the season is shown in a separate panel, April through October. Note, due to complications associated with the COVID-19 pandemic, no data were collected in May 2020. The blue line in each panel represents the relative amount that each age contributed to the catch for that month.

In 2020, we see four age classes of shrimp represented in the fishery. The oldest shrimp, age 3, were born in 2017 and the youngest, age 0, were born in 2020. Early in the spring the catch was comprised fairly evenly of age 1 and age 2 shrimp; otherwise, age 1 shrimp were dominant throughout the season. Although both the 2018- and 2019-year classes experienced similar “so-so” conditions as larvae, the actual abundance of age 1 shrimp was better than expected whereas the abundance age 2 was fair and consistent with expectations.

The length data can help us see an interesting aspect of shrimp life history.



**Figure 15.** Size distribution of pink shrimp, April- October 2020.

The bifurcation of the length distribution of the age 1 shrimp that begins in September and continues in October indicates the presence of primary females. Recall that pink shrimp are protandrous hermaphrodites – they begin life as males and transition to female. Typically, the transition to female occurs between the first and second year. Various factors can alter this pattern. When the population is dominated by age 1 shrimp, as it was in 2020, some shrimp will mature directly as females and these are known as “primary females.” These primary females must grow more quickly – hence the separation in the size distribution – heading into the fall and winter months because once they produce eggs their growth ceases until the eggs are released the following spring. The mechanism for this natural phenomena, that is, how some shrimp “know” to transition to female their first year to breed is not understood, but it functions to provide stability in the population sex ratio and thereby recruitment potential.<sup>1</sup>

# At-sea Fishery Observation and Bycatch

Two decades of research, gear innovation, and regulatory actions have reduced bycatch in the Washington pink shrimp fishery, a priority for nearly 20 years. Driven initially by rockfish and eulachon conservation concerns, over a decade of onboard monitoring data also helps us understand the fishery's interactions with other living marine organisms. Species of particular concern include eulachon (*Thaleichthys pacificus*) which are federally listed as a threatened species, Yelloweye rockfish (*Sebastes ruberrimus*) which are under a federal rebuilding plan, and chinook and coho salmon.

The West Coast Groundfish Observer Program (WCGOP) has been deploying federal observers on Washington licensed shrimp vessels since 2010 to document bycatch. Coverage of the fishery is measured as the proportion of total observed shrimp pounds to total shrimp pounds landed and has averaged 14% since 2011 (Figure 16). The number of vessels, trips, and tows observed each year from 2011 to 2019 are shown in Figure 17, and Tables 1 and 2 include published bycatch data for marine fish and shellfish species.<sup>2,3</sup>

Altogether, observers have documented nearly 180 bycatch species or species groups. The top 20 species by cumulative weight from 2011 to 2019 are presented in Table 1. By this measure, eulachon ranked second as the dominant bycatch species and Pacific hake was third. Rounding out the top ten are soles, salps (a pelagic tunicate), smelt species, Pacific herring, and eelpouts. Table 2 lists another 28 species/groups frequently caught but in low volume, including additional species of rockfish, spiny dogfish shark, and northern anchovy. The total combined weight of these for the 2011-2019 period was 56 mt. Otherwise, the remaining approximately 130 species/groups that have been recorded are infrequently caught, i.e. one or two instances, and in low volumes. Included among these are species of particular management interest. In 2015, five (5) pounds of coho and four (4) pounds of chum salmon

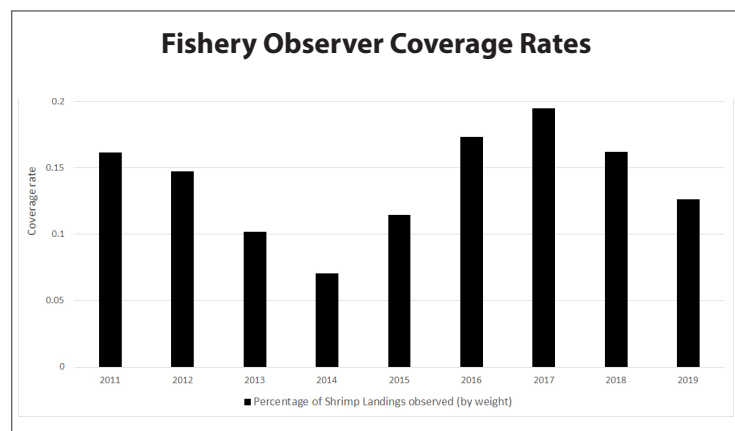
were documented in two (2) out of 9,745\* hauls where at least part of the tow was off Washington.<sup>4</sup> No chinook salmon have been observed. Yelloweye rockfish were observed in 2012 (1.3 pounds) and in 2019 (less than one pound).

Evaluating bycatch data must be done carefully. Significant gear changes during years the fishery has been observed mean there is no clear “before” or “after” point in time over which to compare bycatch in the fishery. When observation of Washington licensed vessels began, bycatch reduction devices or excluders were mandatory and the most popular bar spacing on the excluder panels was about 1 ½ in. although rules allowed up to a 2 in. spacing. Regulations reduced the bar spacing to ¾” in 2012 based on research that narrower bar spacing improved exclusion of eulachon. When new research in 2014 demonstrated further reductions in eulachon bycatch could be achieved when footropes were outfitted with LED lights voluntary usage quickly became widespread. Rules requiring their use went into effect in 2018.

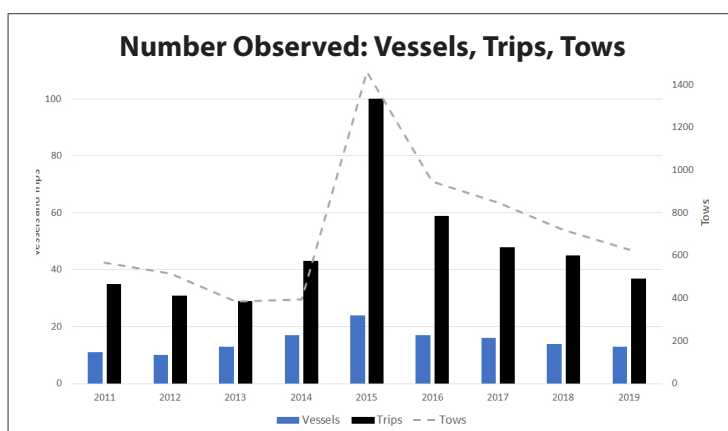
Stock dynamics must also be considered. For example, a study looking at the distribution (in space and time) of eulachon and shrimp compared fishery data and NOAA research bottom trawl survey data and found that increases in eulachon bycatch in 2012 could be attributed to increases in eulachon abundance.<sup>5</sup> Similarly, the eulachon bycatch of 139 mt in 2019 compared to 32 mt in 2018 is attributed to trends in higher abundance of eulachon (R. Gustafson, personal communication, January 12, 2021).

Federal observers also collect data on marine mammal bycatch. To date (through 2016), no marine mammal bycatch has been documented in the Washington shrimp fishery.<sup>6</sup>

Note, due to the availability of final observer data or reports the information here lags behind the fishery year.



**Figure 16.** Federal observer coverage rate of Washington vessels, in terms of pounds of shrimp caught.<sup>3</sup>



**Figure 17.** The number of Washington pink shrimp vessels, trip and tow observed since 2011.<sup>3</sup>

**Table 1.** The top 20 bycatch species ranked by total cumulative metric tons for the 2011-2019 period.

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Shrimp Unidentified	17.03	355.88	112.40	363.26	184.92	179.81	14.38	74.73	18.52
<b>Eulachon</b>	<b>5.68</b>	<b>156.69</b>	<b>202.83</b>	<b>142.76</b>	<b>217.94</b>	<b>31.78</b>	<b>11.50</b>	<b>32.32</b>	<b>139.41</b>
Pacific Hake	21.15	0.15	0.03	0.01	399.85	170.92	157.38	36.58	2.70
Slender Sole	24.27	20.25	21.06	30.07	40.10	13.73	6.31	7.54	18.73
Salp Unid				0.01	0.02	0.29	29.42	30.68	0.00
Non-Eulachon Smelt Unidentified	0.32	0.86	1.21	42.54	12.14	0.03	0.85	0.04	0.02
Rex Sole	7.75	4.03	4.42	3.98	11.55	3.86	7.50	6.78	6.83
Whitebait Smelt	2.33	2.49	3.28	44.52	1.42	0.01			
Pacific Herring	1.33	0.25	0.21	8.35	13.90	2.98	1.42	0.95	0.91
Eelpout Unidentified	1.97	2.00	5.01	4.93	2.46	4.31	1.42	3.30	3.41
Non-Humboldt Squid Unidentified			1.95	8.15	8.75	0.65	0.42	0.16	1.30
Darkblotched Rockfish	1.40	1.59	0.44	6.40	1.99	2.90	3.63	1.20	0.71
Arrowtooth Flounder	2.08	2.50	1.04	1.45	2.96	0.25	0.27	0.16	0.25
Pacific Sanddab	0.15	0.10	0.01	2.98	5.36	0.55	0.19	1.05	0.31
Jellyfish Unidentified	0.03	0.09	0.25	0.60	8.71	0.28	0.10	0.03	0.33
Flathead Sole	0.20	1.76	0.52	0.20	4.63	0.68	0.33	0.09	0.05
Pacific Ocean Perch	0.14	0.05	0.07	6.57	0.08	0.02	0.19	0.04	0.06
Shortbelly Rockfish	0.00			0.31	0.18	0.24	5.05	0.97	0.31
Smelt Unidentified	0.65	2.80	0.27	3.26		0.05			
Dover Sole	0.95	0.46	0.22	0.47	1.40	0.57	0.39	0.39	1.05

**Table 2.** List of 28 documented bycatch species or groups in rank order by total weight for the years 2011-2019. During this period, species in the first column had at least one year in which documented total bycatch exceeded 1 mt. Species in the second and third columns had documented total bycatch of between 0.5 and 1 mt in at least one year. In total, the combined weight for species listed here was 56 mt.

Shelf Rockfish Unid	Hagfish Unid	Squid Unid
Invertebrate Unid	Greenstriped Rockfish	Canary Rockfish
Petrale Sole	Longnose Skate	Rock Sole
Spiny Dogfish Shark	Sea Cucumber Unid	Bobtail Squid
Splitnose Rockfish	Flatfish Unid	Sea Star Unid
Herring Unid	Poacher Unid	American Shad
Yellowtail Rockfish	Lingcod	Spotted Ratfish
Irregular Echinoid	Octopus Unid	Urchin Unid
Northern Anchovy	Walleye Pollock	Surfperch

\* The total number of hauls is from any vessel that participated in the 2015 shrimp fishery and completed at least a partial tow in Washington, not just vessels licensed in Washington that were observed. Hence this value is greater than the number of observed tows depicted in Figure 17.



# Eulachon Action Limit - BC Shrimp Fishery Management

Sometimes it's useful to learn how other fisheries respond to resource challenges, to compare approaches. Typically, we are looking south, so we thought it would be interesting to look to our neighbors in the north, specifically to the West Coast Vancouver Island trawl fishery. This shrimp fishery operates June 1 through March 31 in most areas; however, biomass surveys and limit references points are also used to determine if an area can open for fishing.<sup>7</sup>

As it has been for the U.S. west coast, the bycatch of eulachon has been a significant conservation concern throughout British Columbia's shrimp fisheries. Most approaches to reduce bycatch will be familiar to US shrimpers (see list below). One notable measure used to manage the West Coast Vancouver Island (WCVI) pink shrimp fishery is a catch limit specific to eulachon. There the Department of Fisheries and Oceans caps the amount of eulachon bycatch through an "action level" set at 4 mt. This eulachon action limit (EAL) is divided by catch areas. When an action level is reached the fishery closes in that area for the remainder of the season. For their 2020/2021 season they piloted an individual vessel eulachon quota of 250 pounds



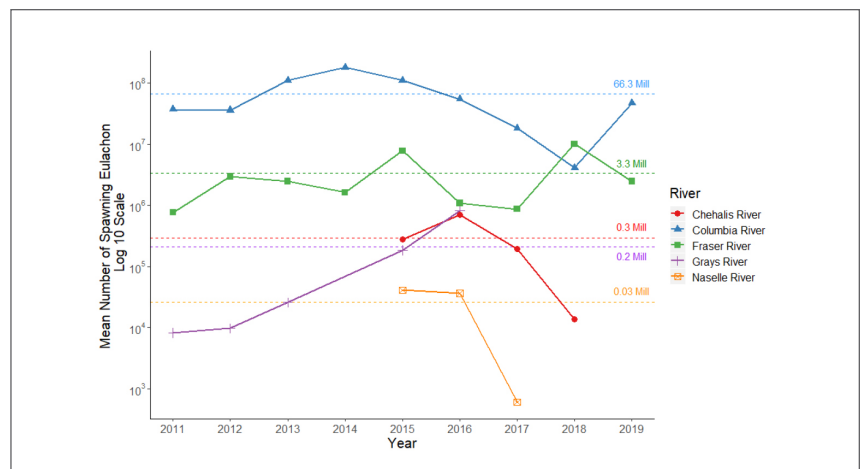
in two catch areas. Vessels were subject to 100% observer coverage when fishing in these areas.

- Mandatory excluders since 2000
- More recently 19 mm (0.74 in.) grid spacing for select areas was instituted, for all other areas maximum bar spacing remains 37.75 mm (1.48 in.)
- LED lights were approved for use in 2019
- An at sea observer program
- Eulachon catch cap of 4 mt for the WCVI area pink shrimp trawl fishery

## Eulachon Management and Research

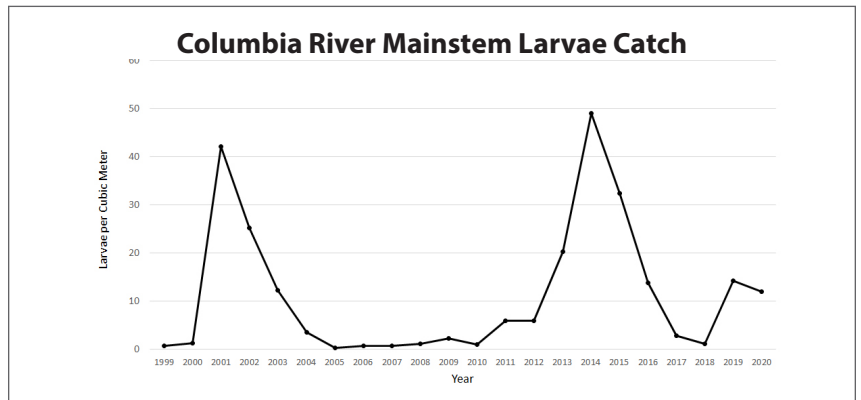
While WDFW shrimp managers strive to reduce bycatch and thereby improve the fishery's sustainability, our colleagues in the Columbia River Management Unit based at the WDFW Southwest Region office in Ridgefield lead Eulachon management and research. Columbia River Unit Program managers provided the following to highlight WDFW accomplishments in 2020 to better understand Eulachon population abundance and dynamics:

- Continued annual spawning stock biomass estimation for the mainstem Columbia River Eulachon population (upstream from the estuary).
- Compared the patterns of SSB estimations for the Columbia River Eulachon populations with those from other populations, such as the Fraser River (Figure 18).



**Figure 18.** The estimated number of Eulachon spawning in the Columbia, Fraser, Chehalis, Naselle, and Grays rivers in 2010–2019. Estimates for 2020 were not finalized at the time of this publication, or not available (Columbia River sampling was truncated as a result of the COVID-19 pandemic shutdown).

- WDFW participated in establishing the Eulachon Recovery and Implementation Framework will participate in the Eulachon Technical Recovery and Implementation Team (ETRIT).
- 2021 Oregon Department of Fish & Wildlife (ODFW) and Washington Department of Fish & Wildlife (WDFW) joint staff report concerning stock status and fishery.



**Figure 19.** Eulachon larval sampling densities in the lower Columbia River, 1999–2020.

## 2020 Accomplishments

### Sampling under COVID-19

In March, due to concerns over the spread of COVID-19, WDFW suspended all non-essential field work and restricted access to agency offices and facilities. In May, with agency guidelines and safety protocols in place, field staff were able to resume dockside sampling. Agency staff and industry worked together, following CDC safety guidelines, to successfully sample the fishery for the remainder of the season.

Continued office closures and limited access to lab space present a challenge for staff to complete sample processing and data entry. During the 2020 season staff did an excellent job working together to find creative solutions to process biological samples and enter logbook data. We would like to extend our gratitude to those field staff, enforcement officers and industry members for helping to ensure everyone’s safety while striving to meet sampling goals.



### 2020 Enforcement Report

During the 2020 season, WDFW Region Six Police Region Six Coastal Detachment reported the following coverage specific to the pink shrimp fishery:

- Number of Contacts: 68
- Violations: No deckhand/captain licenses (x8), undersize shrimp (x3)
- Hours of Patrol: 56

**Note:** Enforcement contacts and patrol hours nearly doubled from 2019 despite the challenges presented by COVID-19.



## Timely Submission Of Logbooks

Logbook compliance improved in 2020 with 90% of the trips having a completed logbook, which is an increase of 8% from 2019 (Figure 20). Recall, the goal is to have a completed logbook for 95% of the shrimp trips. Please do your part and continue to submit logbooks regularly through the **entire** season.

The drop box located at WA crab is a convenient way to submit logbooks, we are hoping that as awareness increases it will become a habit to use each trip. Logbooks can also be mailed and or handed to the WDFW shellfish technician. Logbooks are legally due by the 10th of the month following any month you've actively fished, and on our end, turning your logbook in on time helps us to process and enter the data as it comes in.

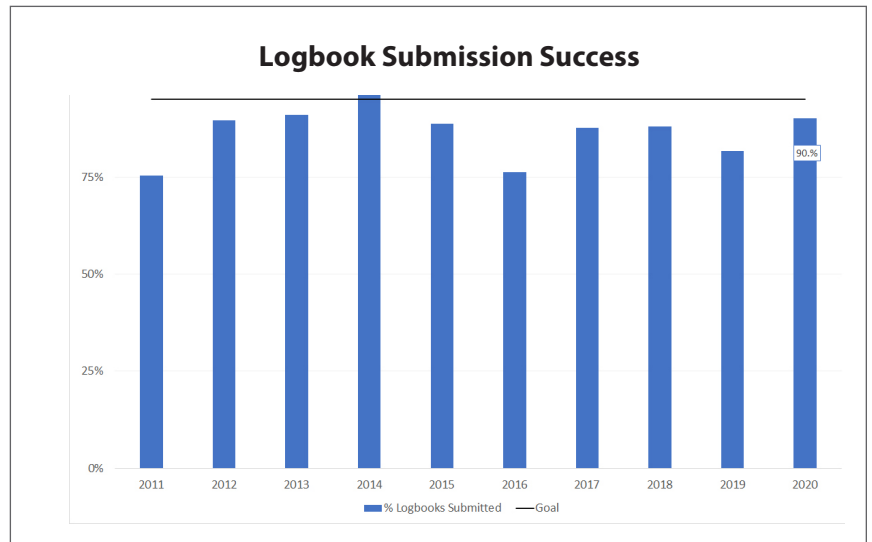


Figure 20. The percentage of trips each year with a submitted logbook

## Marine Steward Ship Council Certification

The current MSC certification is valid through 2023 at which time the fishery will need to be re-evaluated. During the intervening years, independent reviewers conduct annual audits to monitor fishery performance.

The fishery maintained its certification 2020 as noted by the assessment team and MRAG Americas "...the fishery remains consistent with all aspects of the MSC standard. No changes to scores or addition of conditions is required. This continues to be a highly performing fishery and excellent example of state-level and coordinated management."<sup>8</sup>

General information about the MSC program can be found at: <https://www.msc.org/>

Notices, assessment and audit reports specific to the Oregon-Washington ocean pink shrimp fishery can be found at: <https://fisheries.msc.org/en/fisheries/oregon-and-washington-pink-shrimp/@@view>



### Reminder:

Logbooks are due by the **10th** day of the month following any shrimp fishing activity

## Logbook Drop Box

With cooperation of Washington Crab Producers, WDFW installed a secure logbook drop box in Westport. You will find this in the Washington Crab weigh shack or buying station on the Dock Street dock, in Westport.

Feel free to use this location to drop off your logbooks at the time of landing. Only our staff will have access to the contents of the box, and they will regularly collect logbooks from this location. It is our hope that this convenience will make it easier for you and provide us logbooks in a timely fashion. Of course, you are still welcome to mail your logbooks to us, drop them off at our Montesano Office or hand them to a WDFW shrimp technician at port.

**Our office location and mailing address are:**

**WDFW, Region Six Office  
48 Devonshire Road  
Montesano, WA 989563**


# Priority Actions

## New Logbooks in 2021!

Please make an effort to obtain a new 2021 logbook before fishing. Contact Travis Haring -WDFW or Jill Smith – ODFW to receive your new log book. Logbooks may also be available at your processing facility. When filling out your logbook please:

- **Total Catch** – In the first column write your estimate for the total catch of pink shrimp for each tow. In the second column write your estimate for fish bycatch. Record zero only if there is absolutely no catch.
- **Haul Dumped** – If you dumped a tow, or a portion of the tow, record estimated pounds dumped. If no shrimp were dumped write 'N'.
- Record **NUMBER OF LIGHTS** on the page header i.e., how many lights you are currently using on your rig?
- **TIME** is recorded on a 24-hour clock, commonly known as military time.
- Record the first tow of each day under the **TOW#** column as 1, the second tow of the day as # 2, etc.... Please do not run TOW# numbers consecutively through the entire trip.

WDFW Pink Shrimp Trawl Log 45001



Vessel: \_\_\_\_\_ Landing Date: \_\_\_\_\_ Rig Type: Single / Doubt

USCG #: \_\_\_\_\_ Landing Port: \_\_\_\_\_ **Number of Lights** \_\_\_\_\_

Skipper: \_\_\_\_\_ Fish Ticket #: \_\_\_\_\_ Page \_\_\_\_\_ of \_\_\_\_\_

DATE	TOW #	DEPTH (ftm)	TIME (24 HR)	LATITUDE		LONGITUDE		TOTAL CATCH			DUMPED TOW (Y/N) If yes - est. (lbs)	NOTES Fish bycatch species, reason for dumping, other	Optional Use Running Total
				Degrees	Minutes	Degrees	Minutes	Est. Weight Shrimp Retained (lbs)	Est. Weight Fish Discarded (lbs)				
	SET												
	UP												
	SET												
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**Figure 20.** The new logbook page with changes highlighted in red and sections to review in yellow.

## 2021 Survey – Excluder Lights, Ground Gear and Season Start Date

We are interested in documenting fish excluding efforts in the Washington pink shrimp fishery and would like your help to quantify the use of LED lights as part of fish excluder systems. In addition, we would like to know what type of ground gear the Washington fleet is using. We will see how this compares with past gear use. This information helps us better understand fishery efficiencies.

Lastly, we would like to receive input on modifying the season start date. You are likely familiar with the concern raised by some Oregon shrimpers about the impacts of early-season fishing. The Oregon Department of Fish and Wildlife surveyed Oregon license holders (138) in 2020. Since many shrimp fishery participants hold licenses in both states, many of you may have received the questionnaire. With a 51% response

rate, a majority (59%) favored a later start. Of three choices, May 1 was first, followed by April 15, and then by May 15.<sup>9</sup> The purpose for our survey is to similarly gather feedback from Washington license holders. While we have had conversations with various individual Washington shrimpers, we really need to hear from everyone to best understand your perspectives.

We will treat your responses as confidential and only share results in a summarized format with individual vessels not identified. Our intent is to tabulate the results and present them at a public meeting (webinar) in October 2021.

Surveys will be sent in the mail, once you have completed the survey please submit them by the designated deadline. Thanks!

# Shrimping Prospects for 2021

We look to two models developed by ODFW and the relative strength of the year classes in 2020 to forecast shrimp production for the coming season. Recall last year the models predicted average landings for 2020, with catch ranging from 25 to 29 million pounds (for Oregon landings only). Instead Oregon landings were about 43 million pounds, in large part, because the 2019-year class – the age 1 shrimp last year – was stronger than expected.<sup>9</sup>

As we roll forward a year, the models suggest Oregon landings will be up at around 33 to 38 million pounds. If the

models are correct, landings for 2021 will be less than 2020. However, the environmental conditions for shrimp larvae last year were excellent and that means we should see good numbers of age 1 shrimp in the coming season. Likewise, the better than expected performance of the 2019 cohort should translate to a good showing of age 2 shrimp, that while less numerous will be larger. Age 3 shrimp will round out the catch but as a cohort their numbers were not strong and few shrimp live to their third year due to natural and fishery mortality.

A model developed by ODFW comparing many years of shrimp population data and environmental data demonstrates a relationship between ocean conditions and shrimp recruitment to the fishery. Sea-level height measured at Crescent City, CA has proven to be a useful indicator with lower sea-level heights associated with better shrimp recruitment in Oregon. How well these models apply to shrimp recruitment off Washington is uncertain.

## Management

### Alert - New Scientific Moorings near Kalaloch

The Quileute Tribe in collaboration with University of Washington, Applied Physics Laboratory plan to deploy two moorings, QL 40 and QL65, at depths of 40m and 65m, respectively to record hypoxia and currents.

- Mooring locations, near Kalaloch Beach: 47.733°N 124.6450°W
- 47.7167°N 124.7333°W
- Deployment is scheduled for May 2021.
- Moorings will remain in the water through the fall, then be redeployed in 2022.
- Real time mooring data can be found at <http://www.nanoos.org> under NVS tab.



## Collaboration

The ODFW and WDFW pink shrimp teams continue to benefit from a long-standing collaboration, and coordination of management activities, including:

- Coordinate logbook collection and distribution;
- Enforcement activities;
- Cross training to ensure consistent sampling strategies and techniques;
- Data sharing to support coast-wide modelling of the shrimp resource; and,
- Exploring funding sources and resources that benefit management and the industry.

## Electronic Fish Tickets “E-tix”

This was the second-year shrimp dealers had the option to submit fish tickets electronically to WDFW through the Pacific States Marine Fisheries Commission’s E-Tix Portal through a voluntary agreement. In 2020 shrimp dealers submitted 100% of shrimp fish tickets electronically.

Given the wide-spread implementation, the Department is proposing rules to require the use of Etix for the coastal pink shrimp fishery effective for the 2022 fishery season. The rule proposal package includes the coastal Dungeness crab fishery as well.

As this newsletter goes to press, the timeline for the rule action is tentative but likely the first opportunity for public comment will be in June. Dealers will receive notification with comment instructions and deadlines.

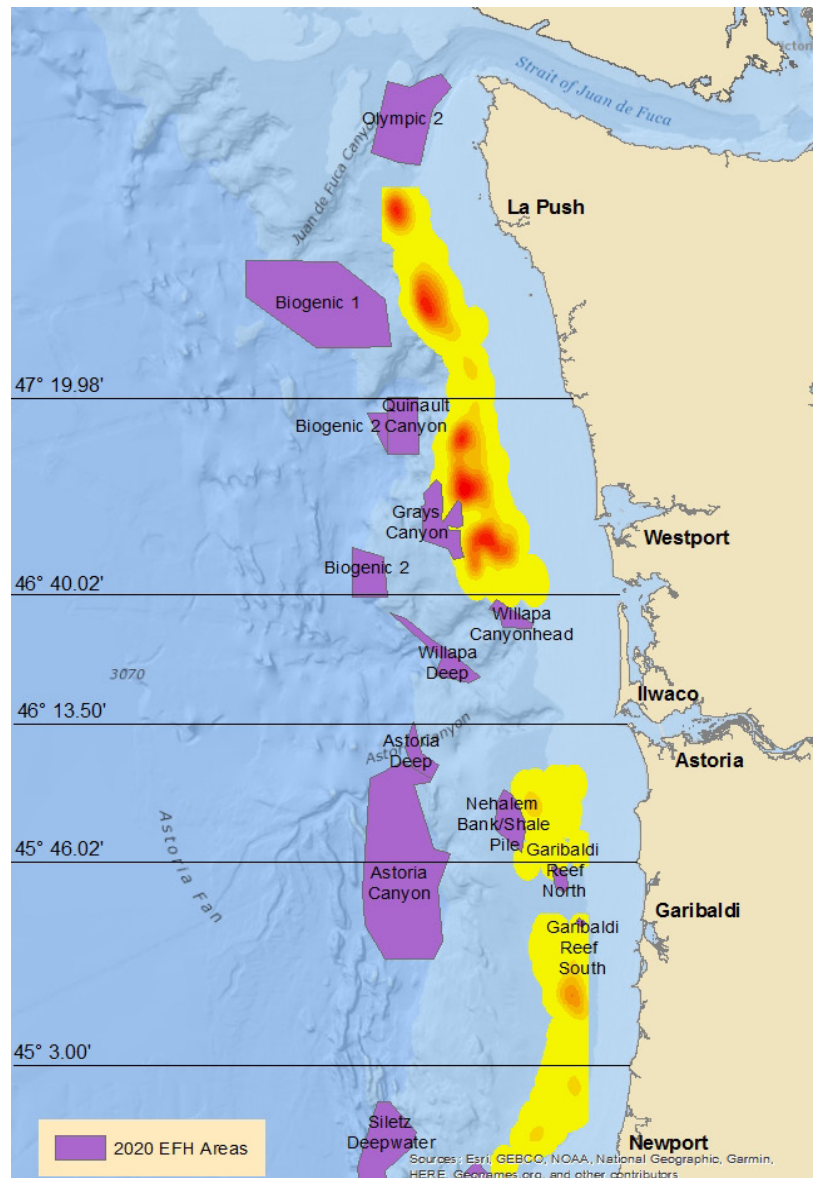
## Fishing Regulations

### Essential Fish Habitat

Essential fish habitat (EFH) conservation areas are intended to protect the waters and substrate necessary for fish to spawn, breed, feed or grow to maturity.

As a reminder, NOAA Fisheries announced new rules for Essential Fish Habitat Conservation Areas (EFHCAs) in January 2020 that changed where bottom trawling is prohibited. This prohibition applies to pink shrimp trawling. The longitude and latitude coordinates are available digitally for downloading to your vessel plotters. Go to: <https://www.fisheries.noaa.gov/action/amendment-28-pacific-coast-groundfish-fishery-management-plan>

We mapped 2020 Washington pink shrimp logbook data and the revised/new EFH areas (Figure 21). For confidentiality purposes individual tow data cannot be depicted here, but in developing the map we examined data at the vessel level and found compliance to be excellent.



**Figure 22.** Washington shrimp trawling (depicted in yellow to red) and EFH (depicted in purple), 2020.

## Coordination with Oregon and California

While most regulations are similar, when fishing offshore another state shrimpers are reminded to confirm that their operations conform to that state's regulations. For example, Oregon law does not authorize the landing of frozen shrimp, whereas this activity is permissible via permit in Washington. Also, Oregon licensed shrimpers can trawl in that state's territorial waters; conversely, Washington does not allow any trawling in its coastal territorial waters (0-3 miles).

Fishing lights are required in all three states.

Shrimp trawl logbooks are required by both WDFW and ODFW, and each agency will accept the other state's logbook.

## Freezing at Sea

As mentioned above, Washington regulations do not explicitly prohibit freezing catch at sea. However, to address fishery specific needs, the pink shrimp trawl fishery permit now has provisions to support monitoring and sampling of frozen landed catch. The permit requires those who intend to process shrimp at sea off Washington by freezing their catch to:

- notify the WDFW their intent to do so;
- notify WDFW personnel 24 hours in advance of landing; and,
- provide (upon request) WDFW a sample of 25 pounds of whole shrimp processed at sea by freezing and a sample of 25 pounds of fresh shrimp from the same trip.

## Vessel Monitoring System (VMS)

The National Marine Fisheries Service requires any vessel using non-groundfish trawl gear in federal waters to have VMS installed. Declaration reports are also mandated prior to fishing. Specific compliance information can be found at the NMFS Vessel Monitoring System website at: <http://www.westcoast.fisheries.noaa.gov/fisheries/management/vms.html> or contact the NMFS Office of Law Enforcement (OLE) at 206.526.6140

## Groundfish Limits

Limits have not changed from 2020.

Shrimp trawlers are limited to 1,500 pounds of groundfish per TRIP with a daily limit of 500 pounds. Included in the daily and trip limits are sub-limits for: lingcod at 300 pounds per month with a 24" minimum size, and sablefish at 2000 pounds per month. Canary rockfish, yelloweye rockfish and Thornyhead rockfish are all PROHIBITED. All other groundfish species taken count towards the 500 per day or 1,500-pound trip limits and do not have species-specific limits. The amount of groundfish landed may not exceed the amount of pink shrimp landed.

A complete copy of Pacific Coast Groundfish Fishery management measures for 2021 as well as in-sean adjustments to trip limits can be here: <https://www.fisheries.noaa.gov/species/west-coast-groundfish#commercial>

## Fishing Lights

Washington shrimpers are required to use fishing lights on the footrope of each trawl net. Similar rules apply when fishing off Oregon. Shrimpers fishing both Washington and Oregon should note the specifications are the same for both states.

Footrope lighting devices must meet the following criteria:

- Lighting devices must be operational,
- Lighting devices must be securely attached within six inches of the forward leading edge of the bottom panel of trawl netting; and,
- Each trawl net must have a minimum of five lighting devices, spaced four feet apart in the central sixteen feet of each net.

Three lighting devices are approved for use:

1. Lindgren-Pitman "LP Electrolume Light" – Green
2. Catch All Tackle "Deep Drop LED Fishing Light" – Green
3. Rock-engineering "LED Rope Light" – Green



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**The need to minimize bycatch is important NOT ONLY when bycatch volumes are high. Low bycatch volumes can reflect poor abundance, making the use of lights even more important.**

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## Crewmember License

Crewmember licenses are required for all individuals age 16 and older working on-board all commercial fishing vessels that land fish or shellfish in Washington State.

- An individual can purchase their own crewmember license that is valid for participating in all Washington commercial fisheries.
- A vessel operator can purchase up to two undesignated crewmember licenses to accommodate crewmembers who do not have their own individual crewmember license. The undesignated crewmember license is assigned to the vessel and covers only one crewmember at a time but will allow for frequent crewmember changes.
- Primary and alternate operators are exempt from needing to purchase a crewmember license if they are on board

a vessel that designates them as an operator. Immediate family members, including spouses, children, or grandchildren of the license owner or alternate operator are exempt from the crewmember licensing requirement.

Individual crewmember licenses can be purchased at any license vendor or online through WILD. The cost is \$40.50 for Washington state residents and \$123.00 for non-residents. Undesignated individual crewmember licenses cost \$35 for Washington state residents and \$110.00 for non-residents and can only be purchased when applying for or renewing a commercial fishing license.

For more information or to purchase a crewmember license go to: <https://wdfw.wa.gov/licenses/commercial/miscellaneous>

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Pink shrimp, *Pandalus jordani*

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