



**NOAA
FISHERIES**

In March 2020, NOAA Fisheries conducted regional assessments of the impacts of COVID-19 on the commercial, recreational and aquaculture sectors. This information was used to develop ‘snapshots’ of the initial market effects on the seafood and fishing industries. NOAA Fisheries will use this information as an initial baseline to assess impacts over time, and will periodically update this report as industry conditions evolve and as opportunities emerge to secure and enhance the resilience of the U.S. seafood and fisheries industries.



NOAA Fisheries Initial Impacts Assessment of the COVID-19 Crisis on the U.S. Commercial Seafood and Recreational For-Hire/Charter Industries

By March 2020, the spread of COVID-19 already was having drastic effects on the seafood supply chain globally. In the United States, harvesting, processing, and distribution were curtailed in response to restaurant and other closings. The domestic situation quickly grew dire, compounded by a litany of supply chain concerns with imports and exports. The future of seafood jobs and the ability of domestic seafood companies—as well as our recreational sector—to survive this crisis was at stake. In response, NOAA Fisheries implemented a national rapid assessment of COVID-19-related effects on our domestic commercial seafood industry—including wild harvest and aquaculture—tribal fisheries, and the for-hire recreational fishing industry. The agency quickly developed ‘snapshots’ of market effects on the seafood- and fishing-related industries in the Northeast/Mid-Atlantic, Southeast/Gulf, West Coast, Pacific Islands, and Alaska regions and for highly migratory species. Those snapshots are included in this document. Key findings from the assessment of U.S. commercial fisheries, marine aquaculture, processors and dealers, and the for-hire recreational sector and other observations are listed below.

This report provides an initial snapshot of COVID-19 effects on the U.S. seafood and fishing markets as of early April 2020. Some of the market effects described in this report already have changed, and others were only beginning to emerge at the time of this assessment. As a baseline assessment, this report is intended to broadly describe the market disruptions evident in the early phases of the COVID-10 pandemic, and provides a reference point for subsequent surveys and assessments as market conditions evolve.

Also, on March 27, 2020, the President signed the CARES Act into law. Section 12005 of the Act authorizes the Secretary of Commerce to provide \$300 million in appropriated funds to assist fishery participants affected by the novel coronavirus. Once the Act was signed, the agency’s overriding goal was to distribute the assistance as quickly as possible consistent with the direction provided by Congress. The work the agency undertook to disburse those funds preceded this initial impact assessment, and was not affected by the findings in this report. NOAA Fisheries plans to update this report periodically, as industry conditions evolve and as opportunities emerge to secure and enhance the resilience of the US seafood and fishing industries.

Agency Launches Rapid Assessment as Impacts Mount

Assessment Findings Summarized for:

- U.S. Wild-Caught Commercial Fisheries
- U.S. Marine Aquaculture
- U.S. Seafood Dealers and Processors
- U.S. Recreational For-Hire Operations
- International

Conducted by agency staff over roughly a two-week period—March 17 to March 26—the rapid assessment included over 200 interviews of commercial fishermen, aquaculture operations, for-hire operations, seafood dealers and processors, as well as representatives of various industry groups.¹

Initially the seafood industry in the U.S. felt the impacts of COVID-19 due to the broad scale closures of ports and seafood processing facilities in China beginning in late January as China enacted stringent protective measures, including quarantines and stay-at-home orders to all but essential workers, to reduce the spread of the virus. U.S. seafood exports to China dropped 32% in January and 45% in February relative to the previous year.² Lobster and Dungeness crab exports to China each fell 63% and 46%, respectively, during this period relative to 2019.

As COVID-19 spread globally, the U.S. and many other countries implemented social distancing and other protective measures to reduce transmission rates, including closing restaurants but eventually extending to stay-at-home guidance and later stay-at-home orders for all but essential workers. These measures had a swift and sweeping impact on many U.S. fisheries but especially on fresh, high-end products that are primarily sold to restaurants, including lobster, swordfish, tunas, halibut, snapper, sablefish, and shellfish. Domestic shellfish aquaculture operations were similarly hard hit by the restaurant closures. Further, as the social distancing measures expanded, the for-hire recreational industry, especially in southern states with active fishing seasons underway, was essentially shut down as customers stayed home and public docks closed.

Based on interviews with stakeholders coupled with preliminary data, COVID-19 effects are already having significant impacts on the seafood supply chain, including but not limited to U.S. harvesters (wild and farmed), seafood dealers and processors, seafood wholesalers and distributors, and the recreational for-hire sector. Harvesting, processing, and distribution have been curtailed for many products and in some cases have ceased in response to restaurant and other closings throughout the country and globally. Further, the industry's outlook in the coming months is highly uncertain.

However, those interviewed indicated that in contrast to the fresh fish market, consumers dramatically increased supermarket purchases in late March 2020 of shelf stable and frozen product forms—including canned tuna, Alaska pollock and king mackerel. Sales figures for this surge in supermarket sales published in the seafood and food trade press and ranged from over a 100% increase in sales of canned tuna fish compared to the same week last year to a 50% increase in sales of frozen seafood compared to the same week last year.³ Indications are not yet available as to whether or not sales of frozen and canned seafood will remain strong. In addition, some industry participants are shifting from supplying restaurants to expanding sales to supermarkets and to online or direct-to-consumer sales. But the extent and volume of the pivot from restaurants to supermarket and direct-to-consumer sales has yet to be estimated.

The status of for-hire operations varies across states and regions. As of May 1, for-hire fishing on the West Coast and in Hawaii is closed and remains closed. In contrast, for-hire fishing is open in Alaska. In the Southeast, for hire operations are generally allowed to operate Texas through North Carolina, with the exception of Florida, where local authorities determine whether charter fishing is deemed “essential.” In the Northeast, for-hire operations in the Mid-Atlantic are closed, with the exception of Maryland; in New England, Massachusetts and Maine for-hire operations are closed while operations in Connecticut, New Hampshire and Rhode Island are open. In those states that are open, interviewees generally indicated that demand for trips was down due to restrictions on other tourism sectors such as hotels and restaurants.⁴

Please note that the assessment results are a snapshot of the seafood and fishing markets in late March 2020; where possible, this information has been updated with more recent market reports. Market conditions are changing rapidly and some of the effects described in this report may have changed. Also, the results may not include all parts of the U.S. seafood and fishing industry and the market outlets that are served by U.S. seafood production.

High-Level Findings from the March 2020 Rapid Assessment Include:

U.S. WILD-CAUGHT COMMERCIAL FISHERIES

- U.S. fisheries reliant upon the Chinese and other Asian markets were immediately and significantly impacted by COVID-19 as demand collapsed in these key markets. Examples of these markets include:
 - Florida’s spiny lobster fishery is heavily dependent upon the Chinese market; market reports indicate that many fishermen ceased operations due to the collapse of that market.
 - In New England, preliminary data suggests that lobster prices were down 35% in March relative to the average price for the three preceding years.
- The rolling closures of restaurants across states and other social distancing measures beginning in March have primarily impacted fresh, high-end products that are mainly sold to restaurants and the food service sectors including lobster, swordfish, tunas, halibut, sablefish, snapper, oysters and other shellfish products.
 - Fisheries that are currently open felt an immediate impact on cash-flow, impeding the ability to provision for future trips, retain and pay crew, etc.
 - Seafood prices in Hawaii plummeted over 70% in mid-March. A survey conducted by the United Fishing Agency in Hawaii in late March revealed that only 14% of longline vessels at port were intended to continue to fish; other vessel owners were waiting for improved market conditions and tied up. While tuna prices recovered slightly in early April and moderate (but reduced) fishing activity has resumed, non-tuna prices continue to hold at near record lows.
 - In Oregon and Washington, fish ticket data indicates that the March ex-vessel price of sablefish is down 31% and 39%, respectively, relative to 2019.
 - Alaska halibut and sablefish fishermen experienced sharply lower prices, which was compounded by a late season opening (March 14) that corresponded with the market collapse for fresh, high value seafood product. As ex-vessel prices have fallen, fishermen have also experienced 30% to 50% declines in some quota share prices in some Alaska regions.
 - The Atlantic Highly Migratory Species (HMS) fishery, which is almost entirely dependent on providing high-end fresh fish to the restaurant market, experienced 70% to 90% revenue losses in March as increasingly widespread restrictions were placed on restaurants both domestically and globally.
- Some seafood products are more resilient to current events because they are processed into “shelf stable” product forms or produce frozen products that are sold through retailing outlets or frozen into blocks for future processing.
 - In the Northeast, ocean quahogs and surf clams have thus far experienced limited market impacts because these species are processed into soups and shelf-stable product forms.
- Canned tuna sales from American Samoa were up 31% in March but increasing disruptions to the supply chain (including closed ports typically used for offloading, and difficulties exchanging crews) may threaten future operations.
- In Alaska, first quarter 2020 groundfish (pollock, cod, flatfish) prices have been relatively stable and fishing is continuing, while altering operations to limit the spread of disease. However, in April there is increasing uncertainty developing in these markets about the pace of future orders and other supply chain disruptions impacting demand for their products.
- Sharp declines in market demand for fresh product through the customary supply chain has resulted in fishermen in several regions attempting direct-to-consumer sales. In addition, some fishermen are changing the product form:
 - Some West Coast trawlers are remaining operational by freezing their catch, albeit prices are likely to be lower for this product form.
 - To exemplify the magnitude of price declines, a New England groundfish sector manager mentioned selling butterfish to Canada for bait, which prior to COVID-19 had been primarily exported to Japan to meet restaurant demand.
- Fisheries waiting for seasons to open or peaking in late spring will be affected if demand remains low into the spring season (e.g., Alaska and West Coast salmon, tunas and swordfish).
- Travel restrictions will affect fisheries reliant upon non-local workers (including non-residents and non-citizens) for crew, processing and other seafood sector employment. Boat captains in Alaska, Hawaii and the U.S. Pacific purse seine fishery are concerned about access to crews given travel restrictions.
 - Alaska fishermen are concerned that if workers depart between the winter/spring groundfish (pollock, cod, flatfish) season ending and salmon fisheries opening, they will not be able to get visas to return in time for the very important pulse salmon fisheries in Bristol Bay.
 - The U.S. Pacific purse seine fleet is facing difficulty deploying crews, limited in some cases by crew not being allowed to disembark and, in other instances, crew not being able to travel to pick up points. The fleet is also facing constraints on access to ports throughout the region, threatening its ability to land and transship its product, as well as take on needed fuel and other provisions, in addition to crew.
- New England groundfish sector managers interviewed mentioned that some sectors are waiving or deferring fees until the market improves.
- A bright spot for those fishermen continuing to operate is that fuel prices have fallen 17% since the start of the year, reducing the cost of operations.⁵

U.S. MARINE AQUACULTURE

- Shellfish farming on all coasts of the United States has virtually shut down. Especially hard hit are markets for live oysters, geoduck, and other shellfish and associated hatcheries that are not receiving seed orders for the spring.
 - West Coast growers were initially impacted by the broad scale closures of ports and seafood processing facilities in China beginning in late January; losses were further compounded by the social distancing steps taken in the U.S. and globally that closed restaurants and other food service entities. The Pacific Coast Shellfish Growers Association, which represents a third of the West Coast shellfish industry, reports that as of March 20, member sales were down 90% to 100%. The sharp decline in sales has resulted in significant layoffs and reduced hours for employees. In addition, growers have sharply reduced hatchery orders for their next crop.
 - Ten shellfish growers in Massachusetts that NOAA Sea Grant interviewed reported no sales since March 13, when restaurant closures began to be broadly implemented. Finfish and shrimp farm operators reported 85% losses. Firms reported re-directing employees work towards maintenance and repair and other seasonal work but given market conditions have nonetheless reduced employee hours 40% to 50%. New Jersey operations reported similar conditions.
 - In the Southeast, shellfish growers are the hardest hit within the aquaculture sector. For example, in Alabama and Mississippi, a survey of shellfish growers and dealers revealed that March sales were down 90% and have currently ceased, with past invoices not being paid. Most growers have already laid off workers; one large dealer reported that they had already laid off 50% of their workforce.
- A two- to three-month impact will cause some operations to close, however, the general feedback from industry was that most operations will weather a crisis of this duration but warned that longer impacts could cripple the domestic shellfish industry for several years.

U.S. SEAFOOD DEALERS AND PROCESSORS

- Dealers and processors that rely on fresh and high value product typically sold by restaurants both domestically and globally have been severely impacted by the collapse in market demand.
 - In the Northeast and Southeast, over 80% of the seafood dealers interviewed reported revenue losses in March. Further, these losses ranged from 50-90%, depending upon region and, in some instances, fishery.
 - Seafood prices in Hawaii plummeted over 70% immediately following the restrictions placed on restaurants, social gatherings, and travel on March 13. Beginning March 15, the Hawaii Longline Association and United Fishing Agency imposed vessel landings restrictions and daily target total volume restrictions to better align supply with current market demand. Seafood distributors experienced an 80% reduction in orders following the March 13 protective measures.
 - Dealers interviewed in California indicated that Dungeness crab prices were down 35% to 45% on sharply reduced demand.
 - Atlantic Coast and Gulf of Mexico dealers interviewed that handle or specialize in HMS species reported a 76% reduction in revenue in March following the wide use of restricting restaurant operations beginning in March.
- In the Northeast and Southeast, 44% and 33% of dealers, respectively, reported that they had laid off employees in March. In the Southeast, 41% of dealers interviewed indicated that their customers (e.g., restaurants) were having difficulty paying invoices.
- American Samoa's tuna processing facilities continued to operate with the high demand for canned products throughout the nation, but they are at risk of disruptions if the territory sees any COVID-19 cases. Tuna supply also is dependent on consistent landings from U.S. fishing fleets, as well as foreign fleets, which are facing a variety of constraints related to the pandemic.
- Some processors are not buying and fish houses with full freezers are unable to buy more product, reflecting the fact that the frozen market was also impacted by the drop in demand by the restaurant and food service sector, albeit to a lesser degree than the fresh fish market.
- Processors and vessels reported difficulty managing staff under quarantines and social distancing guidelines.
 - Some West Coast processors are shifting to less labor-intensive product types to meet social guidelines while other processors are closing. An association representative reported lay-offs of between 20% to 60% among their members.
 - In Alaska, one resident noted, "There's no social distancing in processing plants – when you're working and when you're sleeping."
- Dealers of high-valued tuna and swordfish products on the East Coast and Gulf of Mexico reported that they were telling fishermen to switch to other species that have more marketability with supermarkets.
- One Southeast dealer summed up his concerns as, "paying fishermen, paying employees and keeping the lights on."

U.S. RECREATIONAL FOR-HIRE OPERATIONS

- For-hire and party boat operations have ceased in many states and have been significantly curtailed in the remaining states due to social distancing measures, stay-at-home orders and travel restrictions. Southern states (states in Gulf of Mexico and South Atlantic), California, and Hawaii, which have strong demand for trips during the March to April timeframe, have been particularly affected.
 - In the Southeast, 97% of for-hire businesses contacted reported a decline in business in March; NOAA Port Agents, which had also been canvassing for-hire operations, corroborated those results, estimating an 80-100% reduction in for-hire fishing effort across the region.
 - In California, Oregon and Washington, all for-hire businesses and guide boats have ceased operations. Further, all recreational fishing is closed in Washington.
 - In Hawaii, which heavily relies on tourism, travel restrictions coupled with restrictions on social gatherings implemented on March 13 have essentially closed for hire operations for an indefinite period, including the cancellation of numerous tournaments.
- In addition to current closures, all states reported cancelled future bookings.
 - In Alaska, an industry poll indicated about that over 50% of businesses are experiencing between 25% to 50% cancellation rates; charter businesses reliant upon cruise ships were very pessimistic about the coming season.
 - For hire operations in Hawaii reported cancellations as far out as June and July.
 - A Northeast for-hire owner summarized his business outlook, “Bookings for the coming season have been zero since this whole sorry situation started.”
- While to date, layoffs have been limited in this sector, many operations have sharply reduced employees’ hours to reduce costs.
- Shore-side businesses have also been negatively impacted; a number of tackle shops, marinas, boat rentals/dealers, restaurants and hotels have closed or operating on sharply reduced hours.
- Anecdotal information indicates that individual recreational fishermen may still going fishing in places where water access and public docks are not closed. However, the numbers and effects of non-charter/for hire recreational fishing on supporting services like bait and tackle shops was not part of the survey.

INTERNATIONAL

- Initial impacts of COVID-19 in China in late January led to decline in US seafood exports of 31% and 44% compared to January and February of the previous year.⁶
- The fresh seafood trade has virtually stopped, including shellfish (lobster, crab, oysters, geoduck). Some export markets are not ordering U.S. seafood.
- Globally, Dungeness crab exports fell 20% in January and 77% in February relative to 2019; lobster exports fell 37% in January and 62% in February relative to 2019.⁷
- The lack of airline flights and inability of ships to land product (e.g., due to ports in the European Union and Asia are backed up) have also curtailed demand.
- New information indicates that China is resuming or may soon resume purchases of U.S. seafood products but lack of airline flights may hamper shipments.
- Storage capacity in the U.S. of product aimed for export markets is generally full but storage in free economic zones such as Busan, South Korea (a key storage location for product processed in China) does not yet seem to be affected.

Endnotes

- 1 NOAA Sea Grant assisted with outreach to the aquaculture industry.
- 2 Note that the drop in demand cited may not all be attributable to COVID-19; at this time, it is not possible to determine causality.
- 3 See for example, Christine Blank, "US supermarkets seeing record seafood sales," Seafood Source, March 26, 2020 at <https://www.seafoodsource.com/news/foodservice-retail/us-supermarkets-see-major-uptick-in-seafood-sales>
- 4 Social distancing guidelines apply to for-hire operations in all states and generally include limiting the number of passengers and requiring anglers to maintain distance from others, amongst other things. Some states have also issued quarantines for non-residents (e.g., Alaska, Delaware, Massachusetts, Rhode Island) or anyone—residents and non-residents—entering the state (e.g., Maine); restrict charter vessels from taking non-resident passengers (e.g., Rhode Island); or restrict catch-and-release fishing (e.g., Maryland, which kept charter fishing open as a potential food source for fishermen).
- 5 Weekly diesel fuel price data obtained from <https://www.eia.gov/petroleum/gasdiesel/>
- 6 Note that the drop in demand cited may not all be attributable to COVID-19; at this time, it is not possible to determine causality.
- 7 Export data for March is currently unavailable.



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OFFICIAL BUSINESS

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NOAA Fisheries Coronavirus (COVID-19) Update

For more information, visit:

<https://www.fisheries.noaa.gov/national/noaa-fisheries-coronavirus-covid-19-update>



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Alaska Fisheries Impacts from COVID-19

Commercial Fisheries Landings Trends and Impacts

Nearly 5,500 unique commercial fishing vessels were active in Alaska fisheries on average from 2014 to 2018, delivering over 147 species to approximately 1,400 seafood buyers with an annual mean ex-vessel value of \$1.92 billion (inflation-adjusted to 2019 dollars). These landings occurred in 75 different ports as well as were delivered to motherships or caught and processed at-sea by catcher processors. Alaska has three of the top five ports in the U.S. by volume and three of the top ten by value with Dutch Harbor being ranked first and third, Aleutians Islands (Other) ranked third and fifth, and Kodiak is ranked fourth and eighth, respectively.¹ The top three fisheries in terms of ex-vessel revenue are salmon, pollock, and crab, averaging \$579 million, \$491 million, and \$243 million, respectively, in ex-vessel revenue annually from 2014-2018. Longline fisheries for halibut and sablefish also make up an important component of the fishery in the region averaging \$113 million and \$96 million, respectively over the same period. Other important fisheries include the groundfish trawl sector mostly targeting flatfish at \$90 million in average revenues and multiple gear types targeting Pacific cod across the State of Alaska total \$198 million in average annual ex-vessel revenues from 2014-2018. Figure 1 presents average annual revenues by species group for the most recent set five year period (2014-2018) with end-of-year revenue data which includes post season adjustments in prices paid to the harvesting sector.

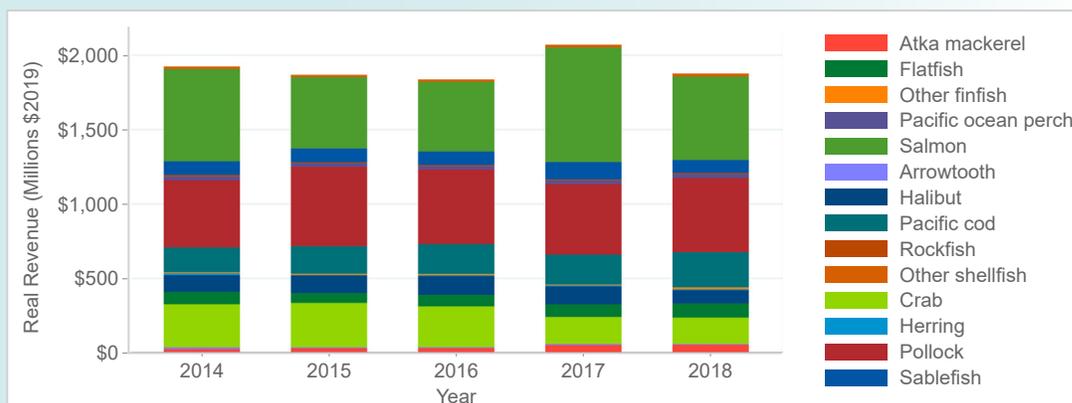


Figure 1. Year end ex-vessel revenue by species, 2014-2018 from adjusted CFEC fish tickets.

As shown in Figure 2, there are many different fishing seasons in Alaska, including the winter crab fisheries, the groundfish “A” season for pollock and cod in late January through March, the halibut season typically beginning in March, the summer salmon season, and the summer/fall pollock and groundfish operations.

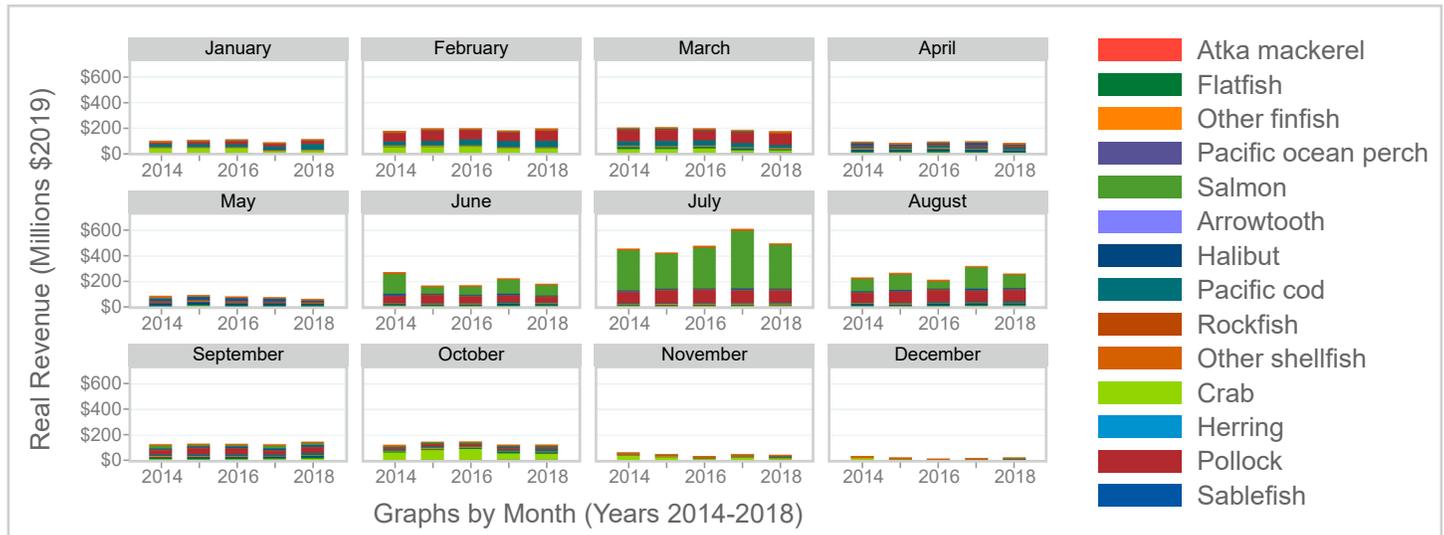


Figure 2. Year end ex-vessel revenue by species and month, 2014-2018 from adjusted CFEC fish tickets.

The year 2018 is our most recent year with final end-of-year revenue data with post-season adjustments using the Alaska Commercial Fisheries Entry Commission’s (CFEC) gross earnings database. However, we have been able to obtain in-season landings and unadjusted revenue data for federally managed Alaska groundfish, halibut, and the rationalized crab fisheries using the Alaska Department of Fish and Game (ADF&G) fish tickets, which are considered “in-season” prices until CFEC applies its post-season adjustment procedure and for which the AFSC summarizes annually in our groundfish and crab Economic SAFE reports.² The below analysis of monthly landings volume and ex-vessel value represents unadjusted prices from ADF&G fish tickets which are then deflated using the GDP deflator for 2019. Thus, the ex-vessel revenue numbers are not comparable across Figures 1 and 2 and Figures 3 and 4, but are internally consistent within the figure.

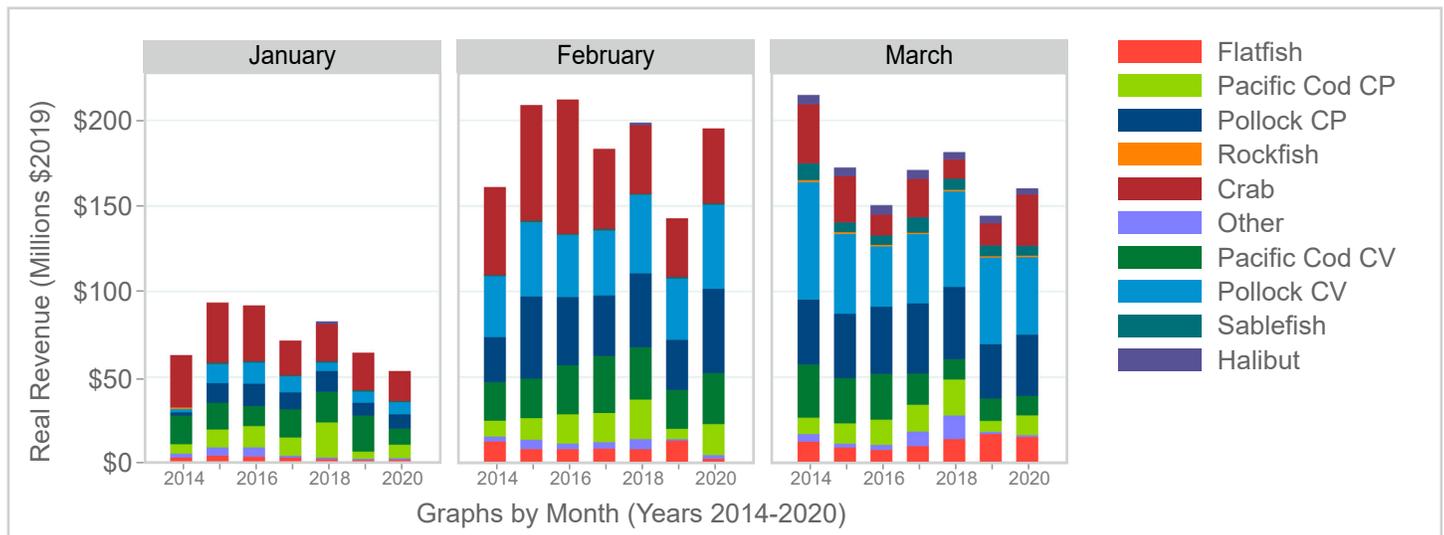


Figure 3. In-season ex-vessel revenue by species for the January to March period of 2014-2020 from unadjusted ADF&G fish tickets.

Over the 2014-2018 period using adjusted CFEC fish tickets, the first three months of the year account for approximately 24.9% of total annual ex-vessel value in Alaska fisheries. However, using the unadjusted ADF&G fish tickets for the limited set of species currently available (groundfish, halibut, and crab) the first quarter of the year accounts for approximately 35.5% of annual unadjusted ex-vessel revenues over the 2015-2019 period. It is unclear how this estimate would change with all State of Alaska fisheries included as well, but the difference between the two is noteworthy. Figure 3 plots the unadjusted ADF&G ex-vessel revenues for these species for 2014-2020 for the first three months of the year.

While revenues are an important consideration, this report is meant to be informative about the current prosecution of the fisheries in 2020 and large disparities in prices among some species obscure actual fishing activity. Figure 4 plots the landings volume from ADF&G fish tickets to demonstrate current activity in the fisheries for the first three months of the year. It is also noteworthy that the federal Gulf of Alaska Pacific cod fishery is closed in 2020 and the federal Bering Sea and Aleutian Islands total allowable catch (TAC) was reduced by 15% in 2020 relative to 2019.^{3,4}

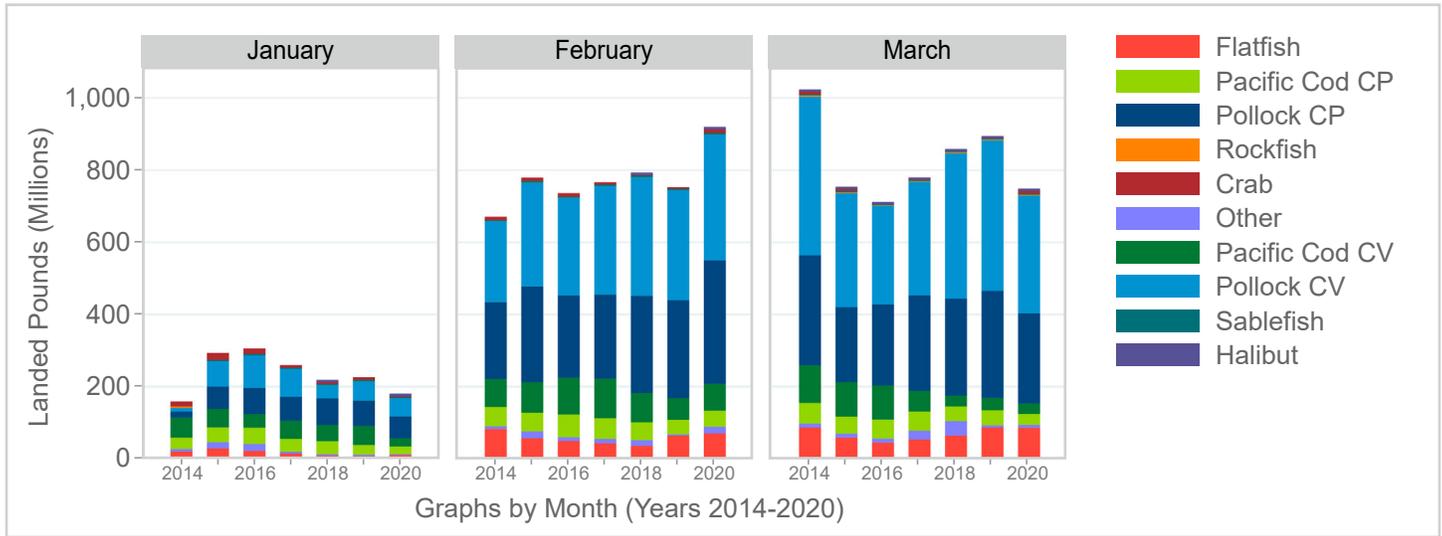


Figure 4. In-season landings by species for the January to March period of 2014-2020 from unadjusted ADF&G fish tickets.

Rapid Assessment of Qualitative Impacts Prior to March 24, 2020

The remainder of this document summarizes a rapid assessment of 26 general conversations on current COVID-19 impacts on the North Pacific seafood industry on or before March 24. It is not meant to be an exhaustive list of all impacted sectors or a representative sample of individuals impacted at this time and will require updates as conditions change. Sectors represented include shore-side processors, catcher/processor operations, quota and permit trading brokers, cooperative representatives, Community Development Quota (CDQ) groups, charter operations and associations, a community group, and a tribal association. Further analyses will be conducted using additional information in the future, but this represents our best understanding of these impacts as of March 24, 2020.



Seafood Industry Impacts

The impact of COVID-19 and the response to COVID-19 are having varied effects throughout the North Pacific seafood industry, depending on the sector. Some high-value fisheries that sell into the restaurant and food service sectors, such as halibut and sablefish, are experiencing drastic market impacts through cuts in prices which, in addition to a late season opening (March 14), is resulting in a lower harvest volume for the January through March period this year.

As of March 24, many groundfish fisheries continue to operate under slightly altered operations on deliveries (no one leaves the ship) and both harvesting vessels and processing plants are taking extensive precautions with sanitizing all of their gear, equipment. Also they were required to submit a plan for maintaining critical infrastructure while avoiding the spread of COVID-19 and not endanger the lives of the communities in which they operate.

Both harvesting and processing operations for groundfish are very concerned about their ability to change crew between seasons (there is typically slowing in April and May) given the current travel restrictions in place and the possibility of localities restricting the transportation of seafood workers (including observers) as potential disease vectors.

Many of these industries are dependent on non-local labor from the lower 48 and throughout the globe and are worried that if their workers leave between the groundfish closure and the salmon fisheries opening, they will not be able to get visas to return in time for the important pulse salmon fisheries in Bristol Bay.

There are substantial concerns over the ability to have the Bristol Bay fishery operate this year given the high pace and close operating quarters necessary to catch and process the quantity of fish that comes through during a short period of time. This was best summarized by a Dillingham resident: “There’s no social distancing in processing plants—when you’re working and when you’re sleeping.” This also impacts the pollock and crab vessels who operate as tenders in the Bristol Bay salmon fisheries.

Charter Sector

For the charter sector, the timing of the COVID-19 pandemic is causing vast difficulties for the upcoming season. As a result, a lot of money has already been spent on supplies for the season using deposit money on this season's trip reservations, which may be lost as some of the trip deposits will be refunded. According to a poll an industry group took of its members in early April, the respondents (n=108) indicated that over 50% of businesses were experiencing between 25% and 50% cancellation rates, and charter businesses dependent on cruise lines for clients were anticipating financial hardships. There was pessimism as to whether the season would happen at all this year and some operations, including a well established lodge/charter operation in Southeast Alaska, have decided to close for the year.

As of 2017, there were 550 active charter (for-hire) operations in the Alaska region.⁵ From 2012-2016, the Alaska charter fishing sector made an average of 49,892 trips annually and is estimated to have earned \$140 million in revenue per year.⁶ Over this period, fishing effort in March through April accounted on average for only 0.34% of for-hire angler trips made annually and generated about \$474,500 on average in revenue.⁷

Social Impacts

It is hard to overestimate the sense of anxiety among many Alaskans over the ability of their health care infrastructure to care for the number of people that may require hospitalization. Many have referenced the 1918 flu epidemic that devastated Bristol Bay and many other regions,⁸ and this is resulting in increased stress for people in these communities, who often have to travel to Anchorage or Seattle for medical care (no longer a viable option). In addition, the fishing industry it is often a primary source of employment in Alaska communities (along with tourism and oil).⁹ Beyond the economic impacts this is causing on the industry, fishermen help provide food for local markets as well as subsistence sharing networks in communities. These contributions may be even more important to maintaining local food security, as the struggling Alaska ferry system coupled with COVID-19 impacts on transportation will likely exacerbate existing food security issues in many Alaska communities. Stay-at-home orders may also have disproportionate impacts on rural communities where often the only access to the internet is at work or school, leaving them in a more vulnerable position without the ability to get information.

Endotes

1 <https://www.fisheries.noaa.gov/resource/document/fisheries-united-states-2018-report>

2 In their 2018 Annual Report, CFEC summarizes the Gross Earnings Database as “Gross Earnings refers to a database and reporting system created, maintained, and operated by staff at CFEC. The Gross Earnings Database is built by combining ADF&G and International Pacific Halibut Commission (IPHC) fishery harvest data with additional data from the CFEC Licensing System. The data is also enhanced with CFEC estimates of ex-vessel fish and shellfish prices, which can be queried for various information. The database is maintained for all fishing years from 1975 forward.” (source: https://www.cfec.state.ak.us/mnu_Annual_Reports.htm)

3 Fisheries of the Exclusive Economic Zone Off Alaska; Bering Sea and Aleutian Islands; Final 2020 and 2021 Harvest Specifications for Groundfish. 85 FR 13553. March 9, 2020.

4 Fisheries of the Exclusive Economic Zone Off Alaska; Gulf of Alaska; Final 2020 and 2021 Harvest Specifications for Groundfish. 85 FR 13802. March 10, 2020.

5 We use the most recent data we have available from the Alaska Department of Fish and Game Charter Logbook Program. We have detailed (trip-level) data for years prior to, but excluding, 2017. For 2017, we have aggregate estimates available.

6 Average over total revenue estimates for 2012, 2013, and 2015 from Lew and Lee (2019, NOAA Tech Memo). In 2017 dollars. The total revenue includes charter fees, tips, and other sources of income (including merchandise, lodging, transportation services, and other sources of income).

7 This is calculated by multiplying 0.34% (average percentage of trips taken in March and April) by \$140 million (average total sector revenue). As such, it assumes change in revenue is proportional to change in trips.

8 http://dhss.alaska.gov/dph/VitalStats/Documents/PDFs/AK_1918FluDataBrief_092018.pdf

9 In an attempt to summarize the impact on Alaska communities, state Senator Natasha von Imhof, co-chair of the Senate Finance Committee, stated at a recent hearing, “Alaska is experiencing a perfect storm, a most terrible trifecta, the hat trick from hell. We are being hit on all sides with the stock market crash, oil prices plummeting and the tourism and fishing season all but idle.” <https://www.seafoodnews.com/Story/1167163/Alaska-Faces-Triple-Hit-From-Coronavirus-Due-to-Reliance-on-Oil-Fishing-Tourism>



U.S. Secretary of Commerce
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Acting Under Secretary of Commerce
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OFFICIAL BUSINESS

National Marine
Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

NOAA Fisheries Coronavirus (COVID-19) Update

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**NOAA
FISHERIES**

In March 2020, NOAA Fisheries conducted regional assessments of the impacts of COVID-19 on the commercial, recreational and aquaculture sectors. This information was used to develop ‘snapshots’ of the initial market effects on the seafood and fishing industries. NOAA Fisheries will use this information as an initial baseline to assess impacts over time, and will periodically update this report as industry conditions evolve and as opportunities emerge to secure and enhance the resilience of the U.S. seafood and fisheries industries.



West Coast Fisheries Impacts from COVID-19

Commercial Fisheries Landings Trends and Impacts

In 2019, approximately 3,300 non-tribal commercial fishing vessels operated in the West Coast fisheries and landed products valued at \$526 million (including aquaculture shellfish, where available). The top commercial fisheries by landings revenue in 2019 were crab, groundfish (including whiting), and shrimp. Many of the West Coast commercial fisheries participants are active year-round, shifting from one fishery to another as seasons open and close. Broadly speaking, West Coast fishermen were initially impacted by the closure of Asian seafood markets in January 2020. Losses were compounded by the sharp decrease in demand for seafood, both domestically and globally, as countries imposed social distancing restrictions that closed restaurants where the majority of seafood is consumed. Some in the industry are concerned about whether markets will fully recover.

The crab, non-whiting groundfish fisheries as well as the shellfish fisheries for oysters and clams are all relatively active in the February through April timeframe, on average earning from 20% to 32% of their annual landings revenue during this three-month period. These fisheries are likely to already have been significantly impacted by COVID-19-induced changes in seafood markets and trade.

The seasons for salmon, coastal pelagics, tunas,¹ shrimp, and whiting fisheries are either closed or less active during the February through April timeframe; on average, these fisheries earned 0-12% of their annual landings revenue during this three-month period. While the losses sustained to date in these fisheries are a relatively small proportion of their annual earnings, these losses do affect cash flow and could limit fishermen’s ability to provision for future trips, retain and pay crew, etc.

West Coast Average Monthly Landings Revenue, 2015-2019 (2020 dollars)

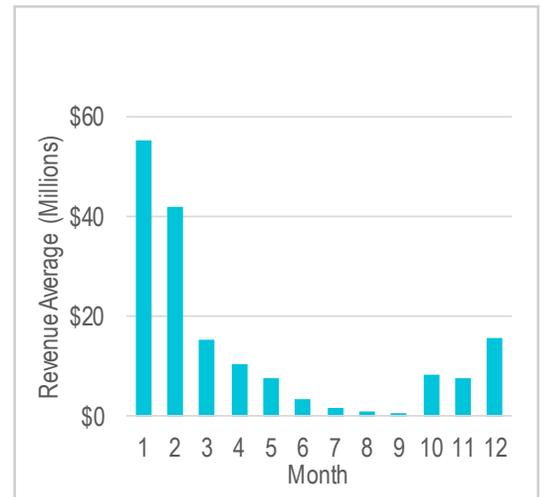


CRAB FISHERY

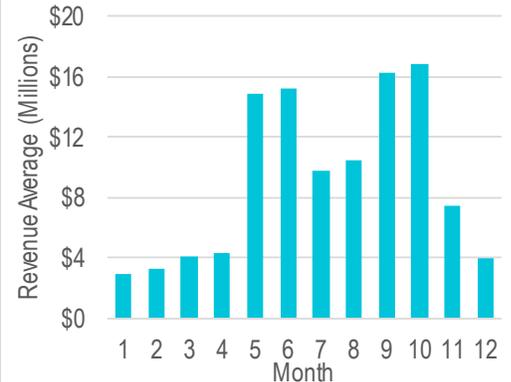
The Dungeness crab fishery, which comprises the majority of the West Coast crab landings revenue, was well into the 2019/2020 fishing season when COVID-19 began to affect China and other Asian nations that import crab product. The high-value live crab market was effectively cancelled for the fishing season. Given the crab fisheries' dependence on these markets, coupled with the fact that these fisheries generate almost half (46%) of their annual landings revenue in January and February, suggests these fisheries have sustained substantial losses due to trade and market restrictions stemming from COVID-19.

Conversations with crab fishermen and buyers contacted from March 19 to March 27 revealed a significant decline in market conditions:

- Demand is down significantly; only a limited number of buyers and processing plants are still purchasing crab.
- Little to no product is being exported.
- Domestic prices were initially down due to steep decline in export market but now, coupled with declines in restaurant demand, have fallen even further: in Crescent City, California, prices fell from \$4.50 per pound in mid-March to essentially \$0 when restaurant restrictions were imposed. In Bodega Bay, one buyer was paying \$4.00 per pound and purchasing 50,000 pounds per week and is now only purchasing 800 pounds at \$2.25 per pound. In Fort Bragg the situation is similar—the price has fallen to \$2.75 per pound and quantities being purchased are greatly reduced.



Average Monthly West Coast Non-Whiting Groundfish Landings Revenue, 2015-2019 (2020 dollars)



NON-WHITING GROUND FISH FISHERY

The non-whiting groundfish fishery is also experiencing a challenging market situation for select species. For example, sablefish (also called black cod), a high-valued species typically exported or sold in restaurants, has been impacted by both the decline in export in Asia markets as well as the decline in domestic demand from restaurant closures. Industry sources in Bodega Bay reported that the ex-vessel price fell from \$2.50 per pound (significantly lower than usual due to collapse of export market) to essentially \$0. The live fish market, which caters primarily to restaurants, went from \$4.00 per pound to essentially \$0 as well. One industry representative noted that there were no buyers in Morro Bay in mid to late March. According to fish ticket data, sablefish ex-vessel prices in the month of March 2020 were \$1.08 per pound in Oregon and \$1.02 per pound in Washington on average, down from averages of \$1.56 per pound and \$1.68 per pound respectively in 2019.

There is some retail and supermarket demand for some species such as petrale sole and rockfish. In addition, some trawlers are remaining operational by catching fish to freeze, albeit prices are likely to be lower for this product form.

SALMON FISHERY

Generally, the commercial salmon fishery opens in early to mid-April along the coast; currently the Pacific Fishery Management Council and state and tribal co-managers have recommended delayed openings, and opportunities for salmon fishing could be reduced relative to what would have been available. Given its closed status, the salmon fishery has not yet been directly impacted by COVID-19-induced market changes. However, delayed openings represent a disruption of many operators' diversification strategies. Many of these fishermen also participate in the crab fishery, which had been struggling prior to COVID-19, and were hoping for a strong salmon season to offset a weak crab season. The common concern expressed by those interviewed regarding salmon fishing operations was a high level of apprehensiveness about the upcoming fishing season. One person interviewed noted that the Oregon Chinook fresh salmon market is gone; another interviewee indicated that some salmon harvesters and buyers were planning to freeze a large portion of harvest in the scheduled April opener rather than retail locally or in fresh markets due to current market conditions.

COASTAL PELAGIC FISHERY

Many vessels are shut down or operating at reduced levels. The West Coast coastal pelagic fishery is a year-round fishery that consists of fisheries for several distinct species, including market squid, Pacific sardine, northern anchovy, Pacific mackerel, and jack mackerel. A majority of the harvesting occurs in the summer and late fall/early winter. The fishery primarily operates in commodity markets, as opposed to fresh markets; therefore, it is susceptible to disruptions in international and national supply chains and economic activity. Initial economic impacts of COVID-19 include declines in exports of high-value market squid to Asian markets; these export reductions have contributed to both the curtailment of operations for harvesters and fishery-focused processors and the increase in operating costs in terms of freezing and storage for those processors that remain open with no current demand.

HIGHLY MIGRATORY SPECIES FISHERY

Because highly migratory species fisheries of tunas, swordfish, and sharks (HMS) were not in season at the onset of the COVID-19 outbreak and response on the West Coast, the harvesting sector has not been significantly impacted at this time. However, some HMS fishermen have experienced negative economic impacts to other fisheries in which they participate. Some of the major processors who rely on HMS landings have also already experienced significant reductions in demand and operations to other parts of their business, due to restaurant closures and the loss of Asian export market product demand. HMS fisheries may experience increasing levels of negative economic impacts if the COVID-19 outbreak continues on the West Coast into the summer months, particularly for albacore early in the summer and for swordfish if the outbreak continues into August.

Seafood Processors

Approximately 1,000 buyers purchased seafood from harvesters and producers in the West Coast Region in 2019. Interviews with seafood processors conducted March 19 to March 27 revealed that plant closures had already occurred in Newport, Oregon, Coos Bay, Oregon, and Eureka, California. There were also reports of reductions in employees due to lower processing volumes. An association industry representative also indicated that fresh product, which is primarily purchased for restaurant and retail consumption both domestically and globally, made up 60% to 80% of processor revenue in the association, so the curtailment of fresh product exports coupled with restaurant closures along the coast was having major impacts on processors' income. This opinion was validated by other interviewees who noted that the fresh market was essentially closed coastwide due to restaurant closures. In addition,

there were reports of restaurants and food service customers not putting in new orders and others cancelling orders. There are reports of some increases in volume of seafood feeding into Community Supported Fisheries-type sales where households can pick up pre-purchased fresh fish at drop-off locations.

In addition to demand-side concerns arising from a sharp decline in exports and domestic demand, seafood processors also face supply-side concerns. Several expressed concerns about shipping, including the increased cost of shipping product further due to plant closures as well as the unavailability of drivers. Along the same lines, they were also concerned that seafood shipping may not be considered "essential"; that trucks may be prohibited from crossing state lines; and that trains may be prohibited from crossing the U.S.-Canadian border. Seafood processors were also concerned that required export inspections may not be done, which would preclude foreign countries from accepting these shipments.

Local shelter-in-place restrictions and requirements for social distancing are causing processing plants to shift their product types to less labor-intensive products or they are having to shut their doors. An association representative indicated reports of layoffs of between 20% and 60% of their workforces.



Aquaculture

The two major drivers impacting the aquaculture industry from COVID-19-induced affects are the broad-scale closures of restaurants and the inability to export product. Initially, the inability to export product was due to the lack of market abroad. While the demand in China begins to ramp back up (market reports suggest demand is now up to 50% of usual business) from essentially 0% in mid-March, the lack of commercial passenger flights is now inhibiting the transport of live and high-valued seafood products that typically rely on this method of transport. It is likely that commercial airline flights will continue to be curtailed through the end of April and potentially longer, depending upon how long it takes to control the spread of COVID-19 in the United States and globally.

The West Coast aquaculture industry was the hardest hit by the sharp curtailment in exports from Asian countries beginning in late January. The loss of revenue in the aquaculture sector from COVID-19 market impacts further compounded a soft market that has been attributed to the increased tariffs on China exports. The Pacific Coast shellfish industry has been particularly hard hit, with oysters and geoduck topping the list of impacted products. The Pacific Coast Shellfish Growers Association, which represents a third of the \$300-million and 350-farm industry of the West Coast, reports that sales as of March 20 were down for their members by 90-100%. This stoppage of product flow and accounts of past shipments not being paid have resulted in significant layoffs and shared work status for employees, and low or no hatchery orders for the next crop.

Recreational Fishing – For Hire Sector

From 2015 through 2019, an average of 621,603 angler for-hire trips were taken annually in California, and 105,264 were taken in Oregon and Washington (California data does not include Highly Migratory Species trips).² In California, fishing effort during the March to April timeframe accounted for 14.4% of for-hire angler trips made in 2019 and generated \$19 million in revenue; in the Northwest, the March to April timeframe accounted for 10% of the for-hire angler trips made in 2019 and generated \$2.6 million in revenue.

The March 16, 2020, guidance from the White House,³ which was extended on March 29 to run through April 30, 2020, recommended limiting gatherings to 10 or fewer people and eliminating unessential trips. To date, all commercial passenger fishing vessels (CPFVs) have ceased operations in California, Oregon, and Washington. A majority of CPFV operations reported that, in addition to cancellations, there are little to no new bookings for future trips. A majority of the guiding services (typically holding up to six anglers) have also halted, with no demand for trips, including in-river as well. Additional large-scale recreational fishing closures have been implemented in some states: all recreational fishing is closed in Washington and the Columbia River is also closed in Oregon.



While many businesses reported they are keeping their employees on payroll, they all have voiced concern regarding how long this will be viable. Several of the businesses that have reported keeping employees on payroll had shifted duties to vessel maintenance. More stringent social distancing recommendations and stay-at-home orders, however, have curtailed much of this work. Further, a number of those interviewed reported delaying major maintenance expenditures because of current and projected revenue losses. In addition, multiple contacts also mentioned that much of their charter business is driven by internet fishing reports. If business is slow to recover, it will have a compounding effect as potential customers will wait until the number or success of fishing trips increases.

Endnotes

- 1 Landings revenue trends exclude tropical tuna purse seine fleet.
- 2 In California, for hire vessels are referred to as “commercial passenger fishing vessels.”
- 3 https://www.whitehouse.gov/wp-content/uploads/2020/03/03.16.20_coronavirus-guidance_8.5x11_315PM.pdf



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Pacific Islands Fisheries Impacts from COVID-19

Hawaii

The State of Hawaii has implemented protective measures to prevent the spread of the novel coronavirus, including social distancing (March 13) and cancellation of public gatherings (March 15), a statewide stay-at-home/work-at-home order (March 25), and all persons entering the State of Hawai'i are now required to self-quarantine for 14 days or for the duration of their stay in Hawai'i, whichever is shorter (March 26).¹ Hawaii's largest industry, tourism, which provides high demand for Hawaii seafood products, is shuttered.² While fishing and seafood markets are classified as an “essential business”, the Hawaii fishing and seafood industry has experienced significant economic impacts as a result of global COVID-19 spread.

The Hawaii fishing and seafood industry is an integrated food production and supply system that links fishermen to our nation's only fresh tuna auction, the fish auction buyers (mainly wholesalers) and ultimately retailers and restaurants in Hawaii and across the United States. The COVID-19 pandemic has virtually eliminated market demand for Hawaii seafood in local restaurants and severely restricted the mainland U.S. retail market. What remains is the local retail market in Hawaii. This significant reduction in market demand has cascaded through market channels to the fishing sector, who now face landed fish prices at well below operating costs. Market price declines of nearly 75% that hit in mid-March³ and held over the last two weeks of the month will likely result in industry revenue declines of approximately 60-70% for March relative to baseline monthly averages, and these significantly reduced revenues are expected to persist in the coming months. The economic viability of fishermen, the fish auction, and fish processors are all threatened by this abrupt shift in demand.

Commercial Fisheries Landings Trends and Impacts

In 2018, Honolulu was the nation's #6 port in seafood value (\$106 million).⁴ On average, the Hawaii longline fishery comprises approximately 97% of Honolulu fishery revenues and over 85% of fishery revenues for the State of Hawaii. Other important commercial fisheries in Hawaii include small boat fishermen targeting tunas and other highly-migratory species, as well as bottomfish, nearshore, and reef fish species. State of Hawaii commercial fisheries are year-round fisheries, with revenues peaking in the months between March and June, with a second seasonal peak during the holiday months of December and January. During 2018, there were 121 active seafood dealers, over 2,500 licensed fishermen with commercial sales, and a world-renowned charter and for-hire industry.

Average monthly State of Hawaii commercial fishing inflation-adjusted revenues over the period of 2015-2019 was approximately \$10 million (adjusted to January 2020 dollars, using BLS Hawaii all-urban consumer CPI). Preliminary estimates for January 2020 are aligned with baseline averages, although we may expect to see declines of approximately 20% (if not more) for February. Market price declines of nearly 75% that hit in mid-March⁵ and held over the last two weeks of the month, coupled with landing limits, will likely result in industry revenue declines of approximately 60-70% for March relative to baseline monthly averages, and these significantly reduced revenues are expected to persist in the coming months.

Commercial Fishing Impact

LONGLINE FISHERY

During 2019, there were 150 active longline fishing vessels, landing approximately 26.5 million pounds, valued at nearly \$95 million. Due to the recent sharp decline in landed fish prices, beginning on March 14, longline fishing operations have seen staggering revenue losses—industry estimates approximately \$3-4 million in lost revenues for the two-week period March 14-28. Average weekly prices for this two-week period was nearly 75% lower than the average weekly prices for all previous weeks in 2020. United Fishing Agency (UFA) staff conducted discussions with 87 vessels in port on March 21; roughly a dozen vessels (14%) indicated that they intend to continue fishing and the remaining indicated they would have to wait and see. All indications suggest that a large percentage of Hawaii longline vessels are expected to tie-up for an indefinite period.

Industry estimates indicate that every vessel landing since March 14 (approximately 60) has experienced trip-level losses in the neighborhood of approximately \$20,000-\$30,000 (not including fixed costs). Four vessels left between March 14 and March 30, with around 100 tying up. While tuna prices recovered slightly in early April, and moderate (but reduced) fishing activity has resumed, non-tuna prices continue to hold at near record lows.

Average monthly expenses to tie up vessels are estimated at \$10,000-15,000, forcing challenging decisions on whether to stay in port or go fishing, with both options presenting likely economic losses. Continued losses by vessel owners may result in discontinued operations, deferred repairs, and deteriorating vessel conditions, translating into safety-at-sea considerations when operations resume. Industry estimates indicate roughly 30-45% of vessels will be in deep financial stress in 60 days accruing substantial costs. As poor market conditions are expected as a result of reduced demand, credit is not being offered by supply companies (e.g. fuel), further exacerbating the economic situation for vessel owners.

Hawaii longline vessels employ legal, fully documented skilled foreign contract fishermen as crew. Depending on travel restrictions, some crew may not be allowed home or, vice versa, vessel owners may not have access to foreign crew. Crew shortage would be major disruption to industry. Many captains get paid on revenue percentages and reduced market conditions offer little incentive to go fishing.

The long-term financial outlook is highly uncertain and depends on local and national recovery efforts. Several longline vessel owners have multiple businesses that could be leveraged (or not if already tapped), with some corporations vertically integrated in fishing and seafood industries that could suffer huge losses.

NON-LONGLINE FISHERIES

During 2018, there were just under 1,700 commercially licensed fishermen in the State of Hawaii, landing nearly 5 million pounds valued at approximately \$16 million. These fishermen are facing negative pricing impacts similar to the longline fishery, as they market their fish through the auction, dealers and processors, restaurants, retail storefronts, and within their community.

Historically low prices and state-wide stay-at-home orders have severely limited small boat fishing effort during March, and are likely to be felt for the foreseeable future. Most active fishermen have shifted to marketing their fish via social media, within community networks, and developing value-added products (e.g., smoking, canning) with their catch. These fishermen, along with thousands of non-commercial fishermen, play vital roles in supporting local food systems, nutrition, food security, and supporting community social cohesion.⁶ This importance is amplified in the face of natural disasters and human health crises.

Average Monthly Commercial Landings Revenue, 2015-2019 (Inflation-adjusted, 2020 dollars)



The top COVID-19 related factors affecting business for the Hawaii longline fishing sector include:

- Extreme reduction of market prices and landed value.
- Reduced market demand from foodservice sector.
- Market competition with cheaper foreign imported frozen products.
- Shipping and distribution constraints.
- Significant costs to tie up for extended period.
- Reduced opportunities for credit offered by supply companies.

Seafood Dealers and Processors

The Hawaii longline fishery supplies ice-chilled, high-quality fresh fish that seafood dealers and processors distribute to Hawaii and U.S. mainland foodservice and retail markets. The Hawaii seafood industry produces over 80% of U.S. domestic landings of bigeye and yellowfin tuna and 55% of the nation's domestic supply of swordfish.

The Hawaii seafood market was hit extremely hard beginning in mid-March.⁷ While weekly landings (weeks of March 15 and March 22) by Hawaii longline vessels have been comparable to average weekly landings for 2020, the average ex-vessel price was nearly 75% lower than the average weekly price to date for 2020. Beginning March 15, vessel landing limits and daily target total volume restrictions have been imposed by the Hawaii Longline Association (HLA) and the United Fishing Agency (UFA) auction. There is concern related to future supply if fishing operations choose to no longer fish if a break-even price cannot be sustained. The Hawaii longline fishery is Hawaii's largest food-producing industry, and severely reduced supply has important food security considerations.

Industry representatives have met weekly via conference calls during March to discuss COVID-19 sector impacts. This group includes approximately 15 major buyers, dealers, processors, and retailers, representing approximately 73% Hawaii longline fishery landings. These buyers are involved in sales and distribution of Hawaii fish to restaurants and retailers in Hawaii and across the mainland U.S. market.

During March, Hawaii seafood distributors that buy fish from the Honolulu auction experienced significantly reduced orders in the foodservice (restaurant) sector. An estimated drop in customer orders in the foodservice sector was around 80%. Most distribution companies have reported 35% to 90% reduction in monthly gross revenue for March and those companies that primarily supply foodservice markets have cut staff (up to 75% in some cases) and severely reduced operations. Economic impacts are exacerbated as many distribution companies have unpaid receivables from foodservice customers, causing cash flow problems. There are around 1,000 workers in the State of Hawaii directly employed in wholesale seafood and supply businesses, and thousands (indirectly) employed in local restaurants supplied by our fishery. Most of these employees are not working or have already been let go in order to file for unemployment, as the state experiences a flood of unemployment claims stressing the system.⁸ Extended losses are expected to continue and become more widespread, and full closures of some companies is anticipated in the coming months.

Matching fishery supply with local consumer retail demand as fresh air freight for all seafood products is effectively no longer available, rendering U.S. mainland markets inaccessible. This will likely require significant reductions in fishing effort and landings until market demand and prices recover. In an effort to mitigate the situation, more than one processor has begun direct marketing in an effort to generate cash flow and move product. An additional concern is competition with cheaper frozen import product inventories, and with no disruption to ocean shipping channels, this poses a significant short term challenge due to price competition in local retail markets, as local communities endure harsh economic conditions and dramatic increases in statewide unemployment. There is considerable uncertainty about the short-term outlook (4-6 weeks) within the industry, as most are struggling to ride it out. It is difficult for most businesses to think beyond the short term at this point.

American Samoa

American Samoa has implemented strict protective measures to prevent the spread of the novel coronavirus including social distancing and cancellation of public gatherings associated with a public emergency declaration (March 18), an Island-wide stay-at-home work-at-home order (March 24), and all inbound travelers, including returning residents, are required to have a health certificate that shows a negative test for the coronavirus before boarding the Hawaiian Airlines flight to American Samoa (March 27).¹² On March 30,

The top COVID-19 related factors affecting business for seafood dealers and processors include:

- Reduced demand across all markets (mainland and Hawaii; retail and particularly restaurants).
- Falling market prices.
- Increasing inventory (decreasing storage capacity for fresh local product).
- Reduction in air cargo capacity as airlines decrease the number of flights.

Charter and For-Hire Impacts

As the only U.S. state where marlin and other trophy billfish can be reliably caught year-round, Hawaii is well known among serious anglers as a destination for big game fishing trips. Although Kailua-Kona (Big Island) draws many return and regular patrons with its world renowned tournaments, historical harbor, and promises of trophy fish, for the most part Hawaii's charter operations host first-time patrons visiting the state. The Hawaii charter and for-hire industry is effectively closed for business as of mid-March on account of social distancing mandates, stay-at-home orders, drastic reduction in visitor numbers,⁹ visitor quarantine mandates, and suspension of harbor operations and commercial ocean activities, including tournaments.¹⁰ These measures will impose a significant financial burden on charter operators and deprive the state of significant economic contributions¹¹ and the scientific community of valuable tagging data, and many operators indicate that they have begun to receive increasing charter cancellations as far out as June and July.

all flights between Hawaii and American Samoa were suspended for 30 days.¹³ As of March 30, there are no reported positive cases of COVID-19 in American Samoa, but the islands lack a certified lab to handle testing.¹⁴

PROCESSING

According to recent reports, canned tuna sales were up more than 31 percent in recent weeks compared to the same time last year, and StarKist Samoa, located in the U.S. Territory of American Samoa, supplies tuna for the U.S. market.¹⁵ StarKist Samoa, the largest local private employer on the island with about 2,000 workers (about 15% of American Samoa's workforce), processes fish caught by the U.S. purse seine and longline fleets (below) as well as fish landed in Pago Pago by foreign fleets. StarKist Samoa has received exempt status from the American Samoa Governor's emergency declaration, allowing it to maintain operations, given it operates evening and sometimes weekend shifts.¹⁶ However, any positive COVID-19 cases in American Samoa would put cannery operations at significant risk. Furthermore, the boats that deliver to it are under increasing strain and may have to cease deliveries due to the difficulty of getting fishing observers to the vessels.¹⁷ Any disruptions in StarKist operations would have significant direct impacts on the local economy, as well as large ripple effects through the island's economy, as the cannery creates demand in other industries like transportation, warehousing, manufacture of cans, construction, and other retail and wholesale activities. Cannery disruptions also would have adverse impacts on the production of seafood for U.S. and global markets. The annual value of tuna shipments from American Samoa to elsewhere in the United States has been roughly \$400 million in recent years.

American Samoa Longline Average Monthly Fishery Revenues, 2015–2019 (Inflation adjusted to 2018 dollars)



PURSE SEINE FISHERY

The U.S. Pacific tuna purse seine fishery delivers product to American Samoa's cannery, as well as to other processors via transshipment at various ports in the region. The annual ex-vessel value of the fishery's total catch averaged about \$314 million in 2016–2019, and the proportion of the catch landed in American Samoa averaged about 38 percent. Bill Gibbons-Fly, executive director of the American Tunaboat Association (ATA) that represents the U.S. Pacific tuna purse-seine fleet, notes, "Most Pacific Island countries that provide observers have pulled those observers off boats and called them home. We expect others to follow. The increasing travel constraints throughout the Pacific are complicating efforts to get crew, repair parts, technicians and supplies to boats in a timely fashion. And some ports where the boats would offload or transship fish are simply closed to them."

LOGLINE FISHERY

The American Samoa longline fishery operates out of Pago Pago. In 2019, there were 17 active vessels that took approximately 100 trips, landing approximately 3 million pounds valued at about \$4 million. The primary target is albacore tuna and the fishery delivers primarily to StarKist Samoa. The months of January through March are typically the least productive season for this fishery. The fishery has faced significant economic struggles in recent years,¹⁸ and continued economic impacts on account of coronavirus in the coming months will further jeopardize the viability of this fishery as it moves into its most productive months between May and July.

NON-LOGLINE FISHERIES

American Samoa alia and small boat fisheries are a mix of subsistence, cultural, recreational, and quasi-commercial fishermen. Fish and fishing is an integral part of the culture and important component of the social fabric in American Samoa. In addition to social importance, most fishermen consider the fish they catch to be an important source of food for their families. Fishing is critically important in terms of building and maintaining social and community networks, perpetuating fishing traditions, and providing fish to local communities as a source of food security. During 2018, commercial fishery revenues for bottomfish, near-shore, and reef fish species were approximately \$113,000¹⁹ with pelagic species revenues of approximately \$50,000.²⁰

Commonwealth of the Northern Mariana Islands

The Commonwealth of the Northern Mariana Islands (CNMI) has implemented strict protective measures to prevent the spread of the novel coronavirus, including social distancing and cancellation of public gatherings associated with a public emergency declaration coupled with a stay-at-home work-at-home order (March 17),²¹ and all inbound travelers, including returning residents, are required to undergo a 14-day quarantine (March 23).²²

Tourism is by far the largest industry in the CNMI and COVID-19 impacts began in February, with 11 major hotels collectively reporting the lowest occupancy rates ever recorded at less than 20%, with hotels starting the planning stage of laying off employees, closing entire wings, closing restaurants, and suspending contracts for outsourced services.²³ In response to this dramatic decline in tourists, the CNMI government implemented austerity measures to balance projected budget shortfalls, which among other measures include 16-hour cuts (64-hour bi-weekly work schedule) to government employees.²⁴ The first two confirmed positive cases for COVID-19 in the CNMI occurred on March 29.

CNMI small boat fisheries are a mix of subsistence, cultural, recreational, and quasi-commercial fishers. Fish and fishing is an integral part of the culture and important component of the social fabric in the CNMI. In addition to social importance, most fishermen consider the fish they catch to be an important source of food for their families. Fishing is critically important in terms of building and maintaining social and community networks, perpetuating fishing traditions, and providing fish to local communities as a source of food security.²⁵ During 2018, commercial fishery revenues for bottomfish, nearshore, and reef fish species were approximately \$105,000²⁶ with pelagic species revenues of approximately \$386,000.²⁷

In considering COVID-19 impacts to the CNMI fishing community, the Saipan Fishermen's Association cancelled their annual Mahimahi Fishing Derby scheduled for March 28. In response to the first two positive cases, one of which had travelled to Tinian, on March 30 the Tinian government implemented a "sunset-to-sunrise" curfew and closed the harbor to recreational and commercial fishing,²⁸ limiting the opportunities for fishing to support the community in these trying times.

Social Impacts

In addition to the concern facing the rest of the United States over the strain COVID-19 will bring to the health care system, the Pacific Islands Region experiences a number of unique concerns. Residents tend to live in large, crowded, multi-generational households³⁶ with a higher proportion of older residents than most other states,³⁷ placing the population in the region at higher risk. In addition, extended families are often spread throughout the region, which includes many remote island-based communities where medical facilities are limited. In American Samoa, arriving passengers from one flight on March 26 filled the capacity of their health care center and resulted in a halt on passenger travel between Honolulu and Pago Pago.³⁸ Airlines are also considering limiting inter-island flights in Hawaii. Increasing travel restrictions are forcing individuals into indefinite periods of separation from loved ones, causing significant added anxiety. The fishing communities (both commercial and non-commercial) in the Pacific Islands Region play a vital role in supporting local food systems, nutrition, food security, and community social cohesion. This importance is amplified in the face of natural disasters and human health crises, and fishing communities are needing to adapt their operations to be able to continue these crucial functions in the face of unprecedented disruptions and increasing isolation.

Endnotes

- <https://health.hawaii.gov/news/covid-19-updates/>
- <https://www.staradvertiser.com/2020/03/29/hawaii-news/once-filled-with-visitors-waikiki-has-turned-into-a-ghost-town/>
- <https://www.hawaiinewsnow.com/2020/03/27/fish-prices-plummet-coronavirus-pandemic-cripples-industry-idles-boats/>
- National Marine Fisheries Service (2020) Fisheries of the United States, 2018. <https://www.fisheries.noaa.gov/feature-story/fisheries-united-states-2018>
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Guam

Guam has implemented strict protective measures to prevent the spread of the novel coronavirus, including social distancing, cancellation of public gatherings, public emergency declaration (March 14), island-wide stay-at-home work-at-home orders, and closure of non-essential businesses (March 19).²⁹ Tourism impacts began in February, with major hotels experiencing roughly 30% reductions in occupancy rates.³⁰ According to the Guam Department of Labor, 2,335 workers have been laid off on Guam so far due to the coronavirus crisis and another 1,244 have had their hours reduced.³¹

Guam small boat fisheries are a mix of subsistence, cultural, recreational, and quasi-commercial fishers. Fish and fishing is an integral part of the culture and important component of the social fabric on Guam. In addition to social importance, most fishermen consider the fish they catch to be an important source of food for their families. Fishing is critically important in terms of building and maintaining social and community networks, perpetuating fishing traditions, and providing fish to local communities as a source of food security.³² During 2018, commercial fishery revenues for bottomfish, nearshore, and reef fish species were approximately \$410,000³³ with pelagic species revenues of approximately \$215,000.³⁴

The Guam Fishermen's Cooperative Association (GFCA) is a central component of Guam's contemporary fishing industry that continues to pursue and broaden its original mission of providing marketing services, fuel, and ice for its small-boat fishermen members. Organized in 1976, GFCA's influence has become pervasive, providing a variety of benefits not just to its members, but for fisheries conservation, marine education, and the greater Guam community.³⁵ Amid coronavirus concerns, the GFCA remains open to provide seafood to the local community and support fishermen, but stay-at-home measures have had negative impacts on GFCA operations due to a limited customer base.



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Northeast Fisheries Impacts from COVID-19

Commercial Fisheries Landings Trends and Impacts¹

In 2018, roughly 6,400 commercial fishing vessels operated in Northeast fisheries,² which had landings revenue of \$1.93 billion. The Northeast has a large variety of commercial fisheries, with lobsters and scallops alone averaging just over a \$1 billion (70%) of total landings revenue from 2015 to 2019 (See Figure 1). Important fisheries for squids, groundfish, menhaden, blue crab, surfclams, ocean quahogs, and summer flounder, scup, and black seabass accounted for an additional \$332 million. These fisheries combined with that of scallops and lobsters accounted for an average of 92% of regional ex-vessel value.

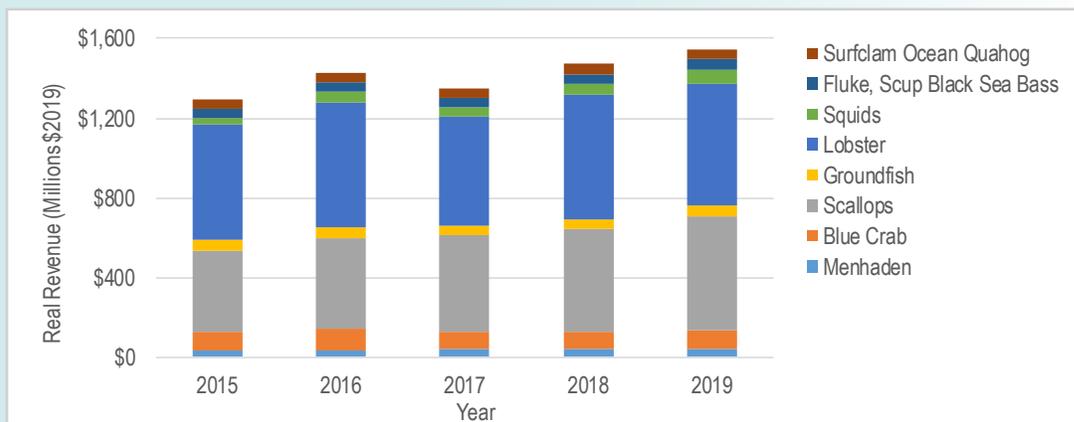


Figure 1. Inflation adjusted annual ex-vessel revenue for Northeast region fisheries that account for 90% or more of total revenue (2015-2019).

Although, most Northeast region fisheries are prosecuted year-round there are seasonal differences that will have implications for the timing and magnitude of potential impacts of disruptions in seafood markets resulting from COVID-19. Figure 2 plots the cumulative percent of annual revenues beginning with the month of February by fishery based on monthly average revenue from 2015 to 2019. Of these fisheries, in only the combined summer flounder/scup/black seabass fishery were historical revenues at least 20% by the end of March. By the end of April, revenues in the scallop, groundfish, and surfclams/ocean quahogs were above 20% of annual revenue and were above 20% in the blue crab and squid fisheries by the end of May. Note that cumulative revenue goes up steeply for scallops, groundfish, surfclams/ocean quahog, and summer flounder/scup/black seabass

reaching 45-50% of annual revenues by the end of June. Although not shown in Figure 2, cumulative revenues for both the monkfish and tilefish fisheries were also 45-50% by the end of June. By contrast, revenues in the lobster fishery peak later in the year reaching 20% of total annual sales by the end of July and more than 45% of annual revenues by the end of August.

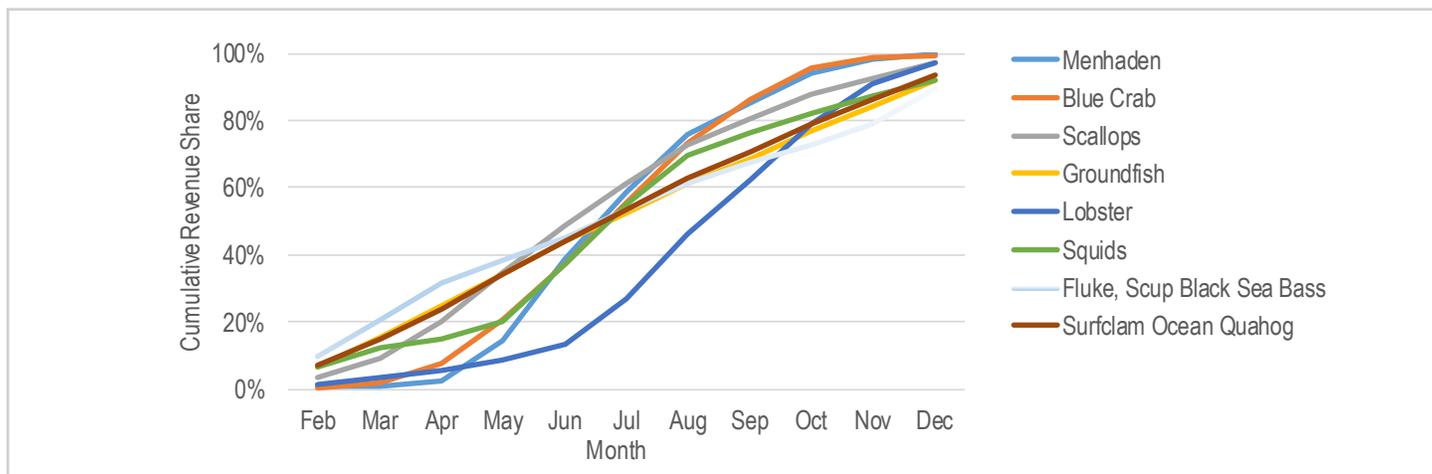


Figure 2. Cumulative percent of revenue earned beginning in February for 2015-2019 monthly average revenue by fishery.

Importantly, COVID-19 impacts may not necessarily be related to seasonal differences in landings. For example, the lobster fishery was initially affected by the loss of the Chinese market in January and is now also impacted by the closures of restaurants in many states and globally, including key markets in the European Union. Even though the fishery is not as active during these months loss of export markets is important to maintaining cash flow and may result in lower prices. By contrast, fisheries for surfclams/ocean quahogs and menhaden may be less affected by market disruptions as the former goes into shelf-stable products while the latter is for reduction.

Seafood Dealers/Processors³

There were 642 seafood dealers/processors in the New England and Mid-Atlantic Regions in 2018. Notwithstanding a few seafood products that are primarily exported or have a high volume of exports (e.g., lobster and monkfish), much of the Northeast Region's seafood product is consumed domestically. There are a mix of species primarily sold to restaurants—such as black sea bass, summer flounder, and groundfish (cod, haddock, flounders, etc.)—that had sizable price and revenue declines in March 2020 that may be attributable to restaurant closures. Other seafood products, such as ocean quahogs and surfclams, are more resilient to current events because they are processed into soups and other similar shelf-ready product forms. Mackerel is resilient because it relies largely on non-human uses such as frozen bait or animal food. A retail market also exists for flats, haddock, pollock, and hake. There are reports that some supermarkets have increased demand for selected seafood products (e.g., shelf-stable, frozen, etc.). The closure of New York City restaurants was broadly felt across the seafood sector, with the New Fulton Fish Market at Hunt's Point cautioning fishermen about low prices.

NOAA Fisheries staff interviewed 25 dealers for this assessment, which represented 15% of this sector's revenues in the Northeast. Only 36% of dealers interviewed reported revenue losses in February, with losses averaging 6% for all dealers but 20% for those dealers experiencing losses. No dealers reported having to lay employees off in February.

March losses were much more widespread:

- 88% of dealers reported revenue losses.
- Dealers reported 10-100% revenue losses for an average of 55% decrease in revenue among those reporting losses.
- 44% of dealers laid off employees, with the number of employees laid off ranging from five to 394.
- 28% of dealers told fishermen to reduce or stop fishing.

Top COVID-19 related factors affecting their business:

- Lower market prices.
- Reduced demand for seafood products from restaurants, grocery stores, or fish markets, although grocery stores and fish markets are faring better, along with an increase in direct-to-consumer sales.
- Reduced domestic landings.
- Reduced imports of species not generally available in February and March, such as swordfish and tuna.
- Reduced opportunity to export product.

Aquaculture

The majority of Northeast aquaculture products are consumed domestically, indicating that the impact on these operations stems from the broad-scale closures of restaurants. In the Northeast Region, shellfish aquaculture operations are the hardest hit within the sector. In Massachusetts, there are approximately 400 aquaculture operations with farm gate valued at roughly \$50 million per year. Sea Grant interviewed 10 shellfish growers, who reported that they had no sales since March 13, when restaurants began to close. None of these operations reported layoffs because of required seasonal work arising from seed and gear needs; instead, these operations have reduced employee hours 40-50%. Finfish and shrimp farm operations in Massachusetts face a similar market situation, with sales down 85% on average. The situation in New Jersey mirrors that in Massachusetts. Those interviewed indicated that layoffs have started, and some operations have begun to redirect work toward infrastructure maintenance and repair. Several respondents also reported that they have stopped paying their rent.

Recreational Fishing – For Hire Sector

In 2019, 941 vessels held for-hire fishing permits for federally managed recreational species in the Northeast (excludes highly migratory species permits). Of these vessels, 532 took at least one for-hire fishing trip in 2019. Furthermore, roughly 2,500 additional for-hire vessels holding state fishing permits are estimated to take passengers for-hire each year. From 2016 to 2019, an average of 1.1 million angler trips were taken annually. In New England, fishing effort in March through April accounted for less than 1% (0.56%) of for-hire angler trips made in 2019 and generated \$203,000 in revenue; in the Mid-Atlantic, March and April accounted for 2% of the for hire angler trips made in 2019 and generated \$1,573,000 in revenue.⁴

The March 16 guidance from the White House,⁵ which was extended on March 29 to run through April 30, recommended limiting gatherings to 10 or fewer people and eliminating unessential trips. This guidance severely impacted the for-hire fishing sector beginning on March 16 and will continue to impact this sector through April.

To begin to understand these impacts, NOAA Fisheries staff interviewed 18 for-hire operations.

Key for-hire interview findings include:

- 83% of for hire operations indicated that their customer bookings had been impacted by the COVID-19 event. One interviewee stated, “Bookings for the coming season have been zero since this whole sorry situation started.”
- 61% of those interviewed reported cancelled trips; only two respondents from New England (both operating out of Point Judith, Rhode Island) reported trip cancellations.
- 33% reported cutting hours for employees; in addition, the hiring of seasonal workers has also been negatively impacted. One person interviewed indicated that the owner had taken out a loan to continue paying employees.
- Several interviewees reported delaying maintenance and upgrade expenditures.
- In the past, for-hire vessels have been able to diversify and/or supplement their income streams by also conducting commercial fishing trips. Because the fresh fish market has been severely impacted by COVID-19, this mitigation method will not work.

Endnotes

- 1 All 2019 and 2020 data used herein is preliminary.
- 2 Includes lobster but excludes blue crab and other state waters-only fisheries.
- 3 Dealers also includes auctions.
- 4 NOAA Fisheries does not survey angler fishing effort in the Northeast during Wave 1 (January and February) because effort is very low during this wave.
- 5 https://www.whitehouse.gov/wp-content/uploads/2020/03/03.16.20_coronavirus-guidan.5x11_315PM.pdf



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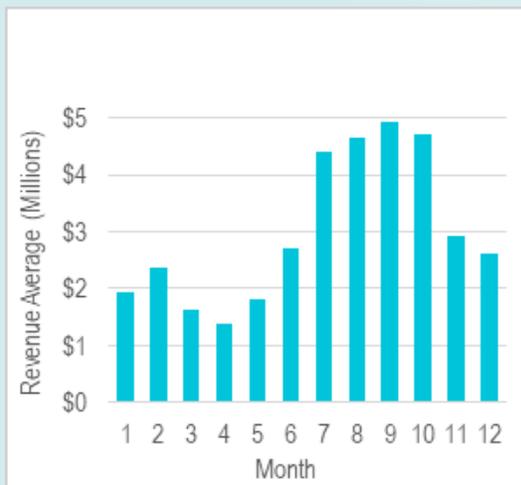


Atlantic Highly Migratory Species Fisheries Impacts from COVID-19

Commercial Fisheries Landings Trends and Impacts

The Atlantic Highly Migratory Species (HMS) fishery is a high-value fishery comprised of seven key species and species groups: bluefin tuna, BAYS tunas (bigeye, albacore, yellowfin, and skipjack), swordfish and sharks. All of the HMS species/species groups are harvested year-round (within open seasons) but most species typically have lower average monthly landings revenue (\$1.8 million per month) from February through April as compared to other months (\$3.2 million per month) throughout the year.

The swordfish fishery is an exception. Swordfish landings revenue in February through April (\$681,000 per month) are on par with average monthly landings (\$769,000 per month) for other months during the year. This fishery is likely to sustain the most substantial damage to its annual revenue projections in the short term. All high-end products, particularly bluefin, bigeye and yellowfin tunas, that are typically sold to restaurants are anticipated to suffer major price declines in March as restaurant restrictions were implemented domestically and globally.



Seafood Dealers

There were 153 seafood dealers that handled Atlantic HMS product in 2019. The Atlantic HMS market is almost entirely dependent on providing high-end fresh fish to the restaurant market. Restrictions on restaurant operations due to COVID-19 are causing some dealers to no longer accept HMS landings and instead they will only accept landings of species that can be frozen. As a result, HMS dealers experienced 70-90% revenue losses in March as increasingly widespread restrictions were placed on as increasingly widespread restrictions have been placed on restaurants, travel, etc. Some dealers are advising vessels to switch out their pelagic gear and to target other, lower valued species instead.

NOAA Fisheries interviewed 22 seafood dealers that market HMS species. These dealers represented 72% of this sector's revenue.¹ Less than half (41%) reported revenue losses in February, with losses averaging 51% among those reporting losses. Nine percent of dealers reported having to lay off employees in February.

March losses were much more widespread:

- 100% of dealers interviewed reported revenue losses.
- Dealers reported an average revenue loss of 76%.
- 33% of dealers reported laying off employees.
- 64% of dealers asked vessels to reduce or stop delivering product; 23% of dealers reported fishermen stopped fishing on their own.
- 41% of dealers report customers (e.g., restaurants) are having difficulty paying invoices.

Top COVID-19 related factors affecting their business:

- Lower market prices.
- Reduced demand for seafood products from restaurants, grocery stores, or fish markets (primarily restaurants).
- Reduced domestic landings.
- Reduced opportunity to export product.

A number of dealers mentioned attempting to change marketing strategies to include direct marketing, including online sales and direct sales to grocery stores. Other dealers are limiting product purchases to frozen product while one dealer mentioned co-packing with other vendors to reduce costs. In addition, one dealer mentioned he was calling all businesses to whom he owed money to get an extension on payment; conversely, other dealers have mentioned slow payment by buyers or a reluctance to provide product on credit. A number of dealers reported plant closures throughout the United States.

Endnotes

- 1 Excludes bluefin tuna revenue.



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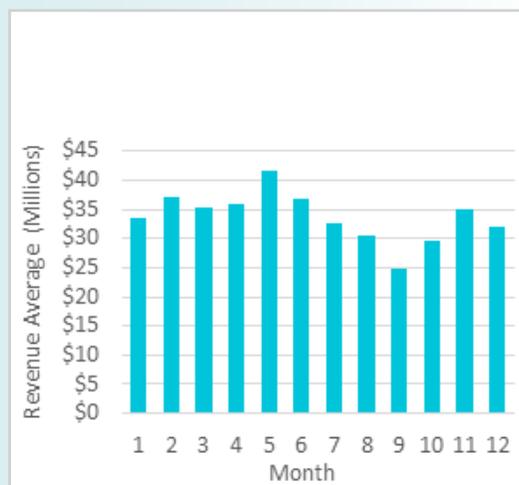
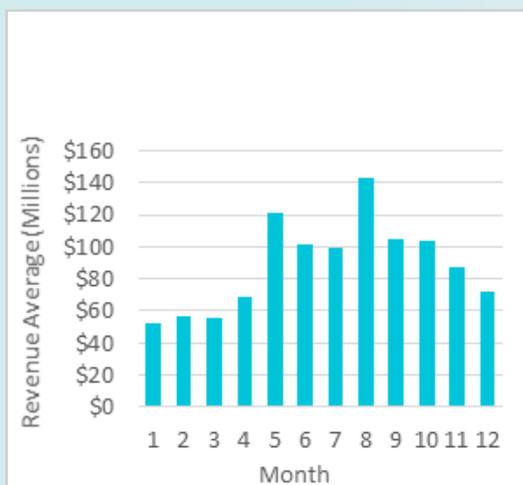


Southeast Fisheries Impacts from COVID-19

Commercial Fisheries Landings Trends and Impacts

In 2018, approximately 10,000 commercial fishing vessels operated in the Southeast fisheries and landed products valued at \$1.1 billion. The top three commercial fisheries by landings revenue in the Gulf of Mexico are shrimp, oysters, and menhaden; the top fisheries by landings revenue in the South Atlantic are blue crab, shrimp, and snapper-grouper.

Many of the participants in Southeast commercial fisheries are active year-round, reflecting the seasonality of these fisheries. Notably, the South Atlantic blue crab fishery, Gulf of Mexico menhaden fishery, and spiny lobster, dolphin-wahoo, and shrimp fisheries (which are prosecuted in both regions) are less active from February through April. On average, these fisheries earned 5-14% of their annual income during this three-month period. In contrast, the other Southeast fisheries earn on average 32% of annual landings revenue from February through April.



SPINY LOBSTER FISHERY

While the February through April timeframe is a less active period for the spiny lobster fishery (average monthly revenue for this period is 21% of average monthly landings revenue for other months during the year), cash flow in this fishery was significantly impacted by COVID-19. Because the spiny lobster fishery relies heavily upon the Chinese market, the closure of this market in January created severe impacts in the fishery, with many fishermen ceasing operations.

Seafood Dealers

There were 3,240 seafood dealers operating in the Southeast Region in 2018. Notwithstanding a few seafood products that are exported (e.g., spiny lobster to China), much of the Southeast Region's product is consumed domestically, with a high proportion dependent upon restaurant sales. King mackerel is a notable exception; it is sold primarily in grocery stores and there remains a strong market for this product.

NOAA Fisheries interviewed 42 seafood dealers between March 19 and March 24, which represented between 11-25% of this sector's state-level revenues.¹ Less than half (40%) reported revenue losses in February, with losses ranging from less than 10% to 80%. Only 7% of dealers reported having to lay employees off.

March losses were much more widespread:

- 83% of dealers reported revenue losses.
- Dealers reported 3-100% revenue losses for an average of 65% decrease in revenue among those reporting losses.
- 33% of dealers laid off employees.
- 71% of dealers told fishermen to reduce or stop fishing.
- 41% of dealers report customers (e.g., restaurants) are having difficulty paying invoices.

Top COVID-19 related factors affecting their business:

- Reduced demand for seafood products from restaurants, grocery stores, or fish markets.
- Lower market prices.
- Reduced domestic landings.
- Reduced opportunity to export product.

Dealers' concerns largely focused on whether the firm would be able to financially weather the COVID-19 market impacts. Some expressed concern regarding how long it would take for prices to recover, changes in the supply chain and loss of markets, and loss of infrastructure. Many dealers expressed concerns for their employees, with a number of dealers remarking upon the number of employees (and their families) depending upon them for their livelihood. One dealer neatly summed up his concerns as, "paying the fishermen, paying employees, keeping the lights on, and staying healthy."

Aquaculture

The majority of Southeast aquaculture products are consumed domestically, indicating that the primary impact to these operations stems from broad-scale closures of restaurants. In both the South Atlantic Region and the Gulf of Mexico Region, shellfish aquaculture operations are the hardest hit within the sector. Product has stopped moving through the supply chain, revenue has stopped, and layoffs are underway. For example, in Mississippi and Alabama a survey of shellfish growers and dealers revealed that March sales for shellfish are down 90%, and now are at zero, with past invoices not being paid. Most growers have already laid off workers and one large dealer indicated that they had already laid off half of their workforce.

Recreational Fishing – For Hire Sector

There were approximately 4,000 and 1,800 charter operations in the Gulf of Mexico and South Atlantic Regions, respectively, in 2019. There were an estimated 63 headboat vessels in the South Atlantic and 69 in the Gulf of Mexico in 2019. From 2016 to 2019, anglers in the Southeast took an average of 1,523,770 charter trips annually. In the South Atlantic, charter fishing effort in March through April accounted for 15% of charter angler trips in 2019 and generated \$16.9 million in revenue; in the Gulf of Mexico, the same period accounted for 19% of the number of charter angler trips made in 2019 and generated \$53.3 million in revenue.² In the South Atlantic, headboat fishing effort in March through April accounted for 17% of headboat vessel trips in 2019 and generated \$3.2 million in revenue; in the Gulf of Mexico, March through April accounted for 16% of the number of headboat vessel trips made in 2019 and generated \$27.8 million in revenue.³

A total of 32 for-hire businesses were contacted between March 23 and March 24 in seven states in the Gulf of Mexico and South Atlantic regions. Of those contacted, only 29% (9) saw a decline in February bookings, reporting a 30–90% decline, with an average of \$7,300 in lost revenue. Only two of those businesses stated they had to lay off people in February. In March the number of affected businesses increased significantly, with 97% of those contacted seeing a change in business. The reduction in effort reported here was corroborated by recent reports from NOAA Port Agents who also canvassed the for-hire industry and saw reductions in effort of 80-100% (see Table 1). The average loss in revenue as of March 24 was \$27,000 among those businesses that reported losses. Five of those businesses reported having to lay off employees. Only two businesses reported that hotels and restaurants had not been closed in their area.

Puerto Rico

On March 15, 2020, the Governor instituted a two-week closure (curfew) for the majority of businesses on the island of Puerto Rico. However, commercial fishermen are exempted from the curfew and fish cooperatives (villas pesqueras) and fish stores can also sell seafood products. In the past four years, the months of March, April, and May yielded, on average, \$0.92 million in dockside revenues.

Interviews with several dealers and port agents from around Puerto Rico were conducted March 23 to inquire about the impact of the COVID-19 outbreak on their operations, sales, and employment.

Puerto Rico key findings:

- Most fishermen and villas pesqueras reported lower sales in the 50-75% range. Only one villa pesquera said that their sales had not been impacted.
- Lower demand was reported for seafood in local restaurants due to sales being limited to pick-ups and deliveries that emphasize local fare, which generally do not have fish products.
- Existing demand largely involves local customers wanting to ensure that they have fish for Lent. Much of this demand apparently purchases second-class fish such as parrotfish and grunts.
- There were some reports of depressed prices for first-class fish species like snappers, lobster, and conch.
- It is likely that villas pesqueras-affiliated fishermen will be asked to stop fishing or reduce their catches because many of the freezers were starting to get full at the time interviews were conducted. Independent fishermen reported severely reduced markets due to restaurant and hotel closures.

Table 1. Estimated Percent Reduction in Effort in the South Atlantic and Gulf of Mexico For-hire Fishery as of March 24, 2020.

Region	State	Headboat	Charter Boat
South Atlantic	North Carolina	100%	90%
	South Carolina	80%	80%
	Georgia	100%	100%
	Northeast Florida	50%	50%
	Southeast Florida	50%	80%
	Florida Keys	98%	95%
	Average	80%	83%
Gulf of Mexico	Southwest Florida	95%	90%
	Northwest Florida	98%	90%
	Alabama	98%	96%
	Mississippi	98%	98%
	Louisiana	100%	80%
	Texas	100%	90%
	Average	98%	91%

2 NOAA Fisheries does not survey in Texas or Louisiana for the MRIP survey; the Gulf of Mexico charter estimates include West Florida, Alabama, and Mississippi. MRIP estimates include only charter boats in the Southeast and Gulf of Mexico. The Southeast Headboat Survey collects information on headboat effort including Texas and Louisiana.

3 The March to April period corresponds with WAVE 2 in the MRIP data.

U.S. Virgin Islands (USVI)

There is community transmission of COVID-19 happening in USVI, with 30 cases confirmed as of April 2. The Governor has issued orders closing all hotels, bed and breakfasts, and non-essential businesses and requested that people stay home. NOAA Fisheries staff conducted interviews with industry representatives from March 23 to 25 to increase our understanding of the impact of the COVID-19 outbreak on fisheries operations, sales, and employment.

St. Croix key findings:

- Commercial fishermen who sell on the roadside and the fish market stated that sales have not dropped. There is, however, a decline in sales to restaurants due to closures.
- Some commercial fishermen have stopped selling at the local market out of concern of being contaminated by a carrier.
- Charter fishermen report cancelled charters, due to the drop in tourists and closure of Buck Island Reef National Monument.

St. Thomas key findings:

- Commercial and for-hire fishermen are still struggling from impacts of hurricanes Irma and Maria. The \$10.7 million in fisheries disaster relief Congress appropriated to the USVI has not yet been distributed.
- The lobster fishermen are dependent on the restaurants and resorts, so they are having great difficulty selling their catch; not many locals buy lobster directly.
- Commercial fishermen have usually sold their catch directly to the public at roadside stands, and report many customers cancelling their orders.
- The charter fleet is at a standstill with the closure of the resorts.



U.S. Secretary of Commerce

Wilbur Ross

Acting Under Secretary of Commerce
for Oceans and Atmosphere

Dr. Neil Jacobs

Assistant Administrator for Fisheries

Chris Oliver

January 2021

www.fisheries.noaa.gov

OFFICIAL BUSINESS

National Marine
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Endnotes

- 1 Excludes menhaden dealers.

NOAA Fisheries Coronavirus (COVID-19) Update

For more information, visit:

<https://www.fisheries.noaa.gov/national/noaa-fisheries-coronavirus-covid-19-update>