
3.11 Socioeconomic Resources and Environmental Justice

Gulf of Alaska Navy Training Activities

Final Supplemental Environmental Impact Statement/ Overseas Environmental Impact Statement

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3.11 Socioeconomic Resources and Environmental Justice

3.11.1 Affected Environment

Concerns regarding socioeconomic resources (including commercial shipping, commercial and recreational fishing, and tourism) and environmental justice remain the same as those issues previously identified in the 2011 Gulf of Alaska (GOA) Final Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS) and 2016 GOA Final Supplemental Environmental Impact Statement (SEIS)/OEIS. Further, the Navy's standard operating procedures to prevent or reduce socioeconomic impacts on local communities—as described in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS—remain applicable in this SEIS/OEIS. Socioeconomic resources were analyzed in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS for training activities occurring in the Temporary Maritime Activities Area (TMAA), which is located beyond 12 nautical miles (NM) from shore and outside of the U.S. Territorial Sea in the GOA. The Study Area for this SEIS/OEIS was expanded to include a limited number of activities in the Western Maneuver Area (WMA), as well as the same activities in the TMAA analyzed previously. The Proposed Action is to conduct an annual exercise, historically referred to as Northern Edge, over a maximum time period of 21 consecutive days during the months of April through October. Though the types of activities and number of events in the Proposed Action are the same as in the previous documents (Alternative 1 in both the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS), there have been changes in the platforms and systems used as part of those activities (e.g., EA-6B aircraft has been replaced with the EA-18G aircraft). Additionally, the use of the Portable Underwater Tracking Range is no longer proposed, and the Sinking Exercise, originally proposed in the 2011 GOA Final EIS/OEIS, is not part of the Proposed Action in this SEIS/OEIS. Refer to Chapter 2 (Description of Proposed Action and Alternatives) for a more detailed description of the GOA Study Area and the alternatives considered and eliminated from further consideration.

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued on February 11, 1994. This EO requires each federal agency to identify and address, as appropriate, disproportionately high, and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions. An analysis of environmental justice should also include an analysis of effects from the Proposed Action on children as described in EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. Executive Order 13045 requires that federal agencies prioritize assessing environmental health risks and safety risks that may disproportionately impact children. The Council on Environmental Quality has emphasized the importance of incorporating environmental justice review in the analyses conducted by federal agencies under the National Environmental Policy Act (NEPA) and of developing protective measures, as appropriate for the action, that reduce or avoid disproportionate environmental effects on minority and low-income populations and the health and safety of children.

3.11.1.1 Socioeconomic Resources

Following a review of recent literature, the Navy has determined that the existing conditions with respect to military, commercial, and general aviation air traffic and military and civilian marine traffic have not changed appreciably since the release of the 2011 GOA Final EIS/OEIS and the 2016 GOA Final SEIS/OEIS. Additionally, during the early planning phases before a Navy exercise commences, the military and the local Federal Aviation Administration (FAA) officials (Anchorage Air Route Traffic Control Center) work in close coordination to schedule and mitigate any potential conflicts to the commercial and general aviation communities. As stated in the 2011 GOA Final EIS/OEIS and the 2016 GOA Final SEIS/OEIS, the Navy's scheduled activities are published for access by all vessels and operators by use of

Notice to Mariners (NTMs) issued by the U.S. Coast Guard (USCG) and Notices to Airmen issued by the FAA. Additionally, to ensure the broadest dissemination of information about hazards to commercial and recreational vessels within the region, the Navy provides schedule conflicts along with other USCG concerns via the U.S. Department of Homeland Security Navigation Center, Local NTMs¹ which are published weekly and downloadable as PDF documents.

3.11.1.1.1 Commercial Shipping

As discussed in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS, the TMAA is traversed by large and small marine vessels, with several commercial ports occurring near the TMAA. Three of these ports were ranked in the top 150 U.S. ports by tonnage in 2018, the latest year in which summary statistics are available; Anchorage (81st), Nikishka (76th), and Valdez (21st) (U.S. Army Corps of Engineers, 2018b). All three ports are located in inland waters north of the TMAA and would not be impacted by activities in the WMA. The port of Dutch Harbor, located on Amaknak Island in the Aleutians, is the only major port located in proximity to the WMA. The western boundary of the WMA is approximately at the same longitude as Dutch Harbor (see Figure 2-1). Vessel traffic at ports, harbors, and terminals in the Cook Inlet area are likely to increase over the next 40 to 50 years as several port expansion projects are completed and economic activity increases (Bureau of Ocean Energy Management, 2016).

Commercially used waterways are controlled by the use of directional shipping lanes for large vessels (e.g., cargo, container ships, and tankers). The most heavily used commercial ports and waterways in Alaska can be visualized using signals broadcast mainly by larger commercial vessels through the Automatic Identification System. The locations for all participating vessels were plotted from April to October 2014 to create a map of relative vessel traffic density (Figure 3.11-1). While the data do not include every vessel or encompass all possible shipping routes, the visualization highlights the use and importance of nearshore coastal routes to conduct commerce and for transportation and shows that deeper offshore waters in the GOA Study Area are not heavily used. Vessel traffic extending west along the GOA Study Area and the Aleutian Islands to Dutch Harbor would most commonly follow the route of the Alaska Marine Highway System and use inland and nearshore waterways along the coastline. Commercial fishing vessels predominantly approach Dutch Harbor from the Bering Sea to the north; however, vessel traffic approaching from the south appears to be concentrated north of the WMA (Figure 3.11-1).

In 2020 there were 5,139 commercial ship transits (both inbound and outbound) from the ports and harbors of Valdez, Anchorage, Homer, Seward, Kodiak, and Cordova (U.S. Army Corps of Engineers, 2022). This is a significant reduction in vessel traffic from 2017 when 7,934 vessel transits were recorded at these same ports. (U.S. Army Corps of Engineers, 2018a). The Port of Anchorage is the third-largest port in Alaska and is designated as a U.S. Department of Defense National Strategic Port. This port provides services to approximately 75 percent of the total population of Alaska (Bureau of Ocean Energy Management, 2016). The port of Unalaska, which includes Dutch Harbor, is located inshore of the western boundary of the WMA. In addition to other commodities, the port processed over 800,000 short tons of fish and shellfish in 2020 and reported 907 vessel transits (inbound and outbound) (U.S. Army Corps of Engineers, 2022). Ships that travel from major ports to the lower 48 states and Hawaii, as well as marine traffic between coastal ports, enter the GOA Study Area briefly.

¹ See <http://www.navcen.uscg.gov/?pageName=InmDistrict®ion=17>.

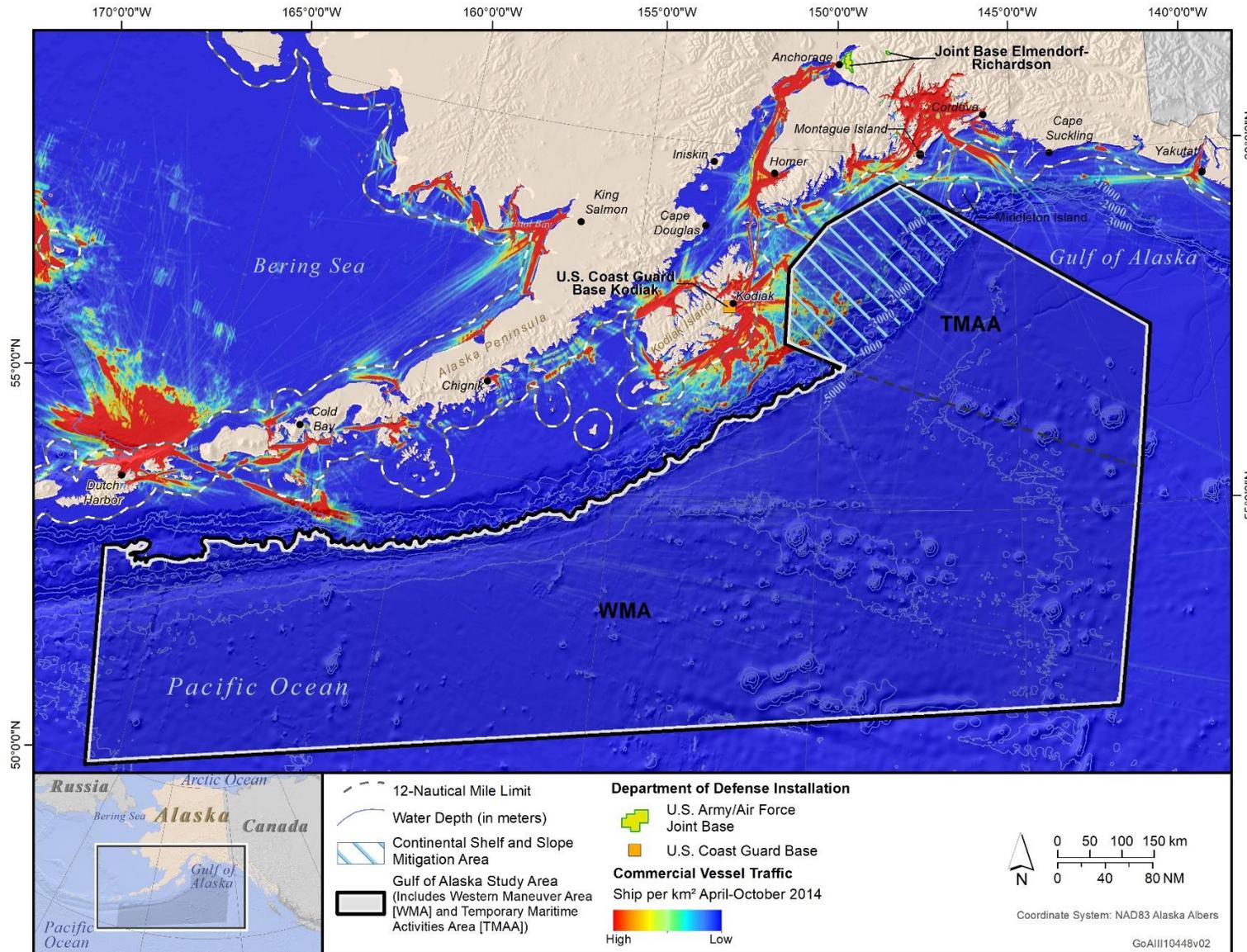


Figure 3.11-1: Density of Commercial Vessel Traffic in Proximity to the Gulf of Alaska Study Area

While the Navy does not publish daily NTMs, USCG District 17, Alaska (Juneau and Anchorage) communicates any active Navy training activity to vessels through broadcast NTMs on very high frequency-FM Channel 16 and accessible through the U.S Coast Guard Navigation Center District 17 Broadcast Notice to Mariners website² (U.S. Coast Guard, 2022).

3.11.1.1.2 Commercial and Recreational Fishing

3.11.1.1.2.1 Commercial Fishing

Commercial fishing was discussed in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS, and the GOA supports one of the most sustainable fisheries in the world (National Marine Fisheries Service, 2020a). This section describes some of the most important commercial and recreational fisheries to the Alaska economy, including groundfish, crab, shellfish, salmon, and Pacific herring. Throughout this section, the term “harvest weight” or “harvest” refers to the weight of fish caught.

Groundfish

The term groundfish includes 141 species in the GOA, including walleye pollock (the most commercially harvested fish in the United States), sablefish, and Pacific cod along with an aggregate of flatfish (including but not limited to Pacific halibut species) and rockfish species (Alaska Fisheries Science Center, 2019). In federal waters off the state of Alaska, groundfish are managed under a fishery management plan (North Pacific Fishery Management Council, 2020). Commercial fishing regions, as defined by the Alaska Department of Fish and Game (ADFG), which are closest to or overlap the GOA Study Area are presented in Figure 3.11-2. Groundfish harvest in the GOA Study Area (TMAA and WMA) is very limited (Alaska Department of Fish and Game, 2022b), with low catches in the WMA likely due to its location in deep offshore waters (greater than 4,000 meter [m]) beyond the continental shelf and slope.

Landings data from 2020 show that walleye pollock had the greatest harvest and highest value, with 3.23 billion pounds landed (86 percent of the total) and a total value of \$419 million (67 percent of value) (Figure 3.11-3 and Figure 3.11-4) (National Marine Fisheries Service, 2022b). Pacific cod had the second-highest harvest and value in 2020, with 380 million pounds harvested and a value of \$118 million (Figure 3.11-3 and Figure 3.11-4). Combined, these two species accounted for over 97 percent of the total groundfish harvest in the GOA in 2020 (National Marine Fisheries Service, 2022b).

Several groundfish species’ seasons are open year round, while others vary throughout the year depending on the region (Alaska Department of Fish and Game, 2020a). However, the areas of highest harvest for groundfish within the GOA Study Area occur on the continental shelf in the TMAA, with very limited catch effort occurring in the WMA due to the deep offshore waters beyond the continental shelf and slope (see Figure 3.11-2) (Alaska Department of Fish and Game, 2020a, 2020b; National Marine Fisheries Service, 2020c). As described in Chapter 5 (Mitigation), the Navy is adding the Continental Shelf and Slope Mitigation Area within the TMAA, which would prohibit the use of explosives from the sea surface up to 10,000 feet altitude during training over the entire continental shelf and slope out to the 4,000 m depth contour to protect marine species and biologically important habitat.

² <https://www.navcen.uscg.gov/bnm/messages/DistrictSearchV1.php?d=17&i=2>

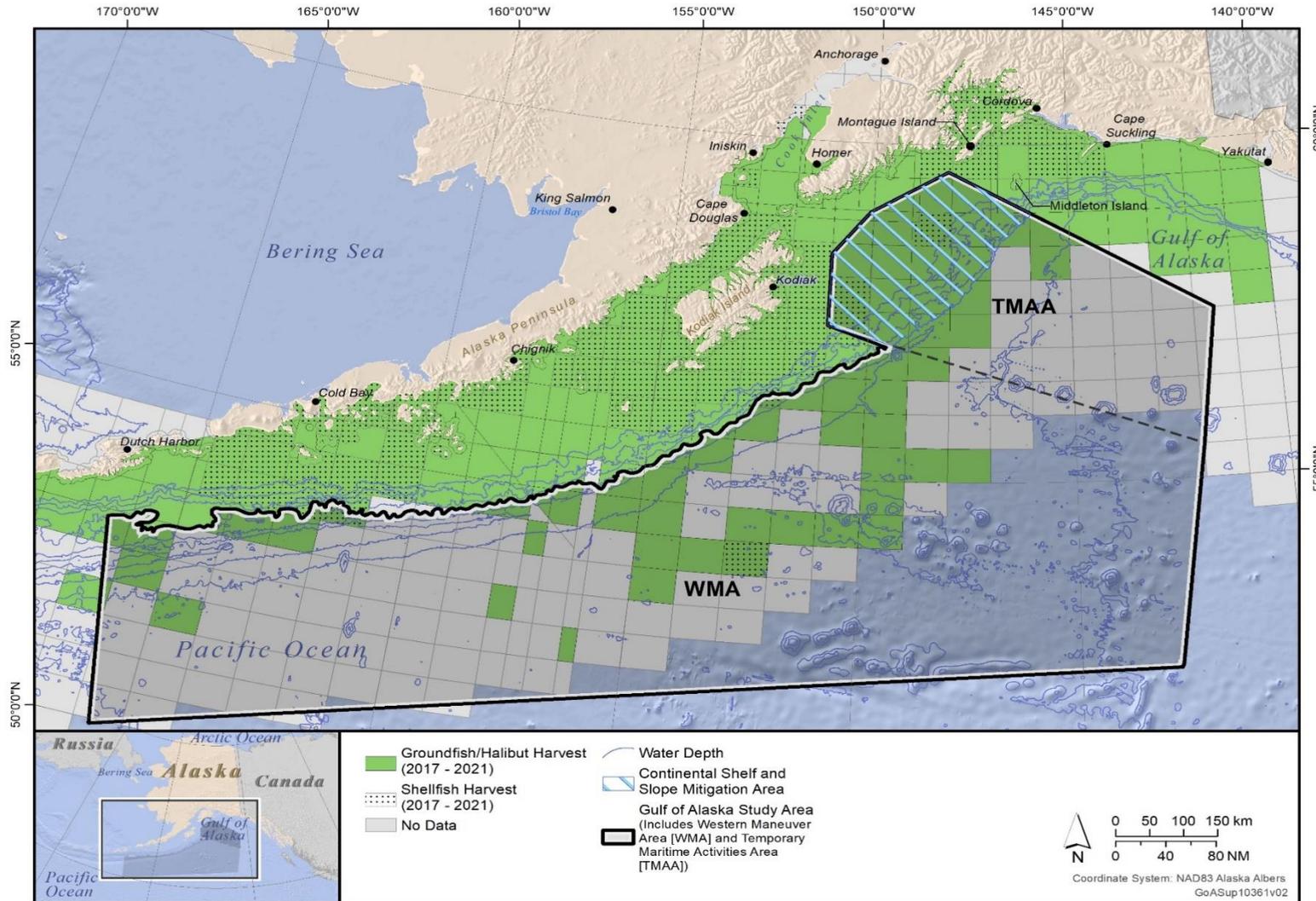


Figure 3.11-2: Commercial Groundfish/Halibut and Shellfish Harvest in the Gulf of Alaska Study Area, 2017–2021

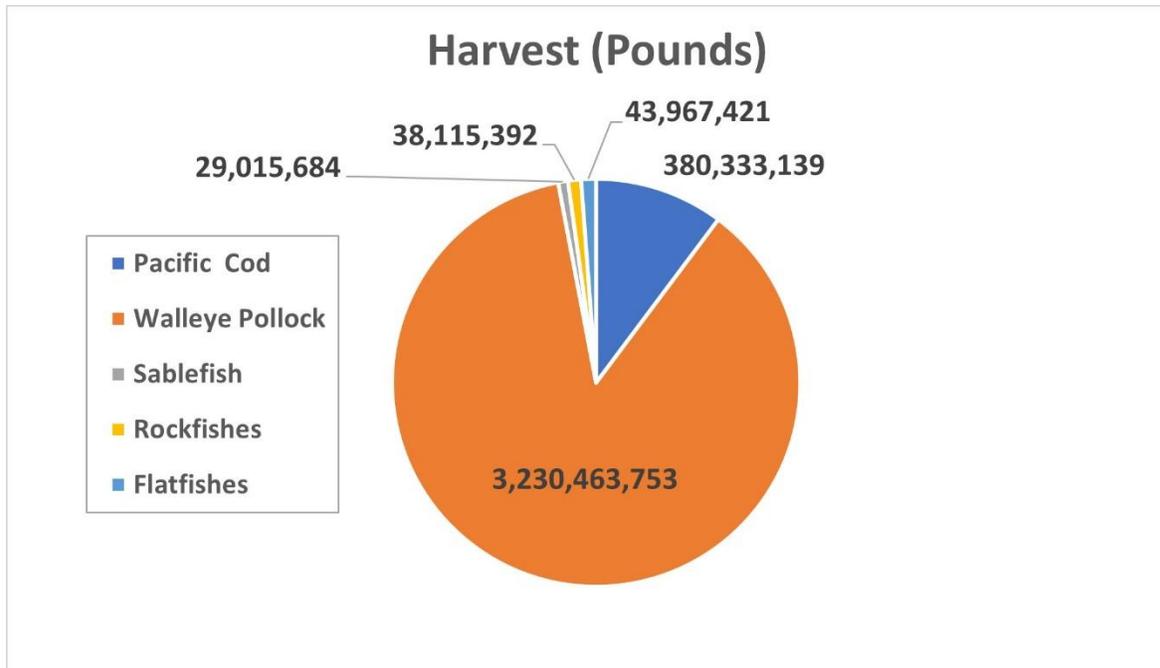


Figure 3.11-3: Commercial Groundfish Harvest by Species in Alaska State Waters in 2020

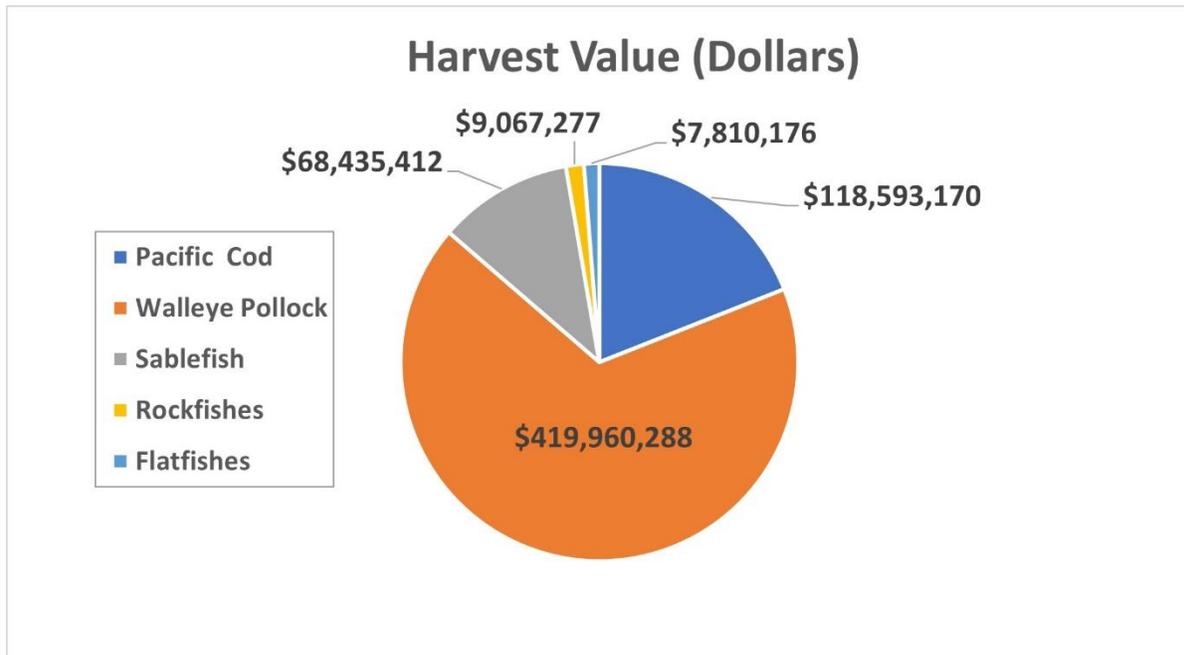


Figure 3.11-4: Commercial Groundfish Harvest Value by Species in Alaska State Waters in 2020

Salmon

In federal waters off the state of Alaska, salmon fisheries are managed under a fishery management plan (North Pacific Fishery Management Council et al., 2021). There is no overlap of the commercial salmon fishery management areas and the GOA Study Area (Figure 3.11-5). There is no science-based evidence that trends in salmon harvests (National Marine Fisheries Service, 2020d) have been positively or negatively correlated with historically biennial Navy training activities in the TMAA. Commercial salmon fishing seasons occur April through October and range from one-and-a-half to four months in waters within or adjacent to the TMAA (Alaska Department of Fish and Game, 2020a). Commercial and recreational fishing of salmonids is concentrated in on-shelf environments near the coast, and only a small northwest portion of the GOA Project Area is located on-shelf.

Across Alaska, trends in commercial harvest and the ability to meet escapement (i.e., are not harvested and return to fresh water to spawn) goals amongst the five native Alaskan salmon species (Chinook, coho, chum, pink, and sockeye salmon) have varied over time (Munro, 2019). For chum and coho salmon, harvest and meeting escapement goals have been stable. Sockeye salmon harvest has been variable through time, with an increase in 2019 being driven by large runs to Bristol Bay (Brehmer, 2021). However, 2020 and 2021 showed substantial decreases in sockeye salmon numbers, with the Copper River fishery closing early due to low counts and catches (Brehmer, 2021). Variability in the abundance of pink salmon runs between even and odd-year broodlines is increasing, as reflected in both commercial harvest and the ability to meet escapement goals. Chinook salmon runs in Alaska have declined in the last decade, leading to restrictions throughout Alaska for commercial, sport and subsistence fisheries (Alaska Department of Fish and Game, 2019a). Despite these restrictions, meeting escapement goals has been challenging and has led to listing of several Alaskan stocks as “stocks of concern” (Munro, 2018, 2019).

Due to their abundance and the biennial life history of pink salmon, over the past five years, pink and sockeye salmon have alternated as the salmonid accounting for the greatest proportion of annual Alaska salmon harvest, with sockeye salmon catch being highest in 2016 and 2018, and pink salmon catch being highest in 2017 and 2019 (Figure 3.11-6). Despite pink salmon having the highest catch in 2017 and 2019, sockeye salmon consistently had the highest value (Figure 3.11-7). Coho, sockeye, and chum salmon harvests have fluctuated but have been relatively stable over the past five years, while Chinook salmon show a slightly downward trend (National Marine Fisheries Service, 2022c).

The mechanisms driving these observed patterns are not well understood. It is hypothesized that some of these changes, particularly in stocks from GOA, may be related to environmental factors (Munro, 2019). It is believed that environmental changes in habitat conditions such as increasing temperatures, above-or-below normal rainfall, and increasing melting of glaciers have strong negative effects on salmon breeding and recruitment (Jones et al., 2020), which could negatively affect annual harvests and could account for the years of low harvest. Estimates of freshwater and marine survival based on juvenile tagging studies indicate that marine survival for brood years since 2001 have declined to below average despite above-average freshwater survival. This information has helped develop management strategies that resulted in heavily restricted fishing for southeast Alaska Chinook salmon over recent years (Munro, 2019).

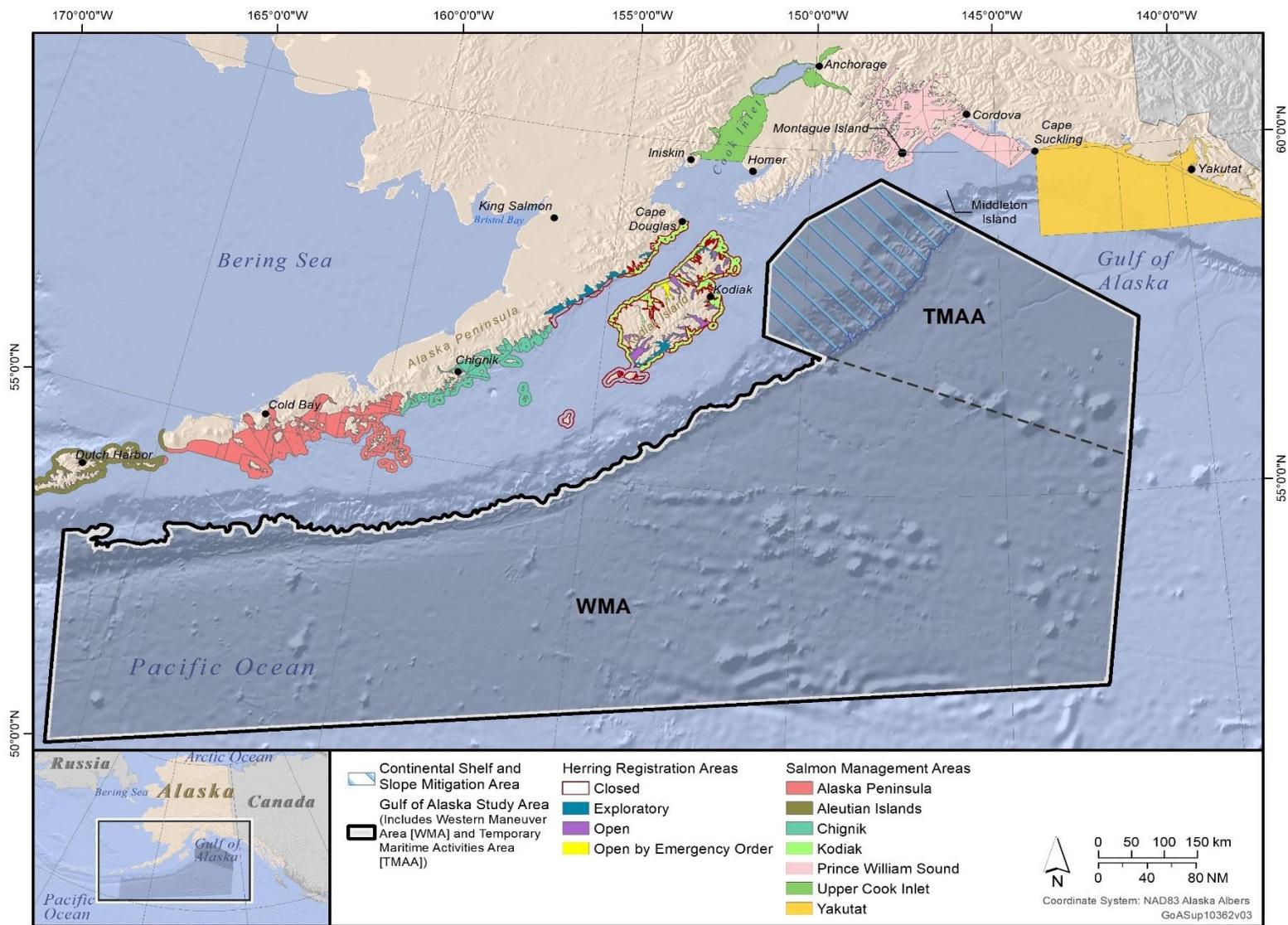


Figure 3.11-5: Commercial Salmon and Herring Fishery Management Areas in the Gulf of Alaska Study Area

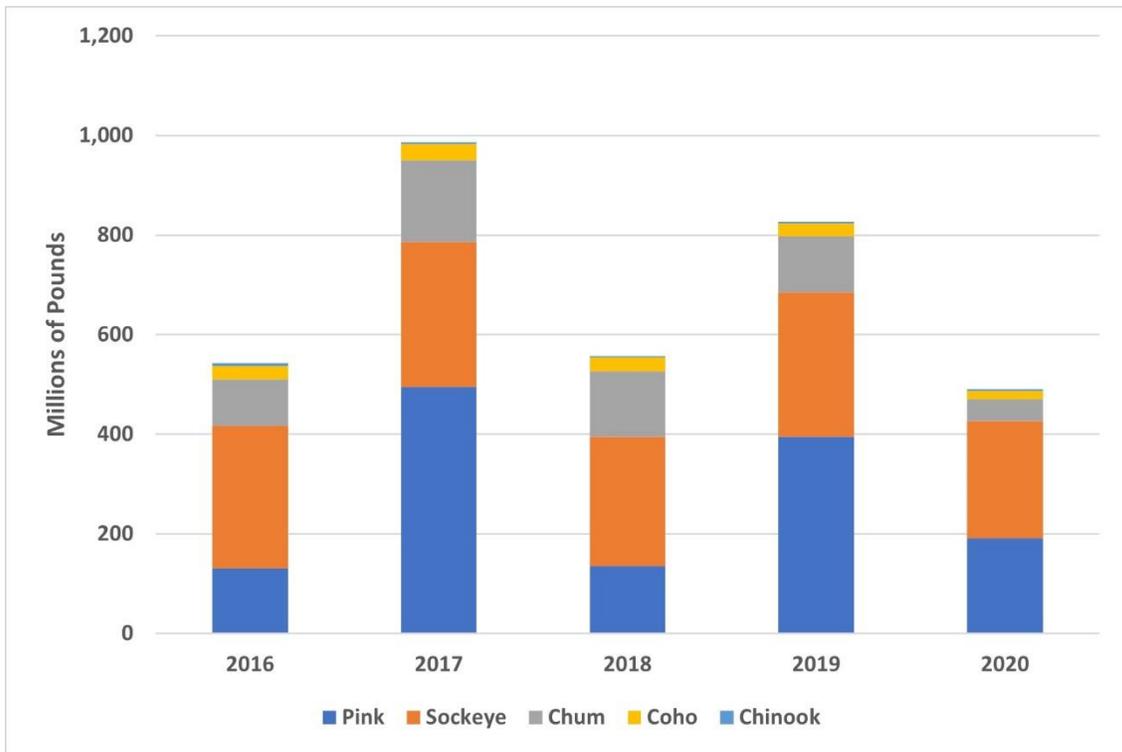


Figure 3.11-6: Commercial Salmon Harvest by Species in Alaska State Waters, 2016–2020

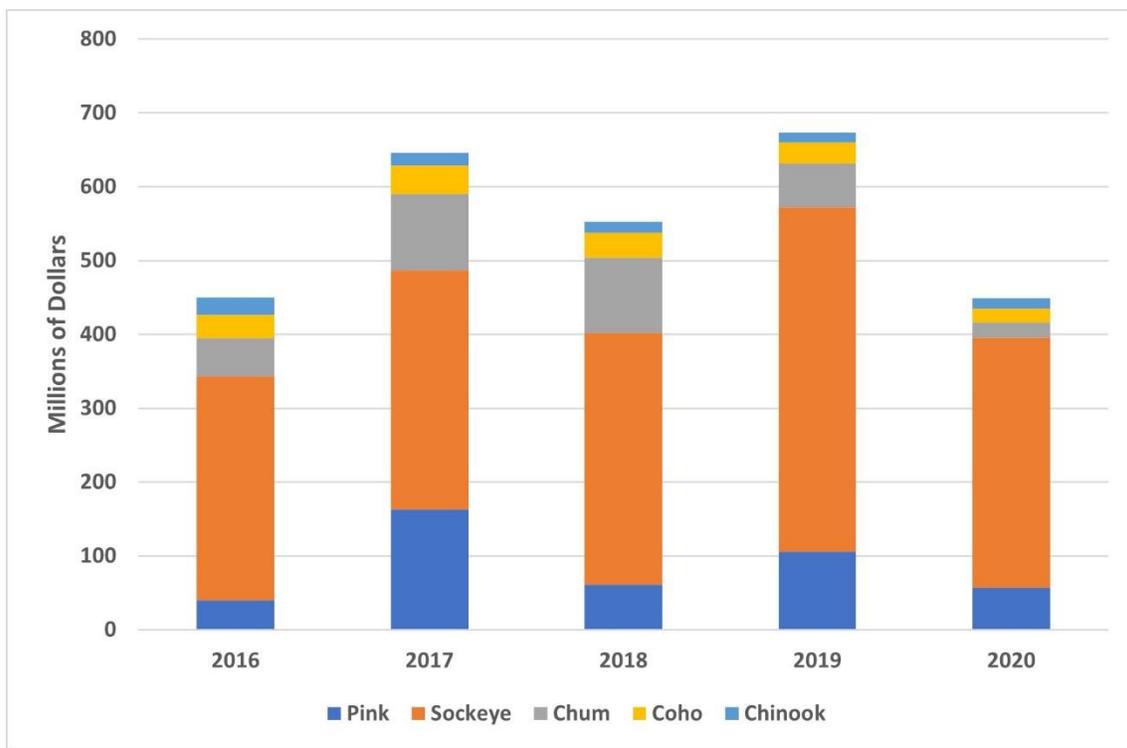


Figure 3.11-7: Commercial Salmon Harvest Value by Species in Alaska State Waters, 2016–2020

Pacific Herring

Pacific herring is the only commercially harvested forage fish species in Alaska. Forage fish are ecologically important as both consumers of zooplankton, and as prey for fish, seabirds, and marine mammals (McGowan et al., 2019). According to the ADFG, all commercial herring fishing occurs in inlets, sounds, and bays, all of which are located well within 12 NM of the coast and thus do not overlap with the GOA Study Area (Alaska Department of Fish and Game, 2016). There is no overlap of the commercial herring fishery management areas and the GOA Study Area (see Figure 3.11-5).

Shellfish

According to the ADFG, crabs, shrimp, clams, scallops, octopuses, and squids are commercially harvested in the GOA under the term “shellfish”, “miscellaneous shellfish”, and “marine invertebrates.” However, for this analysis, with the exception of crab that are analyzed separately (see “Crab” section below), all other shellfish species are combined into one group, referred to as “shellfish.” Overlap of the commercial shellfish fisheries with the GOA Study Area is presented in Figure 3.11-2.

Panaeid shrimp had the largest total harvest between 2016 and 2020 (Figure 3.11-8). Squid species in the family Loliginidae also had high total shellfish harvest between 2016 and 2018, but had no data reported in 2019 and 2020 (Figure 3.11-8). In contrast to total harvest, squid species was a very small portion of the total shellfish value (Figure 3.11-9). Pacific geoducks represented the largest portion of the harvest value, with penaeid shrimps also making up a significant portion of the overall value (National Marine Fisheries Service, 2022d).

In federal waters off the state of Alaska, weathervane scallops are managed under a fishery management plan (North Pacific Fishery Management Council, 2014) and are the only scallop commercially harvested in the GOA. Statewide, the harvest per season has been generally decreasing since the mid-1990s, with minor peaks in 1999/2000, 2005/2006, and 2009/2010 seasons (Armstrong et al., 2019). Decreases in harvests occurred in 1995/1996, 2004/2005, and 2008/2009 seasons. Between 2016 and 2019 the fishery remained relatively stable (Armstrong et al., 2019). Since scallop harvest takes place in shallow waters, there is very little overlap of scallop harvesting with the training activities in the GOA Study Area. In addition, these seasons run for several months outside of this time frame and are much longer than the 21-day-period training activities that would occur (Alaska Department of Fish and Game, 2020a).

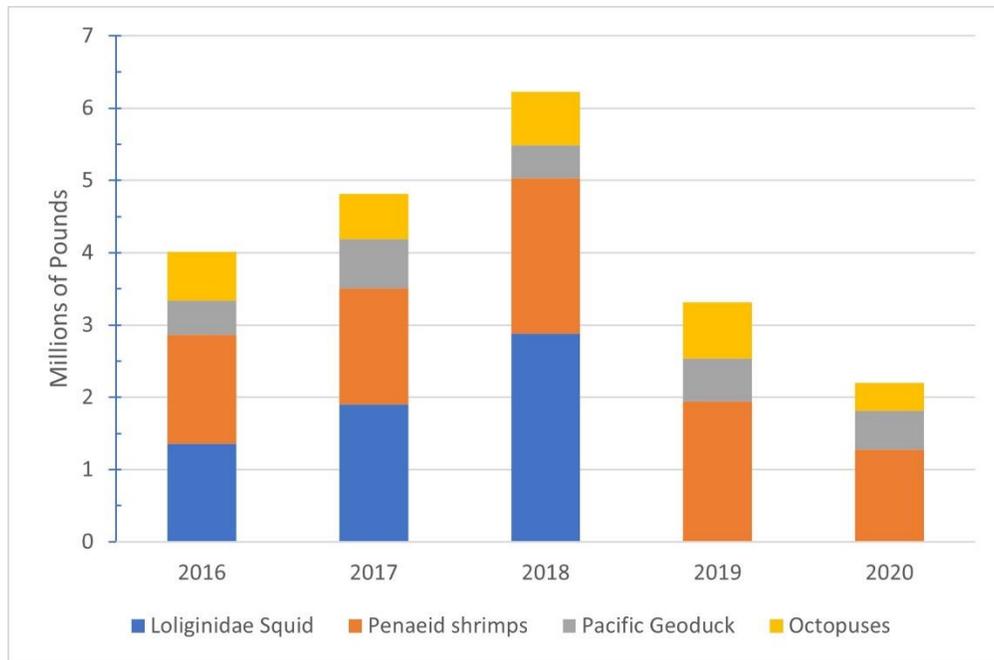


Figure 3.11-8: Commercial Shellfish Harvest by Species in Alaska State Waters, 2016–2020

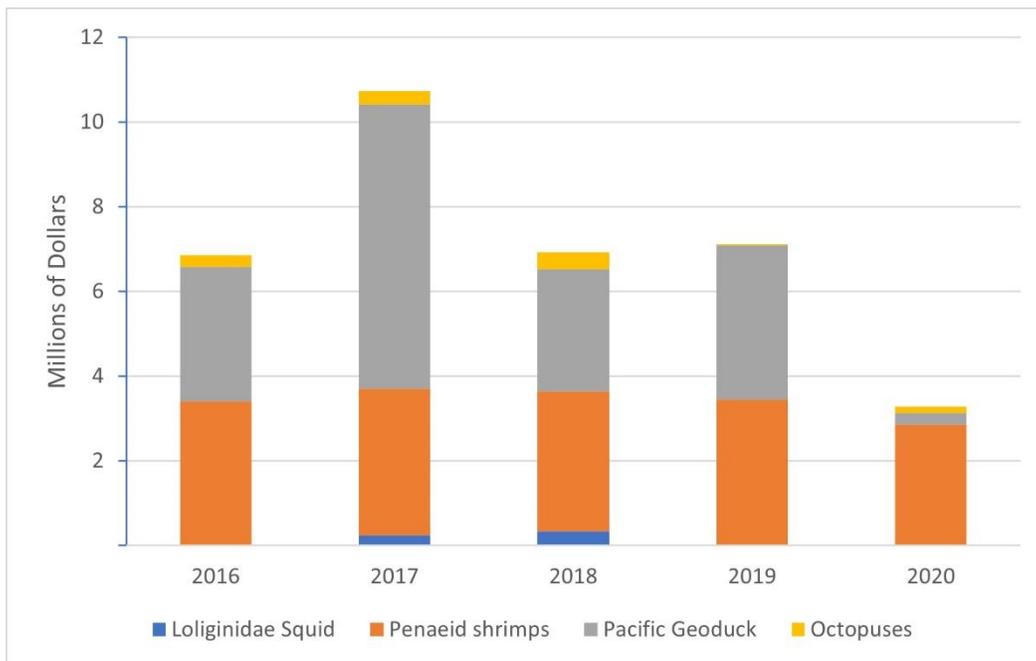


Figure 3.11-9: Commercial Shellfish Harvest Value by Species in Alaska State Waters, 2016–2020

Crab

Crab are defined as shellfish by the ADFG; however, for this analysis, crab are analyzed separately from all other non-crab shellfish due to their commercial importance in the GOA (see subsection “Shellfish”). Seven species of crab are commercially harvested in Alaska state waters, including three species of king crab (red, blue, and golden), tanner crab, snow crab, Dungeness, and hair crab (Alaska Department of Fish and Game, 2019b; National Marine Fisheries Service, 2020b). In general, Alaskan crab harvest increased from 2001 to 2012, then decreased from 2012 to 2017 (Alaska Department of Fish and Game, 2019b; National Marine Fisheries Service, 2020b). From 2017–2020, overall crab harvest in Alaska (all species combined) increased (Figure 3.11-10) (Alaska Department of Fish and Game, 2019b; National Marine Fisheries Service, 2020b, 2022a). As shown in Figure 3.11-10, snow crab is the most-harvested species in terms of weight, with king crab being the second-most harvested. Even though snow crab has had the greatest annual harvest since the release of the 2016 GOA Final SEIS/OEIS, king crab has generally had the highest value (Figure 3.11-11) (National Marine Fisheries Service, 2022a). From 2017–2020, the Dungeness crab fishery has been steadily increasing in both harvest and value (Figure 3.11-10 and Figure 3.11-11). In 2019, the Southeast region set records for its third-largest harvest weight and largest harvest value of Dungeness crab on record, showing that their crab population is healthy according to the ADFG (Denning, 2020) and showed the highest total harvest in 2020 (National Marine Fisheries Service, 2022a). Decreases in tanner and king crab harvest have been largely attributed to changing environmental conditions, including ocean acidification, overfishing, habitat disturbance from trawling, and increasing ocean temperatures (Alaska Department of Fish and Game, 2020c; Kraegel, 2019; National Marine Fisheries Service, 2020b). Bitter crab disease, which is a parasite that tends to cause mortality one to one-and-a-half years after infection, may also contribute to the decrease in tanner crab harvest (Alaska Department of Fish and Game, 2020c).

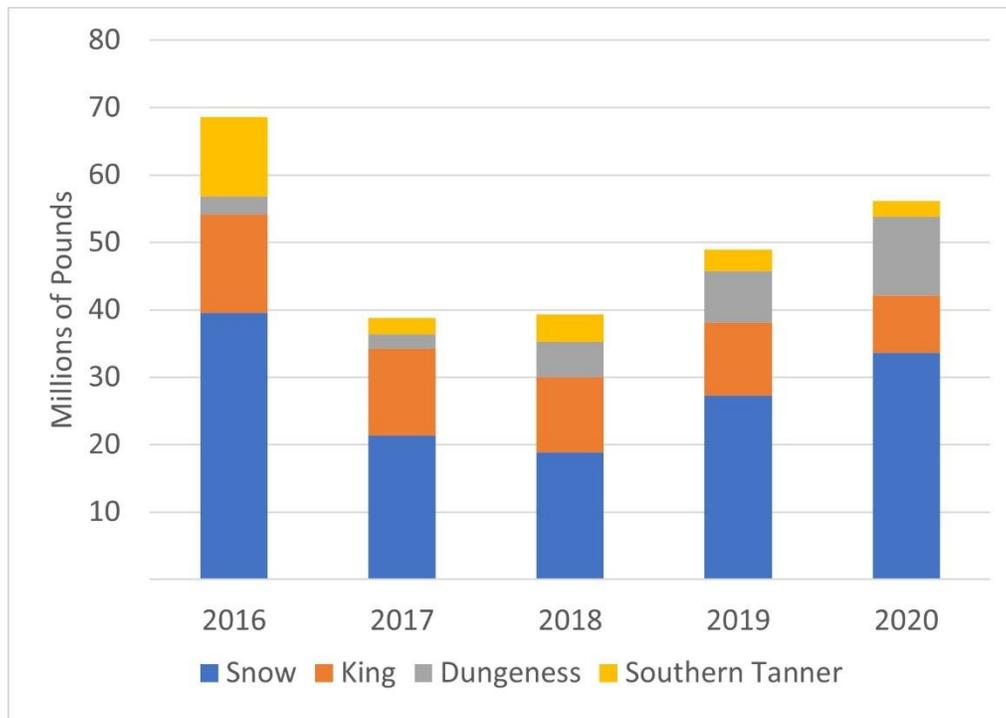


Figure 3.11-10: Commercial Crab Harvest by Species in Alaska State Waters, 2016–2020

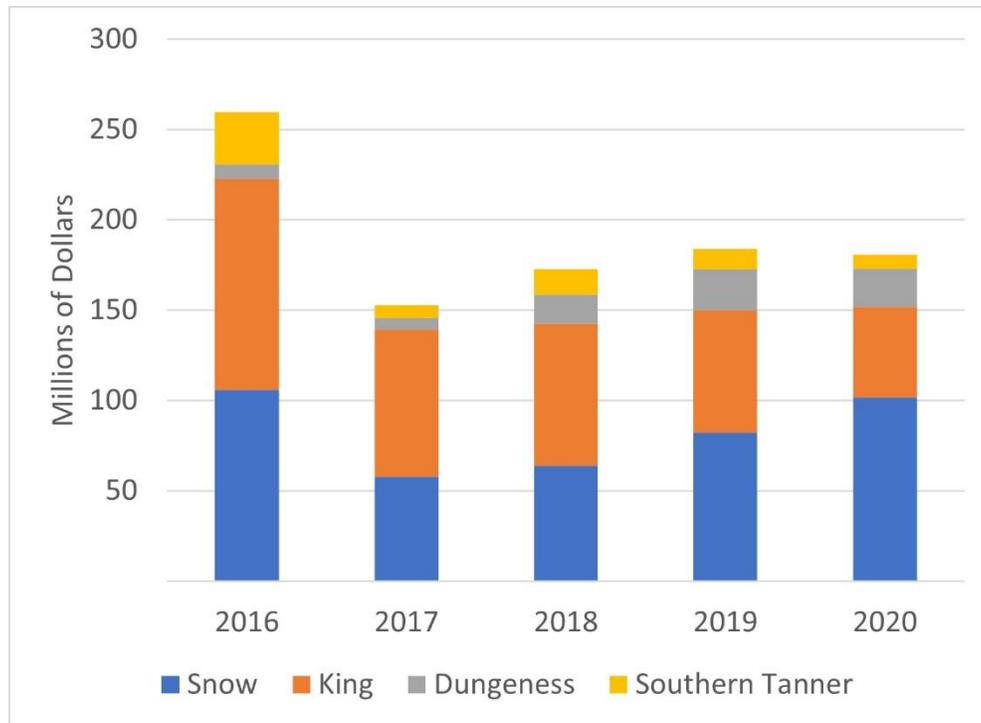


Figure 3.11-11: Commercial Crab Harvest Value by Species in Alaska State Waters, 2016–2020

Commercial crab harvest has very little overlap with the GOA Study Area (see Figure 3.11-2). The Kodiak region is the only commercial fishing region close to or overlapping the TMAA (Alaska Department of Fish and Game, 2020a). Dungeness and tanner crab are the only crab species commercially harvested within the Kodiak region. The Dungeness crab season runs from May to December (Alaska Department of Fish and Game, 2020a) and has some overlap with the April to October window when training activities could occur. In contrast, the tanner crab season typically runs from February to March (Alaska Department of Fish and Game, 2020a) and does not overlap with the proposed window for training activities (Alaska Department of Fish and Game, 2020a).

3.11.1.1.2.2 Recreational Fishing

The status and projected trends of socioeconomic resources described in this section represent the affected environment prior to the coronavirus pandemic (COVID-19) and subsequent dramatic declines in economies around the world, including in the United States. State and local governments either limited business operations or mandated the closure of certain businesses across multiple economic sectors. The travel and tourism industry, which many people in the GOA are dependent on for employment and income, has been particularly hard hit. The analysis in this section shows that training activities would not significantly impact tourism and related recreational activities in the Study Area. Tourism in the GOA has grown consistently in recent years, adapting to fluctuations in domestic and international travel, and in concert with ongoing training activities.

Recreational fishing is defined for the purposes of this discussion as charter fishing and fishing for purposes other than commercial benefit or subsistence. According to Alaska Department of Commerce’s *Economic Impact of Alaska’s Visitor Industry* (2018), the second-largest contributor of direct visitor industry revenues to the Alaska state government in 2017 was from fishing licenses and tags, valued at \$25.5 million. As shown in Figure 3.11-12, there was an overall downward trend in recreational catch of

salmon species caught by pound, as well as other than salmon caught from 2010 through 2018. These decreases, primarily in Chinook salmon catches, are largely attributed to strict fishery management in many parts of Alaska as a result of low juvenile recruitment (Alaska Department of Fish and Game, 2019a). However, in 2019, the most recent year data were available, the downward trend of recreational fish catch reversed, as shown in Figure 3.11-12 (Alaska Department of Fish and Game, 2022a). Despite the stricter fishery management and previous downward trend of recreational fishing catch, Alaska state income from recreational fishing has been stable since the release of the 2011 GOA Final SEIS/OEIS (U.S. Department of the Navy, 2011; Alaska Department of Commerce, 2018). In addition, only a small northwest portion of the GOA Study Area is located in an on-shelf environment. Recreational and commercial fishing of salmonids is concentrated in on-shelf, estuarine, and river environments near the coast or inland.

3.11.1.1.3 Tourism and Recreation

Tourism and recreation were described and analyzed in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS. Areas around the TMAA on the Kenai Peninsula, Kodiak Island, Prince William Sound, and Resurrection Bay are used for tourism and recreation. In 2018, over 2 million tourists visited Alaska between May and September alone. The Alaska Department of Commerce’s *Economic Impact of Alaska’s Visitor Industry* (2018) does not list Navy activities as a source of decreased tourism volume of revenue. Summer tourism rates for Alaska have increased steadily since 2010, increasing by a total of 32 percent from 2010 to 2018 (McDowell Group, 2019). Cruises account for more than half of the number of visitors to Alaska annually, making it one of the most popular tourism activities in the state (McDowell Group, 2019).

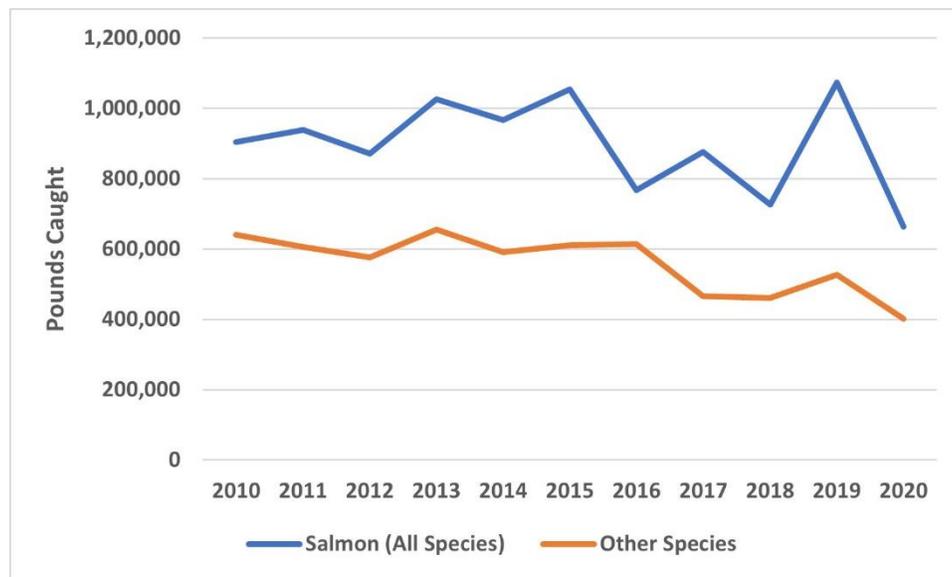


Figure 3.11-12: Total Catch of Ocean Salmon and Other Fish Species in Southcentral Alaska State Waters, 2010–2020

However, because of the COVID-19 pandemic, the cruise industry came to a virtual halt in 2020 and 2021. The Centers for Disease Control and Prevention restricted all non-essential maritime traffic in the GOA. As such, the cruise industry in Alaska experienced a stark reduction in business, and the volume of maritime traffic from tourism in the GOA decreased in 2020 and 2021 (State of Alaska, 2021). The Governor of Alaska stated that an estimated 3 billion dollars in gross state product is lost for each year

that cruises cannot operate in Alaska (Dunleavy, 2021). However, in May 2021 Congress passed H.R. 1318, the Alaska Tourism Recovery Act, that allowed cruises to continue between Alaska and the lower 48 since July 2021.

A pillar of the tourism industry in Alaska is the whale watching industry. In 2019, the Alaskan whale watching industry catered to over half of a million passengers and supported the employment of over 1,000 direct and indirect jobs (McDowell Group, 2020). However, the COVID-19 pandemic dramatically reduced tourism, resulting in a sharp decline in the whale watching industry in Alaska during the 2020 and 2021 seasons as compared to 2019. Whale watching companies rely on tourists from cruises, which did not occur in 2020 (National Marine Fisheries Service, 2021). With the Alaska Tourism Recovery Act allowing cruises to resume as of July 2021, the whale watching industry may be able to begin recovering from the effects of the COVID-19 pandemic.

There were 68,616 recreational vessels (motorized and non-motorized) registered in the state of Alaska in 2018 (Alaska Division of Motor Vehicles, 2018). Since the release of the 2016 GOA Final SEIS/OEIS the number of registered recreational vessels decreased by 1,528 or 2.2 percent. The decreasing trend in vessel registrations, a proxy for recreational vessel use, is relatively small.

Overall, recreation and tourism in Alaska has increased steadily since the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS were released. Although tourism rates have been steadily increasing since 2010, the information and analysis presented in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS remains valid, because the majority of tourism activities would not use waters in the GOA Study Area (Figure 3.11-1), and the proposed training activities would be unlikely to occur in the same place and at the same time as recreational activities.

3.11.1.2 Environmental Justice

As stated in the 2011 GOA Final EIS/OEIS and the 2016 GOA Final SEIS/OEIS, with the exception of Cape Cleare on Montague Island, which is located over 12 NM from the northern point of the TMAA, the nearest mainland shoreline (Kenai Peninsula) is located approximately 24 NM north of the TMAA's northern boundary (U.S. Department of the Navy, 2011, 2016). The approximate middle of the TMAA is located 140 NM offshore. The TMAA consists of open water surface and subsurface operating areas, and overlying airspace with no population centers present. Additionally, no new or additional Navy training activities in the TMAA are being proposed in this SEIS/OEIS, and the maneuvering activities proposed for the WMA are the same as those conducted in the TMAA and would have been conducted in the TMAA if they had not been moved into the WMA. Furthermore, the WMA is located farther from shore than the TMAA, beyond the continental shelf and slope, and in waters deeper than 4,000 m. As noted in Section 3.11.1 (Affected Environment), the types of activities and numbers of events in the Proposed Action are largely the same as in the previous documents (Alternative 1 in both the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS). As described in Chapter 2 (Description of Proposed Action and Alternatives), there have been changes in the platforms and systems used as part of those activities, and, notably, neither the Sinking Exercise nor the use of the Portable Underwater Training Range are part of the Proposed Action. Based on the similarities between this and past proposed actions, the analysis of potential impacts on environmental justice presented in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS remains valid, and consistent with the conclusions from those analyses, the Proposed Action in this SEIS/OEIS would not disproportionately affect any minority populations or low-income populations

3.11.1.3 Standard Operating Procedures and Mitigation Measures

As described in Section 2.3.3 (Standard Operating Procedures), the Navy implements standard operating procedures for safety and mission success, many of which are recognized as providing a benefit to socioeconomic resources. For example, the Navy schedules training activities to minimize conflicts with the use of sea space and airspace throughout the GOA Study Area to ensure safety and avoid interaction with non-military activities (e.g., commercial and recreational fishing) during training. As described in Chapter 5 (Mitigation), the Navy also implements mitigation measures to avoid or reduce potential impacts on marine resources, including fishery resources that have a high socioeconomic value in the TMAA.

As discussed in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS, military, commercial, institutional, and recreational activities take place in the TMAA; there are no continuously restricted zones in this area (U.S. Department of the Navy, 2011, 2016). However, as noted in the 2013 Special Local NTMs, Navy operating areas are in “use on a continuing basis by Navy ships and aircraft,” and because of the “frequency and variety of exercises conducted in the [operating areas] and the difficulty in scheduling them far in advance due to uncertainties of weather, it is not possible to issue individual NTMs each time an exercise is scheduled” (U.S. Coast Guard, 2013). The USCG does utilize a broadcast NTMs system, which is used to let mariners, pilots, fishermen, and other commercial users of the area know when Navy training is scheduled or occurring.

In addition to NTMs and Notices to Airmen issued by the FAA, the Navy has participated in public outreach and community events since 2016, such as post-Northern Edge coastal community meetings, Navy band events, Alaska Federation of Natives Convention, Alaska Marine Science Symposium, Alaska Forum on the Environment, ComFish, and Pacific Marine Exposition in Anchorage, Cordova, Seward, and Fairbanks, Alaska; and Seattle, Washington. Pre-exercise public engagement was carried forward by the Navy leading up to Northern Edge training in 2021. The meetings were hosted between September 2019 and April 2021. Due to the COVID-19 pandemic, most events were hosted virtually in 2020 and 2021; however, this did not impact the Navy’s ability to alert the public of its upcoming training activities.

3.11.2 Environmental Consequences

The Navy conducted a review of new literature, to include laws, regulations, and publications pertaining to socioeconomic resources and environmental justice. Based on the information presented above, new information relating to existing environmental conditions and socioeconomic trends was found; however, the new information does not indicate an appreciable change to the existing environmental conditions as described in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS. Additionally, no new information was found that indicates an appreciable change to the existing environmental conditions as they relate to environmental justice as described in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS. As discussed in Section 1.3 (Proposed Action), the Proposed Action in this SEIS/OEIS is generally consistent with the proposed actions from the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS, with two notable exceptions: the Sinking Exercise and the use of the Portable Underwater Training Range are not part of the Proposed Action in this SEIS/OEIS. This SEIS/OEIS analyzes the impacts on socioeconomic resources and environmental justice from the No Action Alternative and Alternative 1 (the Preferred Alternative).

3.11.2.1 No Action Alternative

Under the No Action Alternative, proposed Navy training activities would not be conducted in the GOA Study Area. The impacts associated with Navy training activities would not be introduced into the

marine environment. Therefore, existing environmental conditions would remain unchanged after cessation of ongoing Navy training activities. Furthermore, because Navy training activities have not been found to directly impact commercial fishing or other socioeconomic industries, such as recreational fishing or cruising, cessation of ongoing Navy training activities would have a negligible effect on socioeconomic resources. With respect to environmental justice, because ongoing Navy training activities do not have any direct effect on environmental justice, cessation of those activities would not disproportionately impact minority or low income populations.

3.11.2.2 Alternative 1

3.11.2.2.1 Socioeconomic Resources

Alternative 1 for this SEIS/OEIS remains generally consistent with the description of Alternative 1 in the 2011 GOA Final EIS/OEIS and the 2016 GOA Final SEIS/OEIS, with the exceptions noted above.

No adverse impacts on socioeconomic resources, including commercial shipping, commercial and recreational fishing, and tourism, would occur as a result of the proposed training activities under Alternative 1. Furthermore, after a review of the best available science, including but not limited to the National Marine Fisheries Service landings data, there is no science-based evidence that Navy activities in the GOA Study Area would have a significant effect on socioeconomic resources in the region.

As described in Section 3.11.1.1.1 (Commercial Shipping) the highest densities of commercial vessel traffic do not overlap with the GOA Study Area. While commercial vessels do transit the offshore areas of the GOA Study Area, conflicts with Navy vessels or aircraft are unlikely given the short 21-day duration of Navy activities and the limited use of the Study Area by commercial vessels. Should an interaction occur, it would be resolved through communications between the Navy vessel and commercial vessel, minimizing any economic costs that might be incurred through a delay, for example.

As described in Section 3.11.1.1.3 (Tourism and Recreation), the majority of coastal and marine tourism activities occur in relatively shallow waters over the continental shelf and do not depend on access to deep offshore waters, which includes the vast majority of the GOA Study Area and all of the WMA. Smaller vessels supporting tourism in Alaska would most likely follow the Alaska Marine Highway System linking small towns and ports along the GOA coast and through the Aleutian Islands, including Dutch Harbor, and would generally avoid rougher seas farther offshore. The proposed training activities in the GOA Study Area would be unlikely to occur in the same place and at the same time as marine tourism and recreational activities. Therefore, no impacts on tourism and recreation are anticipated.

Commercial fishing is not expected to be significantly impacted, because while some commercial fishing seasons may overlap with the maximum 21-consecutive-day training period during April–October, commercial fishing seasons that do overlap with this timeframe are typically longer than (at least double) the 21-day training period (Alaska Department of Fish and Game, 2020a). In addition, a large portion of the GOA Study Area is located far enough offshore (>12 NM) that overlap with preferred or frequented commercial and recreational fishing areas would be minimal. More specifically, conflicts or interactions between Navy activities in the GOA Study Area and commercial and recreational fishers are unlikely for the following reasons: (1) the largest commercial fishery in Alaska state waters, the groundfish fishery, is mostly open year-round, and the seasons in regions that overlap or are adjacent to the TMAA portion of the GOA Study Area that are not year round are more than double the length of the 21-day duration of proposed training activities (Alaska Department of Fish and Game, 2020a); (2) the only fishing region, as defined by the ADFG, which allows crab harvesting and overlaps with the TMAA is the Kodiak region (Alaska Department of Fish and Game, 2020a), and the only crab season that overlaps

with the April–October timeframe for training activities is the Dungeness crab season, which occurs from July–December. The Dungeness crab fishery is a relatively shallow water, on-shelf, coastal fishery and is considered healthy (Denning, 2020); (3) general areas of effort for the weathervane scallop fishery do not overlap with the TMAA, and only a small portion of the Prince William Sound exploratory scallop fishing area overlaps with the northern tip of the TMAA (Armstrong et al., 2019); (4) the Pacific herring fishery has no overlap with the TMAA (Alaska Department of Fish and Game, 2016); and (5) the commercial and recreational salmon fisheries are concentrated near the coasts, estuaries, and rivers (<12 NM) and outside of the GOA Study Area.

In addition, aircraft and vessel maneuvering activities originally planned for the TMAA would now be more widely distributed within both the GOA Study Area with the addition of the WMA to achieve more realistic training scenarios. Only approximately 30 percent of maneuvering activities would occur in the WMA annually, and they would occur in deep (greater than 4,000 m) offshore waters located beyond the continental shelf and slope. These maneuvering activities are the same activities proposed for the TMAA and analyzed in the 2020 Draft SEIS/OEIS.

The establishment of the Continental Shelf and Slope Mitigation Area under Alternative 1 would prohibit the use of explosives from the sea surface to 10,000 feet altitude over the continental shelf and slope within the TMAA. The mitigation area would extend seaward to the 4,000 m depth contour, which is used to define the termination of the continental slope. Socioeconomic resources occurring in waters over the continental shelf and slope in the TMAA, such as commercial fishing, would no longer be impacted by training activities using explosives. Other training activities that do not use explosives would continue to be conducted as planned in the Continental Shelf and Slope Mitigation Area; however, any impacts on socioeconomic resources previously anticipated from the use of explosives in the TMAA would not occur. Impacts from training activities in the Continental Shelf and Slope Mitigation Area would either remain the same as previously analyzed or would be reduced. Therefore, no significant impacts are expected to occur to socioeconomic resources under Alternative 1 and a detailed re-analysis of this alternative with respect to socioeconomic resources is not warranted.

3.11.2.2.2 Environmental Justice

Alternative 1 for this SEIS/OEIS remains generally consistent with the description of Alternative 1 in the 2011 GOA Final EIS/OEIS and the 2016 GOA Final SEIS/OEIS, with the two exceptions noted above: the Sinking Exercise and the use of the Portable Underwater Training Range are not part of the Proposed Action in this SEIS/OEIS. The existing baseline conditions have not changed appreciably since the previous analyses. Furthermore, no new Navy training activities are proposed in the TMAA in this SEIS/OEIS, and all maneuvering activities moved into the WMA would occur more the 12 NM offshore and far from population centers. Therefore, a detailed re-analysis of this alternative with respect to environmental justice is not warranted.

3.11.3 Conclusion

3.11.3.1 Socioeconomic Resources

As described above, there is new information on existing environmental conditions since the analysis in the 2016 GOA Final SEIS/OEIS. However, this new information does not significantly change the affected environment, which forms the environmental baseline for the analysis in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS. No new Navy training activities are being proposed in this SEIS/OEIS that would significantly impact socioeconomic resources in the GOA Study Area, and neither the Sinking Exercise nor the Portable Underwater Training Range, which were analyzed previously, are part of the

Proposed Action is this SEIS/OEIS. Therefore, the conclusion that there would be no significant impacts on socioeconomic resources under Alternative 1 in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS remain unchanged in this SEIS/OEIS. For a summary of impacts of the Proposed Action under Alternative 1 on socioeconomic resources for both the NEPA and EO 12114 regulations, please refer to Table 3.12-1 in the 2011 GOA Final EIS/OEIS.

The establishment of the Continental Shelf and Slope Mitigation Area as part of the Proposed Action would prohibit the use of explosives from the sea surface to 10,000 feet altitude over the continental shelf and slope within the TMAA. Socioeconomic resources, such as commercial fishing, would no longer be impacted by potential conflicts with training activities using explosives over the shelf and slope, and impacts on socioeconomic resources would either remain the same or would be reduced compared with past analyses in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS.

3.11.3.2 Environmental Justice

As described above, there is new no information on existing environmental conditions that significantly changes the affected environment for environmental justice. The geographic location of the GOA Study Area, including the WMA, is far offshore (greater than 12 NM from shore) with no population centers in close proximity. Significant socioeconomic impacts are not anticipated due to the Proposed Action; therefore, there would be no disproportionately high and adverse human health or environmental effects on any minority populations and low-income populations. The conclusions for environmental justice made for Alternative 1 in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS remain unchanged in this SEIS/OEIS. For a summary of effects of Alternative 1 on environmental justice under both the NEPA and EO 12114, please refer to Table 3.13-1 in the 2011 GOA Final EIS/OEIS.

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