

## Overview

### **The Convention on the Conservation and Management of High Sea Fisheries Resources in the North Pacific Ocean and the North Pacific Fisheries Commission**

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The North Pacific Fisheries Management Council (Council) has expressed interest about possible impacts of domestic legislation that would implement the Convention on the Conservation and Management of High Sea Fisheries Resources in the North Pacific Ocean (Convention).<sup>1</sup> This overview summarizes the background on the Convention, key species and fisheries within Convention waters, conservation and management measures, the North Pacific Fisheries Commission, and implications for U.S. management in the North Pacific.

#### **Background on the Convention**

Over the past 10 years the Department of State, National Oceanic and Atmospheric Administration (NOAA), USCG, Regional Fishery Management Councils, the U.S. fishing industry, and various NGOs have worked collaboratively on the development and implementation of several international agreements in the Atlantic and Pacific as part of an ongoing effort to strengthen our ability to sustainably manage fisheries resources globally and to combat illegal, unreported, and unregulated (IUU) fishing. The Convention is the result of these ongoing efforts.

The objective of the Convention is to ensure the long-term conservation and sustainable use of the fisheries resources in the high seas of the North Pacific while protecting the marine ecosystems where these resources occur. The Convention address fisheries resources in the high seas of North Pacific not covered under pre-existing international fisheries management instruments.<sup>2</sup> The geographic area covered by the Convention, and key seamounts that are described later in this document are shown in **Figure 1**.

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<sup>1</sup> The full text of the Convention is available at: [http://nwpbfo.nomaki.jp/About\\_Convention.html](http://nwpbfo.nomaki.jp/About_Convention.html)

<sup>2</sup> Article 1, Paragraph h of the Convention defines the term “fishery resources”. This definition includes fish, mollusks, crustaceans, and other marine species, but excludes some sedentary species (e.g., corals), catadromous species (e.g., eels), marine mammals, marine reptiles, seabirds in addition to other marine species already covered under other instruments (e.g., tuna).

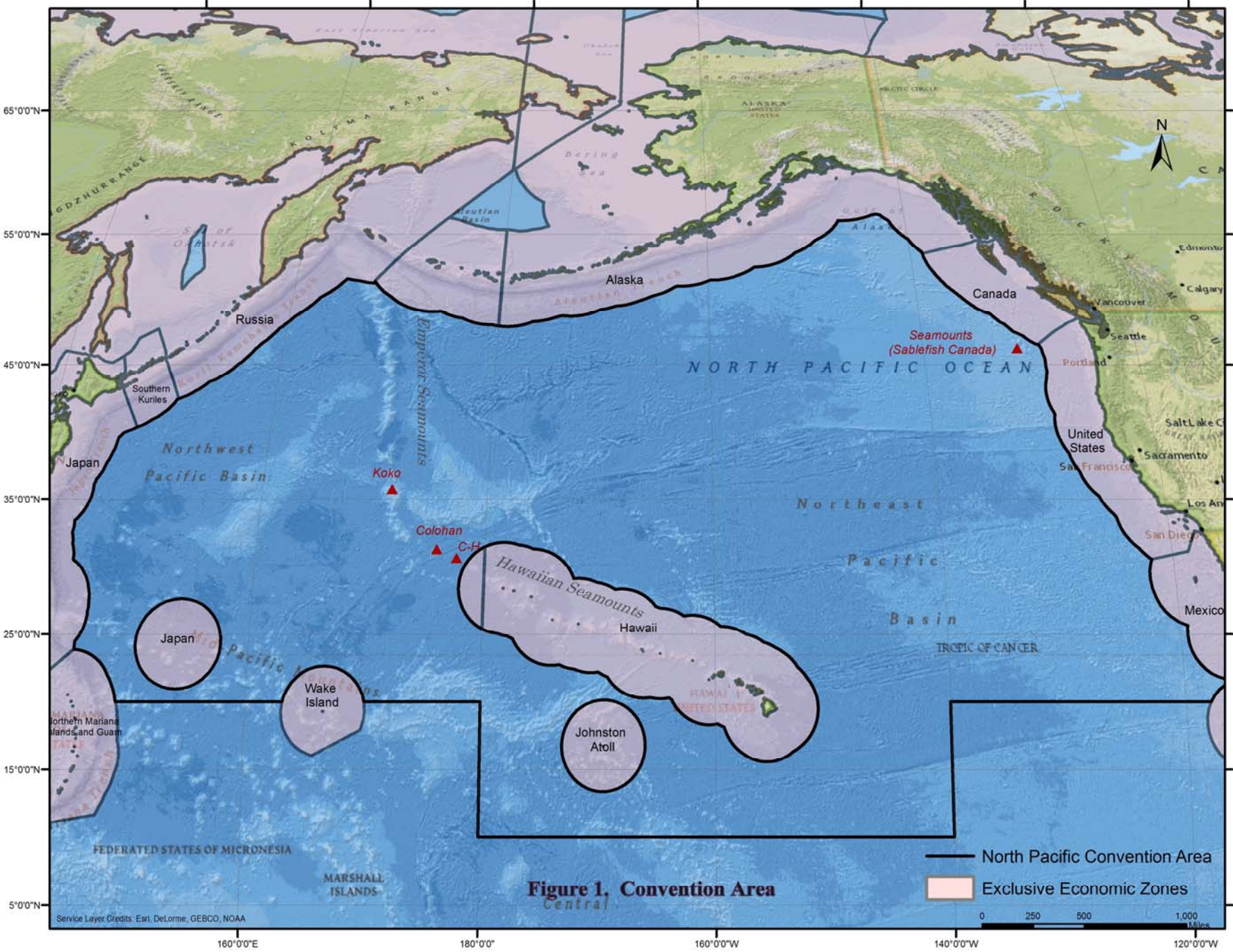


Figure 1. Convention Area  
Central

In 2006, the United Nations General Assembly adopted a resolution<sup>3</sup> which calls for States to:

- (i) establish a regional fisheries management organization or arrangement competent to regulate bottom fisheries where there is no such organization or arrangement;
- (ii) adopt and implement interim measures in accordance with precautionary approach, ecosystem approaches and international law by no later than 31 December 2007;
- (iii) identify Vulnerable Marine Ecosystems (VMEs) and assess, on the basis of the best available scientific information, whether individual bottom fishing activities would have significant adverse impacts on such VMEs;
- (iv) ensure if it is assessed that these activities would have significant adverse impacts, they are managed to prevent such impacts, or not authorized to proceed;
- (v) require their vessels to cease bottom fishing activities in areas, where, in the course of fishing operations, VMEs are encountered, and to report the encounter so that appropriate measures can be adopted in respect of the relevant site ((ii) through (v) are to be completed by no later than 31 December 2008).

In response, Japan, Korea, Russia, and the U.S. met informally in April 2006 to discuss the management of high seas bottom fisheries in the Northwestern Pacific Ocean. The focus of that initial meeting was to discuss shared concerns about the impact of bottom fisheries on and near the Emperor Seamounts. After the April 2006 multi-lateral meeting, Canada (2009), Chinese Taipei as a fishing entity (2009), and China (2010) joined the meetings. Collectively, these seven members engaged in a series of multi-lateral meetings over a five year period. During these multi-lateral meetings, the scope of the discussions expanded from the initial focus on the impacts of bottom fisheries near the Emperor Seamounts to include discussion about the full range of bottom fisheries (non-pelagic fisheries) and pelagic fisheries that occur in the high seas of the North Pacific. These multi-lateral meetings resulted in negotiations to establish the Convention. The Convention text was concluded on February 24, 2012, and the United States signed the Convention on May 2, 2012.

After the Convention was concluded, the members to the Convention engaged in a series of seven preparatory conferences over four years to prepare for the Convention to enter into force. The primary goals of the preparatory conferences were to establish the draft regulations, procedures, and budgetary requirements for a governing body, once the Convention entered into force (i.e., the minimum number of members has ratified, accepted, approved, or acceded to the Convention).<sup>4</sup> The Convention defines the North

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<sup>3</sup> See UNGA Resolution 61/105. Available at: <http://daccess-ods.un.org/TMP/7296519.87552643.html>

<sup>4</sup> See Article 5 of the Convention.

Pacific Fisheries Commission (Commission) as the Regional Fishery Management Organization (RFMO) that would oversee and administer the Convention. Representatives from the Alaska Region and the Council have attended the all, or almost all of these preparatory conferences.

The Convention entered into force on July 19, 2015 -- 180 days after the fourth member ratified or otherwise approved the Convention through their domestic legislation. Canada, China, Japan, Korea, and Russia have all ratified the Convention. On July 27, 2015, Chinese Taipei delivered its written instrument to Korea as the Depositary as provided for in the Annex of the Convention.

The U.S. Senate has provided advice and consent for the Convention. Congress is currently evaluating implementing legislation for the treaty. The preparatory conferences concluded on September 2, 2015, and the first meeting of the Commission was held on September 3, 2015. The U.S attended the first Commission meeting as an observer.

### **The Secretariat**

The Secretariat is located in Tokyo, Japan. The Executive Secretary is Dr. Dae-Yeon Moon of Korea. Additional staff are expected to be hired in early 2016. The primary role of the Secretariat over the next several years will be to build staff capacity and the infrastructure needed to manage Commission meetings and continue gathering fishery data from members to the Convention. The government of Japan has also forwarded on procedures for privileges and immunities that apply to the Secretariat and its staff for approval by the Japanese Diet (parliament).

### **The Commission**

Articles 5 through 12 of the Convention describe:

- The rules and procedures for the establishment of the Commission, meeting requirements, and procedures for chairing and staffing the Commission;
- The composition, role, and procedures for a Scientific Committee, and a Technical Compliance Committee that can guide the Commission, as well as the process those bodies may use to establish other subsidiary bodies that can aid the Commission;
- The functions of the Commission to adopt conservation and management measures for fisheries and vulnerable marine ecosystem components, ensure effective monitoring and enforcement, procedures for establishing rules of conduct, scientific research, experimental fishing, and other procedures necessary for management;
- The decision-making process to be used by the Commission – consensus, unless consensus is not achievable, in which case a voting process can be used.
- The process for implementing Commission decisions;
- Budgetary procedures and obligations.

The Commission has also adopted operating rules and procedures, financial regulations,

and grievance procedures for staff.

The Commission agreed to begin additional work on stock assessments particularly for armorhead and other bottom fisheries, and continue the development of conservation and management measures. The Commission, the Scientific Committee, the Technical Compliance Committee and subsidiary bodies are scheduled to meet annually. The current annual budget of the Commission is approximately \$1,000,000.

### **Key Species and Fisheries within Convention Waters**

Many of the key species and fisheries within Convention waters are unfamiliar to the Council. The fisheries fall broadly within two categories, bottom fisheries (non-pelagic in Council parlance) and pelagic fisheries. Data are not available to establish the fishing activities by vessels from states not member to the Convention or stateless vessels within Convention waters, but we do know that other nation's vessels are fishing in the Convention Area. We believe that the vast majority of fishing within Convention waters is conducted by members of the Convention.

Bottom trawl fisheries, bottom gillnet fisheries, longline, and pot fisheries have been conducted by Canada, Japan, Korea, and Russia in Convention waters. The available data indicate many of these fisheries are conducted primarily on and near the Emperor Seamounts. The primary target of the bottom trawl fisheries have been North Pacific armorhead (*Pseudopentaceros wheeleri*) and splendid alfonsino (*Beryx splendens*). The primary target species of the bottom gillnet fisheries have been splendid alfonsino, oreo (*Alloctytus verrucosus*), and mirror dory (*Zenopsis nebulosa*).

The longline fishery began in the 1970's with the primary targets being a range of tropical rockfish species (*Helicolenus spp.*), splendid alfonsino, and to a much more limited extent sablefish (*Anoplopoma fimbria*). Korean and Russian have primarily targeted rockfish and splendid alfonsino, and Canadian vessels have exclusively targeted sablefish around four seamount aggregations outside and to the west of the Canadian EEZ (Eickelberg Seamounts, Warwick Seamount, Cobb Seamounts, and Brown Bear Seamounts – general locations are noted on Figure 1 as “Sablefish Canada”). Overall, the number of vessels using longline gear has been very limited in recent years. Typically, only one or two Canadian vessels, and sometimes none, participate in the sablefish fishery. Vessels from Russia use pot gear to target several species of deep-water crab, but participation has historically been very limited and is not recent.

Historically, vessels from Japan and Chinese Taipei operated a drag fishery for coral (*Corallium spp.*) within Convention waters on or near several seamounts. It does not appear that any vessels continue to participate in this fishery.

The largest fishery within Convention waters is the pelagic trawl fishery for Pacific saury (*Cololabis saira*). Vessels from China, Chinese Taipei, Japan, Korea, and Russia participate in this fishery. While Japanese and Russian vessels operate mainly within their respective Exclusive Economic Zones (EEZs), vessels from China, Chinese Taipei,

and Korea operate primarily within the Convention waters. Vessels use a lighting apparatus to attract the saury to the vessels, and harvest the fish primarily with dip nets or a lift net (similar to dip nets in function).

Besides Pacific saury, a pelagic fishery for neon flying squid (*Ommastrephes bartramii*) has been harvested by squid jigging fisheries within the Convention area. Most recently, vessels from China and Chinese Taipei have pursued a pelagic trawl fishery for chub mackerel (*Scomber japonicas*) within Convention waters near the EEZ of Japan. Japanese vessels fish for chub mackerel within Japan's EEZ but have not participated in fisheries within Convention waters. Chub mackerel is typically harvested using seine gear, but can also be harvested using pelagic trawl gear.

Other nations are involved in the transshipping fishery products harvested from Convention waters. There is not currently a reporting or tracking requirement that applies to vessels that are transshipping fishery products that are not members to the Convention.

### **Conservation and Management Measures**

The Convention establishes conservation and management measures either directly in the Convention, or by establishing the procedures that the Commission uses to agree to conservation and management measures. Members to the Convention can also agree to adopt voluntary conservation and management measures. The basic structure of many of these conservation and management measures are adapted from the framework established in the 1995 United Nations (UN) Agreement that implements the Law of the Sea, as further refined by 2008 Food and Agricultural Organization (FAO) guidelines.<sup>5</sup>

Most of the conservation and management measures currently applicable in Convention waters are covered under Article 13 and 14 to the Convention. Additional conservation and management measures were adopted by the Commission at its first meeting, and work is ongoing on several other measures. Japan, Korea, and Russia have all agreed to implement other voluntary conservation and management measures pending further consideration by the Commission.

Table 1 summarizes the required conservation and management measures that apply to all of the members of the Commission (not currently applicable to the United States), voluntary conservation and management measures adopted by some or all of the members to the Convention, and conservation and management measures that are still under development. Many of the specific details of the application of the conservation and management measures in the Convention have yet to be resolved.

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<sup>5</sup> See the *Agreement for the Implementation of the Provisions of the United Nations convention on the Law of the Sea of 10 December 1982 relating to the conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks of 4 December 1995*, and *FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas* (29 August 2008). Available through the FAO website at: [http://www.un.org/Depts/los/convention\\_agreements/convention\\_overview\\_fish\\_stocks.htm](http://www.un.org/Depts/los/convention_agreements/convention_overview_fish_stocks.htm)

**Table 1: Summary of Conservation & Management Measures in Convention Waters**

Provision	Status of the Provision
<i>Required Conservation and Management Measures</i>	
<p><u>Conservation</u>: Prohibition on directed fishing for corals and other indicator species for vulnerable marine ecosystems identified and adopted by the Commission.<sup>6</sup></p>	<p>Authorized under Article 13, paragraph 5 of the Convention.</p>
<p><u>Conservation</u>: Agreement to:</p> <ul style="list-style-type: none"> <li>• Refrain from “rapid expansion” of the number of vessels authorized to fish for Pacific saury in Convention waters until a stock assessment has been completed;</li> <li>• Ensure that vessels fishing for Pacific saury have an operational and activated VMS unit by December 31, 2015;</li> <li>• Establish timelines for a Pacific saury stock assessment to be complete by 2017.</li> <li>• Replace this measure with other conservation members adopted by the Commission in 2017.</li> </ul>	<p>Authorized under Article 7 of the Convention and adopted at the 1<sup>st</sup> Commission meeting.<sup>7</sup></p>
<p><u>Management</u>: General requirement for each member to enforce the provisions of the convention on vessels that fly the flag of a member. Key provisions include:</p> <ul style="list-style-type: none"> <li>• Required the use of real-time satellite position-fixing (VMS) units;</li> <li>• Notification requirements for entering and exiting Convention waters, and transshipment locations;</li> <li>• Observer requirements – 100% for bottom fishing, and levels set by the Commission for other fisheries; and</li> <li>• Vessels reporting requirements</li> </ul> <p>Also includes provisions that if the Commission is not able to agree on procedures for boarding and inspecting vessels in Convention waters within 3 years, the measures described in the 1995 UN Agreement to implement the Law of the Sea would apply.</p>	<p>Authorized under Article 13 of the Convention.</p>
<p><u>Management</u>: Vessel information requirements necessary to properly track and account for vessel members fishing within Convention waters</p>	<p>Authorized under Article 13 of the Convention and adopted at the 1<sup>st</sup> Commission meeting.<sup>8</sup></p>
<p><u>Management</u>: Port states (members that receive fishery resources harvested in Convention waters) shall provide assistance in compliance and enforcement actions. Note that paragraph 4 specifically states that this provisions shall not “be construed to affect the exercise by [members] of their sovereignty over ports in their territory.”</p>	<p>Authorized under Article 14 of the Convention.</p>

<sup>6</sup> The following orders of coral are covered Alcyonacea, Antipatharia, Gorgonoacea, and Scleractinia. The commission has not yet identified indicator species for vulnerable marine ecosystems

<sup>7</sup> See “(DRAFT) Conservation and Management Measures Record of Vessels and Information Requirements (prepared by the Interim Secretariat)”. Tracking number: TCWG2/WP5 CMM-15.

<sup>8</sup> See “(DRAFT) Conservation and Management Measures Record of Vessels and Information Requirements (prepared by the Interim Secretariat)”. Tracking number: TCWG2/WP5 CMM-15.

Provision	Status of the Provision
<b><i>Required Conservation and Management Measures (Cont.)</i></b>	
<u>Management:</u> General data collection, reporting, and exchange requirements (e.g., provide data in a public format, require each member to submit an annual report on how a it has implemented conservation and management measures, protocols for data sharing)	Authorized under Article 16 of the Convention.
<u>Management:</u> Agreement to: <ul style="list-style-type: none"> <li>• Enforce provisions of the Convention on the vessels entitled to fly its flag.</li> <li>• Authority to investigate fully any allegations by any member vessels.</li> <li>• Procedures for establishing investigations and boarding and inspection (specific measures still under development).</li> <li>• Requirement to report on any actions taken or proposed to be taken.</li> </ul>	Authorized under Article 17 of the Convention.
<b><i>Interim Voluntary Conservation and Management Measures</i></b>	
<u>Conservation and Management:</u> Bottom fishing measures <sup>9</sup> : <ul style="list-style-type: none"> <li>• Ensure 100% observer coverage</li> <li>• No expansion of bottom fishing effort in Convention waters north of 45 degrees N.</li> <li>• Closure of the southeastern part of the Koko seamount (Emperor Seamounts).</li> <li>• Require vessels to move when catch of the four orders of coral have been observed in a haul.</li> <li>• Maintain at least a 20% reduction in fishing effort and close directed fishing in November and December to protect spawning stock aggregations.</li> <li>• Do not increase the number of fishing vessels relative to current levels.</li> <li>• Increase the distance between sea floor and trawl nets to 100 cm.</li> <li>• (Japan only) Conduct visual bottom surveys by drop cameras.</li> <li>• (Japan only) Set an annual catch limit for Japanese vessels fishing for armorhead.</li> <li>• (Japan and Korea) Prohibit fishing greater than 1,500 m depth.</li> <li>• (Japan and Korea) close the C-H Seamount to fishing.</li> <li>• (Japan and Korea) Limit <i>F</i> for armorhead even if there is evidence of a strong year class.</li> <li>• (Korea only) Expand closure of bottom fishing to include October through January of the following year.</li> </ul>	Agreed to by Japan, Korea, and Russia and the U.S. as interim measures. Measures that do not apply to all members are noted. Other member states have not historically bottom fished in this area

<sup>9</sup> Interim Measures adopted by Japan, Korea, and Russia are available in the following Technical Committee Working Group Papers: TCWG2/WP7/J, TCWG2/WP7/K, and TCWG2/WP7/R



Provision	Status of the Provision
<i>Conservation and Management Measures Under Development</i>	
<u>Management</u> : Boarding and Inspection procedures for vessels in Convention waters. <sup>10</sup>	Agreement on most of the key provisions. Key outstanding issues include: determining the proper terminology to address boarding by members who are not considered “Contracting Parties” as defined in Article 1 of the Convention (i.e., Chinese Taipei); identification requirements for inspectors; timelines required to complete inspections; communications with onboard observers during inspection; and limitations on the use of force.
<u>Management</u> : Transshipment procedures <sup>11</sup>	Agreement on most of the key provisions. Key outstanding issues include: the fisheries initially covered by the measures, and the timeline for expanding transshipment requirements to Pacific saury, or potentially to all other pelagic species

### **Implications for U.S. Management in the North Pacific**

U.S. ratification to the Convention would provide the U.S. with the ability to craft conservation and management measures that would address U.S. interests in improving the stock status of several species on the high seas and contribute to the overall objective of combatting IUU fishing. U.S. ratification of the Convention and the activities of the Commission would not be expected to affect the domestic management of U.S. fisheries for several reasons described below.

First, NMFS has no record of fishing by U.S. vessels within the Convention waters. There have been unsubstantiated claims that some vessels fished for sablefish along the northern range of the Emperor Seamounts, but no documented catch data has been found. To date the U.S. fishing industry has not expressed interest in fishing for species covered by the Convention in Convention waters.

Second, ratification of the Convention would not change the current limitations on U.S. vessels fishing in Convention waters. Under existing domestic regulations, U.S. vessels cannot fish in any high seas fishery, including Convention waters, unless the vessel holds a high seas fishing permit. NMFS issues high seas fishing permits only after the impacts of high seas fishing activities have been analyzed in accordance with the ESA, NEPA and

<sup>10</sup> Draft boarding and inspection measures are available in the Technical Committee Working Group Paper: TCWG2/WP4.

<sup>11</sup> Draft transshipment measures are available in the Technical Committee Working Group Paper: TCWG2/WP3.

other applicable law, and only if a high seas fishery is explicitly authorized in regulations.<sup>12</sup> NMFS has not conducted an ESA or NEPA analysis for fishing for species covered by the Convention, and fisheries in Convention waters are not authorized under Federal regulations.<sup>13</sup> Therefore, NMFS has not established any such regulations that allow the issuance of high seas permits for fisheries covered under the Convention.

Third, with the limited exception of armorhead, and to a much lesser extent chub mackerel, the species harvested in convention waters are not straddling stocks that occur or are harvested in the U.S. EEZ. As described in Appendix A, fishing for armorhead has been closed in U.S. waters since 1986. A very limited chub mackerel commercial and sport fishery occurs along the west coast of the United States primarily in southern California. However, harvests in this fishery have been less than 8,500 mt annually in recent years, compared to an annual catch limit (in 2014-2015) of over 30,000 mt.<sup>14</sup> Harvests of chub mackerel within Convention waters are unlikely to have any impact on the current level of harvest or total allowable catch in U.S. waters because the stocks harvested in Convention waters near the coast of Japan are unlikely to be the same stocks as those harvested on the west coast of the U.S.<sup>15</sup>

*How will the US continue to engage in this process?*

- NOAA Alaska Regional Office, the North Pacific Fishery Management Council, Alaska Fisheries Science Center, NMFS' Office of International Affairs and Seafood Inspection, the Department of State, and the USCG currently participate as members of the U.S. delegation.
- The U.S. will continue to participate in the Commission as observers until domestic legislation is passed, but our lack of full status as a "Contracting Party" greatly limits our ability to shape substantive decisions made by the Commission such as the adoption of conservation and management measures.
- The U.S. has been a leader in this process. We have invested significant resources, and we are committed to its ongoing success by providing scientific input to the Commission and its subsidiary bodies, the Scientific Committee, and the Technical Compliance Committee.

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<sup>12</sup> See the description of the high seas permitting process used by NOAA in the April 13, 2015 proposed rule to improve the administration of the High Seas Fishing Compliance Act (80 FR 19611), available at: <https://www.federalregister.gov/articles/2015/04/13/2015-08425/international-affairs-high-seas-fishing-compliance-act-permitting-and-monitoring-of-us-high-seas#h-14>

<sup>13</sup> The list of authorized fisheries is found at 50 CFR 300.334.

<sup>14</sup> See Coastal Pelagic Species Management Decisions by the Pacific Fishery Management Council (2014-2015) at: <http://www.pcouncil.org/wp-content/uploads/0614decisions.pdf>

<sup>15</sup> See Coastal Pelagic Species Stock Assessment and Fishery Evaluation. 2014. Available at: [http://www.pcouncil.org/wp-content/uploads/2014\\_CPS\\_SAFE\\_Text\\_FINAL.pdf](http://www.pcouncil.org/wp-content/uploads/2014_CPS_SAFE_Text_FINAL.pdf) and Appendix A: "Chub Mackerel" for more information,

## Appendix A: Additional Information on Species and Fisheries

### North Pacific Armorhead

Armorhead is broadly distributed in the temperate and subarctic North Pacific between Japan and North America ranging from California to Alaska, with concentrations on seamounts of the Southern Emperor and Northern Hawaiian Ridge (see Figure 2). Juveniles inhabit the epipelagic layer of the central northern North Pacific and the Gulf of Alaska for one to three years. They settle in the Emperor and Northern Hawaiian Ridge Seamounts and become mature in the subsequent year of settlement. Adults form dense aggregation over the summits of seamounts at night.<sup>16</sup>

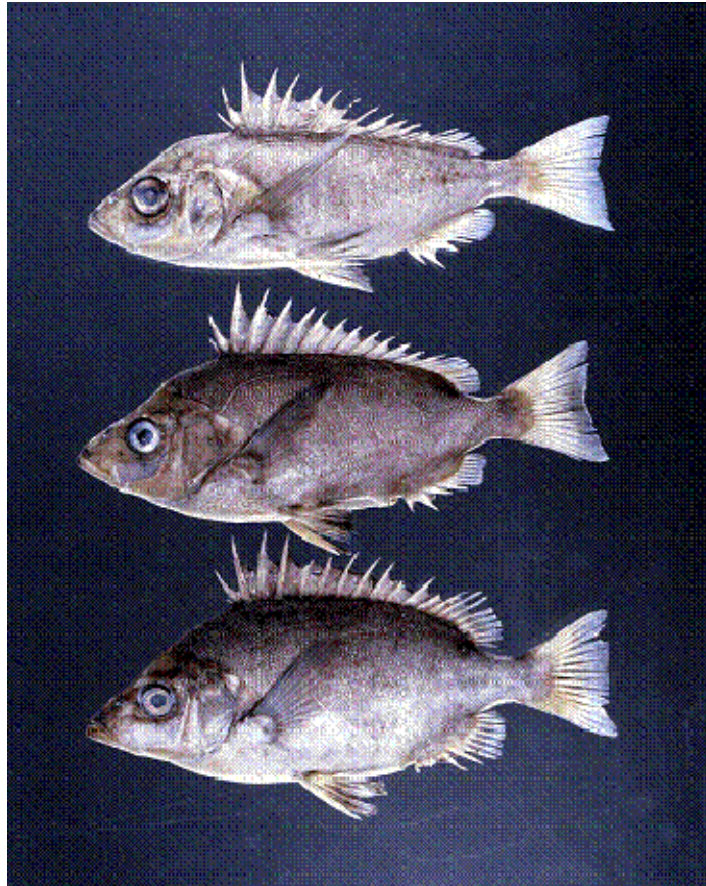


Figure 2 North Pacific Armorhead (Courtesy NOAA, PIFSC)

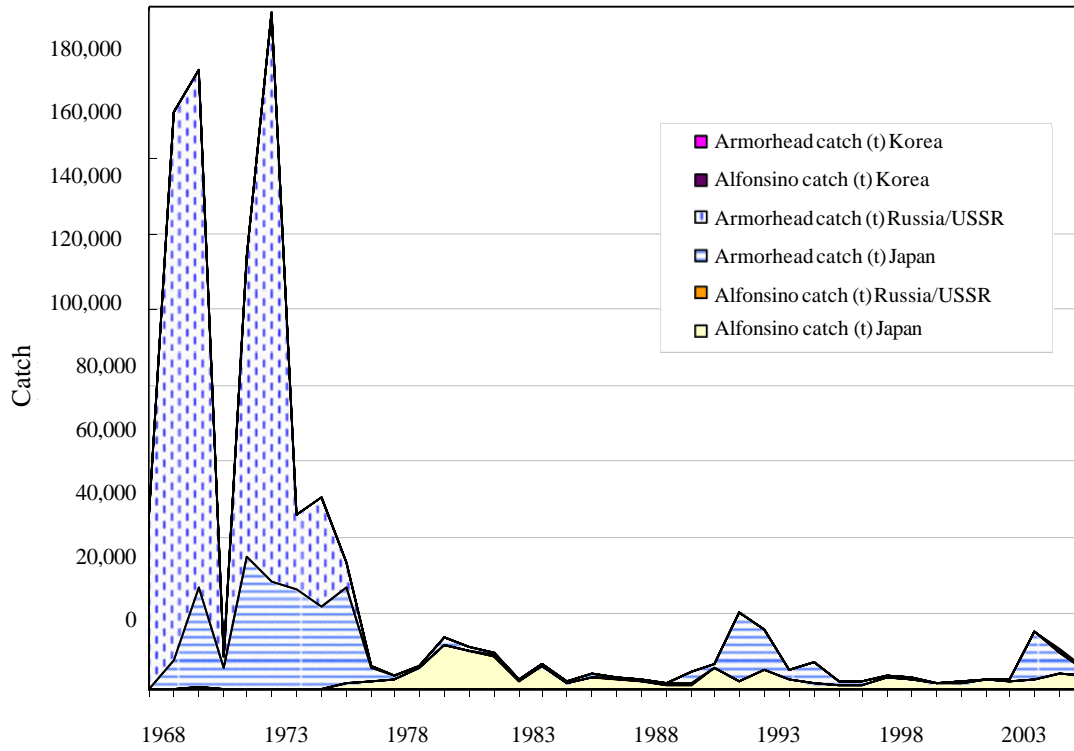
The armorhead fishery in Convention waters began in 1967 with the discovery of large aggregations in the southern portion of the Emperor

Seamounts by Russian vessels. Russian vessels began a bottom trawl fishery in 1968 and Japan entered the fishery in 1969. Armorhead were subject to very heavy fishing pressure in the late 1960's and early 1970's with catch exceeding 150,000 mt for several years. By the mid-1970's, the armorhead stock effectively collapsed (See Figure 3). Armorhead fishing has been more limited since then. Russian trawlers appear to have existed the fishery. Korean vessels entered the fishery at some indeterminate time in the early 1980's. Although armorhead catch declined dramatically since the early 1970's, armorhead is of increased importance for the Japanese trawlers, owing to the decline and cessation of pollock fishing within international waters of the Bering Sea.<sup>17</sup> Japan has established a limited entry system for their vessels fishing armorhead in the in the Convention waters of the southern Emperor and Northern Hawaiian Ridge Seamounts.

<sup>16</sup> From "Information describing the North Pacific armorhead (*Pseudopentaceros wheeleri*) fisheries relating to the North Western Pacific Regional Fishery Management Organisation". 2008. Appendix E to the Japan Report, available at: <http://nwpbfo.nomaki.jp/JPN-AppendixE.pdf>

<sup>17</sup> See Appendix E.

Korea limits the number of bottom fishing vessels through the government licensing system. Russia is currently developing rules to regulate bottom fisheries in the area.<sup>18</sup>



**Figure 3: Catch of armorhead and splendid alfonsino in Convention waters<sup>19</sup>**

Armorhead surveys and assessments have been conducted sporadically since 1984. The Commission has identified the need for improved armorhead assessments, and the Scientific Committee has formed a Small Scientific Committee to explore additional assessment opportunities.

A small proportion of the armorhead stock and known habitat is found within the US EEZ in seamounts at the extreme western end of the EEZ along the Northwest Hawaiian Islands (estimated at roughly 5 percent of the stock and known habitat).<sup>20</sup> In the U.S., armorhead is defined as overfished under the Magnuson-Stevens Act, and fishing in the US EEZ has been prohibited since 1986. No domestic fishery has ever targeted this stock. The Western Pacific Fishery Management Council Measures recommended and NMFS approved Amendment 2 to the Fishery Ecosystem Plan for the Hawaii Archipelago in 2011 to permanently extend the closure of the armorhead fishery in U.S. waters. The analysis prepared for Amendment 2 notes that that limit fishing in the high

<sup>18</sup> Appendix E.

<sup>19</sup> Figure 3 from Appendix E.

<sup>20</sup> Amendment 2 to the Fishery Ecosystem Plan for the Hawaii Archipelago. Western Pacific fishery Management Council. 2010. Available at: [http://www.wpcouncil.org/fep/Amendments/HI%20FEP%20A2%20Hancock%20Seamounts%20\(2010-08-06\).pdf](http://www.wpcouncil.org/fep/Amendments/HI%20FEP%20A2%20Hancock%20Seamounts%20(2010-08-06).pdf). Federal Register Approving Amendment 2 management measures at: <http://www.wpcouncil.org/news/FR%20Notices/2010-11-10%20Hancock%20Seamount%20-%20FR.pdf>

seas could contribute to the recovery of the armorhead stock “without international cooperation, rebuilding could be as long as or longer than 35 years.”<sup>21</sup>

### Splendid Alfonsino

Splendid alfonsino has a circum-global distribution, from about 65° N to 43° S, excluding the northeast Pacific Ocean. It inhabits the outer continental shelves and slopes, and is often associated with seamounts.



Figure 4: Splendid alfonsino. Source: Mar-Eco.no

The basic biology of splendid alfonsino is reasonably well known, although aspects of their reproduction and stock structure are still poorly understood.<sup>22</sup>

Splendid alfonsino is incidentally harvested with armorhead, and is a high value species that is particularly sought after in Japanese markets. Target fisheries in the Southern Emperor and Northern Hawaiian Ridge (SE-NHR) started in the mid-1970s after the decline in armorhead stocks. After the establishment of the U.S. EEZ in 1977, commercial fishing effort shifted to the Hancock seamounts until 1985. After 1985, target fisheries conducted by foreign vessels for splendid alfonsino ended in the U.S. EEZ and fishing was limited to foreign vessels operating on the high seas.<sup>23</sup> No fishing is allowed within the U.S. EEZ. The main fishing methods of this species are bottom trawl, long-line and bottom gillnet. Trawling for this species on seamounts impacts mainly the flat submit and slope areas of the seamounts, but the precise impact on habitat and on other species on the seamounts is unknown. The main fishing grounds for vessels using bottom gillnet is located along the slope area of the seamounts. Recent harvests are shown in Figure 3.

Japan has implemented a limited entry system for splendid alfonsino in the international waters of the SE-NHR. Korea limits the number of bottom fishing vessels through the government licensing system. Russia is currently developing rules to regulate bottom fisheries in the area.<sup>24</sup> The Interim measures of international fisheries management were elaborated among national delegations of Japan, South Korea, Russia and USA, and took effect on 31 December 2007.

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<sup>21</sup> Cite to Amendment 2.

<sup>22</sup> “Information describing splendid alfonsino (*Beryx splendens*) fisheries relating to the North Western Pacific Regional Fishery Management Organisation”. 2008. Appendix D to the Japan Report. Available at: <http://nwpbfo.nomaki.jp/JPN-AppendixD.pdf>

<sup>23</sup> See Appendix D

<sup>24</sup> See Appendix D

## Coral



**Figure 5: Gorgonaria coral (Koko Seamount). Source: Takashi Yanagimoto, National Research Institute of Far Seas Fisheries; Yoshimi Takao, Koki Abe: National Research Institute of Fisheries Engineering, FRA, Japan**

Both shallow water (400-450 m depth) coral (*Corallium secundum*) and deep water corals (1,000-1,500 m depth) (*Corallium spp.*) occur in the Convention area. However, the majority of identified coral habitat and the majority of known coral harvests have occurred on or near numerous seamounts that are found within the Convention area.

Coral was harvested in Convention waters in a coral drag fishery that was active through the 1980s. Drag gear, is similar to gillnet gear that is dragged along the bottom to catch corals. The shallow water coral drag fishery started around 1965 and ended by the mid-1970s. The deep water coral drag fishery began around 1978 and appears to have ended around 1992. Vessels of Japan and Taiwan participated in both the shallow and deep coral trawl fisheries. Although records of coral drag fishery harvests ceased in 1992, recent sightings of coral drag vessels in the vicinity of the Emperor Seamounts suggest that a coral fishery many have existed as late as the mid-2000's.<sup>25</sup>

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<sup>25</sup> U.S. Reports (U.S. Reports) on identification of VMEs and assessment if impacts of bottom fishing activities on VMEs. 2008. NOAA Fisheries. Available at: <http://nwpbfo.nomaki.jp/USA-Report.pdf>

Data on coral fishing effort are very limited. Most of the historic data comes from interviews with vessel operators and not official documentation. Anecdotal information indicates that Japan may have had up to 100 vessels participating in the fishery in the 1960s, with participation falling substantially to less than 20 vessels by the early 1980s, and no reported fishing since 1992.<sup>26</sup> Up to 100 vessels from Chinese Taipei may have been active in the fishery as late as 1981, with significantly decreasing participation by the mid-1980s.<sup>27</sup> It is likely that only one or several vessels from Japan or Chinese Taipei participated in the coral drag fishery from the late-1980s through 1992, the last year of recorded harvests.

The coral drag fishery for *C. secundum* was reported to have been conducted at the southern Emperor Seamounts; presumably near Koko, Yuryaku, and Kammu seamounts.<sup>28</sup> It is uncertain whether this fishery expanded to the southeast to include the small seamounts of the northern Hawaiian Ridge (Colahan, C-H, and the Hancock). The second fishery for *Corallium spp.* was presumably conducted on the seamount slopes of Koko, Yuryaku, and Kammu.<sup>29</sup> It is also uncertain whether this fishery expanded to the southeast to include the small seamounts of the northern Hawaiian Ridge (Colahan, C-H, and the Hancock) and perhaps to the deeper seamounts north of Koko.

The lack of data for the Japanese and Chinese Taipei coral drag fisheries impedes a comprehensive analysis of its potential impact. As noted in the U.S. Report

The complete lack of location data does not allow for an evaluation of whether serial depletion by area has occurred. Serial depletion is a particularly relevant issue to consider when analyzing these types of fisheries. The sessile nature of the target species and the physical dislodgement of corals by the harvesting gear are characteristics quite different from most other fisheries. In fact, the operation of a coral drag fishery is more similar to mining than to fishing in that the resource initially remains concealed, but once discovered, it cannot evade extraction. Furthermore, there may be little incentive to conserve the resource since harvested corals can be stockpiled indefinitely and the rapid harvesting of the resource minimizes competition from other fishermen.<sup>30</sup>

The members recognize the potentially serious adverse impacts of coral fishing, and a series of conservation measures have been adopted to address these concerns (see the Conservation and Management Section for additional detail).

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<sup>26</sup> U.S. Report.

<sup>27</sup> U.S. Report.

<sup>28</sup> U.S. Report.

<sup>29</sup> U.S. Report.

<sup>30</sup> U.S. Report.

## Pacific saury



**Figure 6: Pacific Saury. Source: flickr.com**

Pacific saury is widely distributed throughout the mid and lower latitudes of the North Pacific. The fish occur in large schools, typically near the surface, and are attracted to light – a characteristic used during fishing operations. Adults are generally found offshore, near the surface of the ocean, in schools. Sea surface temperature appears to be an important factor in their distribution, with higher distribution in waters of 15 degrees C. The saury feeds on zooplankton and is an important prey species for other fish, sea birds, and marine mammals.<sup>31</sup>

Pacific saury is a traditional food throughout Asia, particularly in the fall. It is also used as fish meal in some markets. Pacific saury is also known to have significant inter-annual variations in abundance and harvests throughout the North Pacific, with harvests ranging from less than 100,000 mt of harvests, to over 500,000 mt in harvests.<sup>32</sup>

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<sup>31</sup> Summarized from: Huang, Wen-Bin, Lo Nancy C.H., Chiu Tai-Sheng, Chen Chih-Shin. 2007. Geographical Distribution and Abundance of Pacific Saury, *Cololabis saira* (Brevoort) (Scomberesocidae), Fishing Stocks in the Northwestern Pacific in Relation to Sea Temperatures. *Zoological Studies* 46(6): 705-716.

<sup>32</sup> Huang, et. al., 2007.



## Chub mackerel



**Figure 7: chum mackerel. Source: NOAA**

Chub mackerel, also commonly known as Pacific mackerel, is a coastal pelagic species, found over the continental slope of the North Pacific. It is found to depths of 300 m. There are three broad areas where the species is found. One area in the North Pacific is found along the coast of Japan and southward through the Philippines. A second coastal area includes the coastal region from Mexico through the Southeast Alaska panhandle. A third area includes the Pacific coast of South America.<sup>33</sup> Overall stock populations in the Northwest Pacific near Japan and along the North American west coast appear to be stable, though total harvests are significantly below past historic highs.<sup>34</sup>

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<sup>33</sup> From IUCN Redlist, available at: <http://maps.iucnredlist.org/map.html?id=170306>

<sup>34</sup> Summarized from IUCMN Redlist, available at: <http://www.iucnredlist.org/details/full/170306/0>