I. C-4 (a) Initial Review of GOA Trawl Sweep Modification

Background
In October 2010, the Council initiated a trailing amendment to require trawl sweep modifications on trawl vessels using nonpelagic gear in the Central GOA to reduce unobserved crab mortality. The action was initiated in conjunction with final action on the GOA Tanner crab area closures. The Council considered the scope of the proposed amendment following a brief discussion paper presented at the February 2011 meeting. The paper focused on the practicality of trawl sweep modification for different GOA nonpelagic trawl fisheries, the effectiveness of the modification at reducing prohibited species catch of crab in the GOA nonpelagic trawl fisheries, and a tentative plan for verifying sweep elevation on GOA vessels during the 2011 GOA flatfish fishery. After reviewing the discussion paper and taking public comment on the issue, the Council narrowed the proposed sweep modification action to flatfish fisheries in the Central GOA.

At the February 2011 Council meeting, the Enforcement Committee provided a brief summary of the GOA trawl sweep modification discussion paper. At that meeting, there was discussion concerning enforcement of modified trawl sweeps on smaller GOA vessels. The Committee noted that in many cases, the vessel size may limit the ability to measure the spacing length of elevating devices at-sea, therefore measurement of spacing lengths of elevating devise may need to be completed at dockside.

The Committee also noted that the implementation of the Bering Sea trawl sweep modification for flatfish vessels in January 2011 will likely contribute insights and lessons that will aid in developing a GOA trawl sweep modification program. It was also noted in the minutes that the ongoing enforcement and monitoring of the BS trawl sweep modification of flatfish vessels will also likely inform the development of enforcement and monitoring measures in the Central GOA sweep modification for trawl vessels utilizing nonpelagic gear.

Alternatives
Provided are the alternatives evaluated in this analysis.

Alternative 1: Status quo

Alternative 2: Require trawl vessels targeting flatfish in the Central GOA using non-pelagic trawl gear to use elevating devices on trawl sweeps to raise them off the seafloor

Elevating devices combined with proper spacing raises the trawl sweep off of the seafloor to reduce unobserved crab mortality and reduce damage to bottom habitat. The proposed action would be to combine a gear and performance standard to raise the elevated section of the sweep at least 2.5 inches. To achieve this performance standard, elevating devices would be required along the entire length of the elevated section of the sweep spaced no less than 30 feet apart. To allow for some flexibility around the performance standard and to allow for wear and tear that might occur during a tow, there would be two different sweep configurations to choose from that specify the maximum spacing of elevating devices.
The first configuration uses elevating devices that have a minimum clearance height of 3.5 inches or less with a required spacing between the elevating devices of no more than 65 feet apart. The second configuration uses elevating devices that have a minimum clearance height greater than 3.5 inches need to space these elevating devices no more than 95 feet apart. Either configuration combined with the minimum spacing of elevated devices no less than 30 feet would meet the combined gear and performance standard for the use of elevating devices on trawl sweeps while targeting Central GOA flatfish.

Enforcement

The intent of the proposed action is to ensure clearance of the sweep off the seafloor to reduce unobserved mortality of Tanner crab. However, the clearance must be able to be easily checked for compliance by both vessel operators and enforcement personnel. The regulations for the Central GOA flatfish fishery will likely be based on the regulations generated from the BS trawl sweep modification (Amendment 94). During the development of Amendment 94 regulations for the modified trawl sweeps in the BS, NMFS, North Pacific Groundfish Observer Program (NPGOP), U.S. Coast Guard (USCG), NOAA Office for Law Enforcement (OLE) and General Council Enforcement, and the industry worked collaboratively to provide a regulation with sufficient flexibility to allow the use of gear modifications on diverse vessel and gear type configurations that are currently employed in the BS flatfish fishery, while still ensuring the intent of action is met and can be verified.

From an enforcement perspective, it was resolved that the intent of the BS flatfish action would be best met by regulating the clearance standard and spacing requirements, and that by leaving the other details out of the regulation, the fleet would have more flexibility to individualize the gear as appropriate to their vessel and gear type configurations. It is likely the same approach could be utilized in developing the regulations for the proposed trawl sweep modification for the Central GOA flatfish fishery. Fishers will be responsible to ensure their sweeps meet the standards, and compliance with the standards may be randomly checked by several methods. Agency enforcement activities will focus on ensuring compliance with the regulation that prohibits targeting flatfish without using a modified trawl gear in the Central GOA subarea. An at-sea observer may observe the deployment or retrieval of the net to determine the presence or absence of the modified gear. The OLE would be notified if the modified gear may not meet the standard or if no modified gear is detected. OLE may follow-up with a more intensive dockside inspection. The USCG may conduct at-sea inspections to determine if a modified sweep is present or absent. The details of the types of inspections, the design and use of various devices such as “wear indicators” on the bobbins to enable visual detection of worn or inadequate modified trawl gear, and the actual procedures to be used by the vessels and the monitoring bodies in undertaking an inspection of modified trawl gear will be developed prior to implementation of the gear modification requirement, likely copying procedures in place in the BS.

In implementing Amendment 94 in the BS, enforcement personnel agreed that boarding a vessel at sea and inspecting the gear for compliance with the regulatory requirements is feasible and likely to be successful for larger trawl vessels. For smaller trawl catcher vessels, an ancillary device may be necessary to allow for an accurate measurement of spacing between the bobbins, such as the use of a predetermined length of string that can be attached to the bobbin, and run alongside the sweep as the gear is hauled up to measure the spacing to the next bobbin. Alternatively, enforcement of bobbin spacing may occur while the vessel is dockside, and the gear be stretched out. As for the elevating devices, they are easy to see and measure while the sweeps are being set or hauled back, and worn devices should be easy to replace. Onboard observers should also be able to see and note gross violations, such as the vessel not using the modified gear for flatfish fishing.
II. C-4(b) Initial Review of HAPC – Skate Egg Concentration Sites

Background

HAPCs are geographic areas of special importance within the distribution of essential fish habitat (EFH) that require additional protection from adverse fishing effects, are rare, and are either ecologically important, sensitive to disturbance, or may be stressed (50 C.F.R. 600.815(a)(8)). The Council set a habitat priority for HAPC nominations – “skate nurseries”/areas of skate egg concentration – and has selected a HAPC proposal from the Alaska Fisheries Science Center (AFSC) for analysis. Six sites in the eastern Bering Sea, listed below, are recommended for identification as skate egg concentration HPACs:

<table>
<thead>
<tr>
<th>Site name</th>
<th>Area of HAPC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nm²</td>
</tr>
<tr>
<td>1. Bering 1</td>
<td>18.4</td>
</tr>
<tr>
<td>2. Bering 2</td>
<td>17.5</td>
</tr>
<tr>
<td>3. Bristol</td>
<td>13.7</td>
</tr>
<tr>
<td>4. Pribilof</td>
<td>1.2</td>
</tr>
<tr>
<td>5. Zhemchug</td>
<td>3.2</td>
</tr>
<tr>
<td>6. Pervenets</td>
<td>27.7</td>
</tr>
</tbody>
</table>
At the February 2011 Council meeting, the Enforcement Committee received a discussion paper on the posed HAPC sites and provided comment to the Council. The Committee recommended a square or rectangular closure shape because it would be more practicable for successful enforcement and compliance. The Committee also discussed enforcement problems in areas where pelagic gear is permitted but nonpelagic is not, recommending inclusion of the USGC’s white paper, *Enforcement Concerns for Trawl Gear Area Restrictions*, in the full analysis. Finally, the Committee commented that it would be difficult to monitor such small, discreet areas with the major enforcement assets used to patrol the Bering Sea, subsequently recommending a 25nm² minimum threshold size these proposed areas.

**Alternatives & Options**

In February 2011, the Council received a discussion paper on the AFSC’s HAPC proposal and selected three alternatives and five options for conservation and management to forward on for full analysis:

**Alternative 1** Status quo; no action – no measures would be taken to identify, or to identify and conserve, skate egg concentration HAPCs.

**Alternative 2** Identify skate egg concentration HAPC(s) – the Council may select individually, severally, or all of the six areas identified as potential skate egg concentration HAPCs.

**Alternative 3** Identify and conserve skate egg concentration HAPC(s) – the Council may select individually, severally, or all of the six areas identified as potential skate egg concentration HAPCs

– AND – the Council may select different conservation and management options for any identified skate egg concentration HAPC.

The conservation and management options below may be selected in combination with any skate egg concentration HAPC identified under Alternative 3:

**Option a** Prohibit within skate egg concentration HAPCs the use of “mobile bottom contact” fishing gear: nonpelagic trawl, dredge, and dinglebar gear.

**Option b** Prohibit within skate egg concentration HAPCs the use of “mobile bottom contact” and pelagic trawl fishing gear: nonpelagic and pelagic trawl, dredge, and dinglebar gear.

**Option c** Prohibit within skate egg concentration HAPCs the use of “bottom contact” fishing gear: nonpelagic trawl, dredge, dinglebar, pot, and hook and line gear.

**Option d** Prohibit within skate egg HAPC(s) the use of all fishing gear: nonpelagic and pelagic trawl, dredge, dinglebar, pot, and hook and line gear.

**Option e**, blow, is applicable to ALL alternatives, in any combination of skate egg concentration HAPCs, with any combination of conservation and management measures the Council selects:

**Option e** Add research and monitoring of any area of skate egg concentration to the Council’s annual research priority list – the Council may identify the research and monitoring of areas of skate egg case concentration as a research priority and incorporate it into the Council’s annual research priority list for continuing research, to evaluate skates, skate egg concentration areas, and their ecology and habitat.

**Enforcement**

At this meeting, it would be helpful if the Enforcement Committee could further discuss issues of management and enforcement of the proposed conservation management options outlined above (a – d). The AFSC recommend in its HAPC proposal that all fishing gear be prohibited from making contact with the seafloor within these areas, which are size dependent on the concentration or density of skate egg
cases. Conservation areas were offered as a range of conservation areas based upon egg case concentrations of each particular site buffered to the nearest minute of latitude and/or longitude.

The Council has the option under Alternative 3 to prohibit nonpelagic gear, as this is the primary gear that would impact the area of skate egg concentration, but would allow pelagic trawl gear. In discussing trawlers, the USGC feels the white paper prepared and presented in February 2011 is applicable to the discussion on problems with closed areas that prohibit nonpelagic trawling, but allow pelagic trawling. The white paper provides a background relating to the definitions enforcement personnel must work within, as well as the challenges to at-sea enforcement, and changes to boarding procedures that would have to be addressed in order to effectively monitor this type of regulation.

50 C.F.R. 679.2 provides the relevant regulatory definitions, which have been incorporated into the options above (a through d). For purposes of this discussion, regulatory phrasing indicates that pelagic trawling is defined by trawling during which the foot rope is not in contact with the bottom for more than 10% of the time.

1. Enforcement Concerns

Due to the size of the Alaska region and the number of enforcement assets available, one of the most effective means of surveillance is by aircraft. At-sea enforcement of areas where pelagic trawl gear is permitted and nonpelagic trawl gear is prohibited is problematic, however. While an aircraft can identify the type of vessel (e.g. longliner, trawler, seiner, pot boat, etc.), there is no way for aircraft to readily identify whether a trawl vessel is using pelagic or nonpelagic trawl gear. Because of the regulatory definitions, the only time an aircraft would be able to determine whether a vessel was using pelagic or nonpelagic trawl gear would be if they witnessed a haulback and noted chafing gear on the foot rope or roller gear. By definition, this would make the vessel a nonpelagic trawler. All other definitions used to identify whether a vessel is conducting pelagic or nonpelagic trawl activities must be conducted by a boarding team on the vessel. Identification of pelagic or nonpelagic trawl gear can easily be done by definition during an at sea boarding based upon the definition of rollers and chafing gear, but becomes more problematic in cases where gear that appears to be pelagic in nature is in contact with the sea floor more than the allowable 10% of the time. It is nearly impossible for a boarding team to determine how much time pelagic trawl gear is in contact with the bottom, and this regulation is almost unenforceable.

2. Vessel Monitoring Systems (VMS)

One possible mitigating factor would be to have vessels declare what they are targeting and what gear they are using through their VMS units. This is a system that is used extensively in other regions of the country, and allows enforcement personnel to quickly identify locations of various fleets by gear type and targeted species. VMS can be used in tandem with a real time data reporting system to show the vessel was at-sea, how long it was out, where it docked when it came into port, and the present vessel location. VMS is capable of understanding and recording small details of the ship’s evolutions. It can document, for instance, specific course changes and engine speed changes by a vessel. Collectively this pattern is termed a signature. At present there is not enough data to make a signature admissible in court as an indicator of fishing. Regardless, VMS technicians are trained to look at positioning data and other factors indicating potential fishing activity. An investigator can be dispatched to the landing site intercepting the vessel as it comes into port or even anchors in a remote area. If the captain and crew are believed to have illegally harvested a LAP species, the agent or officer can intercept the vessel. If, during the course of an initial investigation, a violation surfaces the agent or officer will bring the vessel to port, seize the catch and cite the errant fisherman.
3. Enforceable Threshold Size

If the Council wishes to protect the proposed skate egg concentration HAPCs, and VMS is the mechanism utilized to monitor closures of these areas, then the ideal minimum size according to the USCG and NOAA is approximately 5nm to a side, or 25nm$^2$. This is the minimum size that will provide sufficient buffer space in order to use VMS to determine an incursion into the area. The primary reason for this size would be to guarantee that at least one VMS poll is within the much finer area that the Council wishes to protect, and to ensure that vessels do not transit all the way through the area between polls, or merely cut through the corners. This minimum size will guarantee that the USCG and the NOAA Office of Law Enforcement (OLE) would be able to get at least one VMS poll within the closed area despite issues of cutting the corner, or other means, and would ensure the smaller area you want to protect is protected.