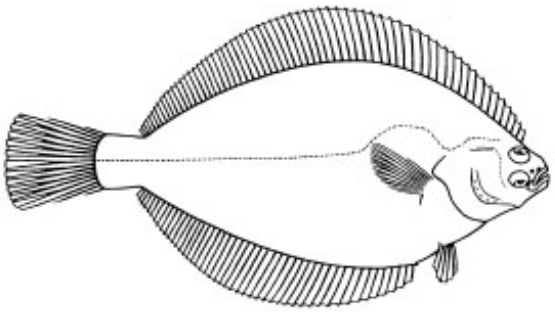
DISCUSSION PAPER

Trawl sweep modifications for the Bering Sea flatfish fishery

Ensuing from BSAI Amendment 89, Bering Sea habitat conservation measures



Proposed Amendment to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area

January 2009

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1 Introduction and Council motion, June 2008

In June 2008, the Council received a report on research and field testing of proposed modifications to the trawl sweep as used in directed flatfish fishing in the Bering Sea. This report was requested by the Council during their deliberations on Bering Sea habitat conservation measures, adopted by the Council in June 2007 as BSAI Amendment 89, and implemented in August 2008. The proposed gear modification was endorsed by the Council in June 2007, in order to reduce contact of the trawl gear with the seafloor, but specific recommendations were deferred, pending further research and testing.

Following the 2008 report, the Council initiated an analysis of the proposed gear modification, and requested staff to compile relevant information from the Amendment 89 EA/RIR/IRFA, as well as any new information, in a discussion paper for the October 2008 meeting. The discussion paper was to include the problem statement and alternatives relevant to gear modification from Amendment 89.

Section 2 provides a history with respect to the Council's proposed action, and Sections 3 and 4 provide the problem statement and alternatives from Amendment 89. Section 5 summarizes information on research and field testing of the gear modification. Section 6 provides information on the gear modification requirement, as well as industry feedback on the regulation based on a September 2008 workshop (the workshop report is available separately), and enforcement and compliance issues with respect to the regulations. Section 7 discusses the reopening of an area closed under Amendment 89, which the Council identified as an area that may be reopened following implementation of the gear modification requirement. Section 8 identifies what the Council's action is with respect to this agenda item, for the February 2009 Council meeting. Appendix 1 contains the proposed regulatory language for this amendment. Appendix 2 excerpts those comments on the final rule for Amendment 89 which are relevant for the gear modification action.

2 History of the proposed action

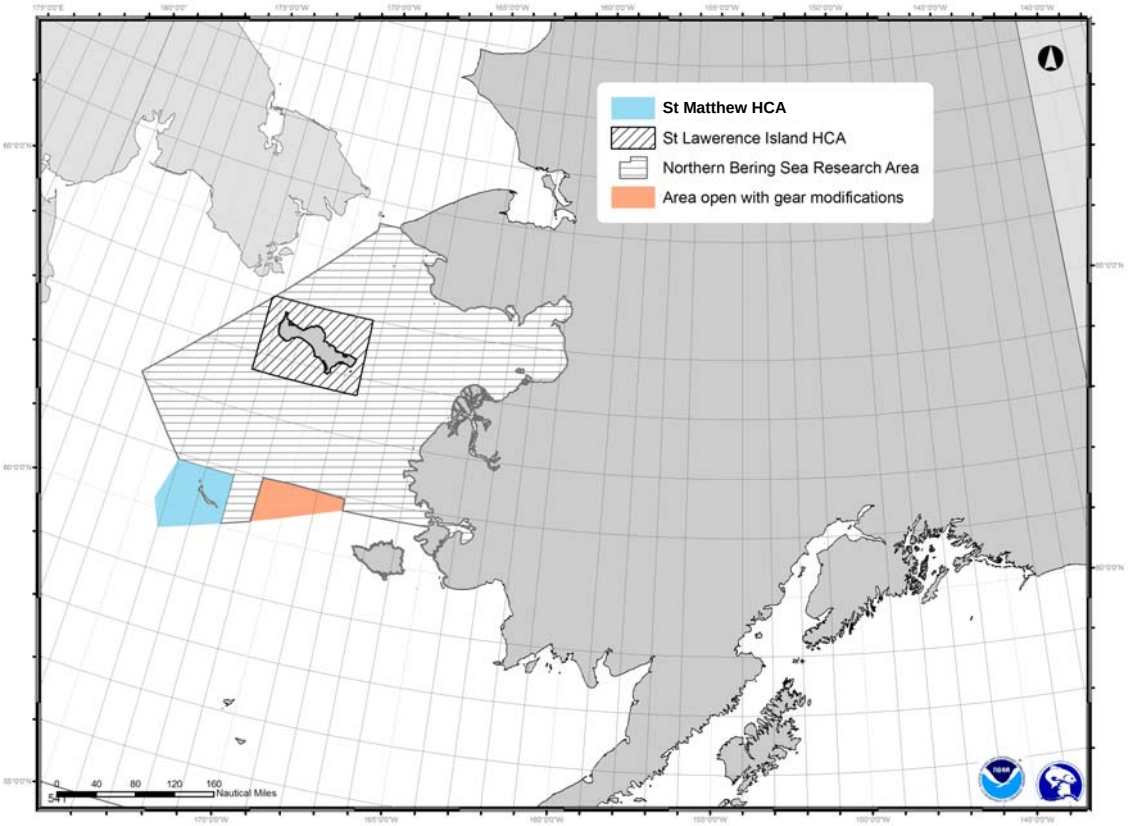
In June 2007, the Council adopted a number of actions for Bering Sea habitat conservation, implemented under BSAI Amendment 89, which was approved by the Secretary of Commerce in May 2008. The Bering Sea habitat analysis followed on from the February 2005 Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska (EFH EIS; NMFS 2005), which described EFH and under the auspices of which a suite of measures were implemented to conserve EFH in the GOA and AI from potential impacts due to fishing. In 2005, the Council took no action to implement additional conservation measures in the eastern Bering Sea, as the analysis found such additional measures were neither required by law, nor necessary at that time. Subsequently, the Council initiated an analysis focused specifically on nonpelagic trawl gear issues in the Bering Sea. Trawl gear was identified with high long term effect indices (LEI) on habitat, based on the 2005 EIS evaluation, and nonpelagic trawling uses gear that fishes constantly on the bottom. The nonpelagic trawl fishery in the Bering Sea is widely distributed (i.e., has a large footprint). The extent of nonpelagic trawling effort has the potential to increase with any future increases in total allowable catch (TAC) limits for flatfish species, and the footprint may increase with the movement of fish stocks in response to global warming.

In addition to the series of area closures included in the Amendment 89 management measures, the analysis evaluated an alternative to require gear modification for the flatfish fisheries. This alternative would require all vessels engaged in directed fishing for flatfish in the Bering Sea to use a trawl sweep modification intended to raise the sweeps off the seafloor while trawling. Research to develop the appropriate type of gear modification was undertaken, and an industry workshop convened in March 2007 to discuss the necessary requirements. At the time of Council final action, in June 2007, it was determined

that further research and refinement of the specific details of the gear modification was required. The Council endorsed the trawl sweep modification requirement, but deferred a specific recommendation on gear modification for the flatfish fisheries until June 2008. The Council asked that further gear testing be undertaken in the meantime.

In the June 2007 motion, the Council also identified a roughly triangular-shaped area west of St Matthew (often referred to as the "wedge"). Although this area was closed to non-pelagic trawl fishing as part of the Northern Bering Sea Research Area (NBSRA), under BSAI Amendment 89, the Council indicated that this area may be opened following the implementation of the gear modification for flatfish fishing, discussed above.

Figure 1 Portion of the Northern Bering Sea Research Area (colloquially known as the "wedge") that may reopen with the implementation of gear modification requirements for the flatfish fishery.



Note: HCA = Habitat Conservation Area, areas closed to nonpelagic trawling under Amendment 89.

A representative of the flatfish trawl industry, John Gauvin, and Dr. Craig Rose, an Alaska Fisheries Science Center researcher, made presentations to the Council at the June 2008 meeting regarding the progress of the gear testing and their research. The Council subsequently directed staff to initiate analysis to implement the gear modification requirement.

3 Purpose and need

The purpose of this analysis is to supplement the information provided in the BSAI Amendment 89 Bering Sea Habitat Conservation Measures EA/RIR/IRFA, with respect to gear modification in the

Bering Sea flatfish nonpelagic trawl fishery. The purpose of the action it to protect Bering Sea bottom habitat from the potential adverse effects of nonpelagic trawl gear used for flatfish fishing. This would be achieved by modifying nonpelagic trawl gear used for flatfish fishing by raising the majority of the gear off the bottom. Studies have shown that elevating the trawl sweep can reduce impacts on benthic organisms, such as basketstars and sea whips. The Council endorsed this action in their final recommendation on Bering Sea habitat conservation in June 2007, but was unable to approve specific details of the gear modification component. Further research was needed in order to identify the appropriate modification that would meet the Council's desired performance standard. Field testing of the modification has now been completed, and has demonstrated that the modification is workable in the fishery. The bottom habitat is an important part of the entire Bering Sea marine ecosystem. This action is needed to ensure ecosystem-based management is incorporated into flatfish fisheries management in the Bering Sea.

As part of the June 2007 motion, the Council also stated that a portion of the now closed (under Amendment 89) Northern Bering Sea Research Area may be reopened to non-pelagic trawl fishing. The Council linked the reopening of this area, colloquially referred to as the "wedge", to the implementation of the proposed gear modification requirements for the flatfish fishery. The flatfish industry had identified the area in question, the "wedge", as important to the fishery due to purported high concentrations of yellowfin sole and low concentrations of other bycatch species. The purpose of reopening the "wedge" is to allow for efficient harvest of flatfish species while providing protection to this minimally fished area by requiring modified gear. Implementing the modified gear requirement for the flatfish trawl fishery would reduce potential impacts on bottom habitat that might result from opening this area. This action is needed to ensure fishers can efficiently harvest flatfish as flatfish stocks are likely to shift locations in the Bering Sea.

3.1 Council problem statement, from BSAI Amendment 89

The Council articulated a problem statement for BSAI Amendment 89, the Bering Sea Habitat Conservation analysis, which included an examination of the gear modification alternative. That problem statement is captured below.

> *The Council intends to evaluate potential new fishery management measures to protect Essential Fish Habitat (EFH) in the Bering Sea. The analysis will tier off of the 2005 EFH Environmental Impact Statement and will consider as alternatives, open and closed areas and gear modifications. The purpose of the analysis is to consider practicable and precautionary management measures to reduce potential adverse effects of non pelagic trawl fishing on EFH and to support the continued productivity of Council managed species. Any new management measures will be developed in consideration of local community use.*

Because this action is specific to gear modification for the Bering Sea flatfish fishery, the Council may want to consider developing a new problem statement that would be specific to this action and the purpose and need statement.

4 Preferred Alternatives from BSAI Amendment 89

The Council adopted their preferred alternatives for Amendment 89 in June 2007. Two of the five components of the motion relate to the gear modification action; these are copied below. One component is to require a trawl sweep modification for directed flatfish trawl fishing in the Bering Sea, and the

second is to reopen the area described as the "wedge" once the gear modification has been implemented. Sections 6 and 7 provide further discussion with respect to these two actions in the forthcoming analysis.

2. *The wedge area described under the suboption of Alternative 2 may be opened if the Secretary has approved, and NMFS has implemented, a gear modification for nonpelagic trawl gear for the Bering Sea flatfish fishery to reduce bottom habitat impacts (see item 3 below). Further, the Council encourages NMFS to include this area within the annual trawl survey design.*

3. *The Council endorses trawl sweep modifications that reduce the potential impacts on benthic habitat from gear contact with the seafloor, per Alternative 3. The Council will provide recommendations to NMFS for the specific gear modifications in June 2008, following additional gear testing by the flatfish trawl industry, so the agency can undertake rulemaking after that date. The Council understands that depending on the final gear modifications, such a regulatory amendment may require supplementing the EA/RIR/IRFA analysis that is currently before the Council.*

5 Summary of industry research and gear testing

Dr Craig Rose and scientists from the Alaska Fisheries Science Center (AFSC) Resource Assessment and Conservation Engineering (RACE) Division have been working with the fishing industry, notably John Gauvin and the Head and Gut Workgroup, to modify groundfish trawls to reduce their effects on the seafloor environment. Elevating devices were added to trawl sweeps and were tested for their effectiveness at reducing effects on sessile seafloor animals on unconsolidated (sand – mud) substrates. For most Bering Sea flatfish trawls, sweeps are so long (up to 1500 ft) that they sweep 90% of the area covered between the trawl doors (Figure 2). The proposed modifications elevate most of the sweep area 2 to 3 inches above the substrate, allowing space for animals to pass beneath. In field testing, these modifications have proven effective at reducing effects on basketstars and sea whips, and did not substantially reduce catches of target flatfish.

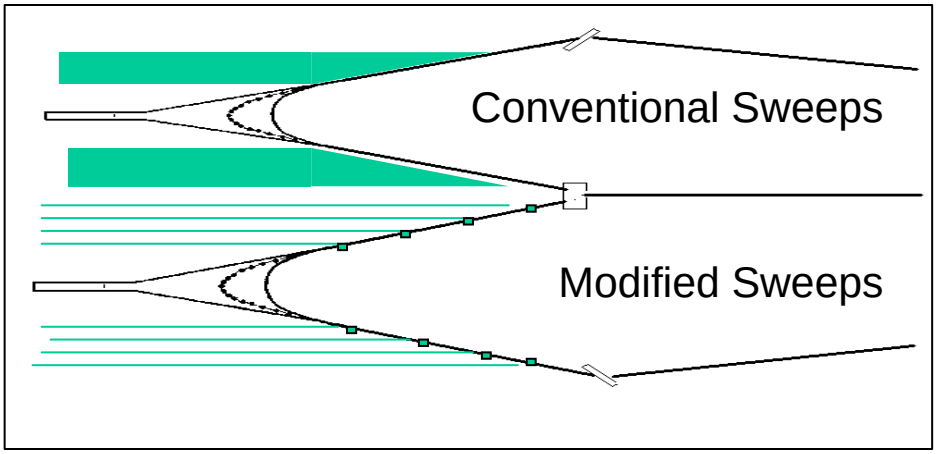
10 inch elevating bobbin connected to 2 inch (52mm) combination wire with hammerlocks (coupling links)

8 inch elevating discs mounted on body of 2 inch (52mm) combination wire with stopper swages each side

The information in this section is abbreviated from Dr Rose's summary of current gear research, Appendix B in the Amendment 89 EA/RIR/IRFA, and from his and John Gauvin's presentations to the Council in June 2008. During various field testing in 2006, and 2007, the researchers created parallel trawl tracks of modified and conventional sweeps. Conventional sweeps had the same diameter

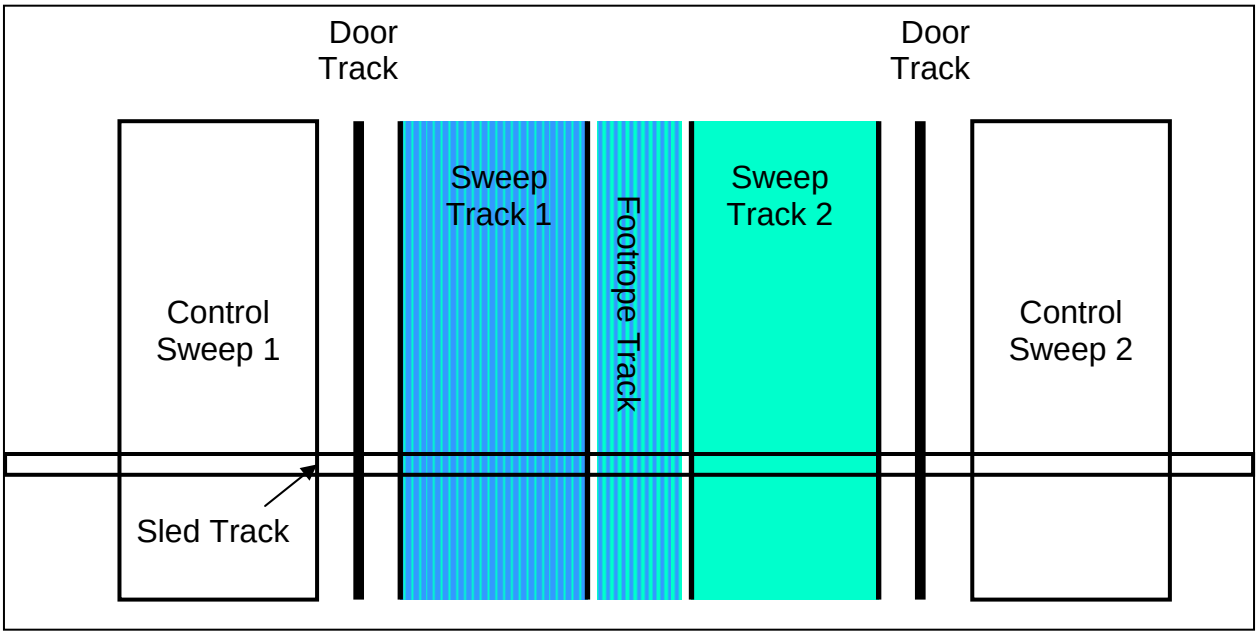
throughout, of either 2 inch diameter combination rope (rope including interwoven steel and fiber element, with the softer fiber on the outside), or 3 inch disks strung over steel cable, causing more continuous seafloor contact. Modified sweeps had clusters of 6 inch, 8 inch, or 10 inch diameter disks lifting the sweep cables above the seafloor, creating a nominal clearance (the space created under the sweeps adjacent to the elevating device, measured on a hard surface) of 2, 3, or 4 inches. Actual clearance is influenced by nominal clearance, the degree to which the elevating device sinks into soft sand or mud, and the degree to which the sweep sags in the span between elevating devices. The original 2006 research attached the disks at 30 ft intervals on the sweep.

Figure 2 Schematic of a twin trawl system, showing the concept of reducing bottom contact area of sweeps by limiting contact to disk clusters (C. Rose). Figure is not drawn to scale.



A seafloor sled with both sonar and video sensors was then towed across the parallel trawl tracks at several points to compare the condition of seafloor animals in areas affected by these different gears, and in control areas between tracks. Clearance indicators were developed to measure actual clearances between the sweep material and the seafloor during operation. These indicators were installed at several points across the span between elevating devices. Indicators installed next to the elevating devices evaluated the degree of sinking (elevating devices may sink up to 0.5 inches into the mud), while those near the center of the span measured sag. The imagery was analyzed to estimate the relative effects of the alternative sweep designs on the principal structure-forming invertebrates at each site.

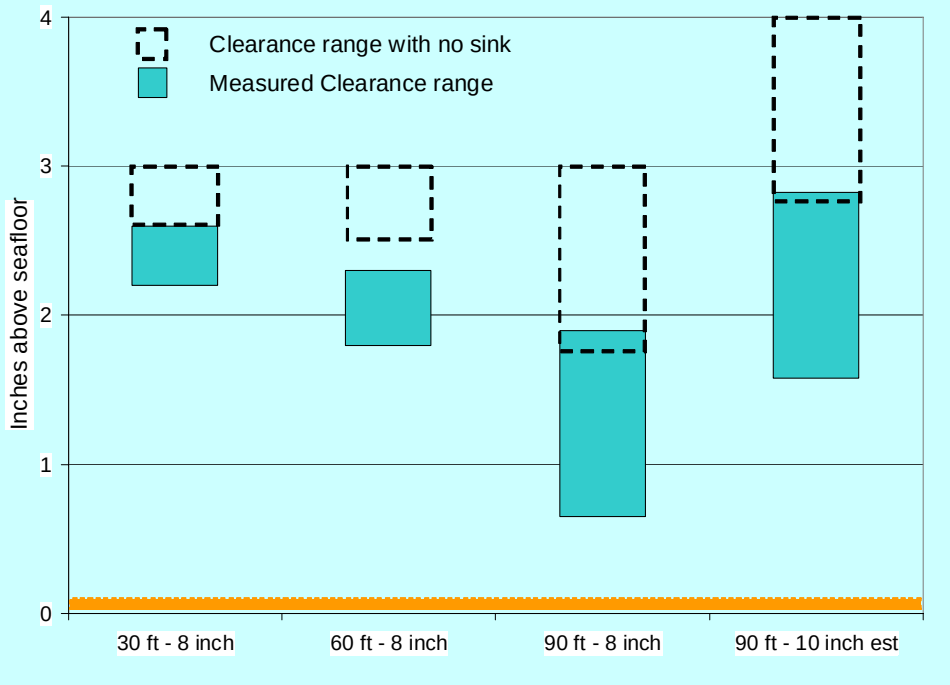
Figure 3 Illustration of the sled sampling of trawl tracks (C Rose).



The results from the 2006 research, at 30 ft spacing, indicated that while some damage reduction was seen with the 6 inch disks (with 2 inches nominal clearance), the 8 inch disks (with 3 inches nominal clearance) performed somewhat better with no detectable reduction in catch rates. Differences between the 8 inch and 10 inch modifications were minimal for basketstars and sea whips, however there was a small reduction in fish capture (5-10%) when using the 10 inch disks.

The 2007-08 field tests were trying to replicate the actual clearance from the 2006 tests, but using a longer spacing between elevating devices (intervals of 45 feet, 60 feet, and 90 feet). It was recognized that longer spacings between elevating devices would be easier for fishers to work with, and would further reduce direct contact area, providing a similar actual clearance could be maintained. Figure 4 illustrates various clearance ranges for the tested disk sizes and spacings. Dr Rose's general conclusion was that similar actual clearance to the 2006 tests could be achieved using elevating devices producing a 3 inch nominal clearance at 60 ft spacing (tested using 8 inch discs on 2 inch sweeps), and 4 inch nominal clearance at 90 foot spacing (10 inch discs on 2 inch sweeps). The 60 ft spacing achieved similar clearance to the 30 ft spacing, especially on firmer sediments (as illustrated by the boxes in dashed lines). At 90 ft spacing, the 10 inch bobbins provided significantly better clearance than the 8 inch bobbins.

Figure 4 **Clearance range of sweep at various elevation heights and spacings; also shows what clearance would be without accounting for the degree to which the elevation device (disk) sank into the seafloor (C Rose).**



5.1 New research results since June 2008

This section contains a further bulletin from Dr Craig Rose about new research results since the last time he presented results to the Council, in June 2008. Dr Rose will provide a brief overview of the results at the February Council meeting.

Effects on Sea Whips over time

During the summer of 2007, Dr. Rose extended the tests of effects on sea whips to examine the potential for recovery or delayed mortality. While the 2006 study only assessed damage after 1 – 2 days, this work also compared effects after approximately one week, one month and one year. As in 2006, a seafloor sled was towed across trawl tracks that included areas affected by conventional and modified sweeps. Areas covered by different gear components were identified using a sonar recording device aboard the sled and sea whip conditions were assessed from video images. The proportions of damaged seawhips in affected areas were compared with those in control areas immediately outside of the trawl tracks, as well as between those of the conventional and modified sweeps. VMS records were examined to assure that the area was not trawled by any other commercial fishing operations between trawl tows and sled tows.

Earlier evaluations of immediate effects ignored bare rods left from sea whips that had died previously (Figure 5). After a day or a week, recently damaged sea whips were easily distinguished from rods remaining from prior mortalities. However, after a month or a year these could not be separated. Therefore, our comparison across all time periods included these bare rods in the total counts of sea whips used to calculate proportions of undamaged sea whips.

Figure 5 A bare rod remaining after decomposition of a sea whip (left) and a sea whip flattened by recent passage under a trawl (right).

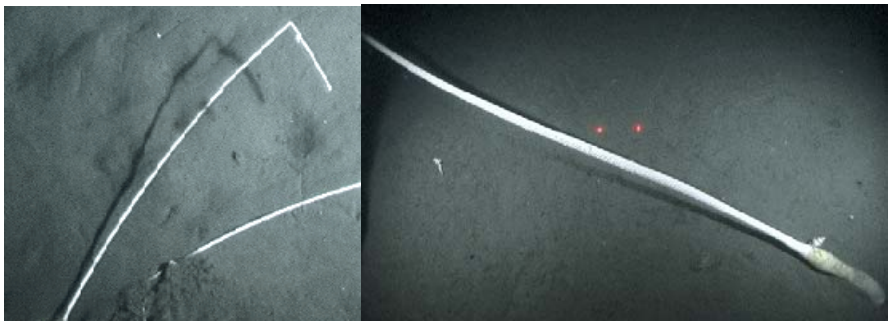
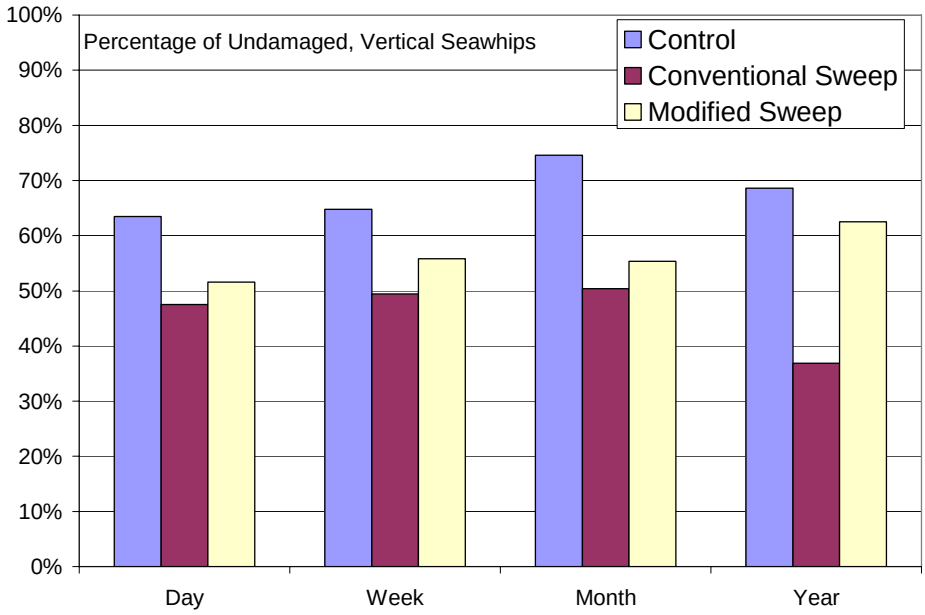


Figure 6 shows the proportions of upright and undamaged sea whips in the control, conventional sweep and modified sweep areas for each of the time periods. The relationships between these proportions were similar for the day, week and month periods, with more normal sea whips in the control area than in either affected area, and more in the modified sweep area than that for conventional sweep. After a year, the proportion of normal sea whips in the conventional sweep area dropped considerably, while that for the modified sweep moved closer to the proportion in the control area. This may indicate delayed mortality to sea whips affected by conventional sweeps and recovery of those affected by the modified sweeps.

Figure 6 Percentage of normal seawhips after passage under modified and unmodified trawl sweeps (compared to control area).



Effects on Crab Mortality

In the summer of 2008, we conducted a study, funded by the North Pacific Research Board, to estimate the mortality rates for snow and Tanner crabs that encounter bottom trawls, but remain on the seafloor. That study estimated mortalities for both species for conventional and modified sweeps. Briefly, crabs were captured by auxiliary nets fished behind different parts of a commercial bottom trawl. They were carefully brought aboard and assessed using a six part reflex test. A subsample of those crabs was held for 5 – 12 days to establish the relation between reflex state and delayed mortalities. The proportions of crabs

in different reflex states and the reflex-mortality relationship were used to estimate raw mortality rates for crabs encountering each part of the trawl. Results for crabs captured with a control net, fished in front of the trawl to serve as a scientific control for the effects of the recapture net itself, were used to assess and adjust for mortalities due to capture and handling.

Estimates of mortality for crabs encountering conventional sweeps were approximately 5% for both species (compared to 10 – 15% for the trawl footrope). That rate dropped to nearly zero for crab encountering the modified sweeps.

Both of these studies support previous research indicating that the sweep modifications reduce damage to seafloor animals encountering them. Since sweeps account for most of the area affected by Bering Sea bottom trawls, implementation of these modifications should be useful in reducing effects on habitat from flatfish fishing in that area.

6 Gear modification alternative

The primary action that the Council is addressing in this amendment package is to implement a requirement for the flatfish trawl fishery to use elevated devices on their trawl sweeps, in order to raise the sweep off the seafloor and reduce damage to habitat. One of the challenges with implementing this requirement has been to develop a gear modification design that both reduces the gear's contact with the seafloor and yet maintains fishing productivity. This issue has largely been addressed at this point through the research and field testing of Dr. Rose and John Gauvin (see Section 5). Another difficulty has been to come up with a regulatory standard that ensures that actual clearance off the seafloor is achieved, yet represents something that can be measured by both vessel operators and enforcement personnel. It is also important to provide the fleet with sufficient flexibility to allow them to use the gear modifications on the diverse vessel and gear type configurations that are currently employed in the flatfish fishery.

The gear modification requirement, as proposed, will apply to any vessel conducting directed fishing for flatfish in the Bering Sea. For the most part, vessels that fish flatfish are participants in the Amendment 80 program. There are, however, some AFA vessels which target flatfish, and they also would be required to use the modified gear when fishing for flatfish.

The action will require an FMP amendment to the BSAI Groundfish FMP under the section of the FMP that specifies target-fishery specific gear restrictions. The proposed action alternative can be restated from the BSAI Amendment 89 motion (Section 4) as follows:

Alternative: Require trawl vessels targeting flatfish in the BSAI to use elevating devices on trawl sweeps to raise the gear off the seafloor.

6.1 Regulations for the gear modification alternative, and enforcement discussions

The regulations will describe the modification in more detail, and will combine a gear and performance standard. Vessels must employ elevating devices on the sweeps that achieve one of two options, combining a nominal clearance (the space created under the sweeps adjacent to the elevating device, measured on a hard surface), and a maximum distance between elevating devices. The draft regulation includes a figure to identify the sweep, and elevating devices may also be required on trawl door and net bridles that are longer than the standard size (180 feet). The draft regulation is still subject to revision, but is included in Appendix 1 for reference.

The details of the regulation were discussed initially with federal monitoring and enforcement personnel, gear manufacturers, and the industry at a public workshop in September 2008. There was discussion about whether to include more specific detail in the regulation, for example whether to specify the height of the elevating device required to meet the standard, or whether to require spacing markers on the sweeps to indicate that the correct spacing had been met. After much discussion, the workshop participants agreed that the intent of the action would be 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. An outstanding issue with the regulation is how to define the part of the gear on which devices are required (the sweep). While everyone at the workshop understood exactly where the elevating devices were supposed to be placed, coming up with an unambiguous regulatory standard to describe this has been a challenge. Melanie Brown, of NMFS, has put together a figure that will illustrate the appropriate placement.

The implementation of a modified trawl sweep program will involve manufacturers, fishers, NMFS, the North Pacific Groundfish Observer Program, USCG, and NOAA Office of Law Enforcement (OLE) personnel. The fishers will be responsible to ensure their sweeps meet the standards, and this 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 sweep. An at-sea observer may observe the deployment or retrieval of the net to determine the presence or absence of the modified sweep. The OLE would be notified if the sweep 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 need to be developed prior to implementation of the gear modification requirement.

Since the public workshop, various discussions about enforcement of the proposed regulation have occurred, both in the forum of the Council’s Enforcement Committee, and at a meeting of agency enforcement personnel. The minutes from these meetings are included in Appendix 2. The focus of the discussions was primarily whether a regulatory standard that specifies only a required clearance and spacing standard be credibly enforced by NMFS (the summary of the agency meeting, included in Appendix 2 beginning on page 20, further amplifies on this topic).

In order to resolve some of the outstanding concerns about the enforceability of the modified gear, it was determined that an at-sea demonstration of the gear on board a vessel would be most useful. Consequently, Mr John Gauvin arranged for the F/V Vaerdahl, with captain Bill Hayes, to take onboard representatives of the various interested agencies. The demonstration occurred in Seattle on the afternoon of January 9, 2009, and fourteen agency personnel attended. A report on the demonstration will be available at the February Council meeting. Overall, the experience was very informative, and provided insight into the feasibility of conducting inspections of the gear while in use on the vessel. In general, the enforcement personnel appeared to agree that boarding a vessel at sea and inspecting the gear for compliance with the regulatory requirements is feasible and likely to be successful. The bobbins or elevating devices are easy to see and measure while the sweeps are being set or hauled back, and should be easy to replace when they become worn down. Onboard observers should also be able to see and note gross violations, such as the vessel not using the modified gear for flatfish fishing. The enforcement agents agreed that it would be important to come up with a penalty schedule, so that not using the gear, or using it in an improper manner (e.g., with the bobbins worn down so as not to meet the correct clearance), presents a serious violation. They also agreed that the Coast Guard and OLE should cooperate in the first

year of implementation of the program, to put OLE staff on vessels and aim to do onboard inspections of a large proportion of vessels in the flatfish fleet. With these conditions in place, the enforcement personnel indicated that some of the previous, more stringent recommendations for the regulation of this proposed amendment may not be necessary.

The Council's Enforcement Committee will meet at the February Council meeting, and is scheduled to revisit its previous minutes on this agenda item, in light of the at-sea demonstration. The Council will have further recommendations from the Committee when this agenda item comes up before the Council in February. The draft regulations in Appendix 1 also have been modified from previous versions based on the experiences and recommendations from the at-sea demonstration. One change is that the door bridle length was increased from 90 feet to 180 feet to account for the use of midwater doors which require more bridle length than door used in contact with the bottom and for larger vessels. Midwater doors require additional chain to be added to the bridle to bring the sweep to the bottom while the doors are off bottom. Larger vessels may need more door bridle length than 90 feet but are unlikely to need more than 180 feet.

7 Clarifications regarding the reopening of the "wedge"

The other action being considered as part of this amendment package is to reopen a part of the Northern Bering Sea Research Area. This would also require an FMP amendment, to redefine the NBSRA, and possibly to define the reopened area in the FMP, if specific constraints are placed on fishing within that area.

The NBSRA was closed to non-pelagic trawling as part of Amendment 89, the Bering Sea Habitat Conservation action, to create a research area where minimal fishing occurs, in order to facilitate the study of the potential effects on nonpelagic trawling on Bering Sea benthic habitat. The Council indicated, in their final motion on Amendment 89, that a small portion of the NBSRA, referred to in the motion as the "wedge", may be reopened following implementation of the gear modification requirement for flatfish fishing. Section 4 cites the wording of the Council motion with respect to this option, and Figure 1 illustrates the area in question.

Staff proposes to include the reopening of this area as part of the Initial Review analysis that will be presented to the Council. The Council's motion is ambiguous, however, about who would be permitted to fish in the area once it is reopened. Will the area only be open to flatfish fishery participants using the modified gear; will the area open to any non-pelagic trawling using modified gear; or will the area reopen to all non-pelagic trawling with no gear requirement specified (but flatfish fishery participants will be required to use the modified gear here as elsewhere)? There are three possible interpretations of the Council's wording. These have been restated below as options. The Council may indicate at the October Council meeting which option(s) to include in the analysis, and at final action, decide which option to select.

Option 1: Revise the boundaries of the Northern Bering Sea Research Area to exclude the area referred to as the "wedge" (see Figure 1). The "wedge" area will be designated as a "Flatfish Trawl Zone" Only vessels targeting flatfish (and subject to modified trawl sweep requirements) may fish in the area.

Option 2: Revise the boundaries of the Northern Bering Sea Research Area to exclude the area referred to as the "wedge" (see Figure 1). The "wedge" area will be designated as a "Modified Gear Trawl Zone". Non-pelagic trawling within the area can only be conducted using modified trawl sweeps.

Option 3: Revise the boundaries of the Northern Bering Sea Research Area to exclude the area referred to as the "wedge" (see Figure 1). Non-pelagic trawling would be permitted in the "wedge" area, although directed fishing for flatfish in the area would be subject to modified trawl sweep requirements.

The ambiguity regarding the wording of the Council's motion was raised at the industry workshop in September 2008. Workshop participants indicated that they had understood that the area would only be opened to vessels using modified gear, but that they would prefer to retain the flexibility to target more than just flatfish in that area. The primary species that could be targeted in the area other than flatfish is Pacific cod. Anecdotal evidence suggests that the area in question is not productive for Pacific cod, due to its shallow depth. While targeting Pacific cod has not been a focus for the gear modification research, Dr. Rose has indicated that there has been some research on targeting Pacific cod using modified trawl sweeps.

7.1 Boundaries for the "wedge" and the St Matthew Island Habitat Conservation Area

A comment that was raised at the September 2008 workshop was with respect to the western boundary of the "wedge". Participants commented that it had been their understanding that the boundary should extend westward to the eastern border of the St. Matthew Island closure. Staff has since confirmed that Figure 1 is the same as the map viewed by the Council at the time of final action in June 2007.

Further discussion with the maker of the Council motion, in June 2007, however, indicate that the boundaries that were actually adopted may have drifted slightly as they were mapped in GIS. It has been suggested that the St Matthew Island Habitat Conservation Area (HCA) may in fact have shifted further west that was intended by the Council, and that as it is currently regulated, it may not provide adequate protection to crab stocks, which was the Council's original intent. In the same way, the boundary for the "wedge" area may also have shifted further east, and these shifts may have resulted in the confusion noted by industry. Staff has not yet been able to follow the history of these boundaries through the development of Amendment 89, to know whether these assertions have merit. If the Council is interested in pursuing this issue, however, the shape and boundary of the St Matthew HCA and "wedge" subarea could be investigated and evaluated as part of this action. If the St. Matthew HCA eastern boundary as implemented under Amendment 89 does not meet the intent of the Council's action in Amendment 89, an FMP amendment may be considered to adjust the eastern boundary of the St. Matthew HCA to meet the Council's intent.

8 Council action in February 2009

The action before the Council at the February 2009 meeting is to approve the proposed direction for this analysis. Additionally, staff is requesting that the Council endorse inclusion of housekeeping changes to the FMP as part of the proposed amendment, which are further explained below.

Problem statement

The problem statement from BSAI Amendment 89 has been included in this discussion paper. The Council should determine whether the Amendment 89 problem statement is still appropriate for the gear modification component that is being addressed in this follow-on action. If not, the Council may wish to adopt a more focused problem statement for this analysis. In particular, it may be advisable, from a NEPA perspective, for the Council to articulate a focused problem statement if the Council is only looking at two alternatives in this analysis.

Alternatives

The discussion paper provides the alternatives that were included in Amendment 89 with respect to gear modification. Sections 6 and 7 restate these alternatives for the forthcoming analysis (for reference, the text is copied below). There is some question as to the Council's intent with regard to the reopening of a portion of the Northern Bering Sea Research Area, the subarea referred to in the Council motion as the "wedge". The discussion paper suggests three interpretations of the language; staff requests that the Council indicate which of the options should be included in the analysis, or whether they should all be included at this time.

Alternative 1: No action.

Alternative 2: Require trawl vessels targeting flatfish in the BSAI to use elevating devices on trawl sweeps to raise the gear off the seafloor.

Option 1: Revise the boundaries of the Northern Bering Sea Research Area to exclude the area referred to as the "wedge" (see Figure 1). The "wedge" area will be designated as a "Flatfish Trawl Zone". Only vessels targeting flatfish (and subject to modified trawl sweep requirements) may fish in the area.

Option 2: Revise the boundaries of the Northern Bering Sea Research Area to exclude the area referred to as the "wedge" (see Figure 1). The "wedge" area will be designated as a "Modified Gear Trawl Zone". Non-pelagic trawling within the area can only be conducted using modified trawl sweeps.

Option 3: Revise the boundaries of the Northern Bering Sea Research Area to exclude the area referred to as the "wedge" (see Figure 1). Non-pelagic trawling would be permitted in the "wedge" area, although directed fishing for flatfish in the area would be subject to modified trawl sweep requirements.

Revisiting the boundaries adopted under Amendment 89

As discussed above, the question has been raised as to whether the boundaries for the St Matthew HCA and the "wedge" subarea, which were adopted in Amendment 89, are in fact located where the Council intended them to be. Should the Council consider this question worthy of investigation, the Council could choose to include an action in the analysis to investigate and consider revising the boundaries of the St Matthew HCA and the "wedge" subarea.

Analysis

At the June 2007 meeting, when the Council deferred a specific recommendation on the gear modification component of the Bering Sea habitat conservation measures, the Council acknowledged that the EA/RIR/FRFA analysis for Amendment 89 may have to be supplemented in order to provide sufficient and appropriate information for a final recommendation by the Council and decision by the Secretary of Commerce. Staff suggests that rather than producing a supplementary analysis, it may be simpler to create a new EA/RIR/IRFA for this action, which can tier off the information included in Amendment 89, and also include any new information as appropriate. Unless the Council disagrees with this course of action, staff will proceed accordingly.

Timeline

Assuming the Council provides direction to staff at the February 2009 meeting with regard to the issues identified above, staff should be able to prepare an initial review draft of the analysis for the April 2009

Council meeting. Barring other Council scheduling conflicts, this would allow the Council to take final action in June 2009, and regulations may be implemented in the first half of 2010.

Housekeeping action

As part of this amendment, staff would like to include a housekeeping change to the BSAI Groundfish FMP. As all changes to the FMP, even minor typographical changes, require an FMP amendment that is approved by the Council, this could be handled as a separate action that is implemented under this FMP amendment. The proposed change is not substantive, but would correct the description of the Crab and Halibut Protection Area, which was effectively superseded by the Nearshore Bristol Bay closure. Specific information on this change will be included in the Initial Review Draft of the analysis. The housekeeping amendments will also include the renumbering of figures in Section 3 of the FMP, which became confused with the adoption of Amendment 89.

Appendix 1 Draft regulatory language

Several regulations in 50 CFR part 679 would need to be revised to implement a modified trawl sweep requirement. **Note, this language is a draft only, and is still subject to revision.** The requirements would apply to all federally permitted vessels in reporting areas of the Bering Sea subarea and adjacent State of Alaska waters.

1. New definitions under § 679.2 should be added for directed fishing for flatfish for purposes of the gear modification requirement. The flatfish fishing definition includes any exemption from a nonpelagic trawl closures based on the use of modified gear. The definition for federally permitted vessels should be revised to include modified trawl gear for flatfish fishing in the Bering Sea. Fishing trip will need to be revised to apply to its use in the directed fishing for flatfish definition.

§ 679.2 Definitions

* * * *

Directed Fishing for Flatfish means for purposes of nonpelagic trawl restrictions under § 679.22 (a) and gear modification requirements under §§ 679.7(c)(3) and 679.24(f), fishing with nonpelagic trawl gear during any fishing trip that results in a retained aggregate amount of yellowfin sole, rock sole, Greenland turbot, arrowtooth flounder, flathead sole, Alaska plaice, and other flatfish that is greater than the retained amount of any other fishery category defined under § 679.21(e)(3)(iv).

Note: The closure area at 679.22(a) would need to be included if the wedge in Fig. 4 applies only to flatfish fishing with modified gear.

* * *

Federally permitted vessel means a vessel that is named on either a Federal fisheries permit issued pursuant to § 679.4(b) or on a Federal crab vessel permit issued pursuant to § 680.4(k) of this chapter. Federally permitted vessels must conform to regulatory requirements for purposes of fishing restrictions in habitat conservation areas, habitat conservation zones, and habitat protection areas; for purposes of anchoring prohibitions in habitat protection areas**; for purposes of modified gear requirements for the BS directed flatfish fishery,** and for purposes of VMS requirements.

* * *

Fishing trip means:

(1) With respect to retention requirements (MRA, IR/IU, and pollock roe stripping) and to gear requirements for directed flatfish fishing

(i) An operator of a catcher/processor or mothership processor vessel is engaged in a fishing trip from the time the harvesting, receiving, or processing of groundfish is begun or resumed in an area until:

(A) The effective date of a notification prohibiting directed fishing in the same area under § 679.20 or § 679.21;

(B) The offload or transfer of all fish or fish product from that vessel;

(C) The vessel enters or leaves an area where a different directed fishing prohibition applies;

(D) The vessel begins fishing with different type of authorized fishing gear; or

(E) The end of a weekly reporting period, whichever comes first.

(ii) An operator of a catcher vessel is engaged in a fishing trip from the time the harvesting of groundfish is begun until the offload or transfer of all fish or fish product from that vessel.

* * * * *

3. 2. A new subparagraph (3) also would be added to § 679.7(c) to prohibit directed fishing for BS flatfish without sweeps that meet the standards specified at § 679.24(f).

§ 679.7 Prohibitions

* * * *

§ 679.7(c)(3) Conduct directed fishing for flatfish as defined in § 679.2 with a vessel required to be federally permitted in any reporting area of the Bering Sea subarea as described in Figure 1 to this part and adjacent State of Alaska waters without meeting the requirements for the nonpelagic trawl sweeps specified in § 679.24(f).

* * * *

4. A new subparagraph would be added to § 679.7(a) to reopen the "wedge" area, if fishing in that area is to be limited only to those fishing with modified non-pelagic trawl gear. If the "wedge" is to be open to all nonpelagic trawling, only the coordinate table and the Northern Bering Sea Research Area figure will need to be modified to eliminate the wedge from the NBSRA and no regulatory changes in § 679.22 would be needed.

Figures – Part 679

The NBSRA figures and coordinate table would need to be changed.

* * * *

679.22(a)(21) <u>Flatfish (or Modified Gear) Trawl Zone.</u> No federally permitted vessel may fish with nonpelagic trawl gear in the Flatfish (or Modified Gear) Trawl Zone specified at Table 46 and Figure 22 to this part, except for vessels directly fishing for flatfish using modified gear as specified in § 679.24(f).

Note: A coordinate table and possibly a figure would be added to the regulations for this zone.

* * * *

5. To establish standards and requirements for the use of modified nonpelagic trawl gear, add paragraph (f) to § 679.24.

§ 679.24 Gear Limitations

* * * *

§ 679.24(f) Nonpelagic trawl bottom line and sweep of Section A of Figure X for directed flatfish fishing with federally permitted vessels in reporting areas and adjacent State waters of the BS. Vessel owner or operators using nonpelagic trawl gear for directed flatfish fishing must meet the following standards in subparagraphs (1) through (3):

(1) elevating discs, bobbins or similar devices installed on the bottom line and sweep of Section A of Figure X raise the bottom line and sweep at least 2.5 inches, as measured adjacent to the elevating device when resting unsupported on a hard, flat surface, regardless of the elevating device orientation, and measured between the supporting surface and the lowest part of the line material;

(2) elevating devices secured along the entire length of the bottom line and sweep of Section A on Figure X at either

(i) no more than 65 feet between elevating devices that raise the bottom line and sweep of Section A on Figure X 3.5 inches (8.89 cm) or less, or

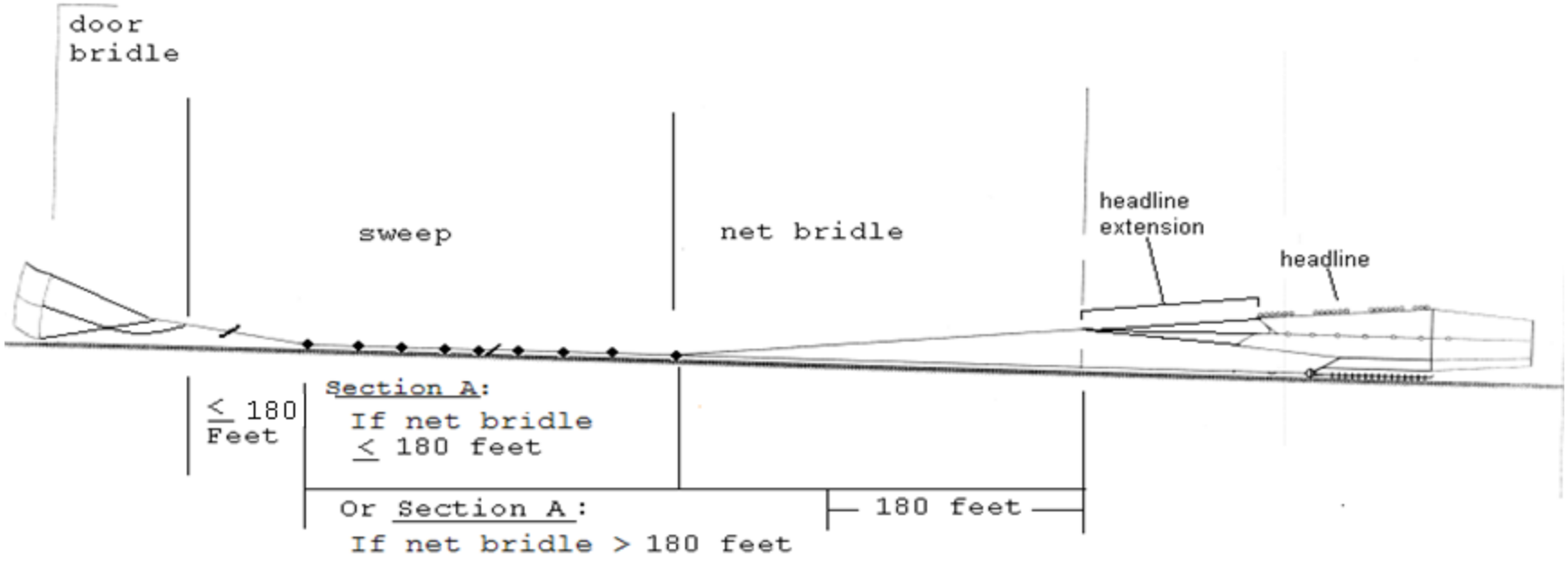
(ii) no more than 95 feet between elevating devices that raise the bottom line and sweep of Section A on Figure X more than 3.5 inches (8.89 cm);

and

(3)The largest cross-section of the bottom line and sweep in Section A of Figure X between elevating devices shall not be greater than at the nearest measurement location. Wider cross-sections resulting from doubling the line back for section terminations and devices required to connect sections are exempt from this requirement. Where a device is installed over material different from the bottom line and sweep, (for example, on a chain joining two bottom line sections), that material must be at least as wide as the bottom line and sweep material.

* * * *

Figure X to 50 part 679
Nonpelagic Trawl with Elevating Devices



Note: Section A identifies the line where elevating devices are required, as described in 50 CFR 679.24(f). The sweep is the line connecting the aft joining of the door bridles to the forward joining of the net bridles. Section A includes any portion of the sweep that extends beyond 180 feet of the door bridle and any portion of the bottom net bridle that extends beyond 180 feet from the headline connection to the net bridle when a headline extension is not used or from the headline extension connection to the net bridle.

Appendix 2 Minutes of enforcement discussions about the draft regulation

Included in this section:

- Council's Enforcement Committee minutes, October 2008
- Summary of meeting among agency personnel, October 2008
- Council's Enforcement Committee minutes, December 2008
- Report on the at-sea demonstration of trawl sweep modified gear, January 2009
  [NOTE: this report will be available at the Council meeting]

The Council's Enforcement Committee will meet again at the February meeting to review and potentially revise their recommendations to the Council on this agenda item, after hearing the report from the at-sea demonstration.

Excerpt from Enforcement Committee Minutes
September 30, 2008
Sheraton, Anchorage, Alaska

Committee present: Roy Hyder (Chair), Sue Salveson, LCDR Lisa Ragone, Herman Savikko, Garland Walker, Jeff Passer, Matt Brown, and Jon McCracken (staff)

Other present: Bill Wilson, Diana Evans, Melanie Brown, John Olson

V. BSAI Trawl Gear Modifications

Melanie Brown gave an overview of a discussion paper on BSAI trawl gear modifications. At the June 2008 meeting, the Council initiated an analysis to require modified trawl sweeps in Bering Sea flatfish bottom trawl fisheries. Although the sweep modification for flatfish trawls in the Bering Sea was included in the preferred alternative for Bering Sea Habitat Conservation, the modification was not included in Amendment 89. Action was deferred because of implementation issues with regard to the practicality and enforceability of requiring the modified sweeps on all vessels participating in the fishery.

The Enforcement Committee had a number of recommendations concerning the enforcement of the modified sweeps. These recommendations are presented below:

- For the purposes of enforcement, modified trawl sweeps should be of "standard" design, and such gear should be commercially manufactured by certified companies. A company could be required to submit its design of bobbins and sweeps to NMFS along with an actual sample. If the design (materials, etc) is acceptable, then its product is certified as meeting modified trawl gear standards by NMFS. In addition, each certified manufacturer should be required to stamp a manufacture seal on its bobbin in a conspicuous place. The great advantage of using certified gear, is that anyone inspecting the gear to insure that the gear presumptively meets required design specifications, simply has to start with a review of the paper certification/documentation. Of course, if there is continued doubt as to the gear's set up, then the inspecting party can conduct a visual inspection of the gear. In addition to requiring that only certified gear be used and to assist in making any modified gear verifiable and measurable (primarily as an aid to observers and USCG boarding parties), NMFS should require that "wear indicators" be built into the bobbins. When a wear indicator can be visually seen, then the regulations would require replacement of the bobbin prior to redeployment of the sweep/net.

- Further, given the difficulty in checking bobbin spacing, it maybe necessary to have several manufactured types of modified trawl sweep "units" (i.e., bobbins and sweep sold as a unit and intended for deployment as an integral unit) certified by NMFS. There may be several combinations of bobbin heights and spacing that will raise the sweep off of the sea floor to the necessary clearance. Having a number of the manufacturers certify these manufactured combinations (integral units) for use would allow flexibility for vessels based on their fishing needs while also providing some reassurance to Enforcement that modified gear presumptively meets the required standards. For example, the trawl sweeps would be accompanied by a letter from the manufacturer that states something like: Dantrawl, Inc. assembled trawl sweeps for the F/V Blank. These 150 foot trawl sweeps have bobbins of 10 inch diameter with serial number ###### installed at 60 foot indicators. These bobbins have brass/yellow rubber wear indicators imbedded within the black rubber. Once these wear indicators are visible, the bobbins should be replaced. It is expected that the modified sweep combinations would be initiated by industry and designed in collaboration between the industry, manufacturers and NMFS.

- Regulations should **require** the vessel to conduct visual inspections of the modified gear for any wear on deployment and hauling of each set. Penalties for improper use will be a difficult issue. Enforcement Committee members believe that unless the penalties are pretty significant for a failure to use required modified gear and for any failure to properly deploy that gear, there will be little incentive for a vessel to stop or slow fishing operations to change worn or incorrectly set up gear. Furthermore, the Committee believes it is fairer to the industry to let them know early on that if they want the benefit of using modified gear in an area that would otherwise be closed to trawl gear, then they have the responsibility/obligation to inspect/repair/replace gear as necessary to make sure the gear is functioning as envisioned.

- Vessels using modified gear should be "endorsed" on their FFP (or other appropriate permit that is issued to them by NMFS) for such use. Failure to properly use or maintain modified trawl gear as required would subject the vessel to penalties and/or sanction of the endorsement thereby preventing that vessel from having the privilege of using modified gear.

Summary issues – discussion of trawl sweep modification enforcement

Thursday, October 23, 2008 10:30am-12:30pm
Sustainable Fisheries conference room, NMFS, Juneau, AK

NMFS SF:	Melanie Brown, Sue Salveson, Jennifer Watson
NMFS AFSC:	Craig Rose (teleconference)
NOAA Enforcement:	Ken Hanson, Matt Brown
NOAA GC – Enforcement:	Garland Walker
NPFMC:	Diana Evans
USCG:	Lisa Ragone, Pat Barelli

The Council is currently considering an amendment for vessels targeting flatfish in the BSAI, which would require them to install disks or bobbins on their trawl sweeps, to elevate the trawl sweep off the seafloor. The current Council schedule for this action is as follows:

- February 2009 – Council reviews discussion paper on the problem statement and alternatives, Council's Enforcement Committee discusses proposed amendment
- April 2009 – Council initial review of amendment analysis
- June 2009 – Council final action on amendment
- 2010 – earliest implementation of the regulation

The draft regulation is not written to establish a performance standard for elevating the sweep off the seafloor, even though that is its ultimate purpose. This standard would be impossible to measure. Instead, the regulation, as currently written, comprises two standards intended to be measured on deck, which research has demonstrated should achieve seafloor clearance: a spacing requirement between the discs or bobbins, and a clearance standard that specifies what the minimum clearance must be between the deck and the bottom of the sweep. All sweeps must provide at least 2.5 inches of clearance. Vessels may achieve compliance with the regulation in one of two ways:

1. Devices with a clearance of less than or equal to 3.5 inches must be spaced at no more than 65 ft
2. Devices with a clearance of more than 3.5 inches must be spaced at no more than 95 ft

There are some other elements of the regulation, specifying where on the sweep elevating devices must be placed. However, the draft regulation, as currently written, purposely does not regulate the type of gear that is used to meet the clearance and spacing standards.

The group primarily met to discuss the Council's Enforcement Committee minutes, which identified several enforcement concerns with the draft regulation as currently written.

Major outstanding enforcement issues to be resolved

The group spent the majority of their time discussing the following issues, and acknowledges a lack of consensus regarding them.

- **Can a regulatory standard that specifies only a required clearance and spacing standard be credibly enforced by NMFS?**
- If not, do we need to require wear indicators on the bobbins? This would appear to lead down a path of requiring the agency to certify / type-approve each manufactured bobbin and sweep configuration.

- Advantages: Wear indicators would significantly improve the enforceability of the clearance standard by providing a visual cue to crew, observers, and enforcement personnel. A two color indicator may be the most effective, when the bobbin is approaching and is actually out of compliance. Most of the flatfish vessels will probably buy gear from one of several major manufacturers, so this would not be a hardship for most of the fleet.
- Disadvantages: Getting a gear configuration certified is a time-intensive process. The wear indicator on a bobbin would be dependent on the sweep material used which limits flexibility. This program would be resource intensive for NMFS in both development and implementation. This significantly reduces the ability of the fleet and gear manufacturers to experiment and improve on the gear configuration (especially important since this gear is a very new tool). Experience shows that certification often leads to a limited number of manufacturers supplying the gear (often one). Vessels that occasionally fish flatfish may be deterred from the fishery due to the cost of going through an approved manufacturer. The certification is only reliable at the time when the equipment is purchased. Once the equipment is used, the gear will still need to be checked against the standards.

How will enforcement occur?

The discussion with regard to the major issues identified above centered on the practicability of enforcing the regulatory standard. The group all agreed that wear indicators would definitely improve the enforceability of the regulations, and that many of the vessels would probably be using gear from reputable manufacturers who will incorporate the wear indicators. The discussion, however, centered around what should be required in the regulation in order to assure regulatory compliance by all vessels.

Measuring clearance

- Physical inspection during setting or haulback: This appears to be the best way to measure clearance, but may not be practical. The vessel operator would stop the gear for the required measurement. Enforcement would probably want to measure 4 points on each bobbin, to ensure that clearance is met at all points if bobbins are not wearing evenly.
  - this method is used for other types of gear inspections (e.g., checking the pelagic trawl footrope. Frequency?)
  - there may be safety issues (serious?) with measuring the gear while it is being deployed or hauled back
  - For safety in rough seas (e.g., greater than 4 feet), it may be necessary for the vessel operator to chain off the gear at the stern ramp, and then insert slack into the gear on deck. It was noted that boardings are less likely in seas greater than 4 feet. Seas less than 4 ft would represent relatively calm conditions, relative to the size of vessels common to the affected fishery.
- Physical inspection at sea or dockside: The vessel operator could perhaps unfurl the net so that one or two bobbins could be checked, but not all of them (no space). Clearance cannot be measured while on the net reel (they are compressed).
- Visual inspections during setting or haulback: Visual inspections are definitely practical, but may not be as effective. Observers or inspection personnel may be able to tell whether a bobbin looks worn down, while watching from a vantage point. They could then follow up by physically measuring the bobbin (feasibility discussed above).
  - wear indicators would obviously facilitate such inspection, but could only be relied upon for accuracy if their manufacturer was also considered reliable

- the group discussed how far away an observer or inspection officer would safely be standing from the gear, and whether s/he would be able to identify differences in the relatively small clearances that distinguish between compliance and noncompliance

Measuring spacing

- Physical inspection during setting or haulback: this appears to be the only way to measure the spacing. As most decks are not long enough to accommodate the entire 90 ft spacing between bobbins, the inspection officer would need to know the distance from the forward net reel to the stern of the boat; as the bobbin reaches the reel, the crew would be requested to mark the sweep, and continue reeling in the line – one or two such repetitions should allow the inspection officer to measure the spacing between bobbins.
    - a similar method has been used in the past for measuring cod ends
- Visual inspection: To assist in measuring the spacing, the vessel could be required to insert markings on the sweep at the appropriate spacing (60, 90 ft) so that it is identifiable from an observer/inspection personnel's standpoint (50 feet away?)
    - this could be done by the fishing vessel crew or built into the gear by the manufacturer

Role of observers?

The group agreed that enforcement solutions that minimized additional tasks or enforcement responsibilities for observers were most desirable, however they did discuss ways in which observers might help to ensure vessel compliance with the regulation.

Other suggestions or ideas – these were not necessarily endorsed or pursued by the group as a whole

- Regulate that captains/crew must inspect the gear at each deployment to ensure that the gear is compliant, and worn bobbins are replaced if necessary
    - Advantage – puts enforcement responsibility on captain, removes vessel's excuse that they didn't realize the gear was non-compliant
    - Group discussed whether to require the inspection on a longer timeline (e.g. weekly), whether an observer should be present during inspection, and whether the captain would need to have paperwork affirming the inspection has taken place. All of these additional requirements have the disadvantage of creating additional paperwork requirements and resulting in compliance that is doubtful.
- Institute a two-part standard: the regulatory standard as currently drafted could apply to all flatfish fishing within the existing footprint, however should the Council open new areas to non-pelagic trawl (e.g., the "wedge", or the Northern Bering Sea Research Area), fishing in these areas could be governed by a more strictly enforceable standard (e.g., certified gear only)
- Require each vessel to carry onboard a manufacturers or gear builder's statement describing the how the elevating disk gear is configured (e.g., what spacing is being used, what types of bobbins, whether they have wear indicators and how the indicator is visible). This would be available to assist enforcement on boarding the vessel.
    - Official manufacturer's statements would be permissible for gear bought from major manufacturers, but statements describing the configuration and construction of home-developed gear would also be required
    - Would need to avoid pitfalls of seabird avoidance plan for seabird avoidance measures (which was recently removed from the regulations due to not being effective and compliance problems.)

- Institute a longer testing period for the gear, providing information on a) how many hauls before the bobbins are worn out, b) how well is the gear working at elevating the gear off the seafloor, c) what configurations are needed to accommodate gear use variability in the fleet, d) what configurations and regulatory standards are feasible for enforcement
    - It was suggested that this type of testing would not be practicable without implementing the gear requirement first; however, the Council could build in a time-certain re-evaluation date, or even a sunset date for the amendment. It has already been recommended that the Council revisit the gear modification requirement in 3 years, for adjustments based on industry experience.
- In determining the appropriate level of enforcement, we should also consider the nature of the threat of non-compliance with the regulation, and comparable enforcement level of other, similar fishery regulations.
    - However we may not be able to have adequate facts on which to know/estimate the nature of the threat of non-compliance with the regulation, and each enforcement regimen should stand on its own unique facts

Issues raised but not discussed

The Enforcement Committee minutes raised the issue of penalties for non-compliance with the regulation. The group briefly touched on this issue, but decided to address it another time.

Next steps

- The group agreed that the best way to work out some of the outstanding issues regarding practicability of enforcement is to see the gear on a vessel. Melanie and Diana will work with John Gauvin to arrange a meeting where the group, with the addition of the remaining members of the Council's Enforcement Committee, can see the gear on deck.
    - Ideally this would occur during the February Council meeting as previously scheduled, however we may need to be flexible about the timing due to vessel availability

  UPDATE: John Gauvin is exploring the possibility of enforcement committee members participating in a field test of the modified gear before the 2009 fishing season starts.
- Craig Rose will look through his collection of video from the field tests he conducted last summer, to see whether he has any footage of the setting or haulback of the gear on deck, which may help the group get a feel for the practicability of how to enforce compliance.
- John Gauvin has also offered to look into the possibility of video-taping the gear in use on a vessel, to demonstrate how enforcement might be made practicable.
- Melanie and Diana will retrieve information about the vessels participating in the flatfish fisheries, to whom this regulation would apply, the approximate deck size of the vessels, and how many are likely to order gear through a major manufacturer versus make their own gear.
- Melanie and Diana will share the enforcement concerns with industry (John Gauvin and any others as appropriate) to see whether they can suggest ways to resolve these concerns.

Excerpt from Enforcement Committee Minutes
December 9, 2008
Hilton, Anchorage, Alaska

Committee present: Roy Hyder (Chair), Sue Salveson, LCDR Lisa Ragone, Herman Savikko, Garland Walker, Jeff Passer, Matt Brown, Ken Hanson, Martin Loefflad, and Jon McCracken (staff)

Other present: Diana Evans, John Olson. John Gauvin, and Mike Kelly joined the meeting via teleconference

I. BSAI Trawl Gear Modifications

John Gauvin presented a quick overview of a sea trial demonstration of the modified trawl sweep gear for January 9th and 10th. The individual agencies that are represented on the Council's Enforcement Committee have been invited to participate in the demonstration, although the event is not hosted or sanctioned by the Council. The demonstration will take place aboard F/V Vaerdal, which is a 120 ft vessel captained by Bill Hayes.

Enforcement representatives planning to participate in the demonstration identified the following interests (although there might be others that come up during the demonstration):

- to observe the mechanics of fully deploying and hauling back the sweeps, including winding the sweeps on the net reel
- to see how easy or difficult it is to stop the deployment or haulback of gear prior to completion, to chain off the sweeps, and to physically measure the gear on the deck
- a representative available to discuss the proceedings during the demonstration (this might be the deck boss and/or John Gauvin)
- an opportunity for a debriefing with the captain at the conclusion of the demonstration (this could be on the journey back to shore, or after arriving onshore). This would give the participants a chance to discuss any potential problems that might arise from using the gear.

Following the demonstration, Council staff will write up a summary of the demonstration and the enforcement discussions. This report will be discussed at the February Enforcement Committee meeting, and the Committee will then provide recommendations to the Council about the proposed trawl sweep modification issue.

The demonstration will help to address enforcement concerns about inspection of the gear at sea, to determine whether the gear being used meets the required standards. There are other, outstanding enforcement concerns (included in the Enforcement Committee's October minutes) about whether there is a need for primary verification that vessels are installing the appropriate gear, such as through the requirement for a manufacturer's certification. **The Committee expects that the demonstration will provide clarity about the importance or need for primary verification of the modified sweeps.** A discussion of all issues related to the proposed trawl sweep modification is anticipated for the February meeting.

Appendix 3 Relevant public comments from BSAI Amendment 89 Final Rule

Comment 3: The Council submitted comments and recommends that the preamble to the final rule describe the Council's intent regarding future actions for nonpelagic trawl management in the Bering Sea. The Council intends future adjustment to the NPSRA boundary with the implementation of a modified gear requirement for the flatfish trawl fishery that would minimize potential impacts on bottom habitat. This potential future adjustment would open a portion of the NBSRA to nonpelagic trawling. The adjustment to the NBSRA boundary to open this area is shown in Figure 1. Because the area to be opened with flatfish trawl gear modification requirements may contain high concentrations of yellowfin sole and low concentrations of other bycatch species, the flatfish industry has identified this area as important to its fishery. In June 2008, the Council received a report on the progress of developing modified gear for flatfish fishing that will reduce the potential impacts on bottom habitat. Analysis supporting the gear modification requirement and adjustment to the NBSRA will supplement the existing EA/RIR/FRFA for the Bering Sea Habitat conservation measures.

Response: Any potential changes in the gear requirements for the flatfish fishery would require analysis of the potential environmental and socioeconomic impacts of the action. NMFS will work with the Council to ensure the appropriate information is available to inform the Council's final recommendation on gear modification. If the Council recommends a modified gear requirement for the flatfish fishery and the adjustment to the NBSRA shown in Figure 1, NMFS will include these recommendations in future proposed rulemaking for this action. The supporting analysis for this potential future action would include information from the EA/RIR.FRFA for this final rule and any relevant new information to inform the decision making.

Comment 4: To protect local communities' resources, we support permanent closure of the area considered for opening in connection with the implementation of modified gear for the flatfish fishery (Figure 1).

Response: This final rule implements the closure of the BSRA which includes the area considered for opening with the potential future implementation of modified gear for the flatfish fishery (Figure 1). The Council has expressed its intent to open this area to commercial fishing with implementation of a modified gear requirement (Comment 3). Any concerns about opening this area should be expressed to the Council while the modified gear requirement recommendation is being developed. The Council received a report on modified gear research at its June 2008 meeting (73 FR 26964, May 12, 2008). The Council recommended that staff develop an analysis of a gear modification requirement, including consideration of opening the area identified in Figure 1. The gear modification requirement and any proposed adjustments to the NBSRA boundary will require analysis and rulemaking to implement, including the public process provided by the Council in developing its recommendations to NMFS.