

FRAMEWORK ADJUSTMENT 17

to the

NORTHEAST MULTISPECIES FISHERY MANAGEMENT PLAN

(Revised September 27, 1996)

**To restore unused days-at-sea
from May and June, 1996 to the prorated
1996-1997 days-at-sea allocations**

Prepared by

New England Fishery Management Council

in consultation with

National Marine Fisheries Service

Mid-Atlantic Fishery Management Council

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APPENDIX I Draft Proposed Rule

FRAMEWORK ADJUSTMENT #17 NORTHEAST MULTISPECIES FMP

**To restore unused days-at-sea
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1996-1997 days-at-sea allocations**

1.0 INTRODUCTION

The New England Fishery Management Council submitted Amendment 7 to the Northeast Multispecies Fishery Management Plan on February 2, 1996 and the rules became effective on July 1. The amendment contains measures to rebuild depleted groundfish stocks, including an acceleration of the days-at-sea (DAS) reduction schedule established by Amendment 5 and the elimination of exemptions from DAS limits for most vessels. When the Council submitted the amendment, it included DAS allocations based on the established fishing year, May through April, since it could not predict the actual effectiveness date. When the Council became aware that, due to procedural requirements, the implementation date would not coincide with the start of the fishing year, it discussed and supported prorating DAS to adjust for the gap between the start of the fishing year and the implementation date of the revised allocations. At the time, however, the Council did not specify how the prorating should be done.

As discussed in Section 2.0 (Purpose and Need), the implementation of the revised DAS allocations two months after the start of the 1996-1997 fishing year required that the allocations be reduced by 2/12ths to account for the shortened time of the first year under Amendment 7. The final rule for the amendment applied a formula that gave each vessel 10/12ths of its full-year allocation without regard to whether the vessel fished during May and June. The proposed action would restore unused DAS to vessels under the call-in system that fished less than 2/12ths of their Amendment 7 full-year allocation during May and June, 1996. This action does not affect the allocations to vessels not under the call-in system prior to the implementation of Amendment 7, nor the allocations to vessels under the call-in system that fished more than 2/12ths of their Amendment 7 allocation during that period.

The framework process requires the Council to consider the adjustment over the span of at least two Council meetings, during which time the public is invited to comment on the proposal and associated analyses. On this issue, the Council received a number of comments prior to the publication of the amendment final rule on May 31, as members of the public were trying to plan their fishing year and determine how the proration formula would apply. In response to the comments, the Council Chairman sent a letter on May 10 to the Regional Administrator clarifying the Council's intent and its concern that vessels that chose to not fish during May and

June would unfairly have their allocations reduced while vessels that did fish in effect would get a windfall of DAS. Since the letter was sent after the proposed rule comment period ended, the Regional Administrator indicated that his staff was developing a proration scheme and that if the Council wanted to make modifications, it could use the framework adjustment process. The Council initiated the framework adjustment at its June 5-6 meeting and held the final meeting on July 15. The Council recommends that the Secretary of Commerce publish the adjustment as a proposed rule providing full opportunity for public comment.

On July 24, the Council submitted a final framework document to the Regional Administrator. On August 15, the Regional Administrator informed the Council that the document would not be formally reviewed for implementation until additional justification is provided. The Council discussed the Regional Administrator's concerns and instructed the staff to work with the NMFS Regional Office staff to address the concerns and complete the document. This document contains the changes added pursuant to those directions.

2.0 PURPOSE AND NEED

As noted in the introduction, the implementation of the revised DAS allocations on July 1, two months after the start of the 1996-1997 fishing year, required that the allocations be prorated to account for the shortened time of the first year under Amendment 7. Otherwise, all vessels previously exempt from DAS would be given full-year allocations to cover ten months, potentially reducing the conservation benefits of the DAS-reduction program. The proration scheme for the first year of Amendment 7 gives each vessel 10/12ths of its full-year allocation without regard to whether the vessel fished during May and June. Thus, vessels already in the DAS program that elected to not fish during May and June had 2/12ths of their allocation deducted even though they did not use any days.

Many vessel owners had anticipated the Amendment 7 DAS reductions based on the plan submitted by the Council and published in the proposed rule. These individuals had planned their fishing year prior to the publication of the final rule, choosing to hold their groundfish days in reserve for later in the year while tying up the boat or pursuing other fisheries. The purpose of this action is to restore unused DAS allocations to vessels that were in the call-in program in May and June and planned their fishing year in anticipation of the allocation of DAS for 1996-1997 that was published in the proposed rule.

Owners of vessels already in the call-in program fully expected that all DAS would be counted against the 1996-1997 allocation, and that the prorating of DAS mentioned in the preamble to the proposed rule applied to vessels that were not in the DAS program prior to implementation of the rule but not to those vessels already in the

DAS program. The regulatory language in the proposed rule gave no indication of how the prorating formula would be applied, and only indicated full-year allocations of DAS. After the close of the proposed rule comment period, but prior to the publication of the final rule, the Council sent a letter to NMFS indicating its concern about the anticipated DAS allocations. When the final rule was published, a number of vessel owners already under the DAS program realized that days used in May and June would not be counted since the allocation from July 1 onward would be the same for all vessels regardless of how much they fished during those two months. Fishermen who chose to not fish during those months claimed they were being treated unfairly.

This action does not penalize vessels that fished under the rules in effect at the time. Therefore, vessels that were exempt from DAS, and vessels that may have fished more than 2/12ths of their Amendment 7 allocation during May and June will still receive the prorated allocation of 10/12ths of the 1996-1997 full-year DAS. Since these vessels could have fished every day during May and June (barring other constraints such as weather), they potentially have allocations of 10/12ths of the Amendment 7 DAS plus 61 days.

Furthermore, the vessels that were exempt from DAS prior to Amendment 7 are predominantly smaller day boats fishing less than 24 hours per trip. These boats, therefore, have allocations of DAS even under the prorated schedule which may exceed the overall effort reduction target of 35 percent in the first year considering that effort is monitored by hours away from port. Nevertheless, the Council has recognized that day boats may not have the same proportional reduction as other vessels as a result of their lower initial groundfish effort during the baseline period. This lower baseline effort is partly the result of physical constraints such as weather and inability to travel long distances offshore and partly because many of these vessels work seasonally in a variety of small-boat fisheries other than groundfish, such as for lobsters, tuna, or shrimp. The Council does not feel that the restoration of unused DAS to vessels under the call-in system in May and June creates an inequity for those vessels not under the DAS program that may not have fished during May and June and which will not have DAS restored under this action.

Additionally, the proposed rule for Amendment 7 indicated that the DAS allocations would be prorated to account for the shorter fishing year. It did not indicate that fishing effort of exempt vessels prior to implementation of the rule would be considered in the proration. The vessels exempt from DAS prior to the effectiveness date of the regulations had no reason to believe that any days not fished in May and June would be credited to their allocation beginning in July since their effort was not being monitored. They were not given formal notice or any other indication that their effort prior to the effectiveness date of the rule would be monitored or considered under the prorating of the allocation discussed by the Council prior to submission of

the amendment. Likewise, vessels already under the call-in system had no reason to believe that their effort (or lack thereof) during May and June would not be counted.

3.0 PROPOSED ACTION AND ALTERNATIVES

The Council discussed several alternatives for addressing the inequity in the current allocation proration. The Council recognizes that it cannot count DAS used by vessels not under the call-in system in May and June. The Council also recognizes that it cannot count the DAS used by vessels in the call-in system against the prorated allocation for July through April, even though the days may exceed 2/12ths of the full-year amount.

3.1 Proposed action

The Council proposes to restore the unused DAS (up to 2/12th of the full-year allocation) to vessels recorded under the call-in system that fished less than 2/12ths of their Amendment 7 allocation during May and June. For vessels in the Fleet DAS, 2/12ths of the annual allocation is 23 days and 4 hours. NMFS will review the call-in records of vessels that were under the DAS system in May and June of this year, and notify vessel owners of any adjustment to the 1996 DAS allocations.

3.2 Alternatives to the proposed action

The Council directed its Groundfish Committee to discuss the options for addressing the fairness issue raised by the affected vessels. In addition to the proposed action, the committee considered two other alternatives:

- 3.2.1** restore the full-year Amendment 7 DAS to all vessels (including exempted vessels) who can demonstrate they fished less than 1/6th of their Amendment 7 allocation during May and June, subtracting the number of days they fished. The Council would specify the evidence to be considered in the appeal process, for example, vessel logbooks;

The Council felt it could not fairly apply an allocation retroactively to vessels that were exempt from DAS prior to the effectiveness date of the rule. Exempt vessels were not given formal notice or any other indication that their effort prior to the effectiveness date of the rule would be monitored or considered under the prorating of the allocation that was indicated in the proposed rule and discussed by the Council prior to submission of the amendment. The Council felt that this alternative could place an unacceptable burden on vessel owners to demonstrate, and on NMFS to review, a lack of fishing activity. However, during deliberations on this framework, the Council heard comment that some exempt vessels had not fished for groundfish during May and June and were seeking a restoration of their full-year

allocation. The Council indicated it may consider ways to verify a vessels inactivity (with respect to groundfish) during May and June, and may develop a framework to provide previously exempt vessels a full-year allocation under certain circumstances. Such an action has no effect on the current framework adjustment which applies to vessels already under the call-in system.

3.2.2 subtract DAS used in May and June from the Amendment 7 allocation for vessels in the call-in system; previously exempt vessel would remain as under current rules at 10/12ths of the Amendment 7 full-year allocation.

The committee rejected this alternative because it would have counted DAS differently than under the published final rule, thereby, applying an adjustment retroactively to vessels operating within the rules in effect at the time. The second option would also have given exempt vessels a smaller allocation of DAS than vessels already in the call-in system, creating a different fairness issue.

3.2.3 No action

As noted in Section 2.0, taking no action would result in the unfair reduction in DAS allocations to vessels who elected to fish their DAS later in the year.

4.0 ANALYSIS OF IMPACTS

The proposed action restores unused DAS allocated under the DAS-reduction program to the levels analyzed in the documents supporting Amendment 7, including the Final Environmental Impact Statement and Regulatory Impact Review. Since some vessels used all or exceeded the number of days representing 1/6th of the annual allocation, when unused DAS are restored, the revised fleet-wide allocation for the year will be greater than anticipated. The overage is equal to the total number of days used in excess of 1/6th of each vessel's annual allocation.

According to Table 1, 698 vessels (465 Fleet, 233 Individual) were in the DAS program in May and June, and are potentially eligible for a restoration of DAS. Of those, 334 did not fish and are eligible for a full restoration of 1/6th of their annual allocations. Of the remaining 364 vessels, 161 fished all of or more than 1/6th of their annual allocations and are not eligible for any restored DAS, and 203 are eligible for a partial restoration.

The sum of the full-year allocations of DAS to all vessels under the DAS system in May-June is 95,715. For the vessels that fished in May and June, 1/6th of their annual allocation is 9,061.47 DAS, and they used a total of 7,950.7 DAS, or 1,110.77 fewer DAS than 1/6th of their total annual allocation. The number of DAS to be restored by this framework to the 334 vessels eligible for a full restoration (fished no days in

May and June) is 6,934.43, and to those 203 vessels eligible for a partial restoration is 2,582.7, for a total of 9,517.13.

The 161 vessels that used all or exceeded 1/6th their annual allocations during May and June, used a total of 1,471.93 DAS over that amount. That is, therefore, the number of DAS exceeding the annual amount projected in Amendment 7 for all vessels which were already in the DAS program under Amendment 5. This equates to an overage of 1.54% of the 1996 fleet total annual allocation counting only those vessels which were in the DAS program prior to Amendment 7. Given that the number of vessels under the Amendment 7 DAS program more than doubles (to 1,560), the impact of restoring DAS and not compensating for the overage realized by some vessels in May and June on the total fleet-wide allocation is probably less than 3/4ths of one percent depending on the number of vessels in the Individual category. The 1996 fleet-wide allocation of DAS under Amendment 7 cannot be determined until all Individual DAS appeals are resolved.

The no-action alternative would result in more severe economic impacts than predicted in the Amendment 7 analysis on vessels that did not use their DAS. Taking no action, that is retaining the pro-rated allocation, would reduce the DAS available to them over the course of the 1996-1997 fishing year by 1/6th from the DAS allocations projected in the analysis. Restoring the DAS to vessels that did not fish or fished less than 1/6th of their 1996 allocation in May and June, however, will have a minor impact on the rebuilding program, that is, less than 0.75% of one percent more DAS available for use than anticipated.

TABLE 1	FLEET	INDIVIDUAL	TOTAL
Total # vessels enrolled in DAS under Amendment 5 & Amendment 7 (as of 9/18/96)	(A5) 465 (A7) 1340	(A5) 233 (A7) 220	(A5) 698 (A7) 1560
Full-year 1996 DAS allocations (all vessels under DAS in May & June)	(465x139) 64,635	31,080	95,715
Vessels that called in May-June 1996 (#)	219	145	364
Vessels eligible for full restoration of May-June DAS	246	88	334
Vessels eligible for partial restoration of May-June DAS	156	47	203
Vessels using all or exceeding May-June allocations	63	98	161
DAS allocations to vessels that fished May-June 1996	(219x23.26) 5,093.94	3,967.53	9,061.47
DAS fished May-June 1996	3,529.51	4,421.19	7,950.70
DAS remaining (exceeding) May-June allocation by sector	1,564.43	(453.66)	1,110.77
DAS to be restored by Framework 17 to vessels eligible for full restoration	(246x23.26) 5,721.96	(((1/6)31,080)- 3967.53] 1,212.47	6,934.43
DAS to be restored by Framework 17 to vessels eligible for partial restoration	2,089.97	492.73	2,582.70
Total DAS to be restored by Framework 17	7,811.93	1,705.20	9,517.13
DAS used in excess of allocations after restoration of unused DAS (DAS exceeding projected DAS)	525.54	946.39	1,471.93
Percent of 1996 DAS annual allocation exceeded by restoring unused DAS under Framework 17- only vessels under call-in May & June	(525.54/64,635) 0.8%	(946.39/31,080) 3.05%	(1,471.93/95,715) 1.54%

5.0 APPLICABLE LAW

5.1 Magnuson Act- Consistency with National Standards

This action restores the unused parts of the allocations under Amendment 7, already determined to be consistent with the national standards and other parts of the Magnuson Act as discussed in the Amendment 7 document.

5.2 National Environmental Policy Act (NEPA)

This action is categorically excluded from the requirement to prepare an environmental document under NEPA because it falls within the range and scope of actions already addressed in the approved Final Supplemental Environmental Impact Statement for Amendment 7.

5.3 Regulatory Impact Review (Regulatory Flexibility Act and Executive Order 12866)

This section provides the information necessary for the Secretary of Commerce to address the requirements of Executive Order 12866 and the Regulatory Flexibility Act. The purpose and need for management (statement of the problem) is described in Section 2.0 of this document. The alternative management measures of the proposed regulatory action are described in Section 3.0. The analysis of impacts, as noted in Section 4.0, was contained in the documents supporting Amendment 7. How the proposed action is characterized under Executive Order 12866 and the Regulatory Flexibility Act is summarized below.

5.3.1 Executive Order 12866

The proposed action does not constitute a significant regulatory action under Executive Order 12866. (1) As stated in section 4.0, the management proposals restore measures previously analyzed and, therefore, will not significantly impact the landings and revenues of the existing fishery differently than what has already been analyzed. Therefore, the proposed action will not have an annual effect on the economy of more than \$100 million. (2) Since the proposed action will restore unused DAS, it will prevent a reduction in the economic benefits generated from this fishery. For these reasons, the proposed actions will not adversely affect in a material way the economy, productivity, competition and jobs. (3) For the same reasons, it will not affect competition, jobs, the environment, public health or safety, or state, local or tribal governments and communities. (4) The proposed action will not create an inconsistency or otherwise interfere with an action taken or planned by another agency. No other agency has indicated that it plans an action that will affect this fishery. (5) The proposed action will not materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of their recipients. (6) The proposed action does not raise novel legal or policy issues. Regulations regarding DAS allocations have been used to manage this fishery since the implementation of Amendment 5 in 1994.

5.3.2 Regulatory Flexibility Act

Since this action restores unused DAS to vessels, considered small business entities, that

otherwise would have had their DAS allocations reduced without cause, it provides a significant relief from an undue regulatory burden.

5.4 Endangered Species Act

See Section 8.4, Volume IV of Amendment 7 to the Northeast Multispecies FMP. The Council finds no cause to change its earlier findings with respect to the Endangered Species Act requirements.

5.5 Coastal Zone Management Act (CZMA)

Upon the submission of Amendment 7, the Council conducted a review of the FMP for its consistency with the coastal zone management plans of the affected states. All the states concurred with the Council's consistency determination. See Section 8.5 Volume IV of Amendment 7 to the Northeast Multispecies FMP for the Council's consistency determination. The response letters of the states are on file at the Council office. The Council has determined that the proposed action is within the scope of measures already reviewed for consistency with states' CZM plans and is, therefore, consistent with those plans. The Council has notified potentially affected states of this action and of its determination that the action is consistent with its earlier consistency determination.

5.6 Paperwork Reduction Act (PRA)

Copies of the PRA analysis for Amendment 7 to the Northeast Multispecies FMP are available from NMFS Regional Office. The burden-hour estimates are detailed in the Classification section of the *Federal Register* notice of the final rule implementing the amendment (61 *Federal Register* 27731, May 31, 1996). The proposed action requires no new collection of information.

**FRAMEWORK 17
APPENDIX I**

Draft Proposed Rule

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 648
[Docket No.]

Northeast Multispecies Fishery; Framework 17;

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule; request for comments.

SUMMARY: NMFS proposes regulations to implement an adjustment to the days-at-sea (DAS) allocations to vessels in the Northeast multispecies fishery under certain conditions. These regulations would restore unused DAS to vessels enrolled in the DAS program in May and June, 1996, that under the call-in system did not record more than 1/6th of their 1996-1997 full-year allotment of DAS under Amendment 7. The New England Fishery Management Council (Council) has submitted this action under the framework procedure described in §648.90 (b) of this part.

DATES: Comments are invited on the resubmitted parts, including the proposed rule through [DATE].

ADDRESSES: Comments should be sent to [NAME AND ADDRESS]. Mark on the outside of the envelope "Comments on Framework 17".

FOR FURTHER INFORMATION CONTACT: [NAME AND ADDRESS].

SUPPLEMENTARY INFORMATION: Amendment 5 to the Northeast Multispecies Fishery Management Plan implemented an effort reduction program based primarily on reductions in DAS allocated to fishing vessels, with exceptions for certain classes of vessels. Under Amendment 5, the annual allocations of DAS were based on a fishing year that started on May 1. Amendment 7, which became effective on July 1, eliminated most exceptions to the DAS program and accelerated the reductions in DAS for vessels already under the effort-control system. Since the amendment became effective two months after the start of the fishing year, the DAS allocations for the first year of the plan were prorated to account for the shortened fishing year by a factor of 0.83, or a reduction of 1/6th. Vessels already under the DAS system had their allocations for July 1, 1996 through April 30, 1997 reduced by the proration factor regardless of whether they recorded any DAS in May or June. Vessel owners that had reserved their allotment of DAS for later in the year by not fishing for multispecies in May or June claimed they were unfairly treated by the prorating adjustment and appealed to the Council to provide the full-year allocation pending verification of their lack of fishing activity. These proposed regulations would restore unused DAS (up to 1/6th of the full-year allocation) to vessels enrolled in the call-in system in May and June, 1996, and that did not record more than 1/6th of their full-year allocation.

This proposed action does not affect the prorated allocations of DAS to vessels that were exempt from DAS monitoring during prior to the effectiveness date of Amendment 7. The

proposed rule for Amendment 7 indicated that the DAS allocations would be prorated to account for the shorter fishing year, and it did not indicate that fishing effort of exempt vessels prior to implementation of the rule would be considered in the proration. The proposed adjustment also does not affect the allocations of DAS to vessels that were under the effort-monitoring system in May and June and that may have fished more than 1/6th of the full-year 1996 allocation. The Council feels it could not retroactively apply the reduced allocation under Amendment 7 to vessels fishing under the allocations in effect at the time.

Classification

The resubmitted parts have been determined not to be significant for the purposes of E.O. 12866.

The measures contained in this proposed rule replicate the measures in the Council's initial submission document which did not take into account the effects of prorating DAS allocations. As such, the adjustment is categorically excluded from the requirements of National Environmental Policy Act (NEPA) to prepare an Environmental Assessment or Supplemental Environmental Impact Statement. The allocations of DAS being restored to vessels under this proposed action are not modified from those submitted in the initial Amendment 7 package, and as such were covered in the scope of the regulatory impact review of that document.

No new collection of information is required under the resubmitted measures.

The Council conducted a formal consultation under Section 7 of the Endangered Species Act for Amendment 7, including the measures being resubmitted. NMFS has issued its Biological Opinion which found that the proposed action likely would not jeopardize the continued existence of endangered and threatened species or their critical habitat(s). Based on this finding, the Council believes no additional action is required.

List of Subjects in 50 CFR Part 648

Fisheries, Fishing, Reporting and recordkeeping requirements.

Dated: [DATE]

For reasons set out in the preamble, 50 CFR Part 648 is proposed to be amended as follows:

PART 648-- FISHERIES OF THE NORTHEASTERN UNITED STATES

Subpart F-- Management measures for the NE Multispecies Fishery

1. Section 648.82 is revised to read as follows:

§ 648.82 Effort-control program for limited access vessels.

* * * * *

(b) * * *

(1) Individual DAS Category- (i) DAS allocation. Vessels assigned to the Individual DAS category shall be allocated 65 percent of their initial 1994 allocation baseline determined by regulations implementing Amendment 5 to the FMP for the 1996 fishing year

multiplied by the proration factor equal to 0.83 unless a vessel qualifies for a restoration of DAS under paragraph (j) of this section, and 50 percent of the vessels initial allocation baseline for the 1997 fishing year and beyond, as calculated under paragraph (d)(1) of this section.

(ii) * * *

(2) Fleet DAS Category- (i) DAS allocation. Vessels assigned to the Fleet DAS category shall be allocated 139 DAS for the 1996 fishing year multiplied by the proration factor equal to 0.83 for a total of 116 DAS unless a vessel qualifies for a restoration of DAS under paragraph (j) of this section, and 88 DAS for the 1997 fishing year and beyond.

(ii) * * *

(3) * * *

(4) * * *

(5) Combination Vessel Category-(i) DAS allocation. Vessels assigned to the Combination DAS category shall be allocated 65 percent of their initial 1994 allocation baseline determined by regulations implementing Amendment 5 to the FMP for the 1996 fishing year multiplied by the proration factor equal to 0.83 unless a vessel qualifies for a restoration of DAS under paragraph (j) of this section, and 50 percent of the vessels initial allocation baseline for the 1997 fishing year and beyond, as calculated under paragraph (d)(1) of this section.

(ii) * * *

(6) * * *

(7) Large Mesh Fleet Das Category- (i) DAS allocation. Vessels fishing under the Large Mesh Fleet DAS Category shall be allocated 155 DAS for the 1996 fishing year multiplied by the proration factor equal to 0.83 for a total of 129 DAS unless a vessel qualifies for a restoration of DAS under paragraph (j) of this section, and 120 DAS for the 1997 fishing year and beyond. To be eligible to fish under the Large Mesh Fleet DAS permit category a vessel must fish with gillnet gear with a minimum mesh net of 7 inch (17.78 cm) diamond or trawl gear with a minimum mesh size of 8 inch (20.32 cm), as described under §648.80(a)(2)(ii), (b)(2)(ii) and (c)(2)(ii).

(ii) * * *

(c) * * *

(d) * * *

(e) * * *

(f) * * *

(g) * * *

(h) * * *

(i) * * *

(j) Restoration of unused DAS- Vessels enrolled in the call-in notification system under §648.10(c) of this part during May and June, 1996 that recorded less than 1/6th of their 1996 allocation of DAS as calculated before applying the proration factor shall be credited the number of DAS equal to 1/6th of their pre-proration allocation minus any DAS recorded.

Authority: 16 U.S.C. 1801 et seq.

Dated:

as they stand right now, or is it going to be an experimental fishery. Since November and December is closed, all indications are that the devices work in the fall. Is this just going to be a mandatory piece of equipment versus an experimental fishery?

Dr. Rosenberg: There are a couple of different issues here with regard to the use of pingers during the fall, we have had some experimental information for a couple of years now for the November and December time frame, including last years' work. I was just trying to figure out, from the document if it is proposed now, that for that time frame should the area not be closed for groundfish protection, if there is a recommendation that there be a fishery allowed with pingers as an exemption from the closure. Maybe somebody can clarify that for me in the document. I think the proposal at the last Council meeting, and I will tell you what my memory of it is, is that I had suggested that for the periods where we did have sufficient information on previous years experiments, that the staff should look into developing justification to allow an exemption with the use of pingers during those periods alone, which would be November and December, if they did not conflict with the groundfish closure. For any other periods that are proposed in this framework action, where we do not have sufficient data or have not examined the issue to date, it is a question of whether we would try to obtain that experimental data on the use of pingers during those periods. The problem here, and the reason why I am being rather rigid about the time periods, is that there does seem to be some difference in terms of time periods and we certainly want to be cautious about the use of pingers and restrict it to areas, outside of an experimental basis, where we know they appear to be working or the information indicates that they are working.

In other cases, we want to do more experimentation. For example, in the spring, clearly we need additional experimentation if we are going to try to continue to use pingers as an alternative for fishermen. In the fall we have some good information, but we don't really for September, and my understanding from the last Council meeting is that the committee was recommending that I investigate the possibility of an experiment for that time period. In November and December there is data sufficient for pinger use but that depends on what we are going to do with the groundfish closures. Maybe the staff can clarify for me how it is written in the document because I have not had an opportunity to sort that out. I don't know whether it is written in as an experiment, as an exemption or as both.

Mr. Nelson: Just so everyone is on the same wavelength, the document that Andy is referring to is the draft Framework Adjustment 15. That was mailed to the Council earlier and there are copies on the back table for the public. Also, before I answer Andy's comments, I would just like to point out that we did send this over to the Harbor Porpoise Review Team (HPRT) for their evaluation of our recommendation and Pat has told me that one person was absent but all of the other seven individuals are

supportive of the recommendation.

I think, as I recall, we specifically changed it from listing it as an experimental fishery, which is what we had proposed, and added the words "experimental" or "operational" giving the Regional Director (RD) the flexibility that he felt he needed to deal with this in whatever way was most appropriate and I think we are still trying to give him the leeway to do whatever he thinks is best for allowing the additional fishing opportunities. I believe in the document, it is listed as both ways.

Dr. Rosenberg: Again, I have to look at the justification in detail and whatever the HPRT said, but if it were to go in as an exemption during times when a groundfish closure was not in effect, if it went in as an exemption that you could continue to fish in the area as long as you had a pinger on your net, certainly most of the information that we have is for November and December and I am not sure there is any justification for any of the other periods in here. If we have sufficient experimental data, we would probably go that way but it would be that if you are fishing in that area, you must have a pinger not a sign-in/sign-out kind of thing. It is either you are fishing with a pinger or you're not, otherwise we get into all kinds of reporting requirements that we cannot deal with in this time frame due to the Paperwork Reduction Act which increases the amount of paper that we have to work with. So I can't give you an entirely satisfactory answer, Erik, of whether we can go forward with an exemption as opposed to an experiment because I have to have an evaluation of the justification for that. But that clearly is the intent of the framework action, is to try to look wherever possible to codify this as part of an exemption as opposed to an experiment.

Mr. Brancaleone: Further discussion? Audience?

Mr. MacLeod: Is there a line beyond which these nets that are not supposed to be deeper than one-third of the water column cannot be set? Because the question that immediately arises in my mind...

Mr. Brancaleone: Ed, excuse me but I think you are on the next one.

Mr. MacLeod: Excuse me, I'll come back.

Mr. Williamson: Just to make sure that everybody here understands where the TRT is looking at this problem, if we were managing for harbor porpoise and didn't have to worry about groundfish considerations, the ideal situation that we have identified would be to have pinger usage for gillnets in September, October, November, December and January and see closures as a method for mitigation in the spring time. Acknowledging that there are groundfish closures in place right now for the fall, the Take Reduction Team has been debating, tossing ideas back and forth. We have already had one

recommendation to the Groundfish Committee shot down so what we are trying to do is come up with the most flexible plan coming out of the Take Reduction Team that will be paralleling what is going on here at the Council. Ideally, what we see in effect would be a regulation coming from the Council that would allow fishing with gillnets and with pingers during that fall period acknowledging that there will be groundfish closures on top of that, for the time being, and if those groundfish closures do change to the spring, which there is a movement to do, it will better coordinate with the intent of harbor porpoise management and automatically allow fishing in the fall with pingers.

Mr. Wiley: There are still a lot of questions in the Take Reduction Team for harbor porpoise as to what areas would be closed and what times, so I think that John is a little premature in saying that we would agree that the entire fall area would be open for pingers because we don't really know what that means for the spring. So I would not encourage you to just say that the Take Reduction Team has made a final determination on the fall situation.

Mr. Amaru: John, if the population of porpoises continues to go up, which I think it is, and if the interaction with gillnets continues to go on, will we be looking at another month and a half to a two month closure next year and maybe after that another and another? Is there no end as to what could happen if the fundamental numbers that have been presented for reductions are not met? I am looking at a fairly substantial length of time that this fishery would be closed down, but if this were to happen in my zone I would be pretty concerned. I understood that pingers were a pretty good solution to the problem until a conversation I had this past week which first made me aware of how expensive they are to have and then whether or not they were really all that effective. Erik probably knows a lot more about them than I do, but I just wondered if we are going to be talking about what weeks of the year they are going to be able to fish eventually or what? I think the population has recovered and looking pretty healthy from what little information I have seen.

Mr. Nelson: Bill, if I had the answer as far as the increasing population, I would probably put a lot of people in NMFS out of business. The assessment has been done and they have come up with a range of roughly around 74,000 animals. I think recalling what the previous one was, which was lower than that, but still not a significant difference, statistically speaking, then between the two population estimates, but if you were looking at it strictly in the late term, it would seem that there was an increase, certainly not a decrease, but again statistically speaking there is probably not a difference.

Our efforts are geared to try to reach a certain goal and it is about reducing the take to around 400 animals or less, hopefully less, and that is what all these measures have been applied to. We have had pretty good success so far in a number of areas. The spring,

unfortunately, is an area where we apparently ran into some difficulty and we are not sure yet on the full reasons why. Once those are worked out, it may very well be that we will be able to meet our goals. If that is the case, then we may not need to do anything further, but I think that is a continuing assessment that is going to be done on achieving particularly goals that are set by law. We would continue to have to look at that, I don't see any other way of getting around that, and if it means additional measures being put in place, that may very well be what is required.

Mr. Brancaleone: Further discussion on the motion?

Mr. Bob MacKinnon, Mass. Netters Association: I just want to bring out a point of information to you. This whole thing started with a 3,500 count, it went to 15,000 and now it is at 74,000 -- that is an increase.

Mr. Williamson: Just to add to what John and Bob are saying, what we are finding is that as we work on addressing the harbor porpoise problem, we are finding that our information based on the marine mammal model, its life history and biology is increasing, and as we do that the assumptions that are directing our efforts at mitigation are loosening up and there is every reason to believe that we should be able to make this problem stabilized at a number that the industry can then feel confident to go forward with and make their own fishing strategies around. There will always be elements that we will not be happy with the plan, the way it has worked out and the assumptions behind it, but I think we are coming close to getting a stable situation built.

Mr. Nelson: I would also point out that at our last committee meeting, we had requested to get the last reports from NMFS as far as what the assessment was showing and any additional thoughts they might have as far as looking at some of the assumptions that are in the modeling. Just so that we can review this in as much detail as possible and make sure that things are not outdated, I believe that is something that is being looked at by the NMFS staff and once we get that information we will certainly be able to share it with the rest of the Council.

Mr. Paul Cohan, Cape Ann Gillnetters Association: I wish I could share John's optimism over the harbor porpoise situation but we are dealing under MMPA and NMFS has defined our final target in five years from now as being 10% or less of the potential biological review (PBR), and if the PBR is placed in the 400-500 range, that brings us down to the 40-50 animal range. So it is my assessment that we are in the process of being nicked and dined to death over the next three or four years, another month here, another few miles there, another couple weeks over there. I don't really see how we are going to get down to that level and unless some action is taken to change that assessment and get it back to the reality of maintaining a healthy stock, yet maintaining a healthy fishery, I think that this fishery is doomed.

Mr. Anderson: I have to concur with Paul. I could go on for hours on this subject because I have been involved with it for years, but we have other things to take care of here. I think that at some particular juncture in the future, because of the way the Marine Mammal Protection Act (MMPA) has been constructed, and since it might not be to the specific knowledge of all the Council members here, and looking at the fact that it is going to have to go through another level of authorization, somewhere in the future I think that the Council should take and make some review of the document, make some recommendations to the document because of expanding populations that might not be as critical as they was assumed when the MMPA was reauthorized in February of 1995.

There is better information being accumulated on a yearly basis with the stock assessments and with reduction in bycatches. In the construction of the MMPA there is a clause that in any condition with a marine mammal population, that you have developed a PBR and you have to achieve a PBR goal by a certain period of time and then up and beyond that you have to achieve rates approaching zero in a certain time frame after that. I think anybody who reads the document would have to agree that these approaches are very restrictive in the MMPA. These restrictions will affect how fisheries do operate in the future for those that come under this particular situation. My only point is that sometime in the future, I would hope that the Council can take a little bit of time on that in passing comment whether there should be any particular changes within the Act now or at a future time, when it is going to be reauthorized. I think this is an important issue and we have actually this into our language of Amendment 7 under the Marine Mammal Committee, so I think it is an obligation of the Council to become a little bit more knowledgeable of this particular Act and all that is entailed in it.

I would just like to recommend to Andy, that whatever the result is of this particular framework and as it gets passed to the agency, that he does everything to review what information is available and not take a role in an experimental fishery for this new time frame of September 15 to December 31 and that whatever can be done to make the acoustical deterrence just a mandatory piece of equipment through this time would save the agency having a lot of people signing into experimental fisheries, a very tedious reporting system that I don't think the agency is capable of handing, but probably just another burden at this particular time.

It was unfortunate that we didn't focus in that time frame. We had always focused in an experimental fishery for the last four years just in November and December so I think there has been a tremendous amount of information accumulated in this that might not coincide with the time frame that this framework is making adjustments to, but I would hope that as they interpret the framework, they would make the device a mandatory piece of equipment within the new time frame.

Dr. Rosenberg: You will be pleased to know that I am not going to enter into a debate on the science of marine mammals although I disagree, fairly strongly, with some of the interpretations that have been voiced about what the estimates are. I would note that we are trying to recruit somebody for the marine mammal group so we welcome Mr. Nelson's application or Mr. Amaru's or anybody else who wants to try to estimate abundance of marine mammals to add to the six people that I have to deal with as many stocks as we have fish stocks. We have to do the same number of assessments for marine mammals as we do for fish stocks. I am going to vote for this motion; I think it is important to move forward with trying to deal with the problems of marine mammal bycatch as a fishery regulation as opposed to as a Marine Mammal Protection Act regulations. As Erik pointed out, the MMPA is very restrictive and very clear and is the law so if this Council chooses to give input to Congress about that Act, then so be it. But currently the law of the land says that we are going to try to get to as near zero as possible level of bycatch. That doesn't leave an awful lot of room for argument here but that is what we are mandated to do by law. It seems to me that trying to deal with this issue as a fishery regulation, gives an opportunity to consider the operations of fisheries such as the sink gillnet fishery and gives an opportunity for this Council to make recommendations for how to achieve that goal in a way that may hopefully be workable for the industry. There is obviously another simple way to achieve the goal of a zero mortality, which doesn't really take into account much of the concerns of the industry, but I submit to you that it is probably better to deal with that in a Council arena where you can make recommendations to try to address some of these problems. Then outside of that, strictly the concern is for protection for marine mammals. So I think it is important to move forward with this motion.

If there are additional actions that need to be taken in future, then that may arise in future years to continue to reduce the take. This Council and the industry in this region have been very progressive in trying to develop methodology, such as pingers, to try to deal with this problem while allowing the fishery to operate. I think that is a very positive step and I certainly will look at all the available information that I can to see whether we can continue either with experimental work or it can move to exemptions because we have sufficient information in all of the periods. In addition to that, information from the Take Reduction Teams will obviously be important in trying to decide how to move forward in the future. So I look forward to getting this action from the Council and to try to start to move it through the system and see how the justification works out.

Mr. Brancaleone: Further discussion on the motion?

Mr. Coates: Like the Regional Director, I don't want to engage in a scientific debate about the level of recovery but this isn't a scientific debate. I want to support the motion because it does further the immediate need to address the current problems

before us with regard to the takes of these animals. The issue is not a scientific debate; it is going to be ultimately resolved as a policy debate and I think Erik's points about the Marine Mammal Act reauthorization and a lot of other very significant issues inherent in the protection that is built into the MMPA and where the nation and the public and wherever anybody else wants to go ultimately with regard to the protection of these animals, I think that debate has to be joined very soon because otherwise we have a very irrational system.

We are heading towards a crash of conflicts, and policies need to be addressed. If it continues I think you are going to see support for not only a MMPA reauthorization but a Marine Terrestrial Mammal Protection Act. Look at the dichotomies that are existent right now with regard to the protection of marine mammals and the utilization of terrestrial animals – it is something that we have to focus on. Most states have laws with regard to the treatment of nuisance terrestrial mammals when they cause certain impacts. Look at the inconsistency with regard to the treatment of certain marine mammals and as pests. These are issues that need to be resolved. The PBR for harbor porpoise is identified by Paul is totally irrational in the context of another Act, the Endangered Species Act. Had we not assumed our so-called responsibility with regard to trying to deal with harbor porpoise in the context of fishery management and let the animals be listed, we would probably now be able to apply for a Section 10 permit to allow some taking. It will probably be beyond the PBR levels that are ultimately identified. I am saying that this is an issue that could be debated.

The point I am trying to make here is a very simple one. Somebody, at a very high level had better start thinking about where we are going with all this because right now it is not logical. The ultimate consequence of this has to be in terms of responsible utilization of our resources and this is an issue that has to be joined sooner rather than later.

Ms. Jan Anderson, Mass. Netters Association: I just wanted to caution the Council to be very careful that the assumptions on effort for anything that we are talking about as far as harbor porpoise mortality is under serious scrutiny and debate. In fact, I have petitioned the RD for permission to review the database on boats being used in the weigh-out. The fishermen on the TRT have gotten together and looked at the Manomet list and looked at the federal list and cleaned up both lists because just like you know who is working in your office, most of the fishermen up and down the coast know the boats that are fishing and gillnetting when they are fishing. We would like to take a look at the federal list just to find out what boats are being used in the weigh-out and who those captain's are so we can compare them and clean them up. This is something we volunteered to do. The population studies have improved with the help of the fishermen especially the fishermen up in Maine that have been able to come and tell the different boats that are doing the surveys where they are seeing the harbor porpoise. So the population confidence is much, much better now. Unfortunately, the effort,

which is based on weigh-out is not anywhere near as confident. I want to caution the Council on going forward with any information on gillnet effort and hopefully some other time we can talk about another way to measure effort, aside from weigh-outs because I just don't think that is a good way to measure effort.

Mr. Brancaleone: Further discussion on the motion?

The motion carried unanimously on a voice vote.

NEW ENGLAND FISHERY MANAGEMENT COUNCIL

FRAMEWORK ADJUSTMENT #15 COMMENTS

Kings Grant Inn, Danvers, MA
June 5, 1996

Wednesday, June 5, 1996

Marine Mammal Committee Report

Mr. Nelson: The Marine Mammal Committee met on May 21 to look at the mid-coast closure and any additional information that the Center had as far as bycatch in that area. The Center provided us with various figures showing locations of observed takes and observed hauls. From that, we have come up with a certain recommendation. Before I get into that, I neglected to say to those who don't remember, it is under Tab 11. Basically, the information that the Center had for us show that there seemed to be a highly effective closure as far as November and December of last year. They went over the bycatch between years and showed there was a high variability between years, although it looked like 1994 was the lowest observed take of the years. Again that information is available, so you can sort that out amongst itself.

We did have a motion that came out based on the information that was provided in our discussions.

Mr. Nelson moved and Mr. Coates seconded:

that the Council initiate a framework adjustment to the Multispecies FMP to modify the current mid-coast closure as described in Framework 14 (this incorporates the Jeffreys Ledge or Z-band but excludes the region defined as Tillies Bank). This action would extend the timing of the closure from September 15 to December 31. Also the committee recommends that the NMFS Regional Director investigate additional fishing opportunities in this closure area by considering experimental work on the use of pingers in the gillnet fishery to mitigate the harbor porpoise bycatch. The timing and area to be considered for pinger use is predicated on restrictions associated with Amendment 7 to the Multispecies FMP.

Dr. Rosenberg: You are proposing the extension of the current closure area from September 15 through December and you are suggesting that, during the four month block, that the area is not also closed for groundfish protection and that I consider allowing the use of pingers on an experimental basis. Is that essentially right?

Mr. Nelson: That is correct.

Dr. Rosenberg: Then I would suggest that since we have had some scientific experimental work for the fall period and we have had some operational experimental work for the fall period, that, without prejudicing my approval or disapproval, you include the pinger provision as part of the framework action and see whether we can proceed as a framework measure as opposed to an additional experimental fishery. It may be that we feel that there is not sufficient information to support it as a longer term measure for the fall period only. On the other hand it may be possible to move out of the experimental mode and into an operational mode for the autumn period. I would like to see that analyses incorporated into this framework, should you move forward. I do support the motion. Is it clear what I am suggesting?

Mr. Nelson: Yes it is. I don't think the committee would have any problem with suggesting that it be considered as an operational aspect rather than an experimental, but since we have had a couple of new months put in there, we are still looking at it as a potential experimental aspect. But, if you are comfortable with considering it either way, I think the committee certainly would be amenable to that also.

Dr. Rosenberg: To clarify, I am suggesting that, if we propose it in the framework, if there is not sufficient information to move forward with the use of pingers during the periods when it is not closed for groundfish protection then I would consider additional experimental work that would fill that need. What I don't want to do is have the experimental work be used as an exemption in the long term. It should be for experimental work. We have done the experimental work in this fishery and when we have put the whole framework package together and it is sufficient and stands on its own, well and good. Then we can proceed with the management measure that includes the use of pingers. If it doesn't then I will consider what additional experimental work we might need and get eventually to that point.

Mr. Nelson: Let me go over the motion a little bit and address what Dr. Rosenberg has brought up. If we eliminated the words experimental work then the Regional Director would be asked to consider additional fishing opportunities in this closure area by considering the use of pingers on gillnets to mitigate the harbor porpoise bycatch. That would cover either an operational or experimental approach. That gives the Regional Director the latitude to do it either on an experimental or operational basis.

Dr. Rosenberg made the following perfection to the motion:

that the Council initiate a framework adjustment to the Multispecies FMP to modify the current mid-coast closure as described in Framework 14 (this incorporates the Jeffreys Ledge or Z-band but excludes the region defined as Tillies Bank). This action would extend the timing of the closure from September 15 to December 31. Also the committee recommends that additional fishing opportunities in this closure area be allowed with the use of pingers to mitigate the harbor porpoise bycatch the timing and area to be considered for pinger use is predicated on restrictions associated with Amendment 7 to the Multispecies FMP.

Mr. Brancaleone: Any problem with that Mr. Coates?

Mr. Coates: No, that is fine.

Ms. Stevenson: This issue always makes me very confused. Could somebody explain to me the relationship of the Take Reduction Team and the Marine Mammal Committee and who has priority or who does what. There seems to be two separate recommendations.

Dr. Rosenberg: The question is an appropriate one because it is confusing to everyone. The Take Reduction Team is a creature of the Marine Mammal Protection Act (MMPA). We were required by Congress to form Take Reduction Teams to make recommendations on issues related to the MMPA for a number of marine mammals in the fisheries that potentially might impact them. The Marine Mammal Committee has generally been working under the Magnuson Act to develop fishery regulations that address marine mammal issues, but in the context of a fishery regulation. The Take Reduction Team is making recommendations to NMFS on ways to address problems of marine mammal bycatch or takes under the MMPA which we would then look to implement if we felt that there was not sufficient protection under another forum. We, in general, have preferred to try to deal with fisheries under the fisheries law and would prefer to see that the Marine Mammal Committee and the Council make recommendations on how to deal with fisheries issues for a number of reasons.

One reason is that the MMPA clearly has different objectives and goals which may be less cognizant in the course of particular problems in the fishery. Secondly, many of these problems are going to be best addressed in a Council area where people are use to discussing fishery regulations than under an MMPA regime. The Take Reduction Teams will make recommendations to NMFS, and I don't believe those

recommendations are binding, although clearly, Congress has told us that we have to address what they have said. To the extent possible we are trying to have those processes work together. It is not necessarily easy because they are under separate authorities. The recommendations of the Take Reduction Teams are not binding. Doug, did I miss any critical point?

Mr. Beach: The plan will be submitted to NMFS at which time they must either take the measures or explain why they haven't taken the measures. He is right, it is not completely binding, but we do have to explain if we are not following the plan that the team has put forward, why we are not doing it.

Ms. Fiorelli: Barbara, you may be thinking of the Harbor Porpoise Review Team (HPRT), also. We don't want to leave that out. The HPRT evaluates marine mammal and harbor porpoise issues specifically for the Council and makes recommendations.

Ms. Stevenson: That is different from the Marine Mammal Committee?

Ms. Fiorelli: Correct. It is something like the Multispecies Monitoring Committee.

Mr. Brancaleone: Discussion on the motion.

Mr. Anderson: Was it taken into consideration there that through any level of analyses that if the pingers were not to be incorporated into mandatory equipment that you would investigate any experimental fishery for that timeframe.

Dr. Rosenberg: No, you couldn't do that in the motion. If it was not justified as operationally at this stage then the committee would recommend that further experiments be done. I guess you could add something to that effect to make it clear. I am not trying to put words in the mouths of the committee on your recommendations, because I am not a member of the committee, but if that addresses your concern.

Mr. Anderson: I would have a concern about it if the analyses would go through for it for the way it is right now. But just to cover all bases, if something played out would you allow consideration of the experimental fishery.

Mr. Nelson: Karen, after the word bycatch, put in parentheses "either through an experimental or operational fishery." I think the sense of our discussion has been that Dr. Rosenberg would look at it from the standpoint of if he has enough information, he would look at it as an operational, or if he did not have enough information, as far as what I heard him say, he would consider it as an experimental fishery. Maybe this verbiage is necessary for clarification, but that is what the sense of our

discussion has been.

The motion was clarified to read:

that the Council initiate a framework adjustment to the Multispecies FMP to modify the current mid-coast closure as described in Framework 14 (this incorporates the Jeffreys Ledge or Z-band but excludes the region defined as Tillies Bank). This action would extend the timing of the closure from September 15 to December 31. Also the committee recommends that additional fishing opportunities in this closure area be allowed with the use of pingers to mitigate the harbor porpoise bycatch (either through an experimental or operational fishery) the timing and area to be considered for pinger use is predicated on restrictions associated with Amendment 7 to the Multispecies FMP.

Ms. Stevenson: Does this motion mean that if the Regional Director determines that there has been enough experimenting and that the pingers don't work, that the closures will go into effect without pingers?

Dr. Rosenberg: If the justification in the framework action indicates that it is not appropriate to move forward with pingers and there is clear indication that the pingers don't work, then I am not going to approve additional experiments. My intent here is that I don't want to continue experiments *ad infinitum* unless we are clearly experimenting on something. If we have got enough reason to do it fine. If we don't it should be a targeted experiment that addresses additional problems. For example, there has been concern about pingers in other seasons which requires additional experimentation. But, I don't want the experimental program to be an exemption program. There should be a clear distinction and we should not be conducting one once we have collected a reasonable amount of information. Let us see if there is some justification.

John Williamson: Two things: 1) the acoustics workshop that was put on in Seattle in March by the Marine Mammal Commission recommended wide spread use of pingers in New England for harbor porpoise mitigation. The scientific community is ready to see some of this going on in this fall time period. 2) I am not clear if groundfish closures are changed from the fall period to another time of year. Does that mean that this pinger usage would also be considered in November and December?

Mr. Nelson: The intent is for the whole timeframe to be considered, but if the closure that is presently in Amendment 7 for November and December takes effect then there would be no fishing in there whatsoever. So, that has the priority versus this

particular measure. If there is a modification to the closure area and November and December are open to groundfish activity, then we are still looking at a restriction of gillnet activity unless the Regional Director concurs that they can fish there using pingers.

Dr. Rosenberg: John, I think the short answer to your question is yes. If you move the closure while the harbor porpoise and the groundfish closures are currently co-incident, they are co-incident and there are reasons for that. If you move the groundfish closure then its the harbor porpoise that matters and this motion says the harbor porpoise closure means that you have to use pingers in that area during that time. So, if the groundfish closure went to another area and time, then my understanding of the motion would be that pinger use would be allowed if it is justified, again based on the development of the framework document.

The motion carried unanimously on a voice vote.

Mr. Nelson: Just to be clear. This is the first meeting of the framework process.

New England Fishery Management Council

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Chairman
Joseph M. Brancaleone

Executive Director
Douglas G. Marshall

MEMORANDUM

June 4, 1996

TO: Marine Mammal Committee
FROM: Douglas G. Marshall, Executive Director
SUBJECT: May 21, 1996 Committee Meeting Summary

The Marine Mammal Committee met at the Council office to evaluate the effectiveness of the fall Mid-coast Closure Area now in place to reduce the bycatch of harbor porpoise in the sink gillnet fishery. Currently the area is closed to all gillnet activity from November 1 to December 31. Staff from the Northeast Fisheries Science Center provided information on bycatch collected during September through December, 1990 to 1995.

Maps were provided with the location of observed takes and observed hauls without takes. The trends analyses for 1995 was consistent with past years, highly variable bycatch rates between years with the highest rates occurring in October and November. The rates in September and December were somewhat lower. Based on this and other material provided by the Center, the committee voted to recommend:

that the Council initiate a framework adjustment to the Northeast Multispecies Plan to modify the current Mid-coast Closure Area (which incorporates the Jeffreys Ledge Band, but excludes the region defined as Tillies Bank). This action would extend the timing of the closure by adding the period September 15 through October 31. Currently the area is closed to fishing with sink gillnets from November 1 through to December 31.

The committee included in its recommendation a request to the NMFS Regional Director to investigate additional fishing opportunities during the September 15 - October 31 period by considering experimental work on the use of pingers to mitigate the bycatch of porpoise.

The committee also was briefed on the activities of the Atlantic Coast Scientific Review Group for Harbor Porpoise (one of three independent teams appointed by NMFS to provide comprehensive annual reviews of marine mammal population estimates, status and trends, research recommendations and other related information). With the addition of a third abundance survey, they will review and could possibly change the harbor porpoise PBR (potential biological removal level). A figure being discussed is 483 animals. A new stock assessment will be available for public review and comment on October 1, 1996. Additionally, under other business NMFS staff reported they are drafting a proposed rule to establish a 500 yard minimum approach for right whales in the EEZ. If approved, the measure will mirror a regulation already in place in Massachusetts waters.

Appendix IV
Background Information

New England Fishery Management Council

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Chairman
Joseph M. Brancaleone

Executive Director
Douglas G. Marshall

MEMORANDUM

September 25, 1995

TO: John Nelson, Marine Mammal Committee Chairman
FROM: Patricia Fiorelli
SUBJECT: Recommendations from 9/8/95 HPRT Meeting - Final

The Harbor Porpoise Review Team (HPRT) met on Friday, September 8, 1995 to develop recommendations concerning: a) the effectiveness of the 1994-1995 time/area closures implemented to reduce the bycatch of harbor porpoise in the Gulf of Maine sink gillnet fishery; b) future measures that would allow the Council to achieve the goals as stated in Framework 4 to the Northeast Multispecies Fishery Management Plan; and c) the possible use of acoustic devices as part of a bycatch mitigation strategy.

Analyses prepared by the Northeast Fisheries Science Center allowed the group to review data collected since 1990 and compare it to 1994, the first year in which the New England Fishery Management Council implemented time/area closures. Because a high percentage of the bycatch occurs in the Mid-coast/Jeffreys Ledge area in the fall, it was targeted initially for more detailed review. Similar information will be made available for the other closure areas in the near future. The HPRT agreed, by consensus, on several key points:

- The time and area closures, as currently configured, are neither large enough nor long enough to achieve the Council's stated bycatch reduction goals. There was agreement that the first year goals were not met and that the porpoise bycatch was very likely higher in 1994 than in 1993. Additionally, the HPRT was unable to evaluate the degree of effectiveness of the individual closures chiefly due to the lack of data on the fine-scale spatial distribution of fishing effort previously available through the NEFSC's port sampling program. Instead, bycatch rates were calculated and employed as indicators of bycatch.
- While information in the analyses did not provide an estimate of the total number of porpoise taken in 1994, there is a good basis for the statement that the bycatch could be 50 to 60 percent higher than in previous years (see Allen Peterson letter dated August 9, 1995). Rates increased significantly in the Mid-coast and Jeffreys Ledge Areas during the fall months and were approximately three times higher south of Cape Cod, indicating the possible need for management measures in that region. Bycatch rates,

and apparently sink gillnet fishing effort, decreased in the area of the Northeast closure during the 1994 summer period.

- There is substantial between-year variability in the timing of peak bycatch, with less variation in the areas in which they occur. In any given year, the interannual variability could exceed the Council's 20 percent reduction goal, a possible explanation for the 1994 results. The recommendation of the group, therefore, is to expand the timing of the closures as a means to achieve bycatch reductions, and secondarily, to expand areas spatially to include locations which have historically accounted for significant levels of bycatch, but were not included in the first year closures.
- The specific recommendation from the HPRT for fall, 1995, is to extend the timing of what is now defined as the Mid-coast Closure Area to September, October, November and December and additionally to expand the area to include the Jeffreys Ledge Z-Band during the months of October and November (recognizing that the timing for an early fall closure may not be possible from an administrative standpoint).
- "Pingers" are a promising management tool and, at the earliest opportunity should be incorporated into the management strategy using a spatially limited, phased-in approach to answer important questions such as the operational use of the devices outside of experimental protocols, whether porpoise habituate to the acoustic signal, the potential for exclusion of animals from essential habitat where pingers are deployed and their effectiveness in times and areas other than the mid-coast in the fall. Once these issues are resolved, wider-scale use may be appropriate.
- The following management program, based on existing closures and the relative levels of bycatch in each area, is recommended to address the above issues:

Mass Bay Area - adjust the time frame as indicated by more refined analyses of the data and allow gillnet vessels to fish within the entire closure area if nets are outfitted with pingers and deployed according to defined protocols. This closure would allow an evaluation of operational characteristics of acoustic devices in a commercial fisheries environment. This recommendation is, in part, based on the low bycatch rates for this area (i.e. if pingers do not perform according to expectations and more porpoises are caught, the impact on total bycatch should be relatively small.)

Northeast Area - extend the time frame as indicated by past analyses and in consideration of more recent data. Expansion of the area to encompass the Schoodic Ridge region is also necessary because of bycatch documented there in previous years. Similar to the Jeffreys Ledge Z-band, this area was left out of the first year closure to accommodate a phased-in approach to bycatch reductions. The HPRT supports allowing sink gillnet vessels to fish within the Schoodic Ridge area if nets with pingers are deployed according to defined protocols. In addition to achieving further bycatch reductions, the overall effect of this management action would address the need to evaluate pinger use in an area characteristically different from the mid-coast (i.e. sea conditions are markedly different and porpoise age and sex ratios may be represented differently).

Mid-coast Area, 1996 - adjust and expand the time frame of the closure as indicated by further analyses and define an area in which fishing activity would be allowed if nets were deployed with pingers. Because the Mid-coast accounts for a majority of the porpoise bycatch, the HPRT recommends pinger use for the Jeffreys Ledge Z-Band or other limited area in which studies could be conducted to answer questions about habituation and exclusion of animals but in a manner that would not jeopardize the Council's bycatch reduction goals.

- The Council may wish to explore the use of a "trigger" mechanism and, if so, should request the appropriate analyses from the NEFSC. This includes the potential for an environmental trigger, such as sea surface temperature. If feasible, such a management tool would allow for more precise timing of closures or other management measures without the bracketing currently necessary to account for the high degree of variability in porpoise movements. Data indicate that the mid-coast bycatch generally peaks in October and November, but that variability can extend into September and/or December.

Other HPRT recommendations

To provide the Marine Mammal Committee with more complete information on which to base a management strategy, the Council should request the following items from the Northeast Fisheries Science Center which are listed in order of priority:

- analyses for the Mass Bay and Northeast Areas (similar to the Mid-coast information) characterizing the bycatch information in terms of rates in order to compare 1994 information with previous years;
- an estimate of the 1994 bycatch using landings by port as an estimator in the absence of port sampling information; and development of alternative methods to determine the fine-scale distribution of gillnet fishing effort (perhaps data collected via overflights or other means if this is not feasible);
- a more detailed analysis of the area south of Cape Cod to determine the possible need for a closure in that area;
- the 1995 abundance estimate; and
- expanded observer coverage and additional studies to evaluate the use of pingers.

regulations require annual specification of a commercial quota that is apportioned among the states from North Carolina through Maine. The process to set the annual commercial quota and the percent allocated to each state is described in § 625.20. The commercial summer flounder quota for the 1994 calendar year, adopted to ensure achievement of the appropriate fishing mortality rate of 0.53 for 1994,

is set to equal 16,005,560 lb (7.3 million kg) (59 FR 10586, March 7, 1994). Section 625.20(d)(2) provides that all landings for sale in a state shall be applied against that state's annual commercial quota. Any landings in excess of the state's quota will be deducted from that state's annual quota for the following year. Based on dealer reports and other available information, the following states were determined to have exceeded their 1993 quotas: Maine, Massachusetts, New Jersey, Delaware,

Maryland, Virginia, and North Carolina. The remaining states of New Hampshire, Rhode Island, Connecticut, and New York did not exceed their 1993 quotas and, therefore, no adjustments are necessary for these states. Table 1 shows the 1993 quotas adjusted for authorized transfers made between states during the year, 1993 landings, 1993 overage amounts, 1994 quotas, and the adjusted 1994 quotas taking into account 1993 overage amounts, by state.

TABLE 1. ADJUSTED 1994 COMMERCIAL QUOTA FOR THE SUMMER FLOUNDER FISHERY
[Parentheses indicate a Negative Amount]

	1993 quota (lb)	1993 landings (lb)	1993 overage (lb)	Initial 1994 quota (lb)	Adjusted 1994 quota	
					(lb)	(kg)
ME	5,874	6,023	149	7,612	7,463	3,385
NH	57	0	0	74	74	34
MA	842,327	902,786	60,459	1,091,653	1,031,194	467,746
RI	1,946,851	1,942,451	0	2,510,149	2,510,149	1,138,596
CT	278,749	224,620	0	361,258	361,258	163,865
NY	944,405	849,376	0	1,223,943	1,223,943	555,177
NJ	2,323,354	2,466,452	143,098	2,676,928	2,533,830	1,149,338
DE	2,197	6,403	4,206	2,847	(1,359)	(616)
MD	251,829	254,081	2,252	326,369	324,117	147,018
VA	2,882,623	3,052,136	169,513	3,411,867	3,242,354	1,470,722
NC	2,871,750	2,894,835	23,085	4,392,860	4,369,775	1,982,117

Classification

This action is required by 50 CFR part 625 and is exempt from OMB review under E.O. 12866.

Authority: 16 U.S.C. 1601 et seq.

Dated: May 19, 1994.

Charles Kartzella,

Acting Program Management Officer,
National Marine Fisheries Service.

[FR Doc. 94-12714 Filed 5-20-94; 12:21 pm]

BILLING CODE 3510-22-P

50 CFR Part 651

[Docket No. 840552-4152; I.D. 051294A]

Northeast Multispecies Fishery

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: NMFS issues this final rule to implement measures contained in Framework Adjustment 4 to the Northeast Multispecies Fishery Management Plan (FMP). The measures contained in this rule are a series of time and area closures for sink gillnet gear to reduce bycatch of harbor porpoise. These measures replace blocks of time during each month during which all sink gillnets would be

required to be removed from the water. The intent of this rule is to reduce significantly the bycatch of harbor porpoise in the Gulf of Maine sink gillnet fishery.

EFFECTIVE DATE: May 20, 1994.

ADDRESSES: Copies of Amendment 5, its regulatory impact review (RIR) and the final regulatory flexibility analysis (FRFA) contained with the RIR, its final supplemental environmental impact statement (FSEIS), and Framework Adjustment #4 and its environmental assessment are available upon request from Douglas G. Marshall, Executive Director, New England Fishery Management Council, 5 Broadway, Saugus, MA 01906-1097.

FOR FURTHER INFORMATION CONTACT: E. Martin Jaffe, NMFS, Fishery Policy Analyst, 508-281-9272.

SUPPLEMENTARY INFORMATION:

Background

The New England Fishery Management Council (Council) submitted Amendment 5 to NMFS on September 27, 1993. One of its principal objectives was to reduce the bycatch of harbor porpoise in the Gulf of Maine sink gillnet fishery by the end of year 4 of implementation of the Amendment to a level not to exceed 2 percent of the population, based on the best estimates of abundance and bycatch.

The Council was requested by NMFS in October 1992 to take action to reduce the harbor porpoise bycatch within the context of Amendment 5. The Council agreed to develop fishery management measures that would address the issue on the basis that the sink gillnet fishery was subject to regulation under the FMP, there were no existing regulatory mechanisms to reduce porpoise takes, and the current level of bycatch in the fishery was not sustainable.

Additionally, on January 7, 1993, NMFS published a proposed rule (58 FR 3108) to list the Gulf of Maine population of harbor porpoise as threatened under the Endangered Species Act (ESA), due primarily to the level of incidental takes in the sink gillnet fishery and the lack of an adequate regulatory mechanism to accomplish bycatch reductions. As NMFS noted in the rule, the Marine Mammal Exemption Program contained in the 1988 amendments to the Marine Mammal Protection Act (MMPA) did not set bycatch limits.

The Council subsequently adopted the goal of achieving reductions in harbor porpoise bycatch, so that the actual amount of harbor porpoise caught as bycatch in the sink gillnet fishery would not exceed 2 percent of the estimates of the harbor porpoise population, in part to avoid the pending ESA listing. This objective was based on

a recruitment rate for harbor porpoise that is about 4 percent per year, and a conservative fisheries bycatch level that should not exceed 50 percent of the recruitment rate for marine mammals. The 1991/1992 pooled harbor porpoise population abundance estimate is 47,200. Using the lower bound of the 95-percent confidence interval for that estimate, 39,500, the 1990, 1991, and 1992 ratios of bycatch to average population abundance were approximately 6 percent, 4.3 percent and 2.2 percent, respectively. A 2-percent goal allocated solely to the Gulf of Maine sink gillnet fishery did not take into account the unknown level of harbor porpoise takes in the Mid-Atlantic region and in adjacent Canadian waters.

Because the 1992 abundance and bycatch information was not available until June 1993, however, development of effective measures based on the best scientific information lagged behind the formulation of the overall Amendment 5 package. The harbor porpoise bycatch mitigation measure implemented by the final rule for the Amendment required the removal of all sink gillnets from the water during 4-day blocks of time each month in year 1 after implementation of Amendment 5. Years 2 and 3 of Amendment 5 called for 8-day blocks each month. Year 4 required 12-day blocks and year 5 required 16-day blocks. The Council supported, and NMFS approved, the use of blocks of time as an interim measure on the assumption that appropriate time and area management measures would be developed as soon as possible.

The rationale for the interim measure was based largely on the lack of information concerning the sink gillnet fishery. By "masking" periods of time monthly, during which all sink gillnets must be removed from the water, the time during which harbor porpoise would be exposed to that gear would be reduced. In a simulation analyzing the effect of closing the Gulf of Maine sink gillnet fishery for 4 consecutive random days per month, approximately 8.5 percent of the fish would not be landed and 9.3 percent of the harbor porpoise bycatch would be avoided. The effect of choosing random days, however, produced very different values of harbor porpoise bycatch for the different trials.

Because of the imprecise nature of the impacts of the blocks of time, and upon

receipt of the NMFS Northeast Fisheries Science Center's (NEFSC) comprehensive spatial and temporal analysis of the bycatch in the fall of 1993, the Council voted to support the development of a time and area closure management system. The intent was to replace the existing gillnet alternative (nets removed from the water for specified blocks of time) as the harbor porpoise bycatch mitigation measure. The Council decided, and NMFS agreed, that the gillnet fleet would not be subject to groundfish effort reductions until the effect of the harbor porpoise bycatch reduction measures could be evaluated for their impacts on groundfish fishing effort (approximately 1 year after implementation of Amendment 5).

NMFS is amending the regulations under the framework abbreviated rulemaking procedure established by Amendment 5 and codified at 50 CFR part 651, subpart C. This procedure requires the Council, when making specifically allowed adjustments to the FMP, to develop and analyze the actions over the span of at least two Council meetings. The Council must provide the public with advance notice of both the proposals and the analysis, and opportunity to comment on them prior to and at the second Council meeting. Upon review of the analysis and public comment, the Council may recommend to the Regional Director of NMFS that the measures be published as a final rule if certain conditions are met. The Director, Northeast Region, NMFS, (Regional Director) may publish the measures as a final rule or as a proposed rule if additional public comment is needed.

The Council complied with the procedural requirements and submitted the rule to NMFS, and NMFS concurs with the provisions of the Council's submission. This final rule implements time and area closures based on an analysis by the NEFSC of harbor porpoise bycatch using NMFS weighout and observer program data on the distribution of sink gillnet activity and the seasonal and spatial distribution of harbor porpoise in the Gulf of Maine. Extensive discussions among the Council, the fishing industry and scientists led to the measures outlined below.

For purposes of the management measures contained in this final rule for

Framework Adjustment #4, the Gulf of Maine is divided into three areas: The Northeast (from Penobscot Bay to Eastport, ME); Mid-coast (from Cape Ann to Penobscot Bay); and Massachusetts Bay (from Cape Cod to Cape Ann). The Council recommended 30-day closures for each of these areas. The timing of the closures corresponds to periods when harbor porpoise bycatch is most likely to occur. The duration accounts for the variability of harbor porpoise movements. The Council recognizes that the Mid-coast and Northeast areas account for more of the bycatch than Massachusetts Bay. At this time, however, harbor porpoise bycatch mitigation measures are being applied uniformly across all regions in the Gulf of Maine.

The NEFSC estimated that reductions of 20 to 40 percent might be realized in the first year of implementation of Framework Adjustment #4 if boundaries discussed in its initial analysis of a time and area management system for the Gulf of Maine were used in conjunction with the proposed 30-day closures. The Council's boundary modifications could alter that estimate to some unknown degree because of the potential displacement of gillnet fishing effort to areas where harbor porpoise are still subject to some level of bycatch. It is reasonable, however, to anticipate the minimum estimate of approximately 20 percent, given that the timing of the closures occurs in seasons of highest bycatch of harbor porpoise in their respective areas. It is also reasonable to conclude that the continued annual target reductions may be accomplished by modifications to the same measures.

The Council adopted the approach of integrating effort reductions for key species of groundfish stocks with harbor porpoise bycatch mitigation measures after the first year of program implementation. If the measures, or any future approach that is adopted, accomplish the harbor porpoise objective without reducing gillnet fishing effort sufficiently to reach the 50 percent effort reduction target, the Council will impose additional fishing restrictions.

A. Northeast Closure Area

This area will be closed to fishing with sink gillnets from August 15 through September 13 of each fishing year.

Point	Latitude	Longitude
NE1	Maine shoreline	68°55.0'W.
NE2	43°29.6' N.	68°55.0' W.
NE3	44°04.4' N.	67°48.7' W.
NE4	44°06.9' N.	67°52.8' W.

Point	Latitude	Longitude
NE5	44°31.2' N.	67°02.7' W.
NE6	Maine shoreline	67°02.7' W.

B. Mid-coast Closure Area

This area will be closed to fishing with sink gillnets from November 1 through November 30 of each fishing year.

Point	Latitude	Longitude
MC1	42°45' N.	Massachusetts shoreline.
MC2	42°45' N.	70°15' W.
MC3	43°15' N.	70°15' W.
MC4	43°15' N.	69°00' W.
MCS	Maine shoreline	69°00' W.

C. Massachusetts Bay Closure Area

This area will be closed to fishing with sink gillnets from March 1 through March 30 of each fishing year.

Point	Latitude	Longitude
MB1	42°30' N.	Massachusetts shoreline.
MB2	42°30' N.	70°30' W.
MB3	42°12' N.	70°30' W.
MB4	42°12' N.	70°00' W.
MB5	Massachusetts shoreline	70°00' W.

There is a band outside the Mid-coast closure area that encompasses Jeffreys Ledge and is described relative to the Mid-coast area as east on 42°30' N. from the shore to 70°00' W., north along 70°00' W. to 43°00' N., on 43°00' N. to 69°00' W., then north on 69°00' W. to the shore. According to the sea sampling data base, harbor porpoise bycatch in this band has been relatively high during the last 3 years. Concerns focus on whether a displacement of more fishing effort into this region might account for a kill rate as high as or potentially higher than in previous years. Under provisions of this final rule, the band will remain open, but the Council recommended mandatory observer coverage for vessels fishing in the area if funds are available.

D. Open Areas:

Areas shown on Figure 4 to part 651, but not enclosed by the boundary lines described above, would not be subject to closure at this time.

The Council program calls for a 20-percent reduction in the Gulf of Maine harbor porpoise bycatch in year 1 of implementation of Amendment 5. To ensure continued efforts to reduce the bycatch, Amendment 5 states that a Harbor Porpoise Review Team (HPRT), appointed by the Council, will evaluate the effectiveness of the Council's mitigation measures annually by September 15 of each year and, if necessary, recommend changes to ensure that the bycatch reduction goals are met.

Future management measures will be designed to achieve a 60-percent reduction in the bycatch of harbor porpoise from current levels over a 3-year period. Based on a bycatch of 1,300 animals (a figure that constitutes a rough average of the bycatch estimates over the last 2 years), the bycatch in years 1, 2, and 3 would be reduced to 1,040, 780, and 520 animals, respectively.

Such a reduction schedule might surpass the goal of reducing the harbor porpoise bycatch to a level not to exceed 2 percent of the estimates of population abundance and bycatch (39,500 and approximately 1,300, respectively). The use of the lower bound of the 95-percent confidence interval for the abundance estimate, 39,500, adds a level of conservatism that in part addresses the problem of the confidence intervals surrounding the bycatch estimates. As previously discussed, the entire 2 percent bycatch cannot be allocated solely to the Gulf of Maine sink gillnet fleet.

A specific target for year 4 will be established by the HPRT after consideration of previous targets not met in any given year or because of possible increased bycatch reductions required by the 1994 amendments to the Marine Mammal Protection Act. For example, if the 20 percent target is missed in any of the first three years, the fourth year allows the flexibility to add that portion of the target reductions not achieved in any of the first three years to be deferred until the next year or until year four of the program. The year-4 target, however, cannot exceed 20 percent of the total reduction required over the entire 4-year period.

Comments and Responses

The Council held the first of two meetings required under the Amendment 5 framework adjustment process on February 17, 1994. Two public hearings were subsequently held on March 9, 1994, in Portsmouth, NH, and on March 10, 1994, in Ellsworth, ME. The Council approved the closures for the Northeast and Mid-coast areas at the second Council meeting held on March 17, 1994. On April 6, 1994, the Council adopted boundaries and a 30-day closure period for the Massachusetts Bay area.

In addition to the meetings held within the formal framework period, the public was notified of all Marine Mammal Committee meetings held between September 1993 and March 1994, for the purpose of developing the time and area closure plan. For scoping purposes, the issue also was included in the Amendment 5 public hearing document and was reviewed at a series of coastwide meetings held in the spring of 1993.

Comments on the Council's proposal were received from Maine Congressional Rep. Olympia J. Snowe and the following organizations: Cape Ann Gillnetter's Association, Beverly, MA; Coonamessett Farm, Falmouth, MA; International

Hampshire Commercial Fishermen's Association, Rye, NH.

Comment: Numbers of fishermen had serious concerns about the quality of the data used to determine time and area closures.

Response: Measures contained in Framework Adjustment #4 are based on the best scientific information available. NMFS has conducted two population surveys of harbor porpoise abundance in the Gulf of Maine/Bay of Fundy region. Additionally, bycatch estimates have been calculated from observed gillnet trips, based on sea sampling data collected since 1989. Since June 1991, observers have made trips on roughly 9 percent of the Gulf of Maine gillnet trips. All available information on the biology, seasonal distribution, abundance and bycatch was reviewed at two international workshops convened by the NEFSC in Woods Hole, MA in May 1992 and February 1994.

Comment: Several commenters expressed concern over the harbor porpoise abundance estimates for the Gulf of Maine/Bay of Fundy population and the disparity between the point estimates for 1991 and 1992. They urged the Council to ask NMFS to conduct ongoing surveys in order to better refine the data.

Response: Again, the estimates are based on the best scientific information available. NMFS abundance estimates for 1991 and 1992 are 37,500 (% coefficient of variation (CV)=28.8, 95% confidence interval (CI)=26,700 to 86,400) and 67,500 (%CV=23.1, 95% CI=32,900 to 104,600), respectively. The reason for the nearly twofold, but statistically insignificant, increase between 1991 and 1992 is unknown. Although the increase is statistically insignificant, it may reflect a real change in abundance due to a distribution change or methodological sampling error. Methods to investigate this difference were recommended at the February 23-25 NEFSC workshop to evaluate the status of harbor porpoise in the western North Atlantic. An abundance survey has been recommended for 1995.

Comment: A suggestion was made to divide the Northeast closure area in half, longitudinally, or simply to make the entire area smaller.

Response: The Northeast area proposed for closure from August 15 through September 13 already represents a compromise forged between fishermen and the Council. But concerns still exist that animals will move into adjacent areas where vessels may concentrate and increase the likelihood of takes, rather than reduce that possibility. Also, NMFS survey data

indicate that harbor porpoise usually frequent the same general areas of the Gulf of Maine, but not always at the same time every year. Because of this variability, shorter closures in smaller areas could result in little or no reduction in bycatch, if animals are not present during the closure period. This would result in lost fishing time with no benefit.

Comment: Commenters expressed concern about Northeast time and area closures that would eliminate fishing in the Schoodic Ridge area, a region vital to the "downtown" fishermen.

Response: The Council's final decision took into account the fact that the time and area plan would be phased in over 4 years. During the first year of implementation, the Schoodic Ridge fishing grounds will be left open. Further changes to the area will be based on the harbor porpoise bycatch estimates derived from sea sampling program and other relevant data submitted to the Council.

Comment: Commenters from Maine questioned why Jeffreys Ledge, an area located off the coasts of Massachusetts and New Hampshire that accounts for a relatively high level of bycatch, was being left open in the first year of the plan.

Response: The Council's Mid-coast closure area incorporates an area known as Jeffreys Basin, but excludes Jeffreys Ledge. In past years, the basin area has represented a higher level of bycatch than Jeffreys Ledge. Concerns focus on whether the displacement of more fishing effort onto Jeffreys Ledge might account for a kill rate as high as or potentially higher than, in previous years. As with the Northeast area, however, the Council considered the boundaries adequate for year one of implementation of Framework Adjustment #4. Bycatch of harbor porpoise will be monitored and the need to adjust the boundaries can be accomplished under the framework system.

Comment: One individual asked for an exemption for small-boat operators who fish inshore only, and who are responsible for little or no harbor porpoise bycatch. Otherwise, they would effectively be excluded from the fishery as of the November 1-30 Mid-coast closure because they are too small to fish in offshore conditions. Another commenter suggested that these vessels fish under the 500-pound (226.8 kg) possession limit for regulated species of groundfish.

Response: Harbor porpoise throughout the Gulf of Maine are distributed both inshore and offshore and become entangled in gillnets,

regardless of vessel size. Additionally, all sink gillnet vessels fishing under a Federal multispecies permit, regardless of where they are fishing, are subject to the porpoise bycatch reduction measures.

Comment: Gillnet gear should be given credit, one commenter said, for being size-selective and for resulting in discards of juvenile finfish.

Response: Once the time and area program has been in place (approximately 1 year from the date of implementation), the Council will evaluate the impact of the gillnet fishery on the mortality of groundfish stocks and develop management measures that are appropriate for the gillnet sector.

Comment: Some commenters felt the harbor porpoise bycatch reduction program was a mechanism being used by other interests to close the sink gillnet fishery.

Response: The Council's measures are designed to minimize impacts on the sink gillnet fishery, while at the same time achieve the stated harbor porpoise bycatch reduction objectives. The Council has held 18 public meetings since its initial commitment to incorporate bycatch measures in Amendment 5 and has involved the fishing community, conservation groups and interested parties in the development of the FMP.

Comment: Several commenters felt it was inappropriate to use the harbor porpoise time and area closure plan to protect endangered whales.

Response: As part of the Council's obligations under section 7 of the ESA, a consultation with NMFS is required if a fishery affects, either directly or indirectly, endangered or threatened species or any designated critical habitat. Because this framework adjustment represents a change in management measures for a gear type that has interactions with endangered species, the Council re-initiated the section 7 consultation developed for Amendment 5, identified potential interactions and has addressed them in the context of this framework adjustment.

Comment: Many fishermen supported the use of "pingers," sound emitting devices that increase an animal's awareness of nets, as a bycatch mitigation measure. A suggestion was made to use pingers in year 1 of implementation of Amendment 5 in conjunction with four-day blocks of time, but with no subsequent expansion of the days during which nets would be removed from the water in future years.

Response: The 4-day blocks of time during which all gillnets would be removed from the water each month

throughout the range of species covered by the Northeast Multispecies FMP was almost universally rejected by commenters who attended public meetings and by those who submitted written comments. The Council and NMFS are aware that initiatives are underway which involve acoustical alarm research and possible modifications to gillnet gear to reduce porpoise bycatch. If any of these approaches produce scientifically supportable results that can be incorporated into a management strategy, the Council would recommend them through a framework adjustment with a minimum of regulatory delay.

Comment: Several commenters questioned why the Council rejected the use of an industry proposal based on a reduction in the number of gillnets in use.

Response: At this time, it is not possible to determine the relationship between the number of nets and fishing or harbor porpoise mortality. It is known only that there is a relationship that is not linear. Even a simple estimation of the number of nets in use is impossible, at present, because of the variability of length of nets, numbers of nets in a string, soak time and the variable numbers of both full- and part-time vessels participating in the fishery. Moreover, enforcement of a reduction in the number of nets in the ocean, as opposed to a time and area prohibition, would be very difficult, if not impossible, to accomplish at this time.

Classification

This regulation is not subject to the requirements to prepare a proposed rule under the conditions met by this framework action that have provided adequate prior public comment when the action was proposed and discussed over the course of several Council meetings. Therefore, a regulatory flexibility analysis was not prepared for this action because it is exempt from such an analysis under the Regulatory Flexibility Act.

This final rule has been determined to be not significant for purposes of E.O. 12866.

The Assistant Administrator for Fisheries, NOAA (AA) finds there is good cause to waive prior notice under 5 U.S.C. 553(b) of the Administrative Procedure Act (APA). Public meetings held by the Council to discuss the management measures implemented by this rule provided adequate opportunity for public comment to be considered. Thus, additional opportunity for public comment is unnecessary.

The AA also finds that under section 553(d)(1) of the APA, because immediate implementation of this rule relieves a restriction that would require 4 days out of the water by all vessels using sink gillnet gear in May and June, there is no need to delay for 30 days the effectiveness of this regulation.

List of Subjects in 50 CFR Part 651

Fisheries, Fishing, Reporting and recordkeeping requirements.

Dated: May 20, 1994.

Charles Karnella,
Acting Program Management Officer,
National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 651 is amended as follows:

PART 651—NORTHEAST MULTISPECIES FISHERY

1. The authority citation for part 651 continues to read as follows:

Authority: 16 U.S.C. 1601 *et seq.*

2. Section 651.2 is amended by removing the definition of "bottom-tending gillnet or sink gillnet" and adding a definition of "sink gillnet" in alphabetical order to read as follows:

§ 651.2 Definitions.

Sink gillnet means any gillnet, anchored or otherwise, that is designed to be, capable of being, or is fished on or near the bottom in the lower third of the water column.

3. Section 651.9 is amended by revising paragraphs (a)(13) and (e)(31) to read as follows:

§ 651.9 Prohibitions.

(a) * * *

(13) Fish with, set, haul back, possess on board a vessel, or fail to remove a sink gillnet from the areas and for the times specified in § 651.32(a), unless authorized in writing by the Regional Director.

* * *

(e) * * *

(31) Fish with, set, haul back, possess on board a vessel, or fail to remove a sink gillnet from the EEZ portion of the areas, and for the times specified in § 651.32(a), unless authorized in writing by the Regional Director.

4. Section 651.32 is amended by revising paragraphs (a) and (b) (1) and (2) to read as follows:

§ 651.32 Sink gillnet requirements to reduce harbor porpoise takes.

(a) *General.* In addition to the measures specified in §§ 651.20 and 651.21, persons owning or operating vessels using, possessing on board a vessel, or fishing with, sink gillnet gear are subject to the following restrictions, unless otherwise authorized in writing by the Regional Director:

(1) *Areas closed to sink gillnets.* All persons owning or operating vessels must remove all of their sink gillnet gear from, and may not use, set, haul back fish with, or possess on board a vessel a sink gillnet in, the EEZ portion of the areas and for the times specified in paragraphs (a)(1) (i) through (iii) of this section; and, all persons owning or operating vessels issued a Federal Multispecies Limited Access Permit must remove all of their sink gillnet gear from, and, may not use, set, haul back fish with or possess on board a vessel a sink gillnet in, the entire areas and for the times specified in paragraphs (a)(1) (i) through (iii) of this section.

(i) *Northeast Closure Area.* During the period August 15 through September 13 of each fishing year, the restrictions and requirements specified in the introductory text of paragraph (a)(1) of this section shall apply to an area known as the Northeast Closure Area, which is an area bounded by straight lines connecting the following points in the order stated (see Figure 4 of this part).

NORTHEAST CLOSURE AREA

Point	Latitude	Longitude
NE1	Maine shoreline	68°55.0' W.
NE2	43°29.6' N.	68°55.0' W.
NE3	44°04.4' N.	67°48.7' W.
NE4	44°06.9' N.	67°52.8' W.
NE5	44°31.2' N.	67°02.7' W.
NE6	Maine shoreline	67°02.7' W.

(ii) *Mid-coast Closure Area.* During the period November 1 through November 30 of each fishing year, the restrictions and requirements specified in the introductory text of paragraph (a)(1) of this section shall apply to an area known as the Mid-coast Closure Area, which is an area bounded by straight lines connecting the following points in the order stated (see Figure 4 of this part).

MID-COAST CLOSURE AREA

Point	Latitude	Longitude
MC1	42°45' N.	Massachusetts shoreline.
MC2	42°45' N.	70°15' W.
MC3	43°15' N.	70°15' W.
MC4	43°15' N.	69°00' W.
MC5	Maine shoreline	69°00' W.

(iii) *Massachusetts Bay Closure Area.* During the period March 1 through March 30 of each fishing year, the restrictions and requirements specified in the introductory text of paragraph (a)(1) of this section shall apply to an area known as the Massachusetts Bay Closure Area, which is an area bounded by straight lines connecting the following points in the order stated (see Figure 4 of this part).

MASSACHUSETTS BAY CLOSURE AREA

Point	Latitude	Longitude
MB1	42°30' N.	Massachusetts shoreline.
MB2	42°30' N.	70°30' W.
MB3	42°12' N.	70°30' W.
MB4	42°12' N.	70°00' W.
MB5	Massachusetts shoreline	70°00' W.

(b) * * * (1) By September 15 of each year, the Council's Harbor Porpoise Review team (HPRT) shall complete an annual review of harbor porpoise bycatch and abundance data in the Gulf of Maine sink gillnet fishery, evaluate the impacts on other measures that reduce harbor porpoise take, and may

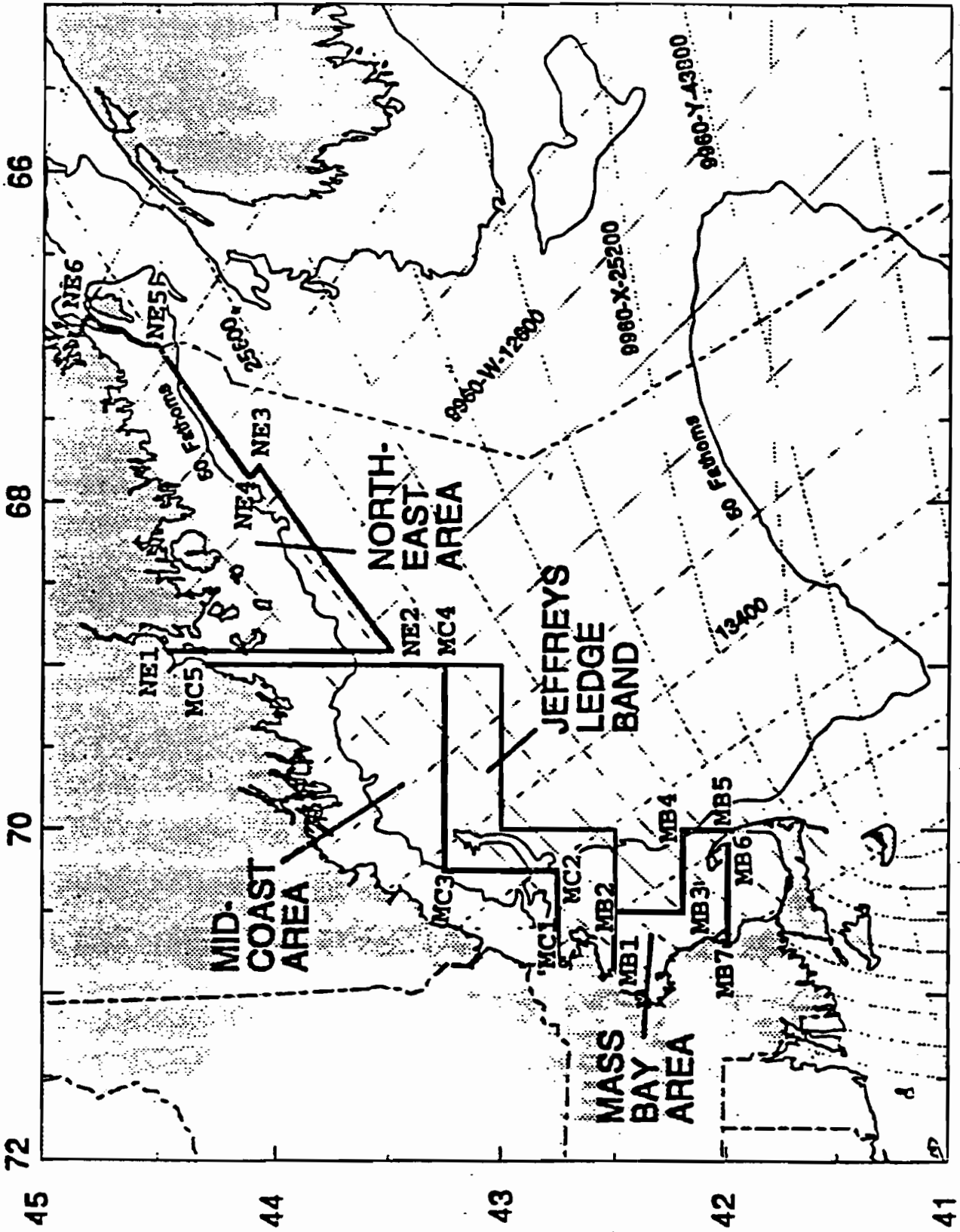
make recommendations on other "reduction-of-take" measures in light of the harbor porpoise mortality reduction goals.

(2) At the first Council meeting following the HPRT annual meeting, the team shall make recommendations to the Council as to what adjustments or

changes, if any, to the "reduction-of-take" measures should be implemented in order to meet harbor porpoise mortality reduction goals.

* * * * *
5. Figure 4 is added to the part as follows:

BILLING CODE 3510-22-P



Federal Communications Commission.
William F. Caton,
Acting Secretary.
[FR Doc. 95-26749 Filed 10-27-95; 8:45 am]
BILLING CODE 6712-01-F

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 651

[Docket No. 950124025-5255-02; LD. 100395B]

Northeast Multispecies Fishery; Framework Procedure to Protect Harbor Porpoise

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule; technical amendment.

SUMMARY: NMFS issues this final rule to correct and clarify certain sections of the regulations that implement the framework procedures for adjusting regulatory measures to protect harbor porpoise under the Northeast Multispecies Fishery Management Plan (FMP). This action is necessary to make these measures consistent with the intent of Amendment 5 to the Northeast Multispecies Fishery Management Plan submitted by the New England Fishery Management Council (Council).

EFFECTIVE DATE: October 25, 1995.

FOR FURTHER INFORMATION CONTACT: E. Martin Jaffe, Fishery Policy Analyst, 508-281-9272.

SUPPLEMENTARY INFORMATION:

Regulations implementing Amendment 5 to the FMP were published on March 1, 1994 (59 FR 9872), and corrected on February 2, 1995 (60 FR 6447). Amendment 5, among other provisions, implemented a framework adjustment procedure for the purpose of achieving harbor porpoise mortality reduction goals. The section of the regulations implementing Amendment 5, pertaining to the "reduction of take" measures in the harbor porpoise bycatch of the Gulf of Maine sink gillnet fishery, does not reflect clearly the intent of the Council with respect to the role of the Harbor Porpoise Review Team (HPRT) and the number of meetings required to conclude the procedure.

As written, § 651.32(b)(4) can be read to mean that the recommendations of the HPRT must be published in the Federal Register without analysis or refinement by the Council. This final

rule/technical amendment corrects and clarifies the regulation and relieves the HPRT of the unintended requirement to analyze and refine its own recommendations for publication in the Federal Register.

Section 651.32(b)(4) also can be read to mean that the Regional Director is required to provide the public with any necessary analysis and opportunity to comment on any recommended changes or additions by the HPRT, before the Council adopts them. This final rule/technical amendment corrects and clarifies the regulation and assigns the Council with the responsibility for providing the public with any necessary analysis and opportunity to comment on any changes recommended by the HPRT, as originally intended.

Finally, section 651.32(b)(5) seems to require a minimum of three Council meetings, instead of two, as intended, before the Council shall determine whether to recommend changes or additions to the "reduction of take" measures in the harbor porpoise bycatch of the Gulf of Maine sink gillnet fishery. This final rule clarifies that at least two meetings are required, instead of three, making it consistent with the framework adjustment provisions included elsewhere in the Northeast Multispecies FMP and other FMPs.

Classification

Because this rule only corrects and clarifies the Council's intent regarding a section of an existing regulation for which prior notice and opportunity for public comment were provided, under 5 U.S.C. 553(b)(B) it is unnecessary to provide additional notice and opportunity for comment. Further, in that this rule is merely a clarification with no substantive effect, it is not subject to the 30-day delay in effective date provision of 5 U.S.C. 553(d).

This rule is exempt from review under E.O. 12866.

List of Subjects in 50 CFR Part 651

Fisheries, Fishing, Reporting and recordkeeping requirements.

Dated: October 24, 1995.

Richard H. Schaefer,
Acting Assistant Administrator for Fisheries,
National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 651 is amended as follows:

PART 651—NORTHEAST MULTISPECIES FISHERY

1. The authority citation for part 651 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

2. In § 651.32, paragraphs (b)(4) and (b)(5) are revised to read as follows:

§ 651.32 Sink gillnet requirements to reduce harbor porpoise takes.

* * * * *

(b) * * *

(4) Upon receiving the recommendation of the HPRT of any changes or additions to the "reduction of take" measures, the Council will provide the public with any necessary analysis and opportunity to comment on any recommended changes or additions.

(5) After receiving public comment, the Council shall determine whether to recommend changes or additions to the "reduction of take" measures at a Council meeting following the meeting at which it received the HPRT's recommendations.

* * * * *

[FR Doc. 95-26758 Filed 10-25-95; 10:10 am]

BILLING CODE 3510-22-F

50 CFR Part 651

[Docket No. 951023256-5256-01; LD. 101695E]

Northeast Multispecies Fishery; Framework Adjustment 12

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: NMFS issues this final rule to implement measures contained in Framework Adjustment 12 to the Northeast Multispecies Fishery Management Plan (FMP). This rule expands and redefines the Mid-coast Closure Area for sink gillnet gear, in both area and time during 1995, to reduce the bycatch of harbor porpoise, while minimizing the loss of fishing opportunity to harvesters using sink gillnet gear.

EFFECTIVE DATE: November 1, 1995.

ADDRESSES: Copies of Amendment 5 to the Northeast Multispecies Fishery Management Plan (Amendment 5), its regulatory impact review (RIR) and the final regulatory flexibility analysis contained with the RIR, its final supplemental environmental impact statement, and Framework Adjustment 12 document are available upon request from Douglas G. Marshall, Executive Director, New England Fishery Management Council (Council), 5 Broadway, Saugus, MA 01906-1097.

FOR FURTHER INFORMATION CONTACT: E. Martin Jaffe, NMFS, Fishery Policy Analyst, 508-281-9272.

SUPPLEMENTARY INFORMATION:

Background

Regulations implementing Amendment 5 to the FMP were published on March 1, 1994 (59 FR 9872). One of Amendment 5's principal objectives is to reduce the bycatch of harbor porpoise in the Gulf of Maine sink gillnet fishery by the end of year 4 of implementation to a level not to exceed 2 percent of the population, based on the best available estimates of abundance and bycatch. In addition, Amendment 5 requires that by September 15 of each year, the Council's Harbor Porpoise Review Team (HPRT) complete an annual review of harbor porpoise bycatch and abundance data in the Gulf of Maine and evaluate the impacts of other measures that reduce harbor porpoise take. It also encouraged the HPRT to make recommendations on other "reduction-of-take" measures to achieve the harbor porpoise mortality reduction goals and established a framework procedure for timely implementation of appropriate measures.

With the enactment of Framework Adjustment 4 to the Northeast Multispecies Fishery regulations (59 FR 26972, May 25, 1994), a series of time and area closures to sink gillnet gear were implemented based on an analysis by the Northeast Fisheries Science Center (NEFSC) of the seasonal and spatial distribution of harbor porpoise and sink gillnet fishing activity in the Gulf of Maine. The time and area closures established by Framework 4 remain in place except as modified by this action.

On September 8, 1995, the HPRT met to complete its annual review and to develop recommendations concerning future measures that would allow the Council to achieve the "reduction-of-take" goals stated in Framework Adjustment 4. The HPRT also discussed the possible use of acoustic devices as part of a bycatch mitigation strategy, because independent research has shown that sound emitting devices placed on sink gillnet gear can be effective in deterring harbor porpoise.

At this meeting, the HPRT reviewed data collected since 1990 from analyses prepared by the NEFSC and compared it with 1994, the first year in which the Council implemented time/area closures. Bycatch estimates for 1994 were not available from the NEFSC, but preliminary information on bycatch rates, including rates from previous years for comparison purposes, were used in addition to information on the location of incidental takes in the southern Gulf of Maine. The HPRT

concluded that: (1) The time and area closures, as currently configured, are neither long enough nor large enough to achieve the bycatch reduction goals; (2) the first year goals were probably not met and the porpoise bycatch was very likely higher in 1994 than in 1993 based on the higher bycatch rate in 1994 as an indicator; (3) the degree of effectiveness of existing measures cannot be fully evaluated until additional information of the distribution of fishing effort is available and; (4) the potential increase in bycatch appears to have been caused by an increase in the bycatch rates in the Mid-coast area in the fall.

The recommendation of the HPRT, therefore, is to extend the timing of the Mid-coast closure as a means to achieve the bycatch rate reduction goals, and secondarily, to expand this area to include locations that have historically accounted for bycatch but were not included in the first year closures. The proposed area of expansion is directly to the east and south of the current area, incorporating an oceanographic feature described on nautical charts as "Jeffreys Ledge." The specific area is found in Figure 8 of this rule. For the purposes of this action, the area of expansion is referred to as the "Jeffreys Ledge Band."

On September 11, 1995, the HPRT forwarded its recommendations to the Council, which initiated a framework procedure to adopt certain measures in response to the HPRT's recommendations. The Council did not adopt the recommendation regarding the Mid-coast area verbatim, because the regulatory process for implementing framework measures requires an opportunity for public comment and, therefore, would not allow completion of this process until approximately November 1, 1995. Thus, the framework measures proposed by the Council during its meeting to initiate Framework 12 on September 13-14, 1995, were to expand the closure area during 1995 by incorporating the Jeffreys Ledge Band into the Mid-coast Closure Area, and to close this reconfigured area to sink gillnet gear during the period November 1 through December 31, 1995. An alternative was requested by a member of the public to exempt a small portion of the Jeffreys Ledge Band known as Tillies Bank. The Council agreed to consider this request, pending further analysis. The Council also requested the Director, Northeast Region (Regional Director), to investigate the possibilities for additional experimental work on the use of acoustic devices, particularly in the Jeffreys Ledge Band, to mitigate harbor porpoise bycatch. The Regional Director agreed to investigate the

feasibility of these devices in a separate action.

On October 11, 1995, the Council held the second public meeting during which it adopted the framework adjustment measures. NMFS concurs with the Council's recommendation; this final rule implements Framework Adjustment 12 to address harbor porpoise bycatch by expanding the size of the Mid-coast Closure Area (including the Jeffreys Ledge Band but excluding Tillies Bank) during 1995 and by extending the duration of the Mid-coast Closure for 1995 (initially November 1-30) through November and December. While the Council and NMFS are concerned about other areas that were under consideration for closure but not closed by this action, e.g., the area east of 69°30' W. long. and Tillies Bank, the Council noted that it will review these areas specifically during the next annual review.

The expanded and redefined Mid-coast Closure Area with the Jeffreys Ledge Band depicted in Figure 8 of this part incorporated into it, is defined as follows:

Revised Mid-Coast Closure Area

This area will be closed from November 1 through December 31, 1995.

Point	Latitude	Longitude
MC1	42°30' N	Massachusetts shoreline
MC2	42°30' N	70°15' W.
MC3	42°40' N	70°15' W.
MC4	42°40' N	70°00' W.
MC5	43°00' N	70°00' W.
MC6	43°00' N	69°30' W.
MC7	43°15' N	69°30' W.
MC8	43°15' N	69°00' W.
MC9	Maine shoreline.	69°00' W.

Comments and Responses

This issue was discussed at a Marine Mammal Committee meeting held on September 12, 1995, and at the first of two Council meetings, required under the Amendment 5 framework adjustment process, held in Portland, ME, on September 13, 1995. Documents summarizing the Council's proposed action, the biological analyses upon which this decision was based and potential economic impacts were available for public review at least 5 days prior to the second meeting as required under the framework adjustment process, which was held on October 11, 1995. Written comments were accepted until October 10, 1995. Comments on the Council's proposal were received from several individuals

and from representatives of the following organizations: International Wildlife Coalition (IWC) and Humane Society of the United States/Marine Mammal Conservation Coalition (MMCC).

Comment: Several individuals did not comment in opposition to the closure, but rather in support of keeping Tillies Bank open to gillnetting.

Response: Tillies Bank has been excluded from the area incorporated into the closure because available data indicates that the harbor porpoise bycatch rate in this area appears to be substantially lower than elsewhere in the Jeffreys Ledge Band.

Comment: The representative from IWC asked whether opening Tillies Bank and the area east of 69°30' W. would hurt the chances for meeting the stated porpoise bycatch goals for 1995.

Response: NMFS is aware that the closed area may have the effect of displacing effort to the area east of 69°30' W. and to Tillies Bank and will monitor these areas to the extent possible with the observer and at-sea enforcement programs. NMFS did not have sufficient justification to disapprove the Council's recommendation to leave these areas open and further notes that no harbor porpoise bycatch has been observed in these areas during the regular monitoring period from 1990-1994.

Comment: Several commentors indicated concern that leaving open Tillies Bank and the area east of 69°30' W. long. would not provide an alternative fishing area for all gillnetters displaced due to the extended closure. Their comments are summarized as follows: The area east of 69°30' W. long. is not good gillnet bottom and is already fully utilized; Tillies Bank may sustain some additional effort, but it would be restricted to larger vessels from New Hampshire; mobile gear would move into the closed area and provide such disruption that the porpoise would be displaced into the open areas where gillnets would still be operating; and increasing conflict with mobile gear has forced gillnetters to concentrate their gear in the high relief areas (such as Jeffreys Ledge), which are not readily found outside the closed area.

Response: NMFS recognizes that both the harbor porpoise fall distribution and changes in fishing strategies due to the closed area will be highly variable. These complicated variabilities make it difficult to predict the effects of this closure to either harbor porpoise bycatch or the fishery that is displaced by this action. The extension of the closure in both area and time is based on the best available information on

observed harbor porpoise bycatch over the past 4 years. The analyses of economic effects of the extended closure is also based on the historic use of the areas. NMFS assessed such impacts to the extent possible in the Framework document. Effects of the closure, including any resulting displacement of fishing effort and of harbor porpoise, will be investigated by ongoing observer effort and reported to the Council for further consideration.

Comment: A commentor pointed out that while some gillnetters do switch to hook gear, they do not switch to otter trawls or shrimp trawls as stated in the Framework Adjustment 12 document.

Response: While some, mostly larger vessels are capable of switching to different alternative fishing gears, NMFS agrees that most gillnet vessels would only be capable of switching to hook gear.

Comment: A commentor asked whether NMFS could keep the option to incorporate a trigger mechanism into the closure, which would allow the area to remain open until it could be determined that harbor porpoise have moved into the area. He added that an analysis of the use of a trigger mechanism for porpoise closures was to be provided to the Council by November 30.

Response: No trigger mechanisms can be developed in time for the 1995 closure. The analysis of trigger mechanisms will be made available to the Council for its consideration in devising measures to reduce harbor porpoise bycatch in the future.

Comment: A commentor noted that the closure was for 1995 and asked about 1996 and beyond.

Response: The Council will be discussing new closure measures combined with phased-in pinger use in subsequent years, as discussed by the HPRT. If no new action is forthcoming, the Council has indicated its intent that the closure measures of Framework Adjustment 4 be the default.

Experimental Fishery

The Regional Director is considering an experimental fishery in the "Jeffreys Ledge Band." This experimental fishery would gather information pertaining to the use of acoustic devices called "pingers" in a commercial fishery, including insights on pinger usage, durability and failure rate under commercial fisheries conditions, and additional data on pinger effectiveness in mitigating bycatch. The following comments were received on issues related to this experiment:

Comment: The representative from IWC asked why an operational "pinger"

pilot study was planned for a high bycatch area when it could be delayed for testing in a lower bycatch time/area. The representative from MMCC requested that the planned study be conducted in a lower bycatch time/area.

Response: While Framework Adjustment 12 does not implement an operational "pinger" study, the Council recommended further study of deterrent devices, specifically in the Jeffreys Ledge Band. Some Council members thought, and NMFS agrees, that if approved, the experiment should occur in an area where fishing activity and harbor porpoise concentrations occur concurrently in order to be effective. NMFS believes, based on an analysis of available information, that this experiment would not preclude attainment of the harbor porpoise mortality reduction goals specified in Amendment 5 (Framework Adjustment 4).

Comment: The representative from MMCC asked how NMFS will coordinate reporting requirements if a new 48 hour Marine Mammal Reporting Form, which is being developed for reporting mortalities under the Marine Mammal Protection Act (MMPA), is implemented.

Response: Fishers are already required to submit Fishing Vessel Trip Report forms. If the new MMPA forms become effective during the experimental fishery, if implemented, they will have to be submitted under the time frames stipulated by that statute.

Comment: A commentor stated that the small day trip vessels operating out of Portsmouth, NH, who participated in the 1994 pinger experiment, would be unable to fish outside the extended closure area.

Response: An experimental fishery is presently under consideration that would permit such vessels meeting the requirements of the experimental design to participate. If approved, NMFS recognizes, however, that some vessels may not be able to participate due to the location of the experimental fishery area and pinger availability.

Adherence to Framework Procedure Requirements

The Council considered the public comments prior to making its recommendation to the Regional Director under the framework provisions for the FMP. The Council requests publication of these management measures as a final rule after considering the required factors stipulated under the framework measures in the Northeast Multispecies FMP, 50 CFR 651.40, and has provided supporting analyses for each factor

considered. NMFS determined that the framework adjustment to the FMP that this rule would implement is consistent with the national standards, other provisions of the Magnuson Conservation and Management Act, and other applicable law. NMFS, in making that determination, has taken into account the information, views, and comments received during the comment period of the FMP's framework adjustment mechanism in 50 CFR 651.40.

Classification

This final rule has been determined to be not significant for purposes of E.O. 12866.

The Assistant Administrator for Fisheries, NOAA (AA) finds there is good cause to waive prior notice and an opportunity for public comment under 5 U.S.C. 553(b)(B). Public meetings held by the Council to discuss the management measures implemented by this rule provided adequate prior notice and an opportunity for public comment to be heard and considered; further comment is unnecessary. The AA finds that under 5 U.S.C. 553(d)(3) the need to have this regulation in place by November 1, 1995, to avoid delay that would likely impede the achievement of harbor porpoise mortality reduction goals constitutes good cause to waive the 30-day delay in effectiveness of this regulation.

In that this regulation is not subject to the requirements to prepare a proposed rule under 5 U.S.C. 553 or any other law, this rule is exempt from the requirement to prepare an initial or final regulatory flexibility analysis under the Regulatory Flexibility Act. As such, none has been prepared.

List of Subjects in 50 CFR Part 651

Fisheries, Fishing, Reporting and recordkeeping requirements.

Dated: October 24, 1995.
Richard H. Schaefer,
*Acting Assistant Administrator for Fisheries,
National Marine Fisheries Service.*

For the reasons set out in the preamble, 50 CFR part 651 is amended as follows:

PART 651—NORTHEAST MULTISPECIES FISHERY

1. The authority citation for part 651 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

2. In § 651.32 paragraph (a)(1)(ii) is revised to read as follows:

§ 651.32 Sink gillnet requirements to reduce harbor porpoise takes.

(a) * * *

(1) * * *

(ii) *Mid-coast Closure Area. (A)* During the period November 1 through December 31 of each fishing year, except as specified in paragraph (B) of this section, the restrictions and requirements specified in the introductory text of paragraph (a) of this section shall apply to an area known as the Mid-coast Closure Area, which is an area bounded by straight lines connecting the following points in the order stated (see Figure 4 of this part).

MID-COAST CLOSURE AREA		
Point	Latitude	Longitude
MC1	42°45' N	Massachusetts shoreline.
MC2	42°45' N	70°15' W.
MC3	43°15' N	70°15' W.

MID-COAST CLOSURE AREA—Continued

Point	Latitude	Longitude
MC4	43°15' N	69°00' W.
MC5	Maine shoreline.	69°00' W.

(B) Notwithstanding any other provisions in this part, during the period November 1 through December 31, 1995, the restrictions and requirements specified in the introductory text of paragraph (a) of this section shall apply to an area known as the Revised Mid-Coast Closure Area, which is an area bounded by straight lines connecting the following points in the order stated (see Figure 8 of this part).

REVISED MID-COAST CLOSURE AREA

Point	Latitude	Longitude
MC1	42°30' N	Massachusetts shoreline.
MC2	42°30' N	70°15' W.
MC3	42°40' N	70°15' W.
MC4	42°40' N	70°00' W.
MC5	43°00' N	70°00' W.
MC6	43°00' N	69°30' W.
MC7	43°15' N	69°30' W.
MC8	43°15' N	69°00' W.
MC9	Maine shoreline.	69°00' W.

* * * * *

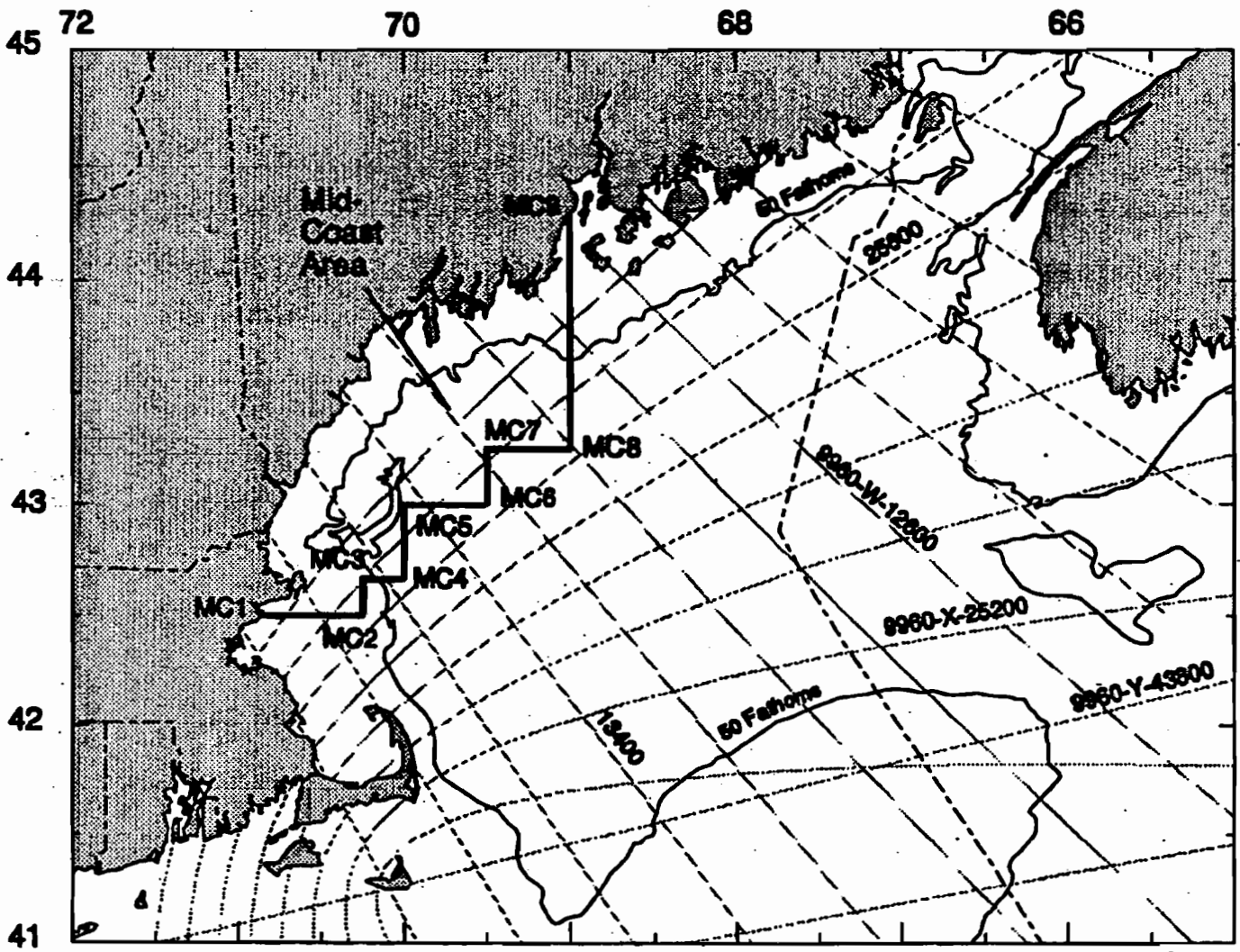
3. The heading to Figure 4 to part 651 is revised to read as follows: "Figure 4 to part 651—Closure Areas for Protection of Harbor Porpoise".

PART 651—[AMENDED]

4. Figure 8 to part 651 is added to read as follows:

BILLING CODE 3510-22-W

Figure 8 to Part 651—Revised Mid-Coast Closure Area for Protection of Harbor Porpoise



[FR Doc. 95-26759 Filed 10-25-95; 10:11 am]

BILLING CODE 3510-22-C

Fisheries, NOAA, finds there is good cause to waive prior and an opportunity for public comment notice under 5 U.S.C. 553(b)(B) as such notice and public procedure thereon are unnecessary.

The AA finds that under 5 U.S.C. 553(d) the need to protect the resource by having the regulation in place by March 1, 1996, when the current temporary crew-size limit expires, constitutes good cause to waive the 30-day delay in effectiveness of this rule. Delay in effecting this crew-size limit would significantly increase the danger to the new incoming year class of sea scallops during early spring.

List of Subjects in 50 CFR Part 650

Fisheries, Reporting and recordkeeping requirements.

Dated: February 28, 1996.

Gary Matlock,

Program Management Officer, National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 650 is amended as follows:

PART 650—ATLANTIC SEA SCALLOP FISHERY

1. The authority citation for part 650 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

2. In § 650.21, paragraph (c) is revised to read as follows:

§ 650.21 Gear and crew restrictions.

* * * * *

(c) *Crew restrictions.* Limited access vessels participating in or subject to the scallop DAS allocation program may have no more than seven people aboard, including the operator, when not docked or moored in port, unless participating in the small dredge program specified in paragraph (e) of this section, or otherwise authorized by the Director, Alaska Region, NMFS.

* * * * *

[FR Doc. 96-5017 Filed 2-29-96; 4:00 pm] BILLING CODE 3510-22-F

50 CFR Part 651

[Docket No. 960226048-6048-01; LD. 020996A]

RIN 0648-A179

Northeast Multispecies Fishery

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: NMFS issues this final rule to implement measures contained in Framework Adjustment 14 to Amendment 5 of the Northeast Multispecies Fishery Management Plan (FMP). This rule implements a spring closure for gillnet gear in the Revised Mid-coast Closure Area and establishes a new Cape Cod South Closure Area off Southern New England. The intent of this rule is to further reduce harbor porpoise mortality in the Gulf of Maine sink gillnet fishery to meet the New England Fishery Management Council's (Council) bycatch reduction goals.

EFFECTIVE DATES: The addition of § 651.32(a)(1)(iv) and Figure 9 is effective March 8, 1996. The amendment to § 651.32(a)(1)(ii)(B) is effective March 25, 1996.

ADDRESSES: Copies of Amendment 5, its regulatory impact review (RIR) and the final regulatory flexibility analysis (FRFA) contained with the RIR, its final supplemental environmental impact statement (FSEIS), and Framework Adjustment 14 are available upon request from Douglas G. Marshall, Executive Director, New England Fishery Management Council, 5 Broadway, Saugus, MA 01906-1097.

FOR FURTHER INFORMATION CONTACT: E. Martin Jaffe, 508-281-9272.

SUPPLEMENTARY INFORMATION:

Background

Regulations implementing Amendment 5 to the FMP were published on March 1, 1994 (59 FR 9872). One of Amendment 5's principal objectives was to reduce the bycatch of harbor porpoise in the Gulf of Maine sink gillnet fishery by the end of Year 4 of plan implementation to a level not to exceed 2 percent of the population, based on the best available estimates of abundance and bycatch. In addition, Amendment 5 established a requirement that by September 15 of each year, the Council's Harbor Porpoise Review Team (HPRT) complete an annual review of harbor porpoise bycatch and abundance data in the Gulf of Maine and evaluate the impacts of other measures that reduce harbor porpoise take. It also encouraged the HPRT to make recommendations on other "reduction-of-take" measures to achieve the harbor porpoise mortality reduction goals and established a framework procedure for timely implementation of appropriate measures.

With the issuance of implementing regulations for Framework Adjustment 4 to Amendment 5 of the Northeast Multispecies Fishery Management Plan (59 FR 26972, May 25, 1994), a series of time and area closures to sink gillnet

gear were implemented based on an analysis by the Northeast Fisheries Science Center (NEFSC) of the seasonal and spatial distribution of harbor porpoise and sink gillnet fishing activity in the Gulf of Maine.

This action is necessary in order to make further progress toward the Council's bycatch reduction goals for Year 2 (1995-96) of the Program. The target adopted by the Council was a 40 percent reduction in the bycatch or approximately 780 animals. Due in part to the increased bycatch rates in the Mid-coast region, incidental take of harbor porpoise for that year may still exceed 1,500 animals. This information and the fact that porpoise takes had also been well documented in late March, April and May of 1995 in the Revised Mid-coast Closure Area creates a situation in which total bycatch for the 1994-95 season had likely exceeded target levels. Prior to the proposed framework adjustment, there have been no closures implemented to reduce entanglement as animals move northward into the northern Gulf of Maine and the Bay of Fundy in the spring.

This final rule implements a spring closure from March 25 through April 25 in the Revised Mid-coast Closure Area (see Figure 8), establishes an additional closure area—the Cape Cod South Closure Area—south of Massachusetts and Rhode Island (Figure 9), and implements the closure of that area from March 8 through March 30 in 1996 and from March 1 through March 30 in subsequent years. These closure areas will be monitored to determine whether displaced gillnet activity, if it occurs, results in increased porpoise takes.

Revised Mid-coast Closure Area—Figure 8

This area is closed from March 25 through April 25 for each fishing year.

Point	Latitude	Longitude
MC1	42°30' N	Massachusetts shoreline.
MC2	42°30' N.	70°15' W.
MC3	42°40' N.	70°15' W.
MC4	42°40' N.	70°00' W.
MC5	43°00' N.	70°00' W.
MC6	43°00' N.	69°30' W.
MC7	43°15' N.	69°30' W.
MC8	43°15' N.	69°00' W.
MC9	Maine shoreline	69°00' W.

Cape Cod South Closure Area—Figure 9

This area is closed from March 1 through March 30 of each fishing year, except in 1996 when the area is closed from March 8 through March 30.

Point	Latitude	Longitude
CCS1	RI shoreline	71°45' W.
CCS2	40°40' N.	71°45' W.
CCS3	40°40' N.	70°30' W.
CCS4	MA shoreline	70°30' W.

Comments and Responses

The Council has considered information, views and comments made at a meeting of its Marine Mammal Committee (MMC) held in Saugus, MA on November 28, 1995; at an informal meeting between Council staff and southern New England gillnet fishermen in Tiverton, RI on December 7, 1995; and at a full Council meeting (the first meeting for initiating the framework action) held in Danvers, MA on December 13, 1995. Documents summarizing the Council's proposed action, the biological analyses upon which this decision was based and potential economic impacts were available for public review 5 days prior to the second meeting required under the framework adjustment process. Written comments were accepted up to and at the January 25, 1996, Council meeting in Danvers, MA, at which time the decision to finalize this framework adjustment was made. Several individuals commented on the Council's proposal.

Comment 1: A gillnet representative requested that the Massachusetts Bay Closure Area continue to be effective from March 1 through March 30.

Response: The MMC proposed no change to that closure area. The Council and NMFS agree and the Massachusetts Bay Closure will remain as is, i.e., closed from March 1 through March 30.

Comment 2: A gillnet fisherman from Rhode Island asked that the Cape Cod South Closure Area period be from the last 2 weeks in February through the first 2 weeks in March.

Response: The analysis prepared by the NEFSC indicates that the harbor porpoise takes for that area are highest in March. There have been no takes observed in February.

Comment 3: A member of the HPRT recommended that the spring Mid-coast area closure be longer than just April.

Response: The MMC recommended, and the Council and NMFS agree, that effecting the Revised Mid-coast Closure Area from March 25 through April 25 will provide the maximum harbor porpoise bycatch reduction while minimizing the loss of fishing opportunity to harvesters using gillnet gear, as determined by the NEFSC analysis. The Council may seek to adjust this closure period at some future date.

Comment 4: A member of the HPRT recommended that the spring closure in

Massachusetts Bay be extended from February 1 through March 30. The commenter also noted that it may be necessary to extend the closures in the Mid-coast and Cape Cod South Closure Areas once additional data are available.

Response: The Council considered several changes to the Massachusetts Bay area closure times and determined that it had no basis for making a change. All area closures and experimental fisheries will be evaluated annually by the HPRT and recommendations for adjustments will be made as necessary.

Comment 5: A member of the HPRT commented that the Council action represented the best that could be done until more data become available to gauge the effectiveness of previous closures.

Response: The Council will consider modifying its harbor porpoise bycatch reduction goal to match the MMPA goal established under the 1994 amendments.

The Council also received several comments pertaining to an experimental fishery using small acoustic devices called pingers to deter harbor porpoise bycatch in the sink gillnet fishery. The Council forwarded these comments to the Regional Director requesting that such an experimental fishery be established in the closure areas during the closure periods. The Regional Director is considering such fisheries, which may mitigate negative economic impacts of the closures for some fishermen. The Council considered the public comments pertaining to this framework adjustment prior to making its recommendation to the Regional Director under the framework provisions for the FMP.

Adherence to Framework Procedure Requirements

Data were not available for a proposed rule, and the need for regulations to be in place for an entire fishing season is not an issue for this particular action. The public was provided adequate opportunity to express opinions at several meetings. These opportunities were provided at the Council's MMC held in Saugus, MA, on November 28, 1995; at an informal meeting between Council staff and southern New England gillnet fishermen in Tiverton, RI, on December 7, 1995; and at two full Council meetings held in Danvers, MA, on December 13, 1995, and January 25, 1996. There is an immediate need to provide more protection for the harbor porpoise beyond the existing management measures. There will be further evaluation of these management measures based on landings data, enforcement activity, and an expected

experimental fishery. NMFS has determined that the framework adjustment to the FMP that this rule would implement is consistent with the national standards, other provisions of the Magnuson Conservation and Management Act, and other applicable law. NMFS, in making that determination, has taken into account the information, views, and comments received during the comment period of the FMP's framework adjustment mechanism in 50 CFR 651.40.

Classification

In that this regulation is not subject to the requirement to publish a general notice of proposed rulemaking under 5 U.S.C. 553 or any other law, this rule is exempt from the requirement to prepare an initial or final regulatory flexibility analysis under the Regulatory Flexibility Act. As such, none has been prepared.

This final rule has been determined to be not significant for purposes of E.O. 12866.

The Assistant Administrator for Fisheries, NOAA (AA) finds there is good cause to waive prior notice and an opportunity for public comment under 5 U.S.C. 553(b)(B) as such notice and public procedure thereon are unnecessary. Public meetings held by the Council to discuss the management measures implemented by this rule provided adequate prior notice and an opportunity for public comment to be heard and considered. The AA finds that under 5 U.S.C. 553(d), the need to have the closure of the Revised Mid-coast Closure Area effective March 25 and the closure of the Cape Cod South Closure Area effective as soon as possible after March 1 while at the same time providing fishermen adequate notice to comply, to avoid delay that would likely impede the achievement of harbor porpoise mortality reduction goals, constitutes good cause to waive a portion of the 30-day delay in effectiveness of this regulation. Accordingly, the closure of the Revised Mid-coast Closure Area is effective March 25, 1996, and the closure of the Cape Cod South Closure Area is effective March 8, 1996.

List of Subjects in 50 CFR Part 651

Fisheries, Fishing, Reporting and recordkeeping requirements.

Dated: February 28, 1996.

Gary Matlock,
Program Management Officer, National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 651 is amended as follows:

PART 651—NORTHEAST MULTISPECIES FISHERY

1. The authority citation for part 651 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

2. In §651.32 the first sentence of paragraph (a)(1)(ii)(B) is revised and paragraph (a)(1)(iv) is added to read as follows:

§ 651.32 Sink gillnet requirements to reduce harbor porpoise takes.

- (a) * * *
- (1) * * *
- (ii) * * *

(B) Notwithstanding any other provisions in this part, from March 25

through April 25 of each fishing year the restrictions and requirements specified in the introductory text of paragraph (a) of this section apply to an area known as the Revised Mid-coast Closure Area, which is an area bounded by straight lines connecting the following points in the order stated (see Figure 8 of this part). * * *

(iv) *Cape Cod South Closure Area.* From March 6 through March 30 of fishing year 1996 and from March 1 through March 30 of subsequent fishing years, the restrictions and requirements specified in the introductory text of paragraph (a) of this section apply to an area known as the Cape Cod South

Closure Area, which is an area bounded by straight lines connecting the following points in the order stated (see Figure 9 of this part).

CAPE COD SOUTH CLOSURE AREA

Point	Latitude	Longitude
CCS1	RI shoreline	71°45' W.
CCS2	40°40' N	71°45' W.
CCS3	40°40' N	70°30' W.
CCS4	MA shoreline	70°30' W.

* * * * *

3. Figure 9 is added to part 651 to read as follows:

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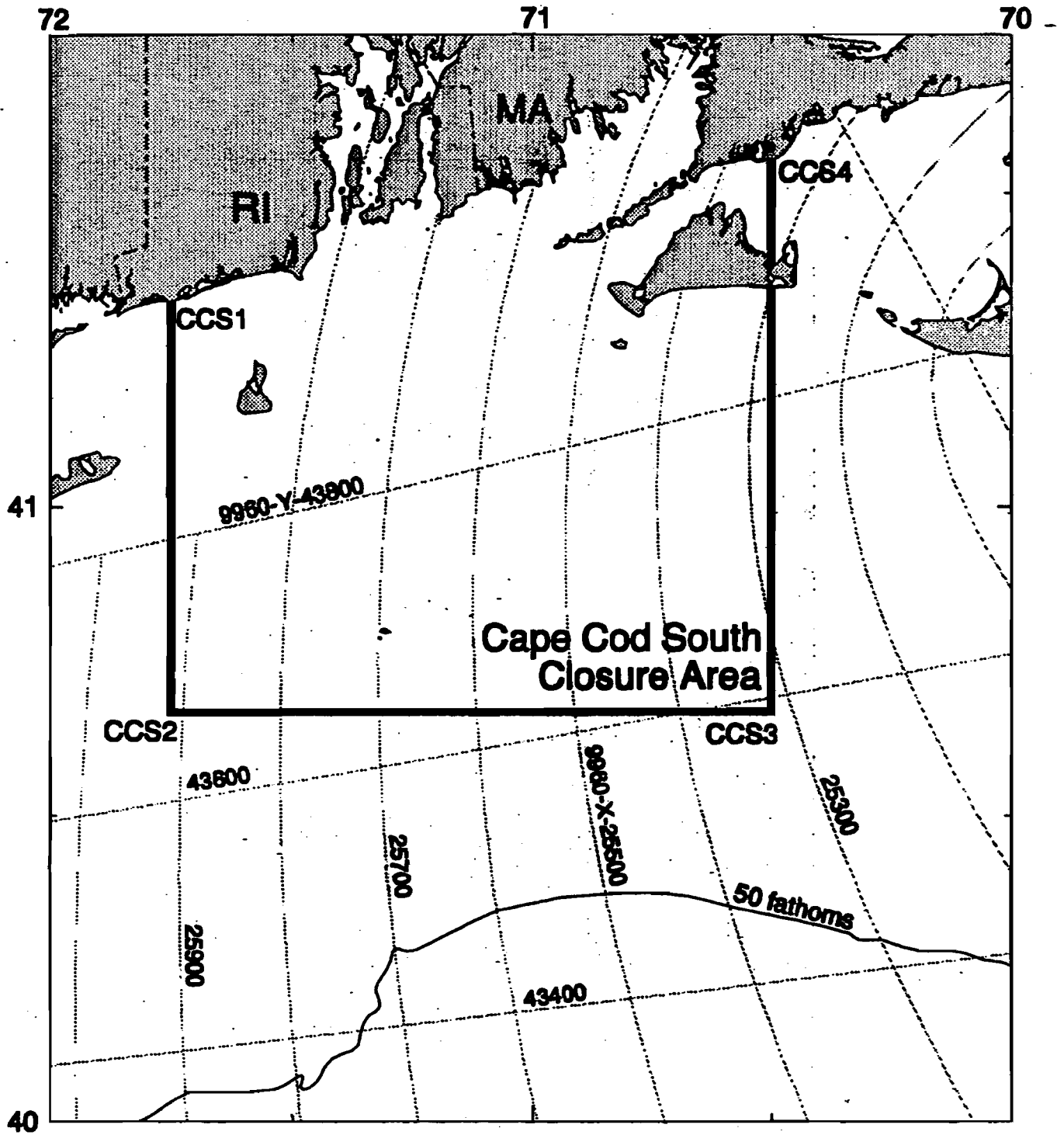


Figure 9 to Part 651—Cape Cod South Closure Area for the Protection of Harbor Porpoise

**Experimental Fishery
Operational Pinger Feasibility
Z-Band Area of the Mid-Coast Closure
November-December 1995**

**David Potter
Protected Species Branch
National Marine Fisheries Service
Woods Hole Laboratory
Woods Hole, MA
02543**

INTRODUCTION

In November of 1995 the Regional Administrator (RA) of the National Marine Fisheries Service opened an Experimental Fishery to be conducted in the Z-Band of the Mid-Coast closed area (see Fig. 1) for a 60 day period. This Experimental Fishery was a pilot study or a feasibility study for the commercial use of pingers in the sink gillnet fishery. The purpose of the exercise was to determine if pingers, when used in a commercial operation, could continue to demonstrate the by-catch reduction effects demonstrated by the 1994 Pinger Experiment performed by Kraus and Read (1995) on Jeffreys Ledge.

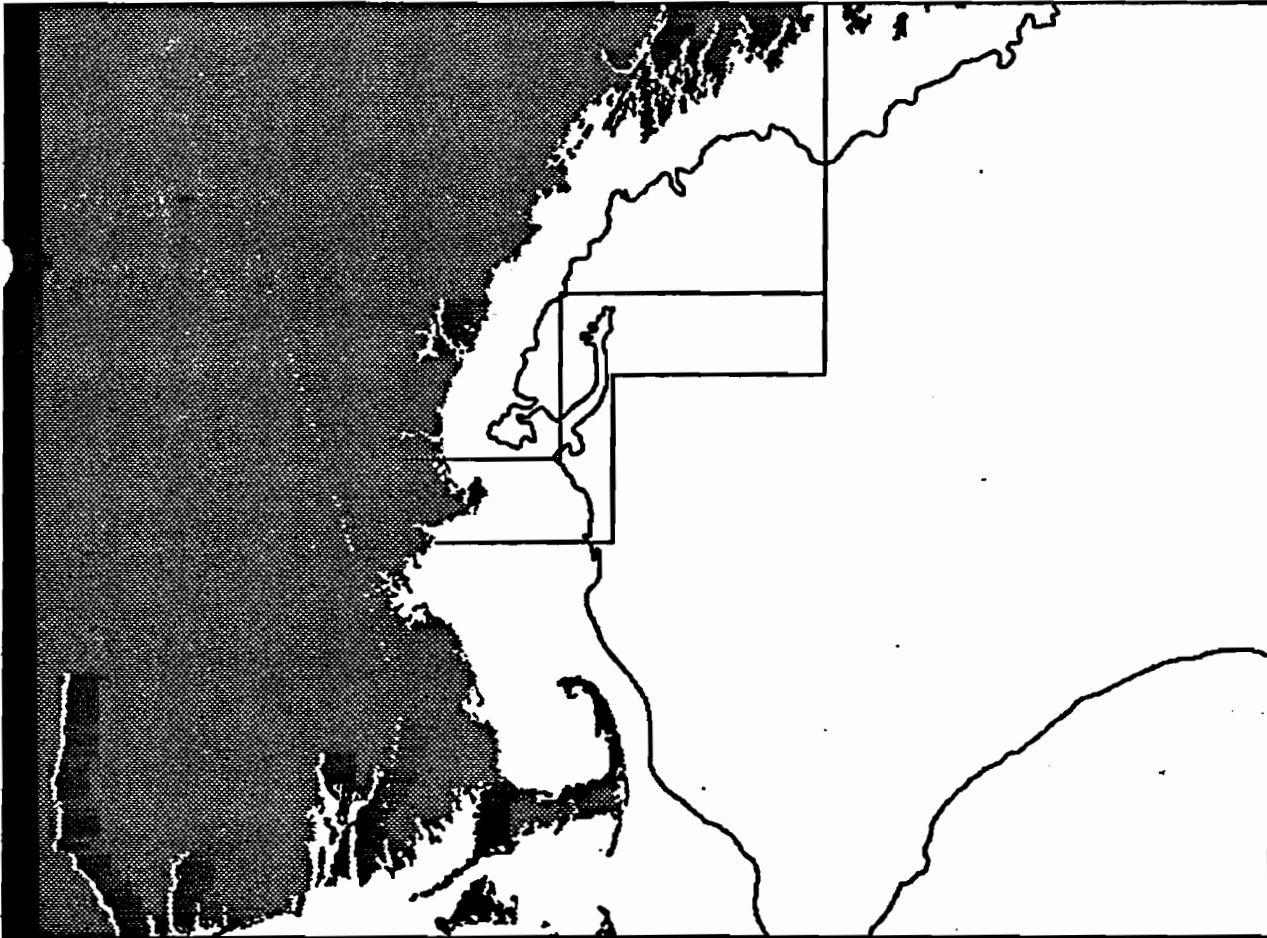


Figure 1. The Mid-Coast closure area delimiting the Z-Band.

The New Hampshire Gillnet Fishermans Association took a lead role in the Experimental Fishery and formed the New Hampshire Pinger CO-OP. This group collected old pingers and purchased all the currently available pingers that met the requirements established by the RA and developed a procedure for their distribution among the participants. The pingers were required to meet the acoustic standards set in the 1994 experiment. When immersed in water, the pinger was required to broadcast a 10Khz sound at 132 Db re 1 micropascal @ 1 meter. This sound must last 300 milliseconds and repeat every 4 seconds. Because of the limited number of pingers (approx 700 total) only a portion of the available fleet could participate. Some of the larger vessels that could fish the area beyond the Z-Band (outside the closed area) and the smallest of the vessels could not regularly (safely) fish the Z-band were asked not to participate which simplified the selection process somewhat. The CO-OP coordinated the maintenance of the pingers with battery changes and scheduled the fishermen as to when to bring in their pingers for service.

The NMFS observers were assigned to cover up to 75 trips during the course of the experiment. On these vessels the observer was instructed to perform his/her normal duties and not have anything to do with the operational aspects of the pingers. This is in contrast to the observer efforts in the Kraus/Read Experiment where the observers played an active role in handling the pingers. On the trips covered by observers and on all the trips made without an observer on board the fishermen were required to record data for the NMFS similar to their normal reporting requirements with a two exceptions. One, the Marine Mammal Exemption Program (MMEP) logbooks were requested to be turned in on a weekly basis instead of monthly or annual basis. Two, the Fishing Vessel Trip Reports (FVTR) were asked to be filled out on a haul basis instead of a trip basis to get a bit more detail on differences between hauls. Also on the FVTR the fishermen were asked to report any mammal bycatch.

RESULTS

The NMFS supplied observers covered 64 trips out of a total of 134 trips accomplished in the Experimental Fishery. This provided a 48% coverage of the fleet as compared to the typical 6-8% observer coverage usually obtained in the fishery (see Summary Appendix A.).

The observed trips hauled 225 strings of between eight and thirty nets per string (Fig.2). With a mean of 14.5 nets/string (SD=5.6) which is similar to a 1990-1994 average of 13.9 nets/string fished in the Z-Band in November and December.

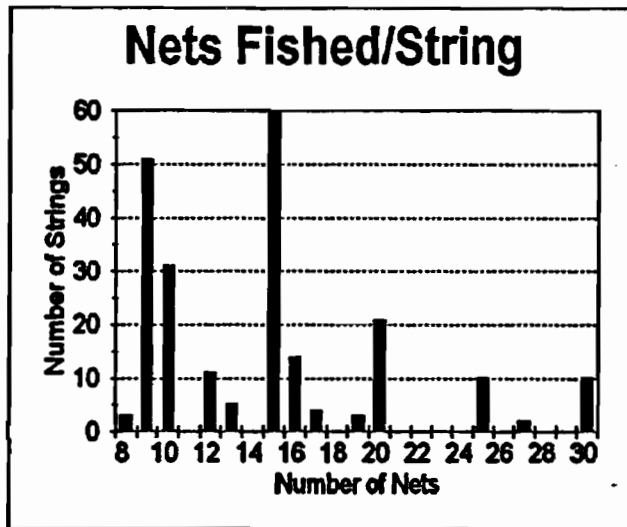


Figure 2. Number of nets fished per string

Based on the average by-catch for the Z-Band area from 1990-1994 for the months of November and December one would have expected 6.32 harbor porpoise taken in the Experimental Fishery's observed trips (Table 1). During the Experimental Fishery there were no harbor porpoise taken on observed or un-observed trips. There is a statistically negligible ($P < .01$) possibility of catching zero harbor porpoise on observed trips by chance given the level of effort and the data from previous years.

Experimental Fishery	1990-1994 X bycatch/haul	% Observer Coverage	Predicted Take (225 hauls)
Z-Band November	0.03	81 %	5.48 (0.8125*225*0.03)
Z-Band December	0.02	19 %	0.84 (0.1875*225*0.02)
Total			6.32

Table 1. Predicted take in Z-Band, based on the average bycatch during 1990-1994 and 225 observed hauls.

During the observed trips there was a single harbor seal caught in the Experimental Fishery. As a point of interest, from the average bycatch rate for seals seen from 1990-1994 in the Z-Band in November and December one would have expected approximately 3.4 seals taken.

On only 11 occasions (<5%) did a fishers fish a string with less than the desired number (number of nets plus one) of working pingers. In general this occurred when the string was missing one or two pingers and was usually associated with the loss of a net or some gear on a previous trip. In general the CO-OP's program of keeping the equipment in working order and the supplies adequate for the vessels was excellent.

The observer records the minimum and the maximum depth encountered while hauling a net, on average the nets were fished at 34 fathoms although there was a trend to fish deeper as the season progressed (Figure 3). Additionally, the nets are intended to be soaked for a 24 hour period, however 24 hour soaks represent only 41% of the hauls (Figure 4). The mean soak time was 47 hours (SD=26.4).

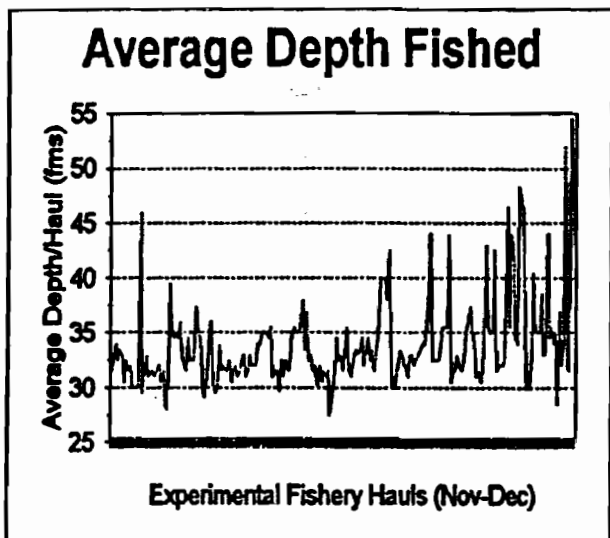


Figure 3. Average Depth fished/haul

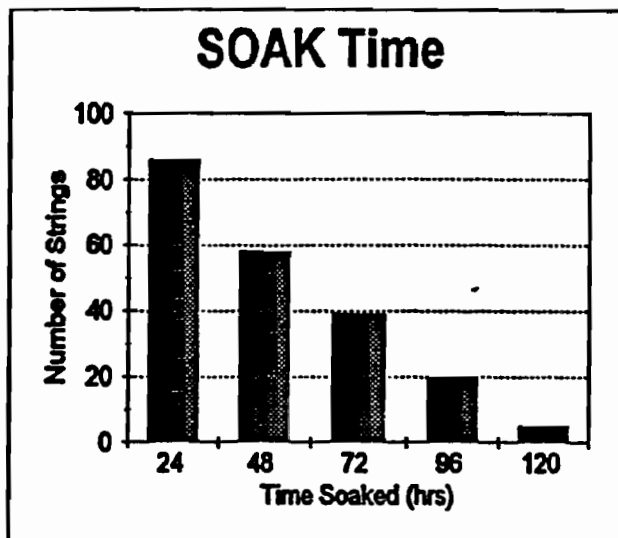


Figure 4. String soak times

The observers also reported the pounds of fish landed by species. Figure 5 plots the pounds of fish landed per haul over time. The Experimental Fishery trips landed an average of 483 pounds of fish per haul (SD=417) in November and 280 lbs/haul (SD=274) in December, with 99,621 lbs landed in total. The Experimental Fishery appears to have a similar fishing power in terms of its ability to catch similar amounts of fish as un-pingered nets in previous years (Table 2). Of the trips observed in the Experimental Fishery, cod represented the dominant species caught on 180 trips and totaled 44,855 lbs. Pollock, spiny dogfish and monkfish were the only other species of any significance (see Summary Appendix A).

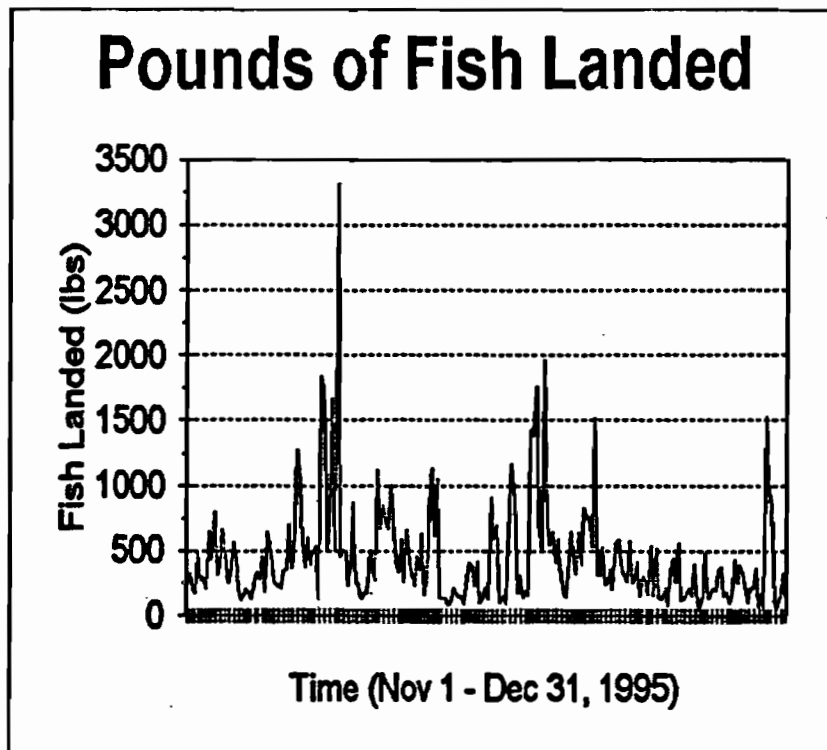


Figure 5. Pounds of fish landed per haul

	Experimental Fishery Lbs Fish/Haul	1990-1994 Z-Band Lbs Fish/Haul
November	483.3	403.9
December	280.0	261.2

Table 2. Fish catch per haul in the Experimental Fishery and previous years average.

The observers were also asked to keep track of lost or damaged gear and its monetary value (communicated through the Skipper). On these trips there were 32 pingers and 30 nets lost along with various hifliers, polyballs and anchors. However, 16 of the nets and 16 of the pingers were lost with a single lost string (an uncommon event). The remaining 16 pingers and 15 nets were lost one at a time in separate events and seemingly in line with the normal attrition seen during the fishery. Hence the addition of the pingers did not appear to cause any increase in the likelihood of lost or damaged gear and have not proven themselves to be a burden to the fishery.

Summary Appendix A.

**Fall 1995 Experimental Fishery
Summary Statistics Observed Trips**

Total number of trips reported, observed and unobserved: (Probably missing some December Trips)			134
Number of observed trips			64
Percent Coverage (obviously will change with added trips)			48%
Number of observed hauls			225
Number of observed takes	Harbor porpoise		0
	Harbor seal		1
Number of reported takes			0
Number of predicted harbor porpoise takes (See attached analysis for details)			6.32
Average depth fished			34 fms
Average soak duration			48 hours
Average lbs fish landed (total 99,621 lbs)			442.76 lbs/haul
Fish catch composition dominate species/trip	species	Lbs (total)	No. Trips
	Cod	44,855	180
	Pollock	4586	19
	Monk	6898	14
	Spiny Dog	8300	12
Gear Lost (16 on one lost string, 16 others with one here and two there)			32 pingers
			30 nets
			1 whole string
			Various balls/hiflyers

A Field Test of the Use of Acoustic Alarms to Reduce Incidental Mortality of Harbor Porpoises in Gill Nets

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DRAFT FINAL REPORT
April 20 1995

Abstract: We conducted a large-scale field test of the effectiveness of acoustic alarms in reducing the incidental catch of harbor porpoises in sink gill nets in the Gulf of Maine. Between October and December, 1994, 15 commercial fishermen set strings of experimental gill nets in an area where large numbers of porpoises were known to be taken. Each string of net was comprised of 12 nets and had either 13 active or 13 control (non-functional) alarms; the active alarms were operative only when submersed in sea water. The alarms produced a broad-band signal centered at 10 kHz, with a source level of 132 dB re 1 micropascal @ 1 m, although there was considerable variation both between and within alarms. Active and control treatments were assigned randomly to strings and placed on the nets by on-board observers; neither fishermen nor observers were aware of which type of alarms were placed on each string. Twenty-five porpoises were taken in 421 control strings and only two porpoises were taken in 423 active strings; no differences were observed in catches of target species or in the frequency with which the catch was damaged by seals. The difference in porpoise catch was highly significant, even after correcting for varying soak times, indicating that alarms are effective in reducing the entanglement rate of harbor porpoises in this area. We do not yet understand why the alarms produced such a dramatic result, but suggest that they may be a useful part of a general strategy to reduce the number of porpoises killed in gill nets each year in the Gulf of Maine.

Introduction

Incidental catches in commercial fisheries pose a serious threat to several species of small cetaceans (Perrin et al. 1994). In particular, coastal species that inhabit areas of intensive fishing activity may be at risk from such interactions. One species of particular concern is the harbor porpoise, *Phocoena phocoena*, a small odontocete that inhabits coastal waters of the temperate northern hemisphere. Harbor porpoises are killed in a variety of fisheries, but most incidental mortality occurs in sink gill nets, static fishing devices that are designed to catch bottom-dwelling fish in near-shore waters (Jefferson and Curry 1994).

In the Gulf of Maine, harbor porpoises have been subject to a significant level of incidental mortality in sink gill nets for several decades. These gill nets are used to target demersal fish species, primarily cod (*Gadus morhua*) and pollock (*Pollachius virens*). Recent studies by the U.S. National Marine Fisheries Service (NMFS) suggest that such catches may account for more than 5% of the estimated abundance of this population in some years (Read et al. 1993; Anonymous 1994). There is still considerable uncertainty regarding parts of this assessment (Palka 1994), but there is general agreement that this level of mortality should be reduced (IWC 1992). In response to these incidental catches, several environmental groups filed a petition to list the Gulf of Maine harbor porpoise population as "Threatened" under the U.S. Endangered Species Act (ESA); this petition is still under consideration (NMFS 1993).

The New England Fishery Management Council (NEFMC) has focused efforts at mitigating this problem by identifying areas and times in which the risk of

incidental mortality is high. These areas are closed to sink gill nets to reduce the annual incidental mortality of porpoises. At the present time, three seasonal closures exist in the Gulf of Maine. Due to the restriction and displacement of fishing effort, the fishing community views these closures, and the threat of further sanctions under the ESA, as significant threats to the future of the sink gill net fishery in New England.

In response to this situation, the fishing community developed an alternative approach to mitigating the incidental mortality of porpoises in gill nets. This approach utilizes active acoustic alarms, or pingers, to warn harbor porpoises of the presence of sink gill nets. The use of acoustic alarms was developed by Jon Lien and colleagues (1992) who used these devices to reduce the number of collisions between humpback whales (*Megaptera novaeangliae*) and fishing gear in Newfoundland. Sink gill net fishermen in New Hampshire worked with Lien to adapt these devices to sink gill nets and conducted two preliminary trials in the autumns of 1992 and 1993 (Lien et al. 1995). The results of these trials were promising, but inconclusive.

In response to the preliminary work conducted in New Hampshire, NMFS convened a panel of experts in June 1994 to review the results of the 1992 and 1993 experiments and to assess whether or not there was any indication that the use of these acoustic devices reduced the entanglement rate of harbor porpoises. In general, the scientific community has been skeptical about the utility of acoustic alarms to reduce the incidental mortality of small cetaceans in gill net fisheries (Au and Jones 1991; Dawson 1994; Jefferson and Curry 1994). Attempts to use acoustic deterrents to reduce conflicts between pinnipeds and fisheries have been unsuccessful (Mate and Harvey 1986) and most experiments using acoustic alarms and other noise generators have not yielded significant reductions in by-catch rates of cetaceans (Jefferson and Curry 1994). The NMFS panel concluded that the New Hampshire experiments had been of limited value due to their low statistical power, which was caused by problems of statistical design, implementation, and the small number of harbor porpoise entanglements (NMFS 1994). The panel also concluded, however, that more exploration of the use of acoustic alarms was warranted, but that future experiments would require a sound design and a significant increase in sampling effort. Finally, the panel laid out a set of experimental criteria that should be followed in future work.

In this report, we describe the results of a large-scale field experiment of the effectiveness of acoustic alarms in reducing incidental mortality of harbor porpoises in sink gill nets. The experiment was conducted off the coast of New Hampshire in autumn 1994, using a design that conformed with the recommendations of the NMFS scientific review panel. The NEFMC and NMFS agreed to allow the experiment to take place in one of the three areas closed to sink gill nets, where the incidental catch rates of harbor porpoises were known to be high. Our objective was to conduct a definitive experiment that would provide a conclusive test of the effectiveness of these acoustic alarms.

Methods

Experimental Design

Prior to the initiation of field trials, we conducted an analysis of the statistical power required to detect a significant reduction in porpoise mortality using acoustic alarms. In this analysis we examined the effects of: (i) variation in the number of vessels participating in the experiment; (ii) variation in the by-catch rates of harbor porpoises using data from previous years; and (iii) various potential reductions in the by-catch rate due to the use of acoustic alarms. From this analysis, we concluded that with 15 participating vessels, we would be able to detect a 50% reduction in porpoise by-catches, given the range of by-catch rates observed in previous years.

Fifteen sink gill net fishermen from the coasts of New Hampshire and southern Maine agreed to participate in the experiment. Following the recommendations of the NMFS panel, the fishermen agreed to restrict their gear and fishing practices to certain design constraints. All fishing in the experiment, therefore, was conducted with strings of 12 nets tied together, with each net 300 feet in length, approximately 12 feet in depth, and with a stretched mesh of 6 or 6.5 inches. Whenever possible, the strings were soaked for 24 hours and retrieved each day. Fishermen agreed to set strings at least 300 feet apart to minimize the potential for any confounding effects between control and active gear. In practice, most strings were set in excess of 600 feet apart.

The experiment began on October 18 and lasted until December 15 1994. Most fishing took place on or near Jeffreys Ledge, off the coast of New Hampshire (Fig. 1). Observers were placed on each vessel, and were provided by the Manomet Observatory under contract to NMFS. The observers were rotated from vessel to vessel throughout the course of the experiment and collected data on the number of porpoises captured, the location, water depth and configuration of each string of nets, the duration of soak time, and a series of other observations. Fishermen estimated the weight of each species of fish caught in a string and reported whether or not any of the target fish species in a string had been damaged by seal predation.

Two types of alarms were used in the experiment: Both types were outwardly identical, but one (active alarm) produced an acoustic alarm and the other (control alarm) was silent. Active devices were equipped with a switch that triggered the alarm upon complete immersion in salt water. The acoustic characteristics of active alarms are described below. Each alarm was coded with a number that allowed us to track battery life, losses, malfunctions, and the identity of alarms in the vicinity of porpoise by-catches. The codes were sufficiently cryptic that neither the fishermen nor our colleagues (including several of the P.I.s) were able to break them during the course of the experiment.

Alarms were attached to the head rope of gill net strings in small lobster bait bags. The alarms were placed at the end of each string and at each bridle, where

individual nets were attached to each other. Thus, each string had 13 alarms, each placed 300 feet apart. Each string was equipped with either a set of active alarms or a set of control alarms, so we refer to 'active strings' and "control strings" throughout the remainder of this report.

The choice of active or control alarms for each string was made with a coin toss by the experiment coordinator the day before the string was retrieved and reset. Observers carried a new set of dry alarms aboard the vessel each day and replaced the alarms on strings of nets as they were retrieved. All alarms were changed on a string each time it was retrieved. Neither the observers nor the fishermen knew which alarms were active or which were controls before the string was set.

To maintain the double blind feature of the experiment, alarms were tested and dried by the coordinator each time they were returned to shore, to eliminate the potential for sporadic triggering of active alarms. Active alarms were triggered when fully immersed, usually about 20 to 30 feet behind the boat while the vessel was underway and the net was sliding over the stern. Under such conditions, the alarms were not audible from the vessel. Wet alarms were sometimes still emitting sound as they came on board, but the subsequent set of alarms was independent of the prior set, so a fisherman could not predict which type of alarm would be attached to the next string. The coordinator rotated sets of alarms so that no fishermen would see the same set of numbered alarms during any month of the experiment. In addition, the high frequency of the alarms (see below) and the noise of the vessel made it extremely difficult to hear the alarms during net retrieval. Thus, fishermen were unable to differentiate between active and control strings and could not bias the location or depths at which the two types of strings were set.

Fishermen and observers attempted to retrieve all entangled porpoises; these carcasses were brought back to shore and examined in detailed necropsies at the NMFS Northeast Fisheries Science Center, Woods Hole, following the protocol described in Nicolas (1993). The stomach contents of these animals were examined using the methods of Recchia and Read (1989).

Design of Alarms

Alarms were designed to our specifications by the Dukane Corporation of St. Charles, IL. Active alarms emitted a broad-band signal centered at 10 kHz, with a source level of 132 dB re 1 micropascal @ 1 m. This frequency is well within the hearing range of harbor porpoises, which exhibit peak sensitivity from 4 to 40 kHz and responses up to 140 kHz (Andersen 1970) and harbor seals (Mohl, 1968). The alarms produced a signal that, on average, lasted for 300 ms and was repeated every 4 s. The sound source levels were chosen to be audible at 15 dB above ambient at 100 m (the length of one net) and to drop to ambient levels at 300 m. Ambient sound levels in the Jeffreys Ledge area are estimated to range from 110-118 dB from measurements made over the last two years by Univ. of New Hampshire Ocean Engineering researchers.

Immediately after delivery, a random sample of 25 active alarms were tested at the Ocean Engineering Facility at the University of New Hampshire. These tests included analyses of the waveform, pulse length, inter-pulse interval, and sound pressure level vs frequency of the alarms. The beam pattern was also examined for a single alarm. Several alarms were also tested to monitor changes in sound pressure levels vs frequency as the batteries weakened over time. During the experiment, active alarms on either side of a porpoise entanglement were tested in the laboratory for the same parameters. Testing was performed with an ITC 6050c hydrophone, an Ithaco electronic filter (model 4113) with a high pass at 500 Hz and 80 kHz low pass, and a Nicolet 320 oscilloscope. Analysis of the signals was conducted on a laptop computer using Waveform™ software.

A Statistical Model of Porpoise Catches

In our statistical model of the effect of alarms on porpoise catches, Y_{it} is the number of strings of type i (control or active) and soak time t (1, 2, ... 6 days) that caught at least one porpoise. Y_{it} has a binomial distribution with parameters n_{it} (the total number of strings of type i and soak time t) and p_{it} (the probability that a string of type i and soak time t catches at least one porpoise). The simplest model for p_{it} is:

$$p_{it} = 1 - (1 - p_i)^t$$

This model is appropriate if each day of soak time constitutes an independent trial with catch probability p_i .

In the first part of our analysis we tested the null hypothesis H_0 : $p_{active} = p_{control}$, that is that the two types of strings had the same probability of catching at least one porpoise each day, against the general alternative hypothesis (H_1) that the two probabilities were not equal. We performed a likelihood ratio test of H_0 , in which the model was fit by maximized log-likelihoods under both H_0 and H_1 (Silvey, 1970). The test statistic was taken to be minus twice the difference in the maximum log-likelihoods. Under H_0 , this quantity has an approximate chi-squared distribution with 1 degree of freedom.

We also tested the goodness-of-fit of the model using a parametric bootstrap. The parametric bootstrap was used because the χ^2 approximation to the distribution of the likelihood ratio statistic is not adequate in small samples. This was only performed for control strings, since the number of porpoise taken in the alarm strings was too small. The test statistic was the maximized log-likelihood. A total of 1,000 data sets were simulated from the fitted model. The model was then re-fitted to each of these data sets and the maximum log-likelihood was found. We used the same model and analytical procedures to compare the frequency of damage to the catch caused by seals in control and active strings.

Results

Fishing Practices & Catches

During the course of the experiment, 421 active strings and 423 control strings were set and retrieved. Each of these strings was comprised of 12 nets. Active and control strings were set in similar water depths and locations (Fig. 1 and Table 1). Both types of strings were fished for varying periods, although mean soak times were similar (Table 1). Strings were usually fished for intervals of approximately 24 hours, so it was possible to categorize the data into soak times of whole days, using cut-points of 36, 60, 84, 108, and 132+ hours (Fig. 2).

Fishing effort, measured by the total numbers of strings hauled per week, declined over the course of the experiment (Fig. 3). Catches of cod declined from October to December in both control and active strings, but pollock catches rose from low levels in October and November to a maximum in December (Fig. 4).

Control and active strings captured similar quantities of cod ($t = -0.43$, $p = 0.66$) and pollock ($t = 0.23$, $p = 0.82$) (Table 2). The catches of other commercial species were also similar in active and control strings. There was no significant effect of increased soak times on catches of cod and pollock, although both decreased with extremely long soak times (Fig. 5). We also compared by-catches of two species of smaller fish that are important harbor porpoise prey (see below): silver hake *Merluccius bilinearis* and Atlantic herring *Clupea harengus* (Table 2). Catches of silver hake were similar in control and active strings ($t = -1.80$, $p = 0.08$). Herring were captured only infrequently ($n = 46$ hauls), but 6.5 times more herring (in pounds) were caught in control strings than active strings ($\chi^2 = 23.34$, $p = 0.01$).

Seals caused damage to the fish catch with similar frequency in both control and active strings (Table 2). The estimated probability of damage per day caused by seals in active strings was 0.156 and the probability of damage in control strings was 0.163; these two values were not significantly different ($\chi^2 = 0.13$, $p = 0.722$). The goodness-of-fit test indicated that the simple model, in which each day of soak time constituted an independent trial with respect to the probability of seal damage, could not be rejected (maximum log-likelihood = -20.64, $p = 0.776$) (Fig. 6). The frequency of damage to target species caused by seals remained at low levels for most of the experiment, but increased sharply in the last week-of fishing (Fig. 7).

Porpoise Catches

Two harbor porpoises were captured in active strings and 25 were taken in control strings (Table 1). In six control strings, two porpoises were caught in the same string; in all other cases only a single porpoise was taken. Most porpoises (19) were taken in the first three weeks of the experiment, although the last animal was taken on 13 December. Harbor seals (*Phoca vitulina*) were the only other marine mammal captured; 2 seals were taken in active strings and a single seal was caught in

a control string.

The maximum likelihood estimate of $p_{control}$, the probability of capturing at least one porpoise in a control string, was 0.025. The corresponding estimate for p_{active} was 0.0027. These two values were significantly different ($\chi^2 = 15.01$, $p = 0.0001$), indicating that the probability of capturing a porpoise was greater in control than in active strings. The maximized log-likelihood was equal to -12.37. Of the 1,000 maximum log-likelihoods fitted, 575 were smaller than -12.37, so the estimated significance level was 0.575. Thus, the simple model could not be rejected, and we have no evidence for anything other than a simple effect of increasing soak time on the probability of capturing a porpoise.

Porpoises were captured uniformly in control strings (Fig. 8), with no tendency for entanglements to occur in nets at either the middle or end of a string ($p = 0.26$). The two porpoises taken in active strings were both taken in the fourth net. Porpoises were also captured randomly with respect to their placement within nets in control strings (Fig. 9); entanglements did not occur near the bridles which attach one net to another ($p = 0.69$). One of the two porpoises taken in active strings was entangled in the middle of a net (float number 26 of 50); the location of the other porpoise was not recorded.

Fishermen and observers retrieved 19 of the 27 porpoises taken during the course of the experiment. The other eight carcasses either dropped from the net (4) or were discarded (4) due to rough seas and/or a lack of space onboard the vessel. Of the 19 porpoises examined at necropsy, 14 were males, 11 of which were sexually mature based on their size and the state of testis development. All 5 females were immature. Two specimens were judged to be calves, based on their small size and the incomplete eruption of their teeth. Both porpoises taken in active strings were adult males.

Seventeen of the 19 porpoises had food remains in their stomachs. The mean mass of forestomach contents was 230 g (SD 284 g). At least 11 prey species were identified, but the two with the highest frequency of occurrence were Atlantic herring (14 stomachs) and silver hake (10 stomachs). The presence of intact fish, flesh and bones, particularly from herring, indicated that many porpoises had been feeding just prior to entanglement. One porpoise taken in an active string had herring flesh and bones in its stomach and the other had bones and otoliths from six prey species. The porpoises were not taking cod, pollock, or other groundfish from the nets; most prey items were considerably smaller than these target species. The stomach of one porpoise, taken in a string soaked for 90 hours, contained the remains of a hagfish (*Myxine glutinosa*), known to scavenge on fish captured in gill nets.

Alarm Signals

Pulse length and intervals were consistent among all the alarms tested. The waveform of the pulse was variable and the sound pressure level (SPL) vs frequency

characteristics were highly variable. The SPL at 10 kHz varied from 105 to 139 dB (re 1 micropascal) and each alarm had a wide range of harmonic energy peaks at approximately 10 kHz intervals to 80 kHz, the upper limit of our recording system. In many cases, the SPL's of the harmonic energy peaks between 40 and 50 kHz ranged from 100 to 150 dB. Examples of the variability between alarms with fresh batteries are given in Fig. 10. As battery power decreased, the SPLs decreased slightly and the fundamental frequency declined by approximately 4 kHz (Fig. 11). The beam pattern for an average alarm is shown in Figure 12.

Discussion

The results of this experiment demonstrate that acoustic alarms reduced the incidental catch of harbor porpoises in sink gill nets. The number of porpoises taken in strings with active alarms was approximately one order of magnitude less than the number killed in control strings. We have no reason to believe that the experimental protocol was compromised in any way; the outcome of the experiment reflects a true reduction in the porpoise catch associated with the use of alarms. The use of alarms caused no adverse effects on either targeted commercial fish catches or the frequency of damage to the catch caused by seal predation. Thus, the use of acoustic alarms appears to hold considerable promise as a mitigation measure to reduce the number of harbor porpoises killed in sink gill nets in the Gulf of Maine.

There are, however, several caveats regarding the application of these results. First, we do not understand why the alarms worked so well, because we know very little of the response of harbor porpoises to either gill nets or underwater sound. The interactions between porpoises, their prey, gill nets, and alarms is complex and needs further study (see below). This means that our ability to predict the effect of changes in the design or use of acoustic alarms in the Gulf of Maine is limited.

In addition, we do not yet know whether porpoises will habituate to the presence of alarms, thus reducing their efficiency over time. Our experiment was conducted over a short period of two months, in an area where porpoises pass through on their southerly autumn migration. It is possible that repeated exposure over long periods may reduce the effectiveness of alarms as a means of warning porpoises of the presence of gill nets.

Finally, the results of this experiment should not be extrapolated to other porpoise or dolphin species. Our results indicate that alarms are effective in reducing incidental catches of harbor porpoises in the Gulf of Maine; they *may* be worth testing for other conflicts between odontocetes and gill nets. The dynamics of these conflicts, including the method of entanglement, and hearing capabilities, social structure, feeding ecology, and social behavior of the animal, should be evaluated fully before field tests of alarms are considered. The causes and mechanisms of entanglement are extremely varied and will likely require a diverse set of solutions (Perrin et al. 1994), many of which may be simpler and less expensive than the use of acoustic alarms. Assessment of the effectiveness of alarms in other situations will

require field tests comparable to those described here, with a suitable experimental design and rigorous controls to ensure the adequacy of the test. These large-scale field trials are expensive and time-consuming and should not be entered into lightly.

As noted above, we do not understand why the use of alarms produced such a dramatic reduction in porpoise catches. The most parsimonious explanation is that porpoises responded directly to the sound produced by these devices, associated the sound with the presence of nets, and were less likely to become entangled as a result. It is also possible that the reduction in porpoise catches was an indirect effect, mediated through the behavior of their prey (see below). If the effect was direct, we suggest that the variation in the signals produced by the alarms may have been an important factor in their success. This variation was an unplanned and unexpected component of the experiment. It is conceivable, given that the auditory range of harbor porpoises reaches up to 130-140 kHz (Andersen 1970), that the porpoises detected and responded to high-frequency harmonic components of the alarm signal. It is also possible that the combined broadband transmission of sound across a wide range of frequencies was the effective feature of the alarms. In addition, the acoustic features of the alarms varied over the battery life of the devices, providing an additional source of variation. Finally, the experimental randomization of control and active strings ensured that different suites of signals were placed in different locations each day. Taken together, therefore, these disparate sources of variation ensured that porpoises were exposed to a highly variable suite of acoustic signals that were associated with the presence of gill nets during the experiment.

Studies of porpoises in a controlled setting lend support to the concept that variation in sound production may be effective in alerting porpoises to the presence of nets. Kastelein et al. (1995) monitored the responses of two captive harbor porpoises to two alarms, both with a fundamental frequency of 2.5 kHz and source levels of 15 to 119 dB re 1 micropascal. The harmonic components of the two alarms were very different. The two porpoises reacted strongly and adversely to one alarm which had a great deal of energy in the harmonics. In contrast, the porpoises approached and investigated the other alarm, which emitted little energy above the fundamental frequency.

Although only 5.5% of the hauls caught herring, the reduction in porpoise catches in active strings may have been partly affected by the behavior of herring, the primary prey of harbor porpoises in the Gulf of Maine (Recchia and Read 1989). Atlantic herring were the only fish species to show a significant difference in catch rate between active and control strings, with fewer herring taken in strings with active alarms. Clupeoid fishes have an unusual capacity for high-frequency hearing (Dunning et al. 1992; Nestler et al. 1992), due to their unique auditory morphology (Popper and Platt 1979). Herring are sensitive to frequencies up to 10 kHz (Enger 1967; Schwarz and Greer 1984), the fundamental frequency of the alarms used in this experiment. It is possible, therefore, that the herring reacted to the alarms by avoiding the nets, thus reducing the potential for porpoises to become entangled while attempting to capture prey. The analysis of stomach contents of entangled porpoises

indicates that the animals were actively feeding on herring just prior to entanglement. Herring is the primary prey of harbor porpoises throughout the Gulf of Maine, so the reduction in porpoise catches due to the use of alarms demonstrated in this experiment should hold throughout this area, even if the effect is mediated through this predator-prey interaction. Few other fishes have the capacity to hear at such high frequencies, however, so alarms might not be as effective if porpoises are foraging on other fishes in the vicinity of gill nets.

It is clear that considerable research is required before we understand the mechanism or mechanisms responsible for the reduction in porpoise catches brought about by the use of acoustic alarms. Experiments conducted under controlled conditions, such as those performed by Kastelein et al. (1995) should be conducted to determine the dynamics of interaction between porpoises, their prey, alarms and gill nets. In such settings, it is possible to test hypotheses about the reaction of porpoises and herring to alarms and the potential for entanglement when predators are foraging on prey in the vicinity of nets. It would also be invaluable to make observations of the behavior of wild porpoises foraging around gill nets. To date, logistical difficulties have prevented researchers from making such observations, but they are critical if we are to fully understand the reasons porpoises become entangled in these nets so frequently.

The rich data base compiled during the course of the experiment suggests another simple means of reducing the incidental catch of harbor porpoises in the Gulf of Maine, in addition to the use of acoustic alarms. Fish catches do not increase with increased soak time and, in fact, decrease dramatically with soak times of more than five days (Fig. 5). The probability of catching a porpoise increases each day a string is left in the water. For example, porpoises were captured in three of seven control strings that were soaked for more than five days. Thus, strings with very long soak times have a high probability of catching a porpoise, but yield small catches, which are often of poor quality. Reducing the incidence of these extremely long soak times would decrease the number of porpoises taken, without affecting the economic return from the fishery.

Our results indicate that acoustic alarms will be effective in reducing the incidental catch of harbor porpoises in the sink gill net fishery of the Gulf of Maine. To ensure this reduction is as effective as possible, we recommend that alarms be used in conjunction with existing area closures. Fishermen who use alarms and agree to carry observers should be allowed to fish within closed areas and those who do not should be excluded and required to fish elsewhere. The closures should be expanded in both space and time to minimize the incidental catch of porpoises in nets that are not equipped with alarms. Monitoring should continue through the existing NMFS observer program, which will provide an ongoing test of the effectiveness of alarms and a means of detecting any effects of habituation or changes in seal predation over time. Compliance with the use of alarms can be monitored either at dockside or in routine enforcement at sea.

A final issue is the manufacturing standards that will be required for alarm devices. In the absence of better information, we provisionally recommend that alarms be built to specifications comparable to those that proved effective in this experiment. These standards should include a fundamental 10 kHz pulse with a SPL of 130 dB re 1 micropascal, with an interpulse period of 4 seconds. Although we believe that harmonics may have contributed to the success of alarms in the experiment, we recommend that the sound pressure levels of the harmonics be better controlled and limited to 130 dB re 1 micropascal. Finally, fishermen will need low-maintenance alarms if they are to be effective. Therefore, we recommend that a minimum standard of 3 months of underwater life be required for commercial alarms.

These recommendations should be considered provisional for the following reasons. As additional information on the reaction of harbor porpoises to various sound frequencies and source levels is obtained, it may be possible to refine alarm signals. If habituation proves to be a problem, it may be necessary to try alternative frequencies or signal types in the future. Likewise, if seals in the Gulf of Maine learn to associate alarm signals with the presence of net-caught fish, it may be possible to shift the frequencies of alarms to levels that are out of the hearing range of these animals.

Acknowledgments

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Table 1. Summary data from an acoustic alarm experiment conducted near Jeffreys Ledge, Gulf of Maine between October - December, 1994.

Net Type	Number of Strings	Number of Porpoises	Strings With Porpoises	Mean Depth (m)	Mean Soak Time (h)
Active	421	2	2	70.8	41.3
Control	423	25	19	71.7	40.9

Table 2. Mean fish catches (kg) per string from an acoustic alarm experiment conducted near Jeffreys Ledge, Gulf of Maine between October - December, 1994.

Net Type	Cod	Pollock	Silver Hake	Herring	Nets With Seal Damage (%)
Active	59.2	13.2	2.77	0.29	24.7
Control	61.0	12.9	3.57	1.89	24.6

Figure Legends

Fig. 1. The location of sink gill net retrievals off the coast of New Hampshire, October-December 1994. Gill net strings were equipped with active acoustic alarms (upper plot) or control alarms (lower plot). The 50-fathom isobath is indicated with a shaded line. Strings in which porpoises were captured are indicated with a cross.

Fig. 2. Frequency distributions of soak times for sink gill nets with active acoustic alarms (upper plot) or control alarms (lower plot).

Fig. 3. Weekly summary of fishing effort (number of strings fished) for sink gill nets with active acoustic alarms (filled squares) or control alarms (open squares), October 15 to December 15, 1994.

Fig. 4. Weekly cod and pollock catches for sink gill nets with active acoustic alarms (filled symbols) or control alarms (open symbols).

Fig. 5. Variation in catches of cod with increasing soak time for sink gill nets with active acoustic alarms (filled symbols) or control alarms (open symbols).

Fig. 6. Variation in frequency of damage to fish catch caused by seals with increasing soak time for sink gill nets with active acoustic alarms (filled symbols) or control alarms (open symbols).

Fig. 7. Weekly summary of frequency of damage to fish catch caused by seals in sink gill nets with active acoustic alarms (filled symbols) or control alarms (open symbols).

Fig. 8. Location of entanglement within strings for harbor porpoises killed in sink gill nets with active acoustic alarms or control alarms. The entanglement location of one porpoise taken in a net equipped with control alarms was not recorded.

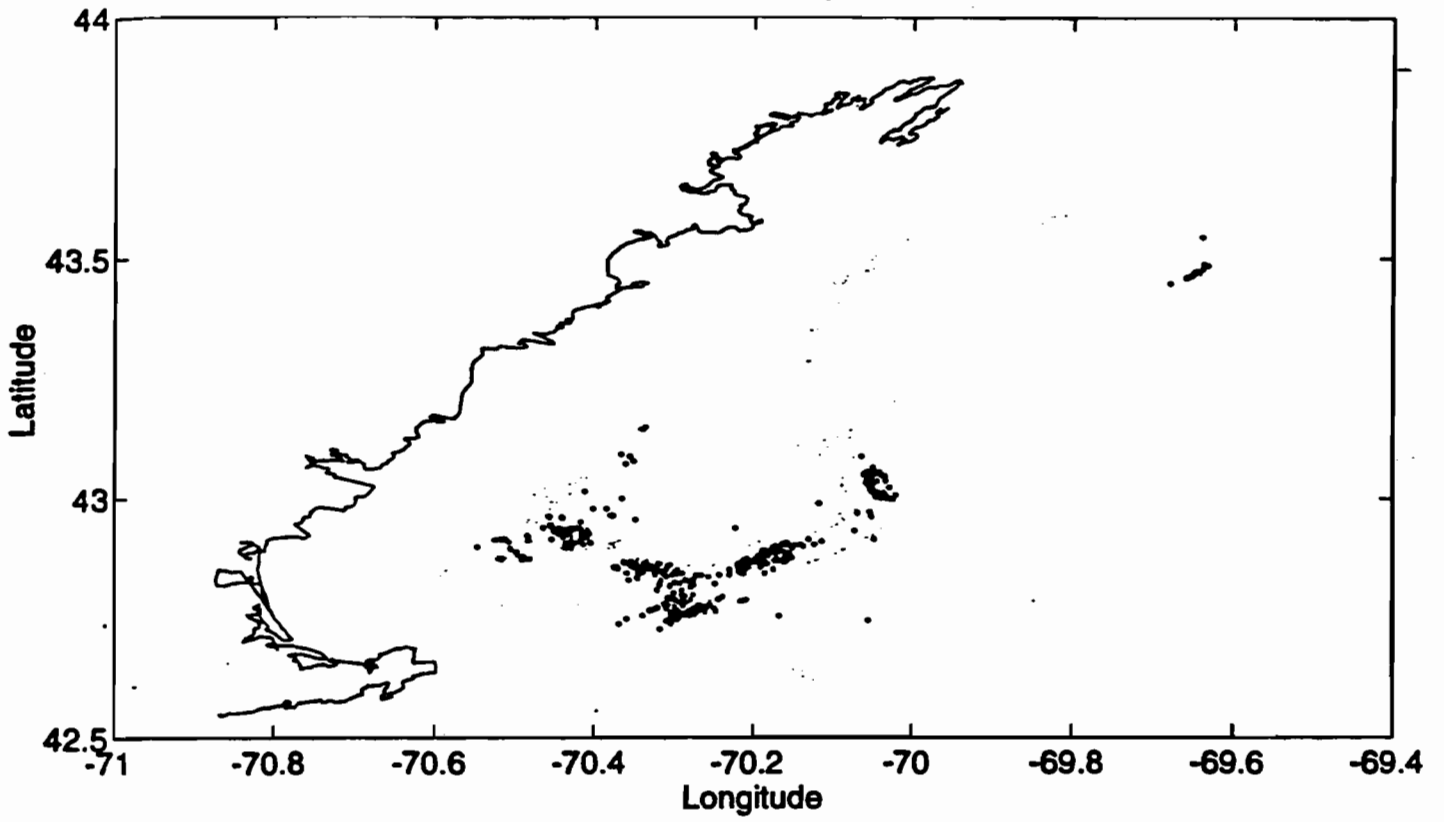
Fig. 9. Location of entanglement within nets for harbor porpoises killed in sink gill nets with active acoustic alarms or control alarms. The entanglement location of one porpoise taken in a net equipped with active alarms was not recorded.

Fig. 10. Variation in sound pressure level and frequency characteristics of 4 randomly selected acoustic alarms tested at full battery strength.

Fig. 11. Changes in sound pressure level and frequency characteristics of 3 randomly selected acoustic alarms with decreasing battery strength.

Fig. 12. Sound transmission beam patterns for the experimental alarms.

Active Strings



Control Strings

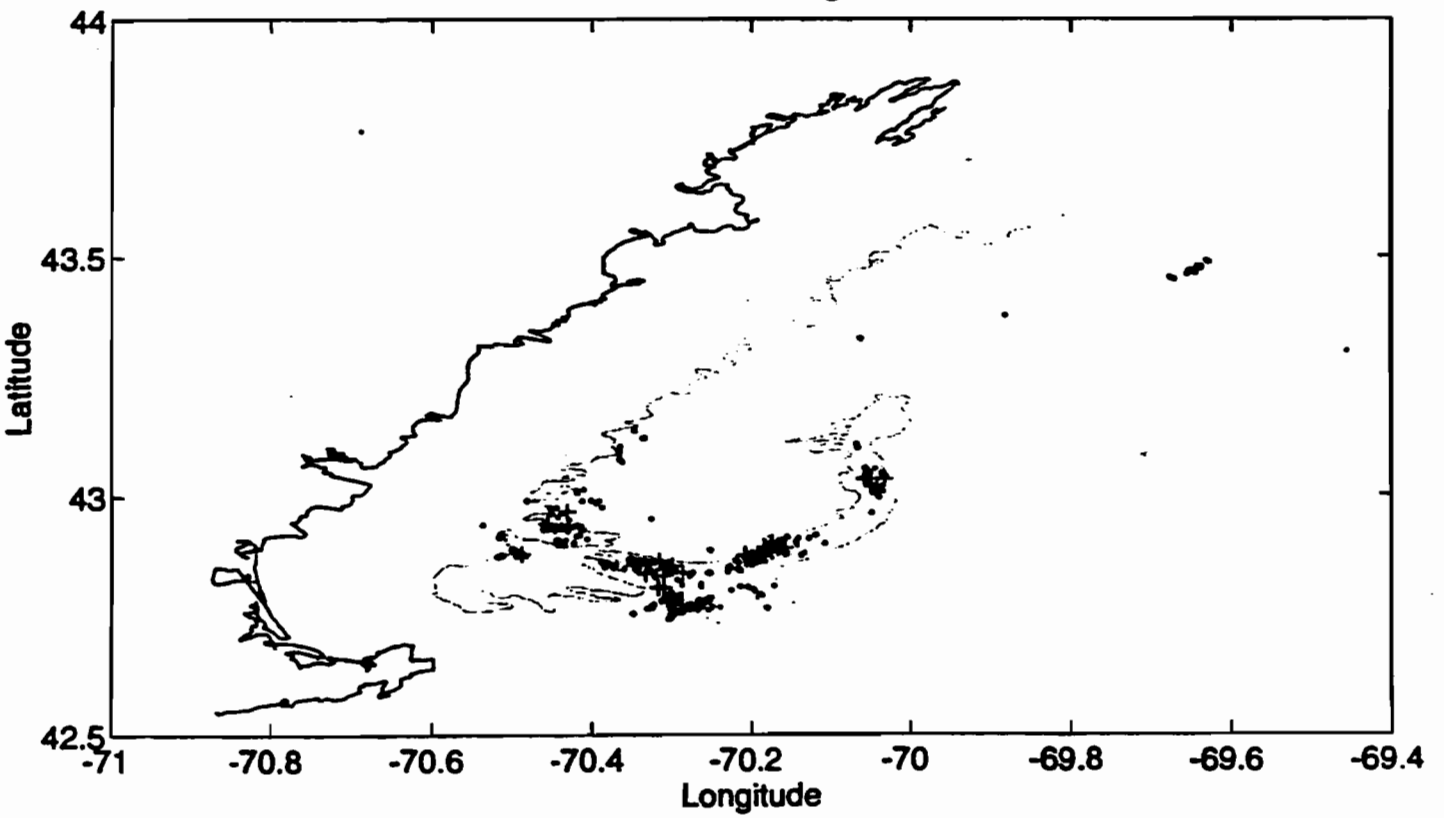


Figure 1. Locations of sink-gillnet retrievals, Oct. - Dec., 1994.

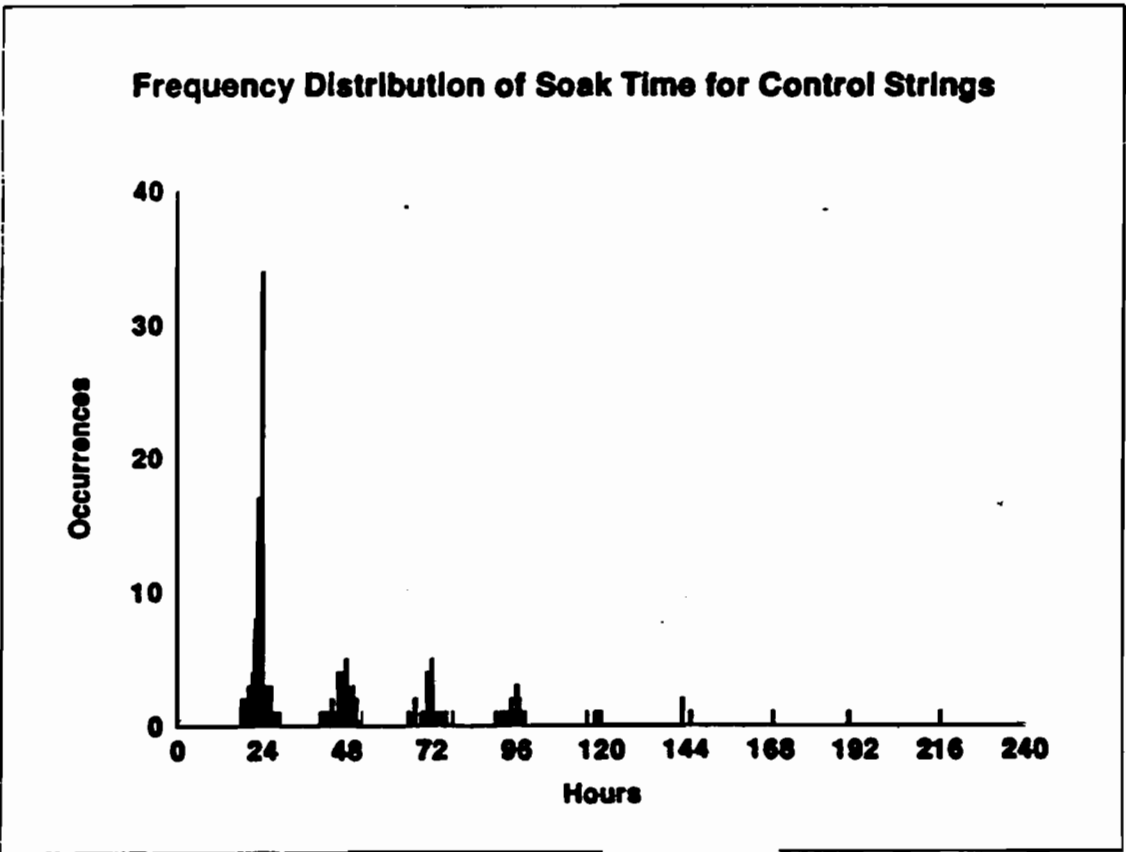
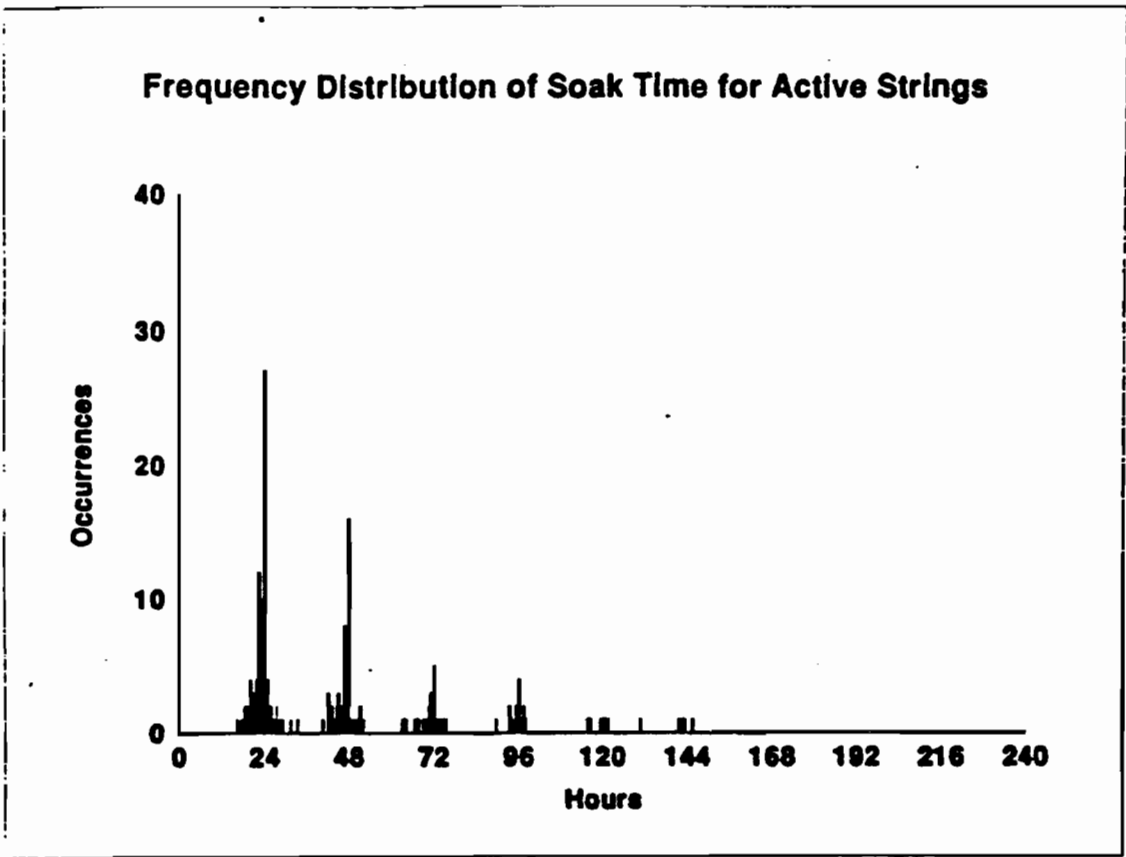


Figure 2. Frequency distributions of soak times for gillnets in the experiment.

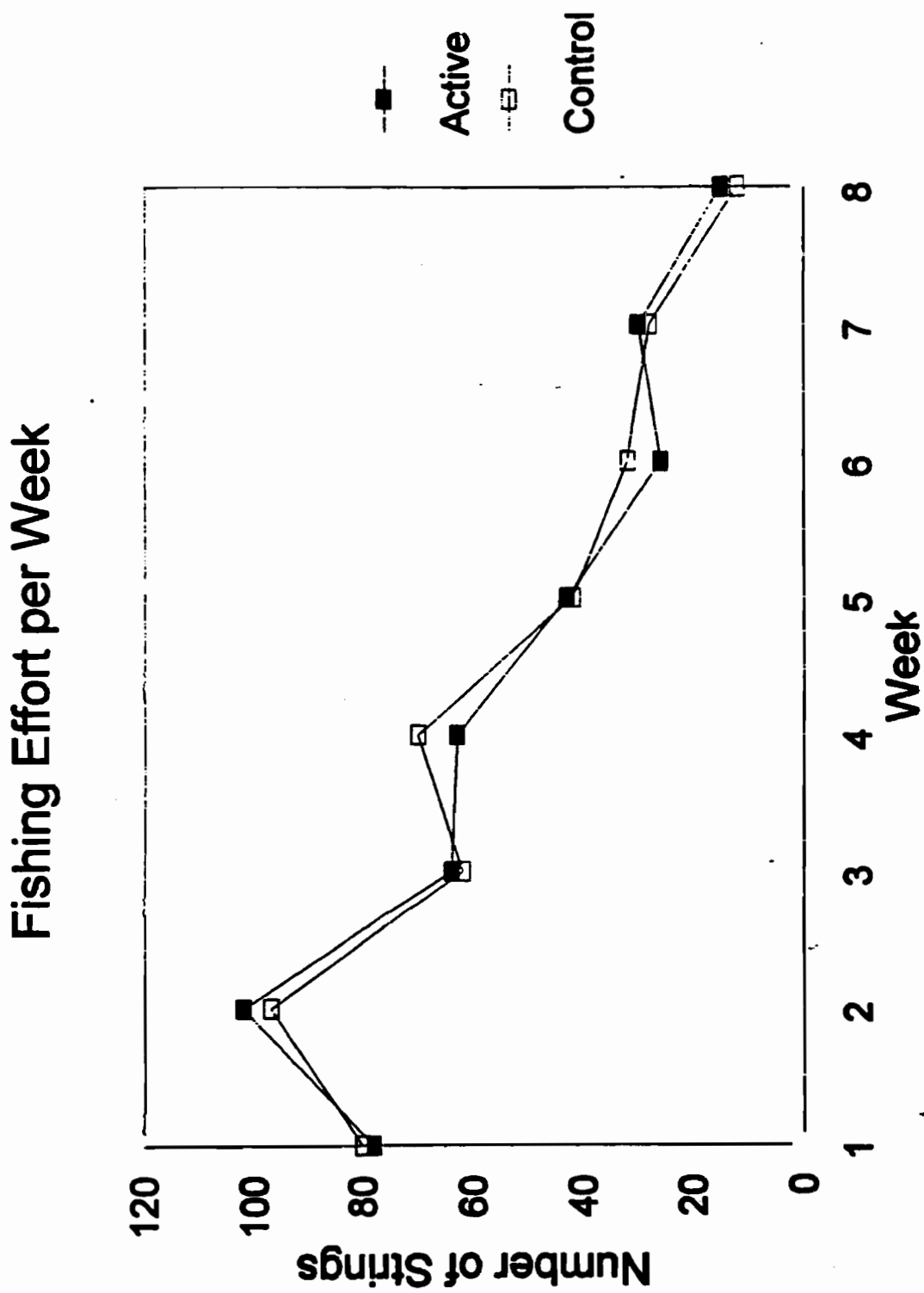


Figure 3. Fishing effort by week.

Fish Catches by Week

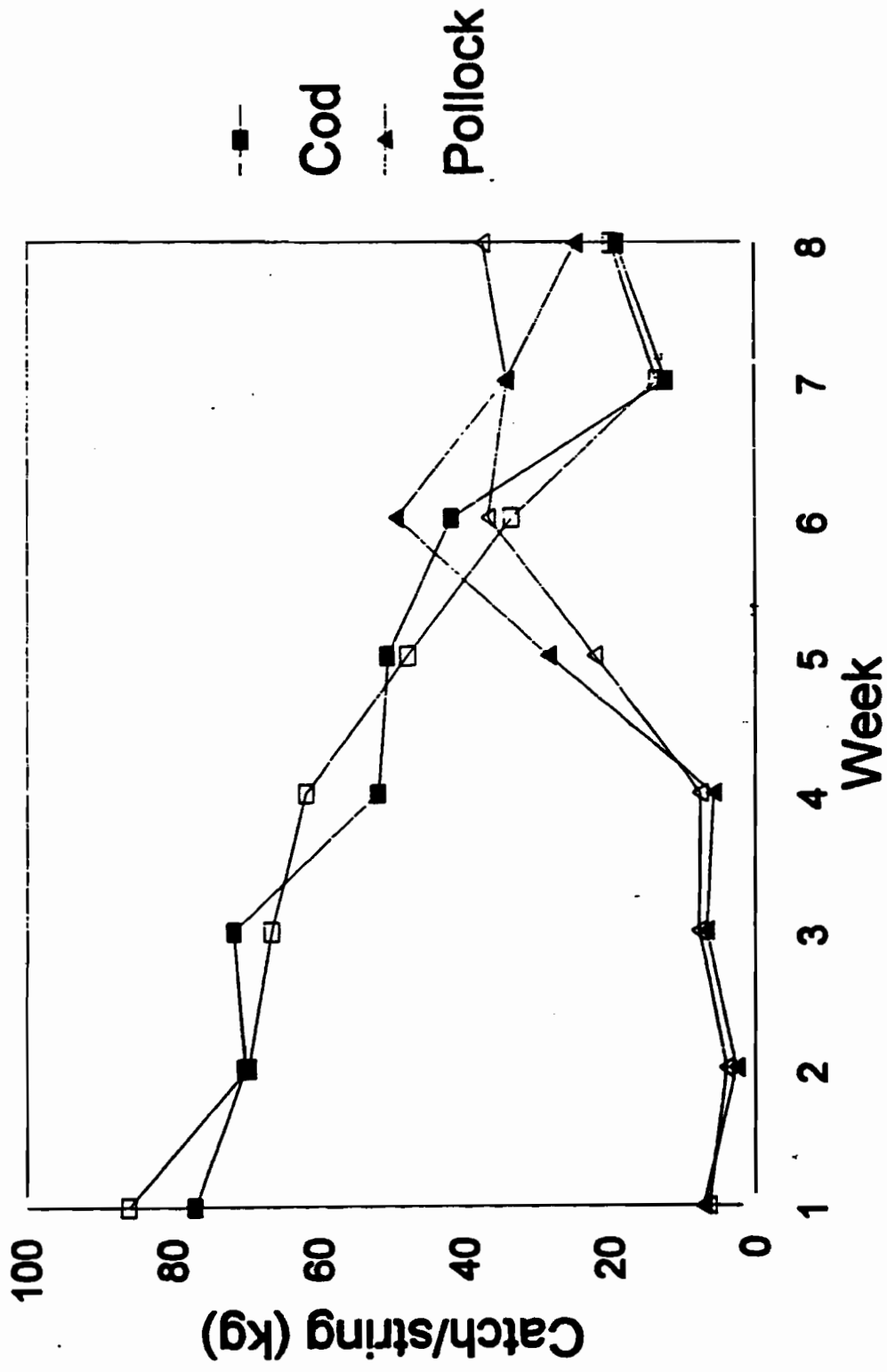


Figure 4 Fish catches by week.

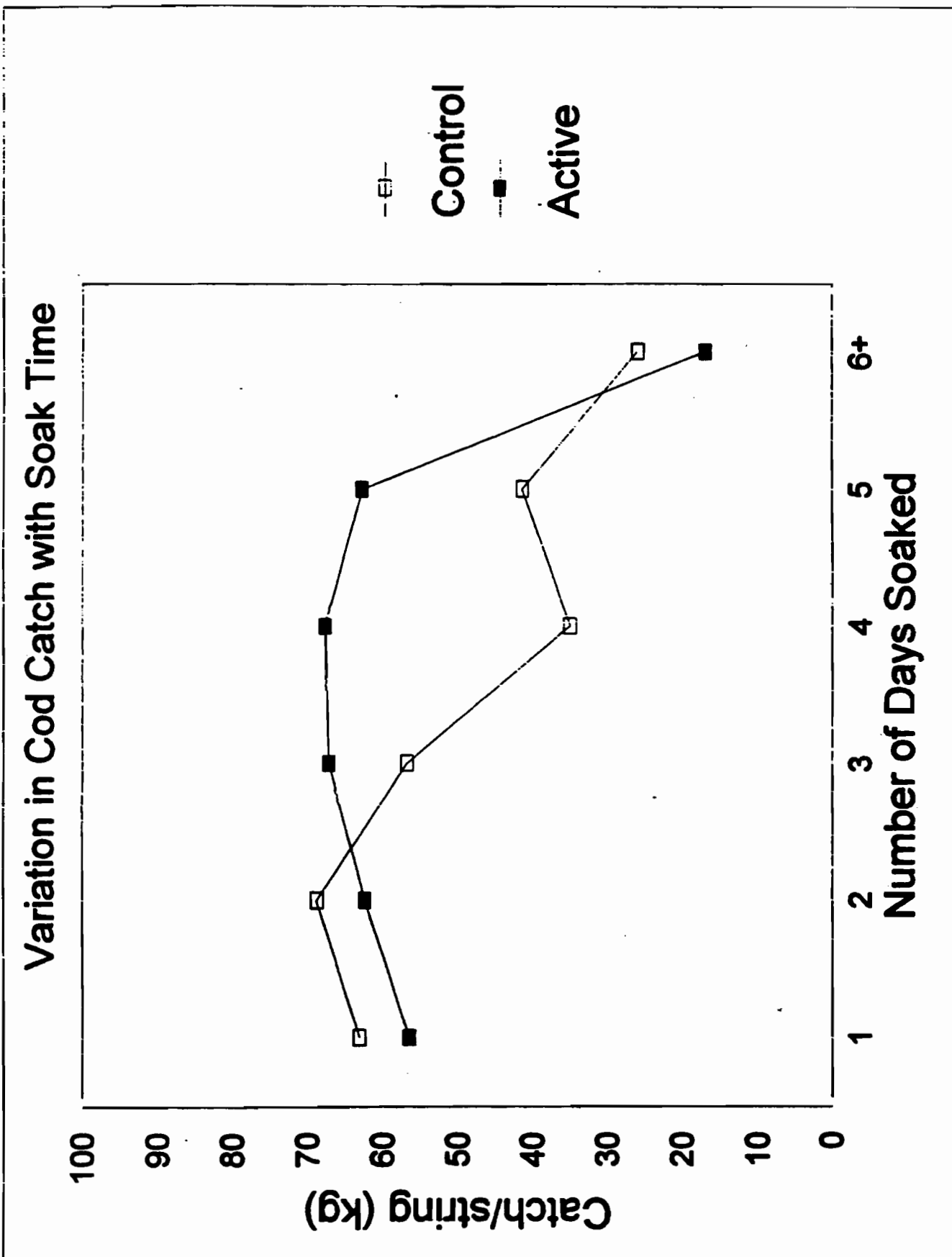


Figure 5. Variation in cod catch vs. soak time for sink gillnets.

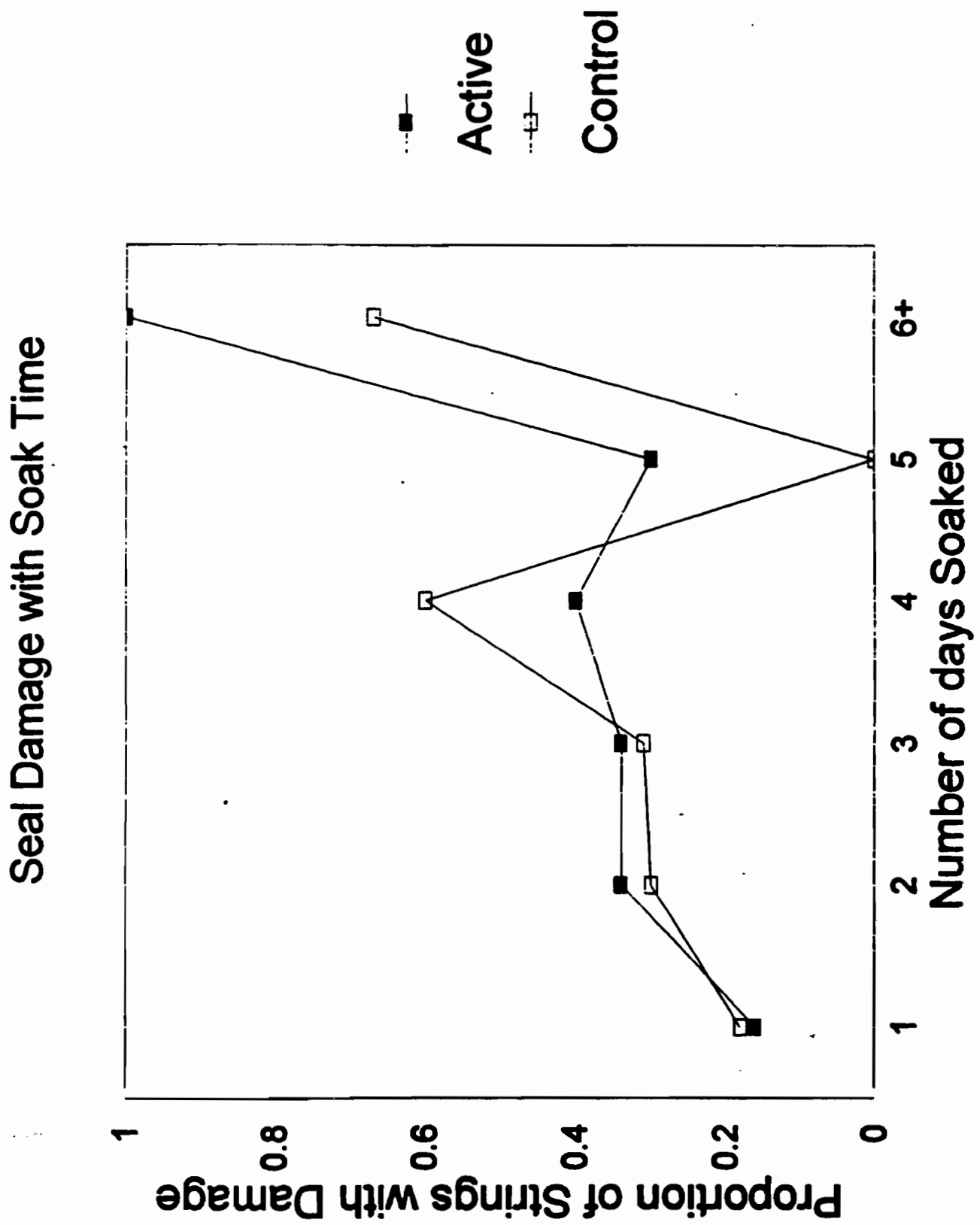


Figure 6. Variation in seal damage vs. soak time in sink gillnets.

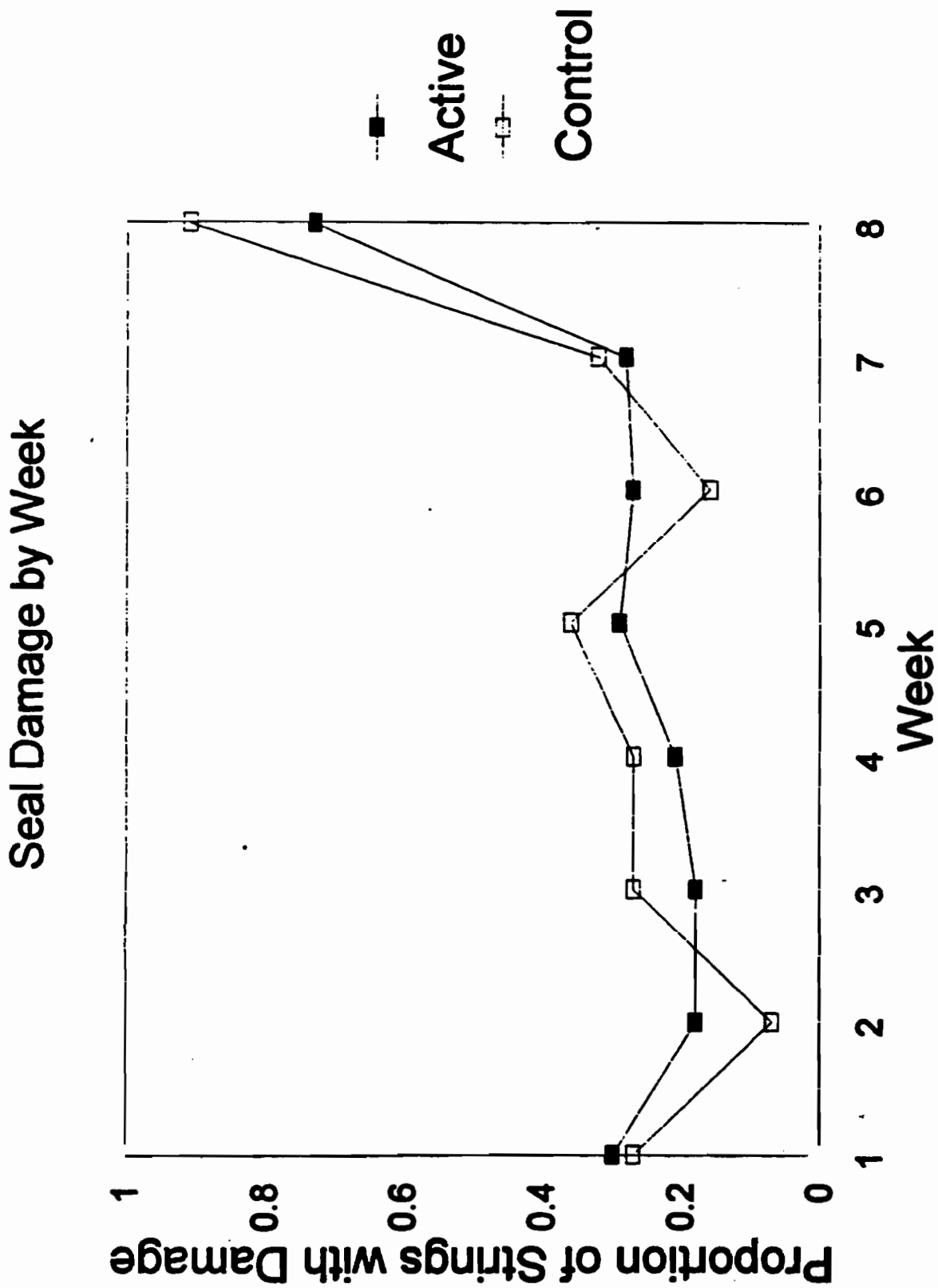


Figure 7. Weekly summary of seal damage in sink gillnets during experiment.

Location of Entanglement in String

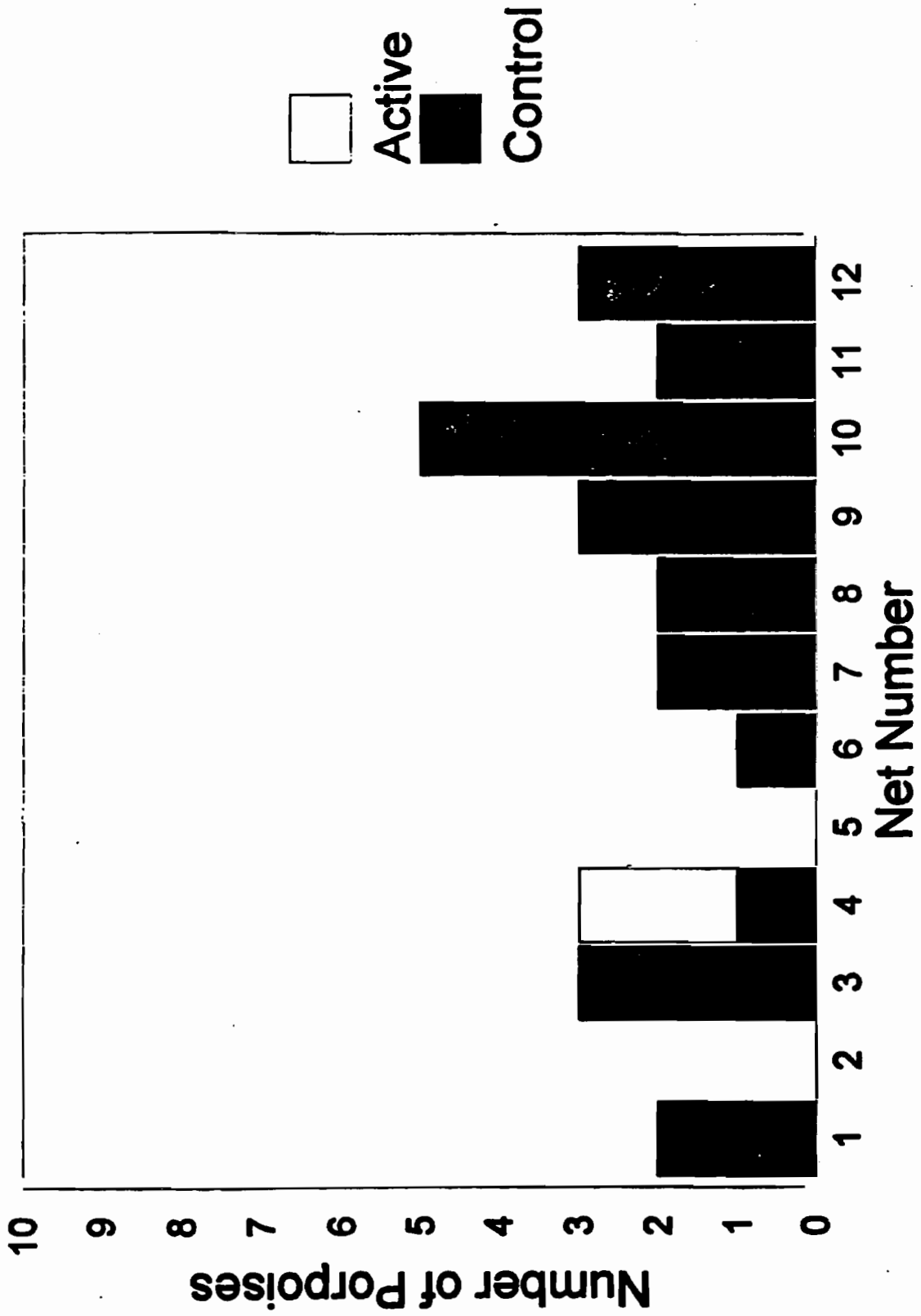


Figure 8. Location of harbor porpoise entanglements within experimental strings.

Location of Entanglement in Net

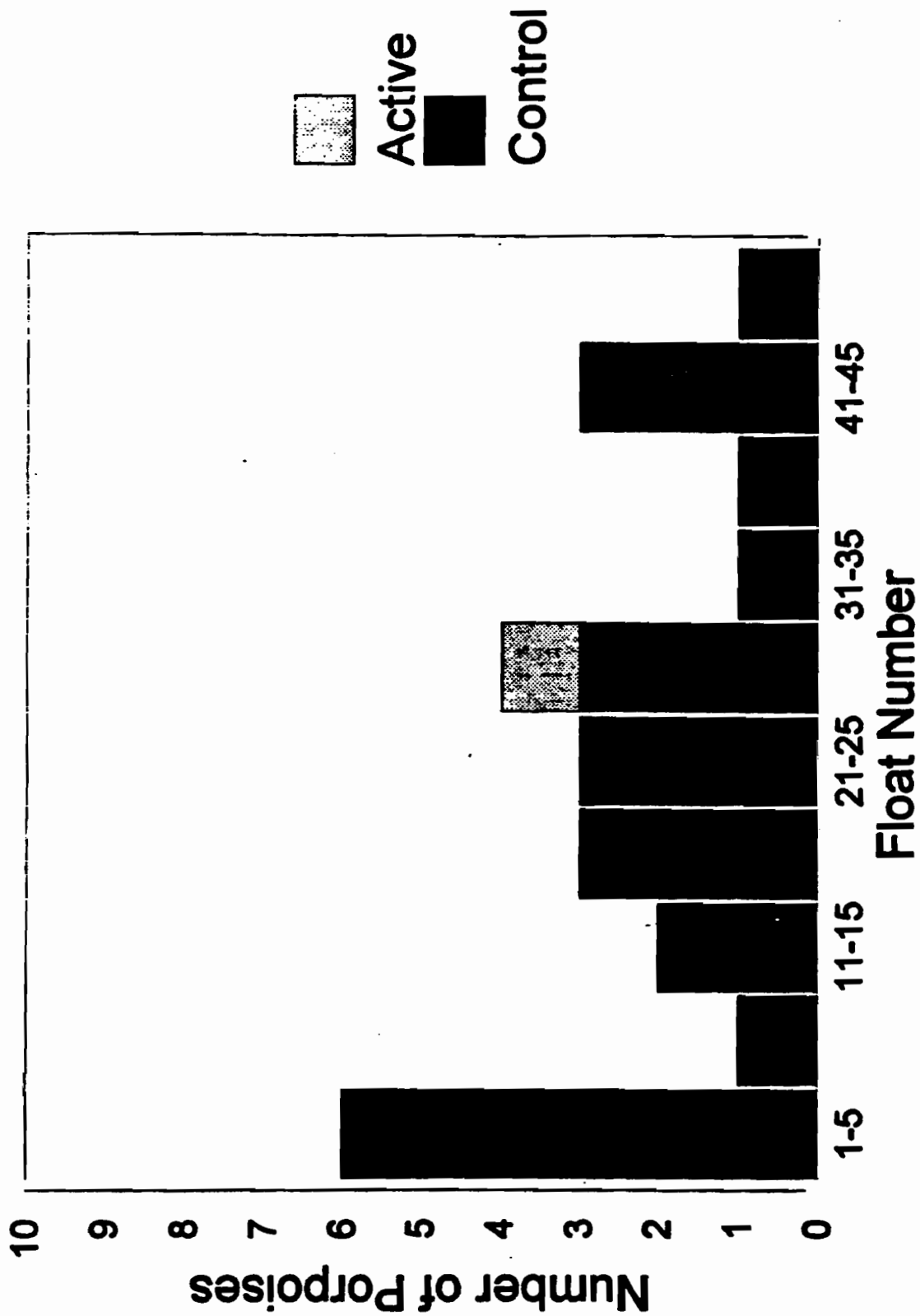
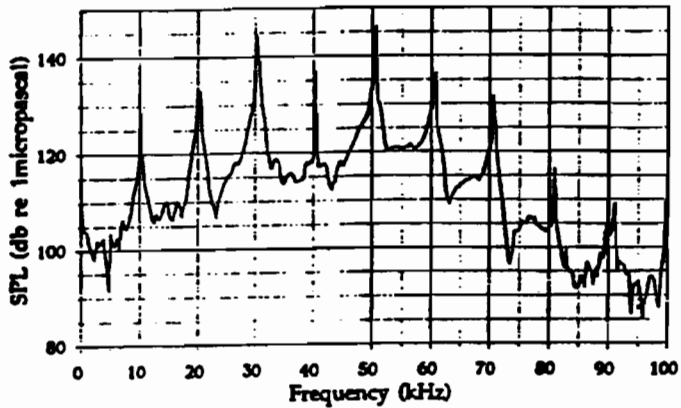
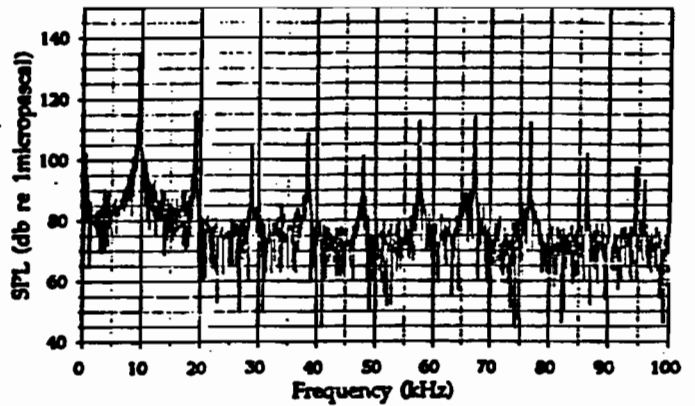


Figure 9. Location of harbor porpoise entanglements within experimental nets.

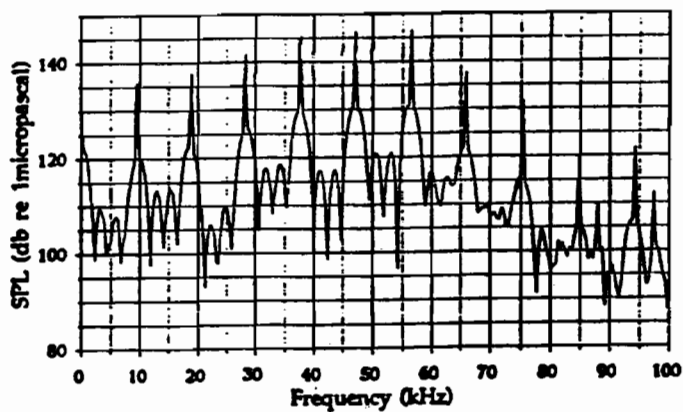
Tested Sample: 01373 F
SPL vs Frequency



Tested Sample: L1 F
SPL vs Frequency



Tested Sample: R3 F
SPL vs Frequency



Tested Sample: 01375 F
SPL vs Frequency

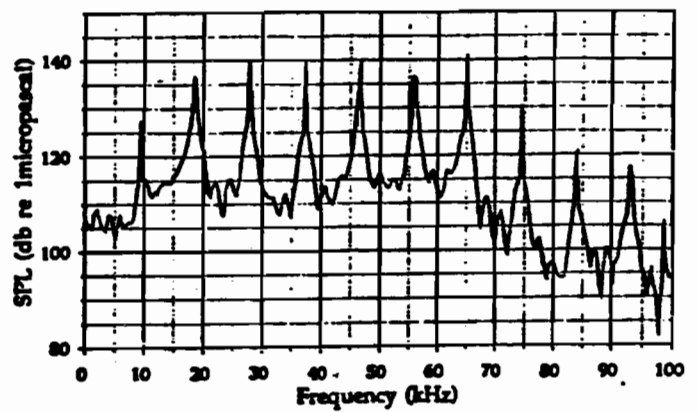
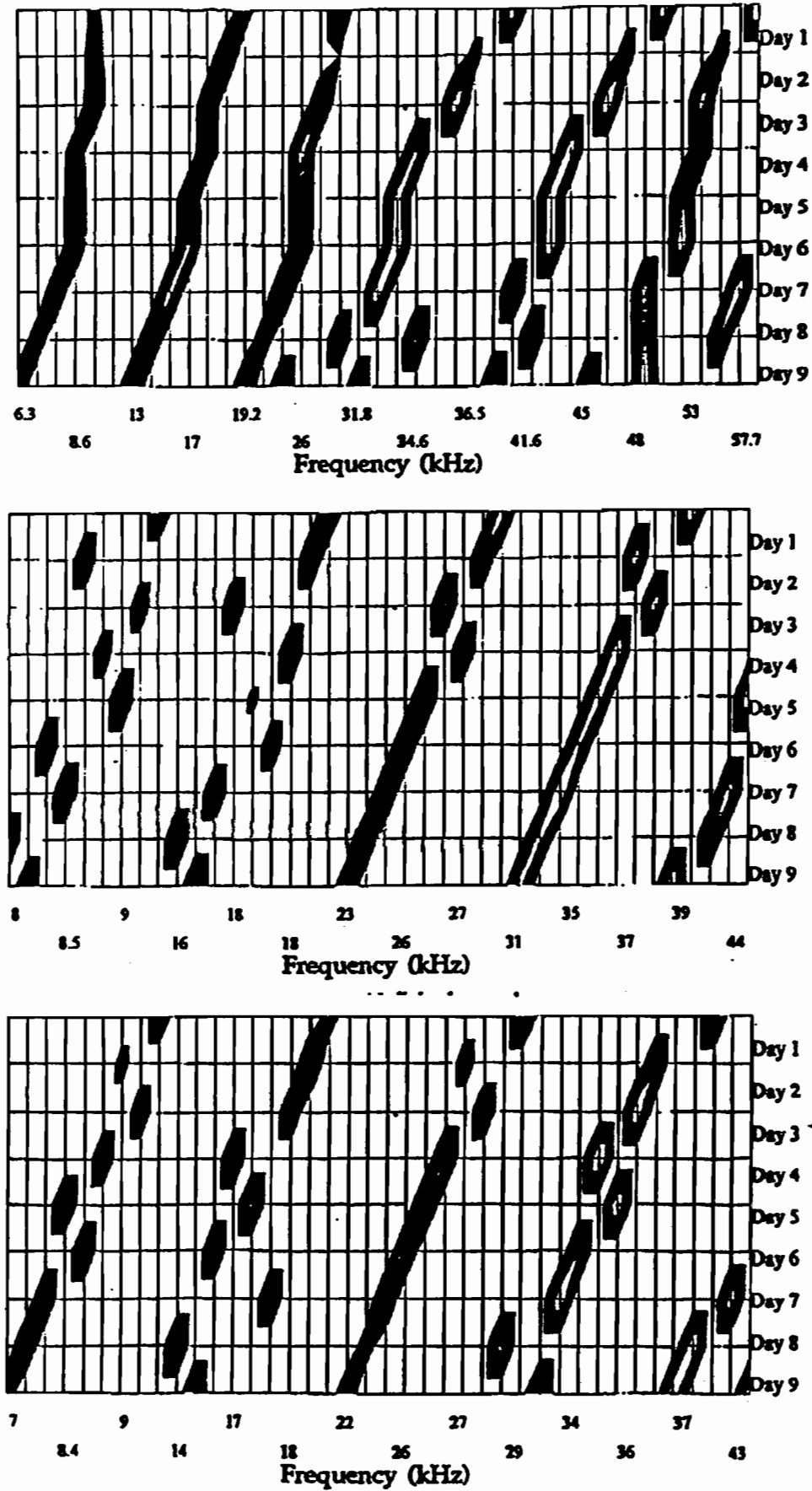


Figure 10. Variation in sound pressure levels and frequency characteristics of 4 randomly selected experimental alarms at full battery strength.

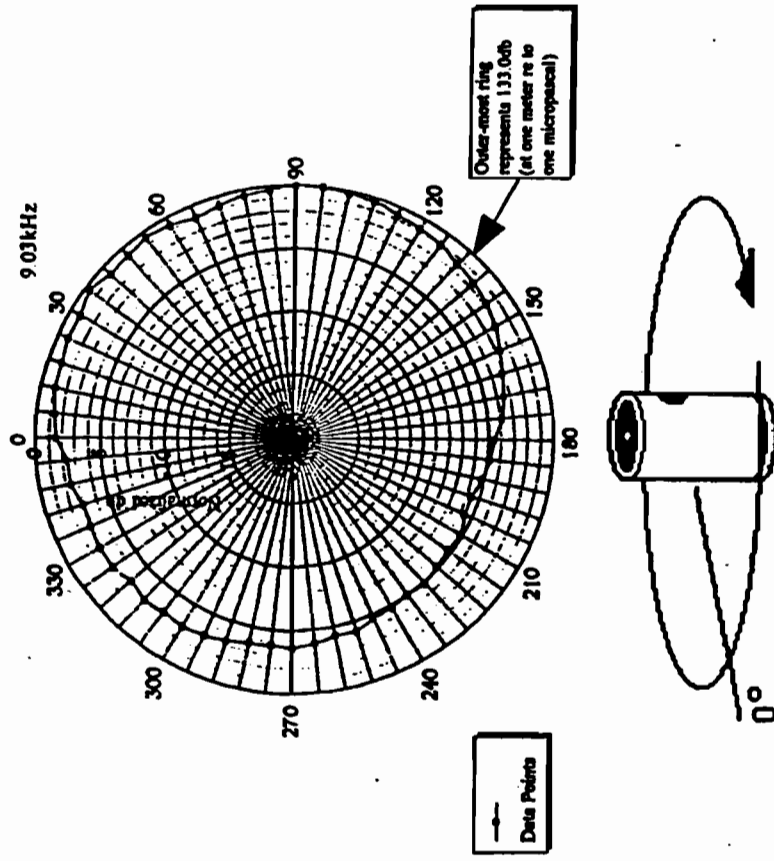
Spectral SPL vs. Days

9 Day Test, Day One at Top

Figure 11. Changes in sound pressure levels and frequency characteristics of three randomly selected alarms with decreasing battery strength.



Beam Pattern of Netmark 1000 L13



Beam Pattern of Netmark 1000 L13

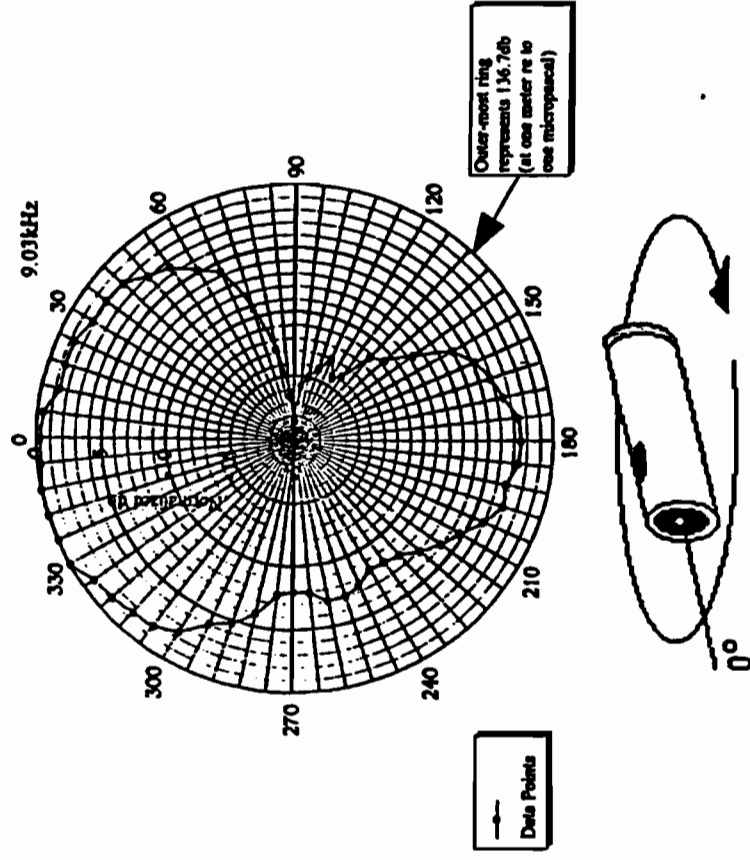


Figure 12. Sound transmission beam pattern of experimental alarms.