

FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

on

**Codified Regulations at 50 CFR Part 300 Subparts A and G
Implementing Conservation and Management Measures Adopted by the
Commission for the Conservation of Antarctic Marine Living Resources**

United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of Sustainable Fisheries

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COVER SHEET

Identify Issues and Consider Regulatory Alternatives for U.S. Management of Antarctic Marine Living Resources within the Area of the Convention on the Conservation of Antarctic Marine Living Resources

Action: Consider programmatic changes to the U.S. regulatory regime at 50 CFR Part 300 Subparts A & G for management of Antarctic Marine Living Resources within the Area of the Convention on the Conservation of Antarctic Marine Living Resources

Type of Statement: Final Programmatic Environmental Impact Statement (FPEIS)

Lead Agency: National Marine Fisheries Service (NMFS)

Cooperating Agencies: None

For Further Information: Robert Gorrell
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

Abstract: NMFS is conducting a comprehensive review of its regulatory measures to implement conservation and management measures adopted by the Commission for the Conservation of Antarctic Marine Living Resources (Commission or CCAMLR). The FPEIS describes activities related to the management, monitoring, and conduct of the fisheries; the ecological relationships between harvested, dependent and related populations of Antarctic Marine Living Resources (AMLR); the potential impacts to protected species, non-target species, and fish habitat. Further, the FPEIS considers whether to amend U.S. regulations implementing conservation and management measures adopted by CCAMLR and issued under the authority of the Antarctic Marine Living Resources Convention Act of 1984 (AMLRCA; 16 USC 2431 *et seq.*). The FPEIS focuses on four groups of actions: harvesting, trade, research, and enforcement. The status quo alternative under each of these categories is “no change.” Following publication of the Final Programmatic Environmental Impact Statement (FPEIS), a Record of Decision on preferred alternatives would form the basis for any rulemaking process to amend U.S. regulations implementing CCAMLR conservation and management measures, if appropriate.

EXECUTIVE SUMMARY

NMFS is conducting a comprehensive review of its program of regulatory measures to implement conservation and management measures adopted by the Commission for the Conservation of Antarctic Marine Living Resources (Commission or CCAMLR). This final programmatic environmental impact statement (FPEIS) describes activities related to the management, monitoring, and conduct of the fisheries; the ecological relationships between harvested, dependent and related populations of Antarctic Marine Living Resources (AMLR); the potential impacts to protected species, non-target species, and fish habitat. Further, the FPEIS considers whether NMFS should amend its CCAMLR implementing regulations. The FPEIS focuses on four groups of actions: harvesting, trade, research, and enforcement. The status quo alternative under each of these categories is “no action.”

Harvest and import data have been updated since the draft programmatic environmental impact statement (DPEIS) to include data made available at the 2005 meetings of CCAMLR (October 24, 2005 - November 4, 2005). Also, after publication of a notice of availability in the Federal Register (70 FR 38132), NMFS received comments on the DPEIS from three environmental organizations (the Center for Biological Diversity and Turtle Island Restoration Network jointly submitted comments; and the National Environmental Trust separately submitted comments) and from two Federal agencies (the National Science Foundation and the U.S. Environmental Protection Agency). These comments and NMFS responses to them are set out in a new Section 8.0 of this FPEIS.

The alternatives for harvesting controls consider four alternatives for imposing harvest limits ranging from zero (if the United States formally objected to a CCAMLR catch limit as being too high and decided not to issue any annual permits) to issuing annual permits (by season) allowing harvest up to the level two times the largest amount of annual international harvest during the period from 1993-2003. The other two alternatives consider intermediate levels: issuing permits annually by season and within the CCAMLR catch limits (status quo or “no action” alternative); and issuing annual permits (by season) limiting harvest to half the largest amount of annual international harvest during the period from 1993-2003. These harvest-limiting alternatives are considered by groups of “assessed” (established) fisheries and exploratory fisheries. Other alternatives to control harvest include limitations on issuing permits for future exploratory fisheries, restricting longline fishing and trawl fishing in the CCAMLR Convention Area, and modifying the scope of permits required to harvest and import toothfish.

The alternatives for trade controls consider various alternatives to strengthen the import/re-export control program for AMLR. These alternatives involve, among other things, the Catch Documentation Scheme (CDS) and the use of Dissostichus Catch Documents (DCDs). The alternatives for research controls consider revising the U.S. permit system for research within CCAMLR Ecosystem Monitoring Program (CEMP) sites, and implementing the CCAMLR scheme of international scientific observation. The alternatives for enforcement consider enhancing enforcement capability through use of Vessel Monitoring System (VMS) with additional regulations to support implementation of the VMS, and enhancing enforcement

capability through participation in CCAMLR's Centralized VMS (C-VMS) program.

The United States is actively supporting CCAMLR's international scheme for managing AMLR that utilizes an ecosystem approach to management whose objective is conservation, including rational use (harvesting). Under Article II of the Convention on the Conservation of Antarctic Marine Living Resources (Convention), a guiding force in the adoption of conservation and management measures by CCAMLR, harvesting is to be conducted so as to: (a) prevent decrease in size of harvested populations below that necessary for stable recruitment; (b) maintain ecological relationships between harvested, dependent and related species; and (c) prevent or minimize risk of changes not reversible over two or three decades. Also, Article II states that conservation measures should be set " . . . taking into account the state of available knowledge of the direct and indirect impacts of harvesting, the effects of introduction of alien species, the effects of associated activities on the marine ecosystem, and the effects of environmental change, with the aim of making possible the sustained conservation of Antarctic marine living resources." CCAMLR's ecosystem approach manages the development of fisheries, takes a precautionary approach to managing risk and uncertainty, evaluates and manages direct effects (assessment of yield in relation to longer term stock status; bycatch mitigation measures; and avoidance of impacts on benthic habitats in some areas), considers the needs of predators of fished species and the recovery of depleted species, considers spatial scales of effects, and continually supports development of evaluation and assessment methods.

The existing NMFS regulations are effective in implementing conservation and management measures adopted by CCAMLR, but preferred alternatives (identified in Sec. 2.0 Alternatives and analyzed in Sec. 4.0 Environmental Consequences of Alternatives Considered) for trade and enforcement, as well as a preferred alternative for research, consider modification of existing U.S. regulations to allow for more effective implementation. This FPEIS could serve as a background analytical document for future modification of existing regulations and issuance of permits by NMFS for harvesting AMLR. On July 13, 2006, NMFS published a proposed regulation in the Federal Register (71 FR 39642) that would implement several of the alternatives considered in this FPEIS.

Following publication of a notice of availability of this FPEIS in the Federal Register, a Record of Decision on preferred alternatives would form the basis for any final regulations or other rulemaking process to amend U.S. regulations implementing CCAMLR conservation and management measures, if appropriate.

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SECTION 1.0 PURPOSE AND NEED FOR ACTION

The purpose of this Final Programmatic Environmental Impact Statement (FPEIS) is to examine the impacts to the human environment of the National Marine Fisheries Service (NMFS) regulatory program to implement conservation and management measures adopted by the Commission and approved by the United States. Through this examination, this FPEIS will also ensure that the NMFS regulatory program meets the objectives and mandates of the Antarctic Marine Living Resources Convention Act of 1984 (AMLRCA) and other applicable law.

It is also intended to use this programmatic analysis as the National Environmental Policy Act (NEPA) analysis for future permit issuance. This programmatic environmental impact statement examines a broad range of alternatives. In so doing, this programmatic analysis will serve as the NEPA analysis for future permit applications falling under catch limits included within this broad range. For example, should a catch limit be doubled by CCAMLR, NMFS would not prepare a further NEPA analysis as long as other related and assessed impacts to bycatch, marine mammals, endangered species, and habitat do not substantially change from those analyzed in the FPEIS. It is acceptable to NMFS to harvest at any harvest level analyzed in this FPEIS (specifically under each suite of alternatives under Sec. 2.1's Action I - Impose Harvest Limits; or generally under Sec. 2.1's Action II - Restrict Longline Fishing in CCAMLR Convention Area, and Action III - Restrict Trawl Fishing in CCAMLR Convention Area) and consistent with any catch limit set by CCAMLR.

This action is needed to ascertain the effectiveness of the current NMFS regulatory program to meet the objectives and mandates of AMLRCA and, where necessary, make changes to this program to improve its effectiveness in meeting these objectives and mandates. AMLRCA and its implementing regulations provide NMFS with the authority to implement CCAMLR conservation and management measures under four broad categories: harvest, trade, research, and enforcement. This FPEIS discusses the ecological (including biological) and socioeconomic impacts of issuing harvesting permits to U.S. vessels to participate in all CCAMLR fisheries throughout the CCAMLR Convention Area (Convention Area), of conducting research in Antarctica, and of issuing permits to import or re-export Antarctic Marine Living Resources (AMLR). The United States is obligated to ensure that any harvesting of, or trade in, AMLR by U.S. nationals is conducted in a manner consistent with the Convention on the Conservation of Antarctic Marine Living Resources (Convention) and AMLRCA. The FPEIS also examines the effectiveness of the enforcement of NMFS' regulatory program to meet its obligations under the Convention and AMLRCA. NMFS applicable regulations are found at 50 CFR Part 300, Subparts A and G.

NMFS will conduct a formal review of this EIS in 5 years to determine if a new or supplemental EIS is needed. In the interim, active U.S. participation in CCAMLR will allow NMFS to detect any significant change in circumstances that might warrant updating this EIS. If CCAMLR were to allow a new exploratory fishery while this EIS is in effect, NMFS would conduct an independent review or analysis of any new future exploratory fishery to see that the

issuance of a U.S. AMLR harvesting permit would be consistent with the three CCAMLR objectives: to prevent decrease in size of harvested populations below that necessary for stable recruitment; to maintain ecological relationships between harvested, dependent and related species; and to prevent or minimize risk of changes not reversible over two or three decades. If NMFS concludes that issuance of the AMLR harvesting permit is consistent, there would be no additional NEPA analysis for the requested permit.

1.1 Background/Management History

At the Ninth Consultative Meeting of the Antarctic Treaty in 1977, representatives of the United States and other consultative parties expressed concern for the conservation of AMLR. The parties adopted Recommendation IX-2, which led to the establishment of the 1982 Convention and the Commission for the Conservation of Antarctic Marine Living Resources (Commission or CCAMLR). CCAMLR governs AMLR for the purpose of protecting and conserving those marine living resources in the waters surrounding Antarctica. These resources include krill, icefish and other finfish, mollusks, crustacea, and all other species of living organisms. The Convention is based upon an ecosystem approach to the conservation of marine living resources and incorporates standards designed to ensure the conservation of individual populations and species and the Antarctic marine ecosystems as a whole.

The Convention established the following principles for the conservation of marine living resources:

- (a) prevent decrease in the size of any harvested recruitment (for this purpose, its size should not be allowed to fall below a level close to that which ensures the greatest net annual recruitment);
- (b) maintain ecological relationships between harvested, dependent, and related populations of Antarctic marine living resources, and restore depleted populations to the levels defined in (a) above; and
- (c) prevent changes or minimize the risk of changes in the marine ecosystem that are not potentially reversible over two or three decades, taking into account the state of available knowledge of the direct and indirect impact of harvesting, the effect of the introduction of alien species, the effects of associated activities on the marine ecosystem, and the effects of environmental changes, with the aim of making possible the sustained conservation of Antarctic marine living resources.

The Convention applies to AMLR of the areas south of 60° S and between that latitude and the Antarctic Convergence¹ that forms part of the Antarctic marine ecosystem, with three exceptions. The International Whaling Commission (IWC) addresses whale management globally, including in the Southern Ocean. The Convention on the Conservation of Antarctic Seals (CCAS) addresses seals. CCAS is implemented through meetings of the Parties to the Convention; there is no commission for the CCAS. France (not CCAMLR) is responsible for setting total allowable catches (TAC) of AMLR in the Exclusive Economic Zones (EEZs) surrounding the Kerguelen Islands (within Subdivision 58.5.1) and the Crozet Islands (within Subdivision 58.6); and South Africa (not CCAMLR) sets TACs within the EEZ surrounding the Prince Edward and Marion Islands (within Subdivision 58.7). In addition, the United Kingdom voluntarily gives effect to TACs set by CCAMLR for its EEZs in Subarea 48.3 (South Georgia) and Subarea 48.4 (the South Sandwich Islands). CCAMLR manages AMLR in the parts of these Subdivisions outside of the EEZs. Additional information about CCAMLR management practices can be found at www.ccamlr.org.

The United States is a Contracting Party to the Convention, as well as a Member of CCAMLR. CCAMLR's other member Nations and entities include Argentina, Australia, Belgium, Brazil, Chile, European Community, France, Germany, India, Italy, Japan, Republic of Korea, Namibia, New Zealand, Norway, Poland, Russian Federation, South Africa, Spain, Sweden, Ukraine, United Kingdom, and Uruguay (note: Bulgaria, Canada, Finland, Greece, Mauritius, Netherlands, Peru, and Vanuatu have acceded to the Convention but are not members of the Commission). The function of CCAMLR is to give effect to the objectives and principles of the Convention.

Management of Convention Area Fisheries

The current CCAMLR [Schedule of Conservation Measures in Force](http://www.ccamlr.org/pu/e/pubs/cm/drt.htm) can be downloaded from www.ccamlr.org/pu/e/pubs/cm/drt.htm. In addition to the text of all conservation measures in force, the document includes a map of the Convention Area; the categories and codes used to classify conservation measures; a summary of current conservation measures and resolutions in force; the application of conservation measures to fisheries in the Convention Area; a history of conservation measures and resolutions; and a summary of conservation measures adopted each year. CCAMLR has adopted conservation measures related to: compliance; notifications of new and exploratory fisheries; gear regulation; data reporting; research and experiments; minimization of incidental mortality; fishing seasons: closed areas and prohibition of fishing; bycatch limits; toothfish; icefish; other finfish; krill; crab; squid; and protected areas. The Commission sets catch limits for both established (assessed) fisheries and new and exploratory

¹The Antarctic Convergence is deemed to be a line joining the following points along parallels of latitude and meridians of longitude: 50° S, 0°; 50° S, 30° E; 45° S, 30° E; 45° S, 80° E; 55° S, 80° E; 55° S, 150° E; 60° S, 150° E; 60° S, 150° W; 60° S, 50° W; 50° S, 50° W; and 50° S, 0°.

fisheries. These catch limits are for total catch by all countries in the Convention Area, as there are no individual country allocations.

CCAMLR was the first international regional agreement to stipulate a precautionary ecosystem management approach (www.ccamlr.org). This approach considers the effects of any harvesting on dependant and associated species, not just the target species, and that ecological relationships be maintained.

A number of CCAMLR Committees report and make recommendations to the Commission, including a Scientific Committee (SC), which has two working groups plus an ad hoc working group:

The Working Group on Fish Stock Assessment develops management advice, based on information provided by various Member scientists,

The Working Group on Ecosystem Monitoring and Management is concerned with analyzing data from the CCAMLR Ecosystem Monitoring Program, and

The Ad-hoc Working Group on Incidental Mortality Associated with Fishing (IMAF).

Advice from the Working Groups is submitted to the SC, which may also take into account any additional information. The SC then refers management advice to the Commission for consideration. Management measures agreed to by the Commission are reflected in Conservation Measures. CCAMLR meets annually in Hobart, Australia for a period of two weeks commencing in late October to discuss issues and organize management arrangements for the coming fishing seasons. The Commission is comprised of delegates from each Member country. The Department of State (DOS) heads the U.S. delegation. The United States plays a leading role at CCAMLR and meetings of the Commission, the SC and each of the Working Groups.

Participation by U.S. fishers in CCAMLR fisheries, particularly the toothfish fishery, provides many benefits to the United States, such as the provision of real-time information to NMFS concerning the sighting of other vessels on the fishing grounds. This information aids the enforcement of CCAMLR rules in general and the elimination of illegal, unregulated, and unreported (IUU) fishing, in particular. Additionally, U.S. vessels can and have provided a platform for NMFS' researchers in the Antarctic. Finally, trip reporting and observer data provide valuable information about AMLR to NMFS.

(1) Description of the Specific Area that May be Affected by the Action

The CCAMLR Convention applies to the Antarctic marine living resources of the area south of 60° South latitude and to the Antarctic marine living resources of the area between that latitude and the Antarctic Convergence that form part of the Antarctic marine ecosystem. The

Antarctic Convergence is a significant feature where colder polar waters meet more temperate waters to the north and forms an effective biological barrier to most Southern Ocean species. The Antarctic convergence is defined as the line joining the following points along parallels of latitude and meridians of longitude: 50° S 0°; 50° S, 30° E; 45° S, 30° E; 45° S, 80° E; 55° S, 80° E; 55° S, 150° E; 60° S, 150° E; 60° S, 50° W; 50° S, 50° W; 50° S, 0°. (See Sec. 1.1 of this FPEIS for a map of the CCAMLR Convention Area entitled “CCAMLR Prohibited Fishing Areas”). The Convention Area covers approximately 32.9 million square kilometers. The Antarctic marine ecosystem is referred to in the Convention as the complex of relationships of Antarctic marine living resources with each other and with their physical environment.

CCAMLR uses the Food and Agricultural Organization (FAO) Statistical Area notation to subdivide the Convention area into regions of management. The Convention Area is divided into three internationally agreed statistical areas:

- Area 48 (Atlantic Ocean sector)
- Area 58 (Indian Ocean sector)
- Area 88 (Pacific Ocean sector)

Statistical areas are further divided in subareas, divisions and, if necessary, divisions are partitioned into two sections (a and b).

Because the scope of this FPEIS includes alternatives for harvesting controls within the NMFS CCAMLR regulatory program, longline testing trials to determine sink rates for compliance with Conservation Measure 24-02 are discussed in Sections 2.5 and 3.2. According to CM 24-02, any longline testing trials must be conducted outside the CCAMLR Convention Area; therefore, the area that may be affected by the action includes FAO statistical areas outside the CCAMLR Convention Area. The two ports where U.S. fishers have home ported or staged their CCAMLR fishing activities during the past decade are Punta Arenas, Chile (53° 11' S. latitude, 70° 56' W. longitude), and Montevideo, Uruguay (35° S. latitude, 56° 13' W. longitude). Cape Town, South Africa (33° 55' S. latitude, 18° 22' E. longitude) may be used by U.S. longline vessels in future years. We expect that any future longline testing trials would occur south of these three ports in FAO Statistical Areas 41 and 47 in the South Atlantic and in FAO Statistical Areas 87 and 81 in the South Pacific.

Sec. 3.2 contains a map “Longline Testing Trial Sites and CCAMLR Fishing Areas/Subareas” depicting the CCAMLR Convention Area and expected future longline testing trials as occurring south of 35° S. latitude outside the Convention Area and within FAO Statistical Areas 41, 47, 81, and 87.

(2) Fisheries Types

CCAMLR classifies its fisheries into three categories; assessed, new, and exploratory fisheries. Assessed fisheries are those where sufficient data exist to determine at least a

preliminary stock assessment and where catch limits may be set based upon a statistical model. New fisheries are those where Member countries have notified CCAMLR that they intend to fish in an area or for a species or use a specific gear where fishing has not occurred previously. Exploratory fisheries are new fisheries in subsequent years where fishing has not occurred to the extent that sufficient data are available to conduct a stock assessment. Because most areas, species or gears have been notified, in practice, CCAMLR classifies new and exploratory fisheries as “exploratory” and regulates as one type. This document follows that practice and therefore analyzes three fisheries; “assessed,” “exploratory,” and “future exploratory” (including “new” and “exploratory” fisheries).

Assessed (Established) Fisheries

For the 2003/04 fishing season CCAMLR set catch limits (See Table 3) for assessed fisheries as follows: (1) 4,420 metric tons (mt) for the longline fishery for *D. eleginoides* in Subarea 48.3, counting any catch of *D. eleginoides* taken in other finfish fisheries in Subarea 48.3 against the catch limit; (2) a combined catch limit of 2,873 mt for trawl fishing for *D. eleginoides* in Division 58.5.2 during the December 1, 2003, to November 30, 2004 season and for longline fishing for *D. eleginoides* in Division 58.5.2 west of 79°20'E from May 1, 2004 to August 31, 2004; (3) 2,887 mt for *C. gunnari* in Subarea 48.3; (4) 292 mt for *C. gunnari* within defined areas of Division 58.5.2. The Commission agreed that the fishery for *E. carlsbergi* in Subarea 48.3 had lapsed. Consequently, the Commission has prohibited directed fishing on the species in Subarea 48.3 until further research has been conducted and a decision that the fishery be reopened is made by the Commission based on the advice of the SC.

The Commission carried forward the precautionary catch limits for krill in Area 48 at 4.0 million mt overall and, as divided by subareas, at 1.008 million mt in Subarea 48.1, 1.104 million mt in Subarea 48.2, 1.056 million mt in Subarea 48.3, and 0.832 million mt in Subarea 48.4.

Exploratory Fisheries

CCAMLR has adopted a measure that requires Members to notify the CCAMLR Secretariat when it is considering initiating an exploratory fishery in the Convention area. The notification must be received by the Secretariat not less than three months in advance of the next regular meeting of the Commission. The Member may not initiate the new fishery pending Commission review.

The notification to the Commission must be accompanied by as much of the following information as the Member is able to provide: (1) the nature of the proposed fishery including target species, methods of fishing, proposed region and any minimum level of catches that would be required to develop a viable fishery; (2) biological information from comprehensive research/survey cruises, such as distribution, abundance, demographic data and information on stock identity; (3) details of dependent and associated species and the likelihood of them being

affected by the proposed fishery; and (4) information from other fisheries in the region or similar fisheries elsewhere that may assist in the valuation of potential yield.

Information on proposed new fisheries is considered by the SC, which then advises the Commission. After Commission review, the Commission takes action as it deems necessary.

An exploratory fishery continues to be classified as an exploratory fishery until sufficient information is available to evaluate the fishery's potential yield; to review its potential impacts on dependent and related species; and to allow the SC to formulate and provide advice to the Commission on appropriate harvest catch levels, effort levels, and fishing gear.

To ensure that adequate information is available to the SC for evaluation during the period when a fishery is classified as exploratory, the SC develops and annually updates a Data Collection Plan. Each Member active in the fishery annually submits to CCAMLR the data specified by the Data Collection Plan. Fishing capacity and effort is limited by a precautionary catch limit at a level not substantially above that necessary to obtain the data specified in the Data Collection Plan.

The Data Collection Plan includes, as appropriate: (1) a description of the catch, effort, and related biological, ecological, and environmental data required to undertake an evaluation of the fishery; (2) a plan for directing fishing effort during the exploratory phase to permit the acquisition of relevant data to evaluate the fishery potential and the ecological relationships among harvested, dependent, and related populations and the likelihood of adverse impacts; (3) a plan for the acquisition of any other research data by fishing vessels, including activities that may require cooperative activities of scientific observers and the vessel, as may be required for the SC to evaluate the fishery potential and the ecological relationships among harvested, dependent, and related populations and the likelihood of adverse impacts; and (4) an evaluation of the time-scales involved in determining the responses of harvested, dependent and related populations to fishing activities.

Each Member active in the fishery or intending to authorize a vessel to enter the fishery annually prepares and submits to CCAMLR a Research and Fishery Operations Plan. The plan is to include as much of the following as possible: (1) a description of how the Member's activities will comply with the Data Collection Plan developed by the SC; (2) the nature of the exploratory fishery, including target species, methods of fishing, proposed region and maximum catch levels proposed for the forthcoming season; (3) biological information from comprehensive research/survey cruises, such as distribution, abundance, demographic data, and information on stock identity; (4) details of dependent and related species and the likelihood of them being affected by the proposed fishery; and (5) information from other fisheries in the region or similar fisheries elsewhere that may assist in the evaluation of potential yield.

The Commission also designated, or continued the designation of, certain fisheries as exploratory fisheries during the 2003/04 fishing season. This recent fishing season provides the most current example of CCAMLR measures governing exploratory fisheries.

Several of the *Dissostichus* fisheries will be managed as exploratory fisheries. These fisheries are total allowable catch fisheries and are open only to the flagged vessels of countries that notified CCAMLR of an interest by named vessels in the fisheries. The exploratory fisheries for *Dissostichus* species authorized by the Commission for the 2003/2004 fishing season include the following: (1) longline fishing in Division 58.4.1 by Argentina, Australia and the United States; (2) longline fishing in Subarea 48.6 by Argentina, Japan, Namibia, New Zealand, Spain and South Africa; (3) longline fishing in Division 58.4.2 by Argentina, Australia, Russia, Ukraine and the United States; (4) longline fishing in Division 58.4.3a (the Elan Bank) outside areas under national jurisdiction by Argentina, Australia, Russia, Ukraine and the United States; (5) longline fishing in Division 58.4.3b (the BANZARE Bank) by Argentina, Australia, Russia, Ukraine and the United States; (6) trawl fishing in Division 58.4.3b (the BANZARE Bank) by one Australian vessel; (7) longline fishing in Subarea 88.1 by Argentina, Japan, Korea, New Zealand, Norway, Russia, South Africa, Spain, Ukraine, United Kingdom, United States and Uruguay; and (8) longline fishing in Subarea 88.2 by Argentina, Korea, New Zealand, Norway, Russia, South Africa and Ukraine. In addition, the Commission set a catch limit for Subarea 48.4, although no Member indicated an intention of fishing in the region.

The Commission set the total allowable catch level for the exploratory pot fishery for crab in Subarea 48.3 for the 2003/2004 fishing season at 1,600 mt and continued to limit participation to one vessel per member country.

The Commission set the total allowable catch limit for the exploratory jig fishery for squid, *Martialia hyadesi*, in Subarea 48.3 for the 2003/2004 fishing season at 2,500 mt.

The Commission limited the exploratory fishery for *Macrourus* species in Divisions 58.4.3a and 58.4.3b in the 2003/2004 fishing season to one Australian-flagged trawler and set the catch limits at 26 and 129 mt respectively.

The Commission also set a total precautionary catch limit in the exploratory fisheries in Division 58.4.2 of 2,000 mt with no more than 1,000 mt for spiny icefish, *Chaenodraco wilsoni*, and 500 mt each for striped-eye notothen, *Lepidonotothen kempfi*, blunt scalyhead, *Trematomas eulepidotus*, and Antarctic silverfish, *Pleuragramma antarcticum*.

The Commission revised the limitations on bycatch in new and exploratory fisheries in Division 58.5.2 for the 2003/2004 season. The Commission also revised the bycatch limits in all new and exploratory fisheries for the 2003/2004 season in all areas containing Small Scale Research Units (SSRUs) (Subareas 48.6, 88.1 and 88.2, and Divisions 58.4.2, 58.4.3a, 58.4.3b) for all *Macrourus*, skates and rays, and other species.

At its 2003 annual meeting, the Commission revised its general measures for exploratory fisheries for *Dissostichus* species by removing catch limits in fine-scale rectangles; by removing soak time constraints for longlines; by revising the boundaries of SSRUs and introducing new

SSRUs; and unless otherwise specified, by setting a catch limit of 100 mt in any SSRU excluding Subarea 88.2.

For the 2004/05 season, 26 notifications were made by 13 members for new or exploratory longline or trawl fisheries to fish for toothfish. A large number of the notifications were made for Subareas 88.1 (ten notifications for up to 21 vessels), 88.2 (five notifications for up to 10 vessels), and Divisions 58.4.1, 58.4.2, and 58.4.3b (between 7 and 11 vessels each).

Future Exploratory Fisheries

CCAMLR may, in the future, designate additional fisheries as new or exploratory fisheries. These would be fisheries not presently designated by CCAMLR as assessed, new or exploratory fisheries but for which Members in the future may express an interest in harvesting. If the SC recommends the designation of a fishery as a new or exploratory fishery, it will generate a Data Collection Plan for review by CCAMLR. If CCAMLR agrees to a future new or exploratory fishery, it will set catch limits based upon a comparison of the amount of fishable bottom habitat in the exploratory region with those in established fisheries and will use recruitment rates, etc. from the established areas. To ensure that catch limits are precautionary, CCAMLR will only allow a small proportion of the stocks to be taken. Each vessel participating in an exploratory fishery would be required to carry a scientific observer to ensure that data are collected in accordance with an agreed Data Collection Plan, and to assist in collecting biological and other relevant data. The squid, crab and most toothfish fisheries are presently designated as exploratory fisheries. Future new or exploratory fisheries could include finfish not currently fished but for which members feel there is a market for the fish and technology to harvest them.

(3) Assessment Methods:

Calculation of Precautionary Catch Limits for Assessed Fisheries

The model currently used by CCAMLR for its management of the assessed fisheries to determine precautionary catch limits is the Generalized Yield Model (GYM). The stock assessment approaches and the GYM are accepted within the CCAMLR scientific community as the most appropriate methodology for the species concerned, taking into account the extent of knowledge about the species' biology and stock size. These approaches are published in the peer-reviewed literature (Constable & de la Mare 1996, de la Mare *et al*, 1998) and have received wider publication in other international fora, such as the 1999 Conference on the Ecosystem Effects of Fishing (Constable *et al* 2000). The GYM was derived from a population model referred to as the krill yield model. Development of the model was partially motivated by concerns raised in 1990, when estimates of krill biomass near South Georgia were only 600,000 mt and the localized fishery was taking as much as one third of this amount each year (SC-CCAMLR, 1990). The krill yield model (Butterworth *et al.*, 1991) is based on a simple approach proposed for fish stocks by Beddington and Cooke in 1983. This approach involves the

determination of a factor (γ), the proportion of unexploited biomass that can be caught each year. The essential conditions of this approach are (1) the availability of a single estimate of the resource biomass prior to the initiation of harvest; (2) the assumption that annual recruitment does not fall as the spawning stock size drops; and (3) the evaluation of a potential yield that satisfies a risk criterion to minimize the probability of impairing recruitment (de la Mare, 1994a).

With respect to the specific nature of krill and the krill fishery, additional modifications allowed for:

(1) strong seasonal effects such as all somatic growth occurring during 3 months of the year; (2) the possibility that the fishing season may not extend throughout the entire year; (3) imprecision of the survey estimate of biomass; and (4) uncertainties in the estimates of biological parameters such as recruitment and natural mortality (SC-CAMLR, 1991; Butterworth *et al.*, 1994). The population model is an age-structured model that relies on the following information for its catch limit calculations: (1) an initial estimate of the total biomass of the krill stock in an area; (2) an estimate of the rate of natural mortality; (3) a simulation model of krill populations; and (4) an estimate of the interannual variability in recruitment. It has the form:

$$Y = \gamma B_0$$

where Y is the annual krill yield; γ is the proportion of the biomass that can be caught each year; and B_0 is a measure of the total biomass prior to exploitation.

Year-to-year krill variability is accommodated by a simulation model, which includes random variability in recruitment and is used to calculate a distribution of population sizes both in the absence of fishing and at various levels of fishing mortality. This simulation model is run with varying values for growth, mortality, and abundance drawn at random from defined distributions, allowing for the incorporation of natural variability and uncertainty in measurement. The resulting distributions are used to determine γ . The greater the value of γ (the proportion of the biomass that can be caught each year), the higher the permitted fishing intensity. CCAMLR has developed a three-part decision rule for determining the value of γ :

1. Choose γ_1 so that the probability of the spawning biomass dropping below 20% of its pre-exploitation median level over a 20-year harvesting period is 10%,
2. Choose γ_2 so that the median level of krill spawning biomass in *the exploited* stock over a 20-year period is 75% of the pre-exploitation median level, and
3. Select the lower of γ_1 and γ_2 as the level of γ for the calculation of krill yield (SC-CAMLR, 1991).

The first two decision criteria correspond to values of γ : γ_1 concerns the probability that krill spawning biomass will drop below a sustainable level, and γ_2 attempts to address the needs of the krill predators. In an ecosystem context, these criteria are followed to ensure that there is

not only a sustainable level of krill production, but also that the needs of all of the predators are safeguarded (Everson and de la Mare, 1996). Because detailed modeling on how the krill fishery might impact krill predators has yet to provide reliable quantitative results, an *ad hoc* approach is utilized in determining γ_2 . Specifically, criterion 2 defines a value for γ where the minimal biomass is 75% of the pre-fishing level; the 75% level is chosen as the midpoint between taking no account of the needs of predators (biomass = 50% of the pre-fishing level) and providing complete protection for the krill feeding animals (biomass = 100% of the pre-fishing level). Once criteria 1 and 2 have been established, the lower of the two values of γ is selected (SC-CAMLR, 1994). The other critical parameter used in this model (B_0 , the pre-exploitation level of krill biomass) was derived from the results of a synoptic survey of Area 48 in 2000 (SC-CAMLR, 2000). Krill biomass for Divisions 58.4.1 (SC-CAMLR, 1996) and 58.4.2 (SC-CAMLR, 1995) were determined from surveys.

Calculation of Precautionary Catch Limits for New and Exploratory Fisheries

In the case of new and exploratory fisheries, there is little to no information to draw upon regarding distribution and abundance of the target species, and no fishery independent surveys to estimate recruitment or standing stock. Thus, it is not feasible to conduct a formal stock assessment to evaluate long term precautionary yield as is done in established fisheries. The CCAMLR Convention stipulates that the expansion of a new fishery must not proceed faster than the acquisition of information necessary to ensure that the fishery can and will be conducted in accordance with the principles of the Article II. Thus, advice for new and exploratory fishery catch levels must be made available to the Commission using precautionary principles.

The approach adopted by CCAMLR to estimate precautionary yield relies on aspects of the new and exploratory statistical area under consideration, and information from assessments of established fisheries for *D. eleginoides* in Subarea 48.3 and Division 58.5.2. The fishable seabed areas of the proposed new and exploratory statistical area are determined as 0 to 600 m (representative of juvenile habitat), 600 to 1,800 m (longline fishing depths) and 500 to 1,500 m (trawl fishing depths). The calculation of precautionary yield includes the following elements: (1) proportional adjustments for areas of fishable seabed and latitudinal zones are computed; (2) calculations using the GYM with biological and fishery parameters (including recruitment estimates) from assessed fisheries set at the values most appropriate for the area under consideration are performed; (3) allowances are made for the recent catch history, including unreported catches.

This estimate of yield is further adjusted by an agreed proportion (e.g., 50%) and a precautionary limit for the new or exploratory fishery is set. It is well recognized that this estimate may not represent an accurate assessment of potential yield in areas subject to new and exploratory fisheries.

Once the fishery commences in the area, all relevant conservation measures, data collection procedures, and submission requirement apply, including all bycatch mitigation

measures. As required fishery research plans are implemented, this allows subsequent refinement of precautionary yields in subsequent fishing seasons.

(4) Harvest Levels:

U.S. Fisheries

U.S. vessels have had limited participation in Convention Area fisheries. Seven vessels have held permits since 1991 to fish in the crab, krill or toothfish fisheries. Two vessels participated in the crab fishery in Subarea 48.3. One vessel harvested 299 mt in 1992/93, but found it difficult to market the product. A second vessel harvested 283 mt during 1995/96 and 214 mt during 1995/96 (one trip spanning two seasons), but surrendered its permit because it did not consider the fishery to be economically viable. One krill vessel has participated in the krill fishery in Convention Area 48 during five seasons, harvesting 70 mt in the 1999/2000 season; 1,561 mt in the 2000/01 season; 12,175 mt in the 2001/02 season; 10,150 mt in the 2002/03 season; and 8,900 mt during the 2003/04 year. The vessel was granted an extension of its 2003/2004 permit allowing it to take the 21,100 mt remaining on the permit during the 2004/05 season. That vessel concluded its 2004/2005 fishery on June 1, 2005, with a total catch of 1,072 mt (of the 21,100 mt allowed on its 2004/2005 permit). One U.S. vessel harvested 178 mt of toothfish in 1996, but chose not to seek a second AMLR permit. Two vessels harvested a total of 187 mt of toothfish in Subarea 88.1 during the 2003/04 year. The owner of the vessel had requested additional permits to fish in other areas, but sold his vessels prior to the issuance of those permits.

CCAMLR Fisheries

Summaries of all commercial harvests in the Convention Area during the last decade (1993/94 - 2003/04) are provided in CCAMLR's Statistical Bulletin, published annually for the latest decade. Catches by area and season, catch limits by area and season, and maximum CCAMLR catch limits for each fishery are provided in Tables 1, 2, and 3, respectively.

Table 1 (Sec. 1.1): Catch (mt) for each species in assessed and exploratory CCAMLR fisheries during the 1993/94 through 2004/05 period.

<u>ASSESSED FISHERIES</u>	05 ^{a,c}	04 ^a	03 ^a	02	01	00	99	98	97	96	95	94
<u>TOOTHFISH</u>												
48.3	3,018	4,497	7,528	5,742	4,047	4,904	3,636	3,201	3,812	3,602	3,371	658
58.5.2	2,783	2,864	2,844	2,756	2,980	3,566	3,547	3,765	1,927			
<u>ICEFISH</u>												
48.3	200	2,683	1,986	2,667	960	4,114	265	6			10	13
58.5.2	1,791	78	2,345	865	1,136	137	2	115	227			
<u>KRILL</u>												
48												
48.1	965	13,882	35,288	10,646	46,778	71,977	38,895	56,575	48,843	61,964	38,165	45,085
48.2	67,247	46,456	15,427	72,060	4,981	16,891	62,077	6,673	99	2,734	48,833	19,259
48.3	33,646	57,829	66,151	43,282	52,423	25,557	985	26,776	26,711	26,452	47,421	20,301
58.4.1											1,266	899
58.4.2												

<u>EXPLORATORY FISHERIES</u>	05 ^{a,c}	04 ^a	03 ^a	02	01	00	99	98	97	96	95	94
<u>TOOTHFISH</u>												
48.4	27											
48.6	480	7										
58.4.2	127	20					0		0			
58.4.3a	110	7										
58.4.3b	295											
88.1	3,079	2,197	1,831	1,325	660	751	297	42	0			
88.2	412	375	106	41								
58.4.1	480											
58.4.2	127	20										
<u>CRABS</u>												
48.3				112	15	2	2				214	283
<u>SQUID</u>												
48.3					2				81	52		
<u>MACROURUS</u>												
58.4.3a												
58.4.3a												
<u>FOUR SPECIES^b</u>												
53.4.2												

- a - Season denoted by ending year (e.g., 03 denotes the season beginning December 1, 2002 and ending November 30, 2003).
- b – Spiny icefish (*Chaenodraco wilsoni*), striped-eye notothen (*Lepidonotothen kempi*), blunt scalyhead (*Trematomus eulepidotus*), and Antarctic silverfish (*Pleuragramma antarcticum*).
- c – Catches reported to 21 September 2005 from the CCAMLR catch and effort reporting system.

Table 2 (Sec. 1.1): CCAMLR catch limits (mt) for assessed and exploratory fisheries during the 2006 -1994 period.

<u>ASSESSED FISHERIES</u>	06 ^a	05 ^a	04 ^a	03	02	01	00	99	98	97	96	95	94
<u>TOOTHFISH</u>													
48.3	3,556	3,050	4,420	7,810	5,820	4,500	5,310	3,500	3,300	5,000	4,000	2,800	1,300
58.5.2	2,584	2,787	2,873	2,879	2,815	2,995	3,585	3,690	3,700	3,800	297	297	
<u>ICEFISH</u>													
48.3	2,244	3,574	2,887	2,181	5,557	6,760	4,036	4,840	4,520	1,300	1,000	0	9,200
58.5.2	1,210	1,864	292	2,980	885	1,150	916	1,160	900	311	311	311	
<u>KRILL</u>													
48	4M	4M	4M	4M	4M	4M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
48.1	1,008K	1,008K	1,008K	1,008K	1,008K	1,008K							
48.2	1,104K	1,104K	1,104K	1,104K	1,104K	1,104K							
48.3	1,056K	1,056K	1,056K	1,056K	1,056K	1,056K							
48.4	832K	832K	832K	832K	832K	832K							
58.4.1	440K	440K	440K	440K	440K	440K	775K	775K	775K	775K			
58.4.2	450K	450K	450K	450K	450K	450K	450K	450K	450K	450K	450K	390K	390K

<u>EXPLORATORY FISHERIES</u>	06 ^a	05 ^a	04 ^a	03	02	01	00	99	98	97	96	95	94
<u>TOOTHFISH</u>													
48.4	100	28	28	28	28	28	28	28	28	28	28	28	
48.6	910	910	910	910	910	910	910	910		1,980			
58.4.2	780	780	500	500	500	500							
58.4.3a	250	250	250	250	250	300	450	625	1,782	1,980	200		
58.4.3b	300	300	300	300	300	345	345						
58.5.2		2,787											
88.1	2,964	3,250	3,250	3,760	2,508	2,064	2,090	2,281	1,510	1,980			
88.2	487	375	375	375	250	250	250						
58.4.1	600	600	800			150	150	261					
<u>CRABS</u>													
48.3	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
<u>SQUID</u>													
48.3	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500				
<u>MACROURUS Bycatch</u>													
58.4.3a	40	40	26										
58.4.3b	48	48	159										
<u>FOUR SPECIES^b</u>													
58.4.2	20	20	2,000			1,500	1,500						

a - Season denoted by ending year (e.g., 04 denotes the season beginning December 1, 2003 and ending November 30, 2004).

b – Spiny icefish (*Chaenodraco wilsoni*), striped-eye notothen (*Lepidonotothen kempi*), blunt scalyhead (*Trematomus eulepidotus*), and Antarctic silverfish (*Pleuragramma antarcticum*).

Note: Toothfish catch limits for Division 58.5.1 and Subareas 58.6 and 58.7 are zero as these areas are closed outside Exclusive Economic Zones (EEZs). CCAMLR does not set catch limits in French and SA EEZs. Other closed areas (58.4.4, 58.5.1, 58.5.2 outside EEZs; and 88.3, 88.2 north, 48.1, 48.2, etc.) were not included in Table 2 because they are closed and there are no catch limits.

Note: The experimental harvest regime for the crab fishery in 48.3 is restricted by catch limits provided in CM-52-01 and included in the table. All fishers upon entering the crab fishery for the first time must complete an experimental fishing regime described in CM-52-02 before commencing commercial fishing activities.

Table 3 (Sec. 1.1): CCAMLR 2003/04 season catch limits and maximum catches during any one year during the last decade (1994-2004).

<u>SPECIES/ REGION</u>	<u>FISHING GEAR</u>	<u>2003/04 CATCH LIMIT</u> (mt)	<u>1994-2004 MAXIMUM CATCH</u> (mt)	<u>SEASON OF MAXIMUM CATCH</u> *	<u>CONSERVATION MEASURE</u>
<u>ASSESSED FISHERIES</u>					
Toothfish/48.3	Longline/Pot	4,420	7,534	03	41-02
Toothfish/58.5.2	Longline/Trawl	2,873	3,765	98	41-08
Icefish/48.3	Trawl	2,887	4,114	00	42-01
Icefish/58.5.2	Trawl	292	2,345	03	42-02
Krill/48	Trawl	4 million			51-01
Krill/48.1	Trawl	1,008K	71,977	96	
Krill/48.2	Trawl	1,104K	72,060	02	
Krill/48.3	Trawl	1,056K	66,151	03	
Krill/48.4	Trawl	832K	0		
Krill/58.4.1	Trawl	440K	1,266	95	51-02
Krill/58.4.2	Trawl	450K	0		51-03

<u>EXPLORATORY FISHERIES</u>					
Toothfish/48.4	Longline	28	0		41-03
Toothfish/48.6	Longline	910	0		41-04
Toothfish/58.4.2	Longline	500	<0.5	99	41-05
Toothfish/58.4.3a	Longline	250	0		41-06
Toothfish/58.4.3.b	Longline/Trawl	300	0		41-07
Toothfish/88.1	Longline	3,250	1,831	03	41-09
Toothfish/88.2	Longline	375	106	03	41-10
Toothfish/58.4.1	Longline	800	0		41-11
Crabs/48.3	Pot	1,600	283	95	52-01
Squid/48.3	Jig	2,500	81	97	61-01
<i>Macrourus spp.</i> /58.4.3a	Trawl	26	0		43-02
<i>Macrourus spp.</i> /58.4.3b	Trawl	159	0		43-03
Four Species ^b /58.4.2	Trawl	2,000	11		43-04

a -Season denoted by ending year (e.g., 95 denotes the season beginning December 1, 1994 and ending November 30, 1995).

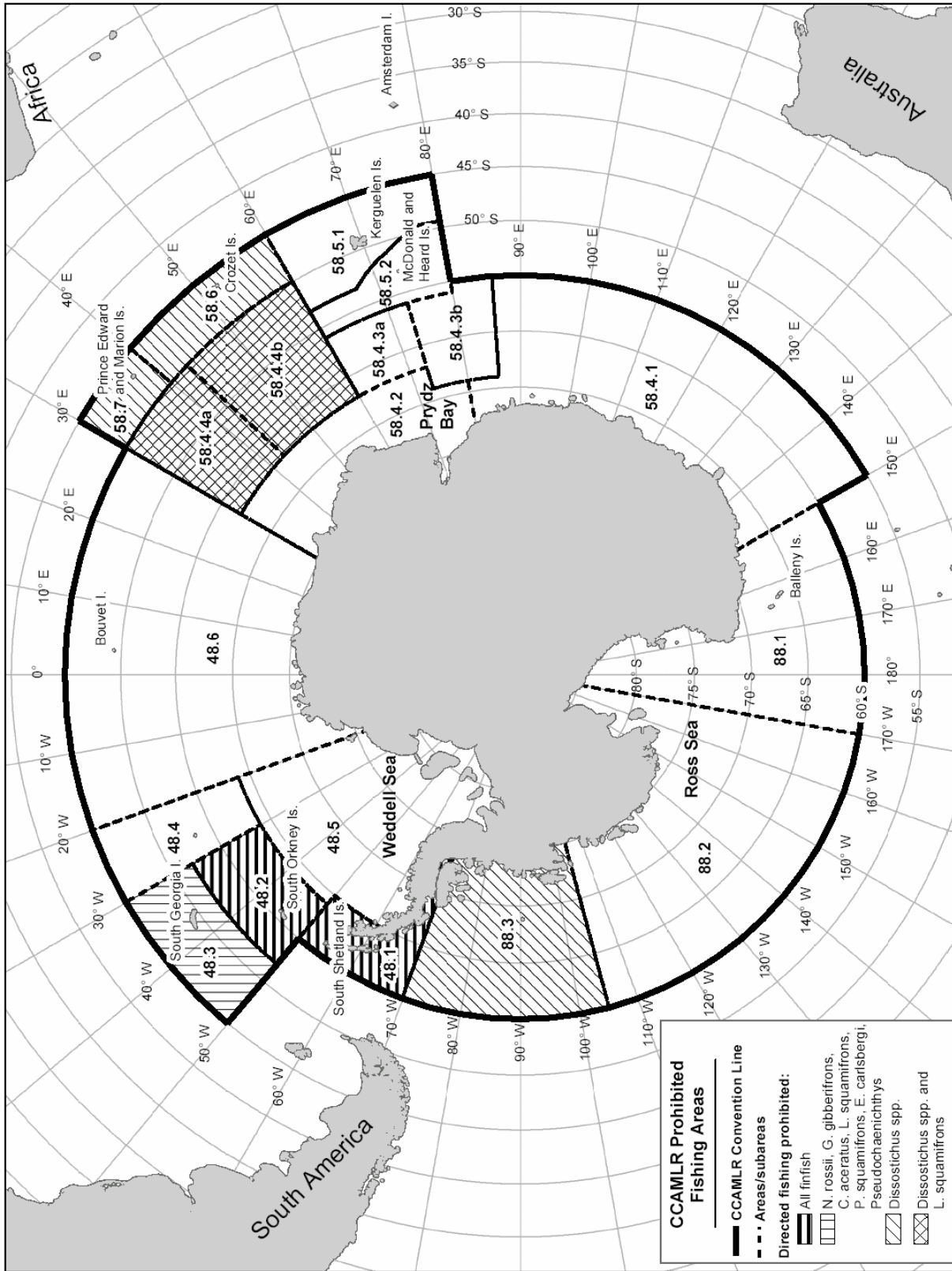
b – Spiny icefish (*Chaenodraco wilsoni*), striped-eye notothen (*Lepidonotothen kempi*), blunt scalyhead (*Trematomus eulepidotus*), and Antarctic silverfish (*Pleuragramma antarcticum*).

(5) CCAMLR Management Regulations:

CCAMLR manages its fisheries by, among other things, setting total allowable catches by fishing area, subarea, and division. There is no allocation of catch quota among individual Members or Member vessels. CCAMLR does limit participation in a few of the fisheries it manages. Participation in new and exploratory fisheries is limited to the vessels of Members who notify the CCAMLR Secretariat no later than 90 days before the annual meeting of CCAMLR and whose Research and Fishery Operations Plan is approved by the SC. The fishery for crab is limited to one vessel per Member country. However, in no case, even in the case of limited participation, is any of the total allowable catch set for a fishery further allocated among participants in the fishery.

Prohibited Fisheries

Directed fishing for all finfish is prohibited by CCAMLR in Subareas 48.1 and 48.2; for marbled rock cod (*Notothenia rossii*), humped rock cod (*Gobionotothen gibberifrons*), blackfin icefish (*Chaenocephalus aceratus*), South Georgia icefish (*Pseudochaenichthys georgianus*), grey rock cod (*Lepidonotothen squamifrons*), Patagonian rock cod (*Patagonotothen guntheri*), and lanternfish (*Electrona carlsbergi*) in Subarea 48.3; for *Lepidonotothen squamifrons* in Subdivision 58.4.4; and for toothfish (*Dissostichus*) species in Subarea 88.3, Subdivision 58.4.4 and Subareas 58.6 and 58.7 outside areas of national jurisdiction. These prohibitions remain in effect until such time that further scientific information is gathered and reviewed by the SC and its Working Group on Fish Stock Assessment (WG-FSA).



Bycatch of Finfish and Invertebrates

CCAMLR first addressed the bycatch of finfish in its resolutions adopted in 1985 and 1986 specific to *Notothenia rossii* in Subareas 48.1, 48.2 and 48.3. Pursuant to CCAMLR Conservation Measure 33-01, bycatch limits are presently in force with respect to *Gobionotothen gibberifrons*, *Chaenocephalus aceratus*, *Pseudochaenichthys georgianus*, *Notothenia rossii* and *Lepidonotothen squamifrons* in Statistical Subarea 48.3. In any directed fishery in Statistical Subarea 48.3 in any fishing season, the bycatch of *Gobionotothen gibberifrons* may not exceed 1,470 mt; the bycatch of *Chaenocephalus aceratus* may not exceed 2,200 mt; and the bycatch of *Pseudochaenichthys georgianus*, *Notothenia rossii* and *Lepidonotothen squamifrons* may not exceed 300 mt each. These limits will be kept under review by CCAMLR taking into account the advice of the SC. Pursuant to CM41-02 (2005), the bycatch limit in Subarea 48.3 for the 2005/2006 season for skates and rays is 117 mt, and for *Macrourus* spp. the bycatch limit is 177 mt. In Subarea 88.1, CM41-09 (2005) specified the bycatch limit for 2005/2006 for skates and rays is 148 mt, and for *Macrourus* spp. is 474 mt. For Subarea 88.2, CM41-10 (2005) specifies the bycatch limit for 2005/2006 for skates and rays is 50 mt, and for *Macrourus* spp. is 78 mt.

Bycatch limits are also presently in force with respect to any species other than *Disssotichus eleginoides* and *Champscephalus gunnari* in Statistical Division 58.5.2. This measure (CCAMLR Conservation Measure 33-02) limits the bycatch of *Channichthys rhinoceros* (150 mt), *Lepidonotothen squamifrons* (80 mt), *Macrourus* spp. (360 mt) and skates and rays (120 mt) not to exceed specific amounts. The bycatch of species not mentioned in the measure, and for which there is no other catch limit in force, is set at 50 mt. This catch limit was agreed by the CCAMLR Scientific Committee as sufficiently precautionary in the absence of additional biomass or population dynamics information. If in the course of a directed fishery, the bycatch of any one haul of *Channichthys rhinoceros*, *Lepidonotothen squamifrons*, *Macrourus* spp. or skates and rays is equal to, or greater than 2 mt, then the fishing vessel may not fish using that method of fishing at any point within 5 nautical miles of the location where the bycatch exceeded 2 mt for a period of at least five days. The location where the bycatch exceeded 2 mt is defined as the path followed by the fishing vessel. If, in the course of a directed fishery, the bycatch of any one haul of any other bycatch species for which bycatch limits apply under Conservation Measure 33-02 is equal to, or greater than 1 mt, then the fishing vessel may not fish using that method of fishing at any point within 5 nautical miles of the location where the bycatch exceeded 1 mt for period of at least five days. The location where the bycatch exceeded 1 mt is defined as the path followed by the fishing vessel. These provisions may be referred to as “move along” provisions.

CCAMLR Conservation Measure 33-03 limits bycatch in new and exploratory fisheries in all areas containing small-scale research units (SSRU) except where specific bycatch conservation measures apply. The catch limits for all bycatch species are set out in an annex. Within these catch limits, the total catch of bycatch species in any SSRU may not exceed a certain percentage of the catch limit or a tonnage, whichever is greater.

“Move along” provisions similar to those applied in Statistical Division 58.5.2 apply within the SSRUs.

1.2 Need for Action and Objectives

NMFS has previously issued four environmental assessments (EAs) and one supplemental EA relating to CCAMLR, with the most recent pertaining to AMLR harvesting and trade. In 1986, NMFS prepared an EA that analyzed the effects on the human environment of the regulations that implemented the AMLRCA, the statute that gave force and effect to the United States’ obligations. This EA addressed the Convention and the entity established by the Convention, CCAMLR. This Convention established international mechanisms and created legal obligations necessary for the protection and conservation of AMLR. The Department of State publishes an annual Federal Register notice of conservation and other measures adopted by each annual meeting of CCAMLR and solicits comments during a 30-day comment period. These measures are binding on U.S. nationals under authority of the High Seas Fishing Compliance Act (16 USC 5501 *et seq.*; see 50 CFR Part 300, Subpart B) and the AMLRCA (16 USC 2431 *et seq.*; see 50 CFR Part 300, Subparts A and G).

In 2000, NMFS prepared an EA that analyzed the effects of CCAMLR’s toothfish Catch Documentation Scheme (CDS) on the importation of toothfish into the United States. As a part of that analysis, NMFS looked at the fishery-wide effects on the human environment of the harvesting and trade sectors for toothfish. This analysis was critical to the implementation of the CDS, a scheme developed by CCAMLR to curtail the negative effects on toothfish stocks of Illegal, Unregulated, and Unreported (IUU) fishing targeting toothfish. In 2003, NMFS prepared an EA that analyzed the effects on the human environment of a pre-approval process for the importation of toothfish into the United States. This EA also addressed other elements of a regulatory amendment, including the definition of CCAMLR fishing season and the required use of an automated satellite-linked vessel monitoring system (VMS) for U.S. vessels harvesting AMLR in the Convention waters. The pre-approval process was created by NMFS to streamline the administration of the CDS and enhance efforts to prevent and discourage unlawful harvest and trade in toothfish. In March 2004, NMFS prepared an EA that analyzed the effects of issuing an AMLRCA harvesting permit to a U.S. vessel to harvest krill in Convention Area 48. This EA was supplemented in November 2004 to extend the vessel’s harvesting permit for one year in order to allow the vessel to take the remaining allowable catch for krill in Area 48.

Each of the previous EAs led to a finding of no significant impact to the human environment, and, thus, no EIS was prepared. However, based on the information presented to CCAMLR by its Scientific Committee (SC) in the years since 1986, trade tracking and monitoring of toothfish, and an increase in the number of U.S. participants in AMLR fisheries, NMFS has prepared this FPEIS to examine the effects of these changes to AMLR fisheries on the human environment. At this time, NMFS is unaware of the need to change the way in which it implements the conservation and management

measures adopted by CCAMLR; however, this FPEIS may cause NMFS to reconsider the need for change.

With the exception of two sections, all of NMFS regulations codified at 50 CFR Part 300, Subparts A and G were examined in the preparation of this FPEIS. The two CCAMLR regulatory sections that were not considered for change are: (1) Sec. 300.104 - Scientific Research, because the Antarctic Conservation Act of 1978 as amended by the Antarctic Science, Tourism and Conservation Act of 1996, which provides for issuance of permits for research involving marine birds and mammals and entry into protected areas, is administered by the National Science Foundation and not by NMFS; and (2) Sec. 300.117 – Penalties, because this section is statutorily driven and cannot be changed without legislative amendment.

SECTION 2.0 ALTERNATIVES

The alternatives are designed to address the following four issues:

- (1) Is the U.S. regulatory process for **controls on harvesting** (catch limits, time/area restrictions, gear restrictions, bycatch restrictions) effective?;
- (2) Is the U.S. regulatory process for **controls on trade** (DCD-Dissostichus Catch Documentation scheme, including dealer permits, import permits, re-export permits, pre-approval of DCDs, and bans on trade in toothfish harvested in Areas 51 and 57) effective?;
- (3) Is the U.S. regulatory process for **controlling research** on AMLR (CCAMLR Ecosystem Monitoring Program - CEMP permits, and international observer requirements) effective?; and
- (4) Is the U.S. regulatory process to ensure **enforcement** (include VMS, adequacy of information collection) effective?

An examination of these four issues led to various options or alternatives to consider.

2.1 Harvesting Controls

I. ACTION: Impose harvest limits on amounts of AMLR that may be caught by U.S. vessels in “assessed (established) fisheries” (fisheries about which sufficient fisheries dependent and fisheries independent data are available to estimate a preliminary level of biomass); “exploratory fisheries” (fisheries about which little or no data exist upon which to estimate a preliminary level of biomass and for which a Research and Fisheries Operation Plan has been submitted and approved by the CCAMLR Scientific Committee); and “future exploratory fisheries” (fisheries about which little or no data exist upon which to estimate a preliminary level of biomass and for which a Research and Fisheries Operation Plan must be submitted to the

CCAMLR Scientific Committee for review and approval before a fishery can take place).

CCAMLR assessed fisheries are for toothfish in Subarea 48.3 and Division 58.5.2, icefish in Subarea 48.3 and Division 58.5.2, and krill in parts of Area 48 and Divisions 58.4.1 and 58.4.2 (Table 1). CCAMLR exploratory fisheries are for several species in several subareas and divisions (See above and Table 1). For most fisheries Conservation Measures are reviewed and revised annually, but for others (e.g., krill) Conservation Measures remain in force until new scientific data are available which support a change. AMLR harvesting permits issued by NMFS reflect all continuing measures and annual revisions. All harvesting by vessels subject to U.S. jurisdiction shall not exceed the CCAMLR catch limits (i.e., the catch limits set by CCAMLR for all member countries). CCAMLR sets an overall catch limit by species by area and the CCAMLR catch limits function as caps on all international harvest by member countries in CCAMLR waters. No country receives an individual allocation of any CCAMLR catch limit. Limits should include bycatch amounts, to the extent that it is practicable.

Alternatives examined for each fishery include the “status quo” as now in place, a more strict alternative, a less strict alternative and a prohibition of the management activity. The less strict alternative taken is to allow twice the largest amount of annual international harvest during the last decade (1993-2003); the more strict alternative taken is to only allow one half the largest historical harvest in the past decade; and the prohibition alternative is to allow no take. These alternatives were chosen to bracket the status quo to identify the appropriate management measure. The decade 1993-2003 was chosen for the analysis of less strict and more strict alternatives because, at the time the alternatives were drafted, this was the most recent time period during which the United States had vessels fishing in CCAMLR management waters, and because summaries of all commercial harvests in CCAMLR waters during the last decade are provided in CCAMLR’s Statistical Bulletin and published annually for the latest decade. Consideration of alternatives allowing twice (or even one half) the historical maximum may mean consideration of catch levels greater than the current catch limit. That would not be allowed under the current conservation measure, unless the United States objected to a measure within 90 days of its notification by the CCAMLR Secretariat. However, for purposes of analyzing a broad range of alternatives, it is assumed that in the future new data may become available that would make this alternative viable. Further, a broad range of alternatives is analyzed in the FPEIS so that NMFS may meet NEPA analytical requirements for future regulations or permit issuance.

At its annual meeting, CCAMLR updates catch limits and these are set out in the CCAMLR Conservation Measures and published in the Federal Register by the U.S. Department of State along with other management measures adopted by CCAMLR that are reviewed and potentially revised annually. These measures may include catch restrictions, time and area closures, and gear restrictions. Because the DPEIS was published prior to the 24th annual CCAMLR meeting held October 24, 2005 - November 4, 2005, and prior to the end of the December 1, 2004 - November 30, 2005 fishing season, the most recent catch limits in that document were for the 2004/2005 fishing

season and the most recent harvest data for a complete season were for the 2003/2004 season. This updated FPEIS contains catch limits for the 2005/2006 fishing season and the most recent harvest and import data made available at the 2005 annual CCAMLR meeting.

In the future, CCAMLR may consider setting catch limits for additional new or exploratory fisheries. This would occur when the CCAMLR Secretariat is notified of the intention of a Member to undertake a fishery not previously or not recently prosecuted. In this case, the Scientific Committee would review the Research and Fishery Operations Plan(s) submitted along with the notifications and advise CCAMLR on whether or not to set a catch limit for the fishery. Such notifications are possible for any finfish, krill or other fishery in an area not previously or recently fished and could, for example, be notified for krill fishing in Area 88.

ASSESSED FISHERIES:

A. Toothfish harvesting in Subarea 48.3.

Alternative A1: Issue permits annually in Subarea 48.3 by season and within the CCAMLR catch limits on vessels participating in the toothfish longline fishery (Status Quo; no-action alternative). **(Preferred Alternative)**

Catches by the toothfish longline fishery in Subarea 48.3 for each year during the last decade are provided in Table 1. Catch limits for the fishery for each year during this period are provided in Table 2. The precautionary catch limits were determined using the GYM based upon fisheries independent (research surveys) and fisheries dependent (fisheries catch data including both regulated and IUU catch) data. Because decision rules used by the GYM are precautionary in design, harvesting toothfish at or below the catch limit should not impact sustainable yield.

Alternative A2: Consistent with CCAMLR Conservation Measures and future CCAMLR catch limits, issue permits annually in Subarea 48.3 by season limiting harvest to 15,056 mt (twice the largest amount of annual international harvest during the period from 1993-2003).

The maximum catch in Subarea 48.3 during the last decade was 7,528 mt for the 2002/2003 fishing season. This alternative would exceed the 2003/2004 catch limit of 4,420 mt. However, this alternative does not contemplate issuing permits to harvest toothfish in Subarea 48.3 at any level that would exceed the then current CCAMLR catch limit; it assumes that the then current catch limit would exceed 15,056 mt.

Failure to meet an obligation would be a violation of Article IX of the CCAMLR, however, it does provide a mechanism for objecting to a Conservation Measure. If a Member has not objected to a measure within 90 days of its notification by the CCAMLR Secretariat, the Member is bound to give it effect. Failure to do so is a violation of the treaty obligation under the Convention.

Alternative A3: Issue permits annually in Subarea 48.3 by season and by limiting harvest to 3,764 mt (half the largest amount of annual international harvest during the period from 1993-2003).

One half of the maximum annual harvest during this period would be less than the 2003/2004 catch limit for Subarea 48.3. If the United States were the only nation fishing in this region, this alternative would result in a reduction in the catch. However, limiting the U.S. catch would not necessarily ensure that the catch limit was reduced or not harvested because other Members have historically harvested amounts approaching the catch limit.

Alternative A4: United States formally objects to CCAMLR catch limit as being too high and decides not to issue any annual permits.

Similar to Alternative A3, if the United States were the only nation fishing in this subarea, this alternative would result in zero catch. However, prohibiting U.S. catch would not ensure that the catch limit was not reached because other Members have historically harvested amounts approaching the catch limit.

B. Toothfish harvesting in Division 58.5.2.

Alternative B1: Issue permits annually in Division 58.5.2 by season and within the CCAMLR catch limits on vessels participating in the toothfish longline fishery (Status Quo; no-action alternative). **(Preferred Alternative)**

Catches by the toothfish longline fishery in Division 58.5.2 for each year during the last decade are provided in Table 1. Catch limits for the fishery for each year during this period are provided in Table 2. The precautionary catch limits were determined using the GYM based upon fisheries independent (research surveys) and fisheries dependent (fisheries catch data including both regulated and IUU catch) data. Because decision rules used by the GYM are precautionary in design, harvesting toothfish at or below the catch limit should not impact sustainable yield.

Alternative B2: Consistent with CCAMLR Conservation Measures and future CCAMLR catch limits, issue permits annually in Division 58.5.2 by season limiting harvest to 7,530 mt (twice the largest amount of annual international harvest during the period from 1993-2003).

The maximum catch in Subarea 48.3 during the last decade was 3,765 mt for the 1998/99 fishery. This alternative would exceed the current catch limit of 2,873 mt. However, this alternative does not contemplate issuing permits to harvest toothfish in Division 58.5.2 at any level that would exceed the then current CCAMLR catch limit; it assumes that the then current catch limit would exceed 7,530 mt.

Failure to meet an obligation would be a violation of Article IX of the CCAMLR, however, it does provide a mechanism for objecting to a Conservation Measure. If a Member has not objected to a measure within 90 days of its notification by the CCAMLR Secretariat, the Member is bound to give it effect. Failure to do so is a violation of the treaty obligation under the Convention.

Alternative B3: Issue permits annually in Division 58.5.2 by season and by limiting harvest to 1,883 mt (half the largest amount of annual international harvest during the period from 1993-2003).

One half of the maximum annual harvest during this period would be less than the 2003/2004 catch limit for Division 58.5.2. If the United States were the only nation fishing in this region, this alternative would result in a reduction in the catch. However, limiting the U.S. catch would not necessarily ensure that the catch limit was reduced or not harvested because other Members have historically harvested amounts approaching the catch limit.

Alternative B4: United States formally objects to CCAMLR catch limit as being too high and decides not to issue any annual permits.

Similar to Alternative B3, if the United States were the only nation fishing in this subarea, this alternative would result in zero catch. However, prohibiting U.S. catch would not ensure that the catch limit was not reached because other Members have historically harvested amounts approaching the catch limit.

C. Icefish harvesting in Subarea 48.3.

Alternative C1: Issue permits annually in Subarea 48.3 by season and within the CCAMLR catch limits on vessels participating in the icefish trawl fishery (Status Quo; no-action alternative). **(Preferred Alternative)**

Catches by the icefish trawl fishery in Subarea 48.3 for each year during the last decade are provided in Table 1. Catch limits for the fishery for each year during this period are provided in Table 2. The precautionary catch limits were determined using the GYM based upon fisheries independent (research surveys) and fisheries dependent (fisheries catch) data. Because decision rules used by the GYM are precautionary in design, harvesting icefish at or below the catch limit should not impact sustainable yield.

Alternative C2: Consistent with CCAMLR Conservation Measures and future CCAMLR catch limits, issue permits annually in Subarea 48.3 by season limiting harvest to 8,228 mt (twice the largest amount of annual international harvest during the period from 1993-2003).

The maximum catch in Subarea 48.3 during the last decade was 4,114 mt for the 1999/2000 fishery. This alternative would exceed the current catch limit of 2,887 mt. However, this alternative does not contemplate issuing permits to harvest icefish in Subarea 48.3 at any level that would exceed the then current CCAMLR catch limit; to do so would be unlawful.

Failure to meet an obligation would be a violation of Article IX of the CCAMLR, however, it does provide a mechanism for objecting to a Conservation Measure. If a Member has not objected to a measure within 90 days of its notification by the CCAMLR Secretariat, the Member is bound to give it effect. Failure to do so is a violation of the treaty obligation under the Convention.

Alternative C3: Issue permits annually in Subarea 48.3 by season and by limiting harvest to 2,057 mt (half the largest amount of annual international harvest during the period from 1993-2003).

One half of the maximum annual harvested during this period would be less than the current catch limit for Subarea 48.3. If the United States were the only nation fishing in this region, this alternative would result in a reduction in the catch. However, limiting the U.S. catch would not necessarily ensure that the catch limit was reduced or not harvested because other Members have historically harvested amounts approaching the catch limit.

Alternative C4: United States formally objects to CCAMLR catch limit as being too high and decides not to issue any annual permits.

Similar to Alternative A3, if the United States were the only nation fishing in this subarea, this alternative would result in zero catch. However, prohibiting U.S. catch would not ensure that the catch limit was not reached because other Members have historically harvested amounts approaching the catch limit.

D. Icefish harvesting in Division 58.5.2.

Alternative D1: Issue permits annually in Division 58.5.2 by season and within the CCAMLR catch limits on vessels participating in the icefish trawl fishery (Status Quo; no-action alternative). **(Preferred Alternative)**

Catches by the icefish trawl fishery in Division 58.5.2 for each year during the last decade are provided in Table 1. Catch limits for the fishery for each year during this period are provided in Table 2. The precautionary catch limits were determined using the GYM based upon fisheries independent (research surveys) and fisheries dependent (fisheries catch) data. Because decision rules used by the GYM are precautionary in design, harvesting icefish at or below the catch limit should not impact sustainable yield.

Alternative D2: Consistent with CCAMLR Conservation Measures and future CCAMLR catch limits, issue permits annually in Division 58.5.2 by season limiting harvest to 4,690 mt (twice the largest amount of annual international harvest during the period from 1993-2003).

The maximum catch in Division 58.5.2 during the last decade was 2,345 mt for the 2002/03 fishery. This alternative would exceed the current catch limit of 292 mt. However, this alternative does not contemplate issuing permits to harvest icefish in Subarea 48.3 at any level that would exceed the then current CCAMLR catch limit; to do so would be unlawful. It should be noted that the catch limit in Division 58.5.2 was reduced from 2,980 mt for the 2002/03 year to 292 mt for 2003/04 season as a result of new data being available from a research survey. Icefish populations usually consist of one or two strong year classes and as these decrease from age, the population size may decrease until the next strong year class is recruited. It is therefore likely that the next new survey will provide indications of a new year class strength entering the fishery and the catch limit would be adjusted accordingly. These surveys are conducted by Australia on a semi-annual basis.

Failure to meet an obligation would be a violation of Article IX of the CCAMLR, however, it does provide a mechanism for objecting to a Conservation Measure. If a Member has not objected to a measure within 90 days of its notification by the CCAMLR Secretariat, the Member is bound to give it effect. Failure to do so is a violation of the treaty obligation under the Convention.

Alternative D3: Issue permits annually in Division 58.5.2 by season and by limiting harvest to 1,173 mt (half the largest amount of annual international harvest during the period from 1993-2003).

One half of the maximum annual harvested during this period would be substantially more than the current catch limit for Division 58.5.2. However, this alternative does not contemplate issuing permits to harvest icefish in Division 58.5.2 at any level that would exceed the then current CCAMLR catch limit; to do so would be unlawful, as discussed above.

Alternative D4: United States formally objects to CCAMLR catch limit as being too high and decides not to issue any annual permits.

If the United States were the only nation fishing in this division, this alternative would result in zero catch. However, prohibiting U.S. catch would not ensure that the catch limit was not reached because other Members have historically harvested amounts approaching the catch limit.

E. Krill harvesting in Area 48 (Including Subareas 48.1, 48.2, 48.3 and 48.4) and Divisions 58.4.1 and 58.4.2).

Alternative E1: Issue permits annually in Area 48 and Divisions 58.4.1 and 58.4.2 by season and within the CCAMLR catch limits on vessels participating in the krill trawl fisheries (Status Quo; no-action alternative).

Catches by the krill trawl fisheries in all regions for each year during the last decade are provided in Table 1. Catch limits for the fisheries for each year during this period are provided in Table 2. Precautionary catch limits were set based upon fisheries independent (research surveys) data. The decision rules used to evaluate the GYM results ensure precautionary catch limits. Because the catch limits were calculated using fishery independent data and are precautionary in design, harvesting krill at or below the catch limits should not impact sustainable krill yield.

However, the regional impacts of krill harvest approaching the current limits may adversely impact populations of breeding predators who depend upon local krill populations for food. There has been considerable debate regarding the impacts on dependent predators if the krill fishery substantially increased harvest levels in inshore areas. This was recognized by CCAMLR CM 51-01 that prohibits the expansion of the krill harvest in Area 48 above 620,000 mt unless an allocation plan to small management units has been agreed upon and initiated. This is a subject of investigation by CCAMLR's Scientific Committee. The limit of 620,000 mt is approximately the sum of the historical (1980-early 1990s) maximum catch in each of Subareas 48.1, 48.2 and 48.3. There has been no harvesting in Division 58.4.2 and relative small catches in Division 58.4.1.

In the future, CCAMLR may consider setting catch limits for krill in other subareas or divisions. These limits would be set following the notification and review process for new and exploratory fisheries.

Alternative E2: Issue five-year permits in Area 48 and Divisions 58.4.1 and 58.4.2 by season and within the CCAMLR catch limits to U.S. vessels participating in the krill trawl fisheries (Status Quo except for an extension to a five-year period).
(Preferred Alternative)

This alternative is the same as Alternative E1 (a status quo no action alternative) except that it will allow permits to be issued for a five-year period instead of annually. This alternative is based upon: (1) the very small annual and historical harvest of krill relative to the precautionary cap set by CCAMLR for krill; and (2) the projected continuing availability of krill even if the harvest of krill were to significantly increase. The CCAMLR Scientific Committee factored cumulative harvest and harvest history in 1991 in recommending an annual precautionary catch limit for krill of 4 million mt. It has continued to recommend a CCAMLR catch limit at this level each year since 1991. The catch limit is based on a harvest rate of 9.1%, which results in a 4 million ton limit for the aggregate of Subareas 48.1 (1.008 million mt), 48.2 (1.104 million mt), 48.3 (1.056 million mt) and 48.4 (0.832 million mt). Catches since 1992 have never exceeded the 1994/95 level of 134,420 mt. The total catch of all fishers participating in the krill fishery in Area 48 for the 2002/2003 season was 116,390 mt. This was 2.9% of the available CCAMLR catch limit for the Area. CCAMLR has set precautionary limits of 440,000 mt and 450,000 mt respectively in Divisions 58.4.1 and 58.4.2. The catch limit in 58.4.1 is further divided into smaller units as follows: 277,000 mt west of 115° E and 163,000 mt east of 115° E. There has been no reported fishing for krill in Area 58 since 1995. For environmental and logistical reasons, the krill fishery is likely to remain concentrated in the Southwest Atlantic sector of the Southern Ocean as opposed to expanding into the Pacific or Indian Ocean sectors. Because of the favorable fishing conditions in the Southwest Atlantic sector, as well as proximity to supplies, shelter, ports and potential markets, this region may be viewed as the center of krill fishing operation.

Despite the rather restricted potential for spatial expansion, the krill fishery in the South Shetlands may be far from reaching its capacity.

Alternative E3: Consistent with CCAMLR conservation measures and future CCAMLR catch limits, issue permits annually in Area 48 and Divisions 58.4.1 and 58.4.2 by season limiting harvest to twice the largest amount of international harvest during the preceding decade (i.e., 1993-2003).

The maximum catches in all Subareas of Area 48 and both Divisions are substantially lower than the current catch limits (Table 3). Harvest limits of twice the largest amount in the last decade would be sustainable and would not adversely affect krill populations in these areas. If harvests in each of the Subareas 48.1, 48.2 and 48.3 were doubled the total would be less than the present 620,000 mt limit, an amount that would require small scale allocation. For Division 58.4.1, a harvest of twice the historical maximum would be very small compared to the current catch limit.

Failure to meet an obligation would be a violation of Article IX of the CCAMLR, however, it does provide a mechanism for objecting to a Conservation Measure. If a Member has not objected to a measure within 90 days of its notification by the CCAMLR Secretariat, the Member is bound to give it effect. Failure to do so is a violation of the treaty obligation under the Convention.

Alternative E4: Consistent with CCAMLR conservation measures and future CCAMLR catch limits, issue permits annually in Area 48 and Divisions 58.4.1 and 58.4.2 by season limiting harvest to half the largest amount of international harvest during the preceding decade (i.e., 1993-2003).

One half of the maximum catch limit for krill harvested in the regions would be very small relative to the current catch limits (Table 3). In fact, it would be anticipated that for the near future, the total international harvest will be small compared to the current catch limits in the assessed regions.

Alternative E5: United States formally objects to CCAMLR catch limit as being too high and decides not to issue any annual permits.

As discussed for Alternatives E2, E3 and E4, if the United States were the only nation fishing in these regions, this alternative would result in no fishing in the regions. However, the historical catch and the expected near-future catches are substantially less than the current catch limits.

EXPLORATORY FISHERIES:

F. Toothfish harvesting in Subareas 48.4, 48.6 and Divisions 58.4.2, 58.4.3a, 58.4.3b and 58.4.1

Alternative F1: Issue permits annually in Subareas 48.4 and 48.6 and Divisions 58.4.2, 58.4.3a, 58.4.3b and 58.4.1 by season and within the CCAMLR catch limits on vessels participating in the toothfish longline fishery (Status Quo; no-action alternative). **(Preferred Alternative)**

Catches by the exploratory toothfish fisheries in these regions are either zero or less than one mt (Table 1). Because insufficient data are available to assess these fisheries, catch limits are small (Table 2). A precautionary approach was used to determine catch limits and it is anticipated these fisheries will not be allowed to expand in the absence of fishery independent data.

Alternative F2: Consistent with CCAMLR conservation measures and future CCAMLR catch limits, issue permits annually in Subareas 48.4 and 48.6 and Divisions 58.4.2, 58.4.3a, 58.4.3b and 58.4.1 by season and by limiting harvest to twice the largest amount of international harvest during the preceding decade (i.e., 1993-2003).

Because catches in these regions are either zero or less than one mt (Table 1), allowing twice the historical maximum would have little or no effect on the populations.

Alternative F3: Consistent with CCAMLR conservation measures and future CCAMLR catch limits, issue permits annually in Subareas 48.4 and 48.6 and Divisions 58.4.2, 58.4.3a, 58.4.3b and 58.4.1 by season limiting harvest to half the largest amount of international harvest during the preceding decade (i.e., 1993-2003).

Because catches in these regions are either zero or less than one mt (Table 1), restraining the catch to half these amounts would have little or no effect on the populations.

Alternative F4: United States formally objects to CCAMLR catch limit as being too high and decides not to issue any annual permits.

As discussed for other alternatives above, if the United States was the only nation fishing in these regions, this alternative would result in no fishing in the regions. However, it should be noted that prohibiting U.S. catch would not prevent some limited fishing from being developed in these exploratory regions by other member nations.

G. Toothfish harvesting in Subareas 88.1 and 88.2.

Alternative G1: Issue permits annually in Subareas 88.1 and 88.2 by season and within the CCAMLR catch limits on vessels participating in the toothfish longline fisheries (Status Quo; no-action alternative). **(Preferred Alternative)**

Catches by the toothfish longline fisheries in both regions for each year during the last decade are provided in Table 1. Fishing began in Subarea 88.1 in the 1996/97 season and in Subarea 88.2 in the 2002/03 season. Catch limits for fisheries for each year are provided in Table 2. Catches have to date been substantially less than the catch limits. The fisheries are greatly influenced by ice cover in the regions. In some years, access to the fishing grounds is restricted most of the season. Although sufficient data for stock assessments are not available, investigations such as tagging efforts and feasibility of scientific trawl surveys are being investigated. NMFS does not expect that the current catch limits will be increased without sufficient scientific data to warrant the increase.

Alternative G2: Consistent with CCAMLR conservation measures and future CCAMLR catch limits, issue permits annually in Subareas 88.1 and 88.2 by season and by limiting harvest to 3,662 mt and 212 mt, respectively (twice the largest amounts of annual international harvest during the period from 1993-2003).

The maximum catches in Subareas 88.1 and 88.2 since fishing began were 1,831 and 106 mt, both taken in the 2002/03 season, respectively (Table 3). The respective catch limits for the current 2003/04 season are 3,250 and 375 mt. Allowing a harvest of twice the historical maximum catch in Subarea 88.1 would exceed the 2003/04 catch limit, however, this alternative does not contemplate issuing permits to harvest toothfish in Subarea 88.1 at any level that would exceed the then current CCAMLR catch limit; to do so would be unlawful.

Failure to meet an obligation would be a violation of Article IX of the CCAMLR, however, it does provide a mechanism for objecting to a Conservation Measure. If a Member has not objected to a measure within 90 days of its notification by the CCAMLR Secretariat, the Member is bound to give it effect. Failure to do so is a violation of the treaty obligation under the Convention.

Allowing twice the historical maximum in Subarea 88.2 would not exceed the current catch limit. It is believed that fishing conditions in this region will be severely constrained by harsh environmental condition (i.e., ice) and it is unlikely to be developed as a major fishery.

Alternative G3: Issue permits annually in Subareas 88.1 and 88.2 by season limiting harvest to 916 mt and 53 mt, respectively (half the largest amount of annual international harvest during the period 1993-2003).

For both regions, this would be substantially less than the current catch limits.

Alternative G4: United States formally objects to CCAMLR catch limit as being too high and decides not to issue any annual permits.

If the United States were the only nation fishing in these regions, this alternative would result in no fishing in the regions. However, prohibiting U.S. catch would not ensure that the fishery would cease. In the future, harvests by other Members may result in the catch limit being reached.

H. Crabs and Squid harvesting in Subarea 48.3, grenadiers and rattails (*Macrourus*) harvesting in Divisions 58.4.3a&b, and spiny icefish (*Chaenodraco wilsoni*), striped-eye notothen (*Lepidonotothen kempfi*), blunt scalyhead (*Trematomus eulepidotus*), and Antarctic silverfish (*Pleuragramma antarcticum*) harvesting in Division 58.4.2.

Alternative H1: Issue permits annually in the above regions for the respective fisheries by season and within the CCAMLR catch limits (Status Quo; no-action alternative). **(Preferred Alternative)**

Catches by the above fisheries in their respective regions for each year during the last decade are provided in Table 1. Catch limits for the fisheries for each year during this period are provided in Table 2. Catches are either zero or very small relative to the catch limits. No member nations presently have an active fishery.

Alternative H2: Consistent with CCAMLR conservation measures and future CCAMLR catch limits, issue permits annually in the above regions for the respective fisheries by season and by limiting harvest to twice the largest amount of annual international harvest during the period 1993-2003.

Because catches have been either zero or very small in all fisheries (Table 3), allowing a harvest of twice the maximum catch would not approach the current catch limits for the fisheries. Based on difficulties in the marketing of the product and low economic viability, NMFS does not anticipate that a substantial fishery will develop for any of these species in any region in the foreseeable future.

Alternative H3: Consistent with CCAMLR conservation measures and future CCAMLR catch limits, issue permits annually in the above regions for the respective fisheries by season and by limiting harvest to half the largest amount of annual international harvest during the period 1993-2003.

One half the maximum catch limit for all the above fisheries would be very small (Table 3) and would not approach the current catch limits.

Alternative H4: United States formally objects to CCAMLR catch limit as being too high and decides not to issue any annual permits.

If the United States were the only nation fishing in these regions, this alternative would result in no harvesting. However, prohibiting U.S. catch would not ensure that the catch limit was not reached. None of these fisheries are currently being executed although catch limits are in place. Most of these are not considered viable fisheries. There have been attempts by U.S., UK, and Korean vessels to harvest crabs and/or squid but they have proved to be uneconomical.

FUTURE EXPLORATORY FISHERIES:

Alternative I1: Issue permits annually by season and within the CCAMLR catch limits after submission and review by the CCAMLR Scientific Committee of the Research and Fishery Operations Plan required by CCAMLR Conservation Measure 21-02 (Status Quo; no action alternative).
(Preferred Alternative)

Permits to fish in areas for species not previously or recently fished would only be issued following the designation of the fishery as an exploratory fishery by CCAMLR and by setting a catch limit pursuant to the notification and review process in Conservation Measure 21-02. The permit would limit catch to the level set by CCAMLR.

Alternative I2: Issue permits annually by season and within the CCAMLR catch limits without requiring the submission of a Research and Fishery Operations Plan as required by CCAMLR Conservation Measure 21-02

Permits to fish in areas for species not previously or recently fished would be issued without regard to the notification and review process in Conservation Measure 21-02 or the catch limit set by CCAMLR.

Conservation Measure 21-02 addresses exploratory fisheries, which are those fisheries lacking sufficient data to conduct a stock assessment. CM 21-02 directs the CCAMLR SC to develop a Data Collection Plan for each exploratory fishery that identifies data needs and describes actions necessary to obtain the relevant data from the exploratory fishery. Member countries that participate in the exploratory fishery must submit a Research and Fishery Operations Plan for review by the SC and the Commission. The CCAMLR Convention stipulates that the expansion of a new fishery must not proceed faster than the acquisition of information necessary to ensure that the fishery can and will be conducted in accordance with the principles of Article II of the Convention.

Catch limits in exploratory fisheries are set based upon a comparison of the amount of fishable bottom habitat in the exploratory region with those in established fisheries and then recruitment rates, etc. from the established fisheries areas are used in the exploratory regions. To ensure that catch limits are precautionary, CCAMLR allows only a small proportion of the stocks to be taken. Each vessel participating in the exploratory fishery must carry a scientific observer to ensure that data are collected in accordance with the agreed Data Collection Plan, and to assist in collecting biological and other relevant data.

See Sec. 1.0 - Purpose and Need for Action for a discussion of NMFS conducting an independent review or analysis of any new future exploratory fishery to see that the issuance of a U.S. AMLR harvesting permit would be consistent with the three CCAMLR objectives. If NMFS concludes that issuance of the AMLR harvesting permit is consistent, there would be no additional NEPA analysis for the requested permit.

Bycatch of Finfish and Invertebrates.

There are a large number of species, families and orders listed by CCAMLR's Statistical Bulletin as having been caught either as bycatch to the fisheries listed above or by research cruises during at least one season during the last decade (Table 1, CCAMLR Statistical Bulletin). Very small amounts are reported for most species (less than one-half of a mt) and most have been taken in only one or two seasons.

CCAMLR has established bycatch limits for five species in Subarea 48.3 (CM-33-01) and four species groups, plus a limit for all other species, in Division 58.5.2 (CM

33-02). CCAMLR also has established bycatch limits in Subarea 48.3 for skates and rays and *Macrourus* spp. (CM-41-02). No directed fishery for any species can be developed without regulation by a CCAMLR conservation measure and expected bycatch levels in the foreseeable future will remain within existing limits.

Bycatch levels of bony fish, elasmobranches (skates and rays), and invertebrate taxa from longline and trawl fisheries for target species in the Southern Ocean are monitored, assessed and managed to the extent possible on an annual basis as part of the CCAMLR WG-FSA.

Information on removals of fish and invertebrate bycatch are compiled each year through fine scale data submission to the CCAMLR data center, scientific observer logbooks and reports, and STATLANT data. In addition to estimates of total removals and a measure of the direct impact of fishing operations on populations of fish and invertebrate bycatch, assessment and management of these species requires collection of information on biology, life history, abundance, and gear vulnerability. Research in support of these aspects is conducted annually by CCAMLR member countries.

The primary bycatch species for all fisheries are *rajids* (skates and rays) and *macrourids* (rattails). Other bycatch species of fish and invertebrates are encountered to a considerably lesser degree. Bycatch levels in both longline and trawl fisheries have been generally low; 1-2% or less as a percentage of total targeted catch weight for all *D. eleginoides* fisheries and 1-4% for *D. mawsoni* in Subarea 88.1 for *rajids* and *macrourids*, respectively. Bycatch of finfish and invertebrates in fisheries targeting krill and icefish is negligible to non-existent.

There is a range of mandatory measures that have been implemented to minimize impacts on non-target taxa. These measures include avoidance and mitigation approaches, and precautionary catch limits.

Avoidance and mitigation approaches include move-on rules designed to minimize local depletion, and gear restrictions. For example, in Division 58.5.2, if bycatch in any one haul of skates and rays, *Macrourus* spp., *Channichthys rhinoceratus* or *Lepidonotothen squamifrons*, is equal to or greater than 2 mt, the fishing vessel must not fish using that method of fishing at any point within 5 nautical miles of the location where the bycatch was exceeded for a period of at least five days (CM 33-02). Gear restrictions include a prohibition of use of bottom trawls in Subarea 48.3 to minimize bycatch of benthic species, as well as a prohibition on bottom trawling at depths less than 550 meters in Division 58.5.2 to protect benthic species.

Precautionary catch limits for major bycatch species groups are currently established in Subarea 48.3 (CM 33-01), Division 58.5.2 (CM 33-02), and in all new and exploratory fisheries (CM 33-03). A formal stock assessment of one *macrourid* species, *Macrourus carinatus*, in Division 58.5.2 has been conducted. However, in the absence of quantitative assessments or where data on bycatch species are insufficient, catch limits are based on a percentage of the target catch or an arbitrary catch level that is considered

to be sufficiently precautionary. For example, for the established fishery in Subarea 48.3, limits for bycatch species are set as a proportion (5%) of the toothfish catch. In new and exploratory fisheries, the bycatch limits for skates and rays are set as 5% of the catch limit of *Dissostichus spp.* or 50 mt whichever is greater. For *Macrourus spp.* the TAC is 16% of the catch limit for *Dissostichus spp.* or 20 mt, whichever is greater. For all other all other species combined the TAC is 20 mt.

Because there is no directed fishing for these species, no alternatives are discussed to allow harvesting under any level except as specified as bycatch limits.

II. ACTION: Restrict longline fishing in CCAMLR Convention Area.

Within the CCAMLR Convention Area, longlines are used to fish for toothfish. Conditions and restriction of the fishery in each region are specified by Conservation Measures. These include requirements to place in effect mitigation measures to reduce seabird mortality as discussed above.

Alternative J1: Issue permits annually to U.S. fishery to conduct longline operations in accordance with CCAMLR conservation measures in effect for each specific region (Status Quo; no-action alternative). **(Preferred Alternative)**

This alternative would require U.S. fishers to conduct operations in accordance with all CCAMLR requirements, including season, mitigation, observers, data reporting, and biological data collection.

Alternative J2: Prohibit all U.S. longline fishing in areas where levels of seabird or marine mammal incidental mortalities potentially may adversely affect their respective populations.

This alternative would prohibit U.S. longline fishing in CCAMLR regions where high levels of incidental mortality and/or entanglement of seabirds or marine mammals potentially may adversely affect their respective populations. Such levels would be based upon the advice provided by the CCAMLR Scientific Committee.

Alternative J3: Issue permits annually to U.S. fishery to conduct longline operations but limit number of seabird mortalities or marine mammal entanglements per vessel allowed in each CCAMLR area.

This alternative would set a maximum allowable catch of seabirds or marine mammals per vessel and CCAMLR area, based on the advice provided by the CCAMLR Scientific Committee. Compared to seabird bycatch in longline fisheries in Southern Ocean, pinniped bycatch is minimal to non-existent. The more direct impacts to pinnipeds from Southern Ocean longline fisheries are generally not through bycatch but through entanglement.

Entanglement in packing bands lost or discarded at sea has historically taken a much greater toll than bycatch (Kock 2001). An initial study conducted in 1988/89 suggested that several thousand Antarctic fur seals (5,000 - 15,000 seals depending on the baseline assumption) got entangled in plastic packing bands and net fragments every year, mainly originating from fishing vessels (Croxall et al., 1990; Staniland, 1998; Taylor, 1997, 1998; Taylor and Croxall, 1997). Trends in these entanglements over time have been reviewed by Arnould and Croxall (1995) and more recently by Aspey and Staniland (1999). In 1993 CCAMLR adopted Conservation Measure 63/XII in order to reduce the amount of plastic floating in the Southern Ocean. The Conservation Measure prohibited the use of plastic package bands to secure bait boxes from 1995/96 and for other purposes from 1996/97 onwards (CCAMLR, 1993). Since enacting this conservation measure fur seal entanglement at Bird Island (South Georgia) decreased by more than 80% (Aspey, 2000).

Alternative J4: Permit U.S. longline fishing in all areas without restriction.

This alternative would allow U.S. longline fishing without restrictions that would not be in accordance with CCAMLR Conservation Measures.

III. ACTION: Restrict trawl fishing in CCAMLR Convention Area.

No U.S. finfish fishery using trawl gear has occurred in the CCAMLR Convention Area; however, if a U.S. permit request were received, the United States would impose permit restrictions based upon CCAMLR Conservation Measures allowing trawl fishing. Use of trawl gear (bottom or pelagic) is allowed for fisheries for toothfish in Divisions 58.4.3a (CM 41-06), 58.4.3b (CM 41-07), 58.5.2 (CM 41-08); for krill in Area 48 (CM 51-01) and Divisions 58.4.1 (CM 51-02) and 58.4.2 (CM 51-03); for icefish in Subarea 48.3 (pelagic only) (CM 42-01) and Division 58.5.2 (CM 42-02); for *Macrourus* in Divisions 58.4.3a (CM 43-02) and 58.4.3b (CM 43-03); and for four finfish species in Division 58.4.2 (CM 43-04).

Krill are fished using pelagic trawls exclusively (see Sec. 3.2 of this FPEIS for specific mitigation measures to reduce bycatch of seals, i.e., use of seal excluder devices in krill trawls). One U.S. boat has and continues to harvest krill. The target depth of the hauls for the krill fishery is within the upper 50 meters. Krill range from the surface to

around 4,000 m. Because these are midwater trawls, there is no interaction with the krill trawl and the bottom.

Alternative K1: Issue permits annually to U.S. fishery to conduct trawl operations in accordance with CCAMLR conservation measures in effect for each specific region (Status Quo; no-action alternative). **(Preferred Alternative)**

This alternative would require U.S. fishers to conduct operations in accordance with all CCAMLR requirements, including season, mitigation, observers, data reporting, and biological data collection.

Alternative K2: Prohibit all U.S. trawl fishing in areas where levels of seabird or marine mammal incidental mortalities potentially may adversely affect their respective populations.

This alternative would prohibit U.S. trawl fishing in CCAMLR regions where high levels of incidental mortality and/or entanglements of seabirds or marine mammals potentially may adversely affect their respective populations. Such levels would be based upon the advice of the CCAMLR Scientific Committee.

Alternative K3: Issue permits annually to U.S. fishery to conduct trawl operations but limit number of seabird mortalities or marine mammal entanglements per vessel allowed in each CCAMLR area.

This alternative would set a maximum allowable catch of seabirds or marine mammals per vessel and CCAMLR area, based on the advice provided by the CCAMLR Scientific Committee.

Observers (UK) placed on krill fishing vessels fishing in CCAMLR subarea 48.3 in 2003 observed Antarctic fur seals taken as by-catch in the krill fishery. The take, however, was attributed to the absence of effective mitigation measures (escape panels in the nets) and lack of experience of crews new to the fishery. Experienced vessels, employing effective mitigation measures, caught no seals. Nonetheless, controls on bycatch, would reduce the potential of adverse affects on marine mammals.

Alternative K4: Prohibit all U.S. bottom trawl fishing in all areas.

This alternative would prohibit U.S. bottom trawl fishing that is presently permitted except for Subarea 48.3 (CM 42-01).

Alternative K5: Permit U.S. trawl fishing in all areas without restriction.

This alternative would allow U.S. longline fishing without restrictions that would not be in accordance with CCAMLR Conservation Measures.

IV. ACTION: Scope of permits required to “harvest” and “import” toothfish.

Alternative L1: Require a NMFS-issued AMLR harvesting permit to fish for toothfish inside the CCAMLR Convention Area; require a NMFS-issued AMLR harvesting permit to fish for toothfish outside the CCAMLR Convention Area; and require a DCD on all shipments of toothfish wherever harvested (Status Quo; no-action alternative).

Alternative L2: Require a NMFS-issued AMLR harvesting permit to fish for toothfish inside the CCAMLR Convention Area and require a DCD for toothfish harvested inside the CCAMLR Convention Area.

Alternative L3: Require a NMFS-issued AMLR harvesting permit to fish for toothfish inside the CCAMLR Convention Area and require a DCD on all shipments of toothfish wherever harvested. **(Preferred Alternative)**

During its 1999 annual meeting, CCAMLR adopted a Catch Documentation Scheme (CDS) for toothfish. The CDS was adopted to track and monitor trade in *Dissostichus* species (Patagonian and Antarctic toothfish) as a means of combating illegal, unregulated and unreported catches of toothfish. The CDS requires that all shipments of toothfish, wherever harvested and by whomever harvested, imported into any CCAMLR Contracting Party (including the United States), be accompanied by a *Dissostichus* Catch Document (DCD). NMFS promulgated regulations in 2001 implementing the CDS. The regulations, in part, amended the definition of “Antarctic marine living resources” (AMLR) to include “All species of *Dissostichus* wherever found,” i.e., whether harvested inside or outside the CCAMLR Convention Area. This amended definition of AMLR when read together with the NMFS requirement at 50 CFR 300.112, has the effect of requiring owners of U.S. vessels fishing for toothfish on the high seas both inside and outside of the CCAMLR Convention Area to have a harvesting permit for AMLR, as defined by AMLRCA. AMLRCA defines AMLR as the “population of finfish, mollusc, crustaceans and all other species of living organisms, including birds, found south of the Antarctic Convergence” (i.e., within the CCAMLR Convention Area). U.S. vessels fishing on the high seas are required by 50 CFR 300.13

to apply for a permit under the High Seas Fishing Compliance Act (HSFCA) (16 USC 5501 et seq.).

Alternative 1 would continue to require AMLR harvesting permits to fish for toothfish outside the CCAMLR Convention Area. While there are some populations of toothfish found outside the CCAMLR Convention Area, they are not AMLR as defined by AMLRCA, and thus, do not require an AMLR harvesting permit. Alternative 1 would, however, continue to require a DCD on all shipments of toothfish entering the United States, regardless of whether those toothfish were harvested inside the Convention Area (AMLR toothfish) or outside the Convention Area (high seas toothfish).

Alternative 2 would require AMLR harvesting permits only for toothfish harvested within the CCAMLR Convention Area and would, although the CDS requires DCDs for toothfish wherever harvested, require DCDs only for toothfish harvested inside the Convention Area.

Alternative 3 would amend NMFS regulations to clarify that an AMLR harvesting permit is required by NMFS only when harvesting toothfish within the Convention Area by deleting “All species of Dissostichus wherever found” from the definition of AMLR. Harvesting toothfish on high seas areas inside and outside the Convention Area would continue to require a permit issued by NMFS pursuant to the HSFCA. Areas within the Convention Area subject to national jurisdiction, such as the areas in Convention Subarea 48.3 claimed by the United Kingdom, are not considered high seas areas. Alternative 3 would preserve the requirement that all imports of toothfish, wherever harvested, comply with U.S. import permit conditions and DCD controls. It would also continue the requirement that all U.S. vessels harvesting toothfish apply, complete and transmit DCDs as required by NMFS regulations implementing the CDS.

2.2 Trade Controls

I. ACTION: Import/re-export control program for AMLR.

These alternatives are designed to tighten or otherwise improve the import/re-export control program that the United States maintains for AMLR. Implementation of Alternatives 2-6 and 8 would reduce the possibility that IUU toothfish are imported into the United States and thereby increase protection to toothfish and to other species (seabirds and possibly killer whales and sperm whales) that may be adversely impacted by IUU longline operations for toothfish. The United States is one of the top two importers of toothfish in the world and the proposed alternatives would likely reduce the incentive for IUU fishing, as the United States would be able to prevent most importation of IUU fish coming into the United States. Alternative 7 would facilitate smoother operation of the pre-approval process, and Alternative 9 would support conservation efforts for toothfish populations not at significant levels in certain FAO Statistical Areas.

Alternative 1: Existing Catch Documentation Scheme and Existing Pre-approval of DCD (Status Quo; no-action alternative).

This alternative would continue the use of existing regulations for implementing the CDS (under 50 CFR Part 300, Subpart G). The pre-approval system will remain as is. This would not address the problem of dealers importing shipments of fresh toothfish in excess of 2,000 kgs who currently face the requirement of submitting a pre-approval application along with a complete and valid DCD 15 days prior to the arrival of the shipment (this problem is dealt with separately in ACTION II of this Sec. 2.2).

Alternative 1 would also prevent NMFS from addressing another problem faced by dealers under the current requirements; i.e., the requirement for submission of the U.S. Customs 7501 (entry) number at the time of application. According to U.S. Customs, this number cannot be issued until all invoices, bills of lading, and other required paperwork are collected by the broker. Dealers are often unable to gather all of this material 15 days prior to the arrival of a shipment -- a requirement for submission of the pre-approval.

Alternative 1 would prevent NMFS from placing further restrictions on shipments entering the United States whose catch was harvested using longline vessels. Such restrictions could include the Centralized Vessel Monitoring Systems (C-VMS) and Electronic Catch Documentation (E-CDS) recently initiated by the CCAMLR Secretariat.

While Alternative 1, the status quo, would continue to discourage IUU fishing for toothfish or overfishing of toothfish in general, it would not be as effective as further restrictions utilizing tools such as the Electronic CDS and Centralized VMS created by CCAMLR explicitly for this purpose.

Alternative 2: No longer accept DCDs issued by CCAMLR member countries not fully participating in the E-CDS project once implemented by NMFS.

During the 2003 intersessional period (May through Sept. 2003) seven CCAMLR member states were invited to participate in a pilot study of the proposed E-CDS. The Commission believed that the limited period of the trial was not sufficient to recommend a full-scale implementation of the system. During its Fall 2003 meeting, the Commission agreed to extend the period of the trial to the 2004 intersessional period and involve all those parties wishing to participate. During the Fall 2004 meeting of the Commission, the United States indicated to the Members of the Commission that it planned to propose regulations that would exclude all catch documents for *Dissostichus* (DCDs) that were not generated through the E-CDS. The U.S. decision was based on: (1) the fact that the E-CDS is much more secure and reliable than the paper-based system; and (2) the assurance E-CDS gives with respect to adherence to CDS procedure and protocol given effect through Conservation Measure 10-05. With regard to fraud, the system is more

secure in that only CDS officers are authorized to access the password protected secure sight. The password each officer has been issued denotes which parts of the system they are allowed to view and/or use. The system is much more reliable in that using paper document fields may be incorrectly completed, or even fraudulently completed while the electronic version has logic checks and will not allow the completion of a document with errors with regard to fraud. The U.S. announcement was made to encourage countries that were interested in continuing toothfish trade with the United States to participate in the use of E-CDS. The United States has had great success during the past year with the E-CDS system in trade with New Zealand, South Africa, and Australia. However, problems, e.g., incomplete or fraudulent documents, with countries that continue to use the paper-based system still frequently occur, as well as member countries that generate paper documents and then simply fail to submit them to CCAMLR. The Secretariat informed the United States (the largest global market for toothfish) that Japan (the second largest global market for toothfish) is utilizing the E-CDS and encouraging those who wish to access their markets to participate as well.

This alternative would greatly facilitate the trade of toothfish on behalf of U.S. dealers. The dealers would no longer be required to obtain and submit a DCD with the required pre-approval documentation. They would only be required to supply NMFS with identifying information, allowing the NMFS CDS officer to access the documents online through a password protected web-based system. Dealers would receive approvals much sooner than when paper-based documents must be researched.

As of July 2004, 56 electronic documents had been generated with respect to landings of toothfish. Flag States participating in the pilot electronic system include Australia, Chile, Spain, France, New Zealand, South Africa, United Kingdom and the United States. Of these only Australia, New Zealand, South Africa and the United States use it regularly. Both Japan and the United States, the two largest global importing countries use the electronic system.

Over the past year, of the dealers submitting electronic DCD information in conjunction with their pre-approval applications, all but one received approval the very same week that the application was submitted. The one exception to this was delayed for other reasons.

Because of this expeditious process, U.S. dealers have expressed their preference for buying fish with electronic documents. This gives them an added sense of security that the product they are buying has been legitimately harvested and legitimately documented following the protocol developed through CCAMLR. The other factor lending to their expressed preference is the expedited manner in which they receive approval for the shipment to enter commerce, avoiding expensive demurrage charges (charges assessed to containers that are still occupying space in the port after a designated time frame) that accrue during the approval process, and making trade much smoother between participating countries.

Alternative 3: No longer accept DCDs issued by any country not fully participating in the E-CDS project once implemented by the Commission.

This would be the same text as Alternative 2 but would also include Non-Contracting Party countries participating in the CDS in addition to member States. There are very few, if any, Non-Contracting parties that are major fishers of toothfish. The role that most Non-Contracting Parties play in the CDS is that of landing, export, import or re-exporting states.

Alternative 4: No longer accept DCDs issued by CCAMLR member countries not participating in Centralized VMS (C-VMS), once implemented by the Commission.

During its Fall 2003 meeting, the Commission considered the advice of its Subcommittee on Inspection and Compliance regarding the development and adoption of a Centralized Vessel Monitoring System (C-VMS). The system would be operated through the CCAMLR Secretariat and would accommodate all vessels fishing for toothfish whether inside the Convention area or outside the Convention area. VMS units would be operated according to the specifications described in CM 10-04. As stipulated in CM 10-04, the VMS signal would be transmitted every 4 hours directly to the CCAMLR Secretariat and concurrently to the Flag State of the vessel. This would essentially centralize all location signals through the Secretariat so as to exclude any possibility of “dry labbing” data (i.e., falsifying or substituting position data). While the Commission failed to adopt a proposal to require C-VMS of all Members of the Commission who have vessels operating in the toothfish fishery, either inside or outside the Convention area, the proposal solicited overwhelming support by almost all Members. Because of this general support by the majority of the Members, the Commission agreed to support a trial C-VMS that would be established by the Secretariat and open to all interested parties who wished to participate. During the meeting, the United States noted that once the system was implemented, it would not accept DCDs for toothfish harvested by any vessel choosing not to participate in the C-VMS. Accepting only imports of toothfish harvested by vessels tracked through C-VMS and conveying paper-based DCDs would, in NMFS’ view, be taking advantage of all the “validation tools” (i.e., E-CDS and C-VMS) offered to Members by the Commission and would provide the highest level of assurance with regard to shipments requesting import to the U.S. market.

During its Fall 2004 meeting, the Commission adopted a proposal to revise and implement the trial C-VMS. As adopted, a vessel’s VMS must automatically communicate at least every four hours to a land-based fisheries monitoring center of its Flag State, and within time limits, to the CCAMLR Secretariat. The Secretariat will place the locational data on a password-protected website. The United States informed the Commission that, even though the four-hour reporting requirement applies only

within the CCAMLR Convention Area, NMFS will continue to require port-to-port reporting every four hours for any toothfish shipments imported into the United States.

Alternative 5: No longer accept DCDs issued by any country not participating in Centralized VMS, once implemented by the Commission.

This would be the same text as Alternative 4 but would be extended to Non-Contracting Party CDS participants as well as member States of the Commission.

Alternative 6: Will only accept DCDs that have been validated by officials of the port State government where the toothfish was landed, exported, and/or re-exported where the port State government is a CDS participant.

This alternative stems from the several problems that the United States has experienced regarding the misinterpretation of Conservation Measure 10-05 that explicitly details how a DCD is to be completed. These misinterpretations include confusion over the requirement for a country to sign a landing, export or re-export government authority section for activity occurring within a free trade zone. In particular, Chile decided that fish being landed by Falkland Island vessels from their free trade zone was an exemption to this requirement. Under Chile's customs laws, activities such as landings within this "zone" are not considered to have entered into the customs territory of Chile and therefore they interpreted the responsibility of certifying the landing as the responsibility of the flag state. Specific language was developed and adopted by the Commission in 2003 which states "in the case of a landing, the master or authorized representatives shall confirm the landing by obtaining a signed and stamped certification on the *Dissostichus* catch document by a responsible official of the Port State of landing or free trade zone who is acting under the direction of either the customs or fisheries authority of the Port State and is competent with regard to the validation of *Dissostichus* catch documents." Conservation Measure 10-05 also requires that "For each shipment of *Dissostichus spp.* to be exported from the country of landing, the exporter shall adhere to the following procedures to obtain the necessary export validation of the *Dissostichus* catch document(s) that account for all the *Dissostichus spp.* contained in the shipment." It goes on to state that "(iv) the exporter shall obtain a signed and stamped validation of the *Dissostichus* catch document by a responsible official of the exporting State."

The other problem which gave rise to this alternative is the problem of having Flag States authorizing landings, exports and re-exports in ports other than their own where the government officials of the port state are fully capable of authorizing these actions under CDS. Over the past four years some member countries have routinely flown their own port officials to other ports, in other countries that are CDS participants to authorize landings, exports and re-exports whereby authorizing catch for their own vessels. The United States proposed the changes, as stated above, to the Conservation

Measure that would clarify certification procedures for landings, exports and re-exports that were adopted by the Commission. However, even after this clarification was adopted and all Members agreed to abide by it, the United States has continued to be confronted with request for approval of documents which reflect that these protocols were ignored. Member states continued to have their own official travel to ports to authorize landing, exports or re-exports in ports that were participants in CDS. This action usurps the landing states port officials right and responsibility to oversee and certify landings of toothfish within their own ports or free trade zones. Therefore, in order to strengthen the decision taken at CCAMLR, NMFS believes that this alternative may provide support to deny entry to those shipments accompanied by documents that did not follow the protocol outlined in Conservation Measure 10-05.

Alternative 7: Allow importers to submit 7501 Customs information after having submitted an application for pre-approval but within the 15 day overall pre-approval period.

Under the current regulations as part of the application for pre-approval, each application must be accompanied by the U.S. Customs entry number, or sometimes referred to as the 7501 number. Although no concern was raised during the comment period of the proposed rule that contained this requirement, NMFS has since learned from dealers and brokers that this number cannot be issued until all invoices, bills of lading and other required entry paperwork are collected by the broker. Therefore, it is difficult and sometimes impossible for dealers to obtain this entry number at the time of application for approval. For this reason, an alternative to this requirement should be considered. The alternative offered here is that the 7501, or entry number could be supplied in a second stage of application closer to the time of import. In order to ensure that NMFS has appropriate time to process the application, all other required information should be submitted at the current 15 working days in advance of the arrival of the shipment. The 7501 entry number could then be submitted 3 working days prior to the shipment's arrival.

Alternative 8: Prohibit importation of toothfish landed at a port other than a port of a CCAMLR Contracting Party.

At the twenty second CCAMLR Commission meeting in 2003, concern was raised as to the practice of toothfish harvesting vessels landing catch in ports other than those of CCAMLR Contracting Parties. Resolution 15/XXII was drafted urging Contracting Parties to require as a condition of their license that the vessel should land catches only in States that are fully implementing the CDS. Since that time, it has come to the attention of the United States that no Non-Contracting party is fully implementing the CDS. Non-Contracting parties that have notified the CCAMLR Secretariat that they are participating have all placed some limitation on that participation and are therefore not "fully" participating. Non-Contracting Parties have also similarly been inconsistent with their participation making it impossible for Flag States to gauge whether they are

able to allow their vessels to land in Non-Contracting party ports. This has caused severe problems with importers requesting approval for entry into U.S. commerce by making it difficult to verify that CDS protocol was followed. Some examples of this non-participation include refusing to certify landings but allowing the flag states authorities to fly in to certify in a port other than their own, participating countries refusing to assign a government agency the responsibility of CDS, and allowing industry to authorize DCDs. These various levels of non-participation have resulted in infractions to related CDS rules therefore, making some imports ineligible for import approval. This causes harm to both legal fishers, and U.S. importers in that NMFS may, and has, denied entry to shipments whose fish were believed to have been harvested legally but was documented outside the CDS protocols adopted by all Members. With this alternative in place, this would no longer be an issue if the opportunity for this lack of adherence to the CDS protocol were eliminated.

Alternative 9: No longer accept imports of toothfish harvested in FAO Statistical Areas once the CCAMLR Scientific Committee has confirmed that toothfish are not at significant population levels (i.e., where the SC has concluded that fishable populations do not exist) in those areas.

The CCAMLR Scientific Committee (SC) and its WG-FSA annually review catches reported as harvested within and outside the Convention Area, including from FAO Areas 41, 47, 51, 57, and 87. In recent years, the amounts of toothfish being reported as high seas catches are vastly more than previously reported. In addition to this general concern over catches being reported from high seas areas, in 2003, the SC noted that there had been an increase over the last three years for high seas catches reported from FAO Area 47 while the catches from Areas 51 and 57 were lower in 2002/03 than previously reported in the 2001/02 fishing season. The United States views this as a direct result of the ban it placed on all toothfish imports harvested from FAO Areas 51 and 57. In its October 22, 2002 published proposed rule for AMLR, NMFS showed that based on the best available information from the SC of CCAMLR, stock assessments could not confirm the presence of toothfish at the population levels that would support the harvesting that was being reported for those areas. NMFS also stated in that proposed rule that NMFS may propose extending the ban to other high seas areas. This extended ban would exclude catches taken in EEZs that are located within these statistical areas. Such catches include, but are not limited to, the artesianal fishery in South America in FAO 87, the South African EEZ fishery in FAO 51 and the Argentine EEZ fishery in FAO Area 41. These EEZ fishing areas can be distinguished from high seas areas on the catch documents and therefore would be allowed entry into the U.S. market.

The 2003 SC concluded by saying that some of the catches reported via the CDS may represent IUU catches from the Convention area, misreported as coming from high seas outside the Convention Area. Given this level of scrutiny applied to all high seas catches, the SC continues to work towards an assessment as to whether considerable commercial stocks exist in these areas. If the SC is able to confirm the non-existence of

fishing concentrations and commercial-scale aggregations of Patagonian toothfish at levels that would support past catch reports, this alternative would allow for prohibition of imports from any or all of these fishing areas.

Alternative 10: Implement Alternatives 3, 5, 7, 8, and 9. **(Preferred Alternative)**

NMFS believes that Alternatives 3, 5, 8 and 9 would tighten import controls and are the most effective options to reinforce the current Toothfish Import Control Program. NMFS also believes Alternative 7 would give all dealers the opportunity to be in full compliance of the pre-approval system. The current requirement makes it impossible for dealers to comply with the 15-day advance application process. While each of these initiatives strengthen the trade controls and reduce the likelihood of IUU caught toothfish from entering the United States, a combination of Alternatives 3, 5, and 7 through 9 would provide a stronger set of controls so **Alternative 10 implementing these five alternatives is the preferred alternative.**

II. ACTION: Pre-approval for imports of fresh toothfish.

This action addresses the problem of dealers importing shipments of fresh toothfish in excess of 2,000 kgs (see next paragraph for definition of fresh toothfish) who currently face the requirement of submitting a pre-approval application along with a complete and valid DCD 15 days prior to the arrival of the shipment. These fresh, air-shipped toothfish shipments, require that the time between the completion of the catch document and the movement of the fish occur in less than 48 hours. This requirement makes it impossible for a dealer to comply with the 15-day advance application process.

As used in this FPEIS, “fresh toothfish” refers to any fresh whole/eviscerated Patagonian toothfish (*D. eleginoides*) that is imported via air shipment and is correctly designated as 0302694097 in the Harmonized Tariff Schedule of the United States Annotated (HTS). This does not include fish that has been previously frozen. Essentially there are no imports of fresh Antarctic toothfish (*D. mawsoni*) into the United States because it is caught in high latitude waters and the product is frozen onboard the vessels. Whereas *D. eleginoides* is primarily harvested by nearshore fisheries and air shipped as fresh fish to the United States.

Alternative 1: Shipments of fresh toothfish weighing less than 2,000 kg are exempt from pre-approval of DCD requirement (Status Quo; no-action alternative).

Note: 96% of the shipments are less than 2,000 kg.

Alternative 1 would maintain the fee requirement for dealers importing relatively small amounts of fresh fish per shipment. Dealers importing 2,000 kgs or more of fresh

toothfish would pay the same fee of \$200 as the dealer importing an average size container of 25,000 kgs of frozen toothfish under the current pre-approval system. This financially penalizes the dealer importing fresh product because they import numerous smaller shipments with a \$200 fee for each while frozen product dealers typically import less frequently and only pay the \$200 fee for their larger shipments. This cost is further passed on to the consumers.

In addition, the fresh product, most of which comes exclusively from Chile, is the part of the toothfish trade in which NMFS has the most confidence due to our bilateral working arrangement with Chile. That confidence stems from a bilateral arrangement that allows NMFS to receive a download of data describing all exporting documents for fresh product leaving Chile twice per month. Chile is also extremely responsive when NMFS has a separate query and typically responds within one business day. This enables NMFS to verify the documents on an almost real time basis.

Alternative 2: Also exempt shipments of fresh toothfish weighing more than 2,000 kg from pre-approval of DCD requirement.
(Preferred Alternative)

This alternative would alleviate fresh product dealers from the two problems described in Alternative 1 of this section. The first being that the dealer would no longer be required to comply with a 15 day advance submission of the DCD prior to obtaining an approval. This is something that is impossible to do under the current system as the DCD document for fresh fish is issued the same day that the fish leaves the country, typically by air. Under this alternative, dealers importing fresh product would be required to submit the DCD along with the report of the entry on an approval form within 24 hours of the shipment clearing U.S. Customs. The second being that the dealers importing fresh product would no longer be charged a \$200 fee for each and every shipment of toothfish being imported.

One of the concerns, expressed by NOAA enforcement, in relaxing this regulation is that if there is a concern about the legality of the fish and it has already been released and consumed prior to any enforcement action, then NMFS has no way to penalize the dealers. NMFS agrees that seizure and forfeiture of the fish would no longer be an option once the fish is released for consumption, but maintains that the ability to issue civil penalties under AMLRCA and the Lacey Act Amendments of 1981 (a statute which contains effective measures for addressing trafficking in illegal wildlife) should be sufficient to provide an adequate enforcement response to such violations. Both of these statutes have a five-year statute of limitations on prosecutions. NOAA/NMFS currently has the option of responding to violations with civil penalties issued by the NOAA Office of General Counsel for Enforcement and Litigation (GCEL), or with its Summary Settlement Program – a civil penalty program that allows enforcement agents to issue civil penalties in the field in *lieu* of the more formal GCEL process. Notably, at the next opportunity to amend AMLRCA, NOAA/NMFS will seek to increase the maximum civil penalty allowed under AMLRCA to ensure that the NOAA/NMFS's penalty options will

be sufficient to address all violations. NOAA currently publishes the recommended penalties for AMLRCA violations in the AMLRCA Civil Administrative Penalty Schedule at www.gcel.noaa.gov. **Alternative 2 is the preferred alternative.**

2.3 Research Controls

I. ACTION: Revise the U.S. permit system for research within CCAMLR Ecosystem Monitoring Program (CEMP) sites.

CCAMLR established a system of sites contributing data to the CCAMLR Ecosystem Monitoring Program (CEMP) and agreed that studies being undertaken at CEMP sites may be vulnerable to accidental or willful interference and that protection should be afforded to the sites. It also agreed that it was not the purpose of the protection accorded to CEMP sites to restrict fishing activity in adjacent waters. Two CEMP sites are now afforded protection: Seal Islands, South Shetland Islands (CCAMLR Conservation Measure 91-03) and Cape Shirreff and the San Telmo Islands, Livingston Island, South Shetland Islands (Conservation Measure 91-01). Sites are established and reviewed every five years based upon an agreed management plan. Both sites will be reviewed in 2005. Because no CCAMLR CEMP data has been collected at the Seal Islands site since 1993/94 and because it is expected that no CEMP data will be collected from the site in the foreseeable future, CCAMLR will likely terminate the CEMP Site at Seal Islands after its review in 2005.

The Cape Shirreff site has also been afforded protection as a Site of Special Scientific Interest (SSSI No. 32). Sites of Special Interest are being revised as Antarctic Specially Protected Areas (ASP 149) under the Committee for Environmental Protection (CEP) of the Antarctic Treaty System.

Chile and the United States currently operate summer field camps located at Cape Shirreff and will likely continue to do so in the near future.

CEMP Site management plans must contain geographical information, maps, biological features, CEMP studies, statement of prohibited activities, prohibitions regarding access to and movement within or over the site, prohibitions regarding structures and disposal of waste and communications information. Management plans for both sites are attached to the respective CCAMLR Conservation Measures.

Alternative 1: Issue permits for U.S. researchers to conduct CEMP research at Seal Islands and Cape Shirreff (if Seal Islands is retained as a CEMP site by CCAMLR) based upon CCAMLR approved Management Plans set forth in Conservation Measures 91-03 and 91-01, respectively, that

provides information on prohibited activities, access, movement, structures and waste disposal. Permits are currently issued for a five-year period. (Status Quo; no-action alternative). **(Preferred Alternative)**

The U.S. Seal Islands research facility was closed in 1995 due to the unstable condition of the rock faces on the island. Thus, for Seal Islands, there will be no further U.S. research on the site and no requests for a NMFS-issued CEMP permit. U.S. researchers have current permits to conduct research at Cape Shirreff. Conditions of the permit include restrictions on activities to prevent damage, interference with, or adversely affecting CEMP monitoring and directed research; prohibition in occupation of the site during the period 1 June to 31 August; prohibition in entering pinniped or seabird colonies except for research purposes; restricted aircraft over flight, use of land vehicles, and pedestrian movement; construction of new structures by permit only; and prohibition of waste disposal and open burning.

Alternative 2: Issue permits for U.S. researchers to conduct CEMP research at Seal Islands and Cape Shirreff (if Seal Islands is retained as a CEMP site by CCAMLR) with more severe restrictions than set forth by CCAMLR Conservation Measures 91-03 and 91-01, respectively.

Because many of the conditions for protection of CEMP sites are to prohibit activities, more severe restrictions would not be possible. However, permitting more severe restrictions such as activities associated with research activities or prohibiting entry into research areas would adversely affect research activities and prohibit investigations needed to accomplish CCAMLR management.

Alternative 3: Issue permits for U.S. researchers to conduct CEMP research at Seal Islands and Cape Shirreff (if Seal Islands is retained as a CEMP site by CCAMLR) based upon lesser restrictions than set forth by CCAMLR Conservation Measures 91-03 and 91-01, respectively.

Permitting activities currently restricted or prohibited would be in violation of CCAMLR conservation measures. However, this alternative does not contemplate issuing permits to conduct CEMP research at any level that would exceed the then current CCAMLR Conservation Measures; to do so would be unlawful.

II. ACTION: Enhance collection of scientific data and research through the use of scientific observers, and develop regulations to support implementation of an observer program.

CCAMLR adopted a Scheme of International Scientific Observation in 1992 at its eleventh annual meeting (see CCAMLR Basic Documents Part 10 at www.CCAMLR.org). Observers placed on board fishing vessels pursuant to the scheme observe and report on the operations of fishing activities and the effects of fishing on target and associated species of living marine resources. Observers undertake tasks and record their observations pursuant to protocols and using formats approved by the CCAMLR SC. These tasks include recording details of vessel operation; taking catch samples; recording biological data by species caught; recording bycatch; recording entanglement and incidental mortality of birds and mammals; recording procedures by which declared catch weight is measured; collecting and reporting factual data on sightings of fishing vessels in the Convention Area, including vessel type identification, position and activity; and collecting information on lost fishing gear and garbage disposal by fishing vessels at sea.

CCAMLR has identified two types of scientific observers who may collect the information required in CCAMLR managed fisheries. These are: (1) nationals of the Member designating them, who operate on board a fishing vessel of that Member and conduct themselves in accordance with the customs and order existing on the vessel; and (2) observers operating in accordance with bilateral arrangements between a Member whose vessel is fishing (the Receiving Member) and a Member providing the observer (the Designating Member). The CCAMLR scheme identifies the elements, which must be included in a bilateral arrangement. The U.S. Department of State negotiates bilateral arrangements placing U.S. nationals as observers on non-U.S. Member vessels and receiving non-U.S. Member nationals as observers on U.S. vessels.

CCAMLR conservation measures require all fishing vessels operating in the Convention Area (except for vessels fishing for krill) to carry on board, throughout all fishing activities within the fishing period, at least one scientific observer placed pursuant to a bilateral arrangement and, where possible, one additional scientific observer. In Subareas 88.1, 88.2 and 48.6 and Divisions 58.4.1 and 58.4.2, where exemptions are allowed for setting longlines during daylight hours, two observers are required, one of which must be placed pursuant to a bilateral arrangement.

NMFS has not published regulations implementing the details of the CCAMLR Scheme of International Scientific Observation. NMFS has, by Federal Register notice, implemented the annual conservation and management measures adopted by CCAMLR (including requirements in these measures for scientific observers) for Convention Area fisheries. Additionally, NMFS requires, as a condition of each vessel's AMLR harvesting permit, that the vessel, including vessels fishing for krill, carry scientific observers on board in the Convention Area, throughout all fishing activities within the fishing period. Several of the observers have been placed pursuant to bilateral arrangements negotiated by the Department of State with Japan, South Africa and Ukraine. The other observers have been U.S. nationals. NMFS coordinates with the vessel permit holders and observers in all instances to assure that observers are fully versed in their duties in recording the observations required by CCAMLR.

The following alternatives describe possibilities for implementing the CCAMLR Scheme of International Scientific Observation.

Alternative 1: Require scientific observers on all U.S. vessels fishing in the CCAMLR Convention Area pursuant to CCAMLR's annual conservation and management measures requiring scientific observers and as a condition of a vessel's AMLR harvesting permit. (Status Quo; no-action alternative).

NMFS has, by Federal Register notice, implemented the annual conservation and management measures adopted by CCAMLR (including requirements in these measures for scientific observers) for Convention Area fisheries. Vessels fishing in exploratory fisheries for crab, squid and toothfish are required by annual CCAMLR conservation measures to carry one scientific observer pursuant to a bilateral arrangement and, where possible, one additional scientific observer. In the case of certain of the exploratory toothfish fisheries, the vessel must carry at least two observers, one of whom must be placed pursuant to a bilateral arrangement. NMFS regulations, however, only require that each vessel participating in an exploratory fishery carry one scientific observer (see 50CFR 300.106 (c)). Vessels fishing for finfish in an established fishery are required to have at least one scientific observer, and may include one carried pursuant to a bilateral arrangement. CCAMLR measures do not, at present, require the placement of scientific observers on vessels fishing for krill. NMFS, however, requires, as a condition of each vessel's AMLR harvesting permit, that all vessels, including vessels fishing for krill, carry scientific observers on board in the Convention Area, throughout all fishing activities within the fishing period. Where CCAMLR requires a scientific observer designated pursuant to a bilateral arrangement, Department of State negotiates the arrangement and NMFS coordinates with the vessel captain and the observer.

Alternative 2: Amend NMFS regulations to clarify the requirement that all U.S. vessels fishing in the CCAMLR Convention Area, including vessels fishing for krill, or vessels conducting longline testing trials outside the Convention Area prior to longline fishing within the Convention Area, must carry one or more national scientific observer or scientific observer placed pursuant to a bilateral arrangement.

The status quo requires that U.S. vessels carry scientific observers as called for in CCAMLR conservation and management measures. This alternative would require NMFS to amend its regulations to state that all U.S. vessels fishing in the Convention Area, including vessels fishing for krill, or vessels conducting longline testing outside the Convention Area prior to longline fishing within the Convention Area, carry one or more scientific observers as required by CCAMLR conservation and management measures. It would amend 50 CFR 300.106 (c) which indicates that only one scientific observer is

required in all exploratory fisheries when, in fact, two are required in some exploratory fisheries.

Alternative 3: Amend NMFS regulations to include the terms of the CCAMLR Scheme of International Scientific Observation on bilateral arrangements for placement of observers.

The status quo requires that U.S. vessels carry scientific observers as called for in CCAMLR conservation and management measures. It does not incorporate the standards agreed by CCAMLR in the Scheme of International Scientific Observation for the placement of observers pursuant to a bilateral arrangement in NMFS regulations. These standards address: status of the observer while on board a vessel; accommodations; meals; access to data and vessel operations; security and welfare of observers; medical care; communications to and from observers; transportation of and boarding by observers; insurance; equipment; clothing and salary. Department of State negotiates the specifics of these elements in concluding bilateral arrangements.

NMFS regulations are also not specific as to the standards for the placement of national scientific observers. Regulations under this alternative could include: notification requirements to NMFS; duties of observers; duties of the vessel master/crew; observer accommodation and meals; and observer safety. Specific regulations could address: the proper amount of notification to the observer that fishing has commenced; a detailed list of duties (e.g., access to records, electronics and work areas) that the master, crew and observer are expected to comply with to ensure that neither the observer's work nor the operations of the vessel are interfered with; requirements that ensure that observers will have adequate accommodation and meal at sea; requirements for observer qualifications and authorization; and requirements to ensure the safety of the observer at sea (e.g., transfer at sea procedures, prohibitions on harassment, interference and assault).

Alternative 4: Implement Alternatives 2 and 3. **(Preferred Alternative)**

NMFS believes that Alternatives 2 and 3 together are the most effective options to clarify and strengthen the scientific observer program and thereby enhance data collections and observations.

2.4 Enforcement Controls

The following alternatives explore different possibilities for the implementation of a vessel monitoring system (VMS) on U.S. flagged vessels fishing for AMLR in the Convention Area. VMS is mandated for contracting parties under CCAMLR

Conservation Measure 10-04. However, the alternatives here deal with the regulatory structure for implementation of a VMS, which is a matter left up to the Flag State.

I. ACTION: Enhance enforcement capability through use of Vessel Monitoring System (VMS) with additional regulations to support implementation of the VMS.

As defined by CCAMLR Conservation Measure 10-04, a VMS is a system established by participating flag nations whereby all fishing vessels in the fishery maintain on board a satellite-linked vessel monitoring device that allows for automatic and continuous reporting of the vessel's location within the Convention Area. In general, the VMS devices receive a location feed from global positioning satellites, and feed those coordinates, with additional data as requested by the flag nation, via a communications satellite to a land-earth station (LES). In turn, the LES sends the data to a monitoring station(s) of the flag nation. The Conservation Measure also mandates of the VMS, *inter alia*, that the vessel location reporting be within 500 meters accuracy, contain the date/time of the message and the speed and course of the vessel, and that the on board device be tamper proof.

Alternative 1: Status Quo; no action alternative.

NMFS regulations presently require that the operator of any vessel holding an AMLR harvesting permit must "install a NMFS-approved VMS unit on board the vessel and operate the VMS unit whenever the vessel enters Convention waters" (50 CFR 300.107 (a) (4)). Although CCAMLR Conservation Measure 10-04 exempts the krill fishery from the mandated use of a VMS unit, NMFS regulations require VMS use in all CCAMLR fisheries, including the krill fishery. While these regulations bring the United States into compliance with Conservation Measure 10-04, they do not include other provisions that experience in other fisheries has taught NMFS are required for the most effective implementation of a VMS. For instance, NMFS currently requires port-to-port VMS reporting for toothfish shipments imported into the United States. Expansion of port-to-port VMS reporting for all U.S. vessels participating in CCAMLR fisheries would enhance current regulations.

Alternative 2: Mandate use of VMS while the vessel is at sea and develop additional VMS regulations. **(Preferred Alternative)**

This alternative would extend the coverage of the VMS currently required to cover all at-sea operations of the vessel. As such, NMFS could monitor the vessel's activity as it approached Convention waters in *lieu* of requiring the vessel operator to turn on the VMS upon reaching the Convention Area. This full time operation of VMS saves the vessel operator from having to determine when and where to operate the VMS at sea,

and allows NMFS to ensure that all Convention Area operation is monitored. Current CCAMLR Conservation Measures do not require such full time monitoring of vessels.

In addition to the full time operation of the VMS, this alternative requires NMFS to develop a complete set of VMS related regulations covering all aspects of VMS operation, akin to the VMS regulatory programs NMFS has developed for other domestic fisheries. This would include VMS unit approval requirements, notification requirements, procedures for VMS failure, and prohibitions. These additional regulations are necessary to ensure that the vessel owner/operators can clearly understand all the requirements placed on them for installing and operating the VMS, and that NMFS can effectively monitor U.S. vessels regardless of their location. This is particularly important given the significant distance between the AMLR fishing grounds and any U.S. fisheries enforcement presence.

II. ACTION: Enhance enforcement capability through participation in CCAMLR's Centralized VMS (C-VMS) program.

Alternative 1: Non-participation in C-VMS (Status Quo ; no-action alternative).

During its Fall 2003 meeting, CCAMLR considered the advice of its Subcommittee on Inspection and Compliance regarding the development and adoption of a Centralized Vessel Monitoring System (C-VMS) and agreed to support a trial C-VMS to be established by the Secretariat and open to all interested parties who wished to participate. During its Fall 2004 meeting CCAMLR adopted a proposal to revise and implement the trial C-VMS. As of this writing, C-VMS applies to all vessels fishing in the Convention Area, except vessels fishing for krill. As adopted, a vessel's VMS must automatically communicate at least every four hours to a land-based fisheries monitoring center of its Flag State, and within time limits, to the CCAMLR Secretariat. The Secretariat will place the locational data on a password-protected website. The United States informed the Commission that, even though the four-hour reporting requirement applies only within the CCAMLR Convention Area, NMFS will continue to require port-to-port reporting every four hours for any toothfish shipments imported into the United States. NMFS regulations currently require the use of VMS on all vessels holding AMLR harvesting permits, including krill.

Alternative 2: Full participation in C-VMS for U.S.-flagged vessels.
(Preferred Alternative)

This alternative would require NMFS, and U.S.-flagged vessels fishing for AMLRs, to participate in the C-VMS established by the CCAMLR Secretariat. NOAA/NMFS believes that C-VMS is an effective measure for all RFMOs to ensure that vessels are monitored for compliance, and that in certain circumstances, VMS data are

provided to participating nations in order to pursue investigations of potential violations. C-VMS removes the potential that a Flag State could delay or interfere with the transfer of information to a RFMO Secretariat. While some nations see this as a threat to sovereignty, the United States believes that participation in C-VMS is the hallmark of responsible fishing nations seeking to have its vessels participate in an international fishery.

The “centralized” aspect of the VMS comes from the requirement in CCAMLR Conservation Measure 10-04, that participating flag nations forward all VMS reports to the CCAMLR Secretariat as soon as possible (not later than four hours after receipt for the exploratory longline fleet, and upon departure from the Convention Area for all other vessels). The CCAMLR Secretariat can then distribute the VMS data to other Contracting Parties for purposes of active surveillance, inspections or verifying catch documents. The implementation of C-VMS is expected to result in timely responses from the CCAMLR Secretariat to NMFS’s inquiries into fishing activities of a foreign vessel. This timely access to data will result in faster investigations into the veracity of catch documentation. Without C-VMS, NMFS would be required to seek VMS data from the flag nation, and experience has shown that responses to such requests has at times been unacceptably slow. In addition, implementation of C-VMS by NMFS for U.S. vessels will allow NMFS to automate the submission of VMS data to the CCAMLR Secretariat, thereby freeing agency resources from having to respond to VMS data requests from Contracting Parties.

In addition to the VMS enforcement controls discussed above, NOAA/NMFS will use the next opportunity to amend the AMLRCA to add statutory authorities that will enhance its enforcement capabilities under AMLRCA. Primarily, this involves reauthorization of AMLRCA to authorize a significant increase in the maximum civil penalty NOAA can assess for a violation of the AMLRCA, as well as clarification of NOAA’s permit sanction authority under AMLRCA. To date, NOAA has used several enforcement procedures to effectively address the issue of importation of toothfish that was either taken illegally or for which there is improper paperwork. These methods include implementation of a summary settlement program for failure to apply for an import permit, denial of entry of toothfish shipments into the United States when the shipment accompanying the paperwork fails to meet the requirements of the Catch Documentation Scheme, and forfeiture of the catch when the United States determines the fish was taken illegally or there are other aggravating factors. In addition, NOAA/NMFS has worked closely with the U.S. Department of Justice to consider criminal prosecutions when appropriate. While NOAA believes that these enforcement responses have reduced the amount of illegal toothfish entering the United States, NOAA is confident that an increase in the maximum penalty allowed under AMLRCA will allow it to more effectively tailor a civil monetary penalty to the facts and circumstances of any particular case. Experience with regulating the fisheries trade has shown that significant civil penalties are often the most resource effective means to bring a party into compliance.

CCAMLR participants have regularly considered methods for dealing with vessels/companies/persons involved in IUU fishing activities. NOAA has reviewed certain options, including denial of permits, and determined that prophylactic actions against companies with suspected IUU history, or against U.S. persons with a prior violation history, raises significant due process issues. As such, NOAA cannot currently prevent a person from engaging in AMLR fishing or trade in the U.S. based solely on past violations or suspected IUU history. Despite its limited resources, NOAA/NMFS endeavors to pay close attention to vessels and companies with a known IUU history, with shipments of toothfish from fishing trips where IUU fishing is suspected receiving the highest scrutiny. Notably, future prosecutions could include permit sanctions that could prevent a company/person from participating in the fishery.

2.5 Alternatives Considered but Rejected

In preparing this EIS, consideration was given to the potential impacts to seabirds and marine mammals during the course of longline sink rate tests conducted in compliance with Conservation Measure 24-02. CM 24-02 allows for an exemption from the prohibition on daytime line setting in specified CCAMLR areas for vessels harvesting toothfish if vessels can demonstrate minimum specified line sink rates, which have been tested and successfully reduced seabird by-catch below levels of concern.

The CCAMLR Working Group on Incidental Mortality Associated with Fishing (WG-IMAF) and the CCAMLR Working Group on Fish Stock Assessment (WG-FSA) have not raised the issue of seabird or marine mammal hooking or entanglement during the testing for longline sink rates. (Pers. Comm., Kim Rivera, NMFS National Seabird Coordinator and co-convener of WG-IMAF, January 2005). CCAMLR observers do not regularly report bycatch during longline sink rate trials outside of the Convention Area (Pers. Comm., Eric Appleyard, CCAMLR data officer, March 2005). However, according to the observer reports from the two U.S. vessels that tested longline sink rates in the 2003/2004 CCAMLR fishing season, there were no interactions with seabirds or marine mammals during the longline testing trials. Additionally, there have been no reported seabird or marine mammal interactions during longline testing trials by more than 40 New Zealand vessels in the history of the toothfish fishery in Subarea 88.1. (Pers. Comm., Neville Smith, New Zealand Ministry of Fisheries and co-convener of WG-IMAF).

The following are particulars of the CCAMLR line sink rate tests

- * Line sink rate tests must be conducted prior to entering the Convention Area.
- * Tests can be conducted with (baited) hooks or without. Many fishers conduct the tests without hooks to speed up the tests. When tests are conducted without hooks, there is no possibility of hooking seabirds.
- * Tests are typically conducted during the daytime to facilitate observation of the test.

* Line sink rate tests conducted prior to entry into the fishery must be conducted on a minimum of two sets. Fishers typically opt to just do the minimum requirement of two sets.

* Fishers know what weights they need to add to achieve the sink rate. This information is shared within the fleet because fishers have an incentive to achieve the sink rate.

* CM 24-02 allows for a protocol that uses a “bottle” test. This method allows for instantaneous feedback. Thus, in the rare event when they might not achieve the specified sink rate, they can apply more weight to the line or decrease the spacing between weights to achieve the desired sink rate.

Entanglement of marine mammals with longline gear is a rare event in Convention waters. Killer whales and sperm whales have been known to eat toothfish off the longline hook, however no known marine mammal entanglements occurred in longline testing trials by the U.S. vessels (Pers. Comm. Chris Jones NOAA).

For the reasons set out above and due to the lack of any reported entanglements, NMFS believes the chance of birds or marine mammals being caught during these line sink rate tests is extremely low and is not an issue that merits attention at this time. Therefore, there is no protected resource basis for restricting (or considering an alternative to do so) areas that the U.S. longline trials could be conducted to areas where there would be little or no protected species interactions. Additionally, to require U.S. longline vessels to travel to a limited number of specified areas to conduct their testing trials would unnecessarily remove their flexibility in conducting the discretionary longline testing trials and, thereby, would likely impose undue economic costs on these fishers. For these reasons, alternatives to restrict areas where these tests can be conducted were considered, but rejected.

SECTION 3.0 DESCRIPTION OF AFFECTED ENVIRONMENT

3.1.a. Biology and Status of the Stocks -- Finfish

Toothfish

Toothfish belong to the Family Nototheniidae (cod icefish) and are related to other Antarctic commercial species, such as the Antarctic silverfish (*Pleuragramma antarcticum*) and the many species of rock cods (including the striped-eye notothen, *Lepidonotothen kempi*). This large and widespread Antarctic family is found throughout the high latitudes of the Southern Hemisphere and coastal Antarctica. The two species of toothfish (*Dissostichus eleginoides* and *D. mawsoni*) are both large predators with a circumpolar distribution. Direct population counts are not practical due to logistical