Sporadic voyages to Antarctica have also included larger passenger vessels (up to 960 tourists), some of which conduct sightseeing cruises only without landings. Yacht travel to Antarctica is also popular, with nearly all itineraries in the Antarctic Peninsula, and using Ushuaia, Argentina as a port.

3.4.c. Pinnipeds

There is potential for competition between Antarctic fur seals and the krill fishery. Krill (*Euphausia superba*) are a primary component of fur seal diet in Antarctic waters and depletion of krill or entanglement in trawls represent potential threats to fur seal populations. Fur seals also prey on myctophid fish and less commonly on other finfish species and cephalapods. 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.

The only pinniped species shown to have dietary overlap or toothfish in its diet is the southern elephant seal, *Mirounga leonina* (SES). Studies, however, have shown toothfish to be only a minor component of elephant seal diet (Slip 1995, Van den Hoff et al. 2002, Bradshaw et al. 2003, Daneri & Carlini 2002, Daneri et al. 2000). Toothfish and SES may also compete for particular species of fish and cephalapods (Goldsworthy et al. 2001). Depletion of toothfish could potentially benefit SES. Caution should be taken in considering any information on SES diet. Studies of elephant seal diet are necessarily biased due to the long distances and time traveled between visits to shore for breeding and molting and therefore warrant caution when interpreting any trophic links between toothfish and elephant seals (Hindell et al. 2003, Reid & Nevitt 1998).

All other Antarctic pinniped species are associated with ice. Fishery exploitation is confined to ice-free environments. Thus ice can be considered a refugia from fishing for pagophilic pinnipeds.

SECTION 4.0 ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES CONSIDERED

This section will analyze and compare impacts of alternatives together under each issue by ecological (including biological), economic and social impacts, if any.

4.1 ISSUE ONE: Controls on Harvesting

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).

It is important to stress that these various alternatives, whether dealing with assessed (established) fisheries or exploratory fisheries, will only affect the *potential* harvest that may be taken by U.S. vessels. They will have no direct effect on the harvest of vessels from other nations, and due to the relatively small historical U.S. harvests, it is unlikely that they will even have indirect effects on other vessels. U.S. vessels have had limited participation in Convention Area fisheries with seven vessels since 1991 having held permits to fish in the crab, krill or toothfish fisheries. For the most part then, given existing market and harvesting conditions, none of the alternatives is likely to have significant effects on the fish stocks. Likewise, although there are large potential differences between some alternatives, given existing circumstances the actual effect on U.S. harvests and industry profits of the first three alternatives will be minimal. See Table 24 for past U.S. and international harvests as well as harvest levels under the proposed alternatives examined in Sec. 4. In addtion, Sec. 3.2 Fishery Participants, Gear Types, and Affected Area contains additional information on U.S. harvesting and harvesters.

Table 24 (Sec. 4.1): Maximum catches during any one year during the last decade by the United States and all countries combined, current catch limit, and alternative harvest levels of catch under four proposed alternatives (see text).

	U.S. Highest Annual Harvest in the Past 10 Years	Highest Annual Harvest By All Countries in Past 10 Years	Alternative 1: Current Catch Limit	Alternative 2: Twice Highest by All Countries	Alternative 3: One-half Highest by All Countries	Alternative 4: No Harvest
TOOTHFISH						
48.3	178	7,528	4,420	15,056	3,764	0
48.4	0	0	28	0	0	0
48.6	0	0	455	0	0	0
58.4.1	0	0	800	0	0	0
58.4.2	0	117	500	234	59	0
58.4.3a	0	0	250	0	0	0
58.4.3b	0	0	300	0	0	0
58.5.2.	0	3,765	2,873	7,530	1,883	0
88.1	0	1,831	3,250	3,662	916	0
88.2	0	375	106	750	188	0
ICEFISH						
48.3	0	4,114	2,887	8,228	2,057	0
58.5.2	0	2,366	292	4,732	1,183	0
KRILL						
48.1	2,816	71,997	1,008K	143,994	35,999	0
48.2	7,062	72,060	1,104K	144,120	36,030	0
48.3	4,784	66,151	1,056K	132,302	33,076	0
48.4	0	0	832K	0	0	0
54.4.1	0	1,266	440K	2,532	633	0
54.4.2	0	0	450K	0	0	0
SQUID						
48.3	0	81	2,500	162	41	0
CRAB						
48.3	283	283	1,600	566	142	0
MACROURUS						
58.4.3a	0	0	26	0	0	0
58.4.3b	0	0	159	0	0	0
FOUR SPECIES[a]						
58.4.2	0	0	2,000	0	0	0

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

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

Historically, U.S. boats have only operated in Subarea 48.3, but the two vessels that did that fishing were also permitted to fish in Subarea 88.1 for the 2003/2004 season. While they did catch a small amount of toothfish there, the vessels were sold before the season was completed.

The range of potential harvest available to U.S. boats that is analyzed under the four alternatives in Subarea 48.3 is from zero to 15,056 mt although the latter would not be possible unless the TAC were increased. Assuming the TAC stays in the current range, the highest possible U.S. catch would be 4,420 mt. But Alternatives 1, 2, or 3 are operationally the same. The highest U.S. catch in the last ten years was 178 mt (Table 24). Whether the potential amount U.S. boats are allowed to catch is 3,764 mt, 4,420 mt, or 15,056 mt will make no difference. Even the smallest is 21 times more than has ever been harvested there. Such an increase in harvest is very unlikely because of the strong competition from other countries. In this area the highest annual total catch in the last ten years is greater than the current TAC, indicating that there is potentially very strong competition here. Even a change in market conditions or harvest technology will not result in an increase in U.S. harvest because these changes will affect all countries in the same way and so relative catch shares will not change.

In summary, given the low historical U.S. catch, the strong competition for harvest share, and the fact that the two vessels that fished this Subarea made the choice to move, it is likely that there will be no effect on U.S. fisheries for toothfish in Subarea 48.3 from adopting Alternatives 1, 2, or 3. In any case, even if the boats decided to return to the area, it is hard to imagine that they would take more than their ten-year high. If no boats return to this area, then even Alternative 4 would have no effect. However, Alternative 4 would prevent the possibility of the boats returning that would cut down their choice of area, but would not preclude them from fishing toothfish. However, this could impose significant economic constraints on any U.S. boats wishing to fish in this area but, because of the other options for fishing toothfish, and the almost infinitesimal role played by toothfish in U.S. total harvest, it would have no real effect on the U.S. fishing industry as a whole.

Since the consumption of toothfish in the United States is supported by an international import market, and since none of the alternatives will affect what vessels from other countries will be able to take, they will have no effect on U.S. imports (consumption).

The range of potential harvest available to U.S. boats under the four alternatives in Subarea 48.3 is from zero to 15,056 mt although the latter would not be possible unless the catch limit was increased. This would be done only if new biological information determined from fishery independent survey(s) indicated that stock biomass had increased.

Assuming the catch limit remains unchanged, the highest possible U.S. catch would be 4,420 mt. Because the catch limit was determined using the GYM that is precautionary, harvesting at any level (Alternatives 1 or 3) up to the catch limit would be sustainable and not adversely affect the stocks. At present harvesting at Alternative 2 levels would not be permitted, however, if in the future the catch limits are increased by CCAMLR even to the level specified in Alternative 2, given the required procedures to approve such an increase, harvesting at that level would not adversely affect stock levels.

Because toothfish stocks in Subarea 48.3 are predominately found around South Georgia Island, including Shag Rocks, most fishing occurs in those areas. Stock distribution, spawning success, or short-term biological productivity should not be affected as long as harvest levels remain at or less than the catch limit.

If catch limits set out in Alternatives 1, 2, and 3 were determined by CCAMLR based on the precautionary GYM approach, then there would be minimal ecological and biological impacts. Selection of Alternative 4 would prevent the U.S. fisheries from operating in Subarea 48.3. However, the catch limit presently is being taken by non-U.S. vessels so the effect on the toothfish stocks would be the same under Alternative 4 as under the other three alternatives.

Although Subarea 48.3 is the area of highest fishing activity for toothfish, a preferred food source for killer whales and sperm whales (see Section 3.4.a. - Cetaceans),

none of the alternatives are anticipated to have significant adverse affects on cetacean populations. In Subarea 48.3 during 2002 fishing operations, sperm whales were observed during 24% of hauling operations and killer whales, the second most abundant cetacean species, were observed during 5% of hauls. In the 2001/02 fishing season, the catch limit for toothfish in Subarea 48.3 was 5,820 mt and 5,744 mt were actually taken. During this season, there were reports of 5 interactions with killer whales and 4 interactions with sperm whales. These interactions include reports of whale presence and removal of fish from longlines. There have been no reports of entanglement or mortality in this Subarea, though there have been a couple of entanglements in other areas and the mention of possible mortality.

Based on the reported interactions for the 2001/02 season and the catch for that year (5,744 mt), there is likely to be about the same number of killer and sperm whale interactions with a catch of 4,420 mt (Alternative 1) or a catch of 3,764 mt (Alternative 3) even if the rate of interactions were to increase slightly. Under Alternative 2, the number of killer and sperm whale interactions could be expected to increase by 2-3 times. In Subarea 48.3, interactions between the toothfish fishery and cetaceans appear to have more impact on the fishery than on cetaceans, though more information on cetacean abundance and consumption rates of toothfish would be required to accurately assess fishery impacts.

Consequences of alternatives associated with controls on Toothfish Subarea 48.3 on seabirds are limited. As discussed above, the maximum catch that the United States could permit is the CCAMLR catch limit. Regardless of the U.S. vessel catch, other countries are likely to harvest the remainder of the CCAMLR limit. The estimated total seabird bycatch in this area in 2003 was 8 birds at a rate of 0.0003 birds/thousand hooks set (CCAMLR 2003). None of the birds caught were Amsterdam albatrosses, and no species caught would likely be affected by the loss of birds at the current rate, even if CCAMLR catch limits were doubled. No reduction in bycatch could be expected if the United States objected to CCAMLR catch limits.

Based upon ecological and socioeconomic information, **Alternative A1 is the preferred alternative** as it ensures that the total amount of harvest, U.S. and non-U.S., be at or below the CCAMLR established catch limit which is precautionary to ensure effects on the toothfish stocks in Subarea 48.3 are not adverse.

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)**

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).

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).

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

The analysis of the effects of the various alternatives on fishing for toothfish in Division 58.5.2 is essentially identical to that for Subarea 48.3. The range of potential harvest available to U.S. boats under the four alternatives in Division 58.5.2 is from 0 to 7,530 mt although the latter would not be possible unless the catch limit was increased. This would be done only if new biological information determined from fishery independent survey(s) indicated that stock biomass had increased.

Assuming the catch limit remains unchanged, the highest possible U.S. catch would be 2,873 mt. At present harvesting at Alternative 2 levels would not be permitted. If in the future the catch limits, which are determined using the precautionary GYM, are increased by CCAMLR even to the level specified in Alternative 2, harvesting at that level would not adversely affect stock levels. This is because precautionary GYM catch limits are determined using decision rules that conform to 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.

The United States has never fished in Division 58.5.2. Given the lack of U.S. participation in the fishery, Alternatives 1, 2, and 3 will not place a binding constraint on U.S. fishing. In fact, under current conditions, there is no reason to believe that Alternative 4 will affect the industry. The above two conclusions will hold even with market or technological improvements since they will affect vessels from all countries the same way and will not provide the United States any relative improvement. U.S. boats are not fishing there now, they have never fished there, and they are not likely to fish there in the future; a prohibition on fishing will not affect them.

Consequences of alternatives associated with controls on Toothfish Division 58.5.2 on cetaceans are limited. There have been no reported interactions between the toothfish fishery in CCAMLR Division 58.5.2 and cetaceans; thus, there are no anticipated adverse impacts on cetaceans from any of the alternatives.

Consequences of alternatives associated with controls on Toothfish Division 58.5.2 on seabirds are limited due to the nature of international management of the fishery. As described above, the maximum catch that the United States could permit is the CCAMLR catch limit. Regardless of the U.S. vessel catch, other countries are likely to harvest the remainder of the CCAMLR limit. No seabirds were recorded as bycatch on the U.S. longline vessel that fished in this area in 2003 or 2004, and consequently no estimate of bycatch can be provided if catch limits were to increase. No reduction in bycatch could be expected if the United States objected to CCAMLR catch limits. The only option that would allow the United States to effect bycatch would be to set maximum bycatch limits on U.S. vessels that are lower than limits set by CCAMLR. However, this is unlikely to have an impact, since no bycatch has been recorded in this Division.

Therefore, based upon ecological and socioeconomic information, **Alternative B1 is the preferred alternative** as it requires that all fishing, U.S. and non-U.S., harvest at or below the CCAMLR established catch limit which is precautionary to ensure effects on the toothfish stocks in Division 58.5.2 are not adverse.

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)**

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).

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).

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

The range of potential harvest available to U.S. boats under the four alternatives in Subarea 48.3 is from 0 to 8,228 mt, although the latter would not be possible unless the catch limit was increased. This would be done only if new biological information determined from fishery independent survey(s) indicated that stock biomass had increased.

Assuming the catch limit remains unchanged, the highest possible U.S. catch would be 2,887 mt. At present harvesting at Alternative 2 levels would not be permitted. If in the future the catch limits, which are determined using the precautionary GYM, are increased by CCAMLR even to the level specified in Alternative 2, harvesting at that level would not adversely affect stock levels. This is because precautionary GYM catch limits are determined using decision rules that conform to 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.

The United States has never fished for icefish in Subarea 48.3. Given the lack of U.S. participation in the fishery in the past, Alternatives 1, 2, and 3 will not place a binding constraint on existing U.S. fishing. In fact, under current conditions, there is no reason to believe that Alternative 4 will affect the industry. U.S. fishers are not fishing there now and they have never fished there. A prohibition on fishing will have no affect unless U.S. fishers want to participate in the Subarea 48.3 icefish fishery in the future . Should conditions change and U.S. fisher enter the fishery, they will be competing for catch. Note that the ten year high annual harvest is greater than the current TAC, which is an indication that there is strong competition for catch. Anything U.S. fishers take will have to come out the catch of another country. There will not likely be an effect on stock size.

There are no reported interactions with the icefish fishery and cetaceans. Additionally, no reports of cetaceans consuming icefish were found. Therefore, impacts of all alternatives for icefish in Subarea 48.3 on cetaceans are unknown though presumably minimal.

In 2003, 43 birds were observed interacting with icefish trawls in Subarea 48.3, of which at least 36 were fatalities (CCAMLR 2003). The species included white-chinned petrels, black-browed albatrosses, and grey-headed albatrosses. If the United States did not participate in icefish fishing in this Subarea, bycatch would likely remain the same, as other countries would be expected to fish up to the CCAMLR catch limit. If the catch limit and fishing effort were to increase, the seabird bycatch would be expected to increase as well. Currently no highly effective mitigation measures have been developed for trawl fisheries (in contrast to longline fisheries), consequently seabird bycatch remains problematic (see Section 3). The interaction of seabirds with trawl gear has not been studied as intensively as the interaction of seabirds with longline gear, thus it is less well understood and the solutions for reducing the interactions have not been fully elucidated. Until successful mitigation measures are developed, the United States cannot affect the bycatch problem in this international fishery through domestic regulations that is more stringent than agreed upon by CCAMLR, because vessels from other countries can be expected to catch the portion of the TAC that would be made available if U.S. vessels did not fish in the Subarea. A way the United States could impact bycatch in this

fishery is to permit fishers to fish, but set a lower cap than required by CCAMLR on the number of birds allowed to be caught before fishing must cease.

Therefore, based upon ecological and socioeconomic information, **Alternative C1 is the preferred alternative** as it requires that all fishing, U.S. and non-U.S., harvest at or below the CCAMLR established catch limit which is precautionary to ensure effects on the icefish stocks in Subarea 48.3 are not adverse.

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)**

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).

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).

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

The range of potential harvest available to U.S. boats under the four alternatives in Division 58.5.2 is from 0 to 4,690 mt, although the latter would not be possible unless the catch limit was increased. This would be done only if new biological information determined from fishery independent survey(s) indicated that stock biomass had increased.

Assuming the catch limit remains unchanged, the highest possible U.S. catch would be only 292 mt. At present, harvesting at Alternatives 2 or 3 levels would not be permitted. 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. This survey showed a reduction in recruitment to the icefish stock, and the precautionary catch limit was adjusted accordingly. 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 likely that the next new survey would provide indications of a new strong year class entering the fishery and the precautionary catch limit would be adjusted accordingly. If in the future the catch limits,

which are determined using the precautionary GYM, were increased by CCAMLR even to the level specified in Alternative 2, harvesting at these levels would not adversely affect stock levels. This is because precautionary GYM catch limits are determined using decision rules that conform to 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.

The United States has never fished for icefish in Division 58.5.2. Given the lack of U.S. participation in the fishery, Alternatives 1, 2, and 3 will not place a binding constraint on current U.S. fishing. In fact, under current conditions, there is no reason to believe that Alternative 4 will affect the industry. U.S. fishers are not fishing there now and they have never fished there. A prohibition on fishing will have no affect unless U.S. fishers want to participate in the Division 58.5.2 icefish fishery in the future. Should conditions change and the United States enters the fishery, they will be competing for catch. The current catch limit is greatly reduced from previous years, therefore, competition for catch would be intense. Nevertheless, anything U.S. fishers take will be part of the precautionary catch limit addressing future conditions and thus there will be no adverse effect on stock size.

There are no reported interactions with the icefish fishery and cetaceans. Additionally, no reports of cetaceans consuming icefish were found. Therefore, impacts of all alternatives for icefish in Division 58.5.2 on cetaceans are unknown though presumably minimal.

In 2003, 15 seabirds were recorded as bycatch in this fishery, including at least 6 fatalities. Species killed included white-chinned petrels, black-browed albatrosses, and cape petrels. Bycatch rate is expected to vary with catch limits, which are set yearly and fluctuate widely based on the variable year-classes of icefish. If catch limits were to increase beyond the 2002/2003 season limits, seabird bycatch would likely also increase. U.S. withdrawal from this fishery or implementation of domestic regulations more stringent than the CCAMLR catch limits are unlikely to affect seabird bycatch, because other countries will likely fish to the catch limit, and no successful mitigation measures are known that the United States could require of its vessels to decrease bycatch beyond what CCAMLR requires.

Therefore, based upon ecological, biological and economic information, **Alternative D1 is the preferred alternative** as it requires that all fishing, U.S. and non-U.S., harvest at or below the CCAMLR established catch limit which is precautionary to ensure effects on the icefish stocks in Division 58.5.2 are not adverse.

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).

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 on vessels participating in the krill trawl fisheries (Status Quo except for an extension to a five-year period). **(Preferred Alternative)**

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).

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).

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

CCAMLR has established total allowable catch (TAC) levels for krill in Convention Areas 48 (the Atlantic Ocean sector) and 58 (the Indian Ocean sector). CCAMLR has set a precautionary catch limit of 4 million mt for Area 48. The catch limit is based on a harvest rate of 9.1%, which results in a 4 million mt 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). CCAMLR has agreed to apply precautionary catch limits to smaller management units than these subareas of Area 48, or on such other basis as the SC may advise, if the total catch in Area 48 in any fishing season exceeds 620,000 mt.

The total catch of all fishers participating in the krill fishery in Area 48 for the 2003/04 season was 117,899 mt. This was 2.9% of the available TAC for the area. Eight Members announced their intention to fish for krill in Area 48 during the 2004/05 season using 13 vessels with a projected catch of 226,000 mt. CCAMLR has set precautionary limits of 440,000 mt and 450,000 mt respectively in subdivisions 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 (Agnew and Nichol, 1996). Although the Scientific Committee has indicated that its ability to predict trends in the krill fishery is hampered by a lack of information on technological and economic developments, it has also noted that projections of future catches are likely to be higher than actual catches. With present total catch constituting less than 3% of the available TAC, there is very little likelihood that krill populations or krill dependent predators in the Convention Area ecosystem will be at risk due to increasing fishing pressures.

One krill vessel has participated in the krill fishery in Convention in Area 48 during four 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 season. The highest annual U.S. catch in any subarea in the past years is 7,062 mt in Subarea 48.2 (CCAMLR Statistical Bulletin Table 9.1). These amounts are miniscule compared to demands of marine mammal or other predator needs, which are substantially greater than catches taken by the U.S. The considerable biomass of krill, as estimated by the 2000 CCAMLR survey, relative to that which is taken by the krill fishery shows that catches of these amounts will not likely impact krill stock levels in any region.

The range of potential harvest available to U.S. boats under the five alternatives in Area 48 and Divisions 58.4.1 and 58.4.2 range from 0 to 144,120 mt (twice historical high for Subarea 48.2 (Tables 3 and 24)). The economic effects of the Alternatives 1 through 4 on krill fishing in all regions are similar. For example, for Subarea 48.2 (highest historical harvest of 72,060 mt) and considering Alternative 3, the least strict of the four alternatives, the total fishery could increase eight times with the current catch limit (Table 24). Even with significant improvements in market conditions, Alternatives 1, 2, 3 or 4 should not have substantial effect on U.S. production of krill.

Alternative 2 is similar to Alternative 1 except that permits to harvest krill would be issued for a five-year period instead of annually. Whenever possible, and if a multi-year permit will not affect the resource, NMFS attempts to reduce the frequency with which fishers must apply for permits. This reduces the paperwork burden to the U.S. fisher and the administrative burden to NMFS. Given that total harvests in the krill fishery are less than 3% of the CCAMLR TAC and are expected, even with improved processing technologies, to remain at a very low relative percentage for the foreseeable future, five-year permits would not likely put krill populations or krill dependent predators in the Convention Area ecosystem at risk. A five-year permit for krill, like all AMLR permits issued by NMFS, would be subject to amendment to reflect any new restrictions or conditions adopted by CCAMLR or imposed by NMFS. CCAMLR,

however, has made very few and very minor changes to its krill measures first adopted in 1991.

Alternative 4 will shut down the U.S. krill fishery and this would have a large impact on the one U.S. boat that operates in Area 48. It would also preclude further U.S. participation or expansion, but would have a very small effect on the United States who imports krill both for human consumption and for animal feed. U.S. imports in kilos for human consumption were zero in 2000, 17,703 in 2001, 73,748 in 2002, 27,523 in 2003 and zero in 2004. For animal feed the totals in kilos were 233,434 in 2000, 269,647 in 2001, 260,007 in 2002, 208,775 in 2003, and 326,137 in 2004. Also, Alternative 4 would have a very small effect on U.S. imports or consumption because the krill catch from the one U.S. boat is sold on the international market.

There have been no reports of cetacean interactions with the krill trawl fishery in any CCAMLR Area. Therefore the main potential indirect effect of the fishery on cetaceans is in their competition for food. Most balaenopterids in the Antarctic feed predominately on krill. Due to rough estimates of cetacean abundance in the Antarctic and even rougher estimates of consumption rates, it is difficult to fully evaluate potential effects of the krill fishery on cetaceans.

In 2000, CCAMLR and the IWC undertook a multinational, mult-ship survey of Area 48 to collect krill and cetacean data. As a result of this survey, a krill standing stock biomass was estimated for the area and abundances and krill consumption rates were estimated for various krill-eating cetacean species. Krill-eating cetaceans were analyzed and these included (estimated abundance): fin (4,524), humpback (9,366), minke (17,615), and right (1,670) whales (Reilly *et al*., 2004). The numbers of blue and sei whales seen were too low to obtain accurate abundance estimates. In comparing krill biomass estimates with consumption rates by all cetacean species combined, it was estimated that cetaceans in Area 48 consume approximately 5% (~2.5 million mt) of the krill standing stock (Reilly *et al*., 2004). In reviewing a paper that estimated consumption of krill by seabirds and pinnipeds in primarily the same area (Croxall *et al.*, 1995), it appears that cetaceans consume only about one-tenth as much krill as seabirds and pinnipeds. It is possible that there could be some area-specific competition; though based on available information on cetacean abundance estimates, consumption rates, and the krill standing stock (see Sections 3.1.b. and 3.4.a. - Cetaceans) it is unlikely that any of the alternatives for the krill fishery would have negative impacts on cetaceans.

There have been reports of pinniped interactions with the krill trawl fishery (this discussion is also found in See Sec. 3.1.c.). Revised data for 2002/2003 reported by the CCAMLR Scientific Committee in October 2004 indicate that a minimum of 114 Antarctic fur seals were caught in krill fishing operations in Area 48, 53 of which were killed and 61 released alive (SC-CAMLR-XXIII/4, paragraph 7.228). In the 2003/04 season, a total of 142 fur seals were observed killed and 12 seals released alive aboard the F/V Top Ocean, a U.S. flagged vessel. Overall a minimum of 292 fur seals were reported taken by the United Kingdom scientific observers deployed on six of the nine vessels

fishing in Subarea 48.3 (the area including South Georgia and the South Sandwich Islands.)

The international observer was on board the F/V Top Ocean from February 21 to September 21, 2004. Trawling for krill was conducted in Subarea 48.3 from June 8 to 15 and from June 23 to August 2, 2004. The UK observer was present on that vessel in Subarea 48.3 from June 20 to July 20, 2004. Of the 142 observed Antarctic fur seal mortalities on the F/V Top Ocean, 138 were reported between June 23 and August 2, 2004.

The AMLR Harvesting Permit No. 22, issued by NMFS in March 2004, authorized F/V Top Ocean to harvest 30,000 mt of krill in CCAMLR Area 48 until November 30, 2004. Because F/V Top Ocean only harvested 8,100 mt of krill during this period, it applied for an extension of its AMLR permit. On November 30, 2004, NMFS amended Top Ocean's AMLR Harvesting Permit No. 22 authorizing harvest of the remaining 21,900 mt of krill until November 30, 2005, or until the authorized harvest limit was taken, whichever occurs first. Because of its earlier bycatch of fur seals, the extended permit required F/V Top Ocean to use a seal excluder device in addition to any other gear modification or fishing practice that reduces or eliminates Antarctic fur seal bycatch. The extended permit also required F/V Top Ocean to report on the efficacy of the seal excluder device and any other modifications to gear or fishery practices used to avoid seal bycatch. Top Ocean, Inc., has adapted a seal excluder device used by Japanese vessels for its F/V Top Ocean. Also, Top Ocean, Inc., was issued a HSFCA permit by NMFS on February 8, 2005, authorizing this fishing for krill in CCAMLR waters subject to the conditions and restrictions of amended AMLR Harvesting Permit No. 22. Both an AMLR permit and a HSFCA permit are required to fish in CCAMLR waters. As a reflection of its concern over incidental take of Antarctic fur seals in krill trawls, NMFS included a requirement in its proposed regulations (71 FR 39642) that any U.S. trawl vessel fishing for krill in Convention Area fisheries must use a seal excluder device.

The reported bycatch of Antarctic fur seals in krill fishing trawls 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.

The take of Antarctic fur seals by the F/V Top Ocean in the 2003/04 fishing season was very small when compared to a population census taken in 1999/00 for South Georgia (the area of take) by the Scientific Committee on Antarctic Research (SCAR) Expert Group on Seals (a committee of the International Council for Science) which reported a population of Antarctic fur seals (*Arctocephalus gazella*) of 4,500,000 – 6,200,000 with a growing trend (www.scar.org , SCAR Expert Group on Seals subsite, Status of Stocks, Table 1). These numbers were estimated from the number of breeding females and are based on a standard deviation of 300,000. It is a substantial increase from the1990/91 census reporting a population of 2,700,000. Krill fishing took place during the entire period of this increase.

At the twenty-eighth meeting of SCAR, held July 25-29, 2004, the Expert Group on Seals reported that both Antarctic fur seals and sub-Antarctic fur seals continue to increase over their entire range. Then at the 2006 Antarctic Treaty Consultative Meeting (ATCM), SCAR presented WP 39 Proposal to De-list Antarctic Fur Seals as Specially Protected Species saying that the fur seals were a conservation success-story, noting significant recovery of Antarctic fur seals from over-exploitation by the fur trade of the 1800s and that the populations within the Antarctic Treaty Area were expected to continue to increase. At the 2006 ATCM meeting (Edinburg, Scotland), the consultative parties approved the delisting of the Antarctic fur seal (*Arctocephalus gazella*) and the sub-Antarctic fur seal (*Arctocephalus tropicalis*) from the Antarctic Specially Protected Species List under Appendix A of Annex II to the Protocol on Environmental Protection to the Antarctic Treaty of 1959. The Antarctic and sub-Antarctic fur seals are no longer at significant risk of extinction, and they are the only two species of the genus Arctocephalus in the Antarctic Treaty area. The ATCM noted that fur seals would continue to receive the comprehensive general protection afforded to all seal species under the ATCM Protocol, and that they would not be exposed to any potential threat of commercial exploitation in the future as a result of their delisting as Specially Protected Species. Also, Antarctic fur seals are not listed as either "threatened" or "endangered" under the U.S. Endangered Species Act.

There are no observer records of seabird bycatch in the CCAMLR krill fisheries. Current fishing effort and krill catch are not expected to affect seabird populations. At the current fishing effort, if the U.S. permits fishing away from seabird foraging areas and outside of the primary seabird breeding season, indirect impacts could likely be averted. (These foraging areas would vary depending on the species of interest and because there are no observer records, there is no simple way to accurately define which species are susceptible to bycatch in the krill trawl fishery, and therefore the foraging area cannot be specified.) If fishing effort approached the current CCAMLR catch limits, indirect impacts on seabirds could be expected owing to possible ecosystem changes from krill fishing (e.g., altering seabird access to food resources, indirectly reducing their fitness and possibly indirectly affecting their population).

The **preferred alternative is Alternative E2** that ensures that all harvesting occurs at or less than the CCAMLR catch limit that is precautionary and will not result in adverse effects to stock levels. This alternative also allows permitting for five-year periods instead of annually.

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)**

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).

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).

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

The United States has not fished for toothfish in these Subareas or Divisions. In fact, although several countries have notified CCAMLR of their intention to fish in one or more of these Subareas and Divisions, no substantial harvests have occurred to date. Catch limits are set based upon 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. Fishable bottom habitat within the exploratory region is calculated by determining areas of seabed (using bathymetric databases of the Southern Ocean) where fishable concentrations of toothfish are likely to be encountered. To ensure that catch limits are precautionary, only a small proportion of the stock is then allowed to be harvested.

The exploratory toothfish fisheries have not been assessed and interactions between the fisheries and cetaceans are unknown. However, to date there have been very limited reports of interactions between fishing gear and cetaceans in exploratory fisheries. No instance of mortality associated with exploratory toothfish fisheries has been reported. Therefore, impacts of the toothfish fishery and the mentioned alternatives in the above Subareas and Divisions on cetaceans, as well as other marine mammals, are unknown, but likely insignificant.

There are no observer records of seabird bycatch for these exploratory fisheries. No effect on seabird bycatch rate would be expected for any of the alternatives, partly because the amount of fish caught is very low, and partly because other countries would harvest the entire CCAMLR limit if the United States were not fishing in these areas.

The Amsterdam albatross is not known to occur in these areas, and so is not likely to be affected by fishing in Subareas 48.4, 48.6 and 58.4 (see Section 3).

The economic analysis of the alternatives is similar to that discussed below for Subarea 88.1 except there has been little or no fishing by any countries in these areas. Therefore, there is the potential to increase harvests up to the TAC levels if conditions permit. The **preferred alternative is Alternative F1**, as it requires that all fishing, U.S. and non-U.S., harvest at or below the CCAMLR established catch limit which is precautionary to ensure effects on the toothfish in Subareas 48.4, 48.6 and Divisions 58.4.2, 58.4.3a, 58.4.3b and 58.4.1. are not adverse.

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 fishery (Status Quo; no-action alternative). **(Preferred Alternative)**
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).
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).
Alternative G4:	United States formally objects to CCAMLR catch limit as being too high and decides not to issue any annual permits.

Two U.S. vessels harvested 181 mt in Subarea 88.1 during the 2003/2004 season. The owner of the vessels had requested additional permits to fish in other areas but NMFS decided not to process these requests until the completion of the NEPA process for this PEIS. As a result, the owner could not continue fishing and decided to sell his vessels.

The range of potential harvest available to U.S. boats under the four alternatives is 0 for both Subareas to 3,662 mt for Subarea 88.1 or 212 mt for Subarea 88.2. However, the maximum for Subarea 88.1 would not be possible unless the catch limit was increased. Because sufficient data currently do not exist to conduct preliminary stock

assessments (no surveys have been conducted to date), it would be unknown if future increases were precautionary or not.

Similar to the analysis of U.S. toothfish harvests in Subarea 48.3, the effects of Alternatives 1, 2, and 3 would be the same; none would place a binding constraint on U.S. harvest. Alternative 4 would prevent any U.S. fishing, but given little current industry interest in the toothfish fishery in Subareas 88.1 and 88.2, the effects on the U.S. industry would be minimal. If interest in the toothfish fishery increases, the impact would be more significant.

There is one slight difference between the effects of Alternative 4 in Subarea 48.3 and Subarea 88.1. Since the highest total world annual catch over the last ten years is lower than the TAC, if the United States is not allowed to fish here, it could result in a difference in the total harvest in the subarea. Because the TAC was not taken in it's entirely by vessels from other countries, the addition of U.S. vessels may result in an increase total harvest. What the United States did not harvest would likely not be taken by another country.

If there are significant changes in the market conditions for toothfish, it is possible that there could be an increased interest by U.S. boats in Subareas 88.1 and 88.2. Given the room to grow in this area, the United States could obtain a share of the uncaught TAC and so the amount made available to U.S. boats could make a difference in total removal. The difference between the TAC and the highest annual catch in the past ten years is 1,419 mt. This is the amount that could potentially be available. So if Alternative 3 where chosen the highest amount the United States could catch would be 916 mt. This is 28% of the TAC and 49% of the unharvested TAC. Increasing harvests to the TAC level would affect the stock size, but given the way the precautionary TACs are determined no adverse effect on stock levels would be expected. This is because precautionary GYM catch limits are determined using decision rules that conform to 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.

Consequences of the alternatives suggested for the toothfish exploratory fishery in Subareas 88.1 and 88.2 on cetaceans are expected to be limited, since there have been limited reports of gear interaction with cetaceans by scientific observers. There have been reports of interactions with sperm whales removing fish from toothfish longlines in Subarea 88.1. Specifically, in the 2003/04 fishing season, there were 4 reported interactions with sperm whales and toothfish longlines (fish removed from longlines) in Subarea 88.1 and the reported catch in that Subarea was 2,166 mt. In these cases, further gear interaction was mitigated by moving the ship from the area where the citations were encountered. Based on those numbers, the prorated number of interactions with sperm whales in Subarea 88.1 under Alternative 2 would be approximately 6-8. Under Alternative 3, the expected number of interactions would be 2.

Killer whales were reported in 2004 to be present in this Subarea, but were not reported to have removed fish. This fishery has not been fully assessed, so the extent of interactions between the fishery and cetaceans is unknown. Interactions have been characterized by cetacean presence during hauls and removal of fish from longlines, thus it is expected that interactions would have a greater impact on the fishery than on the cetaceans. Interactions with Subarea 88.2 are unknown, since there are no observer reports to date describing whale interactions in this Subarea.

In the six years that toothfish have been exploited in Subareas 88.1 and 88.2, there has been one bird caught (Southern Giant Petrel in 2004 fishing season in Subarea 88.1). Consequently, none of the alternatives are expected to significantly affect seabird bycatch in these areas.

Although catch limits are not based upon stock assessments, **Alternative G1 is the preferred alternative** because it ensures that the total amount of harvest, U.S. and non-U.S., will be at or below the CCAMLR established catch limit. This is believed to be precautionary as it uses all existing data and compares biological, fishable bottom types, and harvest rates to the assessed toothfish fishery in Subarea 48.3 to set present levels. Alternative G1 is preferred over other alternatives since it sets precautionary catch limits which provide sustainable harvest levels while conforming to decision rules that meet 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.

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 kempi*), 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)**
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.
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.

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

The crab and squid fisheries in the CCAMLR Convention Area are currently inactive, so interactions with cetaceans are unavailable. Sperm whales are the predominant squid eating cetaceans in the Antarctic, followed by long-finned pilot whales and strapped tooth dolphins, and they could thus be negatively indirectly impacted if catch of squid increased substantially. Given that there is no current harvest of squid, and there is little probability that this will change in the foreseeable future, none of the alternatives are expected to affect cetaceans. If the fishery does develop in the future, CCAMLR currently has conservation measures in place that will ensure precautionary management of this resource.

These fisheries are inactive, so recent seabird bycatch data are not available. CCAMLR records indicate no seabirds were caught in an experimental squid fishery (Pers. Comm., Eric Appleyard, CCAMLR data officer, March 2005). If catches of squid increased dramatically, seabirds could be indirectly impacted by prey depletion, but this is not expected with current catch limits and the paucity of fishing in the region due to the lack of economic viability of the fishery. With current conditions, none of the alternatives are expected to affect seabirds.

There are no active fisheries for any of the above fisheries. Limited fishing has occurred for crabs and squid in Subarea 48.3 (see Table 1) but these have all proved to be economically unviable by all nations, including the United States, that have attempted to harvest these resources.

Crab

The highest annual harvest in Subarea 48.3 was 283 mt (Table 24) by the United States in 1995 while the catch limit has been fixed at 1,600 mt since the beginning of the fishery the same year. Therefore Alternative 2 would potentially limit harvest of crab to 566 mt rather that 1,600 mt. Although the 283 mt were taken by a U.S. boat, no U.S. boats have fished since the 1995/96 season. Unless processing or market conditions improve and a U.S. fisher initiates fishing in the future, the 566 mt limit (Alternative H2) will not be constraining.

Alternative 3 will lower the maximum allowable harvest of crab to 142 mt. This is less than the United States harvested in previous years so it could potentially be a future binding constraint on harvest. However, given the difficulties in processing the crab and the limited market for the product, even this lower limit for crab harvest should not constrain U.S. participation in the fishery in the foreseeable future.

Finally, unless things improve considerably, Alternative 4 will have no immediate effect either, although it would prevent future growth of crab harvest if conditions change. This could be problematic to U.S. fishers if they are not issued permits and a strong market develops for crabs.

Although none of the four alternatives would, at present, affect U.S. fishing efforts in CCAMLR waters, there could be interest from U.S. fishers in the future if the market for this product is developed. This is especially true because the reason the fishery has proven to be uneconomical was the inability to market the product (one species is small and the other has spines on the carapace which makes removing the meat difficult) despite catch rates of acceptable levels. It is unknown if technological or market forces in the future will mitigate the economic issues surrounding this product. In the event of future use, **Alternative H1 is the preferred alternative** for crab because the current catch limit of 1,600 mt will be harvested by other countries and restricting the U.S. fishery will not restrict total harvest. This alternative is further preferred over the other alternatives since it sets precautionary catch limits which provide sustainable harvest levels while conforming to decision rules that meet 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.

Squid

The United States has never had a directed fishery for squid in Subarea 48.3. Efforts by the UK and Korea to harvest squid in CCAMLR waters have failed because of low catch rates. If market and other conditions remain the same, there is no reason to believe that this will change in the foreseeable future. Therefore none of the alternatives will have any effect on the U.S. fishing industry or on the status of the stock. If the fishery does develop in the future, CCAMLR currently has conservation measures in place that will ensure precautionary management of this resource. Note that the ten year high annual harvest is far less than the current TAC. Should conditions change and the United States enters the fishery there will be room for expansion that could result in higher overall catch.

Alternative H1 is the preferred alternative for squid. This alternative is preferred over the other alternatives since it sets precautionary catch limits which provide sustainable harvest levels while conforming to decision rules that meet 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.

Other species

The United States has never had a directed fishery for *Macrourus* in Divisions 58.4.3a&b, and *Chaenodraco wilsoni, Lepidonotothen kempi, Trematomus eulepidotus and Pleuragramma antarcticum* in Division 58.4.2. Further there is currently no active fishery for these species by any CCAMLR member nation. If market and other conditions remain the same, there is no reason to believe that this will change in the foreseeable future. Therefore, none of the alternatives will have any effect on the U.S. fishing industry, the status of the stocks, seabirds, or any other marine organisms.

In summary **for all fisheries covered by the above four alternatives, Alternative H1 is the preferred alternative** as it requires fishing to be at or below the catch limit set by CCAMLR. As additional data become available, CCAMLR will modify catch limits to appropriate levels. This alternative is preferred over the other alternatives since it sets precautionary catch limits which provide sustainable harvest levels while conforming to decision rules that meet 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.

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)**
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

Conservation Measure 21-02 addresses exploratory fisheries, which are those fisheries lacking sufficient data to conduct a stock assessment (a more precise definition is contained in Section I. ACTION: Impose harvest limits). 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. Both the Data Collection Plan and the Research and Fishery Operations Plan are described in more detail under Section 1.1 of this FPEIS -- Management of Convention Area Fisheries, (2) Fisheries Types, Exploratory Fisheries.

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.

Due to the precautionary manner in which catch limits are established for exploratory fisheries, and the data collection and reporting requirements of CM 21-02, no significant ecological impacts are expected under Alternative 1.

These future exploratory fisheries have not been assessed, therefore interactions between the fisheries and cetaceans, as well as seabirds, are unknown. While the impacts of Alternatives 1 and 2 on cetaceans and seabirds are unknown, Alternative 2 without requiring a research and fisheries operating plan could potentially have a negative impact on them.

Also, Alternative 2 would be a violation of the CCAMLR Conservation Measures 21-01 and 21-02 and its process for reviewing and authorizing new and exploratory fisheries. Therefore the **preferred alternative is Alternative I1.**

Bycatch of Finfish and Invertebrates.

There are a large number of species, families and orders of finfish and invertebrates 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 2000). 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.

Finfish bycatch in the longline fishery for *Dissostichus* spp. is comprised primarily of rajids (skates & rays) and macrourids (rat-tails), with rajids generally caught in lower numbers. Although information is collected on bycatch levels and life history parameters for these species groups, no formal assessments have been conducted. Nevertheless, CCAMLR has established precautionary 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). 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.

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.

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)**
Alternative J2:	Prohibit all U.S. longline fishing in areas where levels of seabird bycatch interactions are high.
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.
Alternative J4:	Permit U.S. longline fishing in all areas without restriction.

The toothfish fishery is the only U.S. longline fishery in the CCAMLR region of the Antarctic. As previously stated, both sperm and killer whales consume toothfish and both may have interactions with the toothfish fishery. These interactions are primarily characterized by removing fish from the longlines. Alternative 2 would only impact cetaceans in areas where seabirds and cetaceans overlap with the fishery - and the impact would be to reduce the number of interactions with seabirds and cetaceans. Alternative 3 would result in fewer interactions with sperm and killer whales and the toothfish fishery. Depending on the definition of "high" for interactions, longlining would possibly be capped in Subarea 48.3; where sperm whales have been recorded present in 24% of the longline sets. Exploratory fishery interactions with cetaceans are currently unknown; however, in any event Alternative 4 is not a viable alternative because U.S. fishers must comply with CCAMLR requirements.

As far as economic effects are concerned, Alternative 1 would require U.S. fishers to conduct operations in accordance with all CCAMLR requirements, including season, bycatch, mitigation, observers, data reporting, and biological data collection. Since this alternative will not change current practice, it will have no socioeconomic impacts.

Alternative 2 would stop U.S. fishing in the areas in areas where seabird bycatch interactions are high. For the most part, this would affect entities focusing on toothfish.

Where it applies, its effects would be identical to the alternatives under harvest controls that prevent harvesting all together. See Alternatives A4, B4, C4. D4, E4, F4, G4, and H4. It should be pointed out that any reduction in U.S. harvest in the long run will be matched by increases in harvest from other countries.

To the extent that the cap on seabird mortalities and marine mammal entanglement is binding on current or potential U.S. activities, Alternative 3 will cause a reduction in, or it will prevent a potential increase in, U.S. harvest.

To the extent that current regulations on the use of longlines restrict current or potential harvest, Alternative 4 could potentially lead to increases in future U.S. harvests of toothfish.

Alternative 4 is not a viable alternative; as a party to CCAMLR, U.S. fishers must at least comply with CCAMLR requirements (as in Alternative 1). If CCAMLR requirements were not enforced, seabird mortality would increase dramatically in some areas, and would likely threaten some seabird populations (see Section 3). Alternative 2 would decrease seabird mortality, if the United States were the only fishing country in the region, however, others would likely fish in these areas if the United States did not. Other countries would still be required to implement all CCAMLR Conservation measures related to seabird bycatch mitigation. Alternative 3 may give U.S. vessel operators an incentive to adhere to CCAMLR conservation measures and take all possible actions to prevent bycatch, since permits would only be issued to the U.S. fishers under the constraint of a fixed, limited, number of seabird or marine mammal entanglements; this could reduce bycatch in areas where high mortalities have the potential to adversely impact seabird populations. However, at this time, seabird mortality as bycatch in the regulated fishery is so low that no area of adverse impact has been identified; this could change as new and exploratory fisheries are initiated or if seabird populations of common bycatch species (i.e., black-browed albatross) continued to decline precipitously (See Section 3). At this time, **Alternative J1 is the preferred alternative**, since CCAMLR has implemented adequate conservation measure to mitigate bycatch.

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

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)**
Alternative K2:	Prohibit all U.S. trawl fishing in areas where of seabird bycatch levels are high.

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.

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

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

No U.S. vessel has ever conducted finfish trawl fishing in CCAMLR waters, therefore, selection among the five alternatives would not affect the current U.S. finfish fishing industry. However, if in the future there is interest within the U.S. fishery to conduct trawl fisheries for finfish in CCAMLR waters, they will be affected by the various alternatives. Alternative 1 (status quo) provides for observers on all vessels, mandatory reporting of interactions with marine mammals and birds, use of mitigation measures to reduce seabird mortality, and data reporting requirements.

The United States is currently conducting krill pelagic trawling operations, however, fishing takes place in the upper pelagic zone of the water column, and hence the net does not interact with the ocean floor and no adverse effect on bottom flora or bottom fauna occurs. As discussed in Sec. 3.1.c. and 4.1 E - Krill, there have been seal interactions with the krill trawl fishery.

With respect to economic impacts, Alternative 1 would require U.S. fishers to conduct operations in accordance with all CCAMLR requirements, including season, by-catch, mitigation, observers, data reporting, and biological data collection. Since this alternative will not change current practice, it will have no socioeconomic impacts. More to the point, here and below, since there is no U.S. trawl fishery, there can be no economic effects given current and likely economic and biological conditions.

Alternative 2 would prohibit U.S. trawl fishing in CCAMLR regions where seabird mortalities were high. But since there currently are no U.S. trawlers in the area, there will be no effect on stocks or bird morality. It could prevent the initiation of a trawl fishery however. See discussion of Alternative J2.

To the extent that the cap on seabird mortalities and marine mammal entanglements is binding on potential U.S. activities, Alternative 3 will prevent the potential development of a trawl fishery.

Given current conditions this Alternative 4 will have no effect. However, should conditions improve, the potential initiation of a trawl fishery will be prevented. Because it applies to all areas regardless of potential seabird mortality, this will place a stronger constraint on possible future development of a U.S. trawl fishery.

The effects of Alternative 5 will be the same as for Alternative1 except that there could be fewer restrictions on a potential U.S. trawl fleet. It could not be implemented if it contravenes the CCAMLR Convention.

There are little to no interactions reported between the trawl fisheries and cetaceans in the Antarctic. Therefore, little impacts would be expected by any of the trawl fisheries alternatives.

Pinniped bycatch in bottom trawls is expected to be negligible as Antarctic fur seals forage to relatively shallow depths pelagically in open ocean or on continental slope regions. Risks to fur seals, however, increase with mid-water trawling. Observers on krill vessels fishing around South Georgia in the 2003 fishing season recorded fur seal captures by some krill fishing vessels (Hooper et al. 2004). These captures can be 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. Although these levels of seal mortality are unlikely to impact significantly on fur seal populations, it is important to have observers on krill vessels to monitor the effectiveness of mitigation measures as well as to collect other biological data.

Hooper, J., K. Reid, D. Agnew. 2004. Incidental seal entanglements on trawl vessels fishing for krill in CCAMLR subarea 48.3. CCAMLR WG-EMM-04/31, Sienna, Italy.

Alternative 5 is not a viable alternative; as a party to CCAMLR, U.S. fishers must at least comply with CCAMLR requirements (as in Alternative 1). If CCAMLR requirements were not enforced, seabird mortality would increase dramatically in some areas, and would likely threaten some seabird populations if fishing permits were issued. Alternatives 2 and 4 would decrease seabird mortality, if the United States were the only fishing country in the region, however since other countries fish in the same areas, others would likely fish in these areas if the United States did not. Alternative 3 may give U.S. vessel operators an incentive to adhere to CCAMLR conservation measures and take all possible actions to prevent bycatch; this could reduce bycatch in areas where high mortalities have the potential to adversely impact seabird populations. At this time, seabird mortality as bycatch is moderate in trawl fisheries, occasionally occurring in the icefish fishery. CCAMLR has recently put a cap on the number of seabirds that may be caught in the icefish trawl fishery. Bycatch could become problematic as new and exploratory fisheries are initiated or if seabird populations of common bycatch species (i.e., black-browed albatross) continued to decline precipitously. In addition, target species (krill and icefish) are food for some species of seabirds and overfishing could lead to indirect impacts of prey depletion, and bottom trawling could have indirect impacts on seabirds by impacting seabird prey species' habitat (see Section 3).

For both finfish and krill trawling, **the preferred alternative is Alternative K1** as it ensures that harvesting is done to mitigate seabird mortality and seal bycatch, observer coverage, and data collection and reporting is completed.

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)**

Alternative 1 would continue to require AMLR harvesting permits to fish for toothfish outside the CCAMLR Convention Area. This would be inconsistent with the AMLRCA definition of AMLR. While there are some populations of toothfish found outside the CCAMLR Convention Area, they are not AMLR as defined by AMLRCA, and thus, legislatively, 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, require DCDs only for toothfish harvested inside the Convention Area. This is inconsistent with the CCAMLR adopted Catch Documentation Scheme (CDS) measure which obligates each Contracting Party to the CCAMLR Convention, including the United States, to require that each shipment of toothfish, imported into or exported from its territory be accompanied by the export validated DCDs and, where appropriate, validated re-export documents that account for all toothfish contained in the shipment. The import, export or re-export of toothfish, wherever harvested, without a catch document is prohibited. Thus, by terms of CCAMLR Conservation Measures 10-05 the United States cannot exempt toothfish harvested outside the CCAMLR Convention Area from the requirement to be documented with a DCD.

Alternative 3 would amend NMFS regulations to return the definition of AMLR to the AMLRCA definition and, as a consequence, no longer require an AMLR harvesting permit to fish for toothfish outside the Convention Area. Alternative 3, however, would preserve the requirement that all imports of toothfish, wherever

harvested and by whomever harvested, be accompanied by a DCD. 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. This requirement would apply to toothfish harvested from inside the Convention Area pursuant to an AMLR harvesting permit and to toothfish harvested on the high seas pursuant to a NMFS-issued High Seas Fishing Compliance Act (HSFCA)(16 USC 5501 et. seq.) permit.

Alternatives 2 and 3 would use the AMRLCA definition of AMLR as the basis for requiring AMLR harvesting permits for toothfish. Alternative 1 would substitute a definition of AMLR inconsistent with the AMLRCA definition and perpetuate the unintended consequence of the 2001 amendment to NMFS CDS regulations requiring a NMFS-issued AMLR harvesting permit for U.S. vessels to fish on the high seas outside the CCAMLR Convention Area. Alternatives 1 and 3 would assist in mitigating trade in IUU-caught toothfish as required by CCAMLR Conservation Measure 10-05. Alternative 2 would fail to implement U.S. obligations with respect to the CDS.

To the extent that Alternatives 1 and 3 mitigate trade in IUU-caught toothfish and thereby reduce IUU fishing for toothfish, there is a positive affect on marine mammals and seabirds that might otherwise be adversely affected by IUU fishing.

As the only alternative consistent with both AMLRCA and CCAMLR Conservation Measure 10-05, **Alternative 3 is the preferred alternative**. Alternative 3 would require AMLR harvesting permits of all U.S. fishers seeking to harvest toothfish within the CCAMLR Convention Area as a means of conserving and managing toothfish stocks and associated species within the Convention Area ecosystem. The preferred alternative is not anticipated to have an economic impact on legitimate fishery operations in the Convention Area.

Alternative 3 would continue to require an HSFCA permit to fish for toothfish outside the Convention Area. U.S. fishers applying for an HSFCA permit to fish for toothfish on the high seas outside the CCAMLR Convention Area may experience some delay in receiving an HSFCA permit pending assurances that issuance of such a permit is in compliance with NEPA, the ESA, and the Marine Mammal Protection Act (MMPA).

4.2 ISSUE TWO: Controls on Trade

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

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

While Alternative 1, the status quo, would continue to discourage IUU fishing for toothfish or overfishing of toothfish in general (e.g., by use of the current CDS and pre-approval process), it would not be as effective as further restrictions utilizing tools (e.g., E-CDS and C-VMS) created by the CCAMLR explicitly for this purpose.

Alternative 1 would also maintain the fee requirement for dealers importing relatively small amounts of fresh fish per shipment. For the purposes of this FPEIS, "fresh toothfish" is defined as 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. 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. 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 that the fish were caught legally, due to our bilateral working arrangement with Chile.

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

This alternative would greatly facilitate the trade of toothfish on behalf of the U.S. dealers. The dealers would no longer be required to obtain a DCD to be submitted with the required pre-approval documentation but would only be required to supply NMFS with the identifying information, which allows NMFS's CDS officer to access the documents online. The dealers would receive their approvals on a much faster timeline than that which results from the research of paper-based documents. Additionally, there are no transmission costs to transmit E-CDS. The CCAMLR Secretariat maintains a website accessible by CDS participants who can transmit E-CDS via the web. Therefore, there are no anticipated economic costs to U.S. dealers associated with the use of E-CDS.

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 (i.e., 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.

The positive environmental impacts of this alternative are further control over the imports coming into the United States and a greater confidence that the product that is approved has been harvested legally, decreasing the likelihood of impacts on the

Antarctic ecosystem related to IUU fishing by minimizing disruption to associated predator/prey relationships. This alternative would also ensure that the catch documentation has been completed truthfully and within the confines of the protocol agreed to by the Commission.

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 have the same impacts as Alternative 2 but would cover a wider range of dealers since choosing this alternative would encompass all imports.

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

This alternative would hugely benefit dealers. Over the past year, dealers who are importing product that had been harvested from high seas areas, specifically Areas 41 and 47, were required to wait for approval until such time that NMFS had received, translated, plotted and interpreted VMS tracts for fishing trips. This process was both labor intensive for the agency as well as caused delays, sometimes severe, to dealers waiting to import their product. This alternative would restrict dealers to importing product from vessels whose Flag States are fully participating in centralized VMS.

The only negative impact would be on those dealers who would be prohibited from buying product for import into the United States from vessels whose Flag State was not participating in the C-VMS. However, restricting imported product to only product covered by C-VMS may cause a price increase for fish harvested by compliant vessels, resulting in higher profits for dealers.

The positive environmental impacts of this alternative are further control over the imports coming into the United States and a greater confidence that the product that is approved has been harvested legally and that the documentation has been completed truthfully and within the confines of the protocol agreed to by the Commission.

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

This Alternative would have virtually the same impacts as Alternative 4 but would be even more restrictive thus amplifying the impacts.

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

This alternative would have an economic impact on the dealers who normally buy product from vessels whose Flag State continues to send their own officials to the port of landing to sign CDS documents. The Flag States currently still using this practice are Uruguay and Australia primarily. Given that fish imported from Uruguayan vessels was about 10% of the total amount of fish imported into the United States in 2003, this is significant. However, the benefit to dealers is the same as the benefits described in Alternative 4, that is, there would be less delay in processing approvals and therefore dealers would avoid lengthy time delays and port charges.

The positive environmental impacts of this alternative are further control over the imports coming into the United States and a greater confidence that the product that is approved has been harvested legally and that the documentation has been completed truthfully and within the confines of the protocol agreed to by the CCAMLR.

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.

This alternative would have no environmental impacts but would remove the delay in submitting applications for pre-approval by allowing dealers to submit paperwork early, well within the 15 day advance notice requirement.

This alternative is not expected to represent additional costs to U.S. dealers. It is expected to benefit U.S. dealers by providing a more realistic timeframe for the pre-approval process that takes into consideration U.S. Customs administrative procedures. The status quo, no-action alternative would maintain the existing NMFS requirement that U.S. dealers must submit the 7501 entry number 15 working days prior to the arrival of a shipment as part of their pre-approval application. Currently, U.S. dealers have difficulty complying with this NMFS requirement because U.S. Customs has stated that the 7501 entry 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. Maintaining the status quo could hinder toothfish shipments from reaching the market in a timely manner, resulting in a lower quality of toothfish product due to its perishable nature. This could further result in negative economic impacts to U.S. dealers in the form of lowered revenue.

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

This alternative probably offers the most control over trade in toothfish than any other. By restricting landings to only those ports under the control of a CCAMLR Contracting Party, who is bound to fully implement the CDS, NMFS is assured that Flag State official would enforce the CCAMLR CDS protocols for their vessels, as well as any other toothfish vessels, in their own ports. Requiring this would eliminate "ports of convenience" as well as eliminate the need for Flag State officials to fly their own inspectors to foreign ports to certify landings. The positive environmental impacts of this alternative are further control over the imports coming into the United States and a greater confidence that the product that is approved has been harvested legally and that the documentation has been completed truthfully and within the confines of the protocol agreed to by CCAMLR.

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.

Currently, the process by which we approve imports that have been harvested from questionable areas, such as FAO Areas 41 and 47 is the requirement for VMS data to be submitted to the agency for review. If the VMS data are not verifiable and/or valid, or not in compliance with CM 10-04, the United States denies approval for the import. These restrictions along with the ban on imports from FAO Areas 51 and 57 (effective Oct. 2003) are the only measures that the United States has taken to restrict the import from high seas areas. If, and when, the Scientific Committee confirms that there are not significant population levels to support the reports of current harvested amounts, the United States could extend a ban to a prohibition to any area where the reports are not substantiated by science. This would have a significant beneficial environmental impact in that the only legal imports into the United States, essentially the world's largest importing nation, would be narrowed to fish harvested within CCAMLR areas and EEZ areas. This would reduce current levels of toothfish imports (based on 2003 data) by 36.5% of total volume.

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

While NMFS has no way of quantifying how many CCAMLR contracting party members and non-contracting party members will comply with both the E-CDS and the C-VMS, NMFS believes that, given that the United States is now the biggest global market for toothfish (based on CDS data, the United States has surpassed Japan in imports of toothfish since 2002), the market will probably drive the compliance. Also, NMFS believes that choosing alternatives that restrict imports to those that have been harvested under C-VMS and are subsequently documented under E-CDS will have the

greatest impact on decreasing IUU fishing. There may be socioeconomic impacts on U.S. dealers because they will be limited, at least initially, to those few vessels that are already in full compliance with both E-CDS and C-VMS.

Implementation of Alternatives 2-6 and 8 would significantly increase the protection afforded to seabirds in the Southern Ocean. All of these alternatives would reduce the possibility that IUU fish are imported into the United States. The current estimate of seabird mortality associated with IUU fishing is on the order of 40-60,000 per year, and has been described as unsustainable. The United States is the top importer of toothfish in the world, and should make every effort to ensure that all fish entering our borders are caught according to U.S. and CCAMLR regulations. 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. The implementation of Alternatives 2-6 and 8 represent the use of the best available resources to prevent importation of IUU fish; bycatch during IUU fishing is an important cause of mortality for many of the seabirds in the CCAMLR area, and has been identified frequently as the cause of population declines in many of these species (see Section 3.4 and Birdlife International 2000). Alternatives 3 and 5 provide some advantage over Alternatives 2 and 4 for prevention of seabird bycatch, as they are more stringent. The implementation of Alternatives 7 or 9 would not be likely to impact seabirds. Therefore, **the preferred alternative is a mix of Alternatives 3, 5, 7, 8 and 9**.

The consequences for cetaceans and pinnipeds of the preferred alternatives are similar to those consequences for seabirds. Impacts of alternatives on cetaceans and pinnipeds would be expected to be small, though preventing import of IUU fish would reduce the interactions of killer and sperm whales with the toothfish fishery.

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

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.

This alternative would maintain an impossible situation for dealers to comply with the 15-day advance application process. Dealers who are importing fresh shipments of toothfish that weigh in at or over 2,000 kg will continue to be in non-compliance with the requirements to obtain a pre-approval, that is, specifically, they cannot obtain and submit to NMFS a copy of the completed DCD 15 days in advance as required by the current regulation.

Under current NMFS requirements, U.S. dealers who import fresh toothfish shipments of 2,000 kg or more must pay the same fee-for-service as U.S. dealers who import frozen toothfish shipments that average 25,000 kg. This NMFS requirement results in U.S. dealers importing numerous smaller shipments of fresh product having to pay a $200 fee for each shipment, while U.S. dealers importing frozen product less frequently pay the same $200 fee for their larger shipments. This represents a disproportionate cost to U.S. dealers importing shipments of fresh toothfish weighing 2,000 kg or more relative to U.S. dealers importing frozen toothfish. Therefore, the current pre-approval of DCD requirement represents a negative economic impact to some U.S. dealers.

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

The consequences of exempting shipments of fresh toothfish weighing more than 2,000 kg would be that the dealers would no longer be out of compliance with the requirements. This alternative will likely represent a positive economic impact to the small number of U.S. dealers who import fresh toothfish shipments of 2,000 kg or more (only 4% of all fresh toothfish shipments weigh 2,000 kg or more) since they will no longer be required to pay the $200 processing fee, alleviating disproportionate compliance costs. The current cost of an estimated 8 pre-approval applications for 80 dealers is $128,000 (8 x 80 x 200). Future costs resulting from the preferred alternative for an estimated 8 pre-approval applications for 78 dealers (a 4% reduction from the status quo of 80 dealers) is $124,800 (8 x 78 x 200). Therefore, this alternative will likely represent a positive economic impact (decrease in cost) to the 2 or fewer dealers affected by this alternative.

The only negative consequence is that NMFS loses control of reviewing these shipments prior to their arrival and must review them within 24 hours after import along with the other fresh shipments. However, these larger shipments of fresh toothfish only comprise about 4% of the total amount of fresh shipments currently being imported.

The two alternatives for the pre-approval for imports of fresh toothfish are not expected to affect seabirds or cetaceans or significantly affect pinnipeds.

4.3 ISSUE THREE: Controls on Research

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

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. (Status Quo; no-action alternative). **(Preferred Alternative)**

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.

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.

U.S. researchers have current permits to conduct research at Cape Shirreff. If permits were issued for Seal Islands or any other future sites designated by CCAMLR as CEMP sites, they would include all CCAMLR restrictions. 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 overflight, use of land vehicles, and pedestrian movement; construction of new structures by permit only; and prohibition of waste disposal and open burning.

Because many of the conditions for protection of CEMP sites are to prohibit activities, more severe restrictions required under Alternative 2 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.

Permitting activities currently restricted or prohibited as suggested by Alternative 3 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.

The impacts of issuing a CEMP permit are ecological impacts. There are no economic or social impacts on the harvesting, importing or marketing sectors since the CEMP permit is issued to conduct research. The research undertaken pursuant to the permit affects seals, penguins and skuas, none of which are species harvested in the Convention Area. The AMLR Program takes pinniped species in CEMP sites as part of a long-term ecosystem monitoring program established in 1986. In addition to its CEMP permit, the AMLR Program holds a Marine Mammal Protection Act permit allowing a take of Antarctic fur seals (*Arctocephalus gazella*), Southern elephant seals (*Mirounga leonina*), Crabeater seals (*Lobodon carcinophagus*), Leopard seals (*Hydrurga leptonyx*), Ross seals (*Ommatophoca rossii*), and Weddell seals (*Leptonychotes weddellii*) by harassment associated with life history studies and census surveys for abundance and distribution of pinnipeds. The targeted species for census surveys is the Antarctic fur seal, however, due to overlap of their breeding range with southern elephant and ice seals, a relatively small number of other Antarctic pinnipeds could be taken incidentally during these surveys.

Studies are conducted annually during austral summers (i.e., Southern Hemisphere summers) and are primarily restricted to Cape Shirreff, Livingston Island, Antarctica. The AMLR Program also conducts a regional census survey for estimates of abundance and distribution of pinnipeds in the South Shetlands. Numerous other known or potential rookery sites, in addition to Cape Shirreff, will be surveyed during the regional census, including Telmo, Window, Desolation, Dee, King George, Nelson, Seal, and Elephant Islands, and other sites at Livingston Island.

The U.S.-AMLR Program's research activities under the MMPA Permit are divided into three Level A take (i.e., captures) and two Level B take (i.e., harassment only) categories: (1) Antarctic fur seal (*A. gazella*) females; (2) Antarctic fur seal pups; (3) Antarctic fur seal juveniles; (4) Antarctic fur seal census (Level B harassment only); and (5) all other pinnipeds (incidental Level B harassment only). For each category, the type of take is described in detail with proposed numbers, justification, and background. In addition, Accidental Lethal Take (6) and Import of Marine Mammal Parts (7) are described. Research activities each austral summer may begin as early as October and will continue as late as April. Due to the uncertainty of ship schedules to remote locations in Antarctica, precise dates are generally not available until approximately three months prior to the start of the field season. Except where noted, studies will be conducted at Cape Shirreff, Livingston Island (62^{o} 28' S, 60^{o} 46' W).

Cape Shirreff and the adjacent San Telmo Islets shelter the largest population of Antarctic fur seals in the South Shetlands Archipelago. Current estimates of the annual pup production are approximately 8,200 (Hucke-Gaete, unpublished data). The U.S.-AMLR Program's study beaches on the east-side of Cape Shirreff have an annual pup production of approximately 2,200 and have been increasing 5-6% a year over the last three years. The proposed take of 60 females per year represents 0.7% of the Cape Shirreff breeding population of females, and 2.7% for the focal study beaches. Re-captures of individual females are necessary to recover instruments and for intra-seasonal comparisons of foraging ecology.

The research and techniques undertaken generally include the use of VHF radio transmitters, diet studies involving enemas and milk collection, age determination by tooth extraction, blood collection, and tagging. All are currently being used and are permitted in other similar programs of research. The locations in which the research is conducted minimizes impact to other species of marine mammals. Weddell, leopard, and crabeater seals have an incidental occurrence and do not breed at Cape Shirreff. The southern elephant seal breeds at Cape Shirreff prior to arrival of researchers and their breeding sites are not near Antarctic fur seal breeding sites. The research program does not involve unique or unknown risks to Antarctic fur seals, other marine mammal species, or to the local environment. No aspect of this research would affect public health or human safety (except for the increased probability of a researcher getting bitten, however, all precautions are taken to minimize the probability of injury to humans or seals). We are unaware of any potential for any significant cumulative effect of the research program on marine mammal populations or the environment. There is also no likely loss or destruction of significant scientific, cultural or historic resources involved in the research program. None of the alternatives would be expected to directly impact cetaceans, and no adverse effects on endangered or threatened populations (or their habitat) is anticipated.

Alternatives 1 and 3 would not be likely to impact seabirds, as they both require following CCAMLR regulations. Alternative 2 could potentially prevent disturbance by researchers of breeding seabirds; some species of seabirds are sensitive to human disturbance and can have diminished reproductive success when disturbed. However, disturbance related to long-term behavioral alterations has not been observed at these CEMP sites.

Therefore, **the preferred alternative is Alternative 1** that puts into effect restrictions and prohibitions required by CCAMLR to ensure research sites are protected while allowing researchers the ability to collect data needed for management of harvested and dependent species.

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.

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).

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.

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

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

Alternative 1 is the status quo alternative. It relies on conditioning AMLR harvesting permits to require that U.S. vessels fishing in the Convention Area carry one of more scientific observers consistent with annual conservation and management measures adopted by CCAMLR. Since CCAMLR does not require vessels fishing for krill to carry an observer, U.S. krill vessels are required to carry an observer only as a condition of their AMLR harvesting permit.

Alternative 2 would clarify, by codified regulation, that all U.S. vessels fishing in the Convention Area must carry one or more scientific observers as required by CCAMLR. There should be no additional cost or inconvenience to U.S. vessels since NMFS already requires, as condition of a vessel's AMLR harvesting permit, the placement of one or more observers and facilitates the placement of non-U.S. observers through the conclusion of bilateral arrangements. NMFS would continue to coordinate with vessel captains and observers on the duties of and responsibilities of both.

Alternative 3 would incorporate the CCAMLR standards for scientific observers placed pursuant to a bilateral arrangement into NMFS regulations and specify the standards for national observers in NMFS regulations. This alternative would clarify for vessel owners the role of scientific observers and the obligations of the vessel captain in carrying the observer (e.g., notification, placement, care and role of the observer).

Alternative 4 (implementation of both Alternatives 2 and 3) is the preferred alternative. Alternative 4 requires at least one scientific observer on all U.S. vessels fishing in the Convention Area, including vessels fishing for krill. It clarifies the role and responsibilities of vessel captains and observers, thus facilitating improved collection of data and records of observations. This would, additionally, ensure continued or improved observations of any interactions with cetaceans, pinnipeds, and/or seabirds and result in more specific recommendations for possible mitigation measures. Hooper et al (unpublished data, CCAMLR WG-EMM-04/31) proves the importance of having

observers. If observers were not present on krill fishing vessels in 2003, CCAMLR would not have been informed as to bycatch of Antarctic fur seals by inexperienced newcomers to the fishing fleet that lacked effective mitigation measures (i.e., escape panels in their nets). Reducing the number of observers and the fisheries covered, or failing to clarify observer duties and vessel captain responsibilities, could reduce compliance with conservation measures for the mitigation of fishing on associated species. Moreover, it could compromise the ability of observers and CCAMLR to track interactions and mortalities of cetaceans, pinnipeds, and seabirds, with negative consequences for these species.

For current participants in exploratory or assessed fisheries, any new requirements or prohibitions proposed in this alternative are anticipated to represent at most a minimal compliance cost for U.S. vessels in terms of additional costs associated with new requirements such as work stations. For future participants in exploratory or assessed fisheries, this alternative will represent a compliance cost for each scientific observer ranging from $55,900 per fishing season (or $232.92 per day for 240 days) to $89,220 per fishing season (or $371.75 per day for 240 days). This cost includes estimates for observer salary, insurance, travel costs, overhead and other miscellaneous expenses associated with scientific observers.

This range reflects the planned cost for a U.S. scientific observer in the Antarctic krill fishery ($55,900 per fishing season, extrapolated from actual costs from previous fishing seasons) and the average U.S. scientific observer cost for the North Pacific groundfish fishery ($89,220 per fishing season). U.S. scientific observer cost for Alaskan fisheries was used here due to its similarities with Antarctic fisheries in terms of environmental conditions, travel costs for the U.S. scientific observer to travel to and from the vessel, vessel size, and fishing season length. U.S. scientific observer coverage is currently required for 100 percent of vessels greater than 125 feet in length and 30 percent of vessels 60-124 feet in length participating in trawl, longline, and pot fisheries in the North Pacific groundfish fishery. This level of coverage provides a good estimate of U.S. scientific observer cost.

4.4 ISSUE FOUR: Enforcement Controls

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

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 excepts the krill fishery from the mandated use of a VMS unit, NMFS regulations require VMS use in all CCAMLR fisheries, including the krill fishery. However, the NMFS regulations do not include a number of additional elements that experience in other fisheries has taught NMFS are important for the most effective implementation of a VMS. NMFS regulations also do not reflect the adoption by CCAMLR at its Fall 2004 meeting on centralized VMS (C-VMS). As adopted, a vessel's VMS unit 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. For these reasons, the status quo regulation is unacceptable.

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

NMFS anticipates that the implementation of a more effective VMS regulatory program than the one currently in place will have no negative impacts on humans or the natural environment. NMFS's experience with VMS in fisheries throughout the nation has shown that it provides a cost/resource efficient method of monitoring vessels in remote areas, as well as accurate and reliable evidence in enforcement actions. VMS has also provided benefits to the fishing fleets through increased safety, better land-sea communications, and in providing exculpatory evidence for alleged violations.

Under both the current program and the Preferred Alternative, vessel owners will have to expend approximately $2,250.00 for the basic approved VMS transceiver unit (includes purchase price and installation; excludes freight); the annual cost of maintenance estimated at $350.00 per year (based on a 5-year life cycle for the equipment); and $54.00-$108.00 per year in communication costs (based on a per-day charge of $.30 to $.60 per day, depending on the service provider, for 180 days). Costs to a vessel owner may increase if more sophisticated transceiver units are purchased for their specific operations. The preferred alternative may require vessels whose VMS fails at sea to return to a port for further investigation. Such an outcome is expected to be exceedingly rare due to the reliability of VMS transceiver units and NOAA's ability to work with vessel owners to address unit failures through other means.

Although it is difficult to quantify, NOAA anticipates that the preferred alternative will also reduce illegal, unregulated and unreported (IUU) fishing in the toothfish fishery. The CCAMLR Scientific Committee reported at its 2004 meeting that its studies show significant reductions in the amount of IUU fishing in the CCAMLR area in the past two years. The timing of this reduction corresponds with the implementation of VMS and catch documentation requirements. Though the Scientific Committee did

not state that the reduction in IUU fishing was due to improved enforcement efforts like VMS and effective catch documentation, it did include it as one of the possible causes. A complete regulatory VMS package increases effective monitoring of vessels in very remote fishing areas like the CCAMLR area by ensuring that there are no loopholes in the regulations that might allow a vessel to operate at sea without a functioning VMS device, and by providing the vessel owners specific details for how to purchase, install, and operate the device. In addition, continued use of VMS allows NMFS to focus its limited resources on priority IUU matters thus increasing the likelihood for enforcement action to combat such practices. Lastly, a decrease in IUU fishing effort and trafficking of illegal toothfish product should have a direct beneficial effect on the toothfish resource, as well as bycatch from the fishery, by reducing the amount of fishing effort from IUU vessels.

Other positive impacts of an effective VMS regulatory program include increased safety for fishing vessels through use of the transceiver unit emergency device and improved communications between vessel operators, owners and NOAA through a cost efficient VMS-based email transmission system to remote fishing areas.

Also, implementation of Alternative 2 would provide enhanced protection from IUU for seabirds. Alternative 2 would ensure fishing is limited to permitted areas and is not occurring in areas that have been closed to fishing to protect seabirds (e.g., areas of South Georgia (48.3) were closed during the breeding season to fishing, to protect the breeding seabirds).

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).

NMFS is a strong advocate of C-VMS for CCAMLR and all other Regional Fishery Management Organizations (RFMOs), however, there are currently no U.S.-flagged vessels fishing for toothfish. As such, NMFS is not required to participate in a C-VMS and there is no need to immediately provide for the potential application. As explained in Alternative 2, non-participation in C-VMS would be anathema to NMFS's efforts at ending IUU fishing in the toothfish fishery. Alternative 1 is not preferred.

Alternative 2: Full Participation in C-VMS by U.S.-flagged vessels. (**Preferred Alternative)**

NMFS anticipates that the implementation of CCAMLR's C-VMS for U.S.-flagged vessels will have no negative impact on humans or the natural environment. Since the C-VMS requires NMFS only to redirect – through software reprogramming –

VMS data that are already required for the national VMS to the CCAMLR C-VMS, there is no cost to the vessel owner or NMFS for the "centralized" aspect of this preferred alternative.

One U.S.-flagged krill vessel is required to use VMS now, and will be required to report through C-VMS.

Although it is difficult to quantify, NMFS anticipates that the preferred alternative will further reduce IUU fishing in the toothfish fishery. At the 2004 CCAMLR meeting, the CCAMLR Scientific Committee provided statistics showing a large decrease in the amount of observed IUU fishing effort in the Convention Area. The Scientific Committee recognized that the reduction could be due to increased enforcement vigilance, including the implementation of VMS two years ago, it stopped short of attributing the decline solely to enforcement efforts. Nonetheless, the success of VMS in numerous domestic and foreign fisheries shows that increased effectiveness in remote areas monitoring through VMS allows only non-participating vessels and skippers from participating nations who are willing to tamper with their on-board VMS device to transit monitored areas like the Convention Area undetected. C-VMS is the next generation of the currently required VMS, and because it allows NMFS to have one point of contact – the Commission - for all VMS data needs, it will allow enforcement resources to focus on specific threats rather than expending resources responding to every VMS data input from the many Flag States that have their toothfish product imported into the United States. C-VMS removes any filters or problems imposed into the vessel tracking by Flag States.

While VMS is known to be an effective enforcement tool to reduce IUU fishing, the effect of Alternative 2 on global legal and illegal harvest of toothfish and other species is difficult to gauge given the volume of unknown information. In the work of CCAMLR's Joint Assessment Group (JAG) and the Fish Stock Assessment Working Group on IUU fishing, NMFS participates in estimating IUU catch and trade. To address the uncertainties in its methodology for estimating IUU, CCAMLR established the JAG and it is supported by representatives of CCAMLR's SCIC and its Scientific Committee (SC).

The JAG met in July 2006 and recommended the use of a matrix to ascertain a relative level of certainty associated with a reported IUU event. The JAG also recommended that SCIC determine a level of vulnerability to IUU fishing for CCAMLR fisheries. The assessment could be modeled on the work of CCAMLR's ad hoc WG-IMAF in determining seabird mortality risk in CCAMLR fisheries. Thus, JAG recommended that SCIC consider: the level of surveillance of the fishery; fishable ground available; access to the fishery (ice coverage, access to port); presence of legal fishing vessels; potential effect of other activity (e.g., tourist vessels, cargo vessels, etc.); and recorded presence of IUU fishing vessels. The level of vulnerability will later be included in the proposed new method for estimating the level of IUU fishing represented by an individual event. The JAG further suggested that SCIC consider options for more active reporting and surveillance of fishing vessels in areas of high vulnerability. C-VMS

would be useful in this SCIC and JAG activity. In sum, CCAMLR has a process for analyzing IUU fishing within the Convention Area (including the EEZs of the sub-Antarctic islands) and is refining that analysis through the work of its JAG. Both the current and the proposed new methodology use a baseline and assess cumulative effects.

Fishing by all countries and IUU fishing is taken into account as CCAMLR adopts annual catch limits and other restrictions on harvest and trade.

By reducing fishing effort, and therefore the opportunity for gear/bird interaction, implementation of Alternative 2 would provide enhanced protection for seabirds by preventing some IUU fishing. Alternative 2 would ensure fishing is limited to permitted areas and is not occurring in areas that have been closed to fishing to protect seabirds. Also, other countries may continue to accept IUU fish (and consequently support bycatch of seabirds), however, the United States is a major importer and it is critical that the United States does not knowingly support IUU fishing through imports. C-VMS would assist in this process by allowing CCAMLR and NMFS to quickly and effectively monitor the location, and potentially, the operations of all reporting vessels, and therefore identify illegal shipments prior to, or at the time of, importation.

Similarly, reducing fishing effort could be expected to reduce the opportunities for interactions with cetaceans.

A C-VMS requirement for all fishers in Antarctic waters would allow assessments of marine mammal-fisheries interactions. Specifically it would provide a historical record of fishing operations in proximity to breeding colonies and foraging areas important to pinnipeds.

Possible benefits resulting from NMFS's implementation of C-VMS may include: timely responses from the CCAMLR Secretariat to NMFS's inquires into fishing activities of a foreign vessel; faster investigations into authenticity of catch documentation; more efficient response time to NMFS requests for VMS data from flag nations; and freeing agency resources from having to respond to VMS data requests from Contracting Parties. Possible compliance costs to U.S. fishing vessels associated with this preferred alternative include the cost of the VMS unit which is estimated at $2,250.00 each (includes purchase price and installation, excludes freight), the annual cost of maintenance estimated at $350.00 per year (based on a 5-year life cycle for the equipment); and the annual cost of VMS transmission estimated for a 6-month season, fishing every day, is between $54.00 and $108.00 (based on a per-day charge of $.30 to $.60 per day, depending on the service provider, for 180 days). For U.S.-flagged vessels currently participating in AMLR fisheries, compliance costs associated with this preferred alternative are anticipated to be minimal due to the existing NMFS requirement that all U.S. vessels holding AMLR harvesting permits use VMS as a condition of their permit (50 C.F.R. 300.107(a)(4)). For future participants in AMLR fisheries, compliance costs would include the cost of the VMS unit, freight, installation, maintenance, and the cost per day for a service provider to transmit VMS reports. Transmission of VMS reports to the CCAMLR Secretariat to fulfill the "centralized" aspect of this preferred

alternative will be made by NMFS and does not represent an additional cost burden to U.S. vessels.

4.5 Identification of Additional Data Needs for Impact Analysis

There are no reasonably foreseeable significant adverse impacts arising from NMFS regulatory activities in CCAMLR; therefore, there is no need to identify any incomplete, unavailable, or additional data needs.

4.6 Impacts on Fish Habitat

None of the alternatives would impact fish habitat. Although longline gear can come in contact with the benthic substrate, the effects in terms of substantial habitat alteration for demersal finfish species or benthic invertebrate communities would likely be so negligible that it could not be measured. This is true as well for the crab pot fishery. In regards to trawl fishing for krill, this gear is fished in the upper pelagic zone of the water column, and does not come in contact with the benthic substrate. The only significant damage to seabed habitats would be as a result of commercial bottom trawling. However, there is no U.S. bottom trawl fishery in the CCAMLR Convention area, there never has been, and there will likely never be one in the future.

4.7 Endangered Species Act

Section 7(a)(2) of the Endangered Species Act of 1973, as amended, requires Federal agencies, in consultation with and with the assistance of the NMFS and the U.S. Fish and Wildlife Service (FWS) as appropriate, to insure that any action authorized, funded, or carried out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat. As required, consultation was requested to examine the effects of the proposed management regime on listed resources.

This FPEIS analyzes the potential impacts of the alternatives considered on ESA-listed species (see Sec. 3.4 “Potential Fishery Interactions with Protected Species in the Convention Area (including those under the Endangered Species Act and Marine Mammal Protection Act),” as well as this Sec. 4 “Environmental Consequences of Alternatives Considered”). The conclusion from the discussion of alternatives in the FPEIS is that the alternatives have insignificant degrees of impact, if any, on listed species.

There is no designated critical habitat in the action area, therefore, no critical habitat will be affected.

NMFS concluded its programmatic Sec. 7 consultation on March 28, 2006, when it finalized the "Endangered Species Act Section 7 Consultation Biological Opinion on the Proposed Regulatory Program Implementing Conservation and Management Measures Adopted by the Commission for the Conservation of Antarctic Marine Living Resources". In this Biological Opinion, NMFS concluded that the regulatory regime for CCAMLR (subject of this FPEIS) is not likely to jeopardize the continued existence of endangered blue whales (*Balaenoptera musculus*), endangered fin whales (*Balaenoptera physalus*), endangered humpback whales (*Megaptera novaeangliae*), endangered southern right whales (*Eubalaena australis*), endangered sei whales (*Balaenoptera borealis*), and endangered sperm whales (*Physeter macrocephalus*). It also concluded that the proposed action may affect but is not likely to adversely affect endangered green (*Chelonia mydas*), endangered hawksbill (*Eretmochelys imbricata*), threatened loggerhead (*Caretta caretta*), endangered olive ridley (*Lepidochelys olivacea*), and endangered leatherback (*Dermochelys coriacea*) sea turtles. Copies of the Biological Opinion are available from the Office of Protected Resources (F/PR), National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, Maryland 20910 (phone 301-713-2332).

In carrying out its mandate under AMLRCA, NMFS fishery management actions that may affect seabird species that are listed as threatened or endangered under the ESA require NMFS to consult with the FWS under Section 7 of ESA. Thus, if a listed seabird may be captured or harmed in a fishery conducted under AMLRCA, NMFS (as the action agency that regulates the fishery) is required to consult with the FWS (as the consulting agency) to determine the most effective means of protecting seabirds during fishery operations. ESA requires NMFS to mitigate impacts of fisheries on endangered and threatened species such as the Amsterdam albatross.

As a result of programmatic interagency Sec. 7 consultation on the issuance of fishing permits by NMFS under AMLRCA, in any or all of the fisheries managed by CCAMLR using longline, trawl, jig, or pot gear, FWS issued its biological opinion on March 2, 2004, that the issuance of these permits is not likely to jeopardize the continued existence of the endangered Amsterdam albatross, the only species listed under the ESA that is found in the Convention Area.

4.8 Marine Mammal Protection Act

Under the requirements of the Marine Mammal Protection Act (MMPA), each commercial fishery is categorized based on the level of incidental mortality and serious injury of marine mammals that occur in the fishery. The individual category determines whether participants in that fishery are subject to certain provisions of the MMPA such as registration, observer coverage, and take reduction plan requirements. All categories must report incidental mortalities and serious injury of marine mammals to NMFS. Fishing activities conducted by U.S. vessels in the CCAMLR Convention Area are not expected to have an adverse impact on marine mammal stocks.

4.9 Environmental Justice Concerns

With so few fishers and because there are no major adverse economic impacts resulting from implementation of the preferred alternatives, therefore, there would be no disproportionate impacts on low-income, Indian tribes, or minority populations.

4.10 Coastal Zone Management Act (CZMA) Concerns

The CZMA does not apply because no harvesting capacity would take place within the coastal waters of the United States and that importation of AMLR or AMLR product would be through U.S. customs ports of entry and will not impact the coastal zone of any state. Therefore, there was no need for a consistency determination.

4.11 Cumulative Impacts

Cumulative impact is the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR §1508.7). A cumulative impact includes the total effect on a natural resource, ecosystem, or human community due to past, present, and future activities or actions of Federal, non-Federal, public, and private entities. Cumulative impacts may also include the effects of natural processes and events, depending on the specific resource in question. Cumulative impacts include the total of all impacts to a particular resource that have occurred, are occurring, and will likely occur as a result of any action or influence, including the direct and reasonably foreseeable indirect impacts of a Federal activity. This section describes the cumulative ecological (including biological), economic and social impacts of past, present and reasonably foreseeable future actions with regard to implementation of conservation and management measures adopted by CCAMLR.

Past, Present, and Reasonably Foreseeable Actions

NMFS published a framework Environmental Assessment (EA) in 1986 that proposed to implement the Convention on the Conservation of Antarctic Marine Living Resources (Convention) and the conservation and management measures adopted by CCAMLR. 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 Antarctic Marine Living Resources Convention Act (16 USC 2431; see 50 CFR part 300 Subparts A and G).

Due to the scale of IUU fishing for Patagonian and Antarctic toothfish in the waters of the Convention Area, CCAMLR adopted a number of conservation measures in the mid to late 1990s. These measures included Flag State licensing of fishing vessels, catch quotas, vessel monitoring systems, port inspections of landings and transshipments, and identification of vessels and fishing gear.

In an attempt to discourage illegal harvest and control international trade in toothfish, CCAMLR, at its November 1999 annual meeting, adopted Conservation Measure 170/XVIII, Catch Documentation Scheme for *Dissostichus spp.* (CDS). NMFS implemented the CCAMLR CDS in regulations published at 65 FR 30016, May 10, 2000.

In 2003, NMFS promulgated regulations implementing several conservation measures adopted by CCAMLR. One of these modified the CDS regulations to implement a pre-approval procedure operated on a fee-for-service basis. The pre-approval process is intended to provide NMFS with sufficient time to review catch documentation papers in advance of import, thereby providing additional economic certainty to U.S. businesses associated with the *Dissostichus spp*. trade, as well as facilitating enforcement efforts. The trade control measures identified in Section 2 are intended to further refine and improve the CDS regulations.

Reasonably foreseeable future actions include development of final rules related to implementation of the above-identified preferred alternatives. In addition, it is expected that future rulemakings will consider additional bycatch reduction measures, modifications to season openings and closings, and species-specific quotas. Alternatively, for U.S. fishers, some of these restrictive measures may take the form of permit conditions, rather than regulatory actions.

Cumulative Ecological Impacts

Controls on Harvesting

As described earlier in this EIS, CCAMLR takes an ecosystem approach to management of Antarctic marine living resources and sets total allowable levels of catch in Convention Areas in a precautionary manner. The CCAMLR Scientific Committee considers cumulative harvest and harvest history when setting annual precautionary catch limits for CCAMLR fisheries. CCAMLR has also established bycatch limits for 5 species in Subarea 48.3 (CM 33-01) plus skates, rays, and macrurids (CM 41-02), and 4 species groups, plus a limit for all other species in Division 58.5.2 (CM 33-02). Through these conservation measures, CCAMLR controls impacts on bycatch species resulting from the harvest of target species. These are precautionary limits, and adhere to the articles of the Convention according to the best available science.

CCAMLR fisheries are open to all member nations and the TAC within each fishery is not allocated by country. Therefore, lack of participation by U.S. fishers,

particularly in those fisheries where harvest levels reach the TAC, will not affect the amount of resources harvested because the catch not harvested by U.S. fishers will be caught by fishers from other nations. Conversely, issuing permits to U.S. fishers will not lead to an increase in the overall harvest level, particularly in the toothfish fishery, because the catch not harvested by U.S. fishers will be taken by fishers from other countries.

With the one exception of modifying the definitional language "toothfish wherever found" under the action considering scope of permits, the suite of preferred harvest control alternatives identified in this FPEIS are all status quo, no action alternatives. Because of CCAMLR's precautionary approach to management of fisheries throughout the Convention Area, and given that NMFS issues permits conditioned and regulated in the same manner as is required by CCAMLR, no significant cumulative ecological impacts are expected from permitted fishing in CCAMLR-regulated fisheries.

Similarly, the modification of the current definition of Antarctic marine living resources to amend the language "toothfish wherever found" to "toothfish in the Convention Area" (Alternative L3), should not have any significant ecological impacts. It will clarify NMFS' authority under AMLRCA to issue harvesting permits within the Convention Area only.

The harvesting of toothfish outside the CCAMLR Convention Area will continue to require a High Seas Fishing Compliance Act (HSFCA) permit which will require consideration of the environmental impacts under NEPA and ESA related to issuing such permits. As a matter of law, the issuance of HSFCA permits is not accompanied by the host of conservation measures adopted by CCAMLR and implemented by U.S. regulations (e.g., restriction on longline setting during daylight hours and seabird mitigation measures) and, therefore, any toothfish fisher operating outside of the CCAMLR Convention Area would likely have greater flexibility in how he fished which could have ecological impacts different than those fishing in CCAMLR waters. NMFS is unaware of any U.S. interest in fishing toothfish outside CCAMLR waters.

IUU Fishing for *Dissostichus* species

IUU fishing for toothfish in the Convention Area has significant adverse ecological impacts, specifically unsustainable harvest levels of toothfish and unacceptably high seabird mortality levels. Although IUU fishing has declined over the past two years, it is still an ongoing problem for CCAMLR. Therefore, reasonable estimates of the biomass removed by IUU fishing are made on a yearly basis, and taken into account when assigning allowable catch levels. CCAMLR has also implemented the CDS to discourage IUU fishing on toothfish stocks. The CDS has enhanced efforts to prevent the unlawful harvest and trade of toothfish. These actions by the United States and other CCAMLR member nations are designed to combat IUU fishing and its ecological impacts. The decline in IUU fishing over the past two years appears to

indicate that these actions are succeeding. Illegal fishing is not reported or suspected in any of the other Convention Area fisheries.

Controls on Trade

The EA prepared in 2003 in connection with the implementation of the pre-approval procedure for the CCAMLR CDS concluded that the cumulative impacts of the pre-approval procedure would build upon the environmental contributions of the original CDS program. That CDS program was designed to discourage the illegal harvest of toothfish by more effectively and efficiently denying the U.S. market to illegally harvested product. The trade control alternatives considered in this EIS, with the exception of the status quo alternatives and the pre-approval exemption alternative for imports of fresh toothfish, would provide additional restrictions on the importation of toothfish in order to further restrict trade in illegally harvested toothfish, and provide greater confidence that imports coming into the United States have been legally harvested and that the associated documentation has been completed truthfully and within the confines of the protocols agreed to by the Commission.

Therefore, the cumulative impacts of the trade control alternatives considered, particularly the E-CDS and C-VMS-related alternatives, are expected to be positive.

Controls on Research

As stated in Section 2.3, CCAMLR established a system of sites contributing data to the CCAMLR Ecosystem Monitoring Program (CEMP), and established protective measures to safeguard those sites from accidental or willful interference, e.g., prohibition on entering seabird colonies except for research purposes; restrictions on use of aircraft over research sites, use of land vehicles, construction activities, and waste disposal. Chile and the United States currently operate summer field camps located at the Cape Shirreff CEMP site and will likely continue to do so for the foreseeable future.

The preferred CEMP research control alternative is the status quo, no action alternative. The continued issuance of CEMP research permits with the restrictions and prohibitions required by CCAMLR is expected to have positive cumulative environmental impacts because research activities are carefully structured to contribute to knowledge of CCAMLR ecosystems while minimizing impacts to the environment as a result of research activities. NMFS does not anticipate any sharp increase in CEMP research activities in the foreseeable future.

The preferred research control alternative requiring observers on all U.S. fishing vessels and issuing regulations specifying minimum requirements for the notification, placement and care of observers is expected to have minor positive cumulative ecological impacts, attributable to increased data collection and observation of fishing operations. Observers on U.S. fishing vessels can provide information on other vessels in the fishing grounds, which aids in the enforcement of CCAMLR rules and may reduce IUU fishing. Trip reporting and observer data also provide useful information to NMFS regarding

CCAMLR fisheries. Overall, the preferred alternatives for controls on research are expected to have a minor positive impact.

Enforcement Controls

NMFS anticipates that the promulgation of regulations to require full time operation of VMS (port-to-port coverage) and/or regulations to require the use of C-VMS will have beneficial ecological impacts. Enhanced VMS regulations and the use of C-VMS by U.S. fishers should ensure that U.S. fishing is limited to permitted areas and is not occurring in areas that have been closed to fishing to protect seabirds or to allow depleted toothfish stocks to recover. Full time operation of VMS and use of C-VMS by CCAMLR Members should have a positive ecological impact by virtue of stricter adherence to CCAMLR conservation measures by all CCAMLR Members; however, it is not possible to quantify potential IUU fishing and inadvertent interactions with cetaceans, pinnipeds, seabirds, and other non-target species.

At its twenty-third annual meeting in Hobart, Tasmania in 2004, CCAMLR Members agreed to implement the trial C-VMS that was conducted during the 2003/2004 fishing season. As adopted in 2004, a vessel's VMS must automatically communicate at least every 4 hours to a land-based fisheries monitoring center of its Flag State, and within prescribed time limits, to the CCAMLR Secretariat. Although this conservation measure only requires C-VMS reporting in the CCAMLR Convention Area, the United States will continue to require VMS coverage from port to port, with polling every four hours, for all toothfish shipments imported into the United States.

Cumulative Economic and Social Impacts

The cumulative economic and social impacts of actions taken since the 1986 framework EA on implementation of the Convention and the conservation and management measures adopted by CCAMLR have been minimal given the limited participation of U.S. fishers in CCAMLR fisheries. As discussed in Section 4.1 above, given the existing market and harvesting conditions, the cumulative economic and social impacts of the preferred harvest control alternatives will be minimal because they do not impose binding constraints on U.S. fishers operating in CCAMLR waters (i.e., the allowable harvests are, for the most part, much higher than even the highest historical catches).

In addition to reducing IUU fishing, the cumulative social and economic impact of all trade control actions in recent years has been positive because they have streamlined the process for importing fish harvested from CCAMLR waters and reduced delays in the system, thereby benefiting importers. Trade control measures adopted since 2000 have also increased importers' and consumers' confidence that the toothfish imported into the United States was legally harvested in accordance with all applicable CCAMLR regulations. The preferred trade control and enforcement alternatives identified in this EIS, particularly the E-CDS, the pre-approval process for all imports of

fresh toothfish, and the C-VMS alternatives, will further refine and improve existing trade control measures. They will also facilitate the trade of toothfish on behalf of U.S. dealers. The E-CDS, the expanded pre-approval process, and the C-VMS will reduce the time required to process dealer requests for approval of toothfish imports. Under the E-CDS, dealers will have greater assurance that the toothfish they import have been legitimately harvested and documented according to CCAMLR protocols because the E-CDS scheme reduces the potential for fraudulent CDS documents.

Cumulative impacts of E-CDS and C-VMS will allow U.S. dealers to only import from those sources that are participating in both of these programs. NMFS has no way of projecting how quickly and to what end all those participating in this fishery will participate. There will be no direct cost to the importing industry and there should only be minimal cost for the fishers associated with participating in E-CDS and C-VMS since the Secretariat will be bearing those costs. Other impacts will be positive in that dealers will no longer need to communicate back and forth with exporting countries and exporting companies to obtain VMS data, wait for NMFS to review it, and then give them an approval. Impacts from participating in E-CDS have the same positive benefits because the dealers will not be responsible for obtaining the DCD documents any longer, the documents will be posted to the electronic system automatically. Through the E-CDS system the dealers will also not have to endure the lengthy review process because the system will only allow the generation of valid documents.

The alternative to exempt shipments of fresh toothfish weighing 2,000 kgs or more from current U.S. pre-approval requirements eliminates two problems: (1) the dealer would no longer be required to comply with an impossible 15-day advance submission of the DCD prior to obtaining an approval; and (2) the dealers importing fresh product would no longer be charged a $200 fee for each and every shipment of toothfish being imported. These impacts are expected to be positive.

None of the suite of preferred alternatives is designed to restrict or lessen the volume of harvest or trade of legally harvested Antarctic living marine resources. However, these measures are designed to reduce IUU product and ease the burden on importers of fresh toothfish weighing 2,000 kgs or more; therefore the extent of cumulative impacts is not quantifiable, but is believed to be small.

Cumulative Impacts of the Suite of Preferred Alternatives

Taken together, the suite of preferred alternatives identified in this EIS will have positive ecological, economic and social benefits. Historically, very few U.S. fishers have participated in CCAMLR fisheries and that is unlikely to change in the foreseeable future due to the harsh environment and remoteness of the CCAMLR Convention Area. Moreover, CCAMLR fisheries are managed in a precautionary manner. Therefore, issuing permits conditioned and regulated consistent with CCAMLR conservation and management measures will not have measurable significant ecological impacts. The preferred trade control and enforcement control alternatives are designed to discourage

IUU fishing for toothfish. CCAMLR reported a significant drop in illegally harvested toothfish in the 2003/04 fishing season. Likely causes of the decrease include the successful implementation of the CCAMLR CDS. The implementation of E-CDS will improve and strengthen the CDS program. Further reductions in IUU fishing will have positive ecological impacts, primarily a reduction in unsustainable toothfish harvest levels and a reduction in seabird bycatch and mortality. The United States is a major importer of toothfish; therefore an effective program of trade controls and enforcement controls, primarily the E-CDS program and C-VMS requirements, will have significant positive ecological impacts due to a reduced demand for illegally harvested toothfish. Compliance with the CDS and C-VMS programs are expected to result in *de minimus* costs to the regulated industries (e.g., for U.S. harvesting vessels basic approved VMS units cost approximately $2,500, with annual communication costs of $250-$500 per year). The preferred research control alternative relating to observers will also provide ecological benefits because they will support data gathering that in turn will provide support for better resource management decisions.

Table 25 (Sec. 4.11): Table of Direct, Indirect, and Cumulative Impacts Arising from Preferred Alternatives.

	Positive Affects	**Negative Affects**	**No Measurable Affects**
I. CONTROLS ON HARVESTING			
ACTION I: Impose Harvest Limits			
A. Assessed Fisheries			
1. Toothfish harvesting in 48.3 -- Alternative A1			E 0 ES 0
2. Toothfish harvesting in 58.5.2 -- Alternative B1			E 0 ES 0
3. Icefish harvesting in 48.3 -- Alternative C1			E 0 ES 0
4. Icefish harvesting in 58.5.2 -- Alternative D1			E 0 ES 0
5. Krill harvesting in 48, 58.4.1, and 58.4.2 -- Alternative E2			E 0 ES 0
B. Exploratory Fisheries			
1. Toothfish harvesting in 48.4, 48.6, 58.4.2, 58.4.3a, 58.4.3b, 58.4.1 -- Alternative F1			E 0 ES 0
2. Toothfish harvesting in 88.1 and 88.2 -- Alternative G1			E 0 ES 0
3. Crabs and Squid harvesting in 48.3, grenadiers and rattails (*Macrourus*) harvesting in 58.4.3a&b, and spiny icefish (*Chaenodraco wilsoni*), striped-eye notothen (*Lepidonotothen kempi*), blunt scalyhead (*Trematomus eulepidotus*), and Antarctic silverfish (*Pleuragramma antarcticum*) harvesting in 58.4.2 -- Alternative H1			E 0 ES 0
C. Future Exploratory Fisheries			
Alternative I1			E 0 ES 0
ACTION II: Restrict Longline Fishing in CCAMLR -- Alternative J1			E 0 ES 0
ACTION III: Restrict Trawl Fishing in CCAMLR -- Alternative K1			E 0 ES 0
ACTION IV: Scope of Permits Required to "Harvest" and "Import" Toothfish -- Alternative L3			E 0 ES 0

Direct, Indirect, and Cumulative Impacts, Together, of Preferred Alternatives for Controls on Harvesting			E 0 ES 0
II. CONTROLS ON TRADE			
ACTION I: Revise Import/Re-export Control Program -- Alternative 10 (mix of Alts. 3, 5, 7, 8 and 9)	E + ES ++		
ACTION II: Revise Pre-approval System -- Alternative 2	ES ++		E 0
Direct, Indirect, and Cumulative Impacts, Together, of Preferred Alternatives for Controls on Trade	E + ES ++		
III. CONTROLS ON RESEARCH			
ACTION I: Revise CEMP Permit System -- Alternative 1			E 0 ES 0
ACTION II: Regulations to support implementation of an observer program -- Alternative 4 (mix of Alts. 2 and 3)	E +	ES --	
Direct, Indirect, and Cumulative Impacts, Together, of Preferred Alternatives for Controls on Research	E +	ES -	
IV. ENFORCEMENT CONTROLS			
ACTION I: Enhance Enforcement with VMS -- Alternative 2	E ++	ES -	
ACTION II: Enhance Enforcement with C-VMS -- Alternative 2	E ++ ES +		
Direct, Indirect, and Cumulative Impacts, Together, of Preferred Alternatives for Enforcement Controls	E ++ ES +		

Key:
E = Ecological (including biological) Affects

ES = Economic and Social Affects
Positive Affects: + minimal affects, ++ moderate affects, +++ large affects
Negative Affects: - minimal affects, -- moderate affects, --- large affects
No Measurable Affects: 0

4.12 Mitigation and Unavoidable Adverse Impacts (of the Preferred Alternatives)

The above analysis shows that the impacts of the preferred alternatives are very minor, if not negligible, from the economic and social aspects.

SECTION 5.0 MITIGATING MEASURES

NMFS is satisfied with the precautionary measures currently embodied in the harvest controls setting process and for this reason and because we have not identified any adverse impacts of the preferred alternatives, no mitigating measures are proposed. Through its issuance of AMLR harvesting permits, NMFS has imposed mitigating measures on toothfish longline F/Vs America No. 1 and American Warrior and on the krill trawler F/V Top Ocean. These measures were required by NMFS, and other mitigating measures could be required by NMFS in the future, in addition to those measures required by CCAMLR.

5.1 Unavoidable Adverse Impacts

There are not believed to be any additional costs to harvesters or importers if the preferred alternatives are adopted and implemented. Any incremental costs that industry may occur are believed to be a reasonable cost of doing business and necessary to effectively manage the fishery (e.g., vessel owners will have to expend approximately $2,500 for the basic approved VMS transceiver unit and $250-$500 per year in communication costs).

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IUU fishing does impose adverse impacts on the affected biological environment and as stated above the preferred alternatives for trade and enforcement controls would be helpful in lessening those impacts. The use of E-CDS will provide further control over imports of toothfish coming into the United States because the E-CDS is more secure and reliable than the paper-based system currently in use and provides greater assurance of compliance with CCAMLR's CDS procedures and protocols. Requiring the use of C-VMS with port-to-port reporting every four hours for all toothfish shipments imported into the United States will aid in lessening the impacts of IUU fishing by making it more difficult to import illegally harvested toothfish into the United States.

5.2 Irreversible and Irretrievable Commitment of Resources

Other than the administrative costs of this program, there are no irreversible or irretrievable commitments of resources.

SECTION 6.0 SCOPING

NMFS conducted two public scoping meetings under the National Environmental Policy Act (NEPA) prior to beginning development of the Draft Programmatic Environmental Impact Statement (DPEIS). Notice of intent to prepare a programmatic environmental impact statement with notice of scoping meetings and request for written comments was published in the February 5, 2004 Federal Register (69 FR 5481). The first public scoping meeting was held in Silver Spring, Maryland on March 1, 2004, and the second public scoping meeting was held in Long Beach, California on March 3, 2004. A scoping document was prepared to identify issues and management alternatives that were to be considered in development of the programmatic EIS. This document was presented by the hearing officer, Robert B. Gorrell, and used as a guide in the discussion at the scoping meetings. It identified the scope of the EIS as describing activities related to management, monitoring, and conduct of fisheries; the ecological relationships between harvested, dependent and related populations of AMLR; the potential impacts to protected species, non-target species, and fish habitat. Among items discussed at the scoping meetings were the legal authority for international management of AMLR, the structure and processes of CCAMLR, the underlying ecosystem approach to managing fisheries by CCAMLR as reflected in Article II of the Convention, U.S. participation in harvesting AMLR and permitting thereof, need to minimize bycatch, and trade in toothfish. Environmental organizations and commercial fishery interests were represented at both scoping meetings.

SECTION 7.0 LIST OF PREPARERS

Robert Gorrell (Project Manager for PEIS), Kim Dawson, Lee Anderson – Office of Sustainable Fisheries, NMFS; Rennie Holt, Chris Jones, Michael Goebel, Jenna Borberg – Southwest Science Center, NMFS; Paul Ortiz – Office of General Counsel for Enforcement and Litigation, NOAA; Robin Tuttle, Tom Gleason, Kristan Blackhart – Office of Science and Technology, NMFS; Kim Rivera – Alaska Region, NMFS; Pamela Toschik – NOAA Sea Grant at NSF

SECTION 8.0 PUBLIC REVIEW PROCESS

8.1 Introduction

The NEPA regulations at 50 CFR 1503.1 require the action agency, in this case NMFS, to solicit public comment on a Draft EIS prior to preparing a Final EIS. NMFS

should obtain comments from Federal, state and local agencies, Indian tribes and those persons or organizations who may be interested or affected.

On Friday, July 1, 2005, the Environmental Protection Agency published a notice of availability of the DPEIS in the Federal Register.(70 FR 38132). The notice announced NMFS request for public comment on the DPEIS from July 1, 2005, through August 15, 2005. In addtion to announcement in the Federal Register, NMFS posted the DPEIS on its website and mailed copies to persons who attended the scoping meetings and others.

NMFS received comments from three environmental organizations (the Center for Biological Diversity - CBD - and Turtle Island Restoration Network - TIRN - jointly submitted comments; and the National Environmental Trust - NET - separately submitted comments) and from two Federal agencies (the National Science Foundation - NSF - and the U.S. Environmental Protection Agency - EPA). NMFS staff read the comments and separated out specific comments from within each letter by subject matter and developed responses to the comments. All comment letters are reproduced in Section. 8.3.

8.2 Response to Comments

Comment 1 (CBD/TIRN): While we are pleased that NMFS is undertaking this necessary review under NEPA, we remain concerned that U.S. flagged vessels are currently operating or permitted to operate in the CCAMLR area without any such review. In our December 31, 2003 letter we explained how we believe the permitting of the vessels American Warrior and America No. I under AMLRCA and HSFCA was done in violation of NEPA and the ESA. It is our understanding that a similar permit was issued to a U.S. flagged vessel for krill harvesting. The issuance of these permits and the associated fishing activity violate both NEPA and the ESA's prohibition on making "irreversible and irretrievable commitments of resources" prior to compliance with NEPA. 42 U.S.C. § 4332(C)(v); 16 U.S.C. § 1536(a)(2) & (d); Conner v. Burford, 848 F.2d 1441, 1446 (9th Cir. 1988), cert. denied, 489 U.S. 1012 (1989). NMFS must suspend any current authorizations until the completion of a final programmatic EIS and biological opinion.

Response with rationale for response: NMFS disagrees with the comment that the issuance of AMLR harvesting permits and HSFCA permits to the U.S.-flagged vessels American Warrior and America No. 1, as well as to the U.S.-flagged krill vessel Top Ocean, violated NEPA and the ESA. NMFS issued AMLR Harvesting Permits 20 and 21 to Seaport Management Services, LLC on December 5, 2003 for the F/V America No. 1 and F/V American Warrior to engage in the *Dissostichus* fishery in Subarea 88.1. NMFS issued AMLR Harvesting Permits 22 and 22A to Top Ocean, Inc. on March 5, 2004 and November 30, 2004 for the F/V Top Ocean to engage in krill fishing in Area 48. Environmental Assessments (Environmental Assessment of the Effects of NOAA

Fisheries Issuance of an Antarctic Marine Living Resources Harvesting Permit to Fish for Krill in Subarea 48 of the Convention on the Conservation of Antarctic Marine Living Resources, March 5, 2004; Environmental Assessment of the Effects of NOAA Fisheries Issuance of an Antarctic Marine Living Resources Harvesting Permit to Fish for Krill in Subarea 48 of the Convention on the Conservation of Antarctic Marine Living Resources, November 30, 2004) and ESA Sec. 7 consultations (Intra-Service Section 7 Consultation on AMLR permit applications, Fish and Wildlife Service, December 2, 2003; Endangered Species Act Section 7 Consultations on Issuance of Antarctic Marine Living Resources Harvesting Permits and Associated Dissostichus Catch Documents, NMFS Office of Protected Resources, December 5, 2003; Programmatic Interagency Section 7 Consultation on AMLR permit applications, Fish and Wildlife Service, March 2, 2004; Endangered Species Act Section 7 Consultation on Issuance of Antarctic Marine Living Resources Harvesting Permits for Krill, NMFS Office of Protected Resources, March 5, 2004: Endangered Species Act Section 7 Consultation on Issuance of Antarctic Marine Living Resources Harvesting Permits for Krill, NMFS Office of Protected Resources, November 24, 2004) were conducted for these permitted activities In recent years NMFS has also prepared NEPA analyses for its CCAMLR regulations: "Environmental Assessment and Regulatory Impact Review/Regulatory Flexibility Analysis on the Rule to Establish Management Measures to Implement the Convention for the Conservation of Antarctic Marine Living Resources Catch Documentation Scheme (CDS) for Dissostichus spp." in April 2000; and "Environmental Assessment and Regulatory Impact Review/Final Regulatory Flexibility Analysis on Rule to Institute Various Measures Pertaining to U.S. Obligations Regarding Antarctica and Antarctic Living Marine Resources, Including Implementation of a Pre-approval Procedure for Dissostichus spp.. Catch Documentation Scheme" in April 2003.

No U.S. longline vessels conducted commercial fishing operations in Convention waters in 2005 or in 2006. Only one U.S. vessel conducted commercial trawl operations for krill in the early months of 2005. There has been no U.S. fishing since then. The harvesting permits the commenter objects to have expired and as indicated above, the appropriate NEPA and ESA analyses were performed by NMFS.

Comment 2 (CBD/TIRN): With regards to compliance with NEPA, it appears that the DEIS was not widely circulated among the organizations and individuals likely to have an interest in the subject matter. The list of agencies, organizations, and persons consulted, and to whom the copies of the EIS were sent (DEIS at 268) lists the Center for Biological Diversity as the only non-governmental organization receiving a copy of the DEIS. Numerous other organizations and individuals are actively working on issues covered by the DEIS, ranging from seabird conservation, illegal, unregulated, and unreported ("IUU") fishing, longline fisheries in general, and the toothfish fishery in particular. None of these organizations were apparently contacted about the DEIS. Similarly, the notice of the availability of the DEIS was not widely circulated. To our knowledge it only appeared in the EPA's weekly listing of agency EIS availability, with no description and buried among numerous other document listings. See 70 Fed. Reg.

38131 at 38132. NMFS did not issue a stand-alone Federal Register notice announcing its availability, mention it in the weekly FishNews email announcements, or even list it on the list of agency actions open for public comment at www.regulations.gov. If NMFS receives no additional comments on the DEIS from other NGOs it is likely simply because these organizations are unaware of the document's existence. To better comply with the spirit and letter of NEPA, NMFS should publish a notice in the Federal Register announcing the availability of the document and reopening the public comment period.

Response with rationale for response: NMFS provided EPA with the DPEIS and requisite information for EPA to publish a notice of availability in the Federal Register as required by CEQ regulations. Publication in the Federal Register (70 FR 38132), along with distribution to the mailing list contained in the DPEIS, meets the Federal action agency responsibility for providing public notice and invitation for public comment. The DPEIS was also mailed to the National Environmental Trust and the mailing list in this FPEIS has been modified to reflect that fact. NMFS also posted notice of publication of the DPEIS, along with the DPEIS, on its website at several locations. In addition, NMFS informed the public that it was drafting the DPEIS, requested written comments, and was holding scoping meetings in Silver Spring, Maryland on March 1, 2004, and in Long Beach, California on March 3, 2004 (69 FR 5481).

Comment 3 (CBD/TIRN): With regards to the substance of the NEPA analysis in the DEIS, we believe it is deficient in several respects. While the DEIS mentions the presence of numerous threatened seabirds in the action area (primarily albatrosses and petrels), and provides some discussion of their status, the DEIS fails to analyze the likely cumulative impacts of fisheries-related mortality to these species from longline and trawl fishing in their ranges. The DEIS simply concludes that interactions in the CCAMLR area are infrequent and that mitigation measures required by CCAMLR are generally effective at reducing bycatch (DEIS at 194-199). While this may be true, the DEIS largely ignores the fact that several of these species are considered threatened by the IUCN due in large part from mortality in longline fisheries for toothfish. While the likelihood of any individual vessel catching a rare or endangered albatross may be small, the role of U.S. flagged longline vessels, combined with other nations' legal and illegal longline toothfish vessels must be looked at cumulatively for their impacts on seabirds-otherwise several albatross species face the likelihood of (to paraphrase a common metaphor) a death by a thousand hooks. The DEIS contains only two sentences on the population level effects of fisheries on imperiled birds:

Due to the longevity of most seabirds and their reliance on high adult survival, rather than fecundity, to maintain a stable population, effects on the population are difficult to discern in the short term. Population level effects resulting from incidental mortality in fisheries have been suggested for several seabirds, including the Wandering albatross, Yellow-eyed penguin, White-chinned petrel, and African penguin.

DEIS at 194. A more thorough and meaningful analysis of these impacts is necessary if the EIS is to comply with NEPA.

Response with rationale for response: Table 7 of the DPEIS (p. 151) lists the conservation status of seabirds defined by the U.S. government (i.e., Endangered Species Act listing status), CCAMLR and the IUCN. Table 21 of the DPEIS (p. 200) lists the types of seabirds interacting with CCAMLR fisheries and highlights the 20 species identified by WG-IMAF as most at risk from fisheries interactions. NMFS cites peer-reviewed scientific publications that document the impact of fisheries on specific populations (see p. 194 of the DPEIS). Unlike ESA listing status and criteria, the IUCN listings do not connote any prescribed or specific actions or measures under U.S. law. The IUCN criteria do provide a basis for common understanding of global species and they have been used in that context in the DPEIS and this FPEIS.

The environmental consequences section of the DPEIS, starting on page 216 of the document, analyzes the anticipated impacts of each individual action on seabirds (e.g., p. 220). The cumulative impacts section of the DPEIS addresses impacts on seabirds (e.g., p. 260). Potential cumulative impacts on these seabird species include: U.S. vessels fishing in CCAMLR regulated fisheries, other CCAMLR member vessels fishing in CCAMLR regulated fisheries, IUU vessels fishing within the CCAMLR and adjacent areas, and regulated fishing activities occurring in adjacent areas under the jurisdiction of other Regional Fishery Management Organizations (RFMOs). CCAMLR's ad hoc WG-IMAF and WG-FSA have discussed potential effects of by-catch levels and rates on seabird populations, particularly threatened and endangered species (as defined under IUCN). The groups noted the current lack of appropriate demographic models and the lack of reliable data on mortality rates of the relevant seabird species in longline and trawl fisheries outside the Convention Area and in IUU fisheries generally. Without this information, it is difficult, if not impossible, for NMFS to conduct a complex quantitative analysis of the cumulative impacts to seabirds from longline and trawl fisheries outside the Convention Area and in IUU fisheries. Thus, even without these detailed analyses, CCAMLR has taken the approach (as the United States has in Hawaii and Alaska longline fisheries) that the objective is to minimize/reduce the bycatch that occurs by requiring effective mitigation, including gear type and usage requirements and time-area closures, among other measures. The United States implements these measures and they help mitigate the impacts on seabirds.

The DPEIS does note that trade and enforcement control measures are anticipated to minimize the import of IUU fish into the United States; this should result in the United States contributing negligible amounts to the cumulative impact on seabirds from both fishing and import activities.

The impacts of fisheries-related mortality on seabird species were fully analyzed using the available data. NMFS notes that in the regulated CCAMLR longline fishery, the seabird bycatch levels are extremely low, 0.0011 birds/1000 hooks in Subarea 48.3 in 2005, for instance. Consequently the regulated fishery contributes a negligible amount to

seabird mortality. The only remaining bycatch problems in the longline fishery are in the French EEZ and in IUU fishing within the Convention Area. The impact of U.S.-permitted vessels in the regulated longline fisheries on seabird bycatch is so small that it does not contribute to cumulative impacts on seabirds.

Comment 4 (CBD/TIRN): The DEIS's analysis of impacts on marine mammals is similarly spotty at best. For example, in the "Affected Environment" section, the DEIS acknowledges the existence of three different forms of killer whales off Antarctica, including a form (possibly a unique species) that specializes in eating toothfish. DEIS at 105. However, elsewhere in the DEIS in its discussion of fisheries interactions with marine mammals, no mention is made of the distinct killer whales forms and the likely disproportionate impact longline fishing may be having on the toothfish eating form.

Response with rationale for response: Given recent observations that there likely is a form of killer whale in the Southern Ocean that preys primarily on toothfish (so-called Type C) (p. 105 and p. 186 of DPEIS), any fishery for toothfish has the potential to produce negative impacts on this form. These recent observations come primarily from National Science Foundation sponsored research conducted by scientists from the NMFS, Southwest Fisheries Science Center, and is still ongoing. Information on distribution of this fish-eating form suggests they occur primarily in East Antarctica. Their abundance is not known. CCAMLR produces regional quotas for toothfish take which allow considerable escapement for toothfish stock availability to satisfy "predator demand", and CCAMLR considers this sufficient for the foraging needs of these fish-eating killer whales. There remains the possibility of local conflicts, if for example a toothfish fishery expanded in areas in East Antarctica where this form of killer whale occurs. If this becomes a matter of serious concern, it will be necessary to conduct directed research on the distribution, abundance and other characteristics of these "Type C" killer whales. This information could then be used by CCAMLR in the same manner that krill demand by localized populations of pinnipeds and birds is used, to set appropriate local quotas for commercial harvest. In the absence of such specific data, CCAMLR's precautionary catch limits for toothfish can be taken to leave sufficient food for this form of killer whale.

Comment 5 (CBD/TIRN): The DEIS's analysis of the toothfish fishery itself is problematic. Given that the toothfish fishery is the most significant in terms of both monetary value and environmental impacts in the CCAMLR area, details on and analysis of the global fishery and trade in toothfish should be covered comprehensively in the DEIS. Instead, the DEIS devotes a scant two and a half pages to describing primarily the life history of the two toothfish species. For the Patagonian toothfish, the DEIS acknowledges that "where reliable data exist, reduced CPUE and clear population

declines have been shown." DEIS at 89. This subject should be the focal point of the DEIS rather than simply be mentioned with no analysis in a single sentence.

Response with rationale for response: While the DEIS acknowledges that "where reliable data exist, reduced CPUE and clear population declines have been shown", this primarily applies to the Indian Ocean sector of the Convention Area that exhibits high levels of IUU, and not areas where IUU is negligible, such as South Georgia. In areas where IUU has been minimal and CCAMLR TACs have been adhered to, there is little evidence of substantial population declines of toothfish stocks over the last decade. The source for this information is the 2005 CCAMLR Report of the Scientific Committee (SC-CAMLR-XXIV(2005)).

Comment 6 (CBD/TIRN): The most glaring NEPA deficiency with regard to the regulatory scheme analyzed in the DEIS is the utter failure to analyze the effects of the importation by, and consumption of toothfish in the U.S. The U.S. imports a significant portion of the global toothfish harvest. The DEIS does not analyze the environmental consequences to toothfish stocks or to species incidentally caught in the toothfish fishery (e.g. seabirds and marine mammals) that occur as a result of the demand created by the U.S. market. The DEIS should have included an alternative in which toothfish imports were banned entirely until and unless bycatch could be reduced and toothfish stocks recovered. Even if not adopted or labeled the preferred alternative, such an alternative would have been useful to show the true environmental consequences of the regulatory scheme.

Response with rationale for response: The DPEIS did consider the current regulatory provisions to control harvest and trade (particularly importation into the United States) of toothfish and alternatives. As indicated in the response to Comment 1, NMFS did prepare analytical documents for the CDS and pre-approval, etc. regulations promulgated in 2000 and 2003. Although there are some uncertainties associated with the CCAMLR methodology for estimating IUU catch, these estimates have continued to decline by significant amounts over the past five years. To address the uncertainties in its estimation methodology, CCAMLR established a Joint Assessment Group (JAG). The JAG is supported by representatives of CCAMLR's SCIC and its Scientific Committee (SC).

The JAG met in July 2006 and has recommended the use of a matrix to ascertain a relative level of certainty associated with a reported IUU event. The level of uncertainty determined from the matrix will be used to convert the relative uncertainty of a detected event to a probability measure. The JAG agreed that the CCAMLR Secretariat run a trial of the matrix in 2006 to determine the applicability of the matrix to assessing uncertainty by using historic IUU reports for selected fisheries for the years 2003 to 2005. The results of the trial will be reported to the IUU Subgroup of the SC's WG-FSA.

The JAG also recommended that SCIC determine a level of vulnerability to IUU fishing for CCAMLR fisheries. The assessment could be modeled on the work of CCAMLR's ad hoc WG-IMAF in determining seabird mortality risk in CCAMLR fisheries. Thus, JAG recommended that SCIC consider: the level of surveillance of the fishery; fishable ground available; access to the fishery (ice coverage, access to port); presence of legal fishing vessels; potential effect of other activity (e.g., tourist vessels, cargo vessels, etc.); and recorded presence of IUU fishing vessels. The level of vulnerability will later be included in the proposed new method for estimating the level of IUU fishing represented by an individual event. The JAG further suggested that SCIC consider options for more active reporting and surveillance of fishing vessels in areas of high vulnerability.

As a result of both the substantial decrease in estimated IUU fishing and the efforts by CCAMLR to improve its methodology for estimating IUU fishing, NMFS believes that a ban on U.S. imports of toothfish is neither warranted nor necessary. In addition, the United States strictly regulates the imports of toothfish. As a result of announcing its intention to restrict imports of toothfish to shipments documented with E-CDS, the following countries are now using E-CDS exclusively in importing into the United States: Australia, Japan, Korea, New Zealand, Russia, South Africa, Spain, Ukraine, United Kingdom (overseas territories) and Uruguay. Chile and France are part time users of E-CDS, while Peru and Argentina are not using E-CDS in importing toothfish into the United States. As indicated in earlier sections of this FPEIS, the use of electronic catch documents makes it highly unlikely that IUU-caught fish will enter the United States. A proposed NMFS rule would require all toothfish shipments to the United States to be documented electronically.

In 2003, NMFS, based upon advice of CCAMLR's SC and after consultation with the Office of the United States Trade Representative, banned all imports of toothfish from Areas 51 and 57. These areas, immediately north of the CCAMLR Convention Area in the Indian Ocean, were identified on catch documents as the location of large amounts of toothfish catch. Based upon the bathymetry of the area, fishable habitat and the behavior of toothfish, the SC expressed its serious misgivings that Areas 51 and 57 could support toothfish populations in the numbers reported on catch documents. The SC concluded that the catches attributed to Areas 51 and 57 outside the CCAMLR Convention Area were much more likely to be IUU catches taken from within the nearby Convention Area. Following the ban, catch documents attributing catch of toothfish to Areas 51 and 57 dropped to very small amounts.

Because the United States believes a ban on toothfish imports is not appropriate or warranted, NMFS did not consider it as a viable alternative. Annually, the United States participates in setting the area-wide catch limits and other conservation measures designed to protect toothfish stocks in CCAMLR's international forum. Fishing by all countries and IUU fishing is taken into account as CCAMLR adopts annual catch limits and other restrictions on harvest and trade. Imports into the United States are controlled to prevent importation of IUU-caught toothfish. A ban on toothfish imports into the

United States would penalize U.S. consumers and other businesses and would not prevent IUU fishing as toothfish harvest would find other markets.

Comment 7 (CBD/TIRN): Equally significant, the DEIS fails to address the human health impacts from the consumption of toothfish in the U.S. A 2003 survey carried out by the San Francisco Chronicle determined that toothfish for sale in U.S. markets contained unsafe levels of mercury.' The survey found an average of 68.1 micrograms of mercury in a single six once serving of toothfish, or about one and three quarters times the EPA safe level for weekly consumption. The negative health effects of mercury are well established. Any NEPA document addressing a regulatory scheme for the importation of seafood products containing high levels of mercury must disclose and analyze these health effects, the societal costs from such effects, and the environmental and health benefits of prohibiting the importation of such a tainted product. The failure to do so renders the DEIS infirm.

CBD footnote: S.F. Chronicle November 23, 2003, available at: http://sfgate.com/cgi-bin/article.cgi?f/c/a12003/1 1/23/MNGIO394FI 1 .DTL&hw=rnercury+sea±bass&snOOl &sc=l 000

Response and rationale for response: The Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA) have expertise and responsibility to determine human health impacts from the consumption of toothfish and other seafood. Both FDA and EPA make the decisions about public health implications of mercury in fish. Nevertheless, NMFS at its Seafood Inspection Laboratory in Pascagoula, Mississippi, is conducting tests to document mercury levels in imported toothfish and will make its findings available to FDA and EPA. Because NMFS does not know how the study referred to in the San Francisco Chronicle article was conducted, NMFS cannot comment on the results of that study.

Comment 8 (CBD/TIRN): The DEIS's treatment of marine mammals, particularly those listed under the ESA, is especially problematic. The primary ESA-listed marine mammal likely to be affected by CCAMLR fisheries is the sperm whale. The DEIS is inconsistent in its discussion of the sperm whale. In the section dealing with regulatory compliance, the DEIS states that "the conclusion from the discussion of alternatives is the alternatives have insignificant degrees of impact, if any, on listed species." DEIS at 257. This is completely contradicted in its discussion of sperm whale interactions with toothfish vessels. The DEIS acknowledges that interactions with sperm whales are frequent and occasionally lethal.

> A 2004 report by the CCAMLR scientific observer on board a U.S. longline vessel recorded interactions between sperm whales throughout the fishing season, citing 2-4 whales normally present during each haul. In comments annotating the report,

the observer noted two possible sperm whale mortalities and assessed the impact of the fishery on sperm whales as negligible overall.

DEIS at 187 (emphasis added). If two "possible sperm whale mortalities" were observed on a single U.S. flagged vessel operating in a single season, there is no way the DEIS could credibly conclude that that regulations authorizing U.S. longline fishing vessels in CCAMLR waters for the foreseeable future have "insignificant degrees of impact, if any, on listed species." DEIS at 257.2

CBD footnote: Even if the "two possible sperm whale mortalities" were spread throughout the entire fishery, rather than on a single U.S. vessel, the impacts would still be significant, the observer's claim of impacts being "negligible overall" notwithstanding.

Response and rationale for response: The commenter correctly pointed out an inconsistency in the DPEIS's discussion of the impact of the toothfish fishery on sperm whales (p. 187 of the DPEIS). NMFS notes that its previous statement regarding the frequency of sperm whale interactions with the toothfish fishery was confusing. Upon rechecking observer reports and the reports of CCAMLR WG-IMAF, NMFS has confirmed that there have been no reported sperm whale mortalities in the entire history of the CCAMLR toothfish fishery (which has 100% observer coverage). However, NMFS notes that there are anecdotal reports of sperm whale mortalities in toothfish fisheries in waters outside the Convention Area. The observer report referred to on page 187 of the DPEIS states that the observer had seen encounters between sperm whales and toothfish longlines on numerous occasions over the course of 4 years as an observer, but he never witnessed any incident that threatened the well being of the whales. In his discussions with other observers, they reported similar experiences. The observer continued by saying in his report (2004 Report by CCAMLR observer on board a U.S. longline vessel) "considering the total number of longliners fishing for *Dissostichus* species in CCAMLR waters and the extremely low (possibly only two) incidents of whale mortality during the past 5 years, the real threat to whales is statistically negligible." The observer's annotation comment was directed at the entire fleet over the preceding 5 years (August 2000 to 2004) rather than his observation of the U.S. longline fishing trip he was observing. Accordingly, the confusing annotation that "the observer noted two possible sperm whale mortalities" has been deleted from this document.

Based on the fact that there have been no sperm whale mortalities in the U.S. or entire CCAMLR fisheries, NMFS believes its FPEIS corrects the ambiguity caused by the inconsistent language in the DPEIS regarding the impact of the toothfish fishery on sperm whales.

Comment 9 (CBD/TIRN): In addition to the NEPA problems associated with this schizophrenic treatment of impacts on sperm whales, further authorization of any longline fishing in CCAMLR waters would violate the ESA and MMPA. As we have described in our previous letters and comments, NMFS's issuance of AMLRCA and

HSFCA permits to two U.S. flagged longline vessels violated Section 7 of the ESA, 16 U.S.C. § 1536(a)(2). Given the information on "possible sperm whale mortalities" from one of these vessels contained in the DEIS, it appears NMFS violated Section 9 of the ESA as well, 16 U.S.C. § 1538. While NMFS may be able to correct its Section 7(a)(2) violation with a programmatic biological opinion that addresses the entirety of the agency action (i.e. the regulations and all authorized fishing activity), we believe that Section 9 precludes the agency from issuing any further permits to toothfish longline vessels until and unless NMFS receives authorization for such take pursuant to both the ESA and MMPA.

Response and rationale for response: As NMFS explained in its response to Comment 8, there have been no sperm whale mortalities reported in the CCAMLR fisheries. Moreover, NMFS is unaware of any sperm whale mortality caused by a U.S. toothfish vessel. Furthermore, in its March 28, 2006, "Endangered Species Act Section 7 Consultation Biological Opinion on the Proposed Regulatory Program Implementing Conservation and Management Measures Adopted by the Commission for the Conservation of Antarctic Marine Living Resources", NMFS concluded that the regulatory regime for CCAMLR (subject of this FPEIS) is not likely to jeopardize the continued existence of endangered whales, and that the proposed action may affect but is not likely to adversely affect endangered and threatened sea turtles.

Comment 10 (CBD/TIRN): Under Section l0l(a)(5)(E) of the MMPA, NMFS can in certain circumstances authorize the incidental take of ESA-listed marine mammals. 16 U. S.C. § 1371 (a)(5)(E). However, we believe the MMPA criteria currently preclude NMFS from authorizing such take. Specifically, Section 101 (a)(5)(E)(i)(II) requires that a recovery plan for the species "has been developed or is being developed." No such plan exists for the sperm whale. Nor is any such plan "being developed." In its most recent Biennial Report to Congress on the Recovery Program for Threatened, and Endangered Species, released in July, 2005, NMFS acknowledged as much. See Report, Table I at p. 6 (chart showing "none" for sperm whale recovery plan status- species for which plans are being developed are listed as "under development"). Until and unless NMFS develops a recovery plan for the sperm whale, and issues an authorization under Section 101 (a)(5)(E), no take of sperm whales may be allowed. Because authorization of toothfish longlining will lead to such take, NMFS cannot lawfully authorize such fishing whether it be by permit or regulation. As such, NMFS should promulgate regulations banning all such longlining.

Response and rationale for response: As indicated in the responses to Comments 8 and 9, there is no reported sperm whale mortality associated with U.S. toothfish vessels. No takes are anticipated or authorized. The commenter is correct that there is no Take Reduction Plan for whales in the Southern Ocean. No U.S. vessels have been longlining for toothfish in the Convention waters since 2004.

Comment 11 (CBD/TIRN): Any authorization of longline fishing would also violate the Migratory Bird Treaty Act (MBTA). Section 2 of the MBTA provides that "it shall be unlawful at any time, by any means or in any manner," to, among many other prohibited actions, "pursue, hunt, take, capture, [or] kill" any migratory bird included in the terms of the treaties. 16 U.S.C. § 703 (emphasis added). The term "take" is defined as to "pursue, hunt, shoot, wound, kill, trap, capture, or collect." 50 C.F.R. § 10.12 (1997). Numerous seabirds likely killed by the fishery are included in the list of migratory birds protected by the MBTA. See 50 C.F.R. § 10.13 (list of protected migratory birds). The MBTA imposes strict liability for killing migratory birds, without regard to whether the harm was intended. Its scope extends to harm occurring "by any means or in any manner," and is not limited to, for example, poaching. See e.g.. U.S. v. Moon Lake Electric Association, 45 F. Supp. 2d 1070 (1999) and cases cited therein. Indeed, the Federal government itself has successfully prosecuted under the MBTA's criminal provisions those who have unintentionally killed migratory birds. See, e.g., U.S. v. Corbin Farm Service, 444 F. Supp. 510, 532-534 (E. D. Cal.), affirmed, 578 F.2d 259 (9th Cir. 1978); U.S. v. FMC Corp., 572 F.2d 902 (2nd Cir. 1978). The MBTA applies to Federal agencies such as NMFS as well as private persons. See Humane Society v. Glickman, No. 98-1510, 1999 U.S. Dist. LEXIS 19759 (D.D.C. July 6, 1999)), affirmed, Humane Society v. Glickman, 217 F.3d 882, 885 (D.C. Cir. 2000) ("There is no exemption in § 703 for farmers, or golf course superintendents, or ornithologists, or airport officials, or state officers, or Federal agencies."). Following Glickman, FWS issued Director's Order No. 131, confirming that it is FWS 's position that the MBTA applies equally to Federal and non-Federal entities, and that "take of migratory birds by Federal agencies is prohibited unless authorized pursuant to regulations promulgated under the MBTA." MBTA Section 3 authorizes the Secretary of the Interior to "determine when, to what extent, if at all, and by what means, it is compatible with the terms of the conventions to allow hunting, take, capture, [or] killing of any such bird." 16 U.S.C. § 704. FWS may issue a permit allowing the take of migratory birds if consistent with the treaties, statute and FWS regulations. NMFS however has not obtained, much less applied for such a permit authorizing any take by the toothfish longline fishery (or any other CCAMLR fishery).

NMFS cannot dispute that the longline fisheries for toothfish will kill birds protected under the MBTA. We believe that until such take is permitted, NMFS cannot lawfully allow any fishing that is likely to result in the death of such species. With regard to other fisheries (e.g. Hawaii longline), NMFS has claimed that the MBTA does not apply beyond the 3 nautical mile territorial sea of the U.S and therefore it need not comply on the high seas. This is simply wrong. As NMFS is or should be aware, in 2001 an Interior Solicitor's Opinion concluded that the MBTA does in fact apply beyond the territorial sea of the U.S. Moreover, and determinatively, in the regulations implementing AMLARCA, NMFS itself acknowledges that the MBTA applies in CCAMLR waters.

Response and rationale for response: The MBTA only applies in nearshore waters, seaward to three nautical miles (nm) from the shoreline of the United States. See 69 FR 17334 (April 2, 2004). Since the longline fishery for toothfish operates outside three nm, any take of migratory birds incidental to the fishery would not be covered by the MBTA.

Comment 12 (CBD/TIRN): The Marine Mammal Protection Act of 1972 (16 U.S.C. 1361 et seq.), the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), the Migratory Bird Treaty Act (16 U.S.C. 701 et seq.), and their implementing regulations also apply to the harvesting and importation of AMLRs. 50 C.F.R. § 300.102(c). Any new conclusion to the contrary will not survive legal scrutiny.

Response and rationale for response: In the response to Comment 11, NMFS has stated its opinion that the MBTA only applies in nearshore waters, seaward to three nautical miles (NM) from the shoreline of the United States. NMFS agrees with the commenter that the ESA applies to the harvesting and importation of AMLRs and conducted a Section 7 consultation for this action. Moreover, as previously stated, NMFS has not prepared a Take Reduction Plan for whales in the Southern Ocean because there are no existing U.S. fishing operations currently in the Southern Ocean.

Comment 13 (CBD/TIRN): In our previous letters to NMFS, as well as in our scoping comments on the current NEPA process, we raised our concern that under its current practice, NMFS has issued, and apparently will continue to issue permits to individuals and entities that have been associated with illegal fishing or illegal importation of toothfish. For example, the owner of the previously permitted longline vessels American Warrior and America No. 1, Seaport Management Services LLC, is an affiliate of Pac-Fish, Inc. that has been linked to the importation of illegally harvested toothfish. See U.S. v. A Certain Quantity of Patagonian Toothfish, 02-CV-l0319-MLW (D. Mass.). Nevertheless, NMFS issued AMLRCA and HSFCA permits to these vessels. Following delays in getting further AMLRCA permits related to NMFS's belated attempts to comply with NEPA, one of these vessels, the America No. 1, subsequently reflagged to Honduras and was seized by the French Navy for illegal fishing. NMFS's knowing facilitation of this illegal fishing runs completely counter to the spirit and letter of AMLRCA, the HSFCA, and the treaties these statutes were intended to implement. In scoping we requested that the EIS should specifically analyze whether any changes to NMFS's current regulations are necessary to prevent a recurrence of such a scenario. Unfortunately, the DEIS and the preferred alternatives therein show little sign that NMFS is serious about complying with its international obligations to reduce IUU fishing. We hope the FEIS and any accompanying regulations show otherwise.

Response and rationale for response: NMFS lawfully issued AMLR harvesting permits to the owner of U.S.-flagged American Warrior and America No. 1. The two CCAMLR observers onboard reported no illegal activity. Moreover, U.S. legislation implemented by the U.S. Coast Guard allows out-flagging upon the sale of a vessel. NMFS' goal of eliminating IUU fishing was furthered by the issuance of the permits in accordance with all applicable laws and regulations to the U.S.-flagged vessels. By asserting its control over the vessels' permit to fish, NMFS was able to ensure compliance with CCAMLR conservation measures by the vessel owner and operators. During the period that the vessels were U.S. owned and flagged, NMFS observed no illegal activity surrounding the operation of either vessel through close monitoring by NOAA-authorized observers, NOAA/NMFS for Law Enforcement, and the NOAA vessel monitoring system. NMFS notes that the illegal actions of the vessels came after the deflagging, and sale, of the vessels.

The preferred alternatives considered in the DPEIS, combined with additional statutory authorities (including proposed amendments to AMLRCA), are sufficient to ensure that U.S. flagged vessels and U.S. nationals can be effectively prosecuted for illegal fishing operations and trafficking of IUU fish product. NOAA/NMFS is seeking to amend AMLRCA at the next opportunity to increase the maximum civil penalty allowed under AMLRCA to ensure that NOAA/NMFS's penalty options will be sufficient to address all violations. In addition, NOAA/NMFS will continue to cooperate with foreign governments to identify and pursue enforcement actions against foreign companies and foreign nationals that are identified as IUU fishers or participants in illegal trafficking of IUU fish product.

Comment 14 (NET): In genera1, NET supports the Preferred Alternatives; the exceptions are noted below (Comments 15 and 16 of this FPEIS). NET is primarily concerned with the harvesting of Antarctic Marine Living Resources (AMLR) and the effects of harvesting on associated species, specifically the harvesting of Antarctic and Patagonian toothfish. While the DPEIS addresses all U.S. activities related to CCAMLR, our comments will focus on the toothfish fishery. The greatest threat to toothfish species is illegal, unreported and unregulated (IUU) fishing both within the CCAMLR Convention Area and in national EEZs. The primary role the United States plays in deterring IUU fishing is as an importing nation; U.S. participation in the fishery is very low. The United States is a leader among importing nations in implementing CCAMLR regulations intended to close ports to toothfish obtained through IUU means, and is also a leader in adopting unilateral regulations that are stronger than those adopted by CCAMLR. NET is pleased to see that the preferred alternatives related to toothfish imports either support or improve existing regu1ations.

Response and rationale for response: NMFS regulations are designed to prohibit imports of IUU products. The preferred alternatives related to toothfish imports would support and strengthen existing regulations to prohibit imports of IUU products.

Comment 15 (NET): Regarding toothfish harvesting in Subarea 48.3, NET does not support the Preferred Alternative, Alternative Al. As stated by members of the U.S. delegation at the 23rd meeting of CCAMLR and by other Member States, given the uncertainty surrounding the assessment of the toothfish fishery in Subarea 48.3, the only precautionary catch limit would be zero. The Scientific Committee of CCAMLR has been unable to recommend a precautionary catch limit for Subarea 48.3 because of mistakes in the assessment of the fishery. Initial reports from an intercessional workshop to resolve the errors indicate that the Scientific Committee will once again be unable to make a recommendation. A catch limit based on politics rather than on scientific recommendation is not precautionary and until the Scientific Committee can make such a recommendation, NET believes that the United States should adopt Alternative A4.

Response and rationale for response: NMFS prefers Alternative A1 because CCAMLR relies on its Scientific Committee to recommend catch limits based on the best scientific information available. The Scientific Committee provides this valuable information to the CCAMLR Commission. The catch limits are not based on politics, but rather on the best scientific information. NMFS has no additional information that would cause it to recommend that the United States object to harvest levels adopted by CCAMLR. If such information were to become available in the future, the United States could formally object to any CCAMLR adopted limit, and effectively adopt a zero catch limit (at that time, as envisioned in Alternative 4) for any U.S. vessels that may want to harvest toothfish in Subarea 48.3.

Comment 16 (NET): Regarding trawl fishing in CCAMLR Convention Area**,** NET does not support the Preferred Alternative, Alternative K1. In February 2004, a statement signed by 1,136 scientists was released that called for a ban on bottom trawling on the high seas in order to protect vulnerable deep-sea ecosystems such as seamounts and cold water coral. Scientists are just beginning to understand the diversity, vulnerability and importance of deep-sea systems. Given the destructive nature of bottom trawling and the emerging science demonstrating the importance of these ecosystems, NET believes that the United States should adopt alternative K4 and prohibit all U.S. bottom trawl fishing in all areas.

Response and rationale for response: NMFS recognizes the threats of commercial bottom trawling to important benthic habitat, especially seamounts and deep sea coral and sponge communities. At the 24th Meeting of CCAMLR held October 24, 2005 - November 4, 2005, the U.S, Delegation proposed that CCAMLR direct its Scientific Committee to consider the issue of bottom trawling and its effect on benthic habitat, including deep sea corals, in preparation for the 25th Meeting, October 23, 2006 -

November 3, 2006. CCAMLR agreed and asked the Scientific Committee to consider the issue of destructive fishing practices.

NMFS supports the prohibition on commercial bottom trawling where it has adverse impacts on vulnerable benthic areas, particularly deep sea coral and sponge communities. While mapping and monitoring of these areas in Convention waters is largely non-existent, NMFS would support a prohibition on U.S. commercial bottom trawl fishing in those areas where adverse impacts were expected. At this time, NMFS does not support Alternative K4 prohibiting U.S. bottom trawl fishing in all Convention areas. There have been no recent requests by U.S. harvesters to bottom trawl anywhere in Convention waters. Therefore, at this time NMFS prefers Alternative K1 to issue permits for trawl operations in accordance with CCAMLR conservation measures.

NMFS awaits discussions and action by CCAMLR Members at its 25th Meeting where this issue will be discussed.

Comment 17 (NSF): In accordance with the National Environmental Policy Act and Section 309 of the Clean Air Act, the National Science Foundation reviewed the DPEIS and believes that it provides an adequate discussion of the potential environmental impacts of these regulations. NSF has no objections to the proposed actions as discussed in the EIS. NSF suggested a small technical revision to the DPEIS referencing the Antarctic Conservation Act.

Response with rationale for response: NMFS is pleased that NSF has no objections and finds there is adequate discussion of the potential environmental impacts. NMFS has made the technical correction in referencing the Antarctic Conservation Act in this FPEIS.

Comment 18 (EPA): In accordance with the National Environmental Policy Act and Section 309 of the Clean Air Act, the Environmental Protection Agency reviewed the DPEIS and has no objections to the proposed action. EPA assigned a LO - Lack of Objections - rating to the DPEIS. EPA also had four issues they asked NMFS to clarify in the FPEIS.

Response with rationale for response: NMFS is pleased that EPA assigned its highest rating, LO, to the DPEIS (the other two EPA rating levels are EC - Environmental Changes - and EO - Environmental Objections). NMFS addresses the four issues (Comments 19, 20, 21, and 22) in the FPEIS that EPA requested NMFS clarify. These were: harvest levels for U.S. vessels; rationale for using 2000 krill data as pre-

exploitation level; rationale for range of catch limits; and rationale for 50 mt bycatch limit and requirement to move if limits are exceeded.

Comment 19 (EPA): The DPEIS appears to assess only the environmental impacts from the U.S. commercial harvest activities. Given the U.S. limited involvement in Antarctic fisheries, the DPEIS concludes the U.S. harvest levels are of minimal concerns. Based on the DPEIS, NMFS should clarify in the FPEIS that it is addressing only harvest rates of U.S. vessels.

Response with rationale for response: The DPEIS assesses the environmental impacts from both the U.S. commercial harvest activities and from the international harvest activities. U.S. fishing in Antarctic fisheries has been sporadic in the past and that these harvest levels are of minimal concerns; however, U.S. effort is evaluated against a backdrop of international effort, especially because the CCAMLR catch limits are international limits with no individual country allocations of catch. The DPEIS and FPEIS consider the impacts of alternatives on U.S. vessels and imports into the United States and, indirectly, on international harvests (both lawful CCAMLR harvests and IUU fishing).

Comment 20 (EPA): In developing modeling parameters to assess krill catch limits, the value for $\mathbf{B_0}$ (pre-exploitation of krill biomass) was developed from results of a study done in 2000. However, the DPEIS states that krill has been harvested in the survey area since at least 1994. Accordingly, we suggest that the FPEIS provide a rationale for using the 2000 data as "pre"exploitation levels.

Response with rationale for response: The estimate of precautionary yield is anchored to the most recent and accurate assessment of Antarctic krill in the Scotia Sea.
Because harvest rates continue to be low relative to the size of the fished resource, it was assumed by the Scientific Committee that an estimate of the current standing stock is equivalent to B_0 (see Hewitt et al. (2004).

Comment 21 (EPA): The DPEIS provides a range of alternatives that is based on either one half or twice the catch limits that are derived from fisheries independent (research surveys) and fisheries dependent data. The FPEIS should discuss the rationale for the use of these limits to bound the alternatives analysis.

Response with rationale for response: NMFS wanted to consider alternatives based on a wide range of harvest levels in order to accommodate potential future variations in harvest availability in the various assessed and exploratory fisheries. A range from zero to twice the decadal high accommodated this goal. Higher levels of catch are not anticipated and a zero harvest level is the most precautionary.

Comment 22 (EPA): The DPEIS states that the bycatch of species for which there is no catch limit in force is set at 50 metric tons (mt). In addition, the PEIS discusses how there will be requirements for vessels to move from an area for a specified period if bycatch limits are exceeded. The FPEIS should provide the rationale for the 50 mt catch limit and the requirements to move, if limits are exceeded.

Response with rationale for response: The setting of a 50 mt bycatch limit is a precautionary measure as is the requirements to move to another fishing area. Both are conservative levels and are designed to prevent harm to stocks for which there is insufficient information to set a catch limit. The 50 mt bycatch limit and "move along" provisions were recommended by the Scientific Committee and adopted by CCAMLR as Conservation Measure 33-02, and the United States adopted these measures.

8.3 Public Comment Letters

Copies of the four public comment letters appear below as well as a copy of EPA's NEPA EIS rating system criteria.

CENTER FOR BIOLOGICAL DIVERSITY

CALIFORNIA AND PACIFIC OFFICE

protecting endangered species and wild places through science, education, policy, and environmental law

Via Electronic Mail

August 15, 2005

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RE: Programmatic Environmental Impact Statement on Management of Antarctic Marine Living Resources within the area of the Convention on the Conservation of Antarctic Marine Living Resources ("CCAMLR").

Dear Mr. Gorrell:

On behalf of the Center for Biological Diversity and Turtle Island Restoration Network I submit the following comments regarding the Draft Programmatic Environmental Impact Statement on Codified Regulations at 50 C.F.R. Part 300 Subparts A and G Implementing Conservation and Management Measures Adopted by the Commission for the Conservation of Antarctic Marine Living Resources.

As an initial matter we are pleased that the National Marine Fisheries Service ("NMFS") is now making efforts to comply with the various statutes applicable to the management of resources within the area of the Convention on the Conservation of Antarctic Marine Living Resources ("CCAMLR"). In previous letters to NMFS dated September 18, 2003, December 31, 2003, and March 22, 2004 (incorporated by reference into these comments), we explained how our organizations believe that the current management of fisheries in the CCAMLR area and adjacent high seas pursuant to the Antarctic Marine Living Resources Convention Act of 1984 ("AMLRCA")(16 U.S.C.§ 2431 et seq.) and the High Seas Fishing Compliance Act of 1995 ("HSFCA")(16 U.S.C.§ 5501 et seq.) violates the National Environmental Policy Act ("NEPA") (42 U.S.C. § 4321 et seq.) and the Endangered Species Act ("ESA")(16 U.S.C.§ 1531 et seq.), as well as the Migratory Bird Treaty Act ("MBTA")(16 U.S.C. § 706 et seq.) and the Marine Mammal Protection Act ("MMPA") (16 U.S.C.§ 1361 et seq.). We are pleased that NMFS is planning on preparing a programmatic Environmental Impact Statement ("EIS") to analyze the significant effects

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of these ongoing and partially unregulated fisheries. Completion of such an EIS will go a long way towards remedying NMFS's ongoing violation of NEPA. We also understand that a similar parallel effort is being undertaken to prepare a programmatic biological opinion to address ESA compliance issues.

While we are pleased that NMFS is undertaking this necessary review under NEPA, we remain concerned that U.S. flagged vessels are currently operating or permitted to operate in the CCAMLR area without any such review. In our December 31, 2003 letter we explained how we believe the permitting of the vessels American Warrior and America No. 1 under AMLRCA and HSFCA was done in violation of NEPA and the ESA. It is our understanding that a similar permit was issued to a U.S. flagged vessel for krill harvesting. The issuance of these permits and the associated fishing activity violate both NEPA and the ESA's prohibition on making "irreversible and irretrievable commitments of resources" prior to compliance with NEPA. 42 U.S.C. § 4332(C)(v); 16 U.S.C. § 1536(a)(2) & (d); Conner v. Burford, 848 F.2d 1441, 1446 (9th Cir. 1988), cert. denied, 489 U.S. 1012 (1989). NMFS must suspend any current authorizations until the completion of a final programmatic EIS and biological opinion.

With regards to compliance with NEPA, it appears that the DEIS was not widely circulated among the organizations and individuals likely to have an interest in the subject matter. The list of agencies, organizations, and persons consulted, and to whom the copies of the EIS were sent (DEIS at 268) lists the Center for Biological Diversity as the only non-governmental organization receiving a copy of the DEIS. Numerous other organizations and individuals are actively working on issues covered by the DEIS, ranging from seabird conservation, illegal, unregulated, and unreported ("IUU") fishing, longline fisheries in general, and the toothfish fishery in particular. None of these organizations were apparently contacted about the DEIS. Similarly, the notice of the availability of the DEIS was not widely circulated. To our knowledge it only appeared in the EPA's weekly listing of agency EIS availability, with no description and buried among numerous other document listings. See 70 Fed. Reg. 38131 at 38132. NMFS did not issue a stand-alone Federal Register notice announcing its availability, mention it in the weekly FishNews email announcements, or even list it on the list of agency actions open for public comment at www.regulations.gov. If NMFS receives no additional comments on the DEIS from other NGOs it is likely simply because these organizations are unaware of the document's existence. To better comply with the spirit and letter of NEPA, NMFS should publish a notice in the Federal Register announcing the availability of the document and reopening the public comment period.

With regards to the substance of the NEPA analysis in the DEIS, we believe it is deficient in several respects. While the DEIS mentions the presence of numerous threatened seabirds in the action area (primarily albatrosses and petrels), and provides some discussion of their status, the DEIS fails to analyze the likely cumulative impacts of fisheries-related mortality to these species from longline and trawl fishing in their ranges. The DEIS simply concludes that interactions in the CCAMLR area are infrequent and that mitigation measures required by CCAMLR are generally effective at reducing bycatch (DEIS at 194-199). While this may be true, the DEIS largely ignores the fact that several of these species are considered threatened by the IUCN due in large part from mortality in longline fisheries for toothfish. While the likelihood of any individual vessel catching a rare or endangered albatross may be small, the role of U.S. flagged longline vessels, combined with

other nations' legal and illegal longline toothfish vessels must be looked at cumulatively for their impacts on seabirds- otherwise several albatross species face the likelihood of (to paraphrase a common metaphor) a death by a thousand hooks. The DEIS contains only two sentences on the population level effects of fisheries on imperiled birds:

> Due to the longevity of most seabirds and their reliance on high adult survival, rather than fecundity, to maintain a stable population, effects on the population are difficult to discern in the short term. Population level effects resulting from incidental mortality in fisheries have been suggested for several seabirds, including the Wandering albatross, Yellow-eyed penguin, White-chinned petrel, and African penguin.

DEIS at 194. A more thorough and meaningful analysis of these impacts is necessary if the EIS is to comply with NEPA.

The DEIS's analysis of impacts on marine mammals is similarly spotty at best. For example, in the "Affected Environment" section, the DEIS acknowledges the existence of three different forms of killer whales off Antarctica, including a form (possibly a unique species) that specializes in eating toothfish. DEIS at 105. However, elsewhere in the DEIS in its discussion of fisheries interactions with marine mammals, no mention is made of the distinct killer whales forms and the likely disproportionate impact longling fishing may be having on the toothfish eating form. Other problems with the DEIS's treatment of marine mammals is discussed below in the section on ESA and MMPA compliance.

The DEIS's analysis of the toothfish fishery itself is problematic. Given that the toothfish fishery is the most significant in terms of both monetary value and environmental impacts in the CCAMLR area, details on and analysis of the global fishery and trade in toothfish should be covered comprehensively in the DEIS. Instead, the DEIS devotes a scant two and a half pages to describing primarily the life history of the two toothfish species. For the Patagonian toothfish, the DEIS acknowledges that "where reliable data exist, reduced CPUE and clear population declines have been show." DEIS at 89. This subject should be the focal point of the DEIS rather than simply be mentioned with no analysis in a single sentence.

The most glaring NEPA deficiency with regard to the regulatory scheme analyzed in the DEIS is the utter failure to analyze the effects of the importation by, and consumption of toothfish in the U.S. The U.S. imports a significant portion of the global toothfish harvest. The DEIS does not analyze the environmental consequences to toothfish stocks or to species incidentally caught in the toothfish fishery (e.g. seabirds and marine mammals) that occur as a result of the demand created by the U.S. market. The DEIS should have included an alternative in which toothfish imports were banned entirely until and unless bycatch could be reduced and toothfish stocks recovered. Even if not adopted or labeled the preferred alternative, such an alternative would have been useful to show the true environmental consequences of the regulatory scheme. Equally significant, the DEIS fails to address the human health impacts from the consumption of toothfish in the U.S. A 2003 survey carried out by the San Francisco Chronicle determined that toothfish for sale in U.S. markets

contained unsafe levels of mercury.[1] The survey found an average of 68.1 micrograms of mercury in a single six once serving of toothfish, or about one and three quarters times the EPA safe level for weekly consumption. The negative health effects of mercury are well established. Any NEPA document addressing a regulatory scheme for the importation of seafood products containing high levels of mercury must disclose and analyze these health effects, the societal costs from such effects, and the environmental and health benefits of prohibiting the importation of such a tainted product. The failure to do so renders the DEIS infirm.

The DEIS's treatment of marine mammals, particularly those listed under the ESA, is especially problematic. The primary ESA-listed marine mammal likely to be affected by CCAMLR fisheries is the sperm whale. The DEIS is inconsistent in its discussion of the sperm whale. In the section dealing with regulatory compliance, the DEIS states that "the conclusion from the discussion of alternatives is the alternatives have insignificant degrees of impact, if any, on listed species." DEIS at 257. This is completely contradicted in its discussion of sperm whale interactions with toothfish vessels. The DEIS acknowledges that interactions with sperm whales are frequent and occasionally lethal.

> A 2004 report by the CCAMLR scientific observer on board a U.S. longline vessel recorded interactions between sperm whales throughout the fishing season, citing 2-4 whales normally present during each haul. In comments annotating the report, the observer noted two possible sperm whale mortalities and assessed the impact of the fishery on sperm whales as negligible overall.

DEIS at 187 (emphasis added). If two "possible sperm whale mortalities" were observed on a single U.S. flagged vessel operating in a single season, there is no way the DEIS could credibly conclude that that regulations authorizing U.S. longline fishing vessels in CCAMLR waters for the foreseeable future have "insignificant degrees of impact, if any, on listed species." DEIS at 257.[2]

In addition to the NEPA problems associated with this schizophrenic treatment of impacts on sperm whales, further authorization of any longline fishing in CCAMLR waters would violate the ESA and MMPA. As we have described in our previous letters and comments, NMFS's issuance of AMLRCA and HSFCA permits to two U.S. flagged longline vessels violated Section 7 of the ESA, 16 U.S.C. § 1536(a)(2). Given the information on "possible sperm whale mortalities" from one of these vessels contained in the DEIS, it appears NMFS violated Section 9 of the ESA as well, 16 U.S.C. § 1538. While NMFS may be able to correct its Section 7(a)(2) violation with a programmatic biological opinion that addresses the entirety of the agency action (i.e. the regulations and all authorized fishing activity), we believe that Section 9 precludes the agency from issuing any

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[1] S.F. Chronicle November 23, 2003, available at: http://sfgate.com/cgi-bin/article.cgi?f=/c/a/2003/11/23/MNGIO394FI1.DTL&hw=mercury+sea+bass&sn=001&sc=1000

[2] Even if the "two possible sperm whale mortalities" were spread throughout the entire fishery, rather than on a single U.S. vessel, the impacts would still be significant, the observer's claim of impacts being "negligible overall" notwithstanding.

further permits to toothfish longline vessels until and unless NMFS receives authorization for such take pursuant to both the ESA and MMPA.

Under Section 101(a)(5)(E) of the MMPA, NMFS can in certain circumstances authorize the incidental take of ESA-listed marine mammals. 16 U.S.C. § 1371(a)(5)(E). However, we believe the MMPA criteria currently preclude NMFS from authorizing such take. Specifically, Section 101(a)(5)(E)(i)(III) requires that a recovery plan for the species "has been developed or is being developed." No such plan exists for the sperm whale. Nor is any such plan "being developed." In its most recent Biennial Report to Congress on the Recovery Program for Threatened and Endangered Species, released in July, 2005, NMFS acknowledged as much. See Report, Table 1 at p. 6 (chart showing "none" for sperm whale recovery plan status- species for which plans are being developed are listed as "under development"). Until and unless NMFS develops a recovery plan for the sperm whale, and issues an authorization under Section 101(a)(5)(E), no take of sperm whales may be allowed. Because authorization of toothfish longlining will lead to such take, NMFS cannot lawfully authorize such fishing whether it be by permit or regulation. As such, NMFS should promulgate regulations banning all such longlining.

Any authorization of longline fishing would also violate the MBTA. Section 2 of the MBTA provides that "it shall be unlawful at any time, by any means or in any manner," to, among many other prohibited actions, "pursue, hunt, take, capture, [or] kill" any migratory bird included in the terms of the treaties. 16 U.S.C. § 703 (emphasis added). The term "take" is defined as to "pursue, hunt, shoot, wound, kill, trap, capture, or collect." 50 C.F.R. § 10.12 (1997). Numerous seabirds likely killed by the fishery are included in the list of migratory birds protected by the MBTA. See 50 C.F.R. § 10.13 (list of protected migratory birds). The MBTA imposes strict liability for killing migratory birds, without regard to whether the harm was intended. Its scope extends to harm occurring "by any means or in any manner," and is not limited to, for example, poaching. See e.g., U.S. v. Moon Lake Electric Association, 45 F. Supp. 2d 1070 (1999) and cases cited therein. Indeed, the federal government itself has successfully prosecuted under the MBTA's criminal provisions those who have unintentionally killed migratory birds. See, e.g., U.S. v. Corbin Farm Service, 444 F. Supp. 510, 532-534 (E. D. Cal.), affirmed, 578 F.2d 259 (9th Cir. 1978); U.S. v. FMC Corp., 572 F.2d 902 (2nd Cir. 1978). The MBTA applies to federal agencies such as NMFS as well as private persons. See Humane Society v. Glickman, No. 98-1510, 1999 U.S. Dist. LEXIS 19759 (D.D.C. July 6, 1999)), affirmed, Humane Society v. Glickman, 217 F.3d 882, 885 (D.C. Cir. 2000)("There is no exemption in § 703 for farmers, or golf course superintendents, or ornithologists, or airport officials, or state officers, or federal agencies."). Following Glickman, FWS issued Director's Order No. 131, confirming that it is FWS's position that the MBTA applies equally to federal and non-federal entities, and that "take of migratory birds by Federal agencies is prohibited unless authorized pursuant to regulations promulgated under the MBTA." MBTA Section 3 authorizes the Secretary of the Interior to "determine when, to what extent, if at all, and by what means, it is compatible with the terms of the conventions to allow hunting, take, capture, [or] killing . . . of any such bird." 16 U.S.C. § 704. FWS may issue a permit allowing the take of migratory birds if consistent with the treaties, statute and FWS regulations. NMFS however has not obtained, much less applied for such a permit authorizing any take by the toothfish longline fishery (or any other CCAMLR fishery).

NMFS cannot dispute that the longline fisheries for toothfish will kill birds protected under the MBTA. We believe that until such take is permitted, NMFS cannot lawfully allow any fishing that is likely to result in the death of such species. With regard to other fisheries (e.g. Hawaii longline), NMFS has claimed that the MBTA does not apply beyond the 3 nautical mile territorial sea of the U.S and therefore it need not comply on the high seas. This is simply wrong. As NMFS is or should be aware, in 2001 an Interior Solicitor's Opinion concluded that the MBTA does in fact apply beyond the territorial sea of the U.S. Moreover, and determinatively, in the regulations implementing AMLARCA, NMFS itself acknowledges that the MBTA applies in CCAMLR waters.

> The Marine Mammal Protection Act of 1972 (16 U.S.C. 1361 et seq.), the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), the Migratory Bird Treaty Act (16 U.S.C. 701 et seq.), and their implementing regulations also apply to the harvesting and importation of AMLRs.

50 C.F.R. § 300.102(c). Any new conclusion to the contrary will not survive legal scrutiny.

In our previous letters to NMFS, as well as in our scoping comments on the current NEPA process, we raised our concern that under its current practice, NMFS has issued, and apparently will continue to issue permits to individuals and entities that have been associated with illegal fishing or illegal importation of toothfish. For example, the owner of the previously permitted longline vessels American Warrior and America No. 1, Seaport Management Services LLC, is an affiliate of Pac-Fish, Inc. which has been linked to the importation of illegally harvested toothfish. See U.S. v. A Certain Quantity of Patagonian Toothfish, 02-CV-10319-MLW (D. Mass.). Nevertheless, NMFS issued AMLRCA and HSFCA permits to these vessels. Following delays in getting further AMLRCA permits related to NMFS's belated attempts to comply with NEPA, one of these vessels, the America No. 1, subsequently reflagged to Honduras and was seized by the French Navy for illegal fishing. NMFS's knowing facilitation of this illegal fishing runs completely counter to the spirit and letter of AMLRCA, the HSFCA, and the treaties these statutes were intended to implement. In scoping we requested that the EIS should specifically analyze whether any changes to NMFS's current regulations are necessary to prevent a recurrence of such a scenario. Unfortunately, the DEIS and the preferred alternatives therein show little sign that NMFS is serious about complying with its international obligations to reduce IUU fishing. We hope the FEIS and any accompanying regulations show otherwise.

Thank you for the opportunity to comment. We will provide further comments on the FEIS and any proposed rule if and when they are released. Please put us on the mailing list for any further activities related to this EIS and any permits or authorizations applied for or issued pursuant to AMLRCA and the regulations promulgated there under.

Sincerely,
/s/
Brendan Cummings
Marine Biodiversity Program Director
Center for Biological Diversity

www.net.org
NET
National Environmental Trust

August 15, 2005

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

Re: Draft Programmatic Environmental Impact Statement (DPEIS) 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

Dear Mr. Gorrell:

The National Environmental Trust (NET) appreciates this opportunity to submit comments on the above, and commends NMFS for preparing this DPEIS. In general, NET supports the Preferred Alternatives; the exceptions are noted below.

NET is primarily concerned with the harvesting of Antarctic Marine Living Resources (AMLR) and the effects of harvesting on associated species, specifically the harvesting of Antarctic and Patagonian toothfish. While the DPEIS addresses all US activities related to CCAMLR, our comments will focus on the toothfish fishery. The greatest threat to toothfish species is illegal, unreported and unregulated (IUU) fishing both within the CCAMLR Convention Area and in national EEZs. The primary role the US plays in deterring IUU fishing is as an importing nation; US participation in the fishery is very low. The US is a leader among importing nations in implementing CCAMLR regulations intended to close ports to toothfish obtained through IUU means, and is also a leader in adopting unilateral regulations that are stronger that those adopted by CCAMLR. NET is pleased to see that the preferred alternatives related to toothfish imports either support or improve existing regulations.

Regarding **toothfish harvesting in Subarea 48.3**, NET does not support the Preferred Alternative, Alternative A1. As stated by members of the United States delegation at the 23rd meeting of CCAMLR and by other Member States, given the uncertainty surrounding the assessment of the toothfish fishery in Subarea 48.3, the only precautionary catch limit would be zero. The Scientific Committee of CCAMLR has been unable to recommend a precautionary catch limit for Subarea 48.3 because of mistakes in the assessment of the fishery. Initial reports from an intersessional workshop

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to resolve the errors indicate that the Scientific Committee will once again be unable to make a recommendation. A catch limit based on politics rather than on scientific recommendation is not precautionary and until the Scientific Committee can make such a recommendation, NET believes that the United States should adopt Alternative A4.

Regarding **trawl fishing in CCAMLR Convention Area**, NET does not support the Preferred Alternative, Alternative K1. In February 2004, a statement signed by 1,136 scientists was released that called for a ban on bottom trawling on the high seas in order to protect vulnerable deep-sea ecosystems such as seamounts and cold water coral. Scientists are just beginning to understand the diversity, vulnerability and importance of deep-sea systems. Given the destructive nature of bottom trawling and the emerging science demonstrating the importance of these ecosystems, NET believes that the United States should adopt Alternative K4 and prohibit all U.S. bottom trawl fishing in all areas.

Again, we appreciate the opportunity to comment on this DPEIS and look forward to working with you in the future on other Antarctic marine living resources issues.

Sincerely,

Mark Stevens
Campaign Manager
Chilean Sea Bass

NATIONAL SCIENCE FOUNDATION
4201 Wilson Boulevard
ARLINGTON, VIRGINIA 22230

OFFICE OF POLAR PROGRAMS

August 15, 2005

Mr. Robert Gorrell
Fishery Management Officer
Office of Sustainable Fisheries-SF3
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

Dear Mr. Gorrell:

In accordance with National Environmental Policy Act and Section 309 of the Clean Air Act, the National Science Foundation has reviewed the National Marine Fisheries Service/NOAA Draft Programmatic Environmental Impact Statement (DPEIS) on Codified Regulations at 50 CFR 300 Subparts A and G Implementing Conservation and Management Measures Adopted by the Commission for the Conservation of Antarctic Marine Living Resources.

The National Science Foundation believes that this EIS provides an adequate discussion of the potential environmental impacts of these regulations. Therefore, the National Science Foundation has no objections to the proposed actions as discussed in this EIS.

A small technical comment is enclosed for consideration.

We appreciate the opportunity to review this Draft EIS.

Sincerely,

Karl A. Erb
Director
Office of Polar Programs

Encl.

Attachment:

Page 48, last paragraph, reference to the Antarctic Conservation Act

The current wording is technically incorrect; below is the correct reference to the Antarctic Conservation Act

(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...

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 15 2005

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

Robert Gorell
Fishery Management Officer
Office of Sustainable Fisheries- SF3
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

Dear Mr. Gorell :

In accordance with our responsibilities under Section 309 of the Clean Air Act and the National Environmental Policy Act (NEPA), the Environmental Protection Agency (EPA) has reviewed the National Marine Fisheries Service's (NMFS) Draft Programmatic Environmental Impact Statement (PEIS) 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 (CEQ # 20050268). Based on our review of the DPEIS, EPA has no objections to the proposed action. However, the enclosure identifies a few issues that we suggest be clarified in the FPEIS.

We appreciate the opportunity to review this DPEIS. We look forward to reviewing future documents related to this proposed action. The staff contact for this review is Matthew Harrington and he can be reached at (202) 564-7148.

Sincerely,

Anne Norton Miller
Director
Office of Federal Activities

Comments for Clarification in the Final EIS

1.) The DPEIS appears to assess only the environmental impacts from the U.S. commercial harvest activities. Given the United States limited involvement in Antarctic fisheries, the DPEIS concludes the U.S. harvest levels are of minimal concern. Based on the DPEIS, NMFS should clarify in the FPEIS that it is addressing only harvest rates of U.S. vessels.

2.) In developing modeling parameters to assess krill catch limits, the value for $\mathbf{B_0}$ (pre-exploitation of krill biomass) was developed from results of a study done in 2000. However, the DPEIS states that krill has been harvested in the survey area since at least 1994. Accordingly, we suggest that the FPEIS provide a rationale for using the 2000 data as "pre" exploitation levels.

3.) The DPEIS provides a range of alternatives that is based on either one half or twice the catch limits that are derived from fisheries independent (research surveys) and fisheries dependent data. The FPEIS should discuss the rationale for the use of these limits to bound the alternatives analysis.

4.) The DPEIS states that the bycatch of species for which there is no catch limit in force is set at 50 metric tons (mt). In addition, the PEIS discusses how there will be requirements for vessels to move from an area for a specified period if bycatch limits are exceeded. The FPEIS should provide the rationale for the 50 mt catch limit and the requirements to move, if limits are exceeded.

cc: Steve Kokkinakis, NOAA Office of Strategic Planning
John Hansel, NMFS Office of Sustainable Fisheries

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Obtaining Environmental Impact Statements

EPA Comments on Environmental Impact Statements

EPA Compliance with NEPA

Environmental Impact Statement (EIS) Rating System Criteria

EPA has developed a set of criteria for rating draft EISs. The rating system provides a basis upon which EPA makes recommendations to the lead agency for improving the draft EIS.

- Rating the Environmental Impact of the Action
- Rating the Adequacy of the Draft Environmental Impact Statement (EIS)

RATING THE ENVIRONMENTAL IMPACT OF THE ACTION

- **LO (Lack of Objections)** The review has not identified any potential environmental impacts requiring substantive changes to the preferred alternative. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposed action.

- **EC (Environmental Concerns)** The review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact.

- **EO (Environmental Objections)** The review has identified significant environmental impacts that should be avoided in order to adequately protect the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). The basis for environmental Objections can include situations:

    1. *Where an action might violate or be inconsistent with achievement or maintenance of a national environmental standard;*

    2. *Where the Federal agency violates its own substantive environmental requirements that relate to EPA's areas of jurisdiction or expertise;*

    3. *Where there is a violation of an EPA policy declaration;*

    4. *Where there are no applicable standards or where applicable standards will not be violated but there is potential for significant environmental degradation that could be corrected by project modification or other feasible alternatives; or*

    5. *Where proceeding with the proposed action would set a precedent for future actions that collectively could result in significant environmental impacts.*

- **EU (Environmentally Unsatisfactory)** The review has identified adverse environmental impacts that are of sufficient magnitude that EPA believes the proposed action must not proceed as proposed. The basis for an environmentally unsatisfactory determination consists of identification of environmentally objectionable impacts as defined above and one or more of the following conditions:

    1. *The potential violation of or inconsistency with a national environmental standard is substantive and/or will occur on a long-term basis;*

    2. *There are no applicable standards but the severity, duration, or geographical scope of the impacts associated with the proposed action warrant special attention; or*

    3. *The potential environmental impacts resulting from the proposed action are of national importance because of the threat to national environmental resources or to environmental policies.*

Return to Top

RATING THE ADEQUACY OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS)

- **1 (Adequate)** The draft EIS adequately sets forth the environmental impact (s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

- **2 (Insufficient Information)** The draft EIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the proposal. The identified additional information, data, analyses, or discussion should be included in the final EIS.

- **3 (Inadequate)** The draft EIS does not adequately assess the potentially significant environmental impacts of the proposal, or the reviewer has identified new, reasonably available, alternatives, that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. The identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. This rating indicates EPA's belief that the draft EIS does not meet the purposes of NEPA and/or the Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS.

SECTION 9.0 LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS CONSULTED AND OTHER PARTIES TO WHOM COPIES OF THE EIS WILL BE SENT

Department of State, National Science Foundation, Environmental Protection Agency, U.S. Fish and Wildlife Service, Marine Mammal Commission, Center for Biological Diversity, Turtle Island Restoration Network, National Environmental Trust

SECTION 10.0 LITERATURE CITED/REFERENCES

10.1. LITERATURE CITED/REFERENCES for Sections 2.1 (ALTERNATIVES - Harvesting Controls) **and 4.1** (ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES CONSIDERED - Controls on Harvesting):

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10.5. LITERATURE CITED/REFERENCES for Section 3.4.b. (DESCRIPTION OF AFFECTED ENVIRONMENT, Potential Fishery Interactions with Protected Species in the Convention Area (including those under the Endangered Species Act and Marine Mammal Protection Act) -- Seabirds)

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10.6. LITERATURE CITED/REFERENCES for Section 3.4.c. (DESCRIPTION OF AFFECTED ENVIRONMENT, Potential Fishery Interactions with Protected Species in the Convention Area (including those under the Endangered Species Act and Marine Mammal Protection Act) -- Pinnipeds)

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SECTION 11.0 ACRONYMS and ABBREVIATIONS

ACC -- Antarctic Circumpolar Current

ACZ -- Antarctic Convergence Zone

AMLR -- Antarctic Marine Living Resources

AMLRCA -- Antarctic Marine Living Resources Convention Act of 1984

ASPA -- Antarctic Specially Protected Areas

ATCM -- Antarctic Treaty Consultative Meeting

BNS -- Bonaerensis-northpatagonic stock (Argentine shortfin squid)

CCAMLR -- Commission for the Conservation of Antarctic Marine Living Resources

CCAMLR Scheme -- CCAMLR Scheme of International Scientific Observation

CCAS -- Convention on the Conservation of Antarctic Seals

CDS – Catch Documentation Scheme

CEMP -- CCAMLR Ecosystem Monitoring Program

CEP – CCAMLR Committee for Environmental Protection

CITES -- Convention to Control International Trade in Endangered Species of Wild Fauna and Flora

CM – CCAMLR Conservation Measure

Convention -- Convention on the Conservation of Antarctic Marine Living Resources

Convention Area – CCAMLR Convention Area

CPUE -- catch-per-unit-effort

CV -- coefficient of variability

C-VMS -- Centralized Vessel Monitoring System

DCD -- Dissostichus Catch Document

DPEIS -- Draft Programmatic Environmental Impact Statement

DOS – The Department of State

EA – Environmental Assessment

E-CDS -- Electronic Catch Documentation Scheme

EEZs – Exclusive Economic Zones

EFH – Essential Fish Habitat

ESA -- Endangered Species Act

FAO -- Food and Agricultural Organization

FPEIS -- Final Programmatic Environmental Impact Statement

FWS -- U.S. Fish and Wildlife Service

GYM -- Generalized Yield Model

HSFCA – High Seas Fishing Compliance Act

HTS -- Harmonized Tariff Schedule of the United States Annotated

IDCR -- International Decade of Cetacean Research

IUCN -- World Conservation Union or the International Union of the Conservation of Nature

IUU -- Illegal, Unregulated, and Unreported fishing

IW -- Integrated Weight

IWC -- International Whaling Commission

JAG - Joint Assessment Group

JSV -- Japanese Sighting Vessel

Kg – kilogram(s)

LES - land-earth station receiving and sending VMS data

MARPOL -- International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978

MMPA -- Marine Mammal Protection Act

Mt – metric ton(s)

NEPA -- National Environmental Policy Act

NMFS -- National Marine Fisheries Service

NOAA – National Oceanic and Atmospheric Administration

RFMOs -- Regional Fishery Management Organizations

SBS -- southern Brazil stock (Argentine shortfin squid)

SC -- Scientific Committee

SCAR -- Scientific Committee on Antarctic Research

SCIC -- CCAMLR Standing Committee on Implementation and Compliance

SPFZ -- South Polar Front Zone

SPS -- South Patagonic Stock (Argentine shortfin squid)

SSRUs -- Small Scale Research Units

SSS -- summer-spawning stock (Argentine shortfin squid)

SST -- sea surface temperature

TAC – Total Allowable Catch

VMS – Vessel Monitoring System

WG-FSA -- Working Group on Fish Stock Assessment

WG-IMAF --Working Group on Incidental Mortality Associated with Fishing

WG-IMALF --Working Group on Incidental Mortality Arising from Longline Fishing