

Appendix II. Regulations In Effect For Reducing Seabird Bycatch In Longline Fisheries. Compiled by K. Rivera 2001, National Marine Fisheries Service, Office of Protected Resources, Juneau, AK, *Kim.Rivera@noaa.gov*. (Table adapted from Table 11 in Brothers, N.P., J. Cooper, S. Lokkeborg, 1999, "The Incidental Catch of Seabirds by Longline Fisheries: Worldwide Review and Technical Guidelines for Mitigation", FAO Fisheries Circular, No. 937, Rome.)

COUNTRY/ CONVENTION/ REGION	APPLICABILITY	DEMERSAL OR PELAGIC?	DOMESTIC (EEZ) OR FOREIGN? OBSERVER COVERAGE?	REGULATIONS	OTHER COMPONENTS OF BYCATCH REDUCTION PROGRAM
Australia ¹	In 1995, in Australian Fishing Zone (AFZ), south of 30S Revised in 2001	Pelagic (tuna) Same	Foreign EEZ and Foreign	Bird scaring lines In Southern waters (south of 30°S): 1) Tori pole apparatus is attached to boat for each point that hooks enter the water, 2) Sets must occur between nautical dusk on one day and before nautical dawn on the following day, 3) Thawed baits must be used, 4) Exemptions may apply to those holding scientific permits (for testing alternative seabird measures), for vessels less than 20 m. In Northern waters (north of 30°S): 1) Same tori pole apparatus as above, 2) Same exemptions as above. For Australian (domestic) vessels and foreign vessels in AFZ: 1) No discharge of offal while crew is setting or hauling gear, unless exempted as above, 2) If it's not practical to store offal until the crew has finished hauling, offal may be discharged during hauling while the vessel is not under way and from the opposite side of the vessel to that where the line is being hauled.	<ul style="list-style-type: none"> • Outreach, workshops, booklets • Seabird bycatch data collected by observers on foreign vessels • Estimations of seabird bycatch • Research
Japan ²	1997 (for bird line)	Pelagic (tuna)	Distant water, offshore, and nearshore small vessels	<ol style="list-style-type: none"> 1) Use bird scaring line (tori-pole/streamer). 2) Every effort should be made to release the birds caught alive on the vessels and, if possible, remove hooks so that birds may not be harmed. 3) Disposal of offal from the vessels during line setting should be avoided as much as possible. In unavoidable cases, methods to divert the attention of seabirds from the baited hooks (such 	<ul style="list-style-type: none"> • Outreach, booklets, waterproof pamphlets, seminars for fishers • Research to

			<p>as setting the line from the opposite end) should be employed.</p> <p>4) One or more of the following avoidance measures should be applied, taking into account the situation of seabirds gathering and sea conditions:</p> <ol style="list-style-type: none"> night line-setting in baiting, the use of weighted branch line or cone which sink as speedily as possible after line setting, the use of automatic bait casting machines, the use of properly thawed baits. 	<p>improve effectiveness of tori-pole, use of stimulant devices such as noise and light to scare birds away</p>
		Pacific area north of 20N	<ol style="list-style-type: none"> Same as 2) and 3) above. Same as 4) above, adding use of bird-scaring line as one of the options. The bird scaring line (tori-pole/streamer) is used to avoid the catch of seabirds during line setting, on tagging of impediments such as buoys or wooden boards on the sea surface where the baits are sunk. 	
		Areas within 20nm from the coast of Torishima, from October to May	<ol style="list-style-type: none"> Two or more of the selective avoidance measures from above are implemented. 	
		Other longline fishing operations in the Japanese coastal/offshore areas (EEZ)	<ol style="list-style-type: none"> Same as 2) and 3) above (for the distant water fleet). When operations take place from October to May within 20 nm from coast of Torishima, two or more of the following list of avoidance measures are implemented, taking into consideration the situation of seabirds and sea conditions: <ol style="list-style-type: none"> the use of bird-scaring lines (tori-pole/streamer) or tagging of impediments such as buoys or wooden board on the sea surface where the baits are sunk in order to avoid seabirds from taking baits on the hook, night line-setting, use of weighted branch line or cone that sink as speedily as possible after line setting, use of automatic bait casting machines, and use of properly thawed bait. 	
		All fisheries.	<p>The central government requests that information be collected when the incidental catch of seabirds occurs.</p>	

New Zealand ³	1993	Pelagic (tuna)	EEZ and foreign chartered vessels in EEZ	<ol style="list-style-type: none"> 1) Approved seabird scaring device to be used at all times, day or night, 2) Minimum standard for seabird scaring device is a CCAMLR-designed streamer line (see CCAMLR entry); fishers may add to that design; weight or buoy at the end of the streamer line is optional 3) Seabird-scaring device must be made available for inspection by appointed scientific observer 4) Alternative seabird-scaring devices will be considered on an individual vessel basis 	<ul style="list-style-type: none"> • Fishery Advisory Officer that works one-on-one with vessel skippers on effective use of mitigation measures • Host of International Fishers Forum • Outreach, mailings • Research on seabirds and on improved mitigation measures & gear
South Africa ⁴	1998	Demersal (hake)	<p>Longline permit holders east of 20E (offshore, south and east coast)</p> <p>Observer coverage about 15%</p>	<ol style="list-style-type: none"> 1) Must be able to accommodate an observer, upon request, 2) A record of the numbers and species of all seabirds killed shall be kept on a daily basis; where species identification is uncertain, heads shall be kept and given to the Fishery Control Officer on landing, 3) Not more than 20,000 hooks may be deployed per day 4) Set only during hours of darkness and gear deployment should cease at least one hour before nautical dawn. 5) Both main line and branch lines (snood) must be properly weighted and setting speed must be such that sinking rates are maximized. 6) Dumping of offal must be minimized. Offal dumping shall take place on the opposite side of the vessel from that on which lines are hauled; No dumping of offal may take place during setting. 7) No hooks, lines or plastics may be discarded. All fishing hooks must be removed from offal. All fishing hooks must be removed from discards before these are dumped, except where the removal of hooks from live discards (e.g., sharks) may endanger the safety of the crew or be detrimental to the survival of the animals. 8) Deck lighting should be kept to a minimum, without compromising safety. All deck lights should be shaded so that 	

		Pelagic (tuna)	<p>Inshore permit conditions</p> <p>Permit holders</p> <p>Observer coverage about 20%</p>	<p>the beam is directed down towards the deck.</p> <p>9) An approved streamer line (tori line) must be flown during setting of each longline. The streamer must be deployed directly above the main line, unless two streamers are used, in which case they must be deployed on either side of the main line.</p> <p>10) Discarding of any longline gear at sea is prohibited, and permit holders shall attempt to recover all longline gear loss during fishing operations at sea.</p> <p>Same as for the offshore demersal permit holders, but no more than 5,000 hooks may be deployed per day.</p> <p>1) Use a tori pole and bird line during setting of gear. 2) See 3), 4), and 9) for the offshore demersal permit holders. 3) No hooks may be discarded; all hooks must be removed from offal and fish by-catch before these are dumped. 4) Unless exempted, whole specimens or heads and feet of all seabirds killed in the EEZ of South Africa must be returned to port for identification and examination. Records shall be kept of all birds killed during longline operations, including the numbers killed and species identified. 5) All information contained on bands recovered from seabirds must be reported.</p>	
United Kingdom ⁵	Enacted ?	Demersal	<p>Outer fishing zone of Falkland Islands/ Malvinas</p> <p>Observer coverage required on vessels licensed in Falkland Waters</p>	<p>Bird-scaring line (weighted lines, night setting if instructed specifically)</p>	
US—Alaska ⁶	Federal fisheries permit holder in Bering Sea/Aleutian Islands or Gulf of Alaska	Demersal	<p>EEZ</p> <p>Observer coverage is</p>	<p>(1) All permitted longline vessels must: (a) Use hooks that when baited, sink as soon as they are put in the water; (b) If offal is discharged while gear is being set or hauled, it must be discharged in a manner that distracts seabirds from baited hooks, to the extent practicable. The discharge site on</p>	<ul style="list-style-type: none"> • Free streamer lines • Outreach, information bulletins, mailings,

	groundfish fisheries (since 1997) and Pacific halibut fisheries (since 1998); revisions will be proposed in 2001		100% of fishing days on groundfish vessels ≥ 125 ft LOA (length overall); 30% of fishing days each calendar quarter for vessels >60 & <125 ft LOA	board a vessel must be either aft of the hauling station or on the opposite side of the vessel from the hauling station; (c) Make every reasonable effort to ensure that birds brought on board alive are released alive and that wherever possible, hooks are removed without jeopardizing the life of the birds. (2) For a vessel greater than or equal to 26 feet (7.9 m) LOA, the operator of that vessel must employ one or more of the following seabird avoidance measures: (a) Tow a streamer line or lines during deployment of gear to prevent birds from taking hooks; (b) Tow a buoy, board, stick or other device during deployment of gear, at a distance appropriate to prevent birds from taking hooks. Multiple devices may be employed; (c) Deploy hooks underwater through a lining tube at a depth sufficient to prevent birds from settling on hooks during deployment of gear; or (d) Deploy gear only during the specified hours (based on nautical twilight), using only the minimum vessel's lights necessary for safety.	workshops, seminars, website <ul style="list-style-type: none"> Seabird bycatch data collected by observers Estimations of seabird bycatch Research on mitigation measures and their improved effectiveness
US---Hawaii'	Any vessel with a Hawaii longline limited access permit using longline gear north of 23°N; enacted in 2001	Pelagic swordfish and tuna		1) Prohibited from using longline gear to fish or target for swordfish north of the equator (primary purpose to avoid turtle interactions) 2) Use thawed, blue-dyed bait 3) Discharge offal on the opposite side of the vessel from where the longline is being set or hauled (to distract birds); 4) Remove all hooks from offal prior to discharging offal 5) When making shallow sets (targeting swordfish or mixed species) north of 23°N, to set the longline at least one hour after sunset and complete the setting process by sunrise, using only the minimum vessel lights necessary; 6) When making deep sets (targeting tuna) north of 23°N., to employ a line setting machine with weighted branch lines (at least 45g to each branch line within 1m of the hook); 7) Follow certain handling techniques to increase the likelihood that any short-tailed albatross brought onboard the vessels alive is released in a manner that ensures its long-term survival; and 8) Complete a protected species educational workshop conducted by NMFS.	<ul style="list-style-type: none"> Outreach, workshops, seminars Seabird bycatch data collected by observers Estimations of seabird bycatch Research
CCAMLR ⁸	Beginning in 1992, CCAMLR member	Demersal (Patagonian toothfish)	CCAMLR waters, except for	1) Fishing operations shall be conducted in such a way that the baited hooks sink as soon as possible after they are put in the water. Only thawed bait shall be used.	<ul style="list-style-type: none"> Outreach, booklets Seabird

	countries with vessels fishing in CCAMLR waters		waters adjacent to the Kerguelen and Crozet Islands and the waters adjacent to the Prince Edward Islands.	<p>2) For vessels using the Spanish method of longline fishing, weights should be released before line tension occurs; weights of at least 8.5 kg mass shall be used, spaced at intervals of no more than 40 m, or 6 kg mass shall be used, spaced at intervals of no more than 20 m.</p> <p>3) Longlines shall be set at night only (i.e. during the hours of darkness between the times of nautical twilight). During longline fishing at night, only the minimum ship's lights necessary for safety shall be used.</p> <p>4) The dumping of offal is prohibited while longlines are being set. The dumping of offal during the haul shall be avoided. Any such discharge shall take place only on the opposite side of the vessel to that where longlines are hauled.</p> <p>5) Vessels that are so configured to lack on-board processing facilities or adequate capacity to retain offal on board, or the ability to discharge offal on the opposite side of the vessel to that where longlines are hauled, shall not be authorized to fish in the Convention Area.</p> <p>6) A streamer line designed to discourage birds from settling on baits during deployment of longlines shall be towed. Specification of the streamer line and its method of deployment is given in the appendix to this measure. Details of the construction relating to the number and placement of swivels may be varied so long as the effective sea surface covered by the streamers is no less than that covered by the currently specified design. Details of the device dragged in the water in order to create tension in the line may also be varied.</p> <p>7) Other variations in the design of streamer lines may be tested on vessels carrying two observers, at least one appointed in accordance with the CCAMLR Scheme of International Scientific Observation, providing that all other elements of this conservation measure are complied with.</p> <p>8) Every effort should be made to ensure that birds captured alive during longlining are released alive and that wherever possible hooks are removed without jeopardizing the life of the bird concerned.</p> <p>CCAMLR Streamer Line Standards specify that:</p> <p>a) The streamer line is to be suspended at the stern from a point approximately 4.5 m above the water and such that the line is directly above the point where the baits hit the water.</p> <p>b) The streamer line is to be approximately 3 mm diameter, have a minimum length of 150 m and have a device at the end to create tension so that the main line streams directly behind the ship, even in cross winds.</p>	<p>bycatch data collected by observers</p> <ul style="list-style-type: none"> • Estimations of seabird bycatch • Research on seabirds and seabird mitigation devices by member countries • Annual meeting of Scientific Working Group on Incidental Mortality of Albatrosses by Longline Fisheries (IMALF) to review CCAMLR vessel reports and activities and to make appropriate recommendations to CCAMLR
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	<p>Beginning in 1995</p> <p>1999</p> <p>1999</p>		<p>Sub-Area 48.3 (South Georgia)</p> <p>Divisions 58.4.3, 58.4.4, 58.5.1 (Kerguelen Islands), 58.5.2 (McDonald & Heard Islands) and Sub-Areas 48.3 (South Georgia), 48.4, 58.6 (Crozet Islands)</p>	<p>c) At 5-m intervals commencing from the point of attachment to the ship, five branch streamers (each comprising two strands of approximately 3-mm diameter cord) should be attached. The length of the streamer should range between approximately 3.5 m nearest the ship to approximately 1.25 m for the fifth streamer. When the streamer line is deployed, the branch streamers should reach the sea surface and periodically dip into it as the ship heaves. Swivels should be placed in the streamer line at the towing point, before and after the point of attachment of each branch streamer and immediately before any weight placed on the end of the streamer line. Each branch streamer should also have a swivel at its attachment to the streamer line.</p> <p>Progressive move toward a winter fishing season, when the seabird breeding season is over.</p> <p>Start date of fishing season changed from 15 April to 1 May, to avoid seabird breeding season. Fishing season extends from 1 May through 31 August.</p> <p>New Zealand was granted a variation exemption from specific Conservation Measures to allow line-weighting experiments to continue south of 65S in specified area. Variation allows New Zealand vessels to set lines during the daytime south of 65S in Subarea 88.1 if vessels weighted their lines and achieved a minimum sink rate of 0.3 m/s for all parts of the longline. The variation was sought because during austral summer (December to March) there are insufficient periods of darkness at these latitudes for exploratory fishing to occur. New Zealand proposed to place a limit on any potential seabird bycatch during the daylight setting</p>	
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				variation on a per-vessel basis. Any vessel catching 3 seabirds would have to revert immediately to full implementation of the Conservation Measures.	
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Sources of Information:

¹Australia Fisheries Management Amendment Regulations 2001 (No. 1) Statutory Rules 2001 No. 32, 6 February 2001

²National Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries submitted by Japan to FAO's Committee on Fisheries (COFI) in February 2001; and Brothers et al 1999, FAO Fisheries Circular No. 937

³New Zealand's Ministry of Agriculture and Fisheries, Fisheries (Commercial Fishing) Regulations 1986, as amended in 1993

⁴Fishery regulations by South Africa's Dept. of Marine and Coastal Management, pursuant to Marine Living Resources Act (Act No. 18 of 1998) and the Sea Birds and Seals Protection Act (Act No. 46 of 1973)

⁵from Brothers et al 1999, FAO Fisheries Circular No. 937, "The Incidental Catch of Seabirds by Longline Fisheries: Worldwide Review and Technical Guidelines for Mitigation", Table 12, page 84.

⁶Regulations in *Federal Register* 63: 11161-11167, March 6, 1998

⁷Regulations in *Federal Register* 66: 31561-31565, June 12, 2001

⁸CCAMLR Conservation Measures and Resolutions Adopted at CCAMLR-XIX; Report of the Working Group-Incidental Mortality of Albatrosses in Longline Fishing, 2000.