ACAP SBWG UK Update

Design and use of tori lines in South Atlantic demersal longliners and trawlers

CCAMLR Sub-area 48:

- CCAMLR Regulations specify strict designs for tori lines for demersal longliners which must be used in all CCAMLR waters. In addition, regulations govern offal discharge; prohibit the use of plastic banding on bait boxes; prohibit hook discard and require the use of a device (unspecified) to discourage seabirds from congregating around the haul point. In addition in areas of high seabird density there is a prohibition on setting at night and seasonal closure of the fishery during the breeding seasons.

- Strict enforcement of these regulations has led to virtual elimination of longline fishing-related mortality in Sub-area 48.3. But key to this has been engagement with industry, regular at-sea inspections by designated CCAMLR inspectors, 100% independent observer coverage and willingness by relevant authorities to take action against non-compliance.

- Developments in bird-mortality mitigation measures for the pelagic trawl fishery have recently improved with CCAMLR endorsing a system of net-binding designed to prevent high-risk mesh sizes lingering on the sea surface. Design for this has been largely industry and NGO-led.

- Work is ongoing within the industry to identify other areas of potentially high mortality including entanglement on hauling and warp-strikes but so far no single measure has proved reliably effective. Insufficient evidence exists for a long enough time period to assess the effectiveness of all mitigation measures in the pelagic trawl fishery but initial reports appear promising with reported bird mortality significantly decreased in the 2006 season.

- Industry enthusiasm for developing these measures owes much to CCAMLR's rigorously enforced cap on bird mortality which requires any trawler operating in the icefish pelagic trawl fishery in Sub-Area 48.3 to stop fishing once 20 birds have been reported killed. 100% independent observer coverage and regular at-sea CCAMLR inspections are again a key factor in enforcement.

- Worth noting is that many of the companies operating in the pelagic trawl and demersal longline fishery in CCAMLR waters also operate vessels in waters subject to other RFMO control or in national EEZs and are therefore potential vehicles to bring about industry-led change.

Outside CCAMLR waters:

- The demersal longline fishery adopted in 2002 a tori line design of three lines joined at the seaward end with a buoy encased in mesh and with attachment points that can adjusted dependent on wind and sea conditions. With this development and an exemplary level of acceptance from the industry, the bycatch target for the

National Plan of Action – Longlining has been met a year ahead of schedule. This is an excellent example of a cooperative approach between government, the fishing industry and the scientific community to reduce bycatch levels.

- The described tori line design in the longline fishery has been proven to be very resilient to cross winds due to its adjustable nature, is very effective at keeping the streamer lines aloft along a high proportion of their length and creates an important deterrent wash at the outer buoy limit. In light of the proposals by Melvin *et al.* for the pelagic longline industry, this design could be very suitable for testing.

- Within the demersal trawling industry, seabird bycatch occurs from cable collisions and net entanglements. Between 2004 and 2006, demersal finfish and squid trawlers adopted the use of tori lines after trials of different plastics, streamer colours, attachment locations and buoy designs. Current licence conditions state that lines should be deployed after fishing gear has reached the sea bed, however a review of the effectiveness of tori lines in 2006 recommended that mortalities could be further reduced by deploying tori lines directly after the trawl doors have been shot.

- Improved offal management has been identified as the long term goal for the demersal and pelagic trawl fisheries. However, given the size and design of most stern trawlers operating in these waters, accommodating a maceration or meal plant would be difficult.

- Other bycatch issues that require further investigation include net entanglements during hauling operations on pelagic (surimi) trawlers. No bycatch issues have been identified during setting operations and hence, no net binding is used. Due to the larger size of the meshes, seabirds can become entangled in the net as it surges back and forth during hauling operations. Collaborative work between observers and vessels suggests that maintaining net tension during hauling should eliminate this problem.

- Seabird bycatch and deliberate targeting of seabirds by the squid jigging fishery is also an area of concern, and a multi-nation approach through education is an important first step.