CURRENT THREATS

Conserving albatrosses

PETER RYAN

Albatrosses and the larger petrels affected by longline fishing have been the focus of much recent conservation attention. Ever since the late 1980s, when longline fishing was first identified as the likely cause of albatross population decreases, considerable efforts have been made to develop and implement albatross-friendly fishing practices. The results have been quite successful, yet the latest revision of Threatened Birds (the global Red Data List for birds) has increased the threat category for six albatross species, leaving none in the lowest risk group. The Percy FitzPatrick Institute's Peter Ryan asks why we appear to be winning the battle but losing the war.

Previous spread *A pair of Atlantic Yellow-nosed Albatrosses loafing on the cliff edge at Inaccessible Island, with Tristan da Cunha 40 kilometres away. Recent research suggests their population is decreasing by 1–5 per cent per year, resulting in their threat status changing from Near Threatened to Endangered.*

Below *Albatross chicks, like this young Sooty, are vulnerable to diseases, with avian cholera killing large numbers of chicks on Amsterdam Island.*

Opposite *Trawlers provide an easy meal of discards and offal, but recent observer reports suggest that significant numbers of albatrosses are killed when they get caught on the trawl lines as the net is set.*

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Albatrosses are majestic symbols of the open ocean. Most species live in areas with predictable winds and use their long, slender wings to soar effortlessly along wave crests, covering vast areas of ocean in search of food. Their very long wings may prevent them from diving more than a few metres below the surface of the water, but they are well adapted to opportunistic foraging. Many populations benefit from food discarded by fishing activities, and they aggregate in large numbers at commercial fishing grounds. But associating ships with an easy source of food has lethal consequences for birds that gather behind longline vessels. Many individuals attracted by the handy, bite-sized pieces of bait are drowned after becoming entangled or swallowing baited hooks as the line is set.

Unfortunately for albatrosses, their wide-ranging pelagic lifestyle exacerbates this problem. Their long foraging excursions mean they deliver food very slowly to their chicks, often returning to the nest only every week or so once the chicks can be left unguarded. This limits them to laying a single egg at each breeding attempt, and in some species chicks grow so slowly that no more than one chick can be raised every two years. As a result, the birds rely on high adult survival rates to ensure enough successful breeding attempts to maintain their populations. Only a little additional mortality, such as drowning on longlines, is sufficient to cause population decreases.

The good news is that preventing seabirds being caught on longlines is a relatively simple task. Over the past 15 years, researchers have developed a suite of mitigation measures that greatly reduce longline mortality. Most bird species are at risk for only a relatively short period, as the line is being set. Once the baited hooks descend more than five metres below the surface, they are beyond the reach of most albatrosses. Simple measures to reduce access to the line during this crucial period include the use of a bird-scaring *tori* line, trailed over the setting area to discourage access by flying birds, and adequate line-weighting coupled with relatively slow setting speeds to ensure fast sink rates for the line. Traditional longlines are slightly buoyant and have to be weighed down with anchors at either end. Demersal fisheries, which set their lines on the sea floor, attach additional weights at regular intervals along the line to ensure rapid sinking, but this is more challenging for pelagic fisheries to achieve, when the gear is designed to drift at a predetermined depth. The development of an integrated weight longline with a lead core offers great promise, as it both reduces bird bycatch more than tenfold and catches more fish, because the lines spend more time at the ideal fishing depth.

Another very effective measure to protect albatrosses (but not some of the smaller petrels) is setting lines only at night, when it is completely dark, and using as little artificial light as possible. Albatrosses typically require some light to forage and as a result there are very few mortalities on night sets. There has also been encouraging research into making longline baits less attractive to birds, including dyeing bait blue to make it less visible and developing artificial baits. More sophisticated solutions include redesigning vessels to set longlines underwater or from the side rather than the back of the vessel, again reducing the time during which birds have access to the bait.

Implementing these measures results in very few birds being killed – the trick lies in ensuring that longline fisheries do in fact adopt them. Much progress has been made in this regard, through a combination of national and international legislation, including the coming into force of the Agreement on the Conservation of Albatrosses and Petrels (ACAP) on 1 February 2004. This agreement has been ratified by Australia, New Zealand, Ecuador, South Africa and, most significantly, Spain, which has a large fleet of longline vessels. The challenge now lies in encouraging more longlining nations to adopt ACAP. Incentives, such as better market access for environmentally sound fisheries, are effective at reaching vessel owners, and punitive measures against either specific vessels or an entire fishery have been used to ensure implementation if mortality persists. But some of the most important people to win over are the captains and crews of fishing vessels, which is why fishery observers play a key role in educating fishermen about the importance of using mitigation measures.

Fishery observers are independent monitors who report to fishery management agencies. They help ensure compliance with fishing regulations, including the use of measures to reduce seabird bycatch. Their importance is neatly demonstrated by the three main South African longline fisheries. Vessels targeting Patagonian toothfish have 100 per cent observer coverage and virtually complete compliance with mitigation measures. Bird mortality in this fishery has fallen from several thousands to tens per year, despite the fact that the vessels operate close to the major seabird colonies on the Prince Edward Islands. The other two South African fisheries, for hake and tunas, have 10–20 per cent observer coverage and only partial compliance with mitigation measures, yet they have also reduced their bycatch significantly since observers were put aboard vessels. The BirdLife/WWF South Africa partnership plans to expand its ongoing campaign to educate both fishery observers and fishermen, which will hopefully lead to even further reductions in mortality. This education and training project will be expanded to Namibia and Angola, thanks to a grant obtained through the Benguela Current Large Marine Ecosystem Programme.

Given the successes achieved in South Africa, and similar campaigns being implemented in many other longline fisheries, one might expect the conservation status of albatrosses to be improving. But the 2003 revision of *Threatened Birds* increased the threat status of six albatross species, making it the largest bird family with all its ▷

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species listed as globally threatened. Are all albatrosses really at risk of extinction? The answer for some species is that we are not sure. Threat status typically is based on long-term changes in numbers at breeding colonies. In some instances the decreases have been inferred from relatively infrequent counts, often using different count techniques. Future censuses may show that the decreasing trend has halted or even turned around. It might be that longline mortality of at least some species really is falling, but we haven't yet detected it. Until we have evidence to the contrary, the precautionary approach is to assume that population decreases are continuing.

Another part of the problem relates to the birds' enormous ranges. Because albatrosses travel such vast distances, they are at risk from a wide range of fisheries, making effective control a global rather than a local problem. And many longline fisheries do still have room for improvement. For example, the French toothfish fishery around Kerguelen and the Crozet Islands killed some 13 000 petrels in 2002, compared with fewer than 20 by the South African fishery. High-seas fisheries, which lie beyond national jurisdictions, are especially problematic. Fishing in these waters is controlled through international fishing agreements, which often lack the ability – or even the desire – to address the seabird bycatch problem. This is also where Illegal, Unreported and Unregulated (IUU) fishing (so-called 'pirate' fishing) remains a significant problem. We have to assume that IUU vessels, which flout basic fishing regulations, are unlikely to take any steps to reduce seabird mortality.

But the most worrying development is that recent studies are revealing new threats to albatrosses, both at sea and at their breeding islands. At sea, trawl fisheries are emerging as a significant threat. A recent study around the Falkland Islands found that thousands of Black-browed Albatrosses, as well as smaller numbers of Southern Royal Albatrosses, giant petrels and White-chinned Petrels, are killed each year by trawlers. Most birds either get dragged under with the trawl warps during shooting, or are injured by the warps cutting through the water as the ship pitches in heavy seas. Similar deaths are known to occur in the South African hake fishery, and a dedicated study is planned for ▷

An immature Shy Albatross runs over the water to get airborne on a calm day. Genetic evidence suggests that almost all Shy Albatrosses visiting African waters are the New Zealand form **Thalassarche [cauta] steadi**, *sometimes treated as a separate species, White-capped Albatross.*

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A female Tristan Albatross (or Gony) delivers a hard-earned meal to her chick on Gough Island. Listed as Endangered, the species has to withstand adults being killed on longlines throughout the South Atlantic, and chicks being nibbled by introduced house mice.

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2004 to assess how many birds are affected. The problem goes largely unnoticed, because few birds are hauled aboard.

Once again, mitigation seems to be fairly easy. In the Falklands, deaths only occur when vessels are dumping offal, encouraging birds to come in close under the stern. Banning the dumping of fishery waste at least while shooting gear should solve most of the problem, but it will require another international effort to effect this change. At the other end of the spectrum, direct exploitation of albatrosses and petrels for food remains a problem in some small-scale fisheries, notably off Angola.

Introduced predators, such as rats, cats and pigs, have all but eliminated albatrosses from some breeding islands and continued vigilance is needed to prevent them from reaching other islands. It now seems that even the house mouse may pose a threat (see page 46).

Diseases pose an even more insidious threat. Henri Weimerskirch has discovered that the massive decrease in Indian Yellow-nosed Albatrosses at Amsterdam Island is more a result of avian cholera and other diseases than longline mortality. This explains why South Africa's Yellow-nosed Albatross population on the Prince Edward Islands is holding its own, despite facing very much the same longline pressures as the Amsterdam birds. The diseases, probably introduced to Amsterdam Island by poultry brought to the French base, greatly increase chick mortality, resulting in virtually no chicks fledging from badly affected colonies, and may reduce adult survival. This is the first record of avian cholera in albatrosses, which show little resistance to the disease. Weimerskirch suspects it has already been transmitted to Sooty and Amsterdam albatrosses at the island, which is especially worrying given the perilously small population of Amsterdam Albatrosses. One can only hope it doesn't spread to colonies on other islands.

How bleak is the future for the world's albatrosses? Are we winning the longline battle, only to lose the conservation war as new threats emerge? I am not too pessimistic, as long as we continue to reduce impacts at sea and to protect breeding islands. Many albatrosses still have large enough populations to weather the current threats if we make lasting changes to fishing practices. But urgent action is needed to prevent those species with □