

In the wake of turtles

Photos by Jeffrey Mangel

S seabirds are often migratory and for mitigation to work it has to be practised, by fishers in all their habitats. *Seafood New Zealand* talks to Joanna Alfaro and Jeffrey Mangel who recently embarked upon a seabird by-catch study and mitigation programme in Peru.

Many of New Zealand's seabirds breed here but, in the autumn months, when their chicks have grown and flown they leave for other feeding grounds. Some head to the north Pacific and others catch the roaring forties and fly to South America where the cold Humboldt current is krill and plankton rich as it slides up the long west coast towards the equator. These nutritious waters provide ample food for fish and fish provide food for birds and, in some instinctive way, many of New Zealand's seabirds know this and go there.

New Zealand fishers have made good progress in seabird mitigation in the last decade but everyone knows that solving the problem of seabird by-catch in New Zealand means nothing if the issue is not addressed in other Southern Ocean fisheries and Southern Seabird Solutions (SSS) is working with Chile to help their fishers solve the problem in their waters with good progress being made in that country.

But, until late last year, little has been done about the issue of seabird by-catch in Peru. Because of the size of the country, the variety in fishing boats and techniques used and the isolation and poverty of many of the fishers, tackling the issue of seabird mitigation is an



Joanna and Jeff at the Port of Ilo in Southern Peru.

enormous task but one that does not deter Joanna Alfaro and Jeffrey Mangel of Lima-based APD (Asociacion Pro Delphinus).

In October APD received funding from IAATO (International Association of Antarctic Tour Operators) to carry out a seabird by-catch assessment and mitigation programme and Joanna and Jeffrey are the energy behind the project. Joanna has been working with APD since 1998 on an education and research campaign to stop the capture of endangered sea turtles and Jeffrey began with APD recently, specifically to work on the seabird by-catch programme.

Peru has 2500 km of coast with over 100 ports, 6000 boats and 29,000 fishermen whose toil helps feed Peru's population of 28 million.

Most of the coastline is very dry, to the point of being desert, with agriculture only on irrigated areas where rivers pass. Because of this, over time, fishing has become a vital source of food locally and is often the major income for coastal communities. Fish is an enormously important source of protein to all of Peru's people who eat, on average, 18 kg of fish a year.

Most of the 6000 boats are in the artisanal fleet (as distinguished from the big company, big boat, industrial fleet) and there is a huge variety of vessels from small open boats, with two fishers, that fish close to shore, to boats of 20 metres plus, with crews of four or five, that fish up to 400 nautical miles off-shore and stay out for up to three weeks. There is also variety in fishing styles including longlines, gill netting and trawling. Some boats change fishing styles depending on the season.

Gill net by-catch includes penguins and some diving petrels and Peru has a serious problem with near extinction of its endemic Humboldt penguin, with at last count possibly only 6000 birds remaining, and the endangered Peruvian diving-petrel with 10,000 birds remaining.

In Peru it's primarily long-liners who interact with migratory seabirds. Christopher Robertson, marine ornithologist and international albatross expert, explains that a number of New Zealand

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seabirds migrate to Peruvian waters each year including the Salvin's albatross, Buller's albatross, and Chatham's albatross. Of these the Chatham's albatross is critically endangered and Buller's and Salvin's albatrosses are vulnerable. Sooty shearwaters and black petrels also migrate to these waters and black petrels are also an endangered species.

Peru's longliners usually target shark and mahu mahu and their lines have between 350 and 1500 J-type hooks, depending on the size of the boat and the fishing style in each locality. They bait with mackerel which is usually frozen. The catch is for domestic consumption; some is processed and sold in supermarkets but most is trucked to cities and towns all over Peru where it's sold in wet markets.

Joanna explains that most fishers don't understand that some of the birds they catch are endangered. "They are not aware that there is a problem. Maybe some know that penguins are endangered but not the rest of the birds and this is one of the things we have to address. For them, catching birds is just something that happens as part of the fishing process. They toss it over if it's dead, let it go if it's alive and just keep on going"

"Many fishers don't understand the meaning of the term endangered so there is a lot that has to be explained and we may have to say it in a different way such as, *these birds come all the way from New Zealand and Australia and there are very few birds like this remaining in the world*. The fishers are impressed with the birds when we tell them they have travelled all that distance and they often say something like, "wow, that's amazing"

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them and sometimes they will feed them. But some have commented that when they see birds with tags they try to lure them to the boat and catch them because they think there might be a reward for the tag.

"Though fishing is a skilled job most of the fishers don't have much more than a few years primary education, particularly in remote ports and in the bigger ports they may have some secondary



A typical artisanal longline boat.

education. They start fishing when they are young, as cooks, and work their way up, learning more and more until they help the older fishers and then become mate and eventually may become the captain.

"Our job is difficult because we have to start with the basics of understanding of seabirds. Most fishers don't distinguish much between species. They talk about *bagarotes*, which they describe as big white birds and that could be a group term for albatrosses, then there is another that they call *donona* (big lady), which could be a giant petrel. It's a goal to educate them about seabirds and we will provide guides to seabirds so they are aware of the different birds and can distinguish between them."

Jeffrey explains that there is little known about seabird mortality in Peru and they hope to collect data to help define the nature of the problem. It's estimated that some 5000 albatrosses are caught as by-catch each year and they know for certain, from tag returns, that waved albatross, Chatham's albatross, Buller's albatross, giant petrels, shearwaters, and terns are caught.



Joanna communicating by radio with a longline fisherman who had reported finding a sea turtle with tags.



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That awareness of seabird mitigation techniques, and the need for seabird mitigation, is almost non-existent, that Peru has a huge coastline and birds and fishing techniques differ from north to south, and that there is little data on bird by-catch hasn't deterred these two dedicated young people.

"The path of the seabird by-catch mitigation project will be similar to that of the turtle project with the focus being towards education and interaction with fishing communities," Jeffrey explains.

"Having watched how Joanna has worked with the fishers in the turtle project, and seen how effective that has been, I feel positive about seabird mitigation. When Joanna brings the satellite maps tracking the turtles (they are also migratory) down to the ports a whole crowd of fishers gather around to follow where the turtles are going. They have developed an interest and knowledge in just a few years.

"By starting with the basic education in biology and conservation we can make big leaps in fishers' awareness of seabirds just as Joanna has done with the turtle programme."

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Through the turtle programme APD established a network of observers in eight ports, and is working on establishing more.

"They are locally known people, not outsiders, and are willing to help," Joanna explains.

"The fishers are willing to provide information because they know and trust these people. The turtle observers are already an important part of the seabird project and are helping with interviewing the fishers."

SSS (Southern Seabirds Solutions) is assisting APD with information and materials and may instigate a fisher exchange programme with Peru.

Meanwhile, Joanna and Jeffrey have enthusiastically taken on a mitigation task that needs doing and their work will hopefully, in time, help close the loop so the seabirds that New Zealand fishers make so much effort not to catch are not, later, caught in Peru. ■

