

# BYCATCH BYLINES

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## HEADLINE



### A box of fluffies on the Chathams

Everyone likes a good news story and sometimes it seems they are few and far between. This month we feel warm and fuzzy about the early successes of a seabird reintroduction project on Chatham Island.

Those of you in 'Team Trawl' might remember a story about Chatham petrels from the *Albert Times* way back in 2008. Yep, that's a while ago, but sometimes good things take time. Albert talked about efforts to boost the Chatham petrel population. This seabird was probably abundant all over the Chathams once. But introduced predators, human exploitation, and habitat loss meant that by the 1890s the birds only occurred on South East Island (Rangatira). One hundred years later in 1990, the population was estimated at just 1,000 birds.

After earlier translocations showed promising results, efforts to establish a new population of Chatham petrels on main Chatham Island kicked off in 2008. That year, 47 chicks were moved to a 4 ha predator-proof area on main Chatham. In the following 3 years, another 153 chicks were moved. Birds were handfed until they left their artificial nests, and flew off to ocean areas off Peru and Chile.

After a few years of waiting while the young birds grew up at sea, breeding was discovered last year on main Chatham Island. One pair of previously translocated birds returned to successfully raise their own chick, which left the nest in June this year. This early sign of success should mean that other birds will be returning to the island over the next few years.

This was the second translocation of Chatham petrels to main Chatham Island and is a key step to securing the future of the species.

On land, potential threats to their future include competition for breeding burrows with broad-billed prions, which vastly outnumber the Chatham petrels. Installing wetsuit 'socks' on burrow entrances has helped solve this problem. The threat of predation is managed by predator-proofing the birds' breeding site. At sea, Chatham petrels do not seem to be attracted to fishing gear, which is good news for everyone.

So things are looking good so far. What about next steps? Additional translocations are planned, to Mangere Island and other predator-free enclosures on Chatham Island. All going well, the Chatham petrel is on its way back, and there will be many more nest-boxes of fluffies in several new Chatham Island locations over the next few years.



The Chatham petrel. Photo: Colin Miskelly, [www.rarebirdseyearbook.com](http://www.rarebirdseyearbook.com).

## YOUR VOICE



### The 'Tamini tabla'

Tori lines are one of the most effective seabird bycatch reduction measures used worldwide. They work very well but are not perfect, and the issue of tori lines blowing off course in strong winds is well known. Leo Tamini noticed this problem during his at-sea work off Argentina. He has been working on a device that improves tori line performance astern trawlers—specifically, tori line tracking in rough weather. His work started about three years ago, with a metal prototype called 'the surfboard'. A lot of thinking and tweaking has happened since then and the next sea trials are expected to confirm the function and practicality of the device under a range of sea conditions.



The inventor at work: Leo Tamini works on the Tamini tabla. Photo: <http://www.rspb.org.uk/community/getinvolved/b/albatross/archive/2012/10/12/latest-update-on-the-tamini-tabla.aspx>.

## WHAT'S UP?



### Spring is in the air

Spring and summer are the breeding season for most protected species. Finding food for a growing brood can mean zooming in on fishing vessels. Keeping mitigation measures up to scratch is especially important during this time. Here are a few things happening out there:

- New Zealand sea lions often get pups for Christmas—most pups are born around Christmas Day and through later December.
- Fur seals have their pups from mid-November to mid-January. The pups feed on their mother's milk for almost a year!
- Migratory seabirds like black petrels and flesh-footed shearwaters are back in our waters after spending their winter in South America and the North Pacific. These guys are especially good divers, which can make avoiding captures more difficult.
- Albatrosses lay eggs from August to February, depending on the species. That means hungry mouths to feed over summer and well beyond for the bigger albatrosses. Their chicks can take around 240 days to leave home!

Monitoring fisheries activities is recognised around the world as an essential part of fishing responsibly. However, methods for effective monitoring can be tricky to find in some situations. Electronic monitoring is being used to address monitoring issues in a variety of contexts, including for protected species. We look at some of the pros and cons of this approach—does electronic monitoring solve more problems than it creates?

*Why use electronic monitoring (EM)?*

Objectives for monitoring vary between fisheries. So far, applications of EM in New Zealand have focussed on protected species—that particular small dolphin we have, and seabirds. Overseas, EM has been used to investigate catch of fish and protected species by different fishing gear, e.g., purse seines, trawls, and bottom and pelagic longlines. A key factor influencing the outcome of EM is having clear objectives for monitoring. It makes sense that cameras in the wrong place will not see the right thing...

*What about cost?*

The cost of human observers can be problematic for some. But, in the short term, EM is unlikely to be cheaper. Firstly, a proof of concept study is typically necessary to refine monitoring approaches. Then, if appropriate, an EM regime can be established for fisheries monitoring. There are set-up and maintenance costs associated with any monitoring programme. For EM, this involves considerations like technical support and gear for vessel deployments, maintaining equipment, analysing and storing footage, etc.

*What happens to the footage?*

In many cases—such as when EM is taking the place of human observers in monitoring fishery performance—archiving footage for some period of time might be necessary. The demands of storing large volumes of digital footage are clearly different to conventional paper observer records. However, some of the same concepts apply: security, ability to search records, ensuring information and data are backed up, and effective and secure destruction of records when appropriate. Important issues include who owns and has access to footage, and what it can be used for.



A camera being fitted to an Australian vessel for electronic monitoring. Photo: [www.afma.gov.au/category/uncategorized/](http://www.afma.gov.au/category/uncategorized/)

*How well do cameras see protected species?*

For protected species, results of EM have been mixed. Monitoring trawler cable strikes and seabird mitigation device deployments has been effective in a pilot study undertaken in Alaska. Detection of captured smaller protected species in trawl nets is difficult, but New Zealand-based work on inshore vessels shows dolphins and larger seabirds can be detected. In Hawaii, humans and cameras detected the same number of sea turtle captures on pelagic longline gear.

*So who's using EM now?*

So far, EM has been investigated at the 'proof of concept' stage in more than 30 fisheries in parts of Africa, Europe, the US, Canada, Australia and New Zealand. Eight fisheries use EM to collect data for fisheries management—that represents multiple gear types and more than 30,000 vessel days per year in Europe, Australia, and Canada.

*EM is clearly not a magic bullet solving all monitoring issues. But what do you think—would you rather have cameras or humans monitoring fishing activities?*

## Across the ditch

National boundaries don't mean anything to protected species. So, when it comes to bycatch reduction, what works in one place usually works in another. Now, some Australian fisheries are implementing very familiar approaches to seabird bycatch reduction.

In the Great Australian Bight and South East Trawl Fisheries, the Australian Fisheries Management Authority (AFMA) is taking a look at seabird bycatch reduction practices to determine if they are effective. Similar to trawl vessels operating in New Zealand waters (and  $\geq 28$  m in length), vessels operating in these Australian fisheries are required to use mitigation devices. Seabird Management Plans (SMPs) have been developed for each vessel, with input from AFMA, the Australian Antarctic Division, scientists, and industry. Rather like Vessel Management Plans here, SMPs describe which devices vessels use and other measures vessels will take to reduce the risk of seabird bycatch.



Seabird bycatch reduction devices deployed astern a trawler fishing in Australia's South East Trawl fishery. Photo: <http://www.afma.gov.au/2012/07/fishers-lift-game-for-perfect-compliance-with-seabird-rules/>.

Bycatch reduction measures being used include what the Aussies call warp deflectors—pinkie buoys deployed astern that are intended to limit seabird access to trawl warps—as well as devices that we would call warp deflectors or Carey's Cunning Contraption. Given that CCC-style warp deflectors were not effective in reducing seabird strikes on trawl warps in New Zealand waters, comparing our findings with the Australian results will be especially interesting.

Other measures in SMPs include offal management, e.g., batch discharging at the end of shooting and net cleaning, to reduce the attractiveness of nets to seabirds.

AFMA's review of the efficacy of seabird mitigation approaches in these fisheries will be completed in early 2014.

## WANT TO KNOW MORE?

- *Headline:* More about Chatham petrels can be found at: <http://twz.co.nz/meet-the-locals/meet-locals-s2009-e44-video-2833092>. The 2008 *Albert Times* story is at: [http://www.fishinfo.co.nz/Newsletters/29\\_Aug08.pdf](http://www.fishinfo.co.nz/Newsletters/29_Aug08.pdf)
- *Word on the street:* For more about electronic monitoring in New Zealand and abroad, check out these links: [http://www.youtube.com/watch?feature=player\\_embedded&v=ttSkXjjDMKE](http://www.youtube.com/watch?feature=player_embedded&v=ttSkXjjDMKE) and <http://www.doc.govt.nz/documents/science-and-technical/dmcs9entire.pdf>
- *World watch:* Contact Mike Gerner: [mike.gerner@afma.gov.au](mailto:mike.gerner@afma.gov.au).