

BYCATCH BYLINES

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HEADLINE

The future is here . . . almost

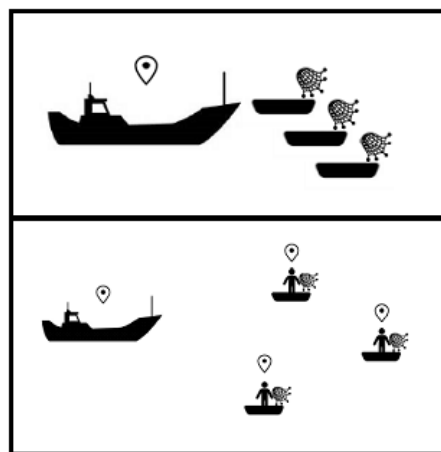
Following MPI's Future of Our Fisheries consultation last year, new regulations now describe the requirements for digital reporting and monitoring in New Zealand's commercial fishing future. Other than less paper, what's different about the new world?

The new regulations came into force on 1 October 2017 for electronic reporting of catch and fishing effort, and automated position reporting from commercial fisheries. Operators of trawl vessels > 28 m must follow the new requirements from 1 October 2017. All other operators have a few months longer, until 1 April 2018.

For electronic monitoring using on-vessel cameras, regulations come into force on 1 October 2018. Almost all vessels will be phased in to camera monitoring between 1 October 2018 and 1 April 2020. Cameras will not be required on vessels that are only used to support diving and hand-gathering, and tenders used for purse seining.

So, what will be different for protected species in the new system? Permit holders are currently required to report when protected species are taken in the course of commercial fishing operations. This requirement continues to apply in future. However, reports will be submitted to MPI sooner than they are now. Once electronic reporting is mandatory, protected species catch reports must be completed and submitted to MPI on the same day that the permit holder becomes aware of a capture.

Position reporting will have no direct impact on how fishers report protected species captures. However, better information on where fishing occurs will make it possible to manage protected species



MPI has produced simplified guidance on the proposed technical requirements for position reporting. Image: <http://www.mpi.govt.nz/document-vault/19301>

interactions with fishing more effectively.

Cameras can capture information on catch taken, gear used, and bycatch mitigation measures adopted. Camera information will be used to verify catch and fishing effort reports, including protected species catch reports. Where imagery and catch and fishing effort reports are a good match, confidence in the information used for management can grow.

The change to electronic reporting and a new monitoring framework is significant. The regulations are now in place, but there are still opportunities for input. MPI will soon issue circulars that specify the technical details of the new system. To have your say, keep an eye on the MPI website: www.mpi.govt.nz.

WHAT'S UP?

Tori tips for longliners

Many hours and much brain power have been spent trying to make tori lines more usable on small longline vessels. Where can good tips be found to make this mitigation method work?

- Ask your Seabird Liaison Officer: These guys have built up knowledge from working with a lot of skippers and crew over time. They have seen good and bad tori lines, and can spot the difference!
- Get a copy of a tori line design guide and fact sheet: There are two aimed at small-vessel longline operations currently. Find out where in 'Want to know more?.'
- Talk to others using tori lines well: Everyone's got their view on what works and what doesn't. Good advice is worth sharing.



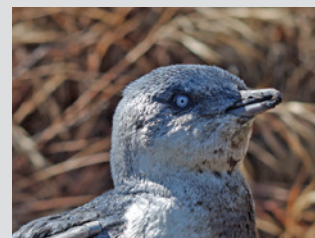
A tori line deployed from a small longline vessel on a very good day! Photo: D. Goad, <https://www.southernseabirds.org/about-us/projects/>

WHAT THE FAQ?!

Undercover Aussies

Little blue penguins occur widely around our coasts. They might all look very similar, but genetics tells another story.

- Our smallest penguin has many names, including little penguin, blue penguin, fairy penguin, white-flipped penguin, and kororā.
- The question of how these penguins are related around different parts of New Zealand has kept scientists busy for years.
- Genetic research suggests that little blue penguins around Otago are more closely related to Australian penguins than to birds in other parts of New Zealand.
- The Australian and Otago populations of these penguins may have split less than 750 years ago. That's incredibly recent in biological terms.
- 'Our' penguins' Aussie cousins can be seen around southern Australian coasts.



The little blue penguin – a genetic enigma with Australian ties. Photo: © M. P. Pierre

All set?

Trawling and longlining come to mind when most people think about ways to reduce seabird captures in fishing gear. But what about other methods? Are we all set to reduce seabird bycatch across commercial fisheries?

There are around 96,500 setnet sets reported in New Zealand annually. When it gets media coverage, setnetting is usually linked to dolphin captures. However, setnets can catch seabirds too. Work to date on reducing seabird captures in setnets includes:

- Visual or acoustic deterrents
- Time (of set, soak, or haul), or
- Space (where nets are in the water – vertically or horizontally).

It makes sense that for animals that rely on sight, visual deterrents will work. In some cases, that appears to be true at least sometimes. For example, attaching green LED lightsticks to setnets used in a demersal fishery in Peru reduced shag catch rates by 84%.

Similarly, where hearing is important, it is plausible that acoustic deterrents could work. Pingers are the best-known example. These devices have been widely deployed as a marine mammal bycatch mitigation tool. However, so far the jury is out on whether pingers are good, bad, or just irrelevant for seabirds.



The sooty shearwater – a deep-diving seabird that has been caught in setnet gear in New Zealand. Photo: Sabine's Sunbird, CC BY-SA 3.0, https://commons.wikimedia.org/wiki/File%3ASooty_shearwater_kaikoura.jpg

Bycatch reduction methods based on time and space are all about separating the fishing gear from the unintended catch. In time, this can be done by setting gear when seabirds are not around. For example, for little blue penguins that come to shore at dusk and leave again in the early morning, avoiding fishing at those times should reduce bycatch risk. This method has been effective for some seabirds, but not all, and it relies on knowing when birds are out and about. For example, in the northwest USA, researchers found that auklet bycatch decreased by 60% when dawn fishing was avoided. However, there was no effect on sea duck catch rates.

Separating birds and setnets in space may mean avoiding areas where birds occur. It can also mean avoiding the water depths that birds use. For example, if birds only use shallow waters, setting gear deep should help reduce bird captures during the soak. This approach has been tested in the Japanese high seas gillnet fishery, and seabird bycatch was reduced by almost 30%. Research on this approach is ongoing.

Naturally, any change in how fishing is conducted can have impacts on target catch rates. Therefore, considering how effective mitigation measures are overall must also include an assessment of fish catch.

The findings above are from a review of seabird bycatch reduction methods undertaken by Graham Parker for Southern Seabird Solutions. Project sponsors were MPI, Sealord Group, Deepwater Group, and WWF NZ.

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Seabird snapshots

A huge seabird database shows the power of collaboration, and new strategies are in place for Australian fisheries with dolphin issues.

Ten million dots in 14 years

Fishermen see seabirds more often than just about anyone. For the rest of us, technology provides a window on the birds' watery world. Since 2003, the at-sea travels of many seabirds have been logged using satellites and shared by scientists. The Seabird Tracking Database is where this information is stored, and the database now holds 10 million data points showing seabird movements.

The information in this database is very well used. For example, tracks can show where the most important areas of ocean are for seabirds, and, for New Zealand seabirds, where risk areas may lie beyond our waters.

Anyone can access the database online. Follow the link in '*Want to know more?*' to find your favourite seabird and see where it goes around, and away, from our seas.



The white-capped albatross – one of the New Zealand seabirds whose oceanic travels are on show in the Seabird Tracking Database. Photo: © M. P. Pierre

The new deal for dolphins

New strategies are in place to address dolphin interactions with the small pelagic trawl fishery and the gillnet Southern and Eastern Scalegill and Shark Fishery – two fisheries managed by the Australian Fisheries Management Authority (AFMA).

Operators in these fisheries must develop a Dolphin Mitigation Plan, and have plans approved by AFMA, prior to going fishing. Plans cover fishing practices, gear setup, and mitigation measures adopted.

Reporting and monitoring requirements also apply in both fisheries, as well as the requirement to stop fishing if interactions continue. Similar to the future New Zealand approach, the extent of fisher-reported dolphin interactions can be verified using electronic monitoring (on-vessel cameras).

Dolphin interactions with some fisheries can be difficult to manage. AFMA's approach with the new strategies is intended to incentivise good practice, stepping up management actions where individual fishers have ongoing problems.

WANT TO KNOW MORE?

- *What's up?:* A tori line fact sheet is available from johanna@jpec.co.nz. Get a tori line design plan, and a ton of advice, from John Cleal (021 305 825, john@fjms.xtra.co.nz) or Dave Goad (027 3643 098, goad.dave@gmail.com).
- *Worldwatch:* Find out where New Zealand seabirds go at <http://seabirdtracking.org/mapper/index.php>.

FEEDBACK

To submit feedback or questions, please email: johanna@jpec.co.nz

Banner image: © M. P. Pierre