BYCATCH BYLINES

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HEADLINE

Lights out for our seabirds

Like fishing vessels and other ships, seabirds are out and about at night. They are better than us at seeing in the dark. However, some seabirds get disoriented by bright lights at night, and end up landing in places they shouldn't. What can vessel operators do about this?

Bright lights on land and at sea can trouble birds – more than 56 seabird species are known to be affected. They can become disoriented and fall to the ground or onto the decks of ships at sea, or may become grounded after circling bright lights until they are exhausted. Grounded birds may be injured or killed. Petrels, shearwaters, storm petrels and prions are all vulnerable and, in some areas, young seabirds are particularly affected.

The Westland petrel has been in the news for this reason; it breeds in forest near Punakaiki on the West Coast of the South Island. Adult and young petrels have been found grounded around exposed bright lights, which they encounter when travelling between the sea and their breeding colony.

The link between bright lights and bird strikes at sea has been recognised for years. Nights with poor visibility (such as in snowy or misty conditions) are most difficult for birds. Seabirds are global travellers, so this is an international problem: deck-grounded seabirds are reported in fisheries from Greenland to the subantarctic.

The white-faced storm petrel. This seabird, like many other petrels and shearwaters, can be disoriented by bright lights at night. *Photo: JJ Harrison, CC BY-SA 3.0*

Rescue programmes help land-grounded birds, but what can be done at sea? These measures are tried and true:

- At night, keep external lights to the minimum needed for safe operations.
- Minimise light spread by:
  - focusing outboard light where it is needed
  - focusing inboard lights downward.
- Screen portholes or any other places where internal light can be seen from outside vessels.
- Be especially careful with light when near seabird colonies and on misty and rainy nights.
- If a bird lands on your vessel and you need to handle it, grab some gloves. Carefully pick up the bird with your hands over its wings so it can't flap. Gently release it overboard.

WHAT'S UP?

See birds? Need a guide?

DOC's seabird guides have been updated and reprinted, and are available free on request.

- DOC's seabird guides have been on fishing vessels for years. Since the guides were first produced, the seabirds haven't changed – but what we know about some of them has.
- The new guides are still waterproof and tough, for use at sea in the real world. To get yours, email *johanna@jpec.co.nz* or c*sp@doc.govt.nz*, or download it from the DOC website. Check the link in '*Want to know more*?'.

The Salvin's albatross – one of the birds profiled in DOC's Fisher's Guide to New Zealand Seabirds. *Photo: © M. P. Pierre*

WHAT THE FAQ?!

Snakesssss in the sea

Sea snakes and kraits are tropical animals that turn up in our waters from time to time. They're not the subject of a cult movie (no planes involved!), but they are still special.

The yellow-bellied sea snake. *Photo: Taranaki Daily News, reproduced on the Stuff website May 16, 2016*

- Sea snakes are not aggressive towards people.
- Sightings of the yellow-bellied sea snake are reported up to around 10 times each year. Sightings are mostly from the north east, but extend as far south as Cook Strait.
- The banded sea krait and Saint Giron's sea krait also occur here. Despite their exotic names these look just like snakes, but are in fact semiaquatic.
- Unlike sea snakes, which are entirely marine, kraits lay their eggs on land (but not in New Zealand).
- Sea snakes and kraits that visit New Zealand all feed on fish.
- Tell DOC where you see sea snakes! Find out how in '*Want to know more*?'.

THE BIG PICTURE

Inside and outside

Our seabirds can be caught both inside and outside New Zealand waters. To improve their chances of survival, kiwis are working on seabird bycatch with practitioners in other countries.

New Zealand seabirds can be caught by Japanese fishing vessels, and it is in both countries' interests to reduce this bycatch. Five researchers from Japan's National Research Institute of Far Seas Fisheries visited New Zealand in November. The visit focused on management of seabird bycatch. The visitors met many involved in seabird work in New Zealand including government, industry, researchers and BirdLife International. They also reported on their own work, which included testing tori line designs on smaller longline vessels.

Skipper Mike shows the visiting group the ways of the hook pod, used on the vessel FV *Commission* to reduce seabird capture risks. *Photo: J. Pierre*

As well as spending time in workshop sessions, the visitors went out on a surface longliner looking at tori line design and deployment. The group took home lots of information and new ideas, and a tori line to work with among their own fleet of surface longline vessels.

Their next steps are to build on what they saw here at home. The group plans at-sea work on tori lines from March 2018. Continued collaboration between New Zealand and Japan is also planned, including building a seabird risk assessment that incorporates bycatch data collected on Japanese vessels.

For New Zealand seabirds, reducing risks of capture outside our waters has got to be a good thing. Continuing and increasing collaboration with other countries that fish where 'our' birds roam is critical to making this happen.

WANT TO KNOW MORE?

- *What's up?* Find the updated seabird guides for download at: *https://tinyurl.com/CSP-guides.*
- *Worldwatch:* Find out more about electronic monitoring in Australia: *https://tinyurl.com/EM-in-Oz.*
- *What the FAQ?* Ssssseen a sea snake? Call 0800 DOC HOT, or email *herpetofauna@doc.govt.nz.* You can also download a record card to complete at *https://tinyurl.com/reptile-sighting.*

FEEDBACK

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

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WORLD WATCH

Focus on fishing

Electronic monitoring (EM) with on-vessel cameras is being used in more and more commercial fisheries worldwide. Here's a whistle-stop world tour of recent EM reports from Australia to the UK and the USA.

Australia

The Australian Fisheries Management Authority (AFMA) uses EM primarily to verify catch and effort data reported by fishers. Cameras also provide information on protected species' interactions with fishing operations and the use of mitigation measures. Vessels fitted with EM systems operate in the Eastern and Western Tuna and Billfish fisheries, and the Southern and Eastern Scalefish and Shark Fishery (Gillnet Hook and Trap Sector).

A review conducted after 8 months of EM in the billfish fisheries showed that reporting of protected species bycatch and discards had increased. Reporting of retained catch was relatively consistent.

EM also showed instances of bycatch being mishandled, especially sharks and rays. AFMA initiated an education programme in response.

Cameras fitted on a commercial fishing vessel in the USA. *Photo: https://www.st.nmfs.noaa.gov/advanced-technology/electronic-monitoring/index*

USA

EM has been used to monitor fishing activities on some Alaskan fishing vessels since 2008. In 2018, a new group of up to 120 longline and 45 pot vessels will be authorised to carry EM instead of human observers. It's been a long road to introduce EM in Alaska; in Alaska Fish Radio's annual look at the best fish stories of 2017, commentator Laine Welsh highlighted EM as the "…biggest fish break…. replacing fishery observers on small boats to track what's coming and going over the rails."

Implementation in Alaska is overseen by a regional EM workgroup, which will monitor cost efficiencies, research and future opportunities. Part of the push towards EM was that fishers found taking human observers on small vessels problematic. But because cameras cannot collect biological information and samples, humans will still be 'in the mix' of monitoring approaches.

Across the country, EM is also progressing in the Atlantic herring and mackerel midwater trawl fisheries. EM is voluntary on midwater trawlers at this stage; for now, fisheries are exploring the use of EM for monitoring catch and discards. A workshop was held at the end of January to introduce industry operators and EM service providers.

UK

Brexit has sweeping implications for the UK, including its fisheries. Uncertainty about the future, and the level of fisheries monitoring that may occur post-Brexit, led the World Wildlife Fund (WWF) to call for EM of the UK fishing fleet. The WWF emphasises that good monitoring underpins effective management.

Peru

As part of a larger project exploring how small-scale fishers can access market benefit from sustainable fisheries, EM systems were installed on five vessels used for gillnet fishing, targeting sharks and rays. Researchers concluded that cameras were an effective tool for quantifying target catch, but that further work was needed to improve the collection of bycatch information.