



HEADLINE



After catching, discharge by batching

We often hear that New Zealand has a world leading approach to fisheries management. Sure it's not perfect. But, it's a lot better than a lot of others! That applies to the environmental side too, though of course, we're not all born twig and tweeters! **Headline** this month says thanks to all the trawler folks involved in offal management research over the last seven years.

It started for some with a workshop in Lyttelton in 2004, and grew into planning meetings, operational briefings, at sea trials, VMPs, time in and out of lots of offices, in lots of ports, and hours at the computer. The result is an evidence-based understanding of the best way to manage trawl waste to reduce seabird kills on trawl warps. So, what do we know now that we didn't before?

- The best way to discharge trawl waste: all at once, when gear is out of the water.
- Discharging waste as it becomes available is worst for birds.
- If gear is in the water, the best way is to discharge waste as one big batch, as fast as possible, after holding as long as possible.
- Even a short holding period can reduce bird issues. 4 – 8 hours is great, but 2 hours should still make a difference. Sometimes holding waste for as little as 30 minutes can make a difference. Any holding period is better than none.
- Mincing can help, especially for keeping large albatrosses at bay. Holding waste for batch discharge is better for more species of seabirds, but mincing is better than nothing.

You might be reading this and thinking 'pfffttt, that's just a load of common sense'. But isn't it good when common sense and science actually agree!

Now we know what to do about offal management, the next big challenge is net captures. Many kinds of seabirds get caught in trawl nets. Bringing a primo bag of food to the sea surface is bound to make any bird go a little doolally! Petrels and shearwaters are especially tricky to distract because they are such good divers. So far, methods to reduce net captures are not well developed. So, if you have an idea, keep an eye on the *Guardian* for funding opportunities to try it!



White-capped albatrosses check out a batch of trawl waste. Photo: DOC.

YOUR VOICE



Fishing for ideas



The 2011 International Smart Gear Competition was taken out by the Yamazaki double-weighted branchline, brainchild of Japanese tuna longliner Kazuhiro Yamazaki (above, © Troy Guy). His invention is designed to increase line sink rate, which makes longline gear safer for seabirds. But, the double weighting arrangement is also safer for crew on the haul. This competition has been won by NZ fishermen previously. The first prize is one well worth winning - US\$30,000!

For more information see:

http://www.smartgear.org/smartgear_winners/2011/.

Start thinking of your ideas for entry in 2013!

WHAT'S UP?



In the newsletter

Welcome! You are reading the first edition of the *Ocean Guardian*. The *Guardian* will fill you in on the latest protected species information relevant to trawl and longline methods. This will include profiling mitigation measures, interviews with key people, facts on protected species, and the answers to your questions. The *Guardian* will work best with your input! This includes sending us your photos, questions, stories, and rants on things that annoy you. Our email address is: ocean_guardian@yahoo.com.

We all know that seabirds, seals, sea lions, whales and dolphins are protected. Other marine protected species that can be less well known, or have been protected in recent years include:



- Sea turtles (yep, we do get them in New Zealand waters)
- White pointer sharks
- Basking and Whale sharks
- Manta rays
- Hard corals

Green turtle. Photo: C. Robins & D. Kreutz.

I only pay if I take an Observer!

WRONG! In all fisheries, Observer costs are spread across all quota holders. So, you pay whether or not you take an Observer. To get good information, Observers must cover a range of different vessels. Also, it's fairer for everyone to take their turn with an Observer onboard – we understand that no one wants to be watched all the time! But, if your mate thinks he's being clever and dodging observer coverage, then he's not pulling his weight for the industry. Dodging observer coverage just makes it more expensive for everyone. And, good management decisions start with good information – just ask David Middleton!

WHO'S WHO?

Dr. David Middleton – Chief Scientist, New Zealand Seafood Industry Council

David is SeaFIC's science critic in chief....and so much more. The Guardian asked David what spins his wheels at work, and after hours.

What was life before SeaFIC?

I started out in ecology but soon focussed on mathematical biology. Fisheries came after I graduated and moved from the UK to the US for contract work. Then, I went to the Falkland Islands, where I got thrown into all aspects of fisheries science. I started to hear about New Zealand – it seemed there was good work going on that was closely linked to management. An opportunity came up at SeaFIC, and it was time to move again!

What are the worst parts of the job?

It's tough keeping up! There's so much going on that even reading emails can be too much for one day. Also, when it comes to protected species, emotion can get in the way of good science. Science is about evidence-based decision making, even when it's hard.

And the best?

Seeing quality research that really hits the mark! Also, sometimes researchers find unexpected gems - they might look at things a different way, or get a really surprising answer. That keeps the work fresh for me. Also, the cast of characters is entertaining. I work with people across science, industry and government. Seeing such different people understand science, and use it properly, is really rewarding.

What's most important for 2012?

For me, 2012 is about ensuring that SeaFIC delivers excellent science advice to industry. A key part of my work will be "Trident". This is a new project that targets fisheries we don't know much about. I want to improve the tools we have for managing these fisheries.

And in your downtime, how does the Chief Scientist relax?

I've got kids, and spend a lot of time doing family sports. Also, I stop the microphone feedback at church, where I'm the sound technician. My ideal weekend is more than two days! I love out of town weekends, but not the traffic on the way back in.

Thanks David – sounds like you're a busy guy!



David gets set to sample squid eggs off the Falkland Islands.

Off the hook in Brazil

Better known for its bronzed babes and beautiful beaches, the seas off Brazil are also rich in seabirds and fishing! Longlines catch seabirds in Brazil, just like in other places like Australia and New Zealand. And, tests have been underway to do something about it. Recently, a research team trialled a device called the Hook Pod. The idea has been developing for years, through work led by mitigation specialist Dr. Ben Sullivan, and a UK company called Fishtek Ltd. Like many good ideas, this one's simple – find a way to cover the hook barb when lines are set, so seabirds can't get caught. The trick is how to uncover the hook later for good fishing. The key bit of engineering behind the Hook Pod is a pressure sensitive valve that releases the hook when it sinks below 10 m. This is too deep for albatrosses to dive. Result!! Safer for birds, and good for fishing.

Now, if you think this Hook Pod deal sounds fiddly and annoying, check out the YouTube video. This shows footage from the trial on a pelagic longliner, and the guys look like they're managing just fine. And, it's still just a prototype. You might also see some good-looking Brazilian birds in there.....with feathers, of course!

<http://www.youtube.com/watch?v=WXqJA3fu0Uc>

All this is still a work in progress. The pod is undergoing further trials at sea to test operational efficacy and examine impacts on seabird and fish catches.



The hook pod loaded with a baited hook on setting. Photo: B. Sullivan

WHAT THE FAQ?!

On the road again.....

Many protected species are great ocean travellers. With satellite technology, scientists can unravel the mysteries of their journeys. Did you know:

- Black petrels breed only on Great Barrier and Little Barrier Islands in New Zealand. When they're not breeding, they travel right across the Pacific to a small area off Ecuador and Northern Peru.
- Caught in New Zealand longline fisheries from time to time, leatherback turtles undertake some of the longest migrations known for vertebrate animals. Migrations across the Pacific Ocean have been recorded at 19,000 km!
- Great white sharks tagged in New Zealand waters travel to the Great Barrier Reef, New Caledonia, Vanuatu, Fiji, and Tonga, before returning to New Zealand. Research shows they also dive deeply on these trips, with one recorded down at 1,200 m!

THE OCEAN GUARDIAN 

FEEDBACK

What do you want to know? To submit feedback, questions for Myth Busters or topics of interest please email ocean_guardian@yahoo.com.