

Baseline surveys, NRC, Spot the Fish, Rahui signs

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Fish Forever Matters #10 - May 2017

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Baseline Surveys

What is in our waters around the Bay?

All types of marine protection from no-take marine reserves, to customary or mainstream fisheries management measures need effective programmes in place to monitor the effect they are having. In 2016 Fish Forever was funded by the Department of Conservation (DOC) to carry out surveys to provide baseline data for various aspects of the marine environment in the Bay of Islands (BOI).

Follow our **Baseline Data** series of articles to see what we found out. In this newsletter Brett Sutton reports on a rock lobster pilot survey and a monitoring programme for the tiny fish that are hard to spot.



Baseline Data #1: Rock Lobsters in the Bay

Cray abundance in the Bay is generally considered to be pretty low at present and so Fish Forever has been keen to establish a monitoring programme that can track changes over time, and also to see what effect the **Maunganui Bay (Deep Water Cove) Rahui** is having. In 2016 Brett Sutton and his dive team carried out a pilot study to investigate the feasibility of a long-term monitoring programme.

Brett says that just getting in the water it was obvious there were a lot more crays inside the Rahui, especially packhorse. And at some sites the rock lobster densities were about 7 times higher inside the Rahui than in the non-protected sites, and the average size was bigger. Curiously there were even more very small crays (down to

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Common carapace lengths in the no-take zone.



The results of this pilot study are encouraging as it showed that divers could quite quickly gain the skills needed to effectively sample rock lobsters. This means that a bigger survey with more sites could give us a good tool for monitoring the response of crayfish to future efforts to restore their abundance in the BOI.

Brett wishes to thank those that contributed to these projects whether as volunteers in the field (Alice Morrison for diving and Marcus Mabee for skippering) supplying local knowledge (Shane and Julia from Northland Dive) or giving technical advice (Dr Adam Smith, John Booth and Vince Kerr).

[Read the full article on Rock Lobster Monitoring](#)

Baseline Data #2: Spot the Fish



In the spring of 2016 Brett Sutton carried out the first survey to look at those tiny little fish, like the juvenile dwarf scorpionfish (left), that hide away on the bottom. Scientists refer to them as *crypto-benthic fish*, and we wanted to work out an affordable and effective way to monitor them in the Bay of Islands. In particular, were there more of them inside the **Maunganui Bay Rahui**, which has been a no-take area for 6 years now, compared to the rest of the Bay. The methods chosen were developed by Dr Adam Smith of Massey University and adapted for this pilot study.

The survey focused on counting the triplefins, morays eels, slender roughy and bigeyes hiding out in the cracks, crevices, caves and kelp forests in the shallow rocky reef systems. At eight different locations around the Bay, the divers painstakingly looked in every nook and cranny of 320 square metres of quadrats. The team identified 17 different species of these small cryptic fish, with higher species diversity when the bottom habitat had more nooks, crannies and seaweed. Total densities were almost twice as high inside the Rahui than outside. Brett is happy the system works well enough to use for long-term monitoring and thanks Dr Smith for his advice.



[Read the full article on Crypto-benthic Fish Monitoring](#)





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Fish Forever People: **Brett Sutton**

Brett is a biologist and commercial diver with the Fish Forever team. His team of volunteers did the baseline surveys for crays and crypto-benthic fish (see above). Brett grew up in Kerikeri and become inspired about marine reserves after being taken to Goat Island by his Dad when he was about 7 years old "I just couldn't believe there were snapper swimming in front of my mask, it's not something I'd ever seen before". His fascination with the sea continued with learning to dive at high school. Then after a 5 year stint in the army he became a professional diver in tourism and construction and got a BSc in marine science. His work has included environmental monitoring of the Rena, consulting to the Oil and Gas sector regarding minimising impacts of construction operations on turtles, dugongs and humpback whales, the Fiordland *Undaria* programme, and working on the marine biosecurity programme for the Northland Regional Council.

After discussions with BOI based friends found them all wondering why there wasn't a marine reserve in the BOI, Brett joined Fish Forever in 2014. Since then he's been active in our marine survey work. He would love to see a reserve in the Bay so people could have the opportunity to see just how diverse and abundant our local marine life should be and believes that just as there is a right to fish, there also should be a right for snorkelers, divers, photographers, scientists and anyone to observe ecosystems unaffected by fishing. Whenever he has the chance he helps out with the **Experiencing Marine Reserves** programme to give kids just that opportunity.

# Coast Cleanup

Three dead inflatables, a stainless steel yacht oven, a tyre, boat engine batteries, a couple of set nets, marine farm mesh, a packet of very stinky bait, lots of plastic bottles, heaps of pegs from the oyster farms, lots of synthetic rope and numerous bits of plastic, polystyrene, odd bits of footwear and old clothing, and many bottles and cans (many of which once contained alcohol), were collected by a dozen hearty souls on a gorgeous morning in April.

Organised by Living Waters as part of the Northland Regional Council's extended Seaweeek beach cleanup, the group worked on foot and by boat from Harris Point in the Waikare Inlet around to Wairoro Park north of Pipiroa Bay. Thank you to the FNDC for the dump voucher for the 2 trailer loads of rubbish - the boot load of recyclables was free.



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# Pest and Marine Pathway Management Plan

How to protect our marine environment from unwanted pests is a challenge the Northland Regional Council (NRC) has been grappling with through the Northland Regional Pest and Marine Pathway Management Plan.

While the plan is about pests to be found on land, in freshwater and the sea, it is the new *marine pathways* part of the plan that has aroused the interest of local boaties. This pathways plan focuses on requiring vessels moving to or between a number of special/ vulnerable marine environments in Northland to have a “clean” hull with only “light fouling”. The associated proposed biosecurity levies and hull cleaning/antifoul requirements have attracted opposition from some quarters.

Vicky Froude took the lead on the Bay of Islands Maritime Park submission and attended the hearing in Waitangi on 24 May to give our oral submission. In general we supported the Plans direction to improve protection of our marine environment.

We suggested that they also:

- include an outcome statement and goals for pest management across the Northland Region
- include processes to *respond* to pest incursions, rather than just the proposed surveillance. For example it's possible that if there had been a response following the discovery of *Undaria* in Rangaunu Harbour it could have been exterminated.
- do more work in partnerships with other organisations in pest management
- improve their list of species, as many important pests have been left out
- include aquaculture in the plan as boats aren't the only place that invasive pests can grow!
- support the development of quality antifoul technologies, to address the challenge of how to the protect native marine organisms we love while killing marine pests.

Read the BOIMP submission on the Pests and Marine Pathways Management Plan

## NRC Marine Management

This month we were invited to meet with NRCs Marine Management Working Party. Councillors Rick Stolwerk, Justin Blaikie, David Sinclair and Bill Shepherd are concerned about the marine environment around Northland and were meeting with groups to find out about marine protection initiatives in the region.

Fish Forever members Karen Field, Vince Kerr and Chris Richmond gave a presentation about the history of efforts to get Marine Protected Areas (MPAs) in the BOI (which includes attempts by MAF in 1985, The BOI Swordfish Club in conjunction with MAF and DOC in 1988, and the Marine Reserves Coalition Group in 2003), and the experience Fish Forever has had in recent years to promote marine protection in the BOI. There was a wide ranging discussion on the challenges involved to improve the health of our local sea.

**The Councillors in the Marine Management Working Party would love to hear your views on this so take a moment to send them your thoughts!!**

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