



THE UPDATE

Captain's Blog



Fishing industry gets rare pat in latest marine report

The Capital's daily newspaper, The Dominion Post, and the online Stuff site last week carried a most unusual report concerning fishing.

The commercial fishing industry, routinely castigated as villains responsible for every ill in our oceans, actually received some praise.

The Dompost editorial had the headline: Ocean report is not all bad news.

It began: "There are small glimmers of hope in an otherwise melancholy new report about the state of our marine environment. Fishing, for example, is performing better than it used to."

It noted in these dark times for the environment, any small threads of good news were worth reaching for.

The Our Marine Environment 2019 report produced by the Ministry for the Environment and Stats NZ warned of the serious effects of climate change and other issues on the unique life in our oceans and coastal seas.

The first marine report was issued in 2016 and an initial overall stocktake of air, freshwater, marine, atmosphere and climate, and land – Environment Aotearoa 2019 – was released earlier this year.

That report also reflected that most markers for the environmental performance of New Zealand's seafood industry are improving.

It confirmed 97 percent of total wild catch landings had come from sustainable stocks.

The Dompost comment followed the launch of the latest marine report the previous day at the Te Kopahau visitor centre in Owhiro Bay on Wellington's south coast on a stunning spring day.

The backdrop was the blue waters of Cook Strait ruffled by a light northerly, with the snowclad Seaward Kaikouras hovering in the distance to the south.

The centre sits on the western edge of the Taputeranga marine reserve, gateway to the Red Rocks fur seal colony.

It is an idyllic setting that belies the serious issues facing our coastal waters and deeper oceans.

Secretary for the Environment Vicky Robertson also acknowledged "there is good news" in the fishing sector, citing reductions in accidental captures and trawling.

The report said seabird bycatch has halved, to an estimated 4186 captures in the 2016-17 year, compared to around 8000 at the beginning of the century.

There had also been a decrease in sea lion bycatch with just three observed captures in the 2016-17 year, down from 12 in 2002-03.

Similarly, Hector and Maui dolphin bycatch was reduced.

The last confirmed Maui dolphin death due to fishing activity was in 2002, although the report did not reflect that.

It did recognise that the bacterial disease toxoplasmosis, originating in cat faeces and carried to the sea through waterways, had been identified as a potentially serious threat to the dolphin populations.

Robertson said sedimentation was the issue consistent in every report the ministry had done.

For a country that relied so much on its soils, a lot more investigation was needed.

Porirua Harbour, a once rich food bowl now overflowing with sticky mud, was an example of the impacts of poor land use and protection.

An estimated 700,000 tonnes of sediment flows into the Kaipara Harbour every year.

It is the same story throughout the country's coastal margins, the sediment smothering the inshore ecosystems largely coming from urban development and soil washed from pastures and from forestry after felling.

Ocean acidification, ocean warming and plastics pollution are among other pressing issues.

There is no denying commercial fishing has an impact on the marine environment, just as farming does on land, but concerted efforts are being made to mitigate that.

It is encouraging that the negative aspects of that footprint are decreasing.

More enlightened environmentalists recognise that and are partnering with industry on projects such as dolphin protection, camera trials, mussel reseedling, predator elimination, and seabird threat management plans.

Fishing for knowledge on microplastics

Microplastics are one of the world's most pervasive pollutants, yet research into its effect on fish, human health and the marine environment, is still in its infancy.

Auckland University student Veronica Rotman will be delving deeper into the subject, undertaking a two-part study feeding microplastics to snapper at NIWA's aquaculture facility in Whangarei.

Rotman saw the research as an opportunity to undertake work relevant to New Zealand. "It's critical to find out what's going on with plastic in our ecosystems," she said.

"I want to see whether the plastic ingested remains in the gut or migrates to other parts of the fish, including the flesh we eat."

In phase one of the study, coloured polystyrene will be blended up into microplastics measuring between 50 microns and 2mm in size, and soaked in Waitemata Harbour for just over a month.

Plastic acts like a sponge for pollutants, Rotman explained, soaking up harbour waste – industrial chemicals, heavy metals and bacteria. Soaking the samples will help mimic that relevant environmental treatment, she said.

One hundred and sixty juvenile snapper will be fed varying amounts of the polystyrene along with their regular diet, and at 10 weeks, will be dissected to determine the quantity of microplastic they have retained.

Effects on growth, condition and damage to their gastrointestinal tract will also be examined, along with an assessment of whether microplastics have translocated into the liver and muscular tissue.

"What I'm really interested in is the levels of toxicity caused by microplastics accumulating in the digestive tract," Rotman said.

"The snapper experiment should shed light on whether microplastics can translocate into the flesh we eat and how exposure may impact their physiology, reproduction and fitness."

New Zealand's most commercially valuable fish, hoki, will become the focus of later research. Specimens from the Cook Strait, West Coast and Chatham Rise will be examined for any incidence of plastic in the gut, looking at variations in microplastic consumption between sample locations.



Veronica Rotman is feeding microplastics to snapper at NIWA's aquaculture research facility in Whangarei to expand knowledge on the impact microplastics have on the marine environment. The work will contribute to her Masters thesis.

Ocean Bounty season three - *Tokatu*

This week on Ocean Bounty, James Sinclair joins the crew of the new Sealord factory trawler *Tokatu* for a voyage to the Southern Ocean targeting southern blue whiting. Tune in this Sunday, 5pm on TV Three for a look at life on board a state-of-the-art vessel that uses the latest trawl technology.



News

Southland's only shark cage diving operator, Shark Experience, says it is a "relief" that a recent Supreme Court decision on the future of the industry has enabled the business to continue operation, *Advocate South* reported. The legal proceedings were brought about after pāua industry group PauaMAC5 claimed shark cage diving was putting its divers at risk, and that the use of incentive baiting amounted to "hunting or killing" the protected great white shark. PauaMAC5 chairman Storm Stanley said Shark Experience was "incorrect" if they believed their practice was legal after the Supreme Court ruling. He said the court clearly stated it could not make its own ruling on the legality or otherwise of caging, in that the court "stated that such a ruling could only be done by way of a prosecution" and "it affirmed that DOC cannot issue a permit for shark caging". "This means that there are no controls on the commercial exploitation of this fully protected species, currently classified as declining. PauaMAC5 reiterates that the cagers are undertaking an activity that causes a hazard to the public, be they pāua divers, fishers in dinghies in the area, recreational divers and muttonbirders looking to gather kaimoana from the northern Titi Islands during the muttonbirding season," Stanley said. PauaMAC5 would be looking to the Minister of Conservation Eugenie Sage to instruct her department to "do their job and launch proceedings against anyone undertaking shark cage diving as soon as they receive information that protected great white sharks are being disturbed", he said.

The Government is backing a project turning native red seaweed into a greenhouse gas-busting cattle feed supplement, *Stuff* reported. The Government announced \$100,000 of funding from Sustainable Food and Fibre Futures will be used by Cawthron to transform the seaweed, *Aspargopsis armata*, into a cattle feed supplement for domestic and global markets. The seaweed contains chemicals that have been found to reduce the microbes in the stomachs of cattle that cause them to burp when they eat grass. Cawthron is

contributing a further \$150,000 towards the project and will be collaborating with University of Waikato and Australian researchers. Cawthron chief executive Charles Eason said the institute was excited to offer its aquaculture expertise as part of the collaborative research effort. "This type of seaweed is native in New Zealand but there is not enough of it to meet the potential demand from farmers, which could be thousands of tonnes each year," he said. "Part of our job is to work out how this could be grown at mass scale in order to meet demand both domestically and globally. Aquaculture is a growth industry for this country and has the potential to play a more significant role in our economy. We want to be the most productive, sustainable country in the world. Projects like this will contribute to New Zealand's reputation in sustainable and innovative aquaculture and agriculture."

Check out the latest Seafood Magazines

