

Putting plastic in its place

Now for some good news about plastics.

We have been deluged in recent months with dismal reports of a world drowning in plastics, our blue planet grossly polluted and our food chains endangered.

A Lower Hutt-based firm is doing something about it in a big way.

Flight Plastics has invested heavily in a new plant that has the capacity to handle all of New Zealand's waste PET plastic bottles, the type most commonly used for soft drinks and water.

PET (polyethylene terephthalate) principally made from oil refining waste by-products is the world's most ubiquitous food packing material, surpassing glass and aluminium. It makes up an estimated 20-30 percent of New Zealand's annual plastics consumption.

The privately owned Flight company is turning the PET products from waste to a resource with a \$17 million investment.

The chemical composition allows the material to be recycled multiple times, according to chief executive Keith Smith.

The company manufactures a range of recycled plastic packaging products, from fresh produce containers to meat and fish and bakery items, to chocolates and pharmaceuticals.

Smith talks of a circular economy that moves costs where they belong and helps the environment by reducing consumption and the need for disposal.

That is in contrast to a linear economy where resources are extracted, products manufactured, used and then disposed of, with the community bearing the cost of the environmental impact.

The choices are stark – go circular and reduce the PET pile, or keep importing and add to our landfills and roadsides and waterways.

New Zealand uses around 30,000 tonnes of PET packaging every year.

About 8000 tonnes was previously collected and exported, sending our problem offshore.

Flight Plastics has the capacity to deal with all of the clear PET currently collected in New Zealand and can increase capacity as recycling rates improve.

Even so, that leaves 22,000 tonnes every year that is currently not being recycled in our throwaway society.

Why anyone needs to buy bottled water in a country that has a first rate water supply is another matter.

Flight's development is some achievement for a company that began life 111 years ago in a single room in Wellington's Lambton Quay crafting leather bags.

It is no longer in the luggage making business, although the Flight brand lives on, and moved into plastics in the 1970s.

It has since established factories in Adelaide and Romsey in the UK.

The increasing public alarm about the long-term impacts of plastics has seen the Government move to ban single-use plastic bags.

Both major supermarket chains responded they will phase out free, single-use high density polyethylene shopping bags by the end of this year, 750 million of which are produced annually – 154 for every New Zealander.

"Every year we use a mountain of bags, many of which end up polluting our precious coastal and marine environments and causing serious harm to all kinds of marine life," Prime Minister Jacinda Ardern said.

"There are viable alternatives for consumers and business."

Exactly.

The supermarkets could still do a lot more and when profits are at stake, will likely only respond to public pressure or government edict.

They continue to import plastic meat trays – approximately 4500 tonnes of them every year – instead of sourcing local recycled products, adding to the waste mountain.

And yet the price differential is minuscule.

It is easy to tell the difference. The Flight Recycling products are stamped as such – NZ Recycled Plastic.

The recycling process fails in the absence of market demand.

It is up to all of us to demand higher standards.

Fins for species management

NIWA scientists have developed a reliable way of identifying dolphins using unique pigment patterns on their fins.

“We have photographed individual dolphin’s dorsal fins and established a catalogue of dolphins that can be identified by differences in their dorsal fin edge markings and pigmentation patterns,” cetacean biologist Dr Krista Hupman said.

It is the first study to use photo-identification to determine the abundance of dolphin populations.

Scientists typically use catalogues of animals to determine population numbers by region and whether a species is in decline. Dolphins however, are more difficult to count owing to large populations which travel over large distances and lack distinctive markings. Given this, aerial shots or shipboard surveys are often used.

This new research provides a more accurate method for counting dolphins by taking photos of the fin and will help in gathering information on individual mammals.

Over three years, Hupman and a team of researchers gathered over 240,000 images of dolphins from the Hauraki Gulf. Thirty-one thousand were of sufficient quality to be documented as part of the identification framework.

Each sample was manually compared using visual cues such as nicks, notches and pigmentation patterns – resulting in the identification of 2083 individual dolphins.

As pigmentation was thought to change over time and lack distinctiveness in some dolphin populations, using it for identification was originally considered to be an unreliable method. Surprisingly, the study found no significant changes in pigmentation over ten years of photographic records. Some 95 percent of adult dolphins in the Hauraki Gulf had some form of pigmentation on their dorsal fin.

The research team is now working on making the method fully computer-automated and applying an algorithm that will classify each dolphin based solely on their dorsal fin pattern. “It used to take up to an hour to compare one dolphin image to the entire catalogue of individuals. However, by using these algorithms we can match an image to the catalogue in a matter of seconds”. Hupman said.

The work will be an ongoing project in collaboration with Massey University researchers.



The best of fish 'n' chips

Over the past few weeks, we have featured some of Kiwi's top-rated fish and chip shops from around the country. Here is this week's feedback on your personal fish and chip favourites:

Kelly's Seafood, Waihi

Great crisp chips, fresh fish and always extra fish if portions don't give a large fillet. Lemon wedges at no extra cost, top notch service, top shop - 5 star.

- Mark Armstrong

Mairangi Bay Fisheries, Auckland

Great batter and the fish is always fresh. Oil always smells clean, the service is friendly and prompt and they offer a great range of species. It's an immaculately clean shop, located right by the beach. You also have the option of buying whole fish hand picked from the window, filleted immediately and cooked as per your request.

Owned and operated by Kelvin and his lovely family.

A++ in my humble opinion.

- Peter Wheeler

What fish and chip shop do you rate top-notch? Send us your choice [here](#) with the subject line 'Fish and Chips'.



Scholarship opportunities for fisheries scientists

Fisheries New Zealand is inviting applications for the joint Fisheries New Zealand and National Institute of Water and Atmospheric Research (NIWA) Masters scholarships and Fisheries New Zealand undergraduate scholarships.

The scholarships are available to Masters and undergraduate students who are interested in developing strong skills within New Zealand in marine biology and applied statistics, mathematics or programming.

"We are investing in the next generation of fisheries scientists, so our people will be equipped to deal with the changing world and will have the tools to process the increasing volume of information," said Fisheries New Zealand head Dan Bolger.

"As part of the Masters scholarship, winners will carry out research with NIWA and/or Fisheries New Zealand scientists as mentors, which will be fantastic, real-world experience for students," said Bolger.

Each Masters scholarship has a value of \$20,000 per annum for up to two years. The undergraduate scholarship is available in a student's final year of their degree at a value of \$5,000.

Application deadlines for the 2019 scholarships are:

- 20 September 2018 for the Masters scholarship
 - 30 November 2018 for the undergraduate scholarship
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News

The country's largest deepwater fishing vessel, *Tokatu*, made its maiden call to Dunedin this week and will be a semi-regular visitor to the city's upper harbour. Sealord took possession of the \$70 million, 81.7 metre-long Norwegian-built vessel in mid-June, after a six-week delivery via the Panama Canal to its home port, Nelson. Sealord fleet manager Bill Healey said the ship was still in its commissioning stages and working towards full capacity, which was to catch, process and freeze 150 tonnes of fish per day until its 900-tonne storage capacity was reached. *Tokatu* will be operating out of Dunedin until the end of January, after hoki and southern blue whiting, then head to northern waters for barracuda and mackerel before returning south for the squid season in late January. The vessel will range as far south as the Auckland and Campbell Islands, still within New Zealand's 200-mile exclusive economic zone.

Fisheries Inshore New Zealand has welcomed the successful appeal against the Environmental Protection Authority's (EPA) decision to allow Trans-Tasman Resources (TTR) to mine 50 million tonnes of seabed annually and discharge 45 million tonnes of waste sediment into the waters off the coast of Taranaki for 35 years. TTR's first application was refused in June 2014 after a Decision Making Committee (DMC) appointed by the EPA found the application was premature and more time should have been taken to understand the proposed operation, its effects on the receiving environment and existing interests. Fisheries Inshore New Zealand (FINZ) chief executive Dr Jeremy Helson said; "By allowing the appeal, the High Court has today confirmed our view that the application and the DMC's decision, were deficient. The Court quashed the decision saying the narrow interpretation of the adaptive management approach was inconsistent with the law."

Fisheries New Zealand is consulting on rule changes for recreational fishers to support wider measures to make sure that fishing for crayfish and pāua in the upper South Island is sustainable. Proposed changes include a reduction in the number of pāua recreational fishers can catch and the number of daily bag limits fishers can store in Canterbury/Kaikōura (PAU3) and the top of the South Island (PAU7). Measures such as introducing rock lobster telson clipping in Canterbury/Marlborough (CRA5) will also be considered to help reduce illegal sales of crayfish. Manager of inshore fisheries Steve Halley says the proposed measures are key to ensuring sustainable use of these important shared fisheries.

Submissions close at 5pm on 3 October 2018.

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