



Surfers at Hickory Bay on Banks Peninsula. Photo: Shane Orchard.

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Surf Break Planning Advances

by Shane Orchard, Bailey Peryman and Hamish G. Rennie

The late Matt Skellern was amongst the early champions of research on planning approaches and processes for the sustainable management of surf breaks. A NZCS member, he was active in policy analysis and submission writing for a number of organisations including the Surfbreak Protection Society. In his Master's thesis work, he was investigating international approaches to the protection of surf breaks and how these might be applied to New Zealand contexts. With support from the Skellern family, Auckland Council, Bay of Plenty Regional Council, and the Surfbreak Protection Society, his work has recently been progressed and compiled in a new research report.¹ The report contains useful information for the management of surf breaks, and includes policy analysis and case study research on a variety of planning approaches that have been used in New Zealand and overseas.

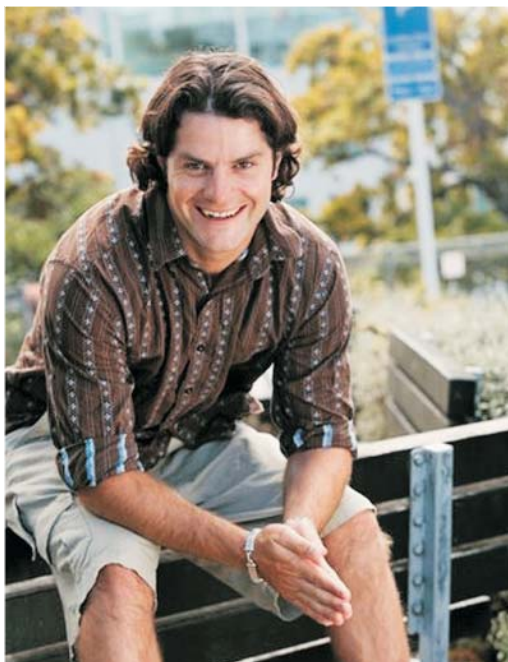
New Zealand was the first country in the world to adopt surf-break protection within its resource management policy framework and surf breaks are now specifically provided for under the New Zealand Coastal Policy Statement 2010 (NZCPS). These developments resulted from a groundswell of interest in resource management from the grassroots surfing community, backed by improved knowledge and understanding of surf-break environments that had been developing internationally in the area of coastal science. At the community level, learning from previous examples of surf-break degradation has contributed to the current level of awareness of surf-break values. There remains, however, an urgent need to improve our understanding of issues for management, underlying causes and potential remedies.²

Resource use, development, and changing settlement patterns can have impacts on the characteristics of areas where surf breaks are found. There are various threats, including pollution, public access issues, and the effects of activities, that may alter hydrodynamic regimes and other aspects of the natural character of the coastal environment. Adverse changes to surf-break environments can ultimately affect the health and well-being of people and communities. Steps can be taken, however, to future-proof surf-break resources as an aspect of coastal management.³

We are now entering a crucial time in the further development of surf-break management practice and it is vital that positive outcomes are generated through appropriate policy and planning provisions. The focus is now on regional and local levels as local authorities progress their second-generation plans and consider implementation options. However, there have been recent examples of coastal resource issues that have been contentious amongst interested parties, and appear to introduce risks to the values of surf-break environments. These include the actual and potential effects of dredging activities at Whangamata, and of spoil dumping at the Otago Harbour entrance. As was recently noted by Al Gillespie⁴, "More than 200,000 Kiwis and 30,000 tourists surf in New Zealand. Yet despite being part of a massive cultural influence, when it comes to decision-making, the interests of these people are commonly ignored." These circumstances illustrate that further research on surf-break characteristics and management approaches will be useful in developing the next generation of plans, and the implementation of established principles such as a precautionary approach.

Due to their location at the mixing zone of land-

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Matt Skellern was a dedicated, compassionate and perceptive student and practitioner of planning and resource management in New Zealand.

based, coastal, and marine systems, surf-break management requires attention to many wider issues for sustainable resource management. Threats can arise from not only activities within the coastal environment, but also from offshore activities and from upstream activities in nearby catchments. The surf-break environment also includes components that may cross jurisdictional and traditional coastal management boundaries.

Consequently, the management of surf breaks requires an integrated approach. This produces challenges for planners and decision-makers with responsibilities for addressing resource use, development, and changing settlement patterns in a manner that will be effective in managing potential impacts. Dealing with the potential effects of sea-level rise is another important consideration, whilst there are also opportunities to enhance surf-break environments that are currently degraded. It follows that there is much to be gained from future-focused coastal planning approaches in advancing this area of resource management in New Zealand.

Information gathering activities are a vital aspect of the planning process required, and underpin the understanding of management issues and appropriate responses. Recent research identified, however, a general lack of information on the resource within planning authorities. To address this, many councils are currently in the process of gathering background information on surf breaks in anticipation of preparing specific policy provisions for their respective planning frameworks.

Engagement with community groups is important at several stages of policy and planning cycles and will be especially useful in assisting local authorities to characterise the surf-break resource in their areas. For community organisations reliant on volunteers,

the capacity to effectively engage in contemporary resource management can be a major constraint. This is an important consideration for local authorities when preparing coastal plans and other management provisions. It is particularly crucial for surf-break management since the most authoritative source of information on the resource resides in the community. Methodological guidance, such as a framework for identifying the attributes of surf breaks which support various values, may assist local authorities to develop a robust approach.

The report, *Planning approaches for the sustainable management of surf breaks in New Zealand*, will assist local authorities with identifying issues and developing appropriate responses to avoid the degradation of surf breaks as unique and valuable features of the coastal environment. It also provides useful information for all organisations and community members interested in the protection of surf breaks. The research report is available as a free download through the Surfbreak Protection Society, Auckland Council or Bay of Plenty Regional Council websites.

Visit www.surfbreak.org.nz/?page_id=2177

For further information contact Shane Orchard at 021 318 548.

References

- 1 Skellern et al., (2013). *Planning approaches for the sustainable management of surf breaks in New Zealand*. Available at www.surfbreak.org.nz/?page_id=2177
- 2 Peryman, P. B., & Orchard, S. (2013). Understanding the values and management needs of New Zealand surf breaks. *Lincoln Planning Review*, 4(2).
- 3 Skellern, M., Rennie, H. G., & Davis, M. (2009). Working towards the protection of surf breaks. *Planning Quarterly*, 172, 12–15.
- 4 Gillespie, A. (2013). Surf breaks getting tough break. *NZ Herald*, 15 August 2013. Available at www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10912395



Coastal camping and lifestyle at Meatworks on the Kaikoura coast. Photo: Shane Orchard.

Seaweek Ocean Champions – Our Seas, Our Future

This year, NZCS joined in celebrating Seaweek by sponsoring the Ocean Champion award. This year's winner is the Dunedin-based marine conservation advocacy organisation Our Seas, Our Future.

Seaweek, an annual event organised by the New Zealand Association for Environmental Education (NZAEE), was held 1 to 9 March and featured over 150 events around the country, from beach clean-ups, to guided kayaking and snorkelling, to workshops on how to respond to whale strandings.

Seaweek National Coordinator Dr Mels Barton says the Ocean Champion award was created as a way of supporting community-based efforts to look after the marine environment. "It was fierce competition this year, but Our Seas, Our Future won based on their ability to work effectively within their community."

Chair Rick Liefting and management committee member Hugh Leersnyder represented NZCS at the national launch event held on 4 March at the Auckland waterfront. Rick said in announcing this year's Ocean Champion, "First, congratulations to Our Seas, Our Future. Established only in 2011, the group has already accomplished much along the Dunedin coastline.

"As a society, we are also really happy to commit to Seaweek by sponsoring this award. There are many potential links between the work of NZCS and NZAEE and we look forward to working together in the future."

Our Seas, Our Future spokesperson Noel Jhinku said in receiving the award, "This is fantastic news for Our Seas, Our Future. Recognition and support for the



Volunteers with Our Seas, Our Future were involved with a number of activities during Seaweek 2014, including a beach clean-up. Credit: Our Seas, Our Future.

effort put into our community engagement projects is an encouraging boost for the group – it's a testament to our dedicated volunteers who are involved in environmental conservation and education."

About Our Seas, Our Future

Our Seas, Our Future is a group of motivated individuals who are committed to protecting New Zealand's coastal and marine environment. Members come from a diverse range of backgrounds, but they share a common goal: to engage and work with local communities, along with groups and governing agencies to take an active role in protecting the coastal and marine environment.

www.facebook.com/MarineReserves

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Marine Metre Squared Publishes New Guides

During Seaweek, the University of Otago's New Zealand Marine Studies Centre released new *Sandy & Muddy Shore Guides*. Northern and southern New Zealand guides have been developed based on regional differences. The guides were distributed throughout the country and to all New Zealand schools.

NZ Marine Studies Centre Programme Director Sally Carson says the guides' photographs help identify 100 common plants and animals living on New Zealand's sandy and muddy shores and estuaries.

"At first glance muddy and sandy shores appear barren, but look beneath the surface and you will find a rich diversity of life: "ngā tini o te waitai" (the multitudes of the sea)."

Sally says the latest guides differ from the *Rocky Shore Guide* that the centre published in 2010.

"This time we have included evidence of what to look for on the surface to identify what hides below. We have included pictures of burrow entrances, or

faecal casts that will give you an indication of what lives there without digging up the beach. We are asking those using the guides to be detectives and look for evidence of life."

The *Sandy & Muddy Shore Guides* were developed by staff at the NZ Marine Studies Centre with input from the University of Otago's Departments of Marine Science and Zoology, University of Auckland's Leigh Marine Laboratory, and NIWA. St Hilda's Collegiate School teacher Derrith Bartley also made a significant contribution while on an Endeavour Teacher Fellowship at the NZ Marine Studies Centre. Funding for the guides was provided by Mobil Oil New Zealand Limited.

Both the *Sandy & Muddy Shore Guides* and the *Rocky Shore Guide* contribute to the wider Marine Metre Squared project that was launched last year during Seaweek. To learn more or to download order forms for individual copies and class sets of the guides visit www.mm2.net.nz.

Climate Change Watch

NZ scientists look at marine plankton fossils to better predict the ocean's rising temperatures

In December, a group of scientists from GNS Science, Victoria University of Wellington, NIWA, and the University of Auckland reported that they were able to reconstruct the last major global warm period about 125,000 years ago.

Their research is based on the analysis of microscopic marine plankton fossils called foraminifera which were found in more than a dozen seabed sediment cores collected from the Tasman Sea and east of New Zealand. Their findings were published in the international science journal, *Paleoceanography*.

"The ocean warming has already started, with temperatures off Tasmania having risen by 1.5 degrees Celsius in the past 70 years, which is more than twice the global average rate," said lead author Giuseppe Cortese of GNS Science.

Equatorial heat is already transferred into the Tasman Sea by the East Australian Current, which moves down the east coast of Australia to Tasmania and also across to New Zealand. As atmospheric carbon dioxide levels climb and winds intensify, this current will become stronger and move more heat southward. The beginnings of this have been observed already.

During the last major global warming, warming off Tasmania had been accompanied by an invasion of sub-tropical marine life, which had replaced subantarctic species.

Co-author Gavin Dunbar of Victoria University of Wellington said results were consistent with modern observations – namely a stronger East Australian Current that had extended 350 km to the south to warm the seas off Tasmania.

"Compared to modern observations, which cover seven decades, our data span thousands of years and hence provide insights into longer-term change."

As temperatures increase off Australia's east coast, ocean circulation patterns change – heat transfer towards the North Island weakens, while heat transfer towards the South Island gets stronger, meaning the greatest amount of warming will be off the South Island's east coast.

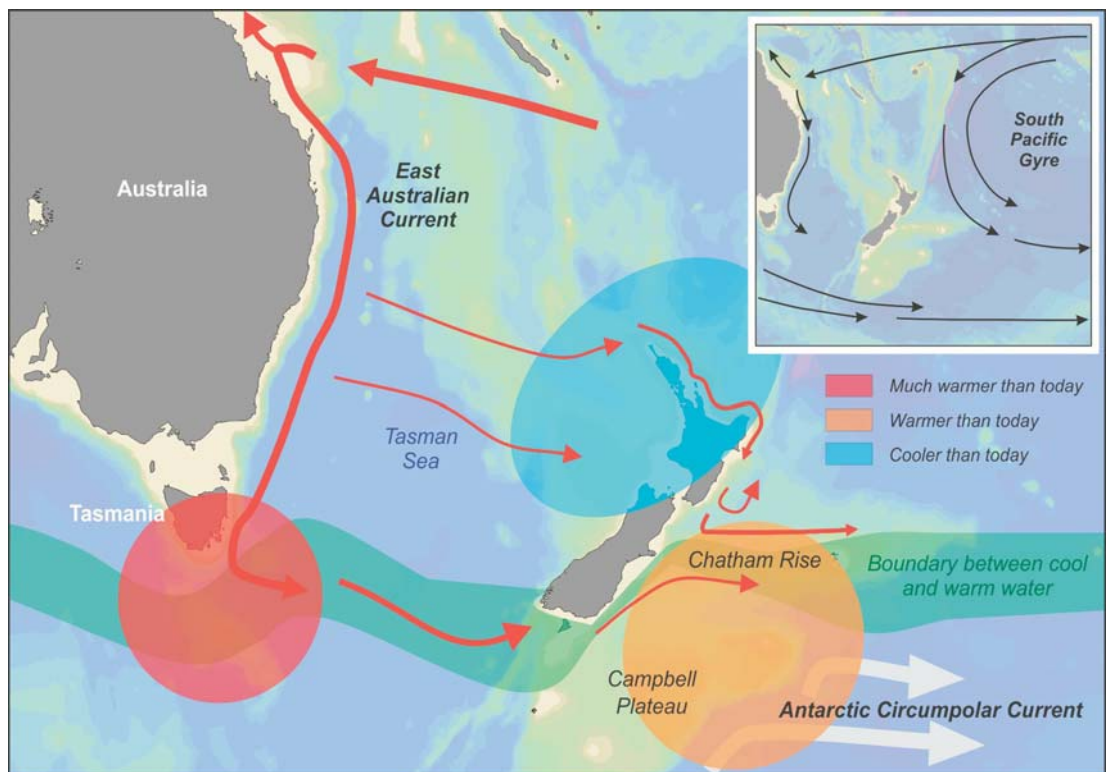
In broad terms, this would mean sea temperatures off Southland would become more like sea temperatures in the Marlborough Sounds in 100 years' time.

Dr Cortese said the team are now looking at how the changes would affect ocean currents, plankton, and the marine food chain.

"From what we are seeing off the coast of Australia, both in recent observed trends and in our reconstruction from the past, such temperature changes are likely to have impacts on the whole marine ecosystem, and will ultimately impact on commercial fish stocks."

Based on GNS Science media release.

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Increased energy in the south Pacific Gyre (ocean current) will bring more warm equatorial seawater through the Tasman Sea and around the New Zealand coast over the next 100 years. This will result in sea temperatures off the New Zealand coast, especially the South Island's east coast, rising by about 2 degrees Celsius over the next century. Graphic courtesy GNS Science.

Tropical microalgae identified in NZ waters

by Shelly Farr Biswell

Cawthron Institute scientists have identified a species of toxin-producing microalgae (a dinoflagellate in the genus *Gambierdiscus*) in New Zealand's marine environment that's usually associated with tropical and subtropical waters.

"As ocean temperatures rise the range of some microalgae – and consequently the range of the toxins they produce – increases," says Safe New Zealand Seafood Programme Leader Lesley Rhodes.

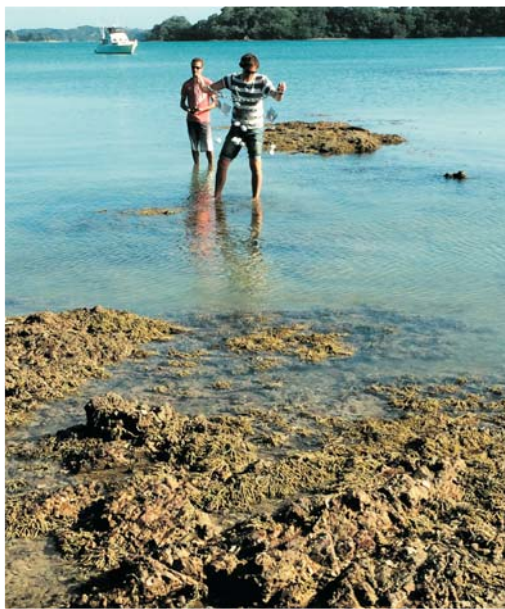
While there is a single report of *Gambierdiscus* in Northland in 1996 as *G. toxicus*, by NIWA scientist FH Chang, it's not a species that's been seen again in our waters. Following blooms of *G. carpenteri* in temperate New South Wales, Australia, in 2012 and 2013, Lesley and her team thought it timely to revisit Northland to determine whether any *Gambierdiscus* species could be detected in New Zealand waters.

"During our investigation we discovered the *Gambierdiscus* species that had not been identified in New Zealand previously," she says.

Cawthron scientists reported their discovery to the Ministry for Primary Industries and last winter their findings were published in the *New Zealand Journal of Marine and Freshwater Research* to raise awareness.

At the end of February, the Cawthron team returned to several Northland sites and used several new molecular technologies to see if the *Gambierdiscus* has spread in the waters. They will report their findings at the 2014 international conference on harmful algae.

Lesley says the work of the government-funded Safe New Zealand Seafood Programme, which is led by Cawthron and includes researchers from AgResearch, ESR, and Plant & Food Research, is to investigate and identify microorganism risks to New Zealand seafood



In February, scientists visited several Northland sites to test for *Gambierdiscus*. Photo: Lesley Rhodes, Cawthron.

and its associated industries. "With the effects of climate change, it means we need to be more proactive than ever."

Harmful algae conference planned

Later in 2014, Cawthron will host an international conference on harmful algae. The conference will allow scientists from around the world to present their research and interact with regulators and industry representatives to explore ways in which science can be applied to meet the challenges of the future.

Visit www.icha2014nz.com to learn more about the 16th International Conference on Harmful Algae to be held 27 to 31 October 2014 in Wellington, New Zealand.

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NZCS Regional Coordinators

Every region has a NZCS Regional Coordinator who is available to help you with any queries about NZCS activities or coastal issues in your local area.

North Island

Northland	Michael Day	michaeld@nrc.govt.nz
Auckland	Sam Morgan Paul Klinac	Sam.Morgan@aucklandcouncil.govt.nz Paul.Klinac@aucklandcouncil.govt.nz
Waikato	Christin Atchinson	christin.atchinson@waikatoregion.govt.nz
Bay of Plenty	Mark Ivamy Sharon De Luca	Mlvamy@tonkin.co.nz sharon.deluca@boffamiskell.co.nz
Hawke's Bay	Neil Daykin	Daykin@hbrc.govt.nz
Taranaki	Emily Roberts	emily.roberts@trc.govt.nz
Wellington	Iain Dawe	iain.dawe@gw.govt.nz

South Island

Upper South Island	Eric Verstappen	eric.verstappen@tasman.govt.nz
West Coast	Don Neale	dneale@doc.govt.nz
Canterbury	Justin Cope Gareth Taylor	justin.cope@ecan.govt.nz GGTaylor@globalskm.com
Otago	Suzanne Watt Jamie Torrance	suzanne.watt@orc.govt.nz jamie.torrance@orc.govt.nz
Southland	Nick Ward	nick.ward@es.govt.nz

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Red-alert tide calendar available

NIWA's annual storm-tide red-alert calendar for New Zealand is available for 2014. The calendar predicts when perigean-spring tides, known as king tides, may lead to flooding of roads and properties in low-lying coastal areas, especially when they combine with storms.

The calendar, which has been issued for about 10 years, provides a warning for residents, civil defence staff, roading agencies, and coastal and stormwater managers.

Rob Bell, NIWA Programme Leader for Hazards and Risk, says that when these higher king tides coincide with a low-pressure system, high swells, storm surges, strong winds or even tsunamis, the chances of coastal flooding are much higher.

"This is a very simple forecasting tool that enables people to do some planning and make decisions ahead of time, especially if adverse weather is forecast a few days ahead of those dates."

Higher tide levels will become more common as sea levels rise and the calendar also helps raise awareness that increasingly higher king-tide levels being observed and documented will be the first noticeable indication of climate change at the coast.

NIWA has tailored red-alert tide calendars for specific regions (for example, Auckland for the "King Tides" initiative and also Nelson), with a tighter range of days compared to the generic New Zealand-wide calendar. See page 12 for more information on Auckland's King Tides initiative.



Mt Maunganui "king" tide on 1 February 2014. Photo: Rob Bell, NIWA.

Doug Ramsay and Scott Stephens at NIWA have also tailored the application of red-alert tide forecasts for Pacific Island countries with the enhancement of incorporating forecasts of the change in monthly mean sea level for the following three months. Monthly change in sea level can be a significant contributor to the extent and number of days when inundation may occur during higher tides in many Pacific countries. This enhanced red-alert calendar is already being applied in Kosrae and is directly connected to their tide tables (<http://kosraecoast.com/>).



NIWA has also tailored the application of red-alert tide forecasts for Pacific Island countries. High tides in Kosrae. Photo: Doug Ramsay, NIWA.

First New Zealand storm petrel egg found by scientists

Researchers studying the New Zealand storm petrel on Little Barrier Island in the Hauraki Gulf Marine Park are the first scientists to find a New Zealand storm petrel egg.

New Zealand storm petrels were presumed extinct then rediscovered in 2003, more than a century after the last sighting. In February 2013, the birds were successfully tracked to breeding sites on Little Barrier Island. Since that discovery, cameras have been set up at known burrows which show birds coming and going at night.

Last month, a New Zealand storm petrel project team visited the breeding sites and took the opportunity when a female was off its nest to check the egg was fertile and record data. The egg found measures 31 mm x 23 mm. The team expect the egg to hatch in early April.

The New Zealand storm petrel team is led by Graeme Taylor, Department of Conservation (DOC) Principal Science Advisor, and includes Chris Gaskin, Dr Matt Rayner and Alan Tennyson.

The project has been supported by DOC with both fieldwork and the logistics of getting gear and personnel to Little Barrier.



Graeme Taylor (DOC) holding the egg, Alan Tennyson (Te Papa) on right, and Dr Matt Rayner (University of Auckland) in background at burrow. Photo: Steffi Ismar.

Ngāti Manuhiri, mana whenua of Hauturu/Little Barrier, are kaitiaki of all the taonga on the island and its surroundings. They support ongoing research and monitoring programmes that deliver outcomes that complement their cultural values and aspirations and are delighted with these latest developments.



New Zealand storm petrel at sea. Photo: Neil Fitzgerald.

Trusts may be the solution to protecting wharves in Tasman

The Tasman Council has given its support for the establishment of independent trusts to protect, repair and maintain local wharves.

Since 2010, the Tasman Council has been asked to clarify its commitment to a number of wharves in Golden Bay and Motueka. The wharves are currently classed as abandoned and in the ownership of the Department of Conservation. Because of their historical and cultural value to local communities, however, the Golden Bay Community Board had asked that the Tasman Council take responsibility for the wharves.

“This is not just a Tasman issue and such trusts have been formed in other parts of the country,” said Tasman Mayor Richard Kempthorne. “Such a solution was recently presented as an option enabling no ongoing financial obligation to the Council.”

Exploratory drilling – new regulations

Activities involved in exploratory drilling for oil and gas are now classified as non-notified discretionary under new EEZ Act regulations that came into effect on 28 February.

As part of the marine consent application, operators will need to submit an impact assessment that identifies impacts on the environment and existing interests.

The impact assessment must describe any consultation undertaken with people identified as existing interests. The Environmental Protection Authority (EPA) will assess the effects of the activity on the environment and existing interests. If a marine consent is granted, the EPA can impose conditions to manage adverse effects of the activity.

The decision for activities involved in exploratory drilling for oil and gas to be classified as non-notified discretionary follows a consultation on the draft regulations that was held from 12 December 2013 to 31 January 2014. Public consultation on the regulation

of activities involved in exploratory drilling also occurred during August and September last year.

www.mfe.govt.nz

Reports on the Rena

In December 2013, the government released two reports on the *Rena* grounding. The first, *Rena Environmental Recovery Monitoring Programme 2011-2013*, is a monitoring report into the effects of oil pollution from the grounding of the *Rena* on Astrolabe Reef in 2011.

While the environment has not yet returned to its pre-*Rena* state, the researchers’ findings suggest that there will be few long-lasting impacts on Bay of Plenty maritime habitats. The report is one of the most comprehensive, multi-disciplinary studies ever undertaken in response to a marine pollution incident.

Led by University of Waikato Chair in Coastal Science Professor Chris Battershill, the monitoring team included researchers and experts from Environmental Research Institute, University of Waikato; Marine Ecology Research Group, University of Canterbury; Bay of Plenty Polytechnic; Manaaki Taha Moana; Ngati Makino Iwi Authority; Maketu Ecological Services Ltd; Te Whare Wānanga O Awanuiārangī; and Marum, University of Bremen, Germany.

The monitoring team’s work continues on Astrolabe Reef as that reef remains impacted, but the rest of the Bay of Plenty has recovered well.

At the same time, an independent review of Maritime New Zealand’s response to the grounding of the *Rena* was released. The report was prepared by independent reviewer Simon Murdoch.

Both reports are available at www.renarecovery.org.nz.

A special issue of Coastal News is currently being prepared on the Rena response and recovery which will be published later this year.



Coastal News



Universities Making Waves

Coastal News



Glass fibre reinforced polymer may have applications for coastal bridges

by Shelly Farr Biswell

University of Canterbury researchers are looking at glass fibre reinforced polymer (GFRP) as an alternative to steel reinforcement in concrete structures. The research has particular significance for bridges along New Zealand's coastline where exposure to chlorides can corrode steel reinforcements.

UC senior lecturer Dr Alessandro Palermo says, "The use of steel as bridge reinforcement historically in New Zealand means that many coastline bridges, especially those built in the 1940s and 1950s, are beginning to show signs of deterioration."

Master's student Victoria Worner, who is being supervised by Dr Palermo, says GFRP bars have been developed as an alternative to steel reinforcement for various structural concrete applications. The GFRP used for the research project has been Mateen-bar which is manufactured by Pultron Composites in Gisborne.

"Due to their non-corrosive nature, GFRP are particularly suited for harsh environments, including coastal areas. The purpose of this research is to understand the use of GFRP reinforcing bars as concrete bridge deck reinforcement in a New Zealand context and to look towards developing New Zealand guidelines for the design of GFRP-reinforced bridge superstructures," she says.

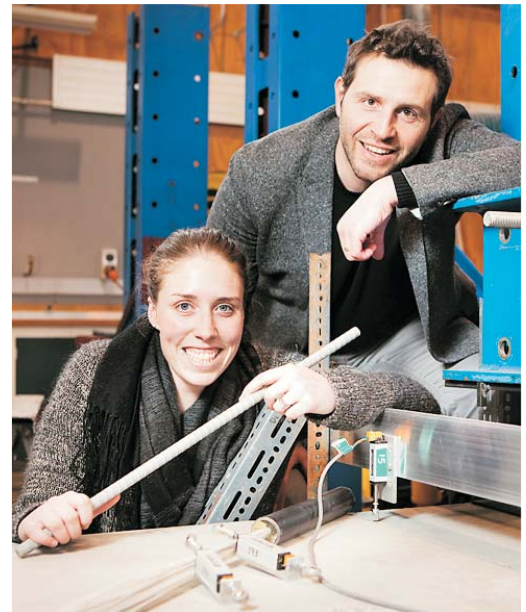
The experiments compared the performance of a typical New Zealand bridge deck reinforced with steel and an equivalent deck reinforced with GFRP bars. Victoria says a point of difference between these tests and other research on GFRP-reinforced deck slabs is that GFRP has not been directly substituted for the same steel area.

"GFRP and steel have very different properties which need to be understood properly before any structural design is done. Many practising engineers are used to using steel in their reinforced concrete design, so a shift in thinking is required when using GFRP bars – it's not like comparing apples with apples."

As part of the research project, a test GFRP-reinforced bridge deck was designed so that it could handle the same loads as a steel deck, but it was also designed to prevent any long-term failure.

She adds that the results to date have generally been as expected: the GFRP-reinforced slab design is stronger than the comparison steel reinforced slab due to the over-reinforcement.

"This is good news for GFRP as there are no particular structural concerns for using GFRP instead of steel. GFRP is still upfront a more expensive option, however, than using traditional steel reinforcement. Reduced maintenance costs lower the overall life cycle costs of a GFRP-reinforced concrete structure design, so with some investigation GFRP may be a cost-competitive alternative to using steel reinforcement."



University of Canterbury Master's student Victoria Worner and Dr Alessandro Palermo. Photo: Duncan Shaw-Brown.

While an in-depth life cycle cost was not within the scope of this research, Victoria says it is something that should be explored further. All testing for the project has been completed with the last of the data processing now underway. Final results from the project are to be confirmed later this year.

Jasper Holdsworth who is General Manager of Pultron says that the main uses of GFRP have been as a durable alternative to steel in marine and coastal civil structures; non-conductive reinforcement for aluminium smelters and electrical substations; non-electromagnetic reinforcement in concrete structures close to magnetic, telecommunication or radar equipment; and as cuttable or temporary reinforcement in tunnels and coal mines.

The research has been funded by the Ministry of Business, Innovation and Employment and Pultron Composites Ltd.

Hauraki Gulf use and values survey

Until 21 April, people are invited to participate in an online survey to help plan the Hauraki Gulf's future. The survey has been developed by AUT University PhD student Rebecca Jarvis and will feed into the work being done by Sea Change – Tai Timu Tai Pari (see page 12 for more information about Sea Change).

The survey is anonymous, but the resulting map of people's activities will be shared with the public. The survey uses the Department of Conservation's online mapping tool, SeaSketch. The tool features an interactive map of the Hauraki Gulf that allows people to provide information on specific locations. Rebecca will analyse the results as part of her PhD on conservation and social-ecological systems.

www.seachange.org.nz/survey

Word from the Chair

by Rick Liefing

Welcome to the first edition of the *Coastal News* for 2014. Considering I am writing this 'Word from the Chair' means that I am now 'officially' in my new role. The chair position and other NZCS positions were ratified at our committee meeting on 18 February 2014. There are some key roles, however, that have not been filled, especially the education portfolio. So if you are in the education (preferably tertiary) sector and would like to be involved please contact me.

While we are in the process of building a new committee, I would first like to thank Deirdre Hart for the fantastic job she did as chair over the last three years. Thanks to her hard work, the NZCS is in a great position. Deirdre will still be involved in the NZCS and no doubt I and other management committee members will pick her brain on a number of occasions.

The February meeting was very successful and I am confident that the 'newbies' will be a great addition to the team. So welcome Don Neale, Department of Conservation – West Coast; Michael Nielsen, Ministry for Primary Industries; and Scott Stephens, NIWA, to the Executive Committee, we really appreciate your (and your employer's) willingness to volunteer your time and talent to the NZCS. Thanks also for the continuing contributions of Amy Robinson, Waikato Regional Council; Hugh Leersnyder, BECA; Jose Borrero, eCoast; Sarah McRae, Department of Conservation – National Office; and Eric Verstappen, Tasman District Council.

NZCS just wouldn't be what it is without the involvement of Shelly Biswell (*Coastal News* and media) and Renee Coutts (Email Digest and administrator). These two make a huge contribution to the NZCS and I'd like to acknowledge their continued commitment.

To accommodate future and current NZCS commitments, the management committee will be trialling more frequent meetings, but of shorter duration, via teleconference. We think this approach will enable the committee to be more reactive and proactive, not to mention the potential cost savings.

Seaweek and King Tides initiative

This year, the committee agreed to be a sponsor of Seaweek which is run by the New Zealand Association for Environmental Education (NZAAEE). We see this collaboration as being

very useful in widening the profile of the NZCS while also fulfilling the society's vision. As part of this new collaboration, I had the great pleasure to attend the launch of Seaweek in Auckland where I presented the Ocean Champion award to 'Our Seas, Our Future'. You can learn a little more about our commitment to Seaweek and Our Seas, Our Future on page 3.

The management committee has also discussed some other exciting opportunities, such as being involved in expanding the King Tides initiative nationally which is currently set up and successfully running in the Auckland area by Auckland Council (<http://auckland.kingtides.org.nz>). More to come on this once we have had additional discussions with Auckland Council and other agencies.

Upcoming conferences

Planning for the NZCS annual conference in Raglan this year has already started and the first conference organising meeting was held in March. Please contact Jose Borrero if you are interested in helping with this conference. The Coasts & Ports 2015 conference planning is also well under way with a website available if you wish to register your interest (www.coastsandports2015.com).

Onwards and upwards

Already 2014 is shaping up to be a good year for the NZCS; I am really looking forward to working with the committee and all our members on keeping the momentum going for building a stronger professional organisation.

If you have any suggestions about how we can improve as an organisation, please feel free to contact me or other members of the management committee – it is after all your society.



The 2013 conference was a great time to connect with members across the many disciplines represented within NZCS. This year's conference in Raglan will provide the same opportunity. Look for details in the coming months on the NZCS website, along with regular updates through our email digest and Coastal News.

Coastal News



Contributing to Coastal News

We always welcome contributions for forthcoming issues of *Coastal News*. Please contact the Editor, Shelly Farr Biswell, at shelly@biswell.net if you'd like to submit a news in brief, article, or have content suggestions. The submission deadline for the next issue is 9 June 2014.

Caring for Our Coast

by Raewyn Peart, EDS Policy Director

Coastal News



The New Zealand Coastal Policy Statement (NZCPS) 2010 was designed to lift the game when it comes to coastal management. It sought to redress the weaknesses in the earlier NZCPS through providing clearer direction to decision-makers. In particular, it specifically addresses the management of cumulative effects through requiring plan-makers to avoid adverse effects on important values such as outstanding natural landscapes, areas with outstanding natural character, and threatened species.

A new guide recently published by the Environmental Defence Society (EDS), *Caring for Our Coast*, sets out what the implications of the NZCPS 2010 are for coastal developers and decision-makers. In a series of chapters it sets out the relevant policies, what they are intended to achieve, and how they can be applied to achieve best practice planning and development. Each chapter is illustrated with practical examples and full-colour photographs from around the country.

Topics addressed in *Caring for Our Coast* include natural character, landscape and amenity values, sedimentation and pollution, coastal biodiversity, coastal hazards, coastal access, Māori interests, heritage and urban waterfront development.

The guide was the winner of the Resource Management Law Association Best Publication Award in 2013. The citation describes the publication as “being comprehensive, easy to read and navigate, and an outstanding reference textbook that will enhance the understanding of coastal issues, for practitioners working in environmental and resource management law, as well as for students and educational institutions”.

Caring for Our Coast was co-authored by environmental writer Lucy Brake, who is a former



Caring for Our Coast cover.



Langs Beach, Northland. Photo: EDS.

chair of the New Zealand Coastal Society, and EDS Policy Director Raewyn Peart.

To learn more or to purchase the guide visit www.eds.org.nz.

NZCS Management Committee

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Central Government Coordinators:	Sarah McRae Michael Nielsen	smcrae@doc.govt.nz michael.nielsen@mpi.govt.nz
Coastal News Coordinator:	Don Neale	dneale@doc.govt.nz
Website & Digest Coordinator:	Jose Borrero	jose@ecoast.co.nz
Other NZCS Contacts		
Administrator & Communications Coordinator:	Renee Coutts	nzcoastalsociety@gmail.com
Coastal News Editor:	Shelly Farr Biswell	shelly@biswell.net

News from the Regions

Northland Region

Michael Day, Regional Coordinator

Preventing spread of marine pests – portable vessel quarantine facility

Biosecurity staff at Northland Regional Council (NRC) have been trialling a vessel quarantine facility (VQF) with the support of Marsden Cove Marina staff. This portable facility is designed to quarantine a vessel up to 16 m in length in the event that a marine pest is found on the hull.

The VQF can be used when other cleaning options, such as slipping or divers, are not immediately available. NRC staff are in discussions with Whangaroa Marina management to have the VQF located at the marina where there are currently no vessel slipping facilities.



The VQF can quarantine a vessel up to 16 m in length.
Photo: NRC.

Moorings and marinas strategy

Growing pressure on limited mooring and marina space around Northland's coast – especially in the Bay of Islands – prompted the NRC to release a *Draft Mooring and Marinas Strategy* for public feedback in November last year. The strategy was developed over 18 months after consultation with a variety of key stakeholders including local residents, tangata whenua, boating clubs, commercial and environmental interests, other local authorities, contractors and marina developers. The draft strategy sets out options for how the NRC will provide for new mooring and marina space over the next 50 years. The draft strategy provides:

- a set of universal principles to ensure a regionally consistent approach to the allocation of marine space for boat storage;
- a decision-making guide to apply to determine the best way to manage future growth in discrete areas like the Bay of Islands;
- a policy to ensure fair allocation of marine space, including compensation, where intensification (for instance a new marina) is proposed in an existing mooring area;
- a proposal to increase council ownership of moorings to enable more effective management; and

- where and how moorings and marinas will be provided for in the Bay of Islands, where regional demand for mooring space is currently highest.

The council received 130 submissions on the strategy. A hearing is scheduled for mid-April. The draft strategy can be viewed on NRC's website:

www.nrc.govt.nz/haveyoursay

Coastal erosion hazard zone assessment

Following an open tender process, the NRC has commissioned Tonkin & Taylor Ltd to undertake an assessment of coastal erosion hazard zones for 28 sites in Northland. Two of the 28 sites (Matauri Bay and Te Ti Bay (Paihia-Waitangi foreshore)) do not have existing coastal hazard erosion zones.

The assessments will include two coastal erosion hazard zones for each site, based on 50- and 100-year timeframes. The zones will define the area of coast that may be subject to potential future coastal erosion hazard based on an assessment of a number of variables, including short-term and long-term changes in shoreline position, sea-level rise, dune slope, and the near-shore seabed profile.

In most locations, the last coastal erosion hazard assessment was at least 10 years ago. Changes in techniques for assessing coastal hazards, improved data sets and revised sea-level rise projections mean that a reassessment and review is required to ensure the coastal erosion hazard zones are based on good practice, give effect to New Zealand Coastal Policy Statement 2010 requirements and reflect the potential future coastal erosion hazard as accurately as possible.

Auckland Region

Sam Morgan and Paul Klinac, Regional Coordinators

Matiatia Bay – marina application

As highlighted in the media in January, Waiheke Marinas Limited submitted a resource consent application to construct and operate a 160-berth marina in Matiatia Bay. The proposed work would include the construction of marina structures and mooring piles, dredging to create a marina basin, and reclamation to provide a 55-space car parking area for the marina facility. Stormwater discharges, a viewing deck, and a boardwalk that connects to an adjoining coastal reserve would be associated with the reclamation.

The applicant requested to the Auckland Council under s87D of the Resource Management Act 1991 (RMA) that the application be referred directly to the Environment Court for determination. The Auckland Council granted that request under s87E of the RMA. Submissions to the council closed in July 2013 and a total of 817 submissions (253 in support, 563 in opposition) were received. A further notification process to the Environment Court under s274 of the RMA closed on 22 January 2014.

The Auckland Council officer's report recommends (subject to additional or contrary information being

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presented at the hearing) that the non-complying activity application for resource consent be declined. The officer's recommendation outlines concerns related to landward effects of the granting of consents, as well as the potential to compromise the gateway function and future growth of the Matiatia transport hub which could affect the ability of the community to provide for its future transport needs. Based on this recommendation, the application fails to meet Section 5 as it does not reasonably meet the foreseeable future needs of the community through precluding options for future wharf-related operations and expansion.

These issues will be discussed in the forthcoming Environment Court hearing and a final determination will be sought.

"King Tides" initiative

Auckland Council, Civil Defence, and Sea Change recently launched a community initiative, KingTidesAKL, aimed at getting the public to observe and photograph the annual "King Tides" around the Auckland region. The purpose of the initiative is to provide people with an insight into what our shorelines might look like with the expected global sea-level rise. The initiative is part of the Global King Tides Initiative and is based on similar projects in Australia and the United States.

The initiative has received wide interest across the news and social media. KingTidesAKL served as a trial for future events (including the early March tides) and it is hoped the concept can be extended to other parts of the country as part of a national programme.

For more information visit:
<http://auckland.kingtides.org.nz/> or contact
sam.morgan@aucklandcouncil.govt.nz or
scott.speed@aucklandcouncil.govt.nz.



One of hundreds of photos snapped by a member of the public that shows the effects of the King Tides on the North Western Cycleway, Auckland. Photo: King TidesAKL.

Waikato Region

Christin Atchinson, Regional Coordinator

Eastern Coromandel tsunami strategy

Waikato Regional Council and Thames-Coromandel District Council have developed an *Eastern Coromandel Tsunami Strategy*. Strategy work began at Whitianga and is currently underway in Pauanui and Tairua. It is

expected strategy work for Whangamata and Whiritoa will begin shortly.

Over the anniversary weekend in late January, about 400 Tairua and Pauanui residents and visitors attended two information open days to learn more about the threat of tsunami and share ideas for better managing the risks.

Using the latest information, knowledge and tsunami computer models, scientists have been able to determine that the greatest risk of significant tsunami inundation in Pauanui and Tairua will come from earthquakes occurring along the Tonga-Kermadec Trench. In such cases, the travel time between the source and impact is between one and three hours.

More about the strategy is available at www.waikatoregion.govt.nz.

Sea Change

Sea Change – Tai Timu Tai Pari is a two-year project to develop a new spatial plan for the Hauraki Gulf (Tikapa Moana/Te Moananui a Toi). The first of its kind in New Zealand, the plan is to be delivered in 2015 and will identify solutions to issues in the 1.2 million-ha Hauraki Gulf Marine Park area. Plan recommendations will guide the development of policies and processes of various councils and agencies to protect the gulf's core cultural, environmental, social and economic values.

The project is a partnership involving mana whenua and statutory agencies Waikato Regional Council, Auckland Council, the Hauraki Gulf Forum, the Department of Conservation, and the Ministry for Primary Industries.

Recently, the selection of 14 members of a Stakeholder Working Group (SWG) was endorsed by the project steering group. The announcement follows a meeting late last year where more than 60 stakeholders representing a range of sectors – from industry bodies to conservationists – agreed on who would sit on the SWG. A separate process was held for the selection of the mana whenua representatives. The SWG membership includes 10 key stakeholder representatives and four mana whenua representatives.

The SWG will provide a backbone for the project as it works to create agreements in areas such as recreational needs, aquaculture and fisheries management. The SWG members will also provide an ongoing feedback loop so that the project continues to be closely linked to various stakeholder groups.

The wider public will be involved throughout the development of the draft marine spatial plan through targeted engagement.

Bay of Plenty Region

Mark Ivamy and Sharon De Luca, Regional Coordinators

Tauranga's Café Scientifique – Kaituna River

In February, Pim de Monchy, Bay of Plenty Regional Council (BOP Regional Council) Project Manager,

presented the council's proposal for re-diversion of the Kaituna River and the associated assessment of environmental effects.

Since 1956, almost all of the Kaituna River's freshwater has been diverted out to sea at Te Tumu to protect the low-lying farmland from flooding and improve drainage. The diversion had significant ecological effects on the Ongatoro/Maketu Estuary.

BOP Regional Council intends to re-divert almost a quarter of the Kaituna River's flow back into the estuary. The extra water is predicted to improve the estuary's health and will restore some of the mauri of the area by allowing salt marsh and other wetlands to return. It will also create more suitable conditions for a range of shellfish and fish species and may reduce the rate at which sand fills in the estuary.

Over 100 interested community members attended the presentation. The NZCS supported the event in its move from the usual café to a larger venue at the Tauranga Yacht Club. A lively debate followed the presentation and the BOP Regional Council project team recorded the valuable feedback provided by Café Scientifique attendees as part of the pre-consent consultation process. The council plans to lodge its application for resource consent for the proposed project in June 2014.

Treasuring the Bay 2014

In January, the annual symposium Treasuring the Bay (Whakamana te taonga o te Moana a Toi) began with a keynote address from Libby Evans-Illidge from the Australian Institute of Marine Science. Libby discussed her work in managing Australia's largest and most comprehensive marine bioresources library, its connections with New Zealand, and the many facets of biodiversity research.

Symposium topics included an update on the *Rena*, mobilising youth volunteers, the Sustainable Backyards photography competition, marine pharmaceuticals, the newly established House of Science, along with several presentations by post-graduate students on their research projects. In addition, speakers also provided updates on sustainable economics, mauri of the bay, ecotourism, and sustainable agribusiness. It was a well-attended event sponsored in part by the NZCS.

Hawke's Bay Region

Neil Daykin, Regional Coordinator

Climate change expert Paul Komar presents draft report

In November, US-based climate change expert Professor Paul Komar, who was a keynote speaker at the 2013 NZCS conference, presented his draft report on Hawke's Bay: *Global Climate Change and Barrier-Beach Responses* to staff and councillors from local councils in the Hawke's Bay region. While in the region, Paul also went on a number of site visits and was involved in several technical workshop sessions to look at and discuss a number of key issues. Paul's final report is expected soon.

Clifton Motor Camp seawall

Towards the end of 2013, Hastings District Council approved 50 per cent funding up to a \$150,000 limit for an 80-m limestone rock seawall at Clifton. The seawall has now been completed at a reported cost of \$200,000, using approximately 3000 tonnes of limestone rock. The seawall will provide temporary vehicle access to the motor camp and fishing club. Below are a series of photos taken before, during and after the seawall was constructed. Photos: Hawke's Bay Regional Council (HBRC).



Before the seawall was built.



During seawall construction.



After seawall completion.

Marine oil spill exercise

November 2013 saw another oil spill exercise in Hawke's Bay, this time at Napier Port. It was planned to incorporate a number of learning opportunities, including training Napier Port staff on the deployment of the rapid deployment boom, sampling and evidence collection from a ship, testing the capabilities of the Napier Port survey, and trialling techniques for collection of oil at No 2 Wharf. One of the very

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successful trials undertaken was the use of the Coastguard boat tying off to the wharf and then using its twin jets to flush out “oil” (for the exercise, oranges were used) from under the wharf. Photos: HBRC.



Use of boom protector over the edge of the wharf during deployment and recovery of the boom.



Oil skimmer about to go over the edge.

Canterbury Region

Justin Cope and Gareth Taylor, Regional Coordinators

Lake Forsyth update

Macrophytes have flowered in Lake Forsyth (Te Roto o Wairewa) for the first time in many years. The species which flowered is *Myriophyllum triphyllum*.

Tim Davie, Environment Canterbury Surface Water Science Manager, said the growth is a sign of a stable lake environment with improving water quality.

“Macrophytes grow in lakes along the margins where their roots can reach the lake bottom, but in shallow lakes such as Wairewa they can grow almost anywhere.

“They are generally seen as an indicator of a healthy environment because they require good light penetration in the water column and a stable lake level.”

Over the years, changing sea levels, the growth of Kaitorete Spit, and changing land use in the catchment have all contributed to alterations in the lake form.

Long-term changes in the catchment have increased the nutrient content in the sediment and water, namely nitrogen and phosphorus. This increase in nutrients along with a shallower lake has made the lake highly eutrophic, degraded the water quality, and caused algal outbreaks in summer.

Through the use of controlled openings and closings of the lake to the sea at Birdlings Flat, the lake has been able to be kept at a higher, more stable level over the last three summers.

“The re-establishment of the macrophytes is a reflection of the active management of the lake by Wairewa Rūnanga in conjunction with Christchurch City Council and assisted by the Banks Peninsula Zone Committee,” Tim says.



Lake Forsyth. Photo Tim Davie, Environment Canterbury.

New marine protected areas for Kaikoura

The Government has announced plans for a new marine reserve, whale and fur seal sanctuaries, five customary fishing areas and amateur fishing regulations to improve the management of Kaikoura’s coast and ocean.

The new marine protection measures proposed include:

- a Hikurangi Marine Reserve (10,416 ha); the new reserve would be larger and deeper than any existing marine reserve on New Zealand’s three main islands;
- the Kaikoura whale sanctuary (4686 km²);
- the Ohau Point New Zealand fur seal sanctuary;
- three maitaitai reserves and two larger taiapure reserves; and
- recreational fishing regulations that will see catch and size limits tightened within the Te Korowai area due to concern about unsustainable pressure on fishing stocks.

The plans also provide for an ongoing advisory role for the Te Korowai group in advising the Ministers of Conservation and Primary Industries on Kaikoura marine reserves.

Conservation Minister Dr Nick Smith is expected to introduce the Kaikoura Marine Management Bill to Parliament to create these new reserves and sanctuaries and to introduce the changes to recreational fishing regulations.

He says, “There will be an opportunity through the select committee process to allow the public to have further comment on the details. Our ambition is to pass the legislation this year and have these new marine protections and management tools in place by 2015.”

Natural Predators Take a Bite out of Biofoulers

by Shelly Farr Biswell

Cawthron Institute and NIWA scientists have joined together to take on biofoulers. Biofoulers, such as barnacles, sea squirts, sponges, and seaweeds, can degrade the marine environment and compromise the integrity of marine structures.

Cawthron Marine Ecologist Javier Atalah says the scientists are looking for natural solutions to this problem. "We've set up trials in the Nelson Marina and Picton Marina to find out which predators can be introduced into an environment to control biofouling populations."

As natural predators of biofoulers, the scientists have worked with marine snails, paua, kina, and sea stars to see which species will eat the biofoulers and survive in a marina environment.

To conduct the research, the scientists use "cages" to house predators on structures. So far a sea snail, the Cook's turban (*Cookia sulcata*), seems to be the most effective predator.

"They not only eat through the biofoulers, but keep them from coming back and they are extremely hardy," Javier says.

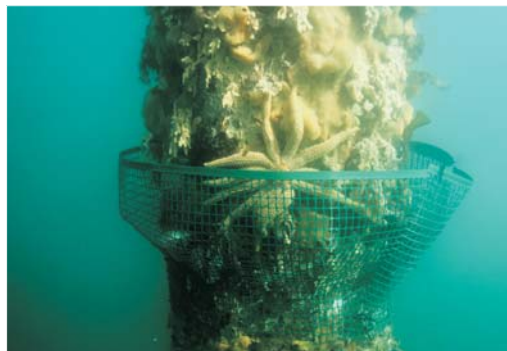
This summer, scientists took the predator/prey relationship a step further and tested the idea that combining predators may lead to increases in biofouling control due to synergisms or complementary prey consumption. For example, combining 10 snails, 10 kina and 10 starfish may be more efficient than just using 30 snails.

"We don't have an answer yet, but it's an interesting line of inquiry," he says.

Based on the results of the research, the scientists may look at potential ways to mass produce the most efficient biocontrol agents in a hatchery.

The project team's research may also influence the way piers and other structures are built. Engineers and industrial designers could build structures that can facilitate the establishment of predators or grazers, such as sea snails.

This research was funded by NIWA under Coasts and Oceans Research Programme 4 – Marine Biosecurity (2012/13 SCI).



In the future, structures may be designed to attract or support biofouler predators. Photo Javier Atalah, Cawthron.



*A relatively clean marina pontoon after being treated with the sea snail *Cookia sulcata*. Photo: Javier Atalah, Cawthron.*

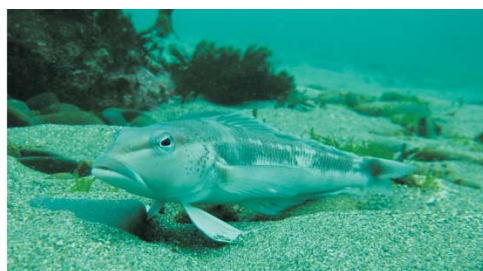
Marine Reserve Reports Released

Two reports *Tonga Island Marine Reserve, Abel Tasman National Park: update of biological monitoring 1993-2013* and *Horoirangi Marine Reserve, North Nelson, report on rocky shore biological monitoring: 2006-2013* have recently been published. Both reports were prepared by Davidson Environmental Limited for the Department of Conservation.

Researchers found that 20 years after the Tonga Island Marine Reserve was created, there are more than 7 times as many crayfish and 40 times as many blue cod over 30 cm as compared to outside the marine reserve. In the Horoirangi Marine Reserve, which was created in 2006, crayfish are 3.5 times

more abundant, and a third of blue cod are over 30 cm compared to just 1.7 per cent outside the reserve.

www.doc.govt.nz



Blue cod. Photo: Danica Stent, DOC.

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The New Zealand Coastal Society would like to acknowledge our corporate members for their support:



NZCS Mission Statement

The New Zealand Coastal Society was inaugurated in 1992 “to promote and advance sustainable management of the coastal environment”. The society provides a forum for those with a genuine interest in the coastal zone to communicate amongst themselves and with the public. The society currently has over 400 members, including representatives from a wide range of coastal science, engineering and planning disciplines, employed in the engineering industry; local, regional and central government; research centres; and universities.

Applications for membership should be sent to NZCS Administrator
Renee Coutts (email: nzcoastalsociety@gmail.com).

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