



Coastal News



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Sea Cleaners on Patrol

By Shelly Farr Biswell, Editor

Since 2002, Hayden Smith and his Sea Cleaners team have been removing marine rubbish from the shores of New Zealand. To date they have removed about 3.5 million litres of trash – enough to fill over 120 shipping containers.

While removing marine rubbish is a Sisyphean task – no matter how much Sea Cleaners collects unfortunately there will be more – Hayden and his team are incredibly upbeat and positive about the work.

“Aside from our full-time effort, we have coordinated more than 95,000 volunteer hours of community assistance. The outreach component is extremely important because for us removing the rubbish is only half the job, the other half is working with people to build awareness and change behaviours,” he says.

Hayden wasn’t always captain of a rubbish-collecting vessel. He was working in the transport industry when he hit a low point in his career. “I just wasn’t happy. I came home from work and told my partner how I was feeling and she said, ‘think about what made you happy as a kid, now figure out a way to do that and you’ll never work again’. I thought about it that night and the next day put in my notice.”

Hayden then began working in the adventure tourism industry. “When I thought about what gave me the greatest joy as a kid it was being in the outdoors and exploring, so I wanted to give that experience to other people.”

Part of Hayden’s work was to lead kayak tours. It was on a reconnaissance trip in the Waitemata Harbour

that the amount of pollution made him realise something had to be done.

“It really struck me that the city was taking care of our streets, but no one was taking care of big sections of our coast. Part of that’s because of the inaccessibility of many of our inlets and beaches,” he says.

What starts to become clear when you talk to Hayden is that once he puts his mind to something, he does it.

“I started talking to everyone I could about cleaning up our harbour. While everyone was supportive, it was pretty difficult to line up sponsorship and get the city involved initially. After a couple of years of trying with local government, I decided I needed to go straight to Sir Bob Harvey who was the mayor of Waitakere at the time. I put together a package to give him and thought I would hand deliver it to his house. I walked up his driveway and he happened to be outside. We got talking and he saw merit in what we wanted to do. It was his support that really got the clean-up work going.”

From that fateful meeting, things started to move quickly with the team receiving support through Auckland’s Watercare programme.

“That support means we have a commitment to the entire Auckland region, so we need to get our vessel out to as many parts of the Auckland coast as possible on a regular basis.”

Sir Bob has maintained his backing throughout and is now a patron of Sea Cleaners.

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Just as the team launched in 2002, Auckland Regional Council Chair Phil Warren, who had been supportive of a number of environmental and community-based initiatives, died. In his honour, the team named their vessel the *Phil Warren*. It's a fitting tribute to a man who gave so much to the Auckland region during his lifetime.

Building on a dream

The goal of Sea Cleaners is to expand their work to the main population centres of New Zealand.

Already the Northland Regional Council has employed Sea Cleaners for some work in Whangarei. In Auckland, the Auckland Council is looking at establishing another Sea Cleaners team on the Manukau Harbour and have indicated another caretaking role for the group on the western coastline of the Coromandel Peninsula because of the amount of rubbish from Auckland that ends up there due to the prevailing wind.

Further afield, Bay of Plenty Regional Council, Wellington Regional Council, and Taranaki Regional Council have all shown interest in Sea Cleaners' work and are in discussions with the group. At a national level, the group has gained support from the National Iwi Chairs Forum.

Sea Cleaners has also gained international attention. Members of the team recently returned from Washington DC where they were honoured with the Clearwater Award for their community engagement work on the Waitemata Harbour for the Watercare Harbour Clean-Up Trust. Later this year, they have been asked to be involved with "The Shift Music Festival" in Hawaii. The three-day event is being held at the Aloha Stadium and is centred on raising awareness about marine refuse. Sea Cleaners has been asked to participate as part of solving this global problem.

It starts here

In 2009, members of the Sea Cleaners team led an expedition to the centre of the North Pacific Ocean to survey the rubbish floating on the surface of the ocean in the North Pacific Gyre. They witnessed accumulation zones that stretched from horizon to



Sea Cleaners are able to get to beaches and inlets that are only accessible by sea.



The Sea Cleaners team aims to get their vessel out to as many parts of the Auckland coast as possible on a regular basis.

horizon. Sea Cleaners Patron Charles Moore returned from another expedition to the site in 2014 and found that the accumulation zones are now so thick in some places that it is possible to walk across the matted trash.

"When you see the sheer size of the problem, it's easy to get overwhelmed," Hayden says. "But if you think about it, this is a problem that has occurred during many of our lifetimes – it's something we have personally created. That means it's something that each of us now needs to take personal responsibility for and fix. It's amazing what we can do when we put our minds and our hearts to it."

www.seacleaners.com

In early March, as part of Seaweek, Hayden gave presentations in Auckland, Whangarei, Tauranga and Wellington about the work of Sea Cleaners.



Sea Cleaners have removed over 3.5 million litres of trash from the Auckland coastline.

Online Marine Resources

LAWA

In December, the Land, Air, Water Aotearoa (LAWA) website added beach water quality information for over 350 beaches around New Zealand.

The website provides a seasonal guide to beaches' water quality based on the last three years of environmental monitoring at the beaches, as well as the results of weekly beach testing.

LAWA was developed by New Zealand regional and unitary councils, the Ministry for the Environment, and the Cawthron Institute with the support of the Tindall Foundation to provide New Zealanders with more accessible information about natural resources.

www.lawa.org.nz

Fish4all app

Last year a free app was released to gather data on where and how recreational fishing is occurring. App investor and recreational fisher Tony Craig says Fish4all works as a fishing diary and serves as a way for fishers to share and compare catch details with their mates and fishing clubs.

"For the recreational sector, data gathered from the app can be used to enhance the overall picture of recreational interests in our resources," he says.

"Gathering data on recreational fishers has generally sat in the 'technically difficult basket' but with

smartphone technology and a commitment by the recreational sector, the Fish4all team has found a solution that is useful for fishers and supports sustainable fisheries management."

Data gathered through the app will be maintained by the recreational sector through a Fish4all Trust that is being established and will include a range of recreational fishing interests.

Available for iPhones and android smartphones, the app is currently being trialled to provide an opportunity for recreational fishers to contribute to its development.

www.fish4all.co.nz



For fishers, the Fish4all app serves as an online fishing diary. For the recreational sector, the data will provide a better understanding of what is happening within our recreational fisheries.

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Coasts & Ports 2015

Environomics: Environment and economics – can we have both?

Join us 15 to 18 September for the Coasts & Ports conference. This year the conference will be held at the Pullman Hotel in Auckland.

The Coasts & Ports Conference series is the pre-eminent forum in the Australasian region for professionals to meet and discuss issues extending across all disciplines relating to coasts and ports. Coasts & Ports 2015 will bring together engineers, planners, scientists, stakeholders and researchers to focus on the technological, scientific, policy, planning and design issues related to our diverse and developing coasts. Abstracts are in, attracting a diverse range of coastal and port related topics with contributions from New Zealand, Australia and 17 other countries.

Keynote speakers include Dr Todd Bridges who is the US Army's Senior Research Scientist for Environmental Science, Ngarimu Blair who is a geographer with 15 years' experience in advancing

a range of iwi issues in Auckland, and Dr Arthur Webb who until recently was the Deputy Director of the Ocean & Islands Programme with the Applied Geoscience and Technology Division of the Secretariat of the Pacific Community and is

presently a lead author on the IPCC 5th Assessment Report – Chapter 29 (Small Islands). Field trips and pre-conference short courses and workshops will also be featured.

The conference's organising committee includes the Institution of

Professional Engineers of New Zealand, the New Zealand Coastal Society, the National Committee for Coastal and Ocean Engineering, Engineers Australia and PIANC. The conference is an amalgamation of the 21st Australasian Coastal and Ocean Engineering Conference and the 14th Australasian Port and Harbour Conference.

Conference registration opens 1 May 2015.

www.coastsandports2015.com



Fighting *Salvinia molesta*

The Ministry for Primary Industries (MPI), the Department of Conservation and Auckland Council are working to contain an infestation of the aggressive aquatic weed *Salvinia molesta* in the nationally significant Te Henga Wetland near Bethells Beach.

Floating booms around the infestations have been installed to help contain the spread of the aquatic weed.

To further reduce the risk of spread, a sign has been installed at the key entry point to the waterway off Bethells Road asking people not to remove water plants from the wetland and also to avoid fishing or using kayaks or other boats in the waters.

Salvinia molesta was first found in Te Henga in 2011 and treated with herbicide. Since that time, MPI has been monitoring the privately owned wetland and recently found the salvinia was present in three locations.

“*Salvinia* is known world-wide for its fast spread and difficulty to control,” says Dr Edwin Massey, Manager Plants and Environment Response for MPI. “It forms dense mats on the water surface and has the potential to destroy habitats for our native plants and animals, including native aquatic bird life. It attracts breeding mosquitoes, removes oxygen from the water, affects recreational activities and creates a drowning risk for people and animals.

A public meeting about this issue was held on 23 February. Since the meeting, MPI has been working closely with the community to ensure local residents are aware of the impact the weed has on wetlands and to provide information about ways the weed can be managed.

After unsuccessfully trialling hand removal and investigating various types of mechanical removal, it was decided that an initial ground-based treatment with Reglone (active ingredient diquat) would be used. The initial treatment occurred in late March. It is likely a follow-up targeted helicopter treatment will also be required as part of the response.

For more information, visit:
www.biosecurity.govt.nz/pests/salvinia



Floating booms have been placed around the *Salvinia molesta* infestations to contain its spread.
Photo: MPI.

Scientists find link between rising ocean temperatures and outbreaks of crown-of-thorns seastars

An Australasian research team led by Dr Sven Uthicke of the Australian Institute of Marine Sciences (AIMS) has found that rising sea surface temperatures may cause outbreaks of crown-of-thorns seastars (COTS).

The research team included scientists from AIMS, the University of Sydney, and Dr Miles Lamare from the University of Otago. The team conducted experiments in 2013 at AIMS in the institute’s new ocean simulator. The experiments were then analysed and the findings recently published in the international journal *Scientific Reports*.

Miles says outbreaks of COTS, which prey on stony coral polyps, are a significant stress on the survival of corals on the Great Barrier Reef.



COTS outbreaks can cause significant stress to coral populations on the Great Barrier Reef. Photo: Miles Lamare.

“COTS account for a significant proportion of the coral loss on the Great Barrier Reef, approximately 40 per cent of the 50 per cent cover decline, and our study suggests that ocean warming could promote a future increase in the frequency and intensity of COTS outbreaks through greater larval survival,” he says.

“This implies the cumulative impacts of more outbreaks would be significant if the frequency of such events exceeds the time and space required for reefs to recover from seastar outbreaks and the other associated reef stressors, such as bleaching or storms.”

Miles says the cumulative effects of warmer temperatures and runoff from agricultural land lead to increased production of algae.

“Other factors, such as overfishing, are also seen as contributing, but our work has found that it’s the combination of increased food availability and warmer temperatures that leads to such devastating population increases of the seastars.”

The research group tested larval development times with increased water temperatures, and found that in the presence of abundant nutrients, an increase of 2°C in temperature shortened development time for the COTS considerably, increasing their likelihood of surviving to adulthood by 240 per cent.

“This shorter development time between larva and settled adult also means the larvae have less time in which to be dispersed, so more are settling in a localised way.”

The study lead author, AIMS scientist Dr Sven Uthicke, says that recognising the role of synergistic effects of increased nutrient flows and sea surface temperatures on COTS survival better enables scientists to understand the science behind outbreaks.

“Given that the most moderate climate change scenarios predict a 1-2°C increase in average sea temperatures, the present study further demonstrates the value of taking a holistic, multi-variable approach to understand better how cumulative factors affect the survival of species such as COTS,” Sven says.

Miles adds that COTS outbreaks are a widespread phenomena with reef loss documented elsewhere.

“Due to the East Australian Current intensifying, the Great Barrier Reef has probably experienced higher rates of warming than other coral systems; however, climate change could drive greater COTS outbreaks if similar mechanisms [increased food availability combined with warmer temperatures] operate.”

Marine consent updates

Chatham Rock Phosphate refused consent

An application by Chatham Rock Phosphate Ltd for a marine consent to mine phosphorite nodules on the Chatham Rise was refused by a decision-making committee appointed by the Environmental Protection Authority (EPA) Board.

The committee released its decision on 11 February. It concluded that mining would cause significant and permanent adverse effects on the existing benthic environment on the Chatham Rise.

OMV NZ Ltd marine consent approved

In December, an EPA-appointed decision-making committee granted a marine consent to OMV New Zealand Ltd to continue its development-drilling programme in the Maari field in the South Taranaki Bight.

The committee granted the consent after deciding the overall effect of the development-drilling programme on the environment would be minor and, in many cases, temporary.

You can read about both decisions at www.epa.govt.nz.

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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

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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 426 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).

SeaweeK 2015 Roundup

SeaweeK is New Zealand's annual national week about the sea. Hosted by the New Zealand Association for Environmental Education (NZAAEE), SeaweeK focuses on learning from the sea. This year the theme was "Look beneath the surface – Papatai ō roto – Papatai ō raro".

SeaweeK 2015 was a huge success with an extensive range of inspiring and engaging events and activities across New Zealand.

SeaweeK 2015 kicked off in the Chatham Islands with students from Te One School helping to clean up Waitangi Beach. The Chatham Islands coastal clean-up was supported by Chatham Islands Shipping Ltd, working with the Department of Conservation, Te One School and Chatham Community Focus.



Policeman Sam helping Room 1 students from Te One School clean up Waitangi Beach. Photo: Marcia Harris, Chatham Islands Shipping Limited.

Successful beach clean-ups also took place across the country from Northland to Otago as well as underwater clean-ups in both Wellington and Marlborough.

Rock pool visits were another popular activity.



Mauao Area Wildlife Trust rock pool tour. Photo: Jacqui Geux, Watakere Ranges WEST.

In Dunedin, this year's theme "Look beneath the surface – Papatai ō roto – Papatai ō raro" was the inspiration for a sea-themed sculpture made out of recycled materials that highlights the impact of unsustainable fishing and marine pollution in our oceans. The sculpture was created by Our Seas Our Future.

Experiencing Marine Reserves offered a number of community-guided snorkelling events for SeaweeK across the country.



Our Seas Our Future members (from left) Claire McIntosh, Alex Sides, Ellen Miller and Noel Jhinku. Photo: Our Seas Our Future Dunedin.



Long Island Marine Reserve Community Guided Snorkel Day with Experiencing Marine Reserves and DOC. Photo: DOC.



Experiencing Marine Reserves Programme Director Samara Nicholas and happy snorkellers. Photo: Experiencing Marine Reserves.

Ocean Champion Award

The SeaweeK Ocean Champion for 2015 is ocean campaigner, advocate, educator and conservationist Pete Bethune.

Pete Bethune is a world record holder, conservationist, activist, author, and founder of Earthrace Conservation, a marine conservation group. Pete and his crew broke the global circumnavigation speed record in the world's most recognised powerboat, Earthrace, using only 100 per cent biofuel from sustainable sources. Pete then took his boat to the Southern Ocean Whale Sanctuary to work with an environmental activist group trying to stop the Japanese whaling fleet.

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Seaweek National Coordinator Dr Mels Barton says Pete and his team, along with everyone nominated for the award this year have made a positive difference to the marine environment.

“We hope this will inspire others to follow their lead and become Ocean Champions themselves. Winning the award is not really the point, celebrating the amazing work of the nominees and their dedication is what it is all about as they are all Ocean Champions,” she says.

Ocean Champion nominees for 2015 were:

- Samara Nicholas
- Maribeth Armstrong
- Hone Taumaunu
- Taylor Finderup
- Okiwi School
- Dive Otago
- Our Seas Our Future
- Experiencing Marine Reserves – Mountain to Sea Conservation Trust
- The Pukekura Trust – Blue Penguins Pukekura
- Dr Roger Grace
- Kermadec Artists
- Ant Smith
- Russell Open Aquarium Steering Group
- Island Bay Marine Education Centre
- Barry Gordon Wood
- Dr Antje Listen-Klienmas.

NZAE Seaweek created the Ocean Champion award to celebrate the achievements of the many people around the country who work tirelessly and often voluntarily to raise awareness, educate and better protect our seas, harbours and oceans. The New Zealand Coastal Society sponsors the initiative by donating \$500 prize money for the winner.

Hugh Leersnyder represented NZCS at the award ceremony and says the award is aligned with the society’s mission, vision and values.

“The award recognises people and groups who are making an outstanding contribution to the sustainable management of our magnificent coastal environment,” he says.



Seaweek at the Auckland Viaduct with (from left) Mels Barton (Seaweek National Coordinator), Sam Judd (Sustainable Coastlines), Lorna Hefford (Experiencing Marine Reserves), Shaun Lee (Revive our Gulf) and Roger Grace (conservationist and underwater photographer).

Seaweek haiku

A haiku competition was held as part of this year’s Seaweek festivities. Poet Doug Poole had the difficult job of selecting the winners for the haiku competition. They are:

10 years and under winner: Charlotte Dixon

*Polluted waters
Sea Creatures dying, STOP IT
We can save the sea*

11 to 16 years winner: Brandon Hope

*The swell welcomes me
Vibrant reefs scattered throughout
I gasp for a breath*

17 years to adult winner: Lindsey Morgan

*In stygian seas
Bioluminescent squid
Flick clear tentacles*



Seaweek activities at the Maritime Museum in Auckland. Photo: Mels Barton.



The Marine Metre Squared kits were another nationwide Seaweek 2015 success story, helping locals to discover what lives on their local shores. Photo: Maribeth Armstrong.

Word from the Chair: Living by our mission and values

by Rick Liefing

Looking through the pages of this issue of *Coastal News* I can't help but be proud of the work the society's involved in right now. While there are many excellent professional and interest-based associations for specific aspects of the coast, what we offer is the opportunity to have a wider discussion across disciplines.

Our ongoing support of the Coasts & Ports conferences is an important part of that. Judging by the calibre of keynote speakers and abstracts received, the 2015 Auckland conference is going to be a cracker!

Another way of promoting a wider discussion is through our support of Seaweek as sponsor of the Ocean Champion award. This is our second year supporting Seaweek, which has provided us with a valuable opportunity to engage with other organisations and individuals involved with coastal issues.

This year the management committee is updating the society's strategic plan for 2015 to 2018. It's been a good opportunity to check in with what has made our organisation strong to date and what things we may want to calibrate to ensure we are ready for the future.

This autumn we will be publishing the draft strategic plan in our members-only part of the NZCS website. With the effects of climate change, the need for our cross-discipline approach is only going to grow, which is why we are looking at additional ways we can serve our members, along with ways to continue to build our membership and raise our profile. We'd appreciate

your input, so make sure you read the plan when it's available and get your comments back to us.

An important aspect of our work is building capabilities within our profession. One way we do this is by offering an annual contestable research scholarship for master's and PhD students. The application form is available on the NZCS website. Completed applications are due 1 May 2015. If you know students who are doing exceptional work, please let them know about the scholarship.

On the same note, please also start thinking about the Professional Development Award for this year. Last year's winner Shane Orchard is well into using his award money for his professional development. We will be fine-tuning the award this year so please keep an eye out for when we put a call out for applicants.

As a final note, I would like to thank the management committee for their support and continued hard work. I would particularly like to thank Hugh Leersnyder who is serving as the society's liaison on the Coasts & Ports 2015 Auckland conference organising committee (I'm happy to say there are many NZCS members on the organising committee) and who was instrumental in the society's involvement with Seaweek this year. Hugh is truly committed to the NZCS mission to facilitate robust discussion and nationally coordinated interactions "to better manage and learn about our coastal and marine environment".

Hugh is one of our 426 members who make this society such a great organisation to be a part of. Thanks to each of you for your work and commitment.

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Study looks at the potential economic effects of larger container ships coming to New Zealand

In December, the Ministry of Transport published *Future Freight Scenarios*. The study was commissioned to help the freight sector plan effectively for increasing numbers of larger ships visiting New Zealand.

The study looks at the possible move to a "hub and spoke port network" that may result as more of these larger ships enter our waters. This type of network includes ports that are able to service larger international container ships (hub ports) and other ports that do not have this capability (spoke ports) and act as feeders to the hub ports. The study considers 10 possible future scenarios, each with a different configuration of hub ports.

Findings from the study suggest big ships coming to New Zealand will reduce the cost of international

transport, but could increase domestic transport costs, particularly for exporters and importers far away from hub ports.

Ministry of Transport General Manager Nick Brown says an efficient port and shipping sector is vital to New Zealand, as 99 per cent of our freight by volume is carried by sea.

"New Zealand's international sea freight costs are 21 per cent higher than Australia, and while the introduction of larger ships will help to reduce costs, it is important we also address domestic transport costs," he says.

"The study provides valuable information to inform decision-making and debate on issues that will shape the future of New Zealand's freight system."



News from the Regions

Northland

Michael Day, Regional Coordinator

Plan Change 4 (Aquaculture) to the Regional Coastal Plan

This plan change sets out the new way aquaculture will be managed in Northland. It includes policies and rules for managing existing aquaculture and directing how and where new aquaculture is located. The plan change has a long history that started back in 2001 when the government began its reform of aquaculture legislation.

Currently the plan change is working its way through the Environment Court process. In March 2013 an Environment Court hearing was held on the main aspects of the plan change – where aquaculture will be prohibited. After the hearing the Court requested more information. The Court confirmed its decision in December 2014.

The next step is to deal with the remaining parts of the plan change. The main aspects are the policies directing how aquaculture is considered outside prohibited areas and the rules within aquaculture zones. The Court confirmed the process in early February 2015, that includes an opportunity for the affected parties to negotiate an agreement between themselves with a cut-off date of 13 March 2015.

Coastal Flood Hazard Assessment

Northland Regional Council initiated a new coastal flood hazard project in January 2015. The project covers 61 coastal areas, including all areas of the LIDAR survey adjoining the open coast, harbour and estuarine areas.

Most of the 29 sites covered under the Coastal Erosion Hazard Assessment are also included under the Coastal Flood Hazard Assessment that will assess future storm surge risk in 50 and 100 years (2065 and 2115 respectively), and incorporate an allowance for sea-level rise based on the latest available information. The last release of coastal flood hazard zones was undertaken in 2005, but this only covered a limited number of settlements, and the mapping pre-dated LIDAR survey.

The new assessment will cover the major centres of Whangarei and Dargaville, as well as expansive low-lying rural areas which have not previously been assessed for coastal inundation risk, such as Ruawai, the lower Wairoa, and the lower Awanui. The expected completion date for this project is September 2015.

Coastal Erosion Hazard Assessment

Coastal erosion hazard was assessed for 29 priority sites during 2014, with the final reports received in October 2014. It was previously intended that land owners with land affected by the revised coastal erosion hazard zone setback lines would be notified by letter of the results in late 2014, and at the same time the revised results be made available online via GIS. Given the current coastal flood hazard assessment

work; however, and noting that many of the properties that will be assessed during this assessment will also be assessed as erosion risk, it is considered more appropriate to wait until the coastal flood hazard assessment work is complete and notify landowners of the outcomes of both hazard assessments at that time. This is likely to be during late 2015.

Marine pests

NIWA has recently conducted dive surveys in Whangarei as part of the national high-risk port surveillance. An extra day of diving was added to determine the extent of the introduced ascidian *Bortylloides giganteum* that was thought to be spreading throughout the harbour. Several colonies of the ascidian were located within Marsden Cove and on vessels at One Tree Point. The vessels had not moved for long periods of time. After reassessing a number of old specimens, it was determined by the Ministry for Primary Industries (MPI) that this species has most likely been present in New Zealand since 2009, and any further control of the species was unwarranted. It is not considered this species will have an impact on native marine life or cause widespread fouling.

In late December a member of the public reported catching a total of seven exotic looking crabs, including a female in the entrance of Ngunguru Estuary. MPI has confirmed the crabs as Japanese paddle crabs, a species established in Whangarei Harbour and elsewhere in northern New Zealand. This detection is considered to be a range extension of the population found in Whangarei Harbour and is of concern as the crab is very aggressive and displaces New Zealand's native paddle crab. Research undertaken overseas has also linked the species to a decline in flounder populations.

Auckland

Sam Morgan and Paul Klinac, Regional Coordinators

Huia Domain

Auckland Council is currently developing and consulting with the Huia community on management options for the coastal domain. The 50-year-old seawall at the western end of Huia Domain has been gradually failing over the past few years. Decisions now have to be made as to the viability of the structure and how the community and parks managers intend on using the public space in the future.

The Auckland Council Coastal Management Services Team is working with the parks department and consultants to assist in the development of a range of options, and are now consulting with the community and the local board. The two main options sitting with the council and the community are reconstruction of the seawall and managed realignment. Over the coming months the pros and cons of the respective management options will be discussed and future management determined.

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King Tides Auckland

The King Tides crew had another successful day on 21 February. An event was held at Orewa Beach and about 200 people stopped by to find out about king tides. Discussion also extended to how future tides, sea-level rise and storms might impact on some of the surrounding properties and town centre. Members of the public had an opportunity to tour the Civil Defence headquarters to see what happens during an emergency situation.

To learn more about the project visit <http://auckland.kingtides.org.nz/>.



KING TIDES Auckland
Snap the coast See the future

Orewa Beach

Following the recent review of the Orewa Beach Esplanade Enhancement Project (OBEEP) Management Plan, two workstreams are being pursued for Orewa Beach.

For the first workstream, consultants will be engaged to develop designs for a low seawall and walkway for the mid to northern section of the beach. This area has been highlighted as highest priority with limited managed options within the OBEEP review.

The second workstream is focused on the section of beach in front of Orewa Reserve in the southern third of the beach. Currently a range of management options are being developed for the section.

These options will be presented to the local board for comment and general direction before the wider community is consulted. Due to the size of the area and the relatively stable nature of this part of the beach, a range of management options is considered possible.

Waikato

Christin Atchinson, Regional Coordinator

Firth of Thames sediment sourcing

Waikato Regional Council (WRC) is collaborating with DairyNZ and NIWA in a study to address two fundamental questions associated with sediment discharged to the southern Firth of Thames:

1. Where does the sediment originate and in what proportion?
2. How have sources and contributions varied over the history of land use in the Firth (<1000 years)?

NIWA will apply the compound-specific stable isotopes (CSSI) tracking technique. This method is based on extracting a sediment marker ($\delta^{13}C$ fatty acid) from sediments collected in the Firth of Thames and comparing them to the markers extracted from soils in the catchment under modern-day land uses (such as dairy or maize), as well as soils under indigenous vegetation classes and Hauraki rivers. The project is expected to be completed in October 2015.

Aquaculture guidance

WRC has recognised the need to rationalise and improve environmental monitoring for the Waikato coastal marine area (CMA). As part of WRC's steps towards meeting this need, WRC has commissioned Cawthron Institute to produce a three-report series aimed at developing ecological monitoring requirements and standards for aquaculture in the CMA, and placing the monitoring within a framework that integrates consent-related and wider state of the environment (SOE) monitoring. WRC received funding from the MPI Aquaculture Planning Fund for this project.

The three reports are as follows:

- Report 1: Monitoring framework: Presents the rationale and key elements of a regional monitoring framework that integrates monitoring associated with consented activities and wider SOE monitoring.

NZCS Management Committee

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Report 2: Regional guidance on priority issues and monitoring: Covers the ecological effects of aquaculture in the Waikato CMA and identifies the priority issues that need to be addressed through industry best practice and reporting, and/or through monitoring of effects.

Report 3: Monitoring methodologies and standards: Recommends methodologies and standards for monitoring the seabed, water column and the wider environment in relation to the potential effects of aquaculture.

These technical reports were completed in February 2015. They are now being distributed to the aquaculture industry for feedback.

Marine biodiversity stocktake

A stocktake is being undertaken to collate available information on marine biodiversity and relevant pressures, as well as to identify priority information gaps.

The project work will include:

1. Collate published information on different ecological groups (benthic communities, estuarine vegetation, fish, birds and marine mammals) and four subtidal biogenic habitats (rhodolith beds, shellfish beds, seagrass beds and sponge gardens) in Waikato's CMA.
2. Identify knowledge gaps and critical resource management issues.
3. Seek feedback from WRC staff across the organisation to ensure their respective priority issues are covered.
4. Have one-on-one meetings with experts in the various areas of science to add missing information on the relevant topics, and, if necessary, make corrections to the initial information. This will include recording information spatially on maps and confirming information gaps.
5. Prepare a report providing all information, knowledge gaps and recommendations for future work. This will inform future WRC science projects, policy development as well as the prioritisation of on-the-ground activities and resource consent preparations and assessments.

Marine biodiversity is considered a complex area of science. This project has been set up to improve WRC's knowledge in this area to be better prepared for the upcoming review of the regional coastal plan, as well as being able to better prioritise council work programmes.

This project is expected to be completed by June 2015.

Coromandel small stream survey

Throughout this summer (2015), WRC has been performing weekly water quality monitoring at popular small coastal stream swimming locations around the Coromandel Peninsula. This programme will enable WRC to quantify water quality indicators, including dissolved oxygen, nutrients and faecal contaminants.

Weekly sampling will assist in identifying short-term trends in water quality during the period of highest intensity recreational use. Additionally, these results will indicate whether these locations are suitable for recreational swimming or whether further investigation needs to take place to maintain the Waikato region's water quality standards.

Mercury Bay coastal processes PhD study

Whitianga has a long history of coastal erosion hazard and is currently experiencing a period of severe erosion. The Whitianga Coastal Futures study aims to better understand coastal processes and sediment movement in Mercury Bay, particularly in relation to drivers of shoreline change. The study will focus on coastal processes in the entrance and offshore bar area, as well as providing information valuable for assessing future options for managing coastal hazards.

The data collection and reporting is expected to be complete by the end of June 2015.

Tide gauge review

NIWA is undertaking an updated analysis of the sea-level records from WRC's gauges at Tararu, Whitianga and Kawhia. The review is particularly focused on the analysis of extremes in the sea-level records to understand the local anatomy of storm tides in terms of sea-level response to tide, weather and wave action.

WRC has a responsibility under the Resource Management Act 1991, New Zealand Coastal Policy Statement and Regional Policy Statement to identify and provide advice on coastal hazards. This analysis ensures ongoing quality of data collection, updates tidal and storm surge figures, and builds the WRC's understanding of storm surges.

This review will improve WRC's understanding of the main components contributing to the highest observed storm surges in the record at each location. The review will also include an evaluation of the suitability and adequacy of the council's current instruments and tidal network.

The project will be completed by 30 June 2015.

Marine farm bonds

In accordance with the Waikato Regional Coastal Plan, consent conditions for marine farms require consent holders to provide a bond or alternative security to ensure removal of marine farming structures in case of abandonment. The Coromandel Marine Farmers Association (CMFA) applied in September last year to have consent conditions relating to a bond cancelled or amended (to reduce the bond amount) for a marine farm that is operating in Coromandel Harbour.

The outcome of the application was expected to set a precedent for other marine farms in the Waikato region. Currently there are approximately 285 resource consents in place that authorise marine farming. Removal of the bond requirements for all Waikato marine farms would expose WRC to a risk of an estimated \$3 million.

Independent commissioners heard the application at the end of January. A decision was made to maintain

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the bond quantum set by WRC, but remove any reference to GST and apply a one-off mobilisation charge on a per farmer basis rather than on a per farm basis.

Marine management model

To assist with the integrated management of the east coast of the Waikato region, WRC is developing a marine management model (MMM) for the Hauraki Gulf. The basis of the model is a three-dimensional numerical hydrodynamic model. The first application of the MMM is an aquaculture effects model, which, in conjunction with the deployment of permanent monitoring instrumentation, will be able to predict the fate of farm waste and nitrogen discharge from fish farms. It will pave the way for environmentally sustainable economic development of aquaculture and other activities in the Hauraki Gulf, as well as supporting cost-effective consent monitoring and future plan development.

The data and model will be made freely available to the public. The numerical model has been completed and WRC is developing an easy-to-use user interface for the model to allow wider use of it.

Waikato Regional Coastal Plan review

In July 2015 WRC will launch its first review of the coastal plan. This will implement the Hauraki Gulf marine spatial plan being developed by the Sea Change Tai Timu Tai Pari project and give effect to the proposed Waikato Regional Policy Statement that will become operative this year.

The review will encompass both the coastal plan and the Waikato Regional Plan. It will also include a series of three plan changes being undertaken as part of the Healthy Rivers/Wai Ora: He Rautaki Whakapaipai project. Ultimately, the review will deliver a single combined plan for the Waikato region.

Because of the scale of the job it is being spread over three stages, with the first stage being the review of the coastal plan. It is expected that the new coastal plan will be notified for submissions in 2017.

Sand push ups

Sand push ups or sand scraping using a digger to move beach sand to above the high-tide mark in areas susceptible to coastal erosion is undertaken as required by Thames Coromandel District Council (TCDC) on Coromandel beaches throughout the year. TCDC undertakes the works to address health and safety concerns for people falling or tripping off a vertical erosion scarp and as an interim measure to slow down the rate of coastal erosion during long phases of erosion.

Maritime services

WRC has removed an unsafe vessel from Tairua Harbour that was judged from a professional safety assessment to be at risk of sinking, potentially creating an environmental and navigation hazard.

One of the key problems related to a sinking risk was the amount of shellfish, especially mussels, that had grown on the vessel's hull. Some four tonnes of

mussels were scraped off the hull after the vessel was removed from the harbour using a crane. This sinking danger was illustrated by the fact that water poured from the vessel when the growth was removed.

WRC was informed that it was only a matter of weeks before this vessel sunk as the pitting compromised the integrity of the hull made by the oysters and mussels. The council action only came after repeated requests to the owner to deal with the safety issues that were not acted on.



Water leaking from the hull of the unsafe vessel that was removed from Tairua Harbour.



A bin full of the mussels that were scraped off the hull of the unsafe vessel.

Whitianga seawalls

Resource consents have recently been granted by WRC to TCDC for two seawalls at Whitianga: a rockwall extension at Buffalo Beach and a 535-metre long geobag seawall at Brophy's Beach. The latter application was subject to a publicly notified process and a total of five submissions were received (one opposed, two neutral, two supporting). Issues raised included expected adverse effects on visual amenity, effects on coastal processes and policy implications in terms of the New Zealand Coastal Policy Statement.

Following the submission period the applicant made modifications to the proposal, including the development of a dune management plan (DMP). During the next accretion phase, when the required volume of sand becomes available, the structure will be buried with sand and native dune planting will be undertaken. The proposed DMP satisfied the concerns of the submitters who withdrew their wish to be heard which negated the need for a hearing. The resource consent was granted for a duration of 25 years.

Works on both seawalls are expected to commence in late April/May and take approximately six weeks to complete. Works for the rockwall extension are

currently being tendered for. The physical works for the geobag wall at Brophy's Beach will involve excavating a footing and then laying geotextile bags on top of each other to form the wall prior to covering it with sand.

The Mercury Bay Community Board is looking forward to the physical works to commence at Brophy's Beach as the beach has been a popular spot this summer, particularly for families using the floating pontoon that has been put in place by TCDC.

Mediterranean fanworm management programme

Since the marine pest Mediterranean fanworm (*Sabella spallanzanii*) (sabella) has been detected in Coromandel Harbour, the WRC's biosecurity team has worked on a programme for managing the marine pest. Sabella poses a direct threat to commercial shellfish farming, as well as native ecosystems, as it easily spreads and outcompetes other species where it becomes established. Spreading of the pest occurs mainly by hull biofouling on recreational and commercial vessels. The likelihood of continued spread in the near future is extremely high due to the proximity of Coromandel Peninsula to the heavily infested Waitemata Harbour, the popularity of the Coromandel for recreational boat owners travelling to and from the Waitemata Harbour, and the high number of vessels moored in Coromandel Harbour with varying states of hull fouling.

The programme involves non-regulatory (educational) and regulatory (rules) approaches in managing the pest, and responsibility will be placed on the persons contributing to the spread of the pest.

Rules for boat owners/operators are likely to include the requirement to maintain a clean hull to ensure sabella is removed prior to it reaching breeding size. Vessel owners will be able to comply with this rule if they adhere to reasonable maintenance regimes for their vessel, such as regular hull antifouling treatments.

There are likely to be less strict requirements for structure owners as the pest may only spread to



Mediterranean fanworm (Sabella spallanzanii).

nearby vessels or structures. The requirements for owners of structures such as moorings, wharfs and jetties will likely include the removal of any sabella growing on the structure rather than keeping the entire structure clean which is required for vessels. Methods to achieve this include hand harvesting of the pest using trained divers or pile wrapping which restricts the pest from obtaining oxygen and food.

The preparation of the programme is currently in its final stages and will be implemented once alignment with other regional and national initiatives is ensured.

Sea Change – Tai Timu Tai Pari

Between now and June 2015, a partnership led by mana whenua and central and local government will be creating Sea Change – Tai Timu Tai Pari, a marine spatial plan designed to safeguard the Hauraki Gulf.

The stakeholder working group (SWG) that is responsible for collaboratively developing and drafting the marine spatial plan has now received recommendations from the six issues-based roundtables that undertook intensive issues and options work between June and December 2014. Each roundtable comprised three or more SWG members, plus other invited participants who have specific knowledge or expertise in the following topics:

- water quality and catchments;
- fish and fish stocks;
- biodiversity and biosecurity;
- infrastructure and commercial uses;
- aquaculture; and
- accessible gulf – including recreation, boating, heritage and visitors.

At the same time, the SWG continued work on the overarching themes of ecology, economy and mauri of the Hauraki Gulf.

A multi-agency plan writing team will now start writing the Hauraki Gulf Marine Spatial Plan which is expected to be completed mid-2015.

To find out more go to <http://seachange.org.nz>.

Bay of Plenty

Mark Ivamy and Sharon De Luca, Regional Coordinators

Kaituna River Re-diversion and Ongatoro/Maketū Estuary Enhancement Project

The Bay of Plenty Regional Council's Kaituna River Re-diversion and Ongatoro/Maketū Estuary Enhancement Project aims to return 20 per cent of the Kaituna River's flow to Maketū Estuary and create at least 20 hectares of new wetland. The project is the result of long-standing tangata whenua and wider community concerns about the negative ecological and cultural effects of a 1950s scheme that diverted the Kaituna's freshwater out to sea and bypassed the estuary. The resultant increase in salinity combined with the lack of flushing river flows and some stop

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The goal of the project is to significantly enhance the volume of water flowing from the Kaituna River into Ongatoro/Maketū Estuary by 2018. Image: boprc.govt.nz.

banking have decreased the extent of wetland vegetation around the estuarine margin by 95 per cent and filled in the lower estuary with a large flood-tide delta.

Resource consent and land designation applications were lodged in July 2014, and the project team is currently working through a few outstanding issues with submitters before going to a hearing in May 2015.

There appears to be almost universal support for the concept of the re-diversion, but there are a number of views on exactly how it should be done and how the effects should be monitored and managed. Key concerns from submitters include the navigability of Te Tumu Cut for boats, and the effects of the slightly higher estuarine water levels on land drainage post re-diversion. Land acquisition negotiations are also ongoing and will need to be resolved before construction can begin. If the consenting and land acquisition processes run relatively smoothly then construction is planned in the summer of 2016/17.

For more information go to www.boprc.govt.nz/kaitunamaketu.

Commissioners appointed for *Rena* consent hearing

Bay of Plenty Regional Council has appointed four commissioners to hear the application from the *Rena* owners for a resource consent to leave part of the wreck on Astrolabe Reef (Otaiti).

The hearing panel will be chaired by retired Environment Court Judge Gordon Whiting, with Cultural Commissioner Rauru Kirikiri, marine engineer John Lumsden, and environmental scientist Dr Shane Kelly.

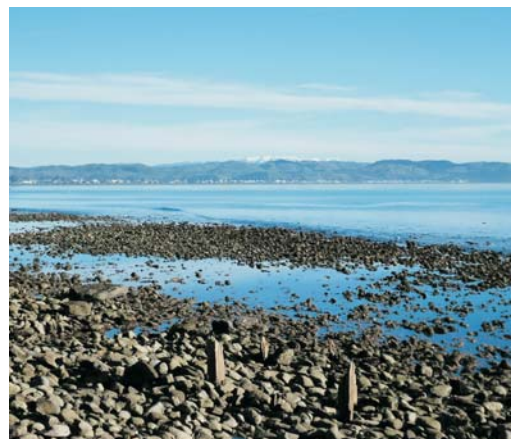
Hawke's Bay *Oliver Wade, Regional Coordinator*

The National Aquarium

As well as holding a fine collection of exhibits, the national aquarium team is involved in educating the youth of Hawke's Bay about the marine environment. Every term the aquarium education team takes school groups on visits to the intertidal reef at Hardinge Road



Aquarium staff with a school group at Hardinge Road reef.



Hardinge Road reef.

(Napier). So far this term, 260 kids from four different schools have learnt about the seashore code, tidal zones, and how to identify different species in this environment.

State of the environment report

The Hawke's Bay Regional Council (HBRC) will be completing its first five-year coastal state of the environment report this year. Although some of the



Council staff collecting water samples off the Mahia Peninsula.

programmes have been running for a little longer, this year will be the first time they will all be reported on in full.

This report will include water quality monitoring, estuarine ecological monitoring, intertidal reef monitoring and sandy beach community monitoring. This process will allow the council to review monitoring results and adjust any programmes where necessary to fill gaps.

Water quality monitoring

HBRC's water quality monitoring buoy (www.hawqi.co.nz) was redeployed in December following an upgrade with new instrumentation to augment the existing sensors.

A downward facing acoustic Doppler current profiler (ADCP) has been added at the surface to provide information about currents at the buoy location. Also a telemetered dissolved oxygen sensor has been added at five metres depth and dissolved oxygen loggers have been added at the surface and seafloor. These



HAWQI was redeployed using the council-sponsored Coastguard Hawke's Bay vessel.



Attaching a camera to a net to study fish behaviour, Gisborne, 2014.

additional instruments will provide information around phytoplankton dynamics and ocean productivity.

Hawke's Bay fishing

Many recreational fishers are up in arms about the apparent lack of fish in Hawke's Bay. In October last year, the Hawke's Bay branch of the advocacy group Legasea launched. This saw more than 350 disgruntled fishers and ITM Fishing Show host Matt Watson come together to tell stories and try to find solutions to improving the state of fishing in the bay.

A couple of solutions have come from commercial trawler fishers in Hawke's Bay and were presented on the night. Several skippers have been working on modifications to their trawls and have seen large reductions in catches of juvenile fish and discards. This has been a collaborative enterprise between the fishers, local iwi, Te Ohu Kaimoana, recreational fishing interests and NIWA.

Funding has been secured for further trials of innovative trawl designs to commence later this year.

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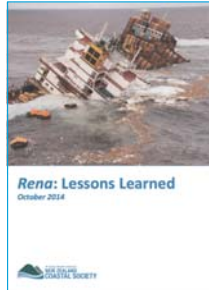
COASTS & PORTS 2015 AUCKLAND
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Contributing to Coastal News

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 1 June 2015.

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NZCS *Rena* Publication

In 2014 the New Zealand Coastal Society published *Rena: Lessons Learnt* to complement the growing knowledge base on oil responses in New Zealand.

Please contact the NZCS Administrator at nzcoastalsociety@gmail.com for information on obtaining a copy.

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