



Coastal News

Te Hunga Takutai o Aotearoa

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www.coastalsociety.org.nz

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NZCS – The Early Days

by Terry Hume¹, John Duder², and John Lumsden²

The New Zealand Coastal Society was born in 1992 at a time of great organisational, policy and environmental change in New Zealand. The Resource Management Act 1991 had required councils to prepare coastal plans and take a much greater role in activities associated with the coastline which saw the need for improved coastal information and communication across disciplines to address consenting and environmental issues. Crown Research Institutes were formed taking over the roles of Department of Scientific and Industrial Research, some of the Ministry of Agriculture and Fisheries, and parts of the New Zealand Meteorological Service.

In fact, the need for improved communication and interdisciplinary effort had been recognised earlier by the 'coastal community' and saw the 7th Australasian Conference on Coastal and Ocean Engineering being held in Christchurch in 1985 with Bob Morris as Chair. This was a first, for both New Zealand as a venue and the gathering with our Australian colleagues being termed Australasian. This gathering was closely followed by the formation of the New Zealand Ocean Waves Society in 1987 and then in 1991 the Canterbury Coastal Research Group.

December 1991 saw the very successful 10th Australasian Conference on Coastal and Ocean Engineering held in Auckland with John Duder as chair. Its 'Climate for change' theme not only focused on the effects of climate change but also

on the increasing requirements to move to a multi-disciplinary approach involving engineering, scientific, planning and resource management disciplines when addressing coastal problems. It was at this conference that a group of about 30 people met to explore the possibility of establishing a National Coastal Group relating to coasts and oceans. Present at the Auckland meeting chaired by Terry Hume were representatives of other coastal groups, including the Ocean Waves Society, the New Zealand Marine Sciences Society, and the Canterbury Coastal Research Group.

The inaugural meeting of a steering committee was held on 13 March 1992 when it was agreed the new group be known as the New Zealand Society for Coastal Sciences and Engineering. Things got off to a busy start underpinned by healthy profits from the 1991 conference, along with capable leadership by John Lumsden as Chair. Early on there was some investigation as to whether the society's activities might be strengthened by becoming a chapter of American Shore & Beach International. This concept was abandoned in favour of joining with IPENZ and, in September 1992, the society achieved recognition as a Technical Group of IPENZ. It wasn't long before IPENZ was seeking advice from the society, including opinion

¹National Institute of Water Atmospheric Research (NIWA) and ²Consulting Engineer

Correspondence to: terry.hume@niwa.co.nz



The society's first two chairs John Duder (left) and John Lumsden (right).

on the New Zealand coastal policy on sea-level rise.

The inaugural AGM of the society took place in Hamilton in February 1993. In 1994, the society's membership was broadened and strengthened by a merger with the New Zealand Ocean Waves Society which also further strengthened the society's financial position.

The first *Coastal News* was published in July 1993, featuring a report on the wide-ranging visits and lectures by the coastal engineer Professor Per Bruun and a message from Chair John Lumsden, in which he noted the timeliness of the society's formation with the increased focus on coastal resources, wealth and pollution, and the challenge for sustainable management. The newsletter soon became established as the primary medium in fulfilling the society's purpose in bringing together scientists and engineers and, not far behind, coastal planners.

In 1994 the society held the first of what would be many successful annual seminars and conferences. This was attended by about 100 members in Wellington with the theme of 'The role of science and engineering in coastal planning.' From this point in time, growth of membership to

the society was rapid and by June 1995 it had 150 members and strong regional groups were being formed.

The society changed its name to the New Zealand Coastal Society in 1995 to reflect the name in common usage and better represent the interests of a growing number of members and potential members who were neither scientists nor engineers.

The society now has over 400 members and the rest, as they say, is history.



Field trip to New Chums beach at the 2010 conference in Whitianga.



Conference field trips are a perennial favourite with NZCS members and provide an opportunity to learn first-hand about coastal management issues and solutions around New Zealand.

NZ Organisms Register Launched

In August, the New Zealand Organisms Register website (www.nzor.org.nz) was launched. Developed by Landcare Research, the register includes information on 94,000 of New Zealand's animals, plants, fungi and bacteria. It is the most complete digital species catalogue of any country in the world.

Data providers include: Landcare Research, the New Zealand Inventory of Biodiversity (published by Canterbury University Press and edited by NIWA Principal Scientist Dr Dennis Gordon), and marine algae data maintained by Te Papa.



Search this site

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The New Zealand Organisms Register (NZOR)

Development of the NZOR infrastructure is supported by the [Terrestrial and Freshwater Biodiversity Information Systems Programme \(TFBIS\)](#)

All biodiversity information systems use the names of organisms as a fundamental identifier. Names provide the essential vocabulary by which we discover, index, manage, and share information relating to biodiversity. Access to an authoritative list of names and their relationships to species (taxa) is key to supporting information management and sharing across the conservation, biosecurity, and biotechnology sectors.

There is currently no single, definitive registry of the over 100,000 organism names relevant to New Zealand. Because of this many agencies currently each maintain their own lists of taxonomic names in isolation from each other, in different formats, and at different levels of depth and quality. The absence of a definitive source of taxonomic names means that resources are wasted through duplication of effort, there is increased expense to end-users in having to access multiple sources, and increased risk of confused decision making.

Making Waves '20 Years and Beyond'

New Zealand Coastal Society's Annual Conference

14 –16 November 2012, Royal NZ Yacht Squadron,
101 Curran St, Westhaven, Auckland

Come celebrate the New Zealand Coastal Society's 20th anniversary and help us plan for the next 20 years.

The conference will offer the opportunity to consider the society's involvement in New Zealand's coastal environment, but it will also be a time to plot a new course through the uncharted waters of coastal management in the 21st century.

This year's conference features the following sessions:

- Coastal management in New Zealand – Historical perspectives;
- Unplanned events and natural hazards;
- Management pressure in the 21st century;
- Competing for space;
- Integrated coastal management;
- Coastal science – Current themes and new directions.

The field trip...

On the second afternoon of the conference join us for a cruise in Waitemata Harbour and Hauraki Gulf – the ideal vantage point for seeing many of Auckland's coastal features.

On our journey, we'll pass under the Harbour Bridge, before viewing the Port of Auckland and the beach re-nourishment works at Mission Bay and Kohimarama. We will then head into the treasured Waitemata Harbour and explore some of Auckland's offshore islands.

On our return we will pass volcanic Rangitoto Island and the coastal settlement of Devonport where you can choose to disembark and take a leisurely stroll through Devonport before returning to the Auckland CBD via the Devonport Ferry or stay with the cruise and get off at Auckland's main ferry terminal.

Visit our website to see the full conference programme and to register.

www.coastalsociety.org.nz

Coastal
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NEW ZEALAND COASTAL SOCIETY

Te Hunga Takutai o Aotearoa

NZCS Administrator – Renee Foster

As NZCS members, most of you have probably had the pleasure of conversing with Renee either by email or on the phone.

As the NZCS Administrator she's the society's first point of contact – a role she says she thoroughly enjoys. She also coordinates the society's email digest and website. Outside of working for NZCS, Renee is also employed by Waipa District Council.



Renee recently completed her MSc degree at the University of Waikato where her thesis focused on the physical shoreline change and beach rotation of Pauanui and Tairua beaches, with regards to changes in wave climate due to the presence of offshore islands.

With a passion for "all things coastal," in her personal time she's likely be found scuba diving, boating, or fishing.

Plumbing the Depths – Seafloor Mapping

by Shelly Biswell

Coastal
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This winter the National Institute of Water and Atmospheric Research (NIWA) research vessel *Tangaroa* completed two survey voyages as part of the Ocean Survey 20/20 programme. In July, scientists mapped the seafloor of the Otago coast and, from late August through September, researchers mapped mid-to-outer Greater Hauraki Gulf, including the coast off Coromandel.

Funded by Land Information New Zealand (LINZ) and NIWA, the surveys are just two projects under Ocean Survey 20/20 which aims to build on our knowledge of our ocean territory.

Great South Basin – Otago

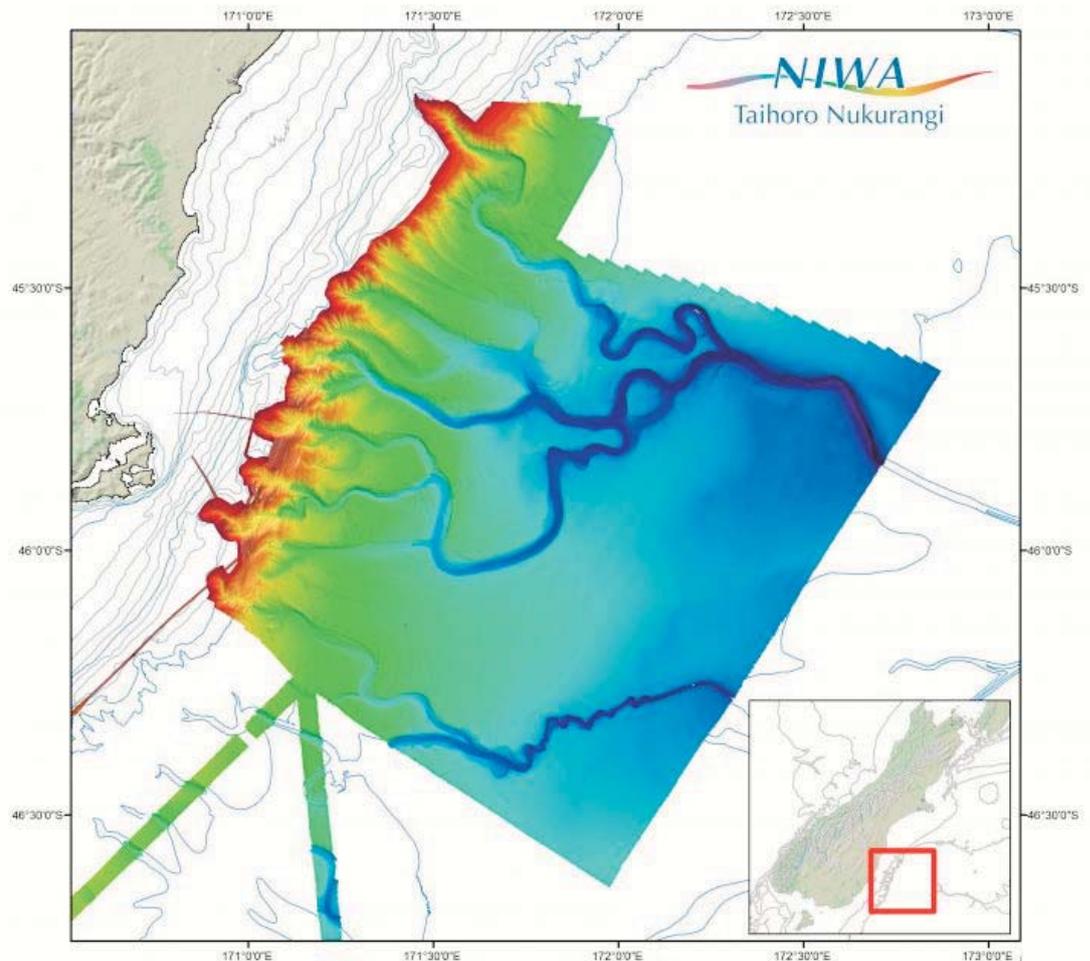
In July, *Tangaroa* mapped the seabed of the Great South Basin off the coast of Otago. The seabed has not been mapped in detail before, and this recent survey is providing new insights into geological processes in the region, as well as clues to what types of seafloor life might exist in the area.

The maps reveal details of a large canyon system featuring nine canyons and underwater river systems that transport sediment from the coast far out to sea. The network is New Zealand's second largest sedimentary distribution system and ends 1100-km east of New Zealand, in a large deep sediment deposit in the Bounty Trough.

NIWA Geologist Helen Neil says the maps show details of the many near-shore canyons that form a set of tributaries transporting sediment to the deep sea.

“The mapping has given us a far greater idea of the structure of the Otago canyon complex. This entire system has a really long history – starting 55 to 60 million years ago when the tectonic rift occurred. At that time, a v-shaped failed rift and proto marine channel was created in the seafloor that acts as a distribution system for sediments.”

Helen says the channel is no longer distributing sediment in the way it did in the past as the sea level is higher and there is less glacial erosion.



Survey coverage of part of the Otago canyon complex offshore of the South Island's east coast extending from Waitaki Canyon in the north to Hoopers Canyon in the south. Image is a sun-illuminated digital elevation model. Depth range 100 m (red) to 2000 m (purple). Image: NIWA.

She says that when the sea level is lower and there is aggressive erosion on the alpine fault, larger amounts of sediment flow off the land and through the undersea canyon system.

“The mapping provides us with indications about the geological processes that have, and are, taking place, and the data can be used to inform environmental regulation, conservation or resource use.”

NIWA Seabed Ecologist Ashley Rowden says the data also suggest gas expulsion which hints at the presence of special deep sea ecosystems.

“The maps show ‘pock marks’ along the margin at depths of between 550 to 875 m where methane seepage, which supports particular biological communities, can occur.”

“We know something about the animals that live in the shallow areas of the canyons, but we don’t know what is in the really deep parts, particularly in the trough where oil drilling may occur in the future,” says Ashley.

The oil and gas industry have expressed interest in further exploring the Great South Basin. NIWA says this survey will provide data to support current and future exploration of the area.

Greater Hauraki Gulf

In mid-September, *Tangaroa* finished a 22-day seafloor mapping exercise in the mid-to-outer Greater Hauraki Gulf, including the coast off Coromandel. The multi-beam survey was conducted in water depths ranging from 40 to 200 m.

Once analysed, the data will be made available to local and central government, along with industry and others with an interest in the coastal environment to assist with planning, use, and monitoring.

NIWA’s Project Manager Neville Ching says that building our knowledge of the Hauraki Gulf and Coromandel is crucial for long-term planning and sustainable management.

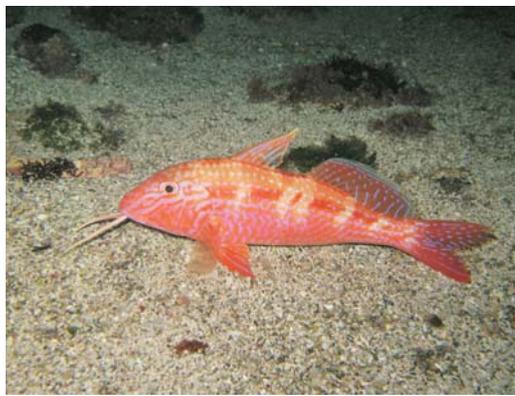
“Just like terrestrial mapping, seafloor mapping allows scientists, planners, and decision makers to have a clearer understanding of the environment.”

He says that the multi-beam mapping data collected will be particularly useful in assisting with modelling risks associated with tsunami events.

“The Hauraki Gulf is vulnerable to tsunami impacts and there is some evidence that suggests past tsunami deposits could have reached 14 m above current sea level on Motuihe Island, and the inner Hauraki Gulf. The more we’re able to build on our knowledge in this area, the more we’ll be able to plan and prepare for future tsunamis.”

Fish tales

As part of the mapping exercise, NIWA used information provided by retired commercial fishers to identify areas to specifically target special habitats, including tubeworm fields, horse mussel



Red mullet (goatfish) sitting on shelly habitat – a common fish around reefs in the Hauraki Gulf. Photo: Crispin Middleton, NIWA.



A Spanish lobster. Found along the north-eastern coast, this species is reportedly common on deep rubble reefs in the Hauraki Gulf. Photo: Crispin Middleton, NIWA.

beds, bryozoan patches, and green-lipped mussel and dog cockle beds. NIWA Senior Scientist Mark Morrison says this local knowledge has been used to support the survey work.

“High-resolution survey lines were run over the habitat areas identified by the fishers. Early indications suggest that the information provided was accurate and will greatly add to our knowledge of special habitats. For instance, deeper water isolated patch reefs with reportedly unusual associations were exactly where indicated.”

The survey data will help provide a basis for any future biodiversity assessment, along with providing some of the building blocks for a coastal fish-habitat classification.

Mark says, “We have had only a limited understanding of what fish habitats and associated biodiversity are in the mid-to-outer Hauraki Gulf areas. This mapping survey work, combined with a towed camera ecological survey in 2013, will help us to understand more about what fish do, where they go seasonally, and whether they are at risk from the effects of human activities, such as pollution and sediments.”

Scientists are currently analysing the results from the survey and plan to publish the resulting maps in March 2013.



Word from the Chair



Celebrating our 20th anniversary – Building a professional community committed to quality coastal management...and a few thoughts on questionable fashion choices.

Coastal News



Here in Otautahi, spring has made an early appearance in the form of abundant blooms, new green shoots and a layer of sand accreting in front of our August southern Pegasus Bay storm scarp. If you find yourself spring cleaning, make sure to dust off any Air Jordans and other 1992 garb lurking in long-forgotten corners since summer is just around the corner, bringing with it the 20th NZCS Annual Conference and celebration.

It is time to reflect on where we have come since 1992, the year after the introduction of the Resource Management Act 1991 and two years before the first New Zealand Coastal Policy Statement (NZCPS). Help with this exercise will be on hand at the conference in the form of a retrospective collated by NZCS 'veterans' Terry Hume, John Duder and John Lumsden (for a taster, see our cover story). There will also be a number of speakers available to help us tackle contemporary issues such as implementation of significant RMA amendments and NZCPS mark II, plus discussion of proposed changes to local government.

Now is also a time to imagine: in what state could the New Zealand coast and our relationship to it be in 2032 or, for that matter, in a century's time? Such reflections can inform better decisions in the present. Currently around 75 per cent of our 4.4

million residents live within 10 km of the coast, but the pattern is regionally very variable. Ninety-six per cent of Aucklanders reside within five km of the coast while 36 per cent of Cantabrians lived in this zone pre-quakes, the latter figure being eroded daily.

What percentage of us will live within five or 10 km of the coast in 20 or 100 years' time and how many people will that mean? A number of conference talks, including the opening address, will examine how Auckland, the Hauraki Gulf, and Bay of Plenty are planning to meet this challenge.

Does your region's pattern of development align with the 'global rush' to live in coastal cities? And what of the 20th century trend identified in the *Journal of Coastal Research* away from hard structural 'fixes' towards soft engineering and adaptive solutions to coastal problems? What sorts of values will we ascribe as a nation and as communities to our shores and what resource and hazard management challenges will that pose?

Will there be vehicles on beaches or will there be a national ban as in South Africa? What lessons or legacy will remain of the *Rena* grounding? Will the built environment be visible from the shoreline or will we adopt a Turkish model of visual setbacks?

In other words, this conference is shaping up to encourage dialogue and potential solutions to some of today's most pressing coastal management issues.

Here's to the 20th NZCS conference allowing us all three days of talks, networking, socialising and reflection: time enough to let the imagination run wild and to envision the coastal and marine environment we aspire to share with future generations.

Aquaculture Readiness Data Project

During 2010/11, the Ministry for Primary Industries (MPI) carried out a project to determine the aquaculture industry's readiness for collecting and using data – the Aquaculture Readiness Data (ARD) project.

Carried out in two phases, the ARD project involved the collection of data on aquaculture facilities and then using that data to model defined dispersion areas and simulate the spread of pests or diseases that may be a biosecurity risk to the aquaculture industry or wild fisheries.

In August, MPI published three information sheets that discuss the findings of the project. The information sheets cover: biosecurity preparedness; defining dispersion areas for aquatic pests and diseases; and the need for quality data.

www.fish.govt.nz

AQUACULTURE READINESS DATA PROJECT - BIOSECURITY AND AQUACULTURE INFORMATION SHEET 1

AQUACULTURE - BIOSECURITY PREPAREDNESS

BIOSECURITY AND AQUACULTURE TODAY

AND PROJECT - THE NEW ZEALAND CONTEXT

www.fish.govt.nz Growing and Protecting New Zealand

Just Add Water – The Environmental Sample Processor makes its New Zealand Debut

Cawthron and US-based Monterey Bay Aquarium Research Institute (MBARI) scientists are analysing results from the first Southern Hemisphere trial of the Environmental Sample Processor (ESP) in a 'real-world' setting. Editor Shelly Biswell reports.

Christened the molecular 'lab in a can,' the ESP was trialled this past winter near a working marine farm in the Tasman Bay. During the 30-day trial, the ESP collected and analysed water samples and communicated results back to shore.

Cawthron Scientist Chris Cornelisen says the ESP was designed by MBARI to reduce time and costs associated with ocean monitoring and to provide data on water quality in near real-time. He says Cawthron scientists were keen to test the technology in New Zealand and MBARI scientists saw the trial as an important opportunity to refine ESP technology even further.

"Previously the ESP had been tested in US waters to depths of 1600 m, but New Zealand's coastal environment presented scientists with different challenges and conditions."

Chris says initial results from the trial look promising with the ESP proving to be effective in detecting, even at low levels, the presence and to some extent quantity of both faecal bacteria and phytoplankton that could potentially form harmful algal blooms.

"It's the type of information that's incredibly useful to councils, marine farmers, scientists, and other coastal users – and right now pretty much requires a boat and crew to obtain and a lab to analyse samples."



MBARI's Kevan Yamahara with an ESP before deployment. Photo: Cawthron.

On a trip to the United States in July, Chris visited MBARI's facilities and found engineers and scientists back at work designing the next generation of the ESP.

"The next version will be even smaller and easier to deploy with new technology that reflects lessons learned from the previous models. Cawthron and MBARI are already planning to trial the next ESP model in New Zealand in 2014.

"International collaborations like this are key so that New Zealand can continue to build its own capabilities, but also support and leverage off of research and technology development occurring in other parts of the world."

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NZCS Management Committee

Chairperson:	Deirdre Hart	deirdre.hart@canterbury.ac.nz
Deputy Chairperson/IPENZ Coordinator:	Rick Liefing	rliefing@tonkin.co.nz
Treasurer:	Eric Verstappen	eric.verstappen@tasman.govt.nz
Deputy Treasurer:	Andrew Swales	a.swales@niwa.co.nz
Membership & Partners Liaison:	Harley Spence	harley@coastline.co.nz
Regional Coordinators:	Rick Liefing	rliefing@tonkin.co.nz
	Jose Borrero	jose@ecoast.co.nz
Conference Coordinator:	Hugh Leersnyder	hugh.leersnyder@beca.com
Education & University Coordinator:	Christopher Gomez	christopher.gomez@canterbury.ac.nz
Central Government Coordinators:	Sarah McRae	smcrae@doc.govt.nz
	Paul Creswell	paul.creswell@mpi.govt.nz
Coastal News Coordinators:	Amy Robinson	amy.robinson@waikatoregion.govt.nz
	Christopher Gomez	christopher.gomez@canterbury.ac.nz
Other NZCS Contacts		
Administrator and Digest Coordinator:	Renee Foster	nzcoastalsociety@gmail.com
Coastal News Editor:	Shelly Biswell	shelly@biswell.net

Coastal Connections

Member close-up – Terry Hume

Coastal News



With over 35 years experience as a marine geologist and coastal oceanographer, NIWA Principal Scientist Dr Terry Hume has been at the forefront of research on New Zealand's coastal environment.

He's one of a handful of coastal scientists working in New Zealand who in the truest sense wrote the book on our coastal environments. For example, in the late 1980s Terry and Ed (CE) Herdendorf classified estuaries into 16 geomorphological types. This work developed into a rule-based GIS classification in 2007 and is used throughout the world to assist in the management of estuaries.

More recently he has been involved with research looking at the effects of catchment runoff on sedimentation in estuaries. The research has increased our knowledge of Holocene sedimentation and rates of sedimentation and the effects that forestry and land clearance for agriculture and urbanisation have on estuaries.

NIWA Principal Scientist Murray Hicks says that Terry is thorough and pragmatic in his approach.

"He has done extremely important research work around tidal inlets and deltas, for example, but he's also very good at communicating that information to wider audiences. That connection between science and its applications is crucial for good planning and decision making."

Terry led the initiative to develop Coastal Explorer, a web-based database that provides basic information on the open coast shoreline and estuaries. The government-funded web tool is used by councils, Surf Life Saving New Zealand, and the public to help them better understand environmental change and coastal hazards.

At the local level, he has worked with councils, communities, and schools to develop local adaptation strategies to climate change, and to identify ways to incorporate those strategies in coastal planning documents. He's also been involved

in research projects to determine societal planning for natural hazards, and has been involved in initiatives such as the development of Cam-Era video monitoring that supports councils in monitoring and managing their coastal environments.

From earth to sea

Terry earned his BSc in Geology at the University of Auckland and went on to complete his MSc and PhD in earth sciences at the University of Waikato.

After graduating, Terry became a scientist for the Ministry of Works' Water and Soil Division.

In 1988 he became Group Leader – Coastal of the Marine and Freshwater Division of the Department of Scientific and Industrial Research (DSIR), a role he continued in when DSIR transitioned to NIWA. As a Principal Scientist, he went on to lead NIWA's programmes on Coastal adaptation to climate change and Coastal movement and sediment storage. He's also held a number of management roles

within NIWA, including his current position as National Projects Manager.

An integral part of the coastal community

Terry's commitment to sharing ideas and knowledge about our coastal environment is legendary. He was one of the early supporters of NZCS and a member of its management committee from 1992 to 1994, and again from 1999 to 2004 as Editor of *Coastal News*. Since 1993 he's taught at the tertiary level for both the University of Waikato and the University of Auckland. He's been a certified RMA Hearings Commissioner since 2006.

NIWA Coastal Hazards Programme Leader Rob Bell says, "Terry aptly applies his astute knowledge of coastal processes, acquired from countless field observations, to resolve coastal issues and pass on in the form of tools and guidance material for practitioners. Terry is also incredibly supportive of his colleagues, the wider coastal fraternity, and sharing his know-how with young scientists."



Five New Mataitai Reserves Established

In September the Ministry for Primary Industries established five new mataitai reserves. Commercial fishing is prohibited in mataitai reserves which are established over traditional fishing grounds of significance to local Maori.

Mataitai reserves established:

- one in South Canterbury, north-east of Waimate – Waihao (the reserve covers an area already closed to commercial eel fishing);
- three on Mahia Peninsula on the east coast

of the North Island – Horokaka, Toka Tamure, and Te Hoe (the reserves cover the same approximate area already closed to commercial fishing); and

- one on the west coast of the South Island north of Franz Josef – Okarito Lagoon.

Mataitai reserves only apply to species managed under the Fisheries Act 1996, which excludes whitebait and sports fish.

www.mpi.govt.nz

Kapiti – Planning for Coastal Hazards

Kapiti Coast District Council (KCDC) released the Kapiti Coast Erosion Hazard Assessment 2012 Update in August. The assessment shows how Kapiti Coast's shoreline is expected to change within 50 and 100 years. Editor Shelly Biswell reports.

Prepared for KCDC by Coastal Systems Ltd, the report updates KCDC's 2008 *Erosion Hazard Assessment* and brings its assessment of coastal hazards in line with the New Zealand Coastal Policy Statement 2010 (NZCPS). The updated assessment also incorporates the Ministry for the Environment's guidelines on climate change and current information on the coastal environment, for example, wave modelling and longshore sediment transport values for the Kapiti Coast.

The assessment covers predictions for managed hard solutions, such as seawalls and unmanaged scenarios including:

- open coast managed 50 year;
- open coast unmanaged 50 year;
- open coast unmanaged 100 year; and
- inlets.

In accordance with KCDC's Long Term Plan and the NZCPS to move away from infrastructure near the

coast, an open coast managed 100-year scenario was not developed. A separate assessment for inlets was carried out comprising a section on each inlet that describes geomorphological characteristics, management history and predicted hazard lines.

Jim Ebenhoh, KCDC's Sustainable Development Manager, says the shoreline predictions are for information only at this stage, but under the Resource Management Act 1991, councils must try to avoid new buildings and developments in areas of high risk from natural hazards.



A separate assessment was carried out for inlets that included describing each inlet's geomorphological characteristics, management history, and predicted hazard lines. Photo: S Biswell.

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Scenario findings

Below is a brief synopsis of predictions for each scenario as discussed in the *Kapiti Coast Erosion Hazard Assessment 2012 Update*.

Open coast managed 50 year

Under this scenario predicted erosion distances from the current shoreline range between 25.6 and 120 m (mean = 44.2 m) with the highest erosion values being along the northern Queen Elizabeth Park coast and lowest values corresponding to the seawalled sections of Paekakariki and Raumati coast and along the northern coast between Te Horo Beach and the Otaki Rivermouth.

The only values that are different from the 2008 assessment are along the north Raumati/south Paraparaumu coastline (2008 = 20.4 to 53.4 m c.f. 2012 = 19.9 to 47.7 m).

Open coast unmanaged 50 year

Under this scenario predicted erosion distances from the reference shoreline range between 25.6 and 72.2 m (mean = 45.6 m) with the highest erosion values being along the south Raumati coast and around the foreland, and the lowest values being along the north coast, particularly between Te Horo Beach and the Otaki Rivermouth.

Like the open coast 50-year managed scenario, the only values that are different from the 2008

assessment are along the north Raumati/south Paraparaumu coastline (2008 = 32.9 to 73.9 m c.f. 2012 = 31.9 to 47.2 m).

Open coast unmanaged 100 year

Under this scenario predicted erosion distances from the present shoreline range between 39.4 and 129.7 m (mean = 85.8 m) with the highest values being along the south Raumati coast and foreland, and the lowest values between Te Horo Beach and the Otaki Rivermouth.

Considering inlets

Inlets within the region vary in their dimensions, behaviour, and how they are managed. Overall, inlets north of the foreland were larger than south coast inlets (5.4 to 71 ha c.f. 0.6 to 5.5 ha). Predicted erosion lines are similarly further landward for northern inlets than southern, for example for managed inlets under the 50-year managed and unmanaged scenarios, the northern inlet prediction lines ranged between 33 to 120 m landward of the adjacent open coast compared with 10 to 88 m for south coast inlets.

Under the inlet managed scenario it is assumed Greater Wellington Regional Council will continue its current management regime, including maintaining existing engineered structures. The unmanaged scenario for inlets considers what might occur if current management stopped.



The updated erosion hazard assessment includes 50 year and 100 year scenarios for the open coast. Photo S Biswell.



The 2012 assessment considers predictions for managed hard solutions, such as seawalls and unmanaged scenarios. Photo: S Biswell.

“Coastal hazards will be an important issue in our current district plan review. The assessment predicts potential hazards under different scenarios. Other matters that will need to be considered through the review process include legislative and planning frameworks, and taking into account that different types of development have different risks. We are also working with the community to ensure we meet the current and future needs of our residents.”

As part of this review, policies and rules will be proposed to respond to the coastal hazard risk, including considering coastal development restrictions, such as ‘no build’ and ‘relocatable’ areas.

The draft district plan is expected to be publicly notified by late November. At that time, affected owners will be informed and formal submissions can be made by early March 2013.

To learn more and to review the assessment, visit www.kapiticoast.govt.nz.

Ann Sheridan – A Tribute



NZCS member Ann Sheridan passed away in Nelson in late September. She served as a central government liaison on the management committee (2011–2012) and until recently was a Senior

Aquaculture Analyst for the Ministry for Primary Industry’s Aquaculture Unit. At the time of her death she was to begin a new role as a Senior Policy Advisor at the Department of Conservation’s (DOC) National Office.

With a background in ecology and resource management, Ann had worked for Te Tau Ihu (top of the South) iwi and had held a number of roles within DOC, including with the department’s Marine Protection Section. She also had worked for Greater Wellington Regional Council.

An outdoor enthusiast, Ann was a keen trapper, sea-kayaker, and scuba diver who also loved working in her garden. She will be remembered for her integrity, her commitment to the environment, and for her straightforward approach to dealing with challenges.

Coastal News

Lessons learnt from the *Rena* – upcoming NZCS publication

NZCS is asking experts across a number of disciplines to provide articles to a standalone publication on the *Rena* response and recovery. See page 11 for details.

Coastal News now delivered in PDF format

Unless otherwise requested, *Coastal News* is delivered to members via email as a PDF. When registering with NZCS, members have the option

to have print copies of *Coastal News* delivered, however, if this option is not selected members will only receive the environmentally friendly PDF version.

Contributions

We welcome contributions for each issue of *Coastal News*. Please contact Shelly Biswell at shelly@biswell.net if you’d like to submit a newsbrief, article, or have content suggestions.

The submission deadline for the next issue is 12 February 2013.

Rena Recovery

One year ago, on 5 October 2011, the *Rena* grounded on Astrolabe Reef in the Bay of Plenty. Considered one of New Zealand's most significant maritime environmental disasters, approximately 360 tonnes of the 1733 tonnes of oil on board the *Rena* escaped, polluting surrounding waters and Bay of Plenty beaches.

To date, fuel recovery operations have successfully removed over 1300 tonnes of oil from the vessel. The Bay of Plenty Regional Council oversees the *Rena* oil spill response and continues to work with wreck removal and debris recovery contractors to ensure the risk of further oil spills is managed.

Recent recovery efforts

At the time of the grounding the cargo ship had 1398 containers on board, 32 of which held dangerous goods. More than 1000 containers have been brought to shore, with salvors working to remove containers that are still on the vessel, as well as recover containers and their contents from surrounding waters and beaches.



Workers use modified vacuum equipment as part of beach clean-up. Photo: Braemar/Unimar (MNZ).



The *Rena*'s stern section as seen from the bow, 15 March 2012. Photo: LOC (MNZ).

In late September an RMG 280 crane barge and a specialised dive team were brought in to help with the removal of steel and debris. Clean-up efforts on shore also continue, with surveys of Coromandel beaches recently completed.

www.renarecovery.org.nz

Call for articles about the *Rena* incident

NZCS is asking experts across a number of disciplines to provide articles to a standalone publication on the *Rena* response and recovery. The publication will serve as an opportunity for people to impart their viewpoints and knowledge about the event and to reflect on lessons learned. Articles may convey technical information, but should be written in a style that an informed layperson can understand.

An editorial committee has been established to review abstracts and final articles. If you have an interest in contributing to the publication or want to learn more email Shelly Biswell at shelly@biswell.net. Deadline for submissions of interest has been extended to 16 October 2012.

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

<i>Northland</i>	Michael Day André Labonté	michaeld@nrc.govt.nz labonte@xtra.co.nz
<i>Auckland</i>	Hugh Leersnyder	hugh.leersnyder@beca.com
<i>Waikato</i>	Amy Robinson	amy.robinson@waikatoregion.govt.nz
<i>Bay of Plenty</i>	Reuben Fraser	reuben.fraser@boprc.govt.nz
<i>Hawke's Bay</i>	Neil Daykin	Daykin@hbrc.govt.nz
<i>Taranaki</i>	Emily Roberts	emily.roberts@trc.govt.nz
<i>Wellington</i>	Iain Dawe	iain.dawe@gw.govt.nz

South Island

<i>Upper South Island</i>	Eric Verstappen	eric.verstappen@tdc.govt.nz
<i>Canterbury</i>	Justin Cope	justin.cope@ecan.govt.nz
<i>Otago</i>	Mike Hilton	mjh@geography.otago.ac.nz
<i>Southland</i>	TBC	

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News from the Regions

Northland Region

by Michael Day, Regional Coordinator

Northland regional mapping project

To meet New Zealand Coastal Policy Statement 2010 (NZCPS) requirements, Northland Regional Council in partnership with the three district councils, is undertaking a region-wide mapping project of Northland's outstanding areas and coastal land. The project will identify the landward extent of the coastal environment, outstanding and high natural character in the coastal environment, as well as outstanding natural features and outstanding natural landscapes for the entire region (coastal and non-coastal areas).

The intention is to meet government's statutory obligations (Resource Management Act 1991 section 6 and NZCPS) in a way that works best for Northland and its communities. For this reason Northland has opted for one project that produces regionally consistent maps. One region-wide mapping project is much more efficient and cost-effective than each district council having to do this separately. Regionally consistent maps of these areas will create more certainty in the long run – for landowners, communities, developers, and council decision makers.

Draft maps have already been sent out to over 8000 landowners in the three districts and these landowners have had an opportunity to provide feedback to council staff as well as request site visits to groundtruth the maps. Many face-to-face meetings have resulted in minor adjustments to the maps.

The maps will form part of the new Regional Policy Statement (RPS). A formal public consultation on the RPS is scheduled to begin in October. The maps, however, will only be subject to plan

provisions once inserted into both district and regional plans by way of a Schedule 1 RMA plan change.

For more information about the Northland mapping project visit the regional council's website at www.nrc.govt.nz/rpsmaps.

Whangarei Harbour water quality strategy

The quality of water in the Whangarei Harbour has received much attention in recent years. While considerable effort has been spent on reducing discharges of contaminants to the harbour, water quality remains poor in its upper reaches. Water quality is good in the middle and lower harbour.

Northland Regional Council and Whangarei District Council have embarked on a project to improve the integrated management of harbour water quality. The project involves improving the councils' understanding of sources of contaminants and coordinating their management of harbour water quality. Current activities include quantifying catchment loads of key contaminants (nutrients, sediments, faecal bacteria, and trace metals) originating from direct and diffuse sources in the upper harbour catchments, and researching sediment deposition rates in the harbour and key sources of sediment.

Next stages include:

- determining community desired environmental outcomes for the harbour and its upper harbour catchments;
- translating the objectives into restoration targets for the upper harbour and specific freshwater objectives and associated freshwater quality limits for the upper harbour catchments;
- determining contaminant load reductions to achieve targets and freshwater objectives; and
- targeting non-regulatory support for best management practices and restoration projects.

Moorings and marinas management

The regional council has recently notified a Variation to Plan Change 1 (Moorings and Marinas) to the Regional Coastal Plan for Northland. The proposed variation aims to cut red tape for existing moorings and enable better management of sewage discharges in mooring zones. Under current rules, all moorings in mooring zones require resource consent – including roughly 2000 existing moorings that pre-date the rules. The variation will make existing moorings in mooring areas a permitted activity, subject to compliance with standards and terms. The proposed standards and terms include:

- No staying overnight on a vessel while on a mooring unless the vessel is equipped with a sewage treatment system or has a sewage holding tank or portable toilet aboard.
- Restricting people staying overnight on a moored vessel if one or more individuals have stayed

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To meet current government requirements, Northland Regional Council is undertaking a region-wide mapping project of Northland's outstanding areas and coastal land.

It could eventually mean changes for some landowners in the region. This factsheet tells you what it's all about – and how to have your say

WHAT IS THE MAPPING PROJECT?

All councils in New Zealand have to meet new government policy to identify and protect 'outstanding' areas around the coast, under the New Zealand Coastal Policy Statement 2010 (NZCPS).

Legal requirements arise. It's best to better protection for the places that matter to Northland and ensure appropriate management of these areas.

At the same time we are also reviewing existing 'outstanding' areas throughout the rest of the region using updated criteria. Most of these areas were first mapped in 1980 so we need to check whether they still qualify as 'outstanding' and if any other areas should be added. This will also provide regional consistency.

The first step is identifying Northland's 'outstanding' areas and 'coastal' land – that's what's happening now with the mapping project.

Once the maps have been released through consultation, they will be included in the new Regional Policy Statement for Northland.

Protecting these areas is done through rules in district and regional plans. A later step will be integrating the new maps into these plans so the identified areas can be managed appropriately.



Outstanding areas: Outstanding Natural Features, Outstanding Natural Landscapes, High Natural Character, Outstanding Natural Character. Coastal land: Coastal Investment.

WHAT WILL IT MEAN FOR ME?

Once Northland, the maps will be incorporated into district and regional plans. These plans contain the rules that best development in certain areas.

Most Northlanders won't be affected by the maps. Landowners who may likely see the most change are in the following areas:

- New 'outstanding' areas – these would likely become subject to rules similar to those that cover existing outstanding landscapes and natural feature areas. Existing rules can be found in Chapter 12 of the Far North District Plan.

- Rural properties that are newly coastal (but not 'outstanding') – these would likely become subject to rules similar to those that cover current coastal zones (rules for properties in urban 'coastal' areas are unlikely to change much). Existing rules can be found in Chapter 10 of the Far North District Plan.

Rules for 'outstanding' areas and 'coastal' land are typically about earthworks, new buildings, subdivision and bush clearance. Outstanding areas that are in the coastal environment are likely to be subject to more control than those that aren't 'coastal'.

Clarifying the rules for these areas is a separate process that the district councils will go through later – first we need to clearly identify where these areas are.

overnight on board the vessel for more than five nights, and within the five nights the vessel has not:

- pumped all sewage out of the vessel at a sewage pump-out facility; or
- disposed of sewage from a portable toilet at an authorised disposal site; or
- navigated into waters where the discharge of sewage from the vessel is permitted and disposed of all its sewage in those waters.

New moorings in mooring areas will require resource consent for their initial placement as a ‘discretionary’ activity, but once in the water, they will become a permitted activity.

Waikato Region

by Amy Robinson, Regional Coordinator

Coastal Adaptation to Climate Change ‘Pathways to Change’ Workshop

This well-attended workshop was held on 24 July in Hamilton by National Institute of Water Atmospheric Research, Focus Resource Management Group, and Ag Research. Attendees included representatives from a number of regional councils (Auckland, Waikato, Bay of Plenty and Hawke’s Bay), along with Western Bay of Plenty District Council, Ngati Whatua, and consultants.

The workshop provided an update on the latest climate and sea-level rise science, and explored the implications of sea-level rise on coastal communities. It went on to describe the four-step ‘Pathways to Change’ process of awareness and acceptance; assessment; planning a way forward; and implementation, monitoring and review.

The workshop presented council staff with the tools to work through the steps towards resilience, and how to take their communities on the journey with them, as well as providing a great array of resources. It was a useful forum for the attendees to share their various experiences in terms of coastal hazard issues.

Hawke’s Bay Region

by Neil Daykin, Regional Coordinator

Kairakau community scheme

Hawke’s Bay Regional Council (HBRC) has agreed to set up a community scheme to fund flood and seawall repairs and maintenance in Kairakau, with support from the local community. The Kairakau community suffered significant damage in 2011’s Easter floods including erosion of banks on the Mangakuri River. After community consultation it was decided to set up a scheme, funded by the 80 Kairakau property owners, as a targeted annual rate to fund capital and maintenance works.

Coastal erosion at Haumoana

HBRC has made no specific provision within its Long Term Plan to continue coastal investigation work specifically targeted for Haumoana. HBRC Chair Fenton Wilson says extensive investigations

during the last 10 years have always ended up with suggested cost projections between 15 and 18 million dollars. He says if residents wish to have work done they should lodge a consent application.

Call for national unit within EPA for oil and gas industry

HBRC is calling for a national unit to be set up within the Environmental Protection Authority to manage the regulation of the oil and gas industry in New Zealand.

The council says establishing a national unit for the regulation of the oil and gas industry would ensure a consistently high standard of delivery. It would also ensure a nationally consistent approach to the regulation of the industry, and a set of national standards.

‘Red tide’ algal bloom in Hawke Bay

A coloured sea along the Napier coast has been confirmed by the HBRC as an algal bloom. HBRC took samples for Cawthron Institute to test in mid-August. The samples confirm the presence of the non-toxic algae bloom *Akashiwo sanguinea*. *Akashiwo* is Japanese for ‘red tide.’ The bloom is quite common in Tasmania and off the California and Florida coastlines in the United States. It may be linked to the consistent rain Hawke’s Bay experienced in July and August.

A flyover by HBRC staff revealed the extent of the bloom which stretches from Te Awanga to Wairoa. The sea colour varies from light brown, typical of flood water from the rivers, to dark purple. There is also more foam in the surf zone at beaches where the bloom is present.

HBRC will continue to monitor the bloom to make sure the bloom remains non-toxic and no risk to human or animal health.

Cataloguing micro-algae

The Cawthron Institute Culture Collection of Micro-Algae is frequently used as a reference to identify algae in water samples. For councils and public health organisations the collection can be particularly helpful when a harmful algal bloom occurs.

The living collection contains nine classes of micro-algae and underpins research, including the Seafood Safety programme. The collection is the only one of its kind in New Zealand and is part of the Asia Oceania Algae Collection network. – Editor

Canterbury Region

Algal bloom in Lyttelton Harbour

A recent algal bloom in Lyttelton Harbour has been identified as *Mesodinium rubrum*. Environment Canterbury’s Senior Water Quality Coastal Scientist Lesley Bolton-Ritchie says that the non-toxic bloom is a very common ciliate.





“The discolouration of the water, which looks like oil, is due to the large amount of bloom that can change the seawater colour to brick red, brown or rusty red which it is known for.

“The reason for this outbreak of algal bloom could be a combination of sunny days and the water warming up mixed with recent rainfall causing the addition of nutrients into the water from rivers and streams.”

www.ecan.govt.nz

Otago Region

Coastal Otago conservation champions

This year's winner of the Department of Conservation (DOC) Coastal Otago Conservation Awards is Moira Parker for her outstanding biodiversity work on Otago Peninsula. As a founding member of STOP (Save the Otago Peninsula) and the Yellow-eyed Penguin Trust, Moira has played an active role in native biodiversity restoration programmes on the Otago Peninsula for over 30 years. She helped establish the Yellow-eyed Penguin Trust nursery in Company Bay, played an active role in weed control, campaigned for the purchase and restoration of Harbour Cone, and is a member of the Otago Peninsula Biodiversity Group.



Moira Parker has been honoured with a DOC Coastal Otago Conservation Award for her tireless work for the Otago Peninsula. Photo: M Parker.

The runner-up of this year's awards is the Oamaru Blue Penguin Colony. Oamaru's largest tourist attraction welcomes over 75,000 visitors a year to view the colony's 130 breeding pairs of blue penguins. The colony's penguins are monitored to ensure that they are not adversely affected by the larger number of visitors. The operators also maintain a successful breeding habitat and are involved in blue penguin research to support the future health of the species.

Another coast-focused winner in this year's awards is Otago Girls High School which received highly commended in the Toroa (student) section of the awards. For 10 years, students at the school have been investigating the impacts of the invasive seaweed *Undaria* around Quarantine Island. They are currently working on a public presentation of their findings.

www.doc.govt.nz

Southland Region

Ridding Fiordland of *Undaria*

In April 2010 a single mature *Undaria* plant was found at Sunday Cove in Fiordland's Breaksea Sound. Upon further investigation low numbers of the plant were found and a Response Team (including staff from Ministry for Primary Industries (MPI), Environment Southland, and Department of Conservation) was formed to eradicate the pest seaweed.

MPI's Manager of the Fiordland marine biosecurity programme, Jennie Brunton, says 26 control operations later and there has been a substantial decline in the number of plants found.

“About 1800 *Undaria* plants have been removed through the control operations with the Response Team noting a substantial decline in the number of plants over the last 12 months.”

Environment Southland Biosecurity Officer Tim Riding says that a successful element of the response has been the transfer of around 35,000 kina from surrounding regions to the infected area in Sunday Cove as a biocontrol agent for the invasive pest seaweed. Kina graze on seaweed, and seem to particularly like *Undaria*.

“The kina transfer has been very successful to date,” Tim says. “Over the last 12 months kina have gradually eaten their way through the infected areas. In combination with the extensive ‘search-and-destroy’ diving methods, the kina transfer has been so successful that we haven't found any new plants for three months.”

Jennie says that the Response Team still expect to find small numbers of plants in the coming months, as the spores germinate over spring.

“The project is on track, however, to achieve local elimination of the pest in Fiordland within the next 24 months.

“Awareness is crucial to the project's success, which is why we're continuing to work with the Fiordland Marine Guardians to educate boaties and other Fiordland visitors about the importance of ensuring boats, diving and fishing gear, ropes, ground tackle, and other marine equipment are clean and dry before entering Fiordland to prevent the spread of *Undaria* or other marine pests.”

www.mpi.govt.nz or www.es.govt.nz



*Kina on an *Undaria* plant. Photo: R Kinsey, DOC.*

Legislative Update

Resource Management Reform Phase II – Report on sections 6 and 7

The Government is looking at additional reforms to the Resource Management Act 1991 (RMA) that considers issues related to resource management planning and decision making, including a review of sections 6 and 7 of the RMA.

Section 6 discusses sustainable management principles of the coastal environment, wetlands, lakes, rivers, and their margins. Section 7 discusses the sustainable management methods that support those principles.

As part of this review, the Government convened a technical advisory group (TAG) to provide advice on sections 6 and 7. Under their terms of reference the TAG looked at whether sections 6 and 7 can be improved to:

- give greater attention to managing issues of natural hazards;
- consider the recommendations from the urban and infrastructure technical advisory groups in a broader context;
- consider the incorporation of the Land Drainage Act 1908 (LDA), the Rivers Board Act 1908 (RCA), and the Soil Conservation and Rivers Control Act 1941 (SCRCA);
- reflect on the provisions relative to the resource management challenges 20 years on; and
- promote consistency of interpretation through clear and modern drafting.

In July 2012 the TAG report was publicly released. Within the parameters of sections 6 and 7, the report suggests additions to the RMA that include principles that explicitly reference biodiversity; wetland values; the management of natural hazards; economic, urban and infrastructure issues; and taonga species. The TAG report suggests that the Act include specific process-related methods to support these principles.

Additionally, the TAG report recommends that the RMA be amended to more clearly allocate responsibility for natural hazard planning. Because of the operational nature of the LDA, RCA, and SCRCA the TAG report recommends that the three Acts should be repealed and included with the Local Government Act 2002.

When releasing the report, Environment Minister Amy Adams said that the Government will consider the recommendations from the TAG report as part of the wider reforms of the resource management system. The TAG report is available at www.mfe.govt.nz.

EEZ legislation

The Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 was enacted on 3 September 2012. The enabling Act will come into force once the first set of corresponding regulations is ratified.

Prior to this legislation, outside of fishing and shipping, New Zealand had only a limited

regulatory framework in place for assessing or managing the environmental effects of various activities in the EEZ. The Act bridges this gap and aims to achieve a balance between economic development and the environment in the EEZ.

The government has already consulted on the Act's corresponding rules and protocols and is now considering submissions before preparing regulations which are expected to come into effect in 2013.

Because some petroleum exploration has been permitted, the government has consulted with industry and established a set of interim voluntary measures for this activity. This includes a requirement for industry to prepare environmental impact assessments and provide them to the Environmental Protection Authority, the proposed EEZ consenting authority, to review.

For more about the legislation visit www.parliament.govt.nz and www.mfe.govt.nz.



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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 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 Foster (email: nzcoastalsociety@gmail.com).

New Zealand Coastal Society Corporate Members

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Corporate membership enables organisations and companies to become part of the New Zealand Coastal Society and support the society's mission of taking a leading role in facilitating a vibrant, healthy and sustainable coastal and ocean environment.

Organisations and companies can show their support for the aims and activities of the society and achieve public recognition of that support.

Corporate membership benefits include:

- High-profile listing as a corporate member sponsor on the NZCS website (www.coastalsociety.org.nz/Corporate.htm).
- Website listing of services provided by corporate organisation, contact details, and links to recent projects or corporate member website.

- One free individual membership for the person nominated as the corporate contact or any subsequent replacement alternate.
- Five complimentary copies of *Coastal News* published three times per year.
- Discounted registration at member rates for the corporate contact to all NZCS conferences.
- Short feature on a corporate member in the *Coastal News* newsletter.

For more information on corporate memberships please contact:

Harley Spence
Membership Coordinator
Coastal Society Committee
harley.spence@gw.govt.nz

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



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