

Coastal News

Newsletter of the New Zealand Coastal Society

A Technical Group of IPENZ

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PACIFIC COASTS & PORTS '97 CONFERENCE: CHRISTCHURCH

This international conference, organised by the Society and held in Christchurch from 7-11 September 1997, was a tremendous success with attendance by over 350 coastal management professionals from more than 20 different countries. Considerable thanks are due to John Lumsden and fellow members of the Conference Committee for their efforts in organising such a well-run conference.

This biennial conference (every 3rd one held in NZ) has traditionally had a strong science and engineering focus. However, in line with the aims of the Society, the Christchurch conference was designed to draw a much wider spectrum of coastal management professionals together – with streams focusing on Resource Management, Ports and Harbours, Estuarine Processes and Inlet Dynamics, Sediment Transport, Breakwaters and Seawalls, Coastal Zone Management, Littoral Processes and Geomorphology, Beach Conservation, Water Quality and Ecology, Numerical Modelling and Coastal Oceanography, Climate and Wave Studies.

The quality of the conference papers was exceptional and the 2 volume proceedings are highly recommended reading.

Society member, Dick Carter has provided the following excellent synopsis of the sessions on Ports and Harbours. The May newsletter will also feature a synopsis of the papers presented on Resource Management and Coastal Zone Management.

Synopsis of Presentations in Sessions on Ports and Harbours

Mr Greg Martin, CEO of Sydney Ports was the keynote speaker covering the "Ports" theme. He gave a very well-presented and interesting paper looking at how planned developments at both the Sydney and Brisbane ports addressed environmental concerns specific to those sites. Particularly interesting was the planning for the new

container terminal adjacent to the new third runway in Botany Bay.

While there were too many good papers presented to list them all, papers of merit and applicable to the NZ port scene included:

The Brisbane High Speed Ferry Service to be introduced in October 1997 to serve the City and suburbs was described in a paper by M Flannery and D Legoe. The height adjustment with compressed air of the level of boarding pontoons using remote control, both to cater for the 2.7 metre tidal range and wheelchair access gradients, was one feature described in this paper. The fender system used to cater for other vessel types was also worthy of note.

The testing of a grouted screw anchor system used for the mooring of structures in the Great Barrier Reef was described in the paper *Investigation of Load Capacities of Mooring Anchor Systems*, by B Greensill, K. van Donderen, and A Johnston. The testing carried out was applicable for use in both siliceous and calcareous materials and the solution presented avoids anchor and chain drag damage across sensitive reef corals.

A presentation of ANZECC *Best Practice Guidelines for Waste Reception Facilities at Ports Marinas and Boat Harbours in Australia and New Zealand* was made by Chris Hansen. The guidelines, which are not mandatory, set out Waste Management Principles and Best Practice Guidelines.

The Labour of Hercules - a History of Coastal Engineering in New South Wales by Will Strachan, Lenore Coltheart, and Douglas Lord was an interesting paper detailing the difficulties and challenges faced by engineers establishing some of the river ports along the New South Wales coastline. The port of Newcastle's development

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was a success story but other port developments were not, such as that at Trial Bay where an attempt to construct the necessary breakwater was abandoned after 18 years of construction.

The effect of cargo growth on handling areas is evident at the Port of Suva. An exercise to evaluate the ability of the existing port area at Kings Wharf to handle the volume of containers (currently 40,000 TEU's per year) and the weight of plant handling these was described in the paper *Port of Suva - a Master Development Plan* by J M Williams, and A C Burdall. Proposals for a new general purpose port at Rokobili were set out to address the issues raised.

The Design and Construction of a Container Wharf, Bell Bay, Tasmania by John Campbell and Leigh Donnelly was a practical and well received paper which set out some innovative techniques used to achieve cost savings in the construction of this wharf. The quay face was achieved using a sheet pile construction using anchored steel Wide Flange columns supporting concrete panels between. The wharf is currently nearing completion.

John Selsky and P A Memon's paper *Partnerships in Port Management: Involving Stakeholders in Decision Making* addressed the need for Community and corporation partnerships. This approach is necessary to resolve locational conflicts by multi-party co-management to smooth Resource Management applications.

Research in Queensland on risk assessment matrices for the various ports from ballast water discharges was the subject of the paper by R W Hilliard and S Raaymakers *Ballast Water Risk Assessment for 12 Warm-Water Ports in Queensland, Australia*. 26 million tonnes of overseas ballast water is discharged annually at these ports, and an evaluation of the risks from each trading source port had been made based on the differences in marine biota between each of them and each Australian port. Japan represented the area with the highest supplier of ballast water to this region. However the organisms present in the cooler waters of the Sea of Japan were determined to be unlikely to survive in the warmer tropical waters of Queensland and therefore ports in Japan ranked as a lower risk category to most of the Queensland ports compared with other source ports with warmer waters.

The paper *Organic Contaminants in New Zealand Coastal Sediments* by G N Mills outlined the extent of contamination observed in New

Zealand estuaries and harbours. While DDT levels showed the highest consistent levels exceeding sediment quality criteria (SQC), more work on analysing potential low level effects of this is proposed.

F Tian, T R Healy and A L Wilkins presented a well researched paper *Resin Acids in Storm Runoff from a Major Timber Port, Tauranga, New Zealand*. Samples were collected and analysed from water runoff from radiata pine storage areas at that port to assess the level of contamination by resin acids from the pine and to assess the suitability of a method of treatment. Conventional methods of treatment could be used to remove the contamination it was found.

The monitoring of the dredged sediments relocation site off the port of Tauranga was a well received paper prepared by Joseph Mathew, Terry Healy, and Willem de Lange. It was revealed that even though the disposal site was on an exposed coastline, the near bottom currents are not capable of transporting sediments most of the time.

The monitoring of water turbidity caused by dredging at the Ports of Auckland was described in the paper by S J Priestley *Measured Environmental Effects of Sediment Plumes from Dredging Operations*. This measurement covered trailer suction dredges (with and without overflow), and grab dredging in both the Waitemata and Onehunga Harbours. The general finding was that the effects of the discharges and the general dredging operation were localised to the dredged areas.

The effects of experimenting with longer breakwaters and different revetment types as part of the study into *Hydraulic Modelling of Phase 2 Development at Laem Chabang Port* (Thailand) were described by A M Cornett, O G Nwogu, T D Faure and E Hong. Construction of the port extension (the port is only 6 years old) using the findings set out in the paper is due to start on site in December 1997.

Another study of a breakwater modelling was described by M C Coull in his paper *Hydraulic Model Testing of Breakwater for Dalian Grain Terminal, China*. The results of the testing did prompt a redesign of this breakwater to prevent erosion of the core from the 50 year design storm. The tests have now confirmed the suitability of the revised profile. He also presented a second paper describing *The Use of Deep Mixing Methods to Improve Foundations for Port*

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structures and Their Application at the Dalian Grain Terminal Project. The system is used widely in Asia for improving foundations for bedding of wharf caissons by injection and mixing of lime or cement into sediments.

The design approach taken to deal with wave forces in an unusual promenade were described in a paper by PA Fountain, R G Newcombe and E D Couriel *Wave Uplift Forces on a Low Level Concrete Deck at Beacon Cove, Port Melbourne*. The testing for this relatively minor structure was extensive and has provided an interesting solution.

The Repairs to Sir Roberts Wharf at Port Alofi, Niue Island was described by R F Frankland. This was an example of low cost repairs having to work around the limitations of materials available at a relatively remote site. The wharf was also kept available for shipping during the 3 month contract on site.

Redesign of Port Gisborne for the 21st Century, a paper by T. Healy, K. Black, R. Gorman, and W de Lange, S Stephens, B Tahata and B Turnpenny reported on the studies underway to evaluate effects of the new berthage required and the effects of dredging at the new development area proposed. The slide presentation showed how detailed this study is and the progress being made to obtaining a satisfactory layout which meets all the operational and environmental requirements.

In a paper presented by Mr Shuji Mifune, *Observation and Hindcasting of Long Period Wave for Port Operation*, verification of forecasting of long period wave effects with actual site measurements was provided. From this data alarm systems can be developed which allow ships to be released or additional lines provided to counter the effects of breaking lines during storm events which are producing the critical long period waves.

Mr A W Pigeon's paper, *Simulation Modelling for Port Development*, the value of computer

simulations and the economic data which can be derived was ably illustrated. The Case studies used were the Port of Gisborne and PT Freeport Indonesian Co where feeding to bulk loaders at a off shore loading buoy could easily be compared in the model with partial loading at berth followed by topping up at the off shore buoy.

Design and Construction of Ro Ro Wharf at Webb Dock East, Melbourne was described in a paper by C C Vanderloos and J P Whybrow. The dock was constructed under a design-build contract to service Brambles Shipping. Work involved demolition of an existing wharf structure and realignment using sheet pile construction. The evaluation of scour protection for this berth was of particular interest to many port engineers.

Another design-build contract currently under construction was presented by C C Vanderloos and S P Leppert. *The Design and Construction of Marine Structures for New Woodchip and Grain Handling Facility at Geelong, Victoria* has resulted in steel framed open structure forming a jetty 168 metres long capable of berthing vessels up to 235 metres in length (70,000 tonne dead-weight). Design and construction details are well set out in this paper.

The paper *The River Trade Terminal, Hong Kong* by J Meigh and Winson Chow describes a new terminal which by its location to reduce shipping congestion within the Hong Kong area. It will be completed in 1999.

Problems of Concrete Structures in the Sea developed a range of theories as to why so many 7 to 25 year old concrete structures are suffering signs of early failure. This paper by Andrew Patterson reflected strongly that changes in cement chemistry may hold the key to the issue where all other normal construction criteria have been met.

Establishment of New Offshore Bulk Concentrates Loading Facility by B W Berwick was another well developed paper describing the background, design criteria used for the establishment of this berth. It is being developed for the export of lead and zinc concentrate. The project comprises of dredging, an off shore berth complete with ship loader, and on shore facilities including a rail delivery loop, tippler station and storage shed all to be constructed to high environmental standards.

There was a field trip to Port Lyttelton with commentary and lunch provided by the Lyttelton

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PCP '97 PROCEEDINGS

A limited number of copies of the Pacific Coasts & Ports Proceedings (two volumes) are available to members of the Coastal Society at the reduced price of \$125 the set (including post, packing and GST). Contact Una O'Grady at CAE (phone 03 364 2478, fax 03 364 2069) to order, or e-mail u.ogrady@cae.canterbury.ac.nz.

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Port Company. This visit was well supported and featured a visit to the container terminal, an overview of the coal stack area, a commentary on future expansion plans including a drive through areas being reconstructed for Pacifica Shipping, and the historic (but still successfully operating) dry dock.

Conclusions

The ideas and feedback from scientists, consultants, suppliers, planners and port engineers made this conference particularly worthwhile for those present. The contacts made will be invaluable in finding solutions to common problems. The port industry did have a high profile at the conference, and the support of suppliers, other sponsors and companies was appreciated.

Dick Carter

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Contractor ordered to remedy damage

A contractor who failed to comply with the Resource Management Act by not obtaining consent to install a road along the coast between Cape Runaway and Lottin Point is under a court order to carry out substantial remedial work to the damaged landscape.

As a result of the contractor's negligence, Gisborne District Council obtained an Interim Enforcement Order against him from Judge S.E. Kenderdine of the Environment Court. It is understood to be the first court order of its kind

initiated by the Gisborne District Council since the Resource Management Act became legislation.

The Interim Enforcement Order required the contractor to carry out substantial remedial works including installation of culverts, oversowing, shrub and tree planting, silt detention dam construction and measures to exclude grazing animals.

A landscape restoration plan needed to be prepared and implemented as far as practicable to restore the landscape to its condition before the road was started.

An assessment of the local landscape prepared for the council by consultants considered this stretch of coastline to be of national significance.

The steep basalt hills flattened out before dropping into a rocky coastal margin fringed with pohutukawa and other coastal trees and shrubs. This provided the core setting for the film "Mauri". The marine environment was of very high quality and well known as a source of kaimoana.

According to District conservator Trevor Freeman, the road had scarred this landscape, probably irretrievably, and erosion of the earthworks had resulted in silting the tidal zone and beyond.

"There is nothing satisfying in forcing costs on to anyone, it is a pity but inevitable. However, it should convey the message to others to obtain resource consents and adhere to any conditions. Any contractor, landholder, or agent must bear responsibility.

"Much has been said about natural conserva-

tion attitudes of landowners and the Resource Management Act and property rights. The Gisborne District Council is serious about securing the rights of future generations," he said.



Cam-Era — Computer Controlled Monitoring of the Coastal Environment

NIWA are spearheading a project that provides computer controlled video cameras to monitor the environment for data collection and research.

At the same time images are available live to the public via the World Wide Web. This 3 year project started in July 97 with financial support from the Sustainable Management Fund of the Ministry for the Environment, along

with backing from Regional Councils and Industry. Sites at Tairua and New Plymouth are operational and will be followed by sites at Gisborne and Christchurch early in 1998.

Cam-Era works like this. Every hour the cameras automatically take an image when triggered by an on-site base station computer. The computer does some processing of the image then makes contact through the phone lines with a host computer at NIWA in Hamilton. The host computer receives the images and then places them on the World Wide Web for public use. As well as acting as a Web Server the host computer sorts and files images, processes data, archives images and provides a means of interrogating and controlling the cameras at the field sites.

The project will develop technology (both hardware and software) that will enable the full benefits of video technology to be realised for local, regional and national monitoring networks. *Cam-Era* provides more than just pretty pictures of the surf. The pilot sites being made operational this year demonstrate the huge range of activities that video monitoring can be applied to. At Tairua *Cam-Era* monitors changes in beach morphology in response to changing wave conditions. Dune toe position, sand bank movements, offshore bathymetry, wave statistics, wave run-up and rip current positions will be extracted from the video images. The data will



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also enable Environment Waikato to quantitatively evaluate the success of dune conservation measures. It is also hoped to eventually use the site to quantify patterns of beach usage during the year. At New Plymouth beach processes and wave transformations over the rock reef areas are of interest. At Gisborne, Port of Gisborne Ltd want to monitor port operations and ship handling, and the sand movements and surf on beaches adjacent to the port. In the Canterbury region the plan is to monitor river mouth closure and opening in response to wave driven longshore drift and floods.

Cam-Era aims to establish a national network of linked video monitoring systems. A key component of the work lies in developing automated software to facilitate analysis and assimilation of the images and establish an appropriate data analysis frame work. This is being accomplished with assistance from the Department of Physics at Massey University. Image analysis software will allow us to rectify the video images - turning oblique into vertical from which measurements of features such as dune toe line or flood levels can be parameterised. Software being written in year 2 will have 'image recognition' capability to count waves, map wave speed and translate this into bathymetry. In this manner pictures become numbers from which processes identified and quantified.

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Recent Major Consents — Northland and Auckland

The management committee has suggested that Society newsletters allocate space to some of the major coastal consents granted or being considered around the country. This edition considers recent major consents in the Northland and Auckland regions. Thanks to Allan Richards (NRC) and Libby Boak (ARC) for the information

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Northland – Marinas and a Major Port Decision

Major resource consent activities on the coast in Northland over the last year have included a 56 berth marina at the Whangarei Town Basin and an 80 berth marina at Whangaroa. Both marinas are currently nearing completion and follow a recently-constructed new 108 berth marina at Doves Bay, Kerikeri and a 60 berth marina extension at Tutukakaka.

Unlike the Whangaroa Marina, where no dredging was required, the Whangarei Town Basin Marina consent needed authorisation for maintenance dredging of the area to be occupied by the berths to previously dredged depths in addition to the installation of marina berths. The conditions of consent included requirements limiting construction to daylight hours, noise, maintenance of water quality standards, timing of dredging activities, method of dredging and provisions for specific monitoring during both the construction and operation phases. One means of mitigating the effects of dredging employed by the consent holder was sealed containment of dredgings for seaborne transportation to a land based dredgings disposal area.

The hearing of a proposal for a major port development adjacent to the oil refinery at Marsden Point was heard over a 6 week period in June-July last year. The two consent authorities, the Northland Regional Council and Whangarei District Council, appointed independent hearings commissioners to decide the applications relating to this proposal, which involves a 32 hectare reclamation and the excavation of over 2 million m³ of sand from the harbour bed to form a turning basin. The Hearings Committee was chaired by John Lumsden and the decision, giving approval for the port to proceed subject to conditions, was formally given at the Rangiora Marae, Takahiwai, on 13 December 1997.

Copies of the port decision can be obtained from the Northland Regional Council (cost \$20).

Auckland – Bring on the Cup!

America's Cup Development Limited are currently constructing the America's Cup Syndicate Village facilities in the Viaduct Basin. The consent was granted earlier last year and, following resolution of appeals, works began in May 1997. The development includes dredging of approximately 350,000 m³ (RCA), reclamation of approximately 20,000 m² (RCA), reclamation and the construction of wharves, pontoons, and seawalls (RCA). The village will house 10 syndicate bases on the reclamation and wharf structures. The main reclamation, wharf and dredging are currently being constructed. The works are expected to be completed in early 1999. For further information contact Libby Boak (ARC).

Gulf Harbour Marina - Proposed Expansion

Gulf Harbour Development Ltd were granted consent by the Minister of Conservation on 24 June 1997 for the excavation of 105,000 m³ of sediment to create the basin for the Eastern Marina Extension (EME) at Gulf Harbour Marina. The ARC is currently processing a coastal permit application, which includes restricted coastal activities, by Gulf Harbour Development Ltd for the construction of temporary America's Cup facilities in the EME, and for stage 2 of the marina development which includes the construction of 56 berths (from 15 to 40 metres) in the EME and for 26 berths (from 22 to 24 metres) in the Eastern Boat Harbour. The proposal requires dredging of approximately 52,000 m³ of sandstone from the interior channel and 40,000 m³ of silt and sand from the entrance channel to Gulf Harbour Marina. In order to accommodate the temporary America's Cup bases in the EME additional excavation of 30,000 m³ from the EME basin is also required. The application was notified and 7 submissions were received, 4 in support and 3 in opposition to the proposal. The concerns of the submitters have subsequently been addressed, and the application will proceed without the need to hold a hearing. For further information contact Jo Hull.

- Fergusson Container Terminal — Proposed Expansion

In 1996, Ports of Auckland Limited (POAL)

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applied for resource consents from the Auckland Regional Council and the Auckland City Council to expand the Fergusson Container Terminal. The existing terminal covers some 16 Ha and has approximately 600 m of operational berth. The facility processes about 290,000 TEU's (Twenty Foot Equivalent Units - containers) per annum. The proposal is to expand the facility by approximately 10 Ha (including a 9 Ha reclamation), and provide a third 300 m berth on the northern end of the reclamation. The original proposal, "Option A" was to involve a significant extension to the north, approaching the main shipping channel of the Waitemata Harbour. After the joint ARC/ACC hearing on the proposal, the ARC declined this proposal in favour of a less expansive layout ("Option B2"), which tended more to the east and involved less reclamation. The reclamation will now also include a major public viewing and amenity boardwalk, along with planted pohutukawa trees. The decision was accepted by the applicant, but was appealed by seven groups including residents, yachting and boating interests, and Tangata Whenua. These appeals are to be heard in March 1998 by the Environment Court. The final decision on the reclamation and associated dredging will then be made by the Minister of Conservation. For further information contact Harvey Brookes.

Signposts for Sustainability: Environmental Indicators for Coasts and Estuaries

The following article outlines work (presently in its initial stage) being undertaken on the development of environmental indicators for coasts and estuaries. Development of appropriate indicators will be critical to properly evaluating our performance in coastal management. As such, the NZCS intends to actively work with MfE in this important task and encourages all coastal management practitioners to take an active interest in this work. More details will be provided in the May newsletter.

The Ministry for the Environment recently released a discussion document "Environmental Performance Indicators: Proposals for air, fresh water and land". In conjunction with the Department of Conservation and the Ministry of Fisheries, and with regional councils, scientists, industry and iwi, the Ministry is now commencing work on indicators for coasts and estuaries.

These coastal and estuarine environmental performance indicators when developed will provide the framework for future reporting on the state of our coasts and estuaries, including regional, national and international state of the environment reports.

By way of preparatory work, the Ministry has just reviewed all of the coastal plans, and relevant policy and law to ensure indicators developed will measure the issues reflected in our policies and legislation. We are also assessing the information already available; through current regional council monitoring, overseas experience and New Zealand's scientific community.

As iwi input into development of these indicators is vital to the success of the EPI Programme, the Ministry are also currently preparing a consultation strategy to ensure that key issues for Maori are incorporated during indicator development.

A workshop is planned for early February to discuss the development of indicators for coasts and estuaries. A selection of regional councils, a small number of "experts" such as scientists and Crown Research Institutes, iwi and possibly representatives from key industries will be invited to participate. A coastal and estuarine Working Group established at the workshop will oversee the development of coastal indicators.

Confirming the proposed indicators will involve collaboration between a number of different agencies and, in particular, agreements between central government and regional councils.

The Ministry recognises that developing indicators is difficult and will take time. We are committed to working with others to confirm and implement the indicators developed under the Indicators Programme. The aim is a consultative, inclusive approach to developing, confirming, and implementing environmental performance indicators. We welcome collaborative approaches and opportunities, as we see these as essential to a successful Indicators Programme.

For further information contact Megan Linwood on (04) 496-2688 or e-mail mjl@mfe.govt.nz

Contributions to *Coastal News* should be sent to:

Jim Dahm
Environment Waikato
P O Box 4010
Hamilton
Ph (07) 856 7184
email: jimd@wairec.govt.nz

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Coast Care — Bay of Plenty

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“The Coast With The Most” is Tourism Bay Of Plenty’s new catch phrase, aiming to encourage travellers and tourists to linger and enjoy the beautiful coastal assets of this attractive region. New coastal residential developments are also rapidly expanding along the coast, with new names such as Royal Palm Beach, Pacific Palms Apartments, Golden Sands, Ocean Downs, Sandhurst and Pacific Shores indicative of the pressures being placed on the coastal environment



Coast Care BOP was established in 1993 to help address the inevitable problems accompanying the increased use and development occurring along the coast, particularly focusing on dune management. Coast Care BOP is a large partnership operation between coastal communities, the regional council and four of the region’s district councils (Western Bay of Plenty, Tauranga, Whakatane, & Opotiki). The agencies provide for the administration, educational and promotional expenses of Coast Care, with the District Councils also supplying funding for the purchase of materials used for the dune management works (which include accessway and fence construction and extensive native coastal plantings).

Implementation of programmes is carried out by a

large dedicated group of community volunteers and these volunteers and local government staff regularly come together to assess problems and plan solutions. As more people become involved in Coast Care, the network is spreading and evolving into a very effective means of dealing with the many varied issues occurring on the beaches. Increased understanding of coastal dynamics, empowerment to act personally for local improvements, and a greater feeling of confidence in dealing with coastal

management issues are among the many tangible and intangible benefits drawing strong and ongoing community participation.

A total of nine Coast Care groups are now established from Waihi Beach through to Tirohanga Beach near Opotiki. Each area has its own particular and peculiar problems to deal with, but all have the common threat of dune damage from human influence – particularly relating to pedestrian traffic from visitors

and houses located immediately landward.

As an example of this problem, a recent survey along Mt Maunganui’s Marine Parade indicated something of the order of 200 formal and informal tracks along this 3 kilometre stretch – almost one track for every house along the stretch. While one track per house may have been sustainable in earlier times, the huge



increase in beach visitors using these tracks is now rapidly destroying the plants holding the dunes together – particularly on the critically important dune face.

Installing simple access-ways to beaches with more comfortable surfacing material and improved signage, in combination with replanting areas suffering from wind erosion, is now addressing these problems in many areas. The accompanying photos show a project established three years ago at Papamoa Domain. Here, dune plant destruction by pedestrians had resulted in wind erosion of the Surf Club foundations. The local community rallied around, installed accessways, fenced them and planted native sand grasses (spinifex and pingao). Three years later, a good vegetation cover has been established and an incipient dune is developing at such a rate that the seaward fence has been moved out 4 metres. The numbers using the site are undiminished, providing an effective demonstration of how human use and enjoyment can be enhanced while also restoring and protecting the natural and intrinsic values of such sites.

Education and information is also a key focus of Coast Care. Adult education is largely achieved through large numbers of newspaper articles, and the Coast Care BOP network. Information packages for primary and secondary schools are also being developed to ensure maximum exposure of the message to local children.

Judicious fertiliser application is also being used to enhance the native sand binding grasses after having been shown to be effective in scientific trials in both Australia and New Zealand. In Spring of 1997, a co-operative programme between Coast Care BOP and the NZ Forest Research Institute saw a huge and dedicated group of volunteers apply (by hand!) 10 tonnes of N-Rich Urea donated by Petrochem New Zealand Limited. The hand application ensured specific targeting of spinifex and pingao populations for maximum positive effect. A follow up in the same area in autumn is planned.

All of this work has one goal, to preserve the natural character of the coastal environment. We recognise that the natural dune system offers the best and most cost effective buffer against coastal erosion, and provides an extremely peaceful, relaxing, and close to nature experience for thousands of beach users.

Greg Jenks, Coast Care Co-ordinator

Coastal Issues in the Deep South

Southland Regional Council has recently released its proposed coastal plan for submissions. The issue of adverse effects of surface water activities was canvassed and is particularly relevant at present. In the Fiords, surface water activities are already seen to be affecting the natural character of the area including wilderness and the lack of artificial noise and structures. This issue has been widely discussed in the community and has been further highlighted by consent applications (under the Resource Management and Conservation Acts) by Fiordland Cruises to introduce new catamarans on Lake Manapouri and a day trip venture on Doubtful Sound.

At the same time, the Environment Court has been hearing an application by Aquamarine Limited to construct a tanker terminal consisting of mooring buoys for up to 40,000 dead-weight tonne tankers to load fresh-water from the Deep Cove tailrace. During the hearing, there was considerable debate on the scope of the operation, for example, tug requirements. The Southland Regional Council who turned down the Aquamarine application were joined by the Director General of Conservation, Fiordland Travel a major tourist operator in Doubtful Sound, Deep Cove Hostel trust (who run a hostel for outdoor education at Deep Cove) and an eco tourism operator Lance Shaw at the hearing. Already there has been some interesting case law on the scope of the environmental effects to be heard by the Council and the Court. A substantive decision should be available in early 1998.

Finally, the Department of Conservation is carrying out the nation's first biosecurity marine operation – with advice from scientists from DoC, NIWA, Cawthron and the Botany Department of the University of Otago. *Undaria*, an introduced seaweed, was found on some marine farm structures in Big Glory Bay, Stewart Island. Stewart Island has a rich and diverse seaweed flora of national significance, is a significant habitat for a wide range of nationally important fauna and has a major paua fishery. *Undaria* has the potential for significant adverse effects on these ecosystems, habitats and fisheries and is thus being removed by divers by hand. Various structures are also being removed and treated with hypochlorite solution to kill the gametophytes.

Ken Murray, DoC, Southland Conservatory

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A New Beach for Wellington?

This article is an edited version of that first published in 'Momentum' - Client magazine for Opus International Consultants Ltd. We thought this innovative project would be of widespread interest and thank Opus for their permission to reproduce it here.

Plans by the Wellington City Council to develop additional beach areas at Oriental Bay could provide the Capital with a major new recreational asset by the year 2000. Opus International Consultants (Opus) is working closely with the Council to develop this asset within an overall strategy for the greater Oriental Bay area over the next 10-30 years.



Oriental Bay, 1910. SC Smith Collection, Alexander Turnbull Library

Oriental Bay is one of Wellington's most popular inner city areas. The development of inner city housing and waterfront projects such as the Museum of New Zealand are enticing people back into the City. Oriental Bay has the only sandy beaches within walking distance of downtown Wellington, and during the warmer summer months they can quickly become overcrowded.

When "The Oriental" landed in 1840, colonists would have found the bay to be quite rocky. It wasn't until 1944 that 10,000 tonnes of clean Bristol Channel sand, brought as ships' ballast from England, was dumped either side of the Band Rotunda. Bustling photographs from throughout the 1950s and 1960s testify to the popularity of this new beach but, as the prevailing currents slowly swept the sand westwards, there has gradually become less and less space for sun seekers to roll out their beach towels.

Last year the Oriental Bay Residents Association approached the Wellington City Council about the possibility of building a small pocket beach east of the Band Rotunda. The Council commissioned Opus to carry out a feasibility

study, which included a series of geotechnical and ecological investigations. It was found that, with some form of sand retention structure, the gently shelving bay would be well suited to the construction of an artificial beach. These initial investigations and public consultation also made it clear that any new beach should be developed within an overall strategy for the entire bay. This strategy would need to consider the effects a popular new beach might have on services such as pavements, roads, car parking and stormwater runoff.

Opus' Project Manager and Environmental Planner, Bruce Geden, says that after looking at the natural shape of the bay in the context of this overall strategy, the Council is now considering the possibility of a much larger beach. "From both an environmental and engineering point of view we came to the conclusion that designing a bigger beach would be much more cost-effective than the original pocket beach proposal."

"We didn't want the Council to be in a situation in 10 years' time where they would have to build yet another beach at a high unit cost - and a retention structure will be needed if we don't want the Council to have to bring in truckloads of sand every couple of years to replenish the beach."

By introducing 28,000 m³ of sand, the new beach would expand from 4000 m² to 16,000 m² and provide additional sand depth of around one metre. Bruce says the present high tide width of four or five metres could be extended to about 35 metres. "The potential is there for a much larger beach and, if it's done correctly, the City could end up with a fantastic resource for a whole range of recreational activities such as beach volleyball and water sports."

In order to develop a beach in a densely populated area, he says the environmental and engineering components of the project must work hand-in-hand. He also notes that public consulta-



tion will continue to be extremely important throughout the development of the project. "In order to create the beach, sand will

have to be imported from outside the area and issues of grain size and colour will be very important".

The Next 25 Years: Charting The Future Of Coastal Zone Management

Report on a conference held in Boston, July 1997

While travelling in the US, Society member Deanne Jones received Society support to attend the above conference. Deanne has provided the following review for members.

The theme of the conference was "charting the future of coastal zone management (CZM)", together with the question "where is CZM going?" As a backdrop, the progress over the past 25 years was reviewed and it was agreed that progress could have been better and had lagged in recent years.

Numerous sessions highlighted the need for an integrated and holistic approach for CZM – requiring the integration of all agencies, across all sectors (e.g., fisheries, conservation, environment, etc.) and levels of management (i.e., central or federal government, local government, quangos, NGOs) and the integration of coastal managers and decision-makers with the community. There was a heavy emphasis on partnerships in every sense.

The conference sessions I attended generally provided examples of partnerships and/or environmental education. This included partnerships between agencies with convergent functions, between different sectors of coastal management, and partnerships between communities and agencies. There were also papers examining effective stakeholder and community involvement to determine and how to make it as effective as possible. Techniques used to identify community values were also discussed.

Particularly interesting papers for me included:

- The Role of Stakeholder Participation in the Development of Marine Protected Areas in the Caribbean This work emphasized the importance of stakeholder involvement from the very initial stages of the project and reinforced a lot of my own experience with Beach Care groups in the Waikato.
- International Exchanges As Catalysts for Public Involvement: The speaker identified the need

to "build bridges" between communities and decision-makers. "Very few communities have a structure or process that encourages the involvement of a broad cross section of the community in thinking comprehensively about the future and how to prepare for it."

- Assessing Indigenous Interests in Management of Great Barrier Reef Marine Park: The speaker observed that the feeling of mistrust held by the indigenous people towards government agencies is being replaced by that of being "over-consulted" – less talk and more action was required! Messages here for all of us surely after several years preparing plans under RMA! It was also noted that informal face to face interaction was generally more successful than structured workshops and that on-site meetings are more effective than "in-town" meetings.
- Can Sustainable Management be achieved in Coastal Communities?: This plenary session speaker emphasized the importance of local or regional strategies to provide an appropriate framework
- Political Cultures and Traditions in Coastal Regulation and Implementation, Roatan, Islas de la Bahia, Honduras: The speaker identified the need to provide an open, equitable decision making process. There are difficulties in trying to fit an "imported" management template onto a community. Local circumstances need to be taken into account and adjusted for accordingly.
- Public Participation in Estuary Management in England: While "public involvement" is becoming an integral part of estuary management plan preparation, the paper noted that this tends to be limited to forms of consultation rather than participation. Benefits of encouraging greater community involvement and participation were outlined including access to local information and expertise; the develop-

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ment of a local consensus; increased community awareness of issues, and much greater community ownership and support of the plans.

- Integrating Natural Resource and Community Values into Coastal Management – A Case Study of the Peconic Estuary System: A very useful case study involving 2 papers. The first illustrated the very valuable information that can be obtained from recreational surveys – which work included stakeholder meetings and interviews; focus groups; pre-testing of the survey; and convenience sampling at public places. The companion paper also outlined a comprehensive assessment to determine community values and priorities for protecting and enhancing the natural resources of the Estuary and surrounding areas.
- Coastal America North-East Regional Implementation Team: This was an example of inter-agency co-operation and partnership on projects of coastal ecological importance. Projects were cross-sectorial, involving a range

of agencies e.g., defence, transport, conservation agencies, tribal governments, state agencies and local entities and community groups. Great results were being achieved by working together and pooling resources.

Overall, a number of very successful partnerships were outlined. In many countries different agencies are making a lot of effort to share ideas and work together to achieve the same goals and to include communities and stakeholders in these partnerships.

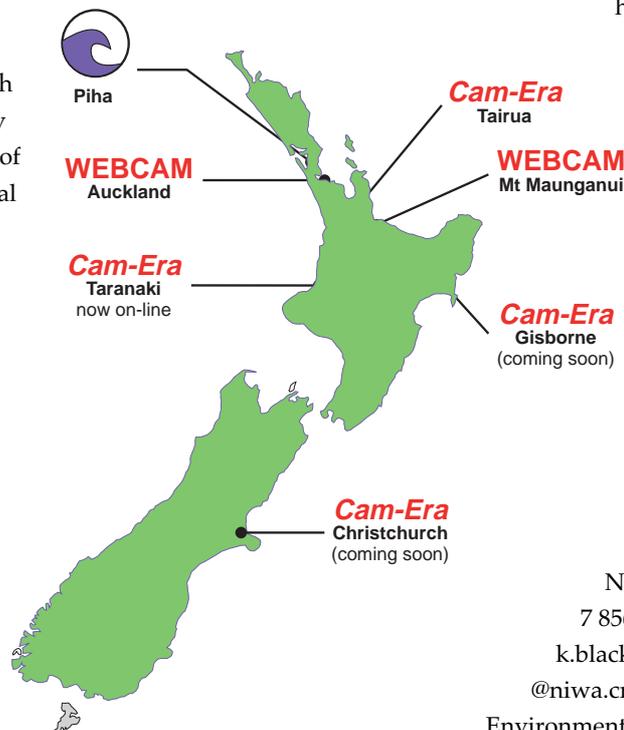
There was a strong consensus that more effective community participation is critical to successful coastal management and many exciting approaches were evident. While many are still in relatively early stages and have proved more time consuming than traditional approaches, the results being achieved are already speaking for themselves.

I was challenged and encouraged and believe we need to give much greater priority to partnerships and community participation in coastal management in New Zealand.

Deanne Jones

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The project is also significant in the large number of collaborating parties working with NIWA, including the Coastal Marine Group, Department of Earth Sciences, University of Waikato; Centre of Excellence in Coastal Oceanography and Marine geology, Hamilton; Image Analysis Unit, Massey University; Environment Waikato; Port Taranaki (Westgate Ltd); Port Gisborne Ltd; Canterbury Regional Council; Environment Bay of Plenty; Tourism



Taranaki; Taranaki Polytechnic; Webcam; Marlborough District Council and Auckland Regional Council. It is also

hoped to involve other

parties over the next 6-12 months to enable the software and technology development to focus on a wide range of potential applications.

Check out the site at: <http://tybalt.eco.cri.nz/camera/>

Enquires can be directed to Prof Kerry Black or Dr Terry Hume, NIWA, Hamilton [Ph (64) 7 856 7026; e-mail:

k.black@niwa.cri.nz or t.hume@niwa.cri.nz] or to Mr Jim Dahm, Environment Waikato, Hamilton [Ph. (64) 7 856 7184; e-mail jimd@wairc.govt.nz]

Terry Hume