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"Care" Approach Encourages User Appreciation

Environment Waikato's Beach Care programme is a community-based approach that encourages communities to take responsibility for local coastal management issues.

The programme was initiated in January 1993 (with the formation of a Beach Care group at Whiritoa, on the eastern Coromandel) after looking at dune management practice along the eastern coast of Australia in 1992 — particularly the "Dune Care" programme developed along the coast of New South Wales by Peter Davies and others in the late 1980s.

The approach involves a partnership between the communities and (at this stage, local and regional) government agencies. Beach Care groups are formed to provide a forum for the community and the agencies to work together to address local coastal management issues — including the development and implementation of appropriate management action. Ideally, the role of the government agencies in the partnership is primarily focused on supporting and facilitating effective community-based decision making and action.

The basis of the programme is the recognition that central and local government cannot achieve sustainable coastal management alone — com-

munities must be involved. Coastal management problems, like most environmental problems, are ultimately human problems and require changes in resource user understanding and behaviour. A key assumption of the "care" approach (landcare, beachcare, etc.) is that encouraging resource users to assume responsibility for managing local environmental problems will enhance understanding and accelerate appropriate attitude and behaviour change.

Although still in its infancy, the Beach Care programme involves six coastal communities in the Waikato region — Whiritoa, Whangamata, Whitianga, Kuaotunu West and Ring's Beaches (on the eastern Coromandel) and Port Waikato (on the west coast). Initial group development is under way at a further four to five sites.

At all sites, the groups are initiated in partnership with the local district council or community board. To date, community response has been good and membership, which is free and open to all, is in the 100 to 200 range for the four major

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Wind erosion damage repaired using machinery and sand-trapping fences placed to hold the repaired dune in profile.

Chairman's Message From the Management Committee

I would like to welcome new members of the Coastal Society. Membership is now approaching 150 and it is particularly pleasing to note growing interest in corporate membership, particularly among regional councils. It is felt that the Society can play a useful role in not only providing a link between regional councils but also in keeping the membership at large informed of regional coastal issues and activities around the country.

The Management Committee considers the coastal seminar held in May, which was attended by about 100 people, to have been most successful. Feedback indicated that the format was appropriate and the committee has decided to run a similar event, in Wellington, around the same time next year. Plans have now been made to hold this again at the Plaza International Hotel, Wellington, on 18 May 1995, and I urge you to support this function, which is in effect your annual (mini) conference.

The main emphasis for the 1995 seminar is likely to be on coastal hazards, with particular reference to zoning. The Department of Conservation is in the process of developing guidelines for councils and persons interested in coastal hazard zones. The seminar could provide a useful forum for debate on this somewhat contentious topic.

Further on the subject of conferences, albeit of a different scale, it has been agreed that the Coastal Society will organise the 13th Australasian Conference on Coastal and Ocean Engineering, which will be held in Christchurch in 1997. Many members will recall the very successful previous occasions when this conference was held in New Zealand — Christchurch (1985) and Auckland (1991). Although 1997 seems some time away, planning will need to begin next year and any members willing to assist in this process are welcome to contact me.

You will note that the society is most often referred to as the "Coastal Society" rather than by its full title. A number of people have suggested that the official title is rather unwieldy and

doesn't properly recognise those who are neither scientists nor engineers but who may, nonetheless, have a significant involvement or interest in the coastal environment. It is proposed, therefore, to change the name to the "New Zealand Coastal Society". This will mean a change in the rules of the society and requires a majority vote at the annual general meeting, which will be held in conjunction with the seminar in May 1995. The views of members regarding this change are sought.

A further point concerning the society is the introduction of student memberships, as suggested at the AGM in May 1994. Any bona-fide student at a school, polytechnic or university may now join the Coastal Society for an annual subscription of \$15.

At its meeting in September 1994, the Management Committee agreed that the society is now in a position to consider applications for funding to assist members present a paper at their first overseas conference. The amount of funding available at this stage for the provision of such assistance is necessarily limited, but as membership of the society grows, it is hoped that more generous funding can be provided. Those wishing to be considered for assistance should contact the Secretary.

This year, the Management Committee has been able to produce two newsletters, a 100 percent improvement on 1993. The Committee has decided to appoint regional correspondents to provide articles of interest on a more regular basis with the aim of producing newsletters in March, July and November 1995. The deadline for copy is the 15th of the preceding month and members are encouraged to submit material, including photos, for publication.

Finally, on behalf of the Management Committee, I would like to take this opportunity to wish all members a happy Christmas and best wishes for 1995.

*John Lumsden
Chairman*

NZSCSE Management Committee

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Beach Care members assembling a board and chain accessway for placement on Whiritoa Beach.

Coastal News

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groups. Working bees typically draw 30 to 80 people. The groups each have a (widely representative) co-ordinating committee that consults with members and the wider public by way of regular newsletters and (when appropriate) public meetings, displays, press articles, etc. Once a plan of action has been agreed on and materials funding obtained, working bees are held by the group to implement the action.

To date, all of the groups have been primarily involved with the development and implementation of dune management programmes, but it is intended to encourage them to move into other coastal management issues over time (which is why the term "Beach Care" was adopted in preference to "Dune Care").

Activities undertaken by the groups to date include:

- dune repair and reconstruction (primarily using machinery, but also dune-forming fences where appropriate) and (at one site) a large (70,000 cubic metres) dune nourishment programme;
- installation of pedestrian and, occasionally, vehicle accessways;
- removal of invasive exotic vegetation;
- revegetation with appropriate native coastal vegetation — to date, revegetation has primary focus on the critically important, native, sand-binding grasses on the duneface, but some groups have also done extensive plantings of ground covers, shrubs and trees;
- research trials (in collaboration with NZ Forest Research Institute); and
- educational activities (signage, articles in local press, displays, leaflets, etc.).

The groups have also helped develop good relationships among the statutory agencies involved and between the statutory agencies and

the local communities.

The approach was also successfully used at Whiritoa in working with a local iwi group to resolve long-standing and difficult coastal management issues relating to a sand extraction operation on their land. Use of the approach also established a good relationship with the land owners, which has led to other environmental initiatives on their land, including extensive plantings of native vegetation on dunes, formal protection of an outstanding coastal wetland and initiation of work on a management plan for a popular headland walking track.

Although the Beach Care programme is still in the early stages of development, results have been encouraging. Such community participation and environmental education programmes appear to be useful instruments for the promotion of sustainable coastal management and deserve far greater emphasis than we have traditionally given them.

There has also been quite a lot of interest in the approach from other parts of the country and similar groups have already been initiated in the Bay of Plenty region by Tauranga District Council and Environment Bay of Plenty. To date, groups have been formed in the Bay of Plenty (at Papamoa, Mount Maunganui and Waihi Beach), where the term "Coast Care" has been adopted. Environment Bay of Plenty and the local district councils are also currently advertising for a co-ordinator to further develop their Coast Care programme.

Given the increasing level of interest in such community-based approaches to coastal management and in the issue of dune management, this could be an area where the Coastal Society could share experience and exchange information.

*Jim Dahm
Environment Waikato, Hamilton*

Coastal Planning Seminar

An important objective of the Coastal Society is to provide a forum where engineers, scientists and others with an interest in the coastal zone can meet and exchange information. To this end, the Society organised a very successful seminar, held on 19 May 1994, at the Plaza International Hotel in Wellington. This seminar was attended by about 100 people, and it is proposed to arrange similar events on an annual basis. The theme was The Role of Science and Engineering in Coastal Planning.

The Society was fortunate to have the Minister of Conservation, Hon Denis Marshall, open the seminar. In his address, Mr Marshall emphasised the importance of coastal scientists and engineers talking with coastal planners and developing good working relationships.

The coast is of immense importance to New Zealand culture and the New Zealand economy, said Mr Marshall, and it is important that everyone works together to get the policies and plans right. "A multidisciplinary approach to management is especially necessary in the coastal environment."

Improving knowledge of coastal dynamics is important, he said, but it is equally important that this knowledge be pooled. "If we do not both improve our knowledge and pool what we already know, then we are unlikely to achieve the wisdom necessary for truly sustainable management of coastal resources."

The keynote speakers were Mr Arnold Turner CMG and Professor Paul Komar. Mr Turner was formerly Principal Planning Judge in New Zealand and was recently Chairman of the New Zealand Coastal Policy Statement Board of Inquiry. Professor Komar is a world authority on coastal processes and is from the College of Oceanography at Corvallis, Oregon.

In his address, Mr Turner questioned the way

New Zealanders have used the coast. "Why has so much of human activity on New Zealand's coast been exploitive and insensitive, showing repeated examples of short-sighted greed" he asked. "And why as a consequence does the nation need an Act with 'sustainable management of natural and physical resources' as its purpose?"

"The answer is found in what we believe about the nature of our relationship with the physical environment. Is it there simply for us to utilise for purely selfish purposes and to satisfy our personal desires? Or do we have a responsibility for the way in which we use resources? And if so, to whom do we have that responsibility?"

Professor Komar spoke at length on processes of sea cliff and foredune erosion, with particular reference to the Oregon coastline.

Among other stimulating addresses were those given by Dr Margaret Mutu and Professor John Morton, both of the University of Auckland. Dr Mutu spoke on the New Zealand Coastal Policy Statement (NZCPS) and its implications for Maoridom and Professor Morton spoke on the need for balance between economic development and ecology.

It is proposed to publish the material presented at the seminar, together with highlights from the discussions, early in 1995.

Coastal News

Regional Council Activities

Hawke's Bay

The Hawke's Bay Regional Coastal Plan provides a framework for the sustainable management of the coastal marine area. This includes management of the seabed, foreshore and coastal waters (including estuaries).

The Regional Coastal Plan also has regard to the policies promulgated in the New Zealand Coastal Policy Statement (NZCPS). The purpose of the NZCPS is to state policies in order to achieve the purpose of the Resource Management Act in relation to the coastal environment.

The Regional Coastal Plan outlines objectives, policies and methods for the sustainable management of natural and physical resources in the coastal marine area. It is based on activities that may occur in the coast, which include:

- reclamation or drainage of the foreshore or seabed;
- erection or placement of structures;

- destruction, damage or disturbance of the foreshore or seabed;
- deposition of substances on the foreshore or seabed;
- introduction of plants;
- taking, using, damming and diverting water;
- discharging contaminants; and
- surface water activities.

Two issues outlined in the Hawke's Bay Regional Coastal Plan are erosion and water quality standards.

Coastal erosion along Westshore is provided for in the Plan by proposing a regional rule that will permit the deposition of sediment along Westshore beach, an area prone to the natural forces of the sea. This rule is proposed to assist the operational needs of the regional council in terms of the Westshore renourishment programme.

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The proposed coastal water quality policies and rules refer to the setting of water quality standards in the coastal marine area to maintain aquatic ecosystems (Class AE), and, where practicable and desirable due to public use, the setting of water quality standards for contact recreation (Class CR) and shellfish gathering (Class SG).

The plan also includes a general policy section that provides guidance to the council when making decisions on coastal permit applications to carry out any of the activities outlined above.

*Dave McBryde
Hawke's Bay Regional Council*

Canterbury

As usual, it's been a busy year for coastal monitoring and investigations within the Canterbury Regional Council.

Field work has included the regular annual or six-monthly monitoring of the nearly 200 profile sites around the Canterbury coastline and the start of beach sediment sampling to prepare a database of coastal sediment size distribution. It is intended to repeat this sampling at 10-year intervals. In addition, the depth of gravel cover along the Washdyke-Seadown coast was sampled by digging holes through the gravel beach to the underlying substrata. This work was last performed in 1987 and is used to test changes in actual beach volumes as the beach rolls back over out stopbanks and drainage channels.

Field work performed under contract to the council included the establishment of a long-term, open-coast sea level recording site at Sumner Head in Christchurch. This project was a joint venture between the regional council and

NIWA. The nearshore bathymetry of Pegasus Bay out to three kilometres offshore was also surveyed along five profile lines. This work was carried out by Elliot-Sinclair.

Monitoring reports prepared during the year included Timaru (data from 1990 to 1993) and Pegasus Bay (data from 1991 to 1993). A comparison of coastline changes over the past year with longer-term changes was prepared for the Regional State of Environment Report. The coastal monitoring team was also heavily involved in defining coastal hazard zones for the Regional Coastal Environment Plan. NIWA reported on a modelling project on the southern Canterbury Bight, which involved the prediction of shoreline position under various process change scenarios associated with climatic warming.

Special investigations projects scheduled for 1995 include:

- modelling the central and northern sections of the Canterbury Bight coast for shoreline change under various process change scenarios associated with climatic warming;
- investigating the possibility of establishing a wave climate recording network for Canterbury as a joint venture between interested parties;
- developing a sea level prediction model for storm events; and
- assisting university thesis work on coastal process studies in Pegasus Bay.

Monitoring reports will be prepared for the Washdyke-Seadown coast (1977 to 1994 data) and the Ellesmere coast (1962 to 1995 data). It is also hoped to extend the profile monitoring network into the Kaikoura area during 1995.

*Derek Todd, Coastal Resources Scientist
Canterbury Regional Council*

Coastal News

Comical Stories Point to Wide Misunderstanding

There have been a number of interesting and sometimes hilarious coastal stories reported in the newspapers in Auckland recently. Beaches always provoke some sort of reaction from people, and almost everybody has their own pet theories on why their beach is doing what it's doing.

One paper reported that rapid sand loss from the beach at Sunkist Bay was caused by increased scour around the small boulders transported along the beach from a failed sea wall. These boulders seemed to cause the sand to disperse through bullying tactics.

The public sometimes links beach erosion to a single event in the past. For instance, some people have attributed the start of erosion at Mission Bay to the removal of the old piled pier

at Pipimea Head in the 1940s.

These stories highlight the need for improved understanding of coastal processes and beach erosion. To assist in this process, there is need for professionals involved in studying the coastal processes to evaluate the "big picture". This includes the public's comments, an appreciation of fluctuating long-term weather patterns (SOI) and land-based activities, such as stormwater flow. In Auckland, the last four years have been an anomaly, with very few north-easterly events and a predominance of westerly storms. This has created some unusual situations on the north to north-easterly facing beaches around Auckland.

*Richard Reinen-Hamill
Tonkin and Taylor, Auckland*

Restoration of Natural Communities — Aquatic Ecosystems

Shellfish and seagrass beds dominate natural communities in many coastal and estuarine environments with muddy and sandy bottoms throughout the world. These beds are known to play important roles in the ecology and biological productivity of coastal ecosystems.

Over recent decades, there has been a dramatic decline of extensive areas of shellfish and seagrass beds in New Zealand. This may have resulted from human activities, such as dredging and pollution. These losses have prompted ecologists at the National Institute for Water and Atmospheric Research (NIWA) to consider the effectiveness of restoration as a means of reversing the effects of environmental disturbances in coastal areas.

As a first step towards restoring these areas, we need to understand how degraded coastal marine ecosystems function. This information will enable the development, testing and application of reliable and cost-effective techniques to restore degraded marine environments.

Although the restoration of natural communities is an established method of land management, restoration of aquatic communities is

relatively new. In the past, most attempts at aquatic ecosystem restoration have simply removed the source of environmental disturbance and left the impacted communities to recover naturally. Over recent years, a number of overseas studies have addressed, with varying degrees of success, the loss of shellfish and seagrass beds. No comparable work has been undertaken in New Zealand, and there is no directly relevant information available with which to address the restoration of degraded marine ecosystems within New Zealand.

Degraded shellfish and seagrass beds have been chosen as the starting point for this new programme because of their national importance and their commercial, recreational and cultural values. Initial research will be undertaken in Manukau Harbour, which has been exposed to a variety of human-induced disturbances over recent decades. These disturbances may have contributed to the demise of seagrass and shellfish beds. Similar habitats and problems occur in a number of harbours and estuaries throughout New Zealand.

Stephanie Turner, NIWA

Coastal News

Assessing the Impact of Developments at Port Taranaki

Westgate Taranaki, the port company at New Plymouth, is undertaking a coastal investigation exercise adjacent to Port Taranaki. The focus of the work is to provide information that will assist the company to evaluate the costs and effects of different port development scenarios.

Duffill Watts and Davis Ltd, engineering consultants to Westgate, engaged Dr Kerry Black of the Victoria Institute of Marine Sciences to formulate and execute the programme. The work involves:

- a field programme to gather data on the wave, current and sediment transport conditions in the region of the port entrance and the area between the port and Moturoa Island; and
- the development of a mathematical model of the wave climate at the port entrance.

The model will be used to examine the effects on the port entrance of a number of developments and will, in a subsequent study, be used to evaluate the effects of these works on the motion of deep draft vessels navigating the entrance.

Dr Black and his team had both good and bad luck during the month-long field programme. The good luck came from some prolonged atrocious weather conditions while the instruments were in place, which yielded some sediment transport rates of very high order. The bad

luck arose from a cable failure, which meant that one instrument yielded nothing! *C'est la vie sur la mer!!!* However, Kerry has assured us that after a further fortnight's development, he has enough data to work with.

The work has already produced an interesting result. The waves arriving at the port entrance that have periods greater than about 10 seconds have a very narrow direction of approach — between 300 and 320 degrees true. This is in spite of the wind boxing around the compass during the period of data collection.

The New Plymouth District Council, with the assistance of OCEL, has been formulating strategies to manage the eroding parts of the district's coastline. The council and Westgate have had some fruitful discussions that have opened the way to a joint examination of the possibility of harbour dredgings being used for the renourishment of East End Beach. The Port Company is carrying out the inshore bathymetric survey of the reef area immediately offshore of the target position of the beach in order to determine if it is feasible for a dredge to position itself sufficiently close to allow the effective discharge of sand into the beach littoral system.

Peter Atkinson, Westgate Transport

12th Australasian Coastal and Ocean Engineering Conference

The purpose of the 12th Australasian Coastal and Ocean Engineering Conference is to provide a forum for the discussion of coastal, ocean, port and harbour engineering, coastal and management issues. Engineers, scientists, planners and managers who work in the coastal and offshore zone should find the conference useful for enhance ideas within and across the various disciplines.

Topics to be addressed include coastal management strategies, impacts of climate change, dredging, coastal processes, water quality and ocean outfalls, coastal morphology, remote sensing and modelling techniques.

The conference will be held in Melbourne from 28th May to 2nd June 1995 and will be held jointly with the 5th Australasian Port and Harbour Conference.

For more information, contact:

Mr N P May
Secretary

National Committee on Coastal and Ocean Engineering

Institution of Engineers Australia
11 National Circuit

Barton, ACT 2600, AUSTRALIA
Fax 616 273 1488

more conference information on page 8

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IPENZ Membership No Longer Limited to Engineering Qualifications

Membership of IPENZ is no longer limited to those with an engineering qualification following the Institution's special general meeting in September. Other changes include:

- scope for self-governing practice colleges and negotiated organisational membership;
- confirmation of new categories of Technical Member and Associate;
- extension of voting rights to Companions, Graduate and Technical members (with some safeguards); and

- simpler procedures for membership election.

IPENZ can now proceed to recruit people into the new membership categories, establish practice colleges and restructure the organisation to link its various entities with the smaller Board. Important targets for attention in this process are not only the branches and technical groups, but also many other kindred bodies with common interests for whom we now have scope to offer new and flexible ways to become involved.

Tonkin & Taylor Join Coastal Society

Tonkin & Taylor Ltd is an environmental and engineering consultancy practice with over 30 years experience in environmental, civil, structural, geotechnical and water resource engineering. These skills have been combined to develop a strong expertise in coastal marine planning and engineering.

Tonkin & Taylor Ltd offers a comprehensive range of services, from the strategic planning stage through resource consent issues and environmental effect assessments to the final design and construction supervision of hydraulic and maritime structures. Their principal office is in Auckland, with subsidiary offices in Wellington, Whangarei, Christchurch and Kuala Lumpur, Malaysia.

Projects currently in hand include:

- Orewa Beach north of Auckland has

suffered erosion from a number of causes over the years. Some 40,000 m³ of sand has been transferred from a terminal groyne to the centre of the beach as an interim measure, and the full beach and estuary system is being studied further with the aid of a flow model to develop an overall beach management plan.

- A number of Auckland city's eastern beaches have been reassessed and recommendations made for remedial works, including sand renourishment and longer term management studies. Manukau City is focusing on key erosion areas after a broad scoping study by Tonkin & Taylor, and a coastal permit is being sought for an erosion management programme at Wattle Downs.

A corporate member may nominate up to eight staff members, who will enjoy all the benefits of individual members. The annual fee is \$200. The Society welcomes corporate members, and it may be advantageous for some members to encourage their employer to take up this form of membership. Contact the Secretary, John Duder, for more information.

1995 Conferences . . .

Ports '95

Port Engineering and Development for the 21st Century is the theme of the Ports '95 conference in Tampa, Florida from 12-15 March 1995.

The conference is the seventh in a series of conferences sponsored by the Committee on Ports and Harbours of the Waterway, Port, Coastal and Ocean Engineering Division of the American Society of Civil Engineers.

Session topics will include wharf and pier design, port environmental issues, navigation and flood control, dredging and dredge material disposal, seismic considerations in port design and geotechnical engineering for ports.

For further information, contact:

Mr James E "Tom" Sawyer
Ports '95 Conference Chairman
Greiner Inc

7650 West Courtney Campbell Causeway
Tampa, Florida 33607-1462
Fax 001 813 287 8591

- remote sensing and other large-scale monitoring techniques.

Authors are invited to submit three copies of an abstract by 15 January 1995.

For further information, contact:

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Coastal Computer Modelling

Coastal '95: Computer Modelling of Seas and Coastal Regions will be held in Cancún, Mexico from 6-8 September 1995.

The conference will address the computer modelling of seas and coastal regions under normal and extreme conditions, with special interest on practical applications currently being carried out around the world. Topics will include shallow water models, pollutant transport and dispersion, sewage and chemical pollution, coastal erosion, siltation and dredging, estuarine problems, coastal lakes and lagoons, oil slicks and atmospheric effects.

For more information or to contribute a paper, contact:

Liz Johnstone

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Fax 44 0 703 292853

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Marina '95

The South of France is the setting for the third international conference on planning, design and operation of marinas, Marina '95.

The aim of the conference is to attract papers on all aspects of marina design, from initial studies through to engineering works involved with construction and the environmental aspects of the complete design.

The conference is being held from 9-11 May in San Raphael, 30 km from Nice.

Enquiries should be directed to:

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Marina '95

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Coastal Dynamics

The Coastal Dynamics '95 conference will be held in Gdansk, Poland from 4-9 September 1995.

The conference will focus on recent technical and scientific progress in coastal dynamics resulting from data collected in large laboratory facilities or in the field. Major topics are:

- hydrodynamics and related physical oceanography of coastal areas;
- sediment transport dynamics;
- morphodynamics and shore evolution;
- water quality; and

Coastal News

Coastal News is published by the New Zealand Society for Coastal Sciences and Engineering.

Corporate and individual members are encouraged to contribute material that would be of interest to others.

Material for the next issue should be submitted by 15 February 1995 to:

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