

Coastal News

Newsletter of the New Zealand Coastal Society
A Technical Group of IPENZ

Number 7

August 1996

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Crossing the Line: Integrated Coastal Zone Management and the RMA

by David Gregory, Canterbury Regional Council*

"Integrated Coastal Zone Management has been identified as the most appropriate process for addressing current and long term coastal management issues, including habitat loss, degradation of water quality, changes in hydrological cycles, depletion of coastal resources, and adaptation to sea level rise."

(Preamble to the World Coast Conference Statement 1993)

The Coastal Marine Area (CMA) boundary as an administrative division has always vexed me. The use of a fluid, (sic) transitory phenomena such as Mean High Water Springs I regard as unnecessary and not conducive to integrated management. The Resource Management Act possibly recognises this in Section 64 (2), which states, "A regional coastal plan may form part of a regional plan where it is considered appropriate in order to promote the integrated management of a Coastal Marine Area and any related part of the coastal environment", that is it is paying lip service to the idea of Integrated Coastal Zone Management.

The Canterbury Regional Council tentatively embarked upon this course in 1994 with its Regional Coastal Environment Plan, which incorporated Objectives, Policies and Rules for the control of development in an area landward of the Coastal Marine Area, termed the "coastal environment". Only one other regional council has taken this step into the quicksands of legal opinion. The coastal environment was divided in the plan into two "hazard zones". Hazard Zone 1 is projected to be subject to coastal erosion within 50 years, Hazard Zone 2 within 50 to 100 years. All very subjective and debatable, you say?

Use of these hazard zones has provoked a lively debate, including some courtroom scuffles on who, between districts and regions, is responsible for what in the "avoidance or mitigation of natural hazards". If you are interested, see Section 30 (c) (iv) and Section 31 (b) of the RMA

and Tribunal decision No. A 89/94 (Application ENF 62/94). Part of the problem, or opportunity, stems from the differences between Section 12 of the RMA, "Restrictions on use of the Coastal Marine Area", where you cannot do anything unless a rule or resource consent allows it, and the other sections (the dry bit) where you can do anything unless a rule controls it. So hopping over the artificial line of Mean High Water Springs is like crossing the border to escape the sheriff.

So where is this leading? The separation of the jurisdictions and the Minister of Conservation's role in approving regional coastal plans, that is, the wet part of the Canterbury Regional Coastal Environment Plan, has meant that a clear but unnatural separation has to be made between the policies and rules that apply to either side of the CMA.

It has become apparent that the rules in Hazard Zone 1 above the CMA are perhaps too extensive in nature in that they control activities over a larger area than necessary. As a result, a search was started for an alternative definition that reduced the coverage for the rules but sharpened them to focus on those activities that could contribute to susceptibility to erosion and vice versa. The first attempt has been to examine the scope for reducing the coverage of the rules to a creature called the "active beach system". Personally, I like to be inactive on the beach, but nevertheless the idea had some merits in that it appeared to relate to definable "system" boundaries. I floated the definition, provided by Derek Todd of Tonkin and Taylor, on the Coastnet system. This, if you are not familiar with it, is an international, non-web, e-mail discussion group for most things coastal.

The definition was as follows. "The active beach system is the area of beach landward of Mean High Water Springs where contemporary

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*Disclaimer: The opinions expressed are the personal opinions of the writer.

Chairman's Message

August 1996

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Your Management Committee had a well attended and full meeting on 14th August at which final plans for the September seminar in Auckland were tabled, together with reports of good progress on the 1997 Australasian Conference in Christchurch (see page 3 for more information on both events).

Nowhere is there a greater need for interdisciplinary dialogue than in matters affecting the coastal zone. One of the fundamental roles of the Coastal Society is to promote that dialogue, through these newsletters and our seminars. The first two seminars each attracted 100 attendees and this year we expect to exceed that number substantially.

Included in this newsletter is our development plan (see pages 4 and 5), which is in final draft form after review by the Management Committee. We want to ratify this plan at the AGM in Auckland in September. If you have any comments on the plan, please relay them to me or Fred Smits well before then. We tabled it at the IPENZ Technical Group Forum in May and were

applauded for our initiative. Other groups took due note to develop their own.

At the Management Committee meeting, we made progress towards establishing criteria for funding younger practitioners to attend conferences and to research approved topics. We will shortly be calling for applications.

Another matter raised, with considerable potential and some challenge, was the development of archives and databases relating to our coastal environment.

Nominations for next year's Management Committee are due these should be sent to the secretary, Fred Smits. While we will accept nominations from the floor, we prefer more measured proposal and acceptance to ensure the nominee can fully commit to active participation on the Management Committee.

Your input on these and other prospects for the Coastal Society will be welcomed at the AGM, so don't miss out on the September seminar — see you there!

John Duder

East End Beach, New Plymouth Coastal Protection Works

East End Beach forms part of a 2100 m long continuous, mostly sand beach between the Te Henui Stream and the large rock groyne at the mouth of the Waiwhakaiho River. It is located at the upstream (southwest) end of the coastal transport system and is part of the foreshore adjacent to New Plymouth city.

Because it is a broad sand beach on a city foreshore, it well-used and highly valued by the people of New Plymouth. To the rear of the beach front are several major services of the New Plymouth District Council and reserve land that the Council wishes to maintain. These factors have influenced some of the decisions made in committing expenditure to beach maintenance and foreshore protection.

Historical Background

Before the arrival of European settlers, the foreshore of New Plymouth and Taranaki was in an eroding phase. Since the arrival of Europeans, a breakwater-style port that requires regular maintenance dredging has been constructed, low-lying areas have been reclaimed, and eroded beaches and cliff faces have been protected by hard rock or concrete structures.

All these actions have tended to limit the natural sources of sediment supply and thus increase the rate of erosion at unprotected sites

downstream. A number of protective works and nourishment projects have been carried out in the past, which have either been haphazard in construction or one-off actions. As a result, the aesthetics of the beach have been degraded and the nourishment benefits only temporary. The dune and coastal bank at East End Beach provide protection to some of New Plymouth's important services and amenities. Because of their continuing erosion, OCEL Consultants Ltd was commissioned to design protective works in line with recommendations contained in a coastal erosion strategy report the Company had produced earlier for New Plymouth District Council reserve land.

Recommended Solution

A number of options were considered, including groynes, which have obviously worked very well when the effects of the 100 m long groyne at the mouth of the Waiwhakaiho River are reviewed. However, given the level of utilisation and public enjoyment of the beach and the fact that it is the main sandy ocean beach along New Plymouth's foreshore, it was considered that construction of a groyne field was inappropriate if the character and appearance of the beach was not to undergo a major change.

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Pacific Coasts and Ports '97

Conference Update

This international conference is to be held in the new Christchurch Convention Centre, 7-11 September 1997 and is, arguably, one of the most important coastal events to be held in New Zealand this decade.

All Coastal Society members should have received a copy of the "First Announcement". 6000 flyers have been distributed and the response to date has been excellent. There promises to be a large contingent from both Australia and New Zealand, and there has also been significant interest from several other countries.

The conference is being organised by the New Zealand Coastal Society and will take the place of the Society's annual seminar next year. The Coastal Society will benefit from any profits resulting from the conference.

Two keynote speakers have been appointed to date. **Professor Paul Komar** from Oregon State University has an international reputation in coastal processes and oceanography. **Professor Akira Watanabe** from the University of Tokyo is widely recognised in coastal engineering particularly for the work he has published on numerical modelling of beaches. Appointments of two further keynote speakers with appropriate expertise in coastal management and ports, are pending.

Members are urged to register their interest as soon as possible, and to assist in publicising the conference by bringing it to the notice of their colleagues.

John Lumsden
Chairman, Conference Committee

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coastal processes and vegetation are actively shaping the morphology of the landform." The discussion this provoked convinced me that I had fallen into the same error as the drafters of the RMA, that is, imposing a bureaucratic dimension on a natural system. The main points in the responses related to the fact that the definition artificially separated the wet from the dry parts of the forces contributing to coastal erosion. The intention is to produce a legally defensible and recognisable inland boundary within which to apply rules governing some issues deemed to exacerbate coastal erosion.

Bob Kirk has thrown out a lifeline with his suggestion of calling the area a "buffer zone", a good value-free term that can be applied in many circumstances. He also supplied an all purpose definition as follows:

"This area, between HHMWS and either:

- a) the landward toe of the foredune; OR
- b) the landward toe of the seawardmost beach ridge; OR
- c) the crest of a coastal cliff."

However, we may be using a sledgehammer to crack a pipi in that, in terms of the actual human activities occurring in the coastal environment of the region, not a whole lot is happening. However, where activity that has the potential to exacerbate coastal erosion does occur, it is often within sensitive areas that have high levels of public and private development and usage — witness the debate over "lowering" (read "contouring") of the dunes fronting seaside residential development at Brighton in Christchurch.

We still have the fundamental issue of "planning" for a natural system using the clumsiness provided by the Resource Management Act and

for which we have only fragmentary knowledge. Putting to sea in a craft of paper. While the CMA boundary can be transcended with goodwill, the practical aspects of filling the information shortfall have still not been adequately dealt with. In the current climate, where research needs a quick payback, it may be years before we have a base on which to make informed decisions. The Canterbury Regional Council maintains a good system of coastal monitoring for changes to the physical characteristics of the coastline but is still very short of information on flora and fauna and the effects of our activities on them. Meanwhile, I will stay on the dry side of the imaginary line, at least until the sea gets warmer. Any constructive input from members will be gratefully received.

New Zealand Coastal Society Seminar The Coast: How Sustainable the Management? Auckland — 26 & 27 September 1996

The date of the Society's annual seminar is fast approaching. Keen interest is evident by the number of registrations already received. Make sure you don't miss out — register now.

The seminar will commence with a keynote address by Principal Planning Judge Sheppard on a Planning Tribunal perspective of sustainable management. Then such issues as the preservation of the natural character of the coastal environment, the protection of natural features and ecosystems, and the relationship of *tangata whenua* with the coastal environment will be presented, discussed and debated.

For further information, contact Richard Reinen-Hamill at Tonkin & Taylor Ltd, ph (09) 355 6030, fax (09) 307 0265.

Coast to Coast '96

Glenlg, South Australia was the venue for the Australian coastal management conference "Coast to Coast '96" in April this year. I was fortunate to be able to attend the three-day conference at which a wide variety of topics were discussed, many relevant to New Zealand coastal management.

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Each day of the conference had a particular focus and progressed from "Perspectives on coastal management" to "Resources and capacity building for coastal managers" to "Implementation, best practice and case studies of coastal management" on the third day. Excellent keynote addresses opened each day's events and set the scene for the discussion of new ideas and buzzword creation.

Throughout the conference, concurrent sessions on community management, development in coastal areas, marine issues and dynamic coasts were very information, well-attended and resulted in lots of new contacts being made after sessions. Topics relevant to New Zealand included:

- beachcare/coastcare
- relationship of indigenous peoples with the coast
- community involvement in coastal management
- the need to "build capacity" to facilitate community involvement in coastal management through education and resourcing of local communities.

Important ideas that re-occurred throughout the conference included the need for strategic planning of coastal areas — much of the Australian legislation differs hugely from the Resource Management Act, with a lot of "coastal management" being undertaken via non-statutory

management plans. Community involvement in coastal management was also a very "hot" topic, with "capacity building" being one of the new buzzwords I learnt.

This was the second Australian coastal management conference to be held. There is a commitment to organising such an event every two years, and the next is planned for Perth in 1998. Interested people are invited to contact organisers of the Perth event via e-mail or internet to provide feedback on the themes considered most relevant for the conference, the issues you would like to hear discussed, issues you may like to discuss, or to gain more information about the conference. The contacts are:

e-mail: corporate@dpud.dialix.ox.au

<http://www.wa.gov.au/gov/planning>

At the conference, people were keen to hear about the coastal management issues we were facing in New Zealand and I would highly recommend attendance at the Perth conference in 1998 if you get the chance.

Proceedings of this year's conference are due out soon. If anyone is interested in having a look at them, please let me know and I will forward them when they arrive. My e-mail address is:

fmfcr0@arc.govt.nz

(the "0" in the address after cr is a zero).

*Felicity Fahy
ARC Environment*

New Zealand Coastal Society

Promoting Sustainable Management of the Coastal Environment
Two-year Development Plan (1996-1998)

Draft 19 August 1996

Prepared by John Duder and Fred Smits

Introduction

The New Zealand Coastal Society was inaugurated during 1992 with an aim to promote and advance the sustainable management of the coastal environment and to provide a forum for those with a genuine interest in the coastal zone to communicate amongst themselves and to the public at large. The Society currently incorporates some 230 individual members, comprising professionals and students, as well as eight corporate members. The members possess a wealth of knowledge of the New Zealand coastal zone, covering the wide range of coastal sciences, engineering and planning, and are largely employed in the engineering industry; local, regional and central government; research centres; and universities.

The Draft Plan is included here for members' consideration and comment. Approval of the Plan, in principle, will be sought at the forthcoming AGM (See Page 7).

Two-year Development Plan (1996-1998)

Goal	Objective	Implementation	Measure of Performance
to increase public awareness of the New Zealand coast	to further, in a balanced manner, public awareness towards conservation, exploration and sustainable use of New Zealand's natural coastal resources	<ul style="list-style-type: none"> • present professional view of the Society on public matters • prepare papers, magazine and newspaper articles that reach the public at large • send newsletter to all major New Zealand libraries 	<ul style="list-style-type: none"> • appropriate responses to opportunities • as and when required including presentations • newsletter sent
to encourage professional debate on issues, values and uses of the New Zealand coastal environment	to promote sustainable management and use of natural coastal resources	<ul style="list-style-type: none"> • disseminate specific knowledge of individuals and the Society whenever possible • present papers to IPENZ and other professional conferences • seek invitations to comment on national discussion papers • send newsletter to all relevant New Zealand Crown agencies 	<ul style="list-style-type: none"> • as and when required • papers presented • as and when required • newsletter sent
to promote the profile of the Society	to promote the Society and its goals and objectives to other professionals and their organisations	<ul style="list-style-type: none"> • liaise with other IPENZ Technical Groups and Societies • exchange newsletter with other IPENZ TG's and Societies • send newsletter to key private and Crown agencies • encourage members to promote Society during contact with other professionals 	<ul style="list-style-type: none"> • review at annual IPENZ forum • newsletters sent • newsletters sent • encourage publishing of relevant reports by members in newsletters
to train and develop individual skills of members	to further knowledge and skills of individual members and the Society at large	<ul style="list-style-type: none"> • organise seminars • organise conferences • develop specific training courses • support young practitioners to present papers to international conferences through grants 	<ul style="list-style-type: none"> • one seminar per year • conferences held at least biennially • identify topics by 1/6/97 • at least one grant per year
to provide service to members	to provide members with "value for money"	<ul style="list-style-type: none"> • canvas needs of members • compile regular newsletters • encourage inter-organisational networking • support activities of local branches • utilise opportunities offered by visiting international experts • set up skills/information database 	<ul style="list-style-type: none"> • survey completed by 1/3/97 • 3 newsletters pa • as and when opportunities arise • increased number of activities of local branches ~ 2 events per year • as and when opportunities arise • evaluate needs and propose systems by 1/6/97
to increase membership	to encompass the majority of all disciplines and interested persons and parties in matters affecting the coastal environment	<ul style="list-style-type: none"> • promote value of Society as IPENZ Technical Group • identify and target potentially interested members to join the Society • emphasise values of multi disciplinary involvement 	<p>By: 1/10/96 1/10/97</p> <ul style="list-style-type: none"> • individual members 200 250 • student members 15 20 • corporate members 10 12

Coastal Water Quality Management in New Zealand: A Case for National Water Quality Standards?

The following article is a summary of a "paper in lieu" on the application of national water quality criteria to the coastal environment, to be submitted for assessment for the Resource Management Law course at the University of Auckland

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Section 43 of the Resource Management Act 1991 (RMA) provides for the promulgation of national environmental standards which may prescribe technical standards relating to the use, development, and protection of physical and natural resources including water. They may also prescribe methods of implementation of such standards and as such, standards relating to discharges, water quality and pollution monitoring in the Coastal Marine Area (CMA) have the potential to be a useful tool in ensuring water quality consistency across regional boundaries.

In the absence, at present, of any national environmental standards for the marine environment, and the limited national guidance on the subject of water quality management, the choice of management policy rests entirely with the Regional Council. Although it may be strongly argued that this is the very intention of the RMA, it may equally be argued that a lack of national guidance on the subject of coastal water quality criteria may give rise to inconsistencies in the standards being applied to similar discharges, depending, in part, on the case presented by the applicant, whether there were any objections, and the ability of the parties to sway the Consents Committee. This raises the question of whether, under the provisions of the RMA and the NZCPS, a national approach to setting water quality criteria could be adopted, and, if this is so, whether this approach is an appropriate one under the present legislation.

In order to achieve the objectives of Section 5 of the RMA it is the author's opinion that a national

water quality management policy similar to that outlined for Australia¹ would be an appropriate direction in which to head. To achieve this, the environmental values of water resources need to be defined and protected from the effects of degradation, including pollution.

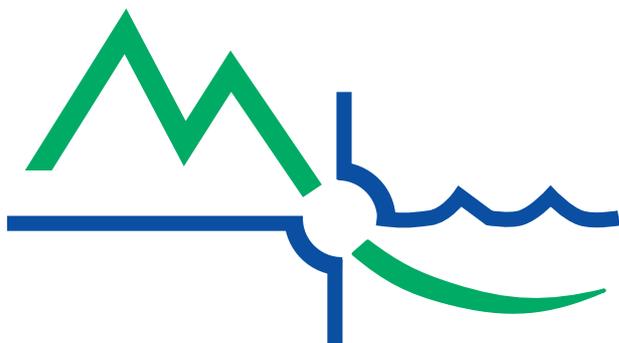
Each waterbody may have a number of environmental values, including recreational use and ecosystem protection that need to be measured in order to test whether they are protected. Water quality criteria or reference values provide the means to make such measurements. Each environmental value is given a set of numerical or narrative criteria that must be met to ensure that the particular environmental value can be protected. The criteria are stringently set at a national level to minimise the detrimental effect on the aquatic environment.

To some extent this approach has been adopted by the RMA. The water classification listed in Schedule 3 does indeed identify a range of environmental values but this system is a voluntary one with few water quality criteria identified. Furthermore, the criteria are limited in scope, highly descriptive and stop short of prescribing numerical standards for specific pollutants. This is in contrast to the extensive lists of criteria adopted under other state legislation such as those of UK and USA, and guidelines used in other countries such as Australia and Canada.

It is suggested that a national set of water quality standards will set absolute limits. In fact, it is rare to find any approach that does this, unless strict environmental health objectives are to be achieved. Instead, a national set of standards should attempt to provide guidance on the range of concentrations or levels of each key indicator required to provide adequate protection of the environment. Furthermore, it is important that these guidelines are not seen as blanket values for national water quality. It is recognised that there are a range of ecosystems throughout New Zealand, and to assume that one set of specific values could apply equally to all would be ill-advised. Local, site-specific information will be needed to supplement the broad information provided in the national guidelines, particularly for ecosystem protection.

In the case of toxicants, guidance should be provided on the typical maximum concentrations permissible for adequate protection². However, this should not be taken as an indication that the environment can be contaminated up to these levels in systems where the existing levels are

New Logo for NZ Coastal Society Revealed



After much deliberation the Management Committee has decided on this as the new logo for the Society. The logo will soon appear on letterhead, newsletters, and other material produced by the Society. It has been designed in two colours. The graphics representing the land and the seabed are green and the rest is blue.

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The construction of a 260 m long rock seawall along the actively eroding section of East End Beach, combined with a renourishment of 5000 m³/year of suitable sand was the recommended and accepted option.

Seawall Construction

The initial design of the seawall called for a graded three-layered rock structure from RL + 0.00 (MSL) to RL + 5.00 on a slope of 2:1. Tender prices were higher than budgeted and so the design of the seawall was reviewed to try and reduce costs. After reviewing the performance and maintenance of existing rock protective works along the beach, a revised design consisting of three layers of armour rock was produced. It was recognised and accepted that in the long term, there was likely to be a higher maintenance cost associated with this design than with the initial proposal.

Placing the toe of the wall at RL + 0.00 required excavation of up to 2.6 m below beach level in some areas. The position of the seawall was kept as far up the beach as possible and the alignment set to straighten the shallow eroded bays that had developed between areas of previous rock protection work.

Beach Renourishment

The recommended design solution for the site required a beach renourishment programme of 5000 m³/year be undertaken. This was considered necessary as the construction of the rock seawall along an actively eroding dune/bank effectively eliminated that source of sediment supply. Without renourishment, the beach would either degrade or more intense erosion would occur beyond the seawall, thereby shifting the problem to another site.

OCEL Consultants Ltd had previously reported to the New Plymouth District Council on the options for renourishment. The recommended solution had been to utilise sand from the biennial dredging programme at Port Taranaki. Renourishment was undertaken during February and March of 1996.

Ongoing Monitoring

A monitoring programme for ecological effects is being undertaken by the Taranaki Regional Council in conjunction with the local iwi. Movement of the sand is tracked through monitoring of a number of beach profile sites by New Plymouth District Council on a programme set by the Regional Council. Results of both monitoring programmes will be analysed and reported to the councils and the public.

Keith Armstrong
OCEL Consultants Ltd

Coastal Society AGM

26 September 1996

Notice is hereby given for the New Zealand Coastal Society's 3rd AGM, which will be held on Thursday, 26 September 1996, at 5.30 pm at the Marine Rescue Centre, 3 Solent Street, Mechanics Bay, Auckland.

Nominations are also required for the management committee. Each nomination must be nominated and seconded by financial members of the New Zealand Coastal Society. Nominations should be sent to the secretary, Fred Smits, by Monday 23 September. Nominations will also be accepted from the floor at the AGM.

Nominations Invited for IPENZ Awards

Members of the Coastal Society are invited to nominate papers for the following IPENZ awards.

Furkert Award

For the best paper published by the institution during the three-year period to 31 July 1996 on a subject dealing with the action of water on the faces of nature, particularly such faces of nature as are connected with the works of man. Author(s) must be members of IPENZ.

Rabone Award

For the best paper published by the institution during the three-year period ending 31 July 1996 on a subject of a general nature that does not qualify for one of the other special awards. Author(s) can hold any class of membership of IPENZ and should, preferably, be under 40 years of age.

Nominations

Nominations for both awards are to be made to Fred Smits at NIWA Oceanographic.

Corporate Members

- Auckland Regional Council, Private Bag 68-912, Auckland
- Beca Carter Hollings & Ferner Ltd, P O Box 3942, Wellington
- Canterbury Regional Council, P O Box 345, Christchurch
- Environment Waikato, P O Box 4010, Hamilton East
- NIWA Marine, P O Box 14-901, Kilbirnie
- OCEL Consultants Ltd, P O Box 877, Christchurch
- Taranaki Regional Council, Private Bage, Stratford
- Tonkin and Taylor Ltd, Consulting Engineers, P O Box 5271, Auckland

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News

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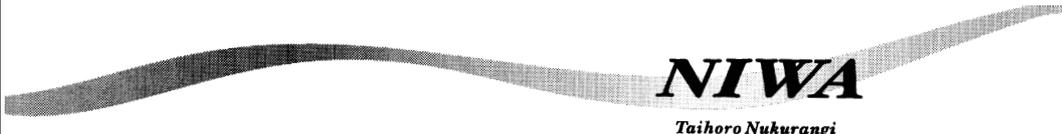
lower than the recommended value, and Paragraph 3 of Section 69 of the provides protection against this occurring. For those indicators where guideline ranges are provided, it is the expectation that regional councils in association with national environmental agencies will undertake local, site-specific investigations of their own systems to confirm specific levels to be adopted.

Therefore, it can be seen that the approach to be adopted should recognise that natural variability that occurs both within particular marine systems and among different ecosystems. Reference values, or guidelines, should be provided to assist the community in making choices concerning water quality and to provide guidance for regional councils. In most cases a single reference value would be preferred, however a range of concentrations for a particular indicator should be provided where appropriate. This would be similar to the approach adopted by Europe and would provide an acceptable level of compromise within which regions can manage their water quality.

Julian Roberts

Jenner Consultants Ltd., Auckland

- 1 Australia and New Zealand Environment and Conservation Council (ANZECC) Guidelines for Fresh and Coastal Water Quality.
- 2 The March edition of "Environmental Update" reports that the Government are in fact investigating applying the ANZECC guidelines to certain toxic substances.



NIWA
Taihoru Nukurangi

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For more information please contact Fred Smits by phone (04-3860379) or by fax (04-3861585)