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Report to Environment Committee
from Gary Stephenson, Surface Water Quality Scientist

Coastal Water Quality Monitoring Programmes Review

1. Purpose

To report on a review of coastal water quality monitoring programmes in the region.

2. Background

At its last meeting the Environment Committee received the Annual Coastal Water Quality Report 2000/01. The accompanying Committee report also included details about proposed changes to the Council's coastal water quality programme. After considering these matters, the Committee requested that "a review report be prepared for the next meeting including:

- (a) a recommended new programme and costs; and
- (b) a public reporting and communication programme for water quality so that the public could understand the issues and remedial actions which are required and are in place".

Context of Review

To address their legislative responsibilities, the Wellington Regional Council and the Region's territorial authorities have undertaken three coastal water quality monitoring programmes: baseline; recreational shellfish-gathering; and contact recreation. The results of these programmes have been assessed using the national recreational water quality guidelines published by the Ministry for the Environment and the Ministry of Health. These guidelines use bacteriological indicators to assess the suitability of water for contact recreation or recreational shellfish-gathering.

As part of the preparation for the 2000/01 Annual Coastal Water Quality Report a review of the baseline and recreational shellfish-gathering components of this Council's coastal

water quality monitoring programmes was carried out. At the same time the national recreational water quality guidelines were being subjected to a comprehensive review.

3. **Review Findings**

3.1 **Monitoring**

The review identified a number of issues relating to the *baseline* coastal water quality monitoring programme:

- the duplication of monitoring effort between the Wellington Regional Council and the territorial authorities;
- inadequacies in the design of the programme; and
- failure to address other risk factors influencing coastal water quality.

Likewise, the review identified a number of issues relating to the *recreational shellfish-gathering* coastal water quality programme:

- inadequacies in the design of the programme;
- lack of support from shellfish collection and analysis to establish if or how the bacterial concentrations recorded in the water column relate to bacterial concentrations in shellfish tissue; and
- failure to address the risks to the public from toxins, heavy metals and harmful organic substances accumulating in shellfish tissues.

All of this information is essential to determine the *actual* risks associated with consuming shellfish.

3.2 **Reporting**

The review identified problems with the format and level of detail in the Annual Coastal Water Quality Report. These were the result of it containing both material of immediate public interest (in the form of the contact recreation coastal water quality monitoring results) and material more relevant to longer term state of the environment reporting.

4. **Actions Taken**

The recommendations made to address the issues raised in the review are listed below together with a commentary on the actions taken to date.

4.1 **Recommendation 1: Contact Recreation – Programme**

That the contact recreation coastal water quality monitoring programme carried out by the territorial authorities and the Wellington Regional Council's Wairarapa Division be continued.

Commentary

Under the banner "On the beaches" the Wellington Regional Council, Wellington City Council, Kapiti Coast District Council, and Hutt City Council have pooled resources to create a unified regional recreational water quality monitoring programme. This programme started on 5 November 2001.

4.2 **Recommendation 2: Contact Recreation – Improvements**

That the Wellington Regional Council work with the territorial authorities in the Wellington Region to improve, standardise, and where necessary augment, the contact recreation coastal water quality monitoring programme to meet the requirements of the national guidelines for such programmes issued by the Ministry for the Environment and the Ministry of Health.

Commentary

Concurrent with the pooling of resources into "On the beaches", sampling and analysis protocols have been standardised and additional sites added to the network to provide better coverage of recreational water use areas. The programme meets the requirements of the revised national recreational water quality guidelines issued by the Ministry for the Environment and the Ministry of Health in October 2001.

4.3 **Recommendation 3: Contact Recreation – Communications**

That the Wellington Regional Council assist the territorial authorities in the Wellington Region to publicise the contact recreation coastal water quality monitoring programme at the monitored sites, through the media, and on the internet.

Commentary

Beach managers have a responsibility to educate the public about hazards related to recreational water use areas. As part of the "On the beaches" programme the Wellington Regional Council is contributing to this process by means of:

- an article in "Elements";
- signage at the monitored sites;
- an information brochure;
- the development of an internet page; and
- regular water quality reports in some newspapers.

The Elements article, information brochure and internet page outline why we monitor recreational water quality; how we carry out the monitoring; and what the results mean. The signage at monitoring sites alerts the public to the fact that these beaches

are monitored and by whom. The internet page and newspaper reports present the results of recent recreational water quality sampling.

4.4 **Recommendation 4: Baseline – Programme**

That the current "baseline" coastal water quality monitoring programme carried out by the Wellington Regional Council be replaced by a new "ambient" coastal water quality monitoring programme incorporating:

- bacteriological data from the contact recreation coastal water quality monitoring programme;
- weather-related time-series sampling of coastal water and discharges to coastal water at selected monitoring sites, and analysis of these samples for enterococci;
- targeted investigations of the nature and concentrations of heavy metals and harmful organic substances entering coastal water from rivers, streams, wastewater discharges, and urban stormwater drains;
- catchment-based risk assessment of all contact recreation coastal water quality monitoring programme sites, and classification of the sites according to their "suitability for recreation" (Annapolis Protocol); and
- the adoption of the "suitability for recreation" classes as the Wellington Regional Council's measure of coastal water quality for state of the environment reporting.

Commentary

To improve Council's ability to deliver the environmental outcomes stated in the Regional Policy Statement and Regional Coastal Plan a more holistic and integrated monitoring programme has been developed based on the "Annapolis Protocol". This is essentially a risk assessment system based on bacteriological history *and* catchment characteristics. The resulting "suitability for recreation" classes provide a basis for state of the environment reporting.

In October the Ministry for the Environment and Ministry of Health released revised national recreational water quality guidelines. The guidelines now include a requirement to carry out a catchment risk assessment and beach "suitability for recreation" classification procedure. This requirement will apply from the beginning of the 2002/03 bathing season. Staff will develop catchment assessment checklists for all of the Region's recreational water quality monitoring sites prior to 1 November 2002, so that a preliminary "suitability for recreation" classification can be carried out.

The Wellington Regional Council's "baseline" coastal water quality monitoring programme has been discontinued and new "ambient" coastal water quality monitoring programme implemented, with bacteriological data from the recreational water quality programme being added to the database each week.

4.5 **Recommendation 5: Shellfish-Gathering – Programme**

That the current recreational shellfish-gathering coastal water quality monitoring programme carried out by the Wellington Regional Council be replaced by a new monitoring programme targeting the accumulation of hazardous substances and human pathogens in marine food chains, including:

- routine collection of shellfish tissue samples from recreational shellfish-gathering areas, and analysis of these samples for faecal coliforms, heavy metals, and harmful organic substances.

Commentary

A transition is currently taking place between the old and new programmes. Water-column faecal coliforms are still being monitored at a few selected sites as part of the recreational water quality programme to assess linkages with the bacterial levels in shellfish tissue samples. Three-monthly collection of shellfish tissue samples and analysis of these samples for faecal coliforms began in November 2001. Shellfish from a total of 17 sites are being monitored, with one of three species (tuatua, cockles, blue mussels) taken at each site. Information from this monitoring will be supplied to the Regional Public Health Service, while the RPHS will supply WRC with information from the national marine biotoxin monitoring programme, which also uses shellfish tissue samples.

4.6 **Recommendation 6: Contact Recreation – Reporting**

That the results of the contact recreation coastal water quality monitoring programme be reported annually to Council in May in a format suitable for dissemination to the territorial authorities and public libraries as a paper-based document, and in electronic form on the Wellington Regional Council internet site.

Commentary

Separation of the former Annual Coastal Water Quality Report material into two reports is a practical solution, with the contact recreation coastal water quality monitoring results published as soon as possible after the end of the bathing season. Results of both the freshwater and coastal water quality monitoring programmes for contact recreation would be reported together, as was done for 2000-2001 in the Wairarapa.

4.7 **Recommendation 7: Ambient/Shellfish-Gathering – Reporting**

That the results of the "ambient" coastal water quality monitoring programme and the programme targeting the accumulation of hazardous substances and human pathogens in marine food chains be reported annually to Council in September, in a format primarily intended for use by the monitoring agencies and water managers.

5. **Financial Implications**

The restructuring of the coastal water quality monitoring programmes has no financial implications for the remainder of the current three-year budget cycle. It is being funded entirely from within the existing budget.

6. **Communications**

The communication strategies arising from the review are outlined in sections 4.3, 4.6 and 4.7 of this report. Staff have met with officers of territorial authorities to discuss the changes to the monitoring programme.

7. **Recommendation**

- (1) *That the report be received and noted.*
- (2) *That the Council endorse the adoption of the new Ministry for the Environment/Ministry of Health recreational water quality guidelines.*

Report prepared by:

Approved for submission by:

GARY STEPHENSON
Surface Water Quality Scientist

JOHN SHERRIFF
Manager, Resource Investigations

JANE BRADBURY
Divisional Manager, Environment