Coast 1

Introduction

Northland's coastline includes 14 major harbours, numerous smaller estuaries and extensive stretches of rocky and sandy open coast. The Northland Regional Council carries out monitoring of the region's coastal environment to record the state of this resource, the effects of human activity and changes over time.

Northland's coastal waters are a valuable environmental, economic, social and cultural resource. The importance of the coast to Northlanders was reflected in the response from the Long Term Council Community Plan (LTCCP) community consultation survey, which identified 'beaches and coastlines' as Northland's top strength throughout all Districts.

Maintaining and protecting coastal water quality is important for:

- Maintaining healthy coastal and marine ecosystems;
- Recreational uses such as swimming, sailing, water skiing and scuba diving;
- Fishing, shellfish gathering and marine farming; and
- Tourism

Harbour Water Quality Monitoring Programme

Whangaroa Harbour — concentrations of bacteria were within MfE guidelines.

Coastal water quality is influenced by inputs from rivers and streams, urban and rural run off and direct discharges into the coast. As human land use and urban development intensifies, coastal water quality will come under increasing pressure.

The threat to coastal water quality is likely to be worse in semi-enclosed coastal water bodies, such as estuaries and harbours, where there is less exchange of water with the open coast.

Harbour water and sediment quality is monitored by the Council in the Whāngārei, Whangaroa and Bay of Islands harbours. In 2008-09, the Council undertook routine water quality testing at 16 sites in the Whāngārei Harbour, 16 sites in the Bay of Islands harbour and nine sites in Whangaroa Harbour.

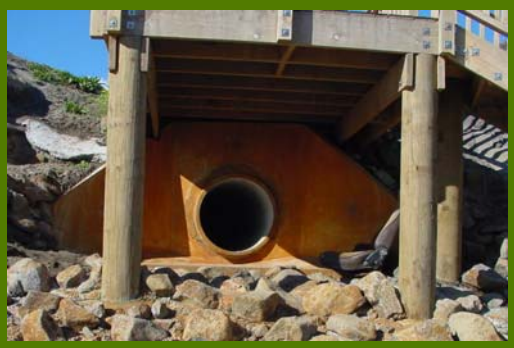
Monitoring sites in these harbours have been selected to capture the main freshwater inputs into the systems, and to assess water quality across the harbour.

In the WhāngāreiHarbour and the Bay of Islands, both physical and chemical properties of the water are measured, including temperature, salinity, turbidity, dissolved oxygen, nutrients and bacteria. In the Whangaroa Harbour, monitoring is focused on sampling levels of bacteria as this programme is designed to detect any health risk associated with shellfish collection.

Coastal performance targets

Continue to implement and improve a prioritised State of the Environment (SOE) monitoring programme and monitor compliance with, and the effects of, the exercise of resource consents and Regional Plans by:

- Carrying out a prioritised estuary health monitoring programme.
- Supporting and contributing to the development and implementation of coastal hazard management strategies, by the collection and provision of coastal hazard and processes information and advice to the communities of affected areas.
- Promote and support community based 'coast care' projects.
- Inspecting significant coastal structures and works, marine farms and carrying out surveys of the coast where there is sand mining activity.



Stormwater drains can carry contaminants off the land into coastal waters.

Summary of testing during 2008-09

- Sites in the Whāngārei and Bay of Islands harbours achieved 99% compliance with the bacterial guidelines set by MfE.
- In the Whangaroa Harbour, concentrations of bacteria were within the MfE microbiological guidelines for shellfish gathering at eight of the nine monitoring sites.
- In the Whāngārei Harbour compliance with coastal water quality standards for all nutrients was less than 50% and in the Bay of Islands, compliance was less than 50% for ammonia.

Northland CoastCare

The Council CoastCare Programme was established in 2005 as a means of helping communities better understand coastal processes and to allow them to initiate protection, restoration and enhancement of dune ecosystems by establishing and resourcing community-based CoastCare groups.

In 2008-09, there were over 25 community CoastCare groups registered with the Council. During the winter of 2008, these groups planted a total of 10,000 spinifex and 6,000 pingao plants, contributing towards the restoration of dune and beach systems across Northland. The majority of these plants were provided with funding from the Northland Regional Council Environment Fund.

For more information on the CoastCare programme, or for groups operating in your area, visit
www.nrc.govt.nz/coastcare

Vehicles on Beaches

Over the summer of 2008-09, information days were held at Tokerau Beach/Rangiputa, Ninety Mile Beach, Bream Bay and Ripiro Beach. These events were organised by the Council and staffed by the Department of Conservation (DOC), District Councils and the Police, with assistance from local volunteers.

The main focus of these events was to raise public awareness of safe and responsible driving on Northland's beaches. Beach patrols in agency vehicles were also undertaken to distribute 'safe beach driving' leaflets, tide tables and to answer queries.

Results 2008-09

Results from the monitoring programme are assessed against the coastal water quality standards outlined in the Northland Regional Coastal Plan (RCP), ANZECC guidelines and the Ministry for the Environment (MfE) *Microbiological Water Quality Guidelines*.

Bay of Islands

- **Bacteria** - During 2008-09, concentrations of enterococci bacteria were low at all sites and compliance with the MfE guidelines was 99% throughout the Bay of Islands.

  Enterococci are micro-bacteria, which are indicators of faecal contamination.

- **Nutrients** - During 2008-09, compliance with the guidelines for total phosphorus (TP) was 78%, and generally good at most sites. However, sites in the Ōpua Basin, Waikare Inlet and the Kawakawa River recorded lower levels of compliance.
- High concentrations of dissolved reactive phosphorus (DRP) were recorded at a number of sites throughout the Bay of Islands and overall compliance against the guidelines was low at 45%.
- High concentrations of ammonia were recorded at sites in the Waitangi River, the Waipapa River, Kerikeri River, Wainui Island in Kerikeri Inlet and the Upper Kawakawa River. Overall compliance throughout the Bay of Islands was 63%.

  Phosphorus is a nutrient that is essential for plant growth however too much phosphorus in a water body can cause excessive plant growth, which can lead to a reduction in water quality and toxic algal blooms. Ammonia is a nutrient that occurs in a number of waste products, and this may be toxic to some organisms.

Whāngārei Harbour

- **Bacteria** - During 2008-09, concentrations of enterococci bacteria were low at all sites and compliance with the MfE guidelines was 99% throughout the Whāngārei Harbour.
- **Nutrients** - High concentrations of TP were recorded at most sites in the harbour and there was a low level of compliance with the guidelines at all sites between One Tree Point and the Town Basin.
- Concentrations of DRP were high at sites between Onerahi and the Town Basin and compliance with the coastal water quality standards was low. Overall, compliance with the water quality guidelines was 22% throughout the harbour.
- Concentrations of ammonia exceeded the guidelines at sites between Onerahi and the Town Basin and overall compliance with the guidelines was 41%.

Whangaroa Harbour

- **Bacteria** - During 2008-09, concentrations of faecal coliforms were below MfE microbiological guidelines for shellfish gathering waters at eight of the nine monitoring sites. At the site off Cape Horn, the median concentration of faecal coliforms exceeded 14 faecal coliforms/100ml and more than 10% of samples from this site exceeded 43/100ml.

Future Monitoring

In addition to the existing water quality programme, a new monitoring programme will be established in the Hokianga Harbour in 2009-10 and a pilot water quality programme will be initiated in the Kaipara Harbour. The Council is successfully working on these projects with the Auckland Regional Council in the Kaipara Harbour and the Far North District Council/Waiora Hokianga group in the Hokianga Harbour.