



Hauraki Gulf Forum  
Tikapa Moana

# Tikapa Moana - Hauraki Gulf State of the Environment Report 2008



## A mixed report

In the three years since the Hauraki Gulf Forum published its first State of the Environment Report, the agencies and members of the Forum have worked to give greater recognition and protection to Tikapa Moana, the Hauraki Gulf.

Despite progress this report shows much remains to be done.

For the first time the population of the Hauraki Gulf catchment has passed the one million mark and is increasing at 20,000 people per year.

Growing consumption, increasing urban development, aspirations to live and holiday near the coast and intensifying farming practices are the driving forces of change.

*People*  
*Consumption*  
*Intensive dairy farming*



Positive trends can be seen in bathing beach water quality around Auckland due to significant investment by local authorities on wastewater infrastructure, and the increasing ecological potential of island nature reserves in the Gulf due to pest eradication and volunteer restoration efforts.

Indicators that concern us are the continued build up of heavy metals in Auckland's upper harbour areas from urban development and industrial areas, and the large amounts of nutrients discharging into the Firth of Thames from the farming of 410,000 dairy cattle on the Hauraki Plains.

Growing interest in space for aquaculture, proposed new development around the coast, aspirations by iwi for a fully-realised kaitiakitanga role, and changing hazard risk due to climate change are some of the issues and challenges agencies face.

The report makes it clear that the quality and sustainability of the Hauraki Gulf will require continued careful and integrated management by many agencies and communities.

We trust it provides a snapshot that informs community aspirations, the prioritisation of agency work and the design of research and monitoring programmes.

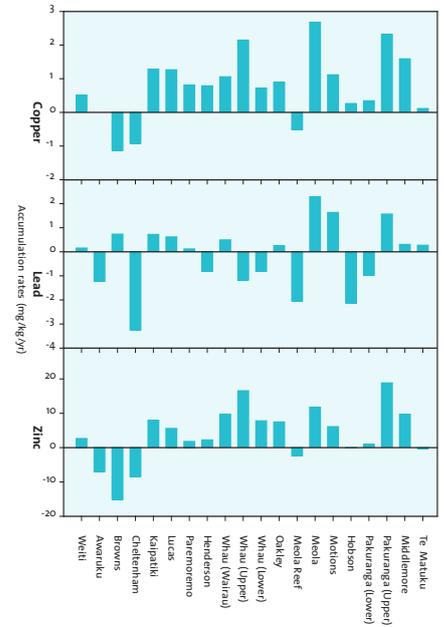
A full version of this 2008 Report, our benchmark 2004 State of the Environment Report, and our quarterly newsletter *Weaving the Strands*, are available from [www.haurakigulfforum.org.nz](http://www.haurakigulfforum.org.nz).



Mayor John Tregidga and Mike Lee  
Chair and Deputy Chair  
Hauraki Gulf Forum



Pest eradication on islands is almost certainly responsible for numerous sightings of the New Zealand storm petrel in the Hauraki Gulf over the past three years. It was thought extinct until 2003.



Accumulation rates for heavy metals, particularly copper and zinc, continue to increase in Auckland's upper harbours.

## Water quality

✓ Microbial contamination (bad bugs in water) at bathing beaches may well be reducing. There are still problems after rain but less so than in the past. Given the investment in wastewater networks, improvement is to be expected.

✗ Heavy metal contamination is a growing problem in Auckland's poorly flushing harbours and estuaries particularly those receiving stormwater from older urban and industrialised areas. Contaminated areas are continuing to degrade with implications (as yet largely unknown in scale) for marine ecology.

Solutions need to address the contamination sources, especially land transport and building materials. Metal concentrations in the Firth of Thames are lower than in Auckland's urban harbours but enriched relative to other Waikato sites. Agricultural and horticultural sources (of zinc and cadmium in particular) will need to be watched.

? Organic pollution (chemicals such as DDT, Dieldrin and PCBs), as measured by contamination of Auckland shellfish is low by international standards. There are no significant trends in accumulation.

✗ A vast amount of nitrogen is discharged to the Firth of Thames each year – equivalent to 32 truckloads of urea per week. There is no indication that it is leading to

algal blooms but the potential exists. Nutrient loads into Auckland coastal waters are small, seem to have reduced, but can have local impacts.

### Key Actions

- Auckland Regional Council regulatory initiatives to better manage stormwater and progressively improve waste water discharges.
- Territorial authorities investments in upgrading stormwater and waste water networks and promoting water sensitive urban design.
- Environment Waikato control over farming practices using regulatory and non regulatory measures.
- Fonterra's Dairy and Clean Streams Accord, but fencing and nutrient budgeting by farmers are lagging behind targets.

It is too early to say whether these responses will be adequate to address the key issues.

## Natural and social character of the coast

On the Coromandel Peninsula, the number of dwellings grew by 18% between 2001 and 2006 even though permanent population barely grew at all. The coastline from the Auckland isthmus to the Mahurangi Harbour is highly urbanised with regional parks providing buffers to existing or proposed development.

Public parks continue to be well used with 15 of the 22 monitored sites showing increases in use since 2004 of between 10%-140%.

In Auckland the social pattern is clear with the Hauraki Gulf coastal suburbs housing the wealthier segment of the population.

Sediment associated with current and past soil disturbance continues to fill (and redistribute within) estuaries changing their character, allowing mangroves to colonise former sand and shell banks.

- Coastal development ↑
- Coromandel dwellings ↑
- Use of regional parks ↑
- Mangrove distribution ↑
- Campgrounds ↓

### Key Actions

- Regulatory containment of growth with urban limits imposed to the north and south of metropolitan Auckland and the purchase of regional parkland by Auckland Regional Council.
- Development of an urban growth strategy for the Coromandel by Environment Waikato and the Thames Coromandel District Council.

## Biodiversity

The Hauraki Gulf is an increasingly important place for threatened species. Many seabirds, terrestrial birds and lizards seem to be making a recovery thanks to pest control on islands. The Department of Conservation, working with conservation groups on island restoration, has achieved significant gains with self reintroductions of birds (between islands and from islands to the mainland) occurring to complement official translocations.



Demand for mooring and marine farming space in some areas is increasing.



200 critically threatened Bryde's whales live in the greater Hauraki Gulf area and use its sheltered bays for breeding. They are vulnerable to vessel strike, habitat degradation and over fishing.

Outside of the public conservation estate, habitat modification and disturbance resulting from urban and peri urban development is a significant pressure on biodiversity. Pests and weeds are a significant pressure everywhere.

Vegetation maps show that over a third of the Gulf catchment has less than 10% of its original vegetation remaining. Any vegetation that does remain within these areas is acutely threatened.

The coastal wading bird community in the Firth of Thames has changed over time as a result of sediment being locked in place by mangrove colonisation modifying preferred habitat and displacing some species. Fragments of privately held bush on the Coromandel Peninsula need to be better managed to avoid decline in condition.

Two unwanted marine organisms have been confirmed in the Gulf that were not known in 2004.

- ✓ *Island restoration*
- ✓ *Community involvement*
- ✗ *Seabird habitat in the Firth of Thames*
- ✗ *Invasive marine species*

#### Key Actions

- Pest management on land by both Auckland Regional Council and Environment Waikato and the declaring of the Hauraki Gulf a Controlled Area under the Biosecurity Act enabling greater control over the movement on species between islands.
- Department of Conservation restoration and pest control work (in partnership with community groups).

- Regulatory and voluntary initiatives by territorial authorities.
- Biosecurity NZ planning on marine pest threats.

## Fisheries and marine space

Commercial fishing within the Hauraki Gulf (and east of the Coromandel Peninsula) took an average of 6816 tonnes of fish (all species) per year between 2004 and 2007. That compares with 6247 per year in the three years prior to the 2004 Report. By far the most valued species continues to be snapper with 2047 tonnes caught per year on average.

A comparison of the commercial snapper catch with the recreational catch for the smaller areas of the inner Gulf waters (statistical areas 005 and 006) shows that the recreational take may be 35% greater than the commercial take.

It is difficult to identify clear trends in commercial fishing or provide an overall assessment of fish stocks within the Hauraki Gulf as fisheries management is based on incompatible, larger management scales.

Cockle populations in some areas (particularly Umupuia Beach) are suffering steady decline due to over harvest by recreational fishers.

There is continued demand for marine space for aquaculture, though there have been no new marine farms provided for in the Hauraki Gulf since the 2004.

- Commercial fishing* ↑
- Cockle populations* ↓
- Interest in aquaculture development* ↑
- Demand for moorings off newly urbanised areas* ↑

#### Key Actions

- Consistent community shellfish monitoring supported by the Hauraki Gulf Forum.
- Reviews of aquaculture management regimes by Auckland Regional Council and Environment Waikato.
- Ministry of Fisheries compliance actions, sustainability reviews and proposed fisheries plans.

## Cultural heritage

131 requests have been made to the Historic Places Trust over the past 3 years for authorities to modify archaeological sites. This trend is a growing trend that may be related to an increasing awareness of statutory requirements. 45% of applications for authorities to disturb are for urban developments, with forestry is significant secondary driver.

Little is known about trends associated with other (non archaeological) cultural heritage sites within the Gulf and its catchment. Within the Auckland part of the Gulf catchment there are records for almost 7500 sites (5200 archaeological sites and 2300 other buildings and structures – including 462 maritime sites).

- ✗ More needs to be done to shift the focus of heritage assessment and management away from



Regional parks now provide the only buffer to existing or planned coastal development between Auckland and the Mahurangi Harbour. Could the same pattern emerge south of Auckland?



There are 410,000 cows on the Hauraki Plains producing the same amount of faecal matter as a city of 6 million people.



Analysis of MFish data suggests the recreational take of snapper in the inner Gulf area is likely to be 35% greater than commercial take.

specific sites and to embrace Maori perspectives. Whakapapa (ancestral links) provide a connection to the past that remains relevant today, shaping the way in the way Maori interact with the natural world and exercise kaitiakitanga (guardianship).

Requests to modify archaeological sites



#### Key Actions

- Maintenance of the Cultural Heritage Inventory and regulatory controls by the Historic Places Trust and local authorities.
- Ongoing work to improve, and make more comprehensive, existing databases and inventories of protected sites by local authorities.
- Plans by the Hauraki Gulf Forum for capacity building for cultural heritage managers.

## Natural hazards

The science of climate change is becoming more certain but there is still considerable uncertainty about what, where and how the Gulf will be affected. NIWA predicts increased temperatures of 0.6-3.8 degrees C, more frequent heavy rain events, and sea level rise between 0.14-0.18m by 2050.

Studies in the Waikato indicate that risk exposure is growing: 15% more Coromandel properties were classified at risk from coastal erosion in 2004 than in 1995.

✗ Data on risk to people and property from coastal and other natural hazards is patchy and what does exist is already outdated.

Risk exposure



#### Key Actions

- Planning for hazard risk through district plan reviews and changes.
- Site specific work with vulnerable communities (Onetangi and Cooks Beach)
- Research into threats from tsunamis (EW and ARC), sea level rise (Rodney – Orewa, Waiwera, Red Beach and Auckland City).
- Climate change mitigation (5 of the 9 local authority Forum members are members of the Communities for Climate Protection New Zealand (CCP-NZ) programme and are committed to reducing green house gas emissions as a contribution towards a global response to climate change.

## State of Information

This report uses information produced by management agencies for a variety of purposes. Some is based on indicators already in use by Auckland Regional Council and Environment Waikato but the two data sets are often not directly comparable for a variety of technical and practical reasons.

✗ There are gaps in availability of information that would be useful to assess the state of the Hauraki Gulf system.

Some data has been collected for the first time, is used because it is the only information currently available, and could form the basis of a future Gulf indicator.

Further design and investment is needed to make future State of the Environment reporting more complete and applicable for management purposes.

Photo Credits: Auckland Regional Council, Department of Conservation, David Stewart, Kim Westerskov

The Hauraki Gulf Forum is a statutory body responsible for the integrated management of the Hauraki Gulf. The Forum has representation on behalf of the Ministers of Conservation, Fisheries and Maori Affairs, Auckland Regional Council and Environment Waikato, ten local authorities (Rodney, Franklin, Waikato, Hauraki, Thames Coromandel and Matamata Piako District Councils, North Shore, Waitakere, Auckland and Manukau City Councils), plus six representatives of the tangata whenua of the Hauraki Gulf and its islands.

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