



Sea Change

Hauraki Gulf Marine Spatial Plan

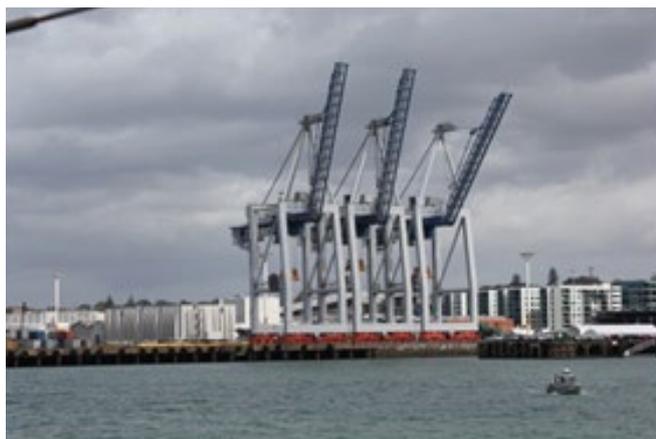
HAURAKI GULF MARINE SPATIAL PLAN

PRESSURES ON THE HAURAKI GULF

Coastal environments and marine ecosystems are fundamentally important to the ecological functioning of the planet and to life as we know it.¹

New Zealand's unique geography and landform means it has one of the largest coastlines globally, and New Zealanders have a strong tie to the coastal environment. Its fish species and biodiversity play an important role in our economic, social, political and cultural lives.

Historically, New Zealand has often used its abundant natural resources for economic development. But our natural resources are under pressure, and focus has shifted towards sustainable use and development.



Changes in the state of the Gulf²

Indicators show the Hauraki Gulf is an ecosystem under pressure, and the growing demands on it are further increasing the pressures. Changes in the state of the Gulf include:

- increased sedimentation from clearance of forests and development of land for urban and rural land use
- accumulation of toxic metals in some estuaries from urban and industrial sources
- increase in mangroves, and changes in the mix of species found in bottom dwelling communities as a result of increased sedimentation
- reduction in some kaimoana (seafood) with increased harvesting pressure and changes to important habitats like sediment turning sandy habitat into mud
- loss of ecologically important marine processes like water filtering by shore based shellfish (e.g. cockles) and submerged mussel beds
- decreased seabird abundance and an increased number of endangered native seabirds
- decreased water quality from the contaminants in wastewater discharges, stormwater and land based run off
- large amounts of litter, including plastics
- restricted access to the coast and loss of natural character values resulting from increased coastal development and modification of the foreshore
- increased traffic from boats and other watercraft
- increased commercial traffic introducing new non-native marine species to New Zealand, and the impacts of shipping on marine mammals living in the Hauraki Gulf
- a reduction in the coastal forests and wetlands that buffer the marine environment from weeds, land based run off and stormwater.

1 United Nations. UNEP Training Manual on International Environmental Law. (2009) http://www.unep.org/law/PDF/law_training_Manual.pdf (at 19.08.11)

2 Tikapa Moana - Hauraki Gulf, State of the Environment Report, 2011

Ecosystem services³

A healthy ecosystem provides a number of ‘services’ that we benefit from – directly and indirectly.

When ecosystems change, the services they deliver also change.

Categories of ecosystem services

There are four major categories of ecosystem services:

- provisioning, for example the provision of food, such as production of fish and shellfish
- regulating impacts, such as treating pollutants or providing clean water
- supporting, such as providing the necessary habitat for fish production to occur
- cultural, such as providing a place and space where people can recognise and express their cultural heritage, or carry out recreational and leisure activities.

Table 1: Types of ecosystem services

SERVICE CATEGORY	TYPE OF SERVICE
PROVISIONING	Food provision
	Raw materials
	Genetic and medicinal resources
REGULATING	Disturbance prevention
	Waste treatment, processing and storage
	Water regulation
	Sediment retention
	Biological control
	Gas and climate regulation
SUPPORTING	Resilience and resistance
	Habitat structure
CULTURAL	Cultural and spiritual heritage
	Leisure and recreation
	Cognitive benefits
	Non-use benefits
	Speculative benefits

Ecosystem services of the Hauraki Gulf

- The Gulf’s seagrass beds provide environments for many of our popular fish stocks to reproduce. Increased sediment in the water from human activities leads to reduced water clarity. This may cause seagrass beds to decline and die, leaving less space for our fish stocks to breed and a potential decrease in the amount of fish available to catch.
- Mangrove forests provide protection to the coastline from wave erosion. But some people see the mangroves as having a negative impact upon local amenity values, so these forests become vulnerable to clearance activity.
- Mussels provide food. Like many other species of shellfish they also provide a water filtering service, reducing nutrient pollution by consuming phytoplankton that is rich in phosphorus and nitrogen. But extensive mussel beds in the Hauraki Gulf have been lost, due to over-harvesting in the past.

These examples are just a small sample of the Gulf’s ecosystem services – services that are free and often unrecognised.

Taking care of the Gulf’s ecosystem services

Ecosystem services are not only limited, they are threatened by human activities. To ensure the Gulf can provide us with services now and into the future, it’s important we take care of its health.

Sea Change – Tai Timu Tai Pari as a solution

Sea Change – Tai Timu Tai Pari will improve the understanding of the pressures on the Hauraki Gulf and will develop long term solutions.

The plan will achieve the vision of a vibrant, resilient and prosperous ecosystem.



³ Townsend, M.; Thrush, S. (2010). Ecosystem functioning, goods and services in the coastal environment. Prepared by the National Institute of Water and Atmospheric Research for Auckland Regional Council. Auckland Regional Council Technical Report 2010/033.