Biodiversity Biosecurity Roundtable Summary

February 2015

Hauraki Gulf Marine Park
Ko te Pataka kai o Tikapa Moana
Te Moananui a Toi

In partnership with mana whenua and the following agencies:

Hauraki Gulf Forum
Tikapa Moana
Te Moananui a Toi

Ministry for Primary Industries
Manatū Ahu Matua

Department of Conservation
Te Papa Atawhai

Waikato Regional Council
Te Kaunihera ā Rohe o Waikato

Auckland Council
Te Kaunihera o Tāmaki Makaurau

Definitions

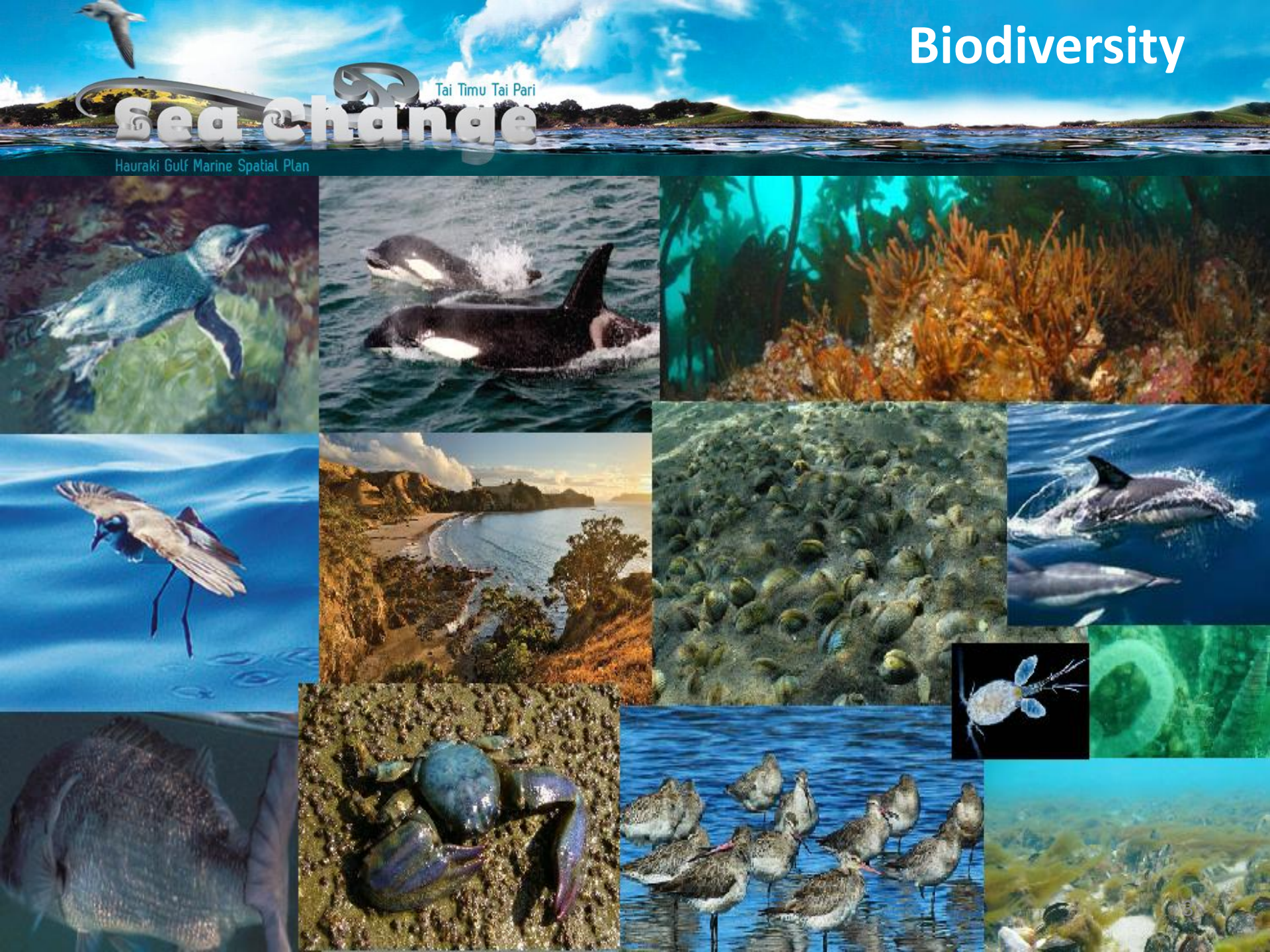
Biodiversity

The variety of plant and animal life in the Hauraki Gulf.

Biosecurity

The exclusion, eradication or effective management of risks posed by pests and diseases to the economy, environment and human health (Tiakina Aotearoa Protect New Zealand The Biosecurity Strategy for New Zealand August 2003)

Biodiversity



Biosecurity - pest species

Scope

Biodiversity

- Understanding the current state and threats to biodiversity
- Reduce, remove, mitigate and safeguard against threats to biodiversity
- Ecosystem based approach to replenish and revive our Gulf

Biosecurity

Identify, manage and mitigate biosecurity threats (freshwater, marine & terrestrial) including:

- Shipping, boating, barging and other modes of sea transport
- Fishing, aquaculture
- Dredging/dumping activity
- Introduced materials/products/produces/species

Vision

Healthy functioning ecosystems with replenished abundance and

Diversity of marine life

Goals

- ✓ Healthy functioning ecosystems from deep seas to rocky reefs to estuaries
- ✓ Enhance, restore or maintain habitats
- ✓ Abundant aquatic life in the Hauraki Gulf
- ✓ Water quality is suitable for healthy functioning ecosystems
- ✓ Eliminate or manage existing pest species. Reduce impact of new invasive species.
- ✓ Increased stewardship through an informed and educated public
- ✓ Plentiful kaimoana
- ✓ Sustainable Economic growth from abundant biodiversity

Values of Biodiversity in the Gulf

- Hauraki Gulf is unique, with highly diverse habitats and marine life
- Biodiversity is a critical component of human wellbeing and sustainable development
- SoG report shows incremental decline from an already low baseline
- When species disappear the “ecosystems services” they provide also disappear
- Marine biodiversity loss = reduction in the ocean's capacity to:
  - provide food
  - maintain water and air quality
  - recover from stressors, such as pollution, disease, extreme weather events, rising temperatures and ocean acidification

Pressures on biodiversity

- Pressure is placed on the marine and coastal environment from:
  - Inappropriate land use
  - Nutrient and sedimentation run-off
  - Pollution
  - Over extraction and harmful fishing techniques
  - Habitat destruction
  - Invasive species

- 2.8 million people living within 80 km of the Hauraki Gulf by 2030 (Stats NZ 2014 report).

Tai Timu Tai Pari

Sea change

Hauraki Gulf Marine Spatial Plan

What we agreed

Okoromai Bay wetland Shakespear Regional Park

Ecosystem Based Management

Goal Healthy functioning ecosystems

Issue Lack of integrated management

Recommendations

- *Ecosystem based management approach to replenish and revive our Gulf adopted and enforced by all agencies involved in managing the Gulf*
- *Create a mechanism for greater coordination of agencies efforts (e.g. through the Forum process or something similar).*
- *Develop measurable policy outcomes and establish monitoring programme to determine success of implementation in order to reverse declining trends*
- *Use existing research into ecosystem interactions which provides understanding of interactions, trophic cascades and the effect of removing keystone species such as crayfish as the driver for ecosystem based management. (ref tech report e.g. Townsend)*
- *Commission further research from appropriate agencies if necessary.*
- *Identify locations where least effort will give maximum biodiversity gains*

Key recommendation:

ecosystem based approach = integrated spatial management

Habitat and Species General

Goal Enhance, restore or maintain habitats and species diversity

Issue Habitat and species reduction

Greatest cause of habitat loss or degradation

- Bottom trawling, Danish seining and shellfish dredging - directly impact benthic habitats by physically removing or destroying biogenic habitats, homogenising the bottom and resuspending sediments to smother nearby organisms.
- Sedimentation from dumping and dredging, earthworks for forestry, farming, urban and rural development - this can smother benthic species and alter sediment grain size, an important factor influencing benthic habitat suitability; increased turbidity can reduce the foraging efficiency of fishes and limit to the amount of light available to benthic plants such as seagrass.
- Modification of hydrological regimes by diverting, damming and placing culverts in streams and filling in wetlands – as well as resulting in direct removal of habitat these activities obstruct migrations of diadromous fishes, and may adversely affect aspects of aquatic environment such as salinity, temperature, and oxygen levels.
- **undergone a significant habitat loss and degradation – primarily through destructive bottom impacting fishing and sedimentation**

Key recommendation:

to protect and restore critical marine habitats by integrated management across agencies and using the most appropriate range of tools

Benthic Disturbance

Protecting benthic habitats is a key goal

Recommendations

- *Set standards as to what is acceptable and what is not in terms of benthic disturbance and biomass waste (through bycatch and habitat destruction) and set timeframes for phasing out harmful practices and phase out fishing methods that adversely impact on the benthic habitat.*
- *Prioritize research into less harmful technology*
- *Ban recreational scallop dredging*
- *Recognise the need to harvest existing commercial scallop beds*
- *Contain commercial scallop take to current harvest areas*
- *Work with industry to develop harvesting techniques that have minimal impact on benthic habitats.*
- *Placing a ban on dredging inside the 100m depth contour was discussed as a possible solution. However this was not agreed by all members.*

Key recommendation:

reduce benthic fishing impacts and eliminate them in sensitive biological areas

Dredging and dumping

Dumping of sediment can homogenise habitats and spread contaminants and invasive species

Recommendations

- *Prioritize research in to the effect of dumping in the Hauraki Gulf Marine environment (not limited to the Hauraki Gulf Marine Park Boundary)*
- *Investigate banning dumping in the Hauraki Gulf marine environment*
- *Identify the costs and benefits of disposing spoil on land or beyond the 1000m depth limit to determine whether these options would more effectively avoid, remedy or mitigate the adverse effects of dumping on marine biodiversity.*
- *Consents for dumping activities must include the avoidance of adverse effects on species or habitats*
- *Effective and accurate monitoring and management of dumping activity*
- *Transparency around dumping location and timing.*

Key recommendation:

further investigate impacts of dredging and dumping

Habitat Restoration

Terrestrial, marine and freshwater

Recommendations

- *Identify critical habitats in the marine environment and on land that are suitable for restoration and protection e.g. juvenile fish habitat, spawning areas, nesting sites (See Figure 1 for areas identified by RT)*
- *Restore and protect biogenic habitats i.e. subtidal seagrass, kelp forest, deep sea coral beds, and green lip and horse mussel beds critical for juvenile fish See Figure 1 for areas identified by RT)*
- *Support community led restoration projects on islands and in the marine environment*
- *Support the mussel reef restoration project and protect these areas from benthic impact and harvesting*
- *Establish a research programme to better understand trophic and habitat interactions*
- *Protect and rehabilitate migration routes for diadromous species, and enhance inanga spawning habitat, in particular:*
  - *Constructing fish passages*
  - *removing weirs, tidal gate and other obstacles*
  - *riparian planting*

Key recommendation:

Terrestrial – support island restoration and enhance this work

Marine – MPA network and support mussel reef restoration project

Freshwater – migratory routes protected

Water Quality

Goal Water quality is suitable for healthy functioning ecosystems

Issue Loss of species and habitats due to poor water quality and rubbish

Recommendations

- Ecosystem based management approach to replenish and revive our Gulf adopted and enforced by all agencies involved
- The need for a coordinated approach between Auckland Council and Waikato Regional Council as well as the Thames Coromandel and Hauraki District Councils is required for effective monitoring and managing water quality.
- Support existing programmes of fencing and planting stream banks and encourage expansion.
- Reduce sediment and contaminants entering the marine area - refer to the Raglan Harbour Restoration Model. Specifically reducing sediment levels in Waihou, Piako and Kaueranga rivers.
- Adopt environmental "best practices" in forestry, farming, dredging and dumping for marina, mining, shipping and aquaculture to prevent sediment and contaminants reaching the marine environment.
- Identify source of sediment/contaminants and enforce penalties for release into the marine environment.
- Prioritize funding for raising awareness and educating the public about what each person can do to make an improvement. For example:
  - "Bring back the white bait" campaign
  - Community planting days
  - Education on TV – Sunday evening showing more "Big Blue Backyard" type
  - Education
  - Storm water education to wider public (what goes down the drain ends up in our sea)
- Establish boat pump out facilities at key destination points throughout the Gulf
- Phase in enforcement of holding tanks on boats and "no dumping of bilge" in the Gulf.

Key recommendation:

reduce sediment, nutrients and other contaminants entering estuarine and marine ecosystems, in particular reducing inputs of sediments and nutrients from the Waihou, Piako and Kaueranga rivers

Fish Stocks

Goal Abundant and diverse fish life in the Hauraki Gulf

Issue Effects of fishing on marine ecosystems.

There has been a failure to consider the effects of fishing on marine ecosystems and dependent species in the Gulf highlighting the need for an ecosystem based management approach. Of particular concern are:

- the direct impacts of trawling and dredging on the structure and composition of benthic assemblages
- the indirect effects of the removal of species known to mediate the structure and productivity of these assemblages
- excessive extraction of target species
- the effect of non-target bycatch
- seabird bycatch

Rock lobsters, an important predator on rocky reefs and sediment flats surrounding reef systems, are considered to be no longer performing their role throughout much of the Gulf.

Also of concern noted by seabird biologists was the need for seabirds to forage further abroad which could be linked to the lack of e.g. kahawai, trevally and jack mackerell forcing krill to the surface.

The lack of visible control or restrictions over the take of traditionally non-commercially targeted fish and shellfish must be addressed now as this will become more of an issue with the projections in population growth.

Key recommendation:

- **Need for ecosystem based management**
- **Reduce non-target / threatened species bycatch**
- **promote most sustainable fishing methods within HG**

Sea Birds

Goal Increased numbers of seabirds

Issue

- the need for them to go further afield to feed
- being caught as by-catch in recreational and commercial fishing
- loss of critical breeding and feeding habitat
- introduced predators

Recommendations

- *Establish a research programme to understand the drivers of sea bird foraging further afield such as establishing whether or not fishing down of pelagic species that are responsible for driving krill to the surface is a concern and implementing the appropriate management response.*
- *Support programmes that protect and restore critical habitats and breeding sites*
- *Support a co-ordinated and strategic approach between islands restoration groups to enhance sea bird recovery*
- *Public education and awareness extremely important e.g. DoC radio broadcast of "first bird sightings"*
- *Work to reduce bycatch of any seabirds particularly endangered or threatened*
- *seabirds in the Hauraki Gulf by:*
  - *supporting and promoting the work of industry and recreational collaborations such as the Southern Seabird Solutions and the black petrel accord and*
  - *set up education programmes to ensure recreational fishers know how to release caught seabirds and release them safely*
  - *Ban unattended set nets*
- *Establish best practice to safeguard the RAMSAR site and support mangrove control to prohibit further encroachment*

Key recommendation:

Reduce bycatch from all sectors

Continue to protect important habitats / breeding sites

Marine Mammals

Goal Increase abundance of Marine Mammals

Issue Bryde's whales

- Critical threatened nationally. Less than 250 individuals, 46 are resident in the Gulf. 44 recorded fatalities since 1989 in the Gulf
  - Ship strikes - 85% of the identified causes of whale deaths
  - Entanglement in fishing or aquaculture equipment
- Level of incidental mortality is considered unsustainable
- Chronic disturbance from marine mammal tourism sector

Recommendations

- *Reduce ship strike of Bryde's whale by mandatory reduction in ship speed to 10kn within the key Bryde's Whale habitat*
- *Promote modified gear to reduce consequences of entanglement and by-catch*
- *Establish critical Bryde's whale areas and ban nets in those areas*
- *Restrict the number of marine mammal tourism permits within the Hauraki Gulf. Base decisions on lessons learned from the Bay of Islands.*
- *Ban aquaculture in areas known to be of importance to Brydes whales*
- *Investigate whether it is necessary to establish the whole Hauraki Gulf as a marine mammal sanctuary*

Key recommendation:

- **Mandatory speed reduction 10 kn in Brydes areas**
- **Ban aquaculture in areas known to be of importance to Brydes whales**
- **Appropriate marine tourism management**

Stewardship

Goal Create a culture of kaitiakitanga (stewardship)

- Increase public recognition of the importance of the Marine Park and that it belongs to everyone.
- Foster a sense of stewardship and an understanding that everyone has a part of play to look after the Gulf. Build an informed and educated public

Issue Lack of visibility and knowledge of the issues

Recommendations

- *Create a public awareness and education campaign to promote duty of care for the Hauraki Gulf. Create a "Hauraki Gulf culture" using a language people can understand*
- *Educational material and schools programme*
- *Pictorial signage at wharfs, boat ramps, on boats*
- *Evidenced based information about declining biodiversity – as well as the success stories of island restoration and what is being achieved*
- *Promote methods of fishing that do not catch seabirds or other species or have other negative impacts like bottom trawling for scallops*
- *Educate about importance of avoiding work-ups and avoiding marine mammals*
- *Educate about the need to return large fish to the sea to balance the ecology – breeding as well as for kelp forest recovery*
- *Biodiversity education through experiences and promote importance of marine reserves e.g. EMR work (experiencing marine reserves)*
- ** Create areas internationally regarded for recreation to support a thriving tourism industry*

Key recommendation:

Build an informed and educated public. Create a culture of kaitiakitanga (stewardship) by everyone who lives and plays on, looks at, makes a living from the HGMP

Issue Light and sound pollution

Chronic disturbance from light and sound pollution was not covered in depth in the RT but was mentioned in discussion between members which acknowledged the disruption caused by both light and sound but no presentations were received by the RT due to time constraints.

Recommendations

- *Prioritize research into the impacts of light and sound pollution and create a management regime accordingly*
- *Encourage the implementation of movement sensors on wharfs to regulate and reduce excessive light emissions.*

Issue: The RMS Niagara

On 19 June 1940 the RMS Niagara left Auckland and off Bream Head, Whangarei, she struck a German mine and sank in 121 metres of water. The wreck remains on the sea floor, is known to be leaking fuel and is considered to be an environmental time-bomb. Given the known amount of fuel remaining on the wreck, the RT recognised the potential and real threat this wreck poses and that investigations on determining the risk the wreck poses need to be undertaken as a matter of urgency.

(Note: Links to infrastructure as the shipwreck is also located in the cable zone / shipping lane)

Recommendations

- *Prioritize funding to undertake risk assessment (at the government's cost as the wreck belongs to the government) to determine the amount of oil left and threat it poses*
- *Determine cost for removal of oil*

Issue: Climate change and sea level rise

Biosecurity

Goals Eliminate or manage existing pest species. Reduce impact of new invasive species.

Issue Invasive species can kill or outcompete our native species threatening industry and biodiversity

Recommendations

- ***Establish joint pest management plans and joint pathway management plan between Auckland Council, Waikato Regional Council, Ministry of Primary Industry, Department of Conservation, Northland Regional Council and Bay of Plenty Regional Council by 2016*** **to establish a comprehensive protection regime e.g. hull inspections**
- *Raise awareness through the marina and boating community for voluntary measures e.g. Pictoral photos, issues and what to do about it!*
- *Establish management of mooring movement*
- *Mandatory cleaning of boat and equipment*
- *Maintain existing pest free Islands and enhance eradication programs for other Islands and main land areas* - See relevant CMS policies
- *Establish pictorial signage at wharfs, boat ramps, on boats to educate and raise awareness*
- *Establish an accreditation or certification scheme for example "we are pest free"*
- *Establish better controls on introduced products i.e. freezing times/temperatures for pilchards to kill parasites/viruses/bacteria MPI (flag on risk assessment with MPI)*
- *Establish more effective monitoring and enforcement of biosecurity threats*
- *Restrict movement of high risk vessels like barges that have not been inspected to prove they are pest free*
- *Establish an Information network on pest species management across New Zealand*

Key recommendation: Co-operation and co-ordination of pest-management practices across all New Zealand ports is essential.

Rebuilding populations and restoring and protecting habitats is critical to protecting and conserving marine biodiversity. The control of inputs into the marine environment from various land-based activities and reducing extraction of commercial and recreational target species is necessary to reverse decline in species abundance

Thank you to RT members and support staff

Round-Table members	Sector/Interest Group
• Alison Henry	Co-chair Community interests
• Katrina Goddard	Co-chair Forest and Bird, Environmental interests
• Alan Proctor	SWG (recreational fishing)
• Matt Ball	SWG (shipping)
• Dave Kellian	SWG (commercial fishing)
• Lucy Tukua	SWG (mana whenua)
• Barry Torkington	Recreational fishing
• Kirsty Woods	Iwi Commercial fishing
• Sue Neureuter	Island/community
• John Burton	Freshwater/land use
• Arthur Hinds	Freshwater/land use
• Dr Roger Grace	Environmental / science
• Daryl Bird*	Tourism

Administrative staff	
• Rebecca Barclay	Auckland Council, Roundtable facilitator
• Clinton Duffy	Department of Conservation, Technical support
• Jan Maginley	Auckland Council , Administrative support

Tai Timu Tai Pari

Sea change

Hauraki Gulf Marine Spatial Plan

End of Report

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