

Sea Change
Hauraki Gulf Marine Spatial Plan
Tai Timu Tai Pari

Water Quality and Catchments Roundtable Findings
February 2015

In partnership with mana whenua and the following agencies:

Hauraki Gulf Marine Park
Ko te Pātaka kai o Tīkapa Moana
Te Moananui a Toi

Hauraki Gulf Forum
Tīkapa Moana
Te Moananui a Toi

Ministry for Primary Industries
Manatū Ahu Matua

Department of Conservation
Te Papa Ataturangi

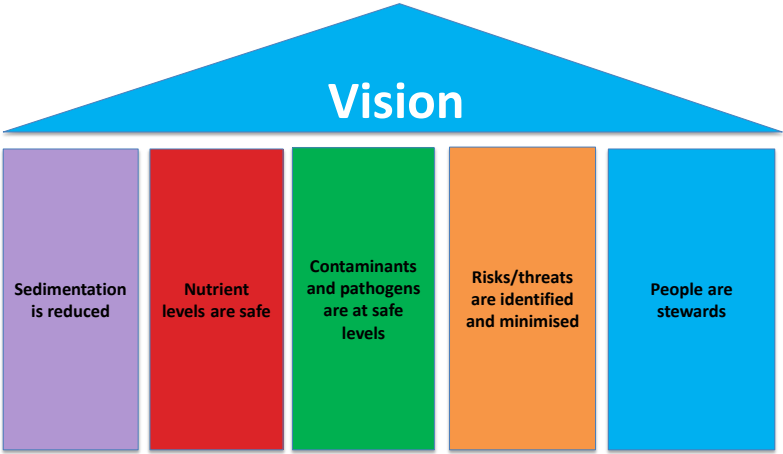
Waikato
REGIONAL COUNCIL
Te Kaitiaki a Matarua

Auckland Council
Te Kaitiaki a Matarua



Vision
Water Quality and Catchments

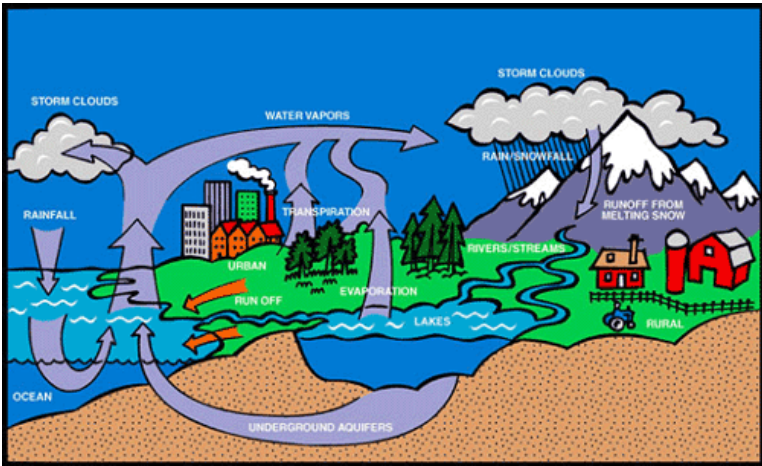
The waters of the Hauraki Gulf
are increasingly healthy, resilient and full of life.
People are strong kaitiaki, lifting its mauri



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World view- Ecosystem



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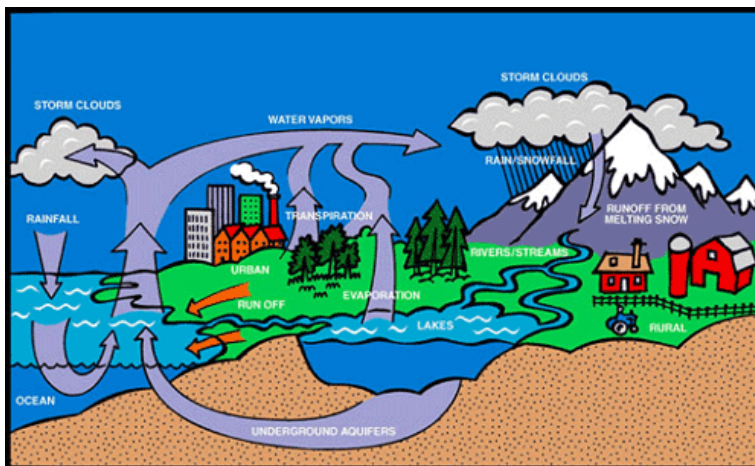
It's simple?

- Rain
- Geography
- Land Use (Rural, Urban)
 - sediment, nutrients, & nasty's
- Some ends up in the sea. (Complex eco-system)
 - capacity to process some sediment
 - capacity to process nutrient with unknown limits
 - capacity to disinfect at fresh to salt

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World view- Mauri



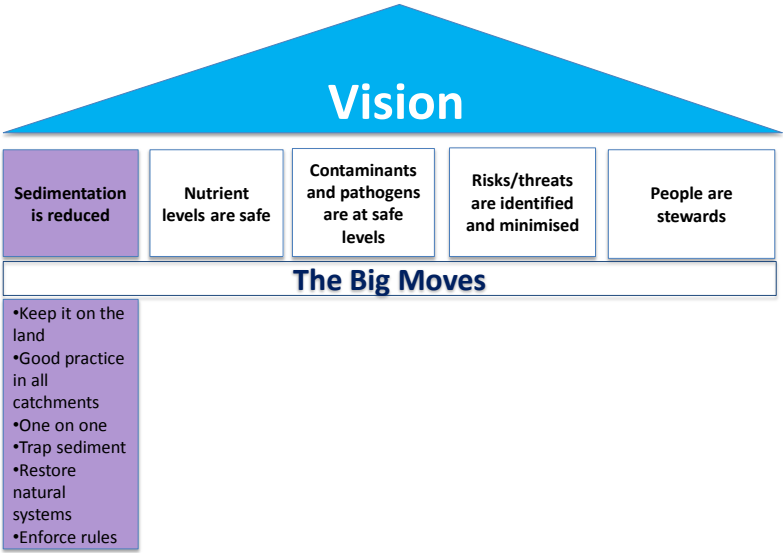
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- Sediment – in places there is too much



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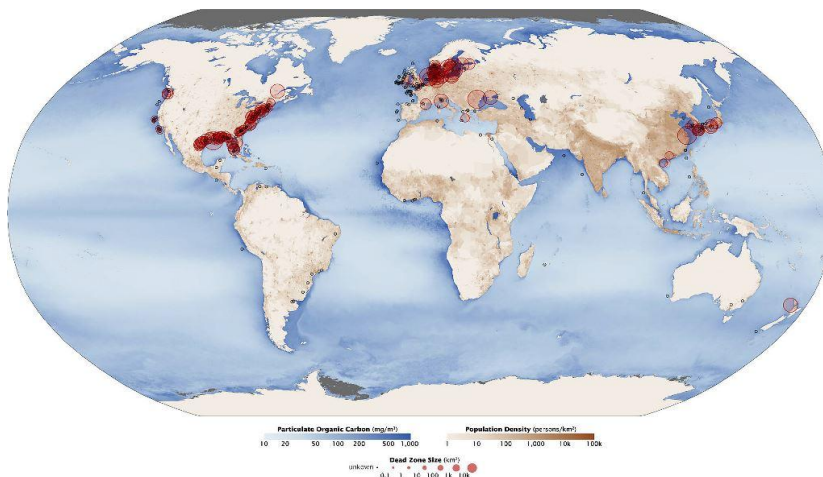
Nutrients

- Come from ocean upwelling and from land. Promote the growth of phytoplankton which is the basis of the marine food chain.
- Too much nutrient can cause excessive phytoplankton growth - when they die - decompose depleting oxygen and generating carbon dioxide which acidifies the seawater - damaging marine life. (405 known dead zones globally in 2008)
- Some evidence this could be a problem in the Firth of Thames due to the lower level of flushing, and the levels of nutrient from the Hauraki Plains rivers.
- Urgent monitoring and research is needed to establishing the safe nutrient processing capacity of the Firth of Thames.
- Getting this right benefits both the water quality vision and the farming sector.

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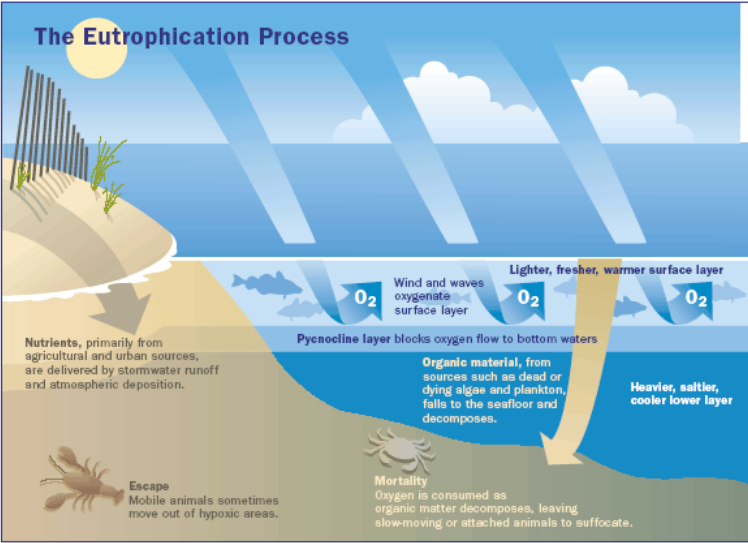
Global Dead Zones





Nutrient sources and loadings to the Gulf and Firth
– Gulf ocean-driven, Firth catchment-driven.

System	Volume (km ³)	Catchment inorganic N load (t N y ⁻¹)	Catchment organic N load (t N y ⁻¹)	Ocean inorganic N load (t N y ⁻¹)
Firth of Thames	16	3700	900	600
Hauraki Gulf	82	800	150	8200

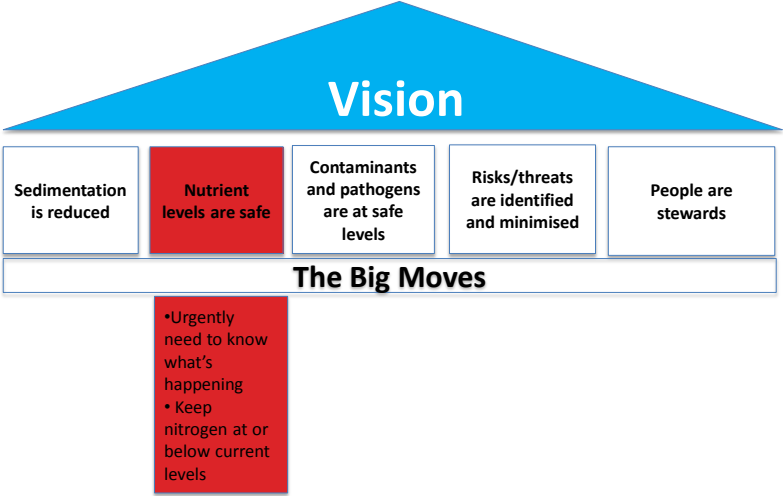




- Nutrient – Need to know how much is too much



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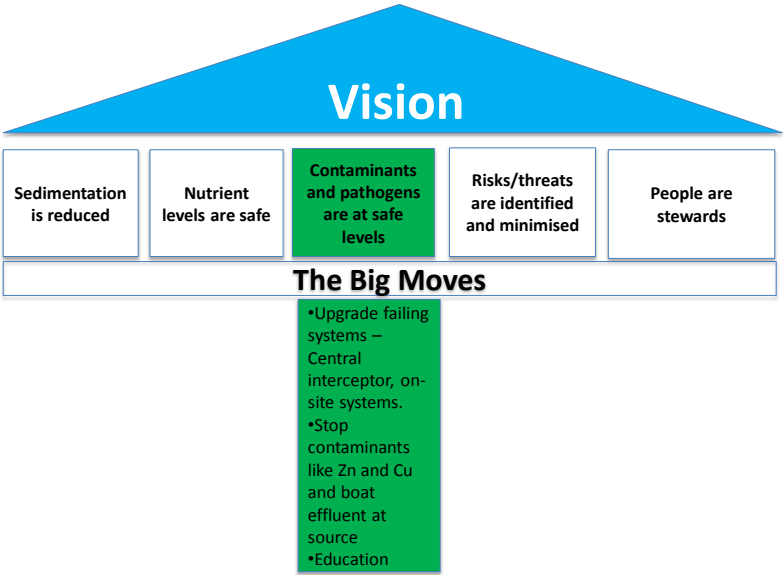
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- Contaminants and pathogens – some hot spots



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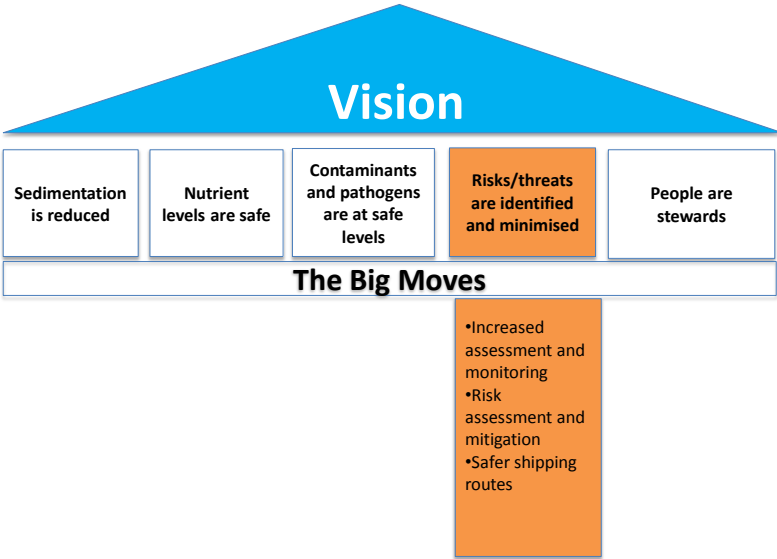
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- Risks/threats – manage in advance



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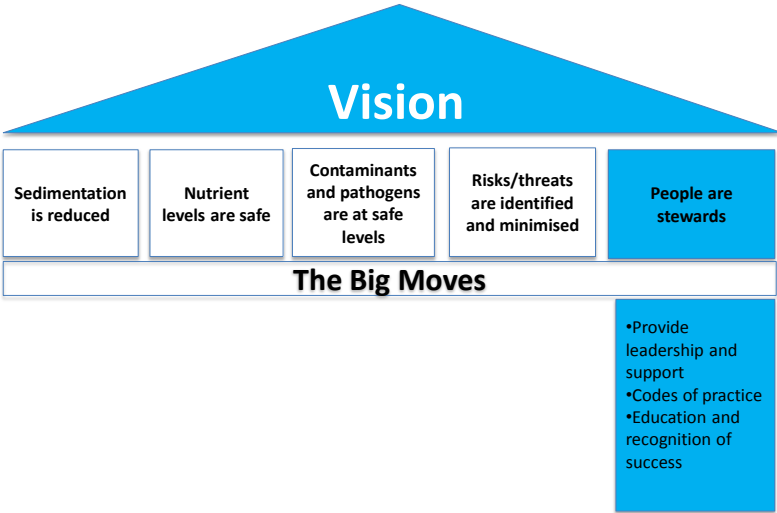
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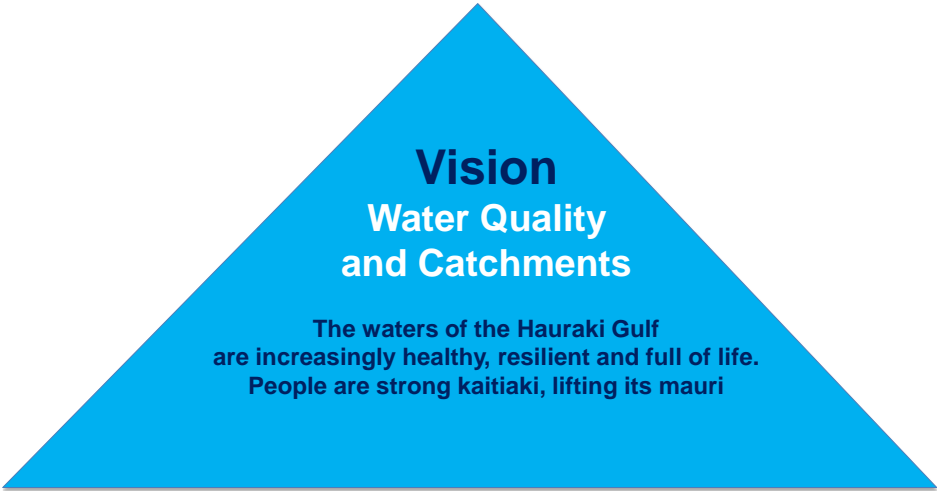
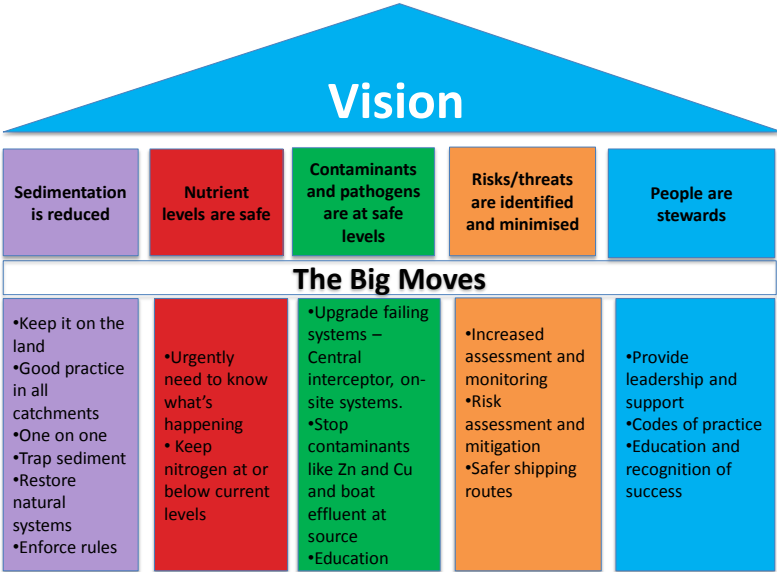
- Stewardship – we all can help



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End of Report

Water Quality and Catchments



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