



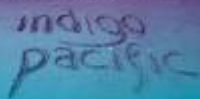
MarineWatch, Marine Surveying & Monitoring

Photograph © Indigo Pacific



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MarineWatch
counting on people



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TAURANGA
Te Kuratini o Poike

Karakia

- Ko Rangi
- Ko Papa
- Ka Puta ko Rongo
- Ko Tanemahuta
- Ko Tāwhirimātea
- Ko Tangaroa
- Ko Haumietiketike
- Ko Tumatauenga
- Ko te Rangi ki runga
- Ko te Papa ki raro
- Ka Puta te ira tangata
- Ki te whaiao, ki te ao marama
- Thei mauri ora



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MarineWatch



Yellow Zooanthids – Poor Knights Islands

Photograph © Indigo Pacific

- In Aotearoa we are surrounded by sea.
- Many people don't realise there is a whole other world to explore beneath the oceans surface.
- The sea is full of weird and wonderful underwater creatures.
- Being part of MarineWatch is one way for you to explore the ocean.
- MarineWatch is about learning what marine creatures live along our coast.



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Kaitiakitanga - People & the Sea



Photograph © Indigo Pacific

- MarineWatch is about building relationships between people & the sea.
- Increasingly we are recognising the importance of the ocean as a taonga or treasure that must be cared for.
- Acting with a spirit of Kaitiakitanga or guardianship is one way in which we may work towards resolving the oceans environmental problems.



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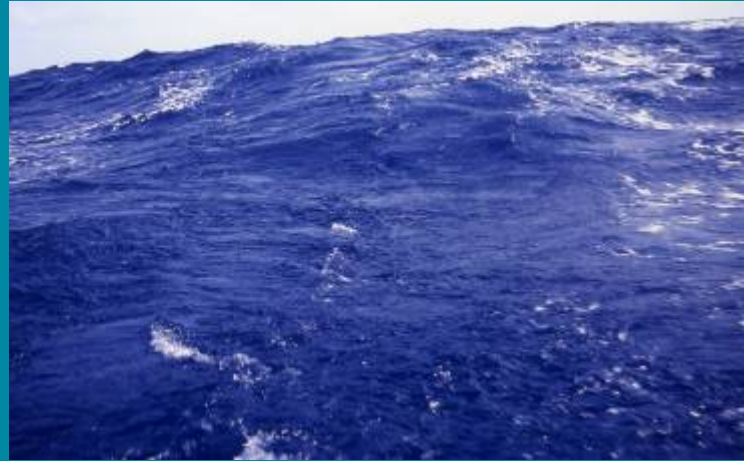
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What we don't know?



- There are huge gaps in our knowledge of the sea and life that lives there.
- MarineWatch aims to contribute to our collective body of knowledge through teaching us to observe and record what we see.
- MarineWatch is about looking in the sea to find out more!
- We are interested in what animals and plants are living there, how many of them there are and in what sort of conditions they live. Scientists call this "marine surveying".

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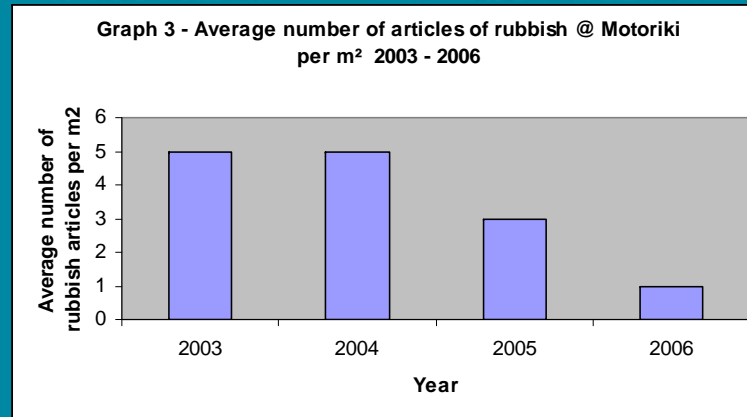
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Information collection



- **What can we do with MarineWatch information?**
- Information collected in MarineWatch surveys can be entered onto computerised spreadsheets.
- Data from each year can be entered & then compared with the previous year
- Knowing what marine life lives in an area means we have a better chance of seeing any changes that may occur.

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Who started MarineWatch?



- MarineWatch was begun and funded by the Department of Conservation
- The Bay of Plenty Polytechnic Marine Studies Department were contracted to develop initial training material
- Subsequent materials have been developed by indigo pacific for Department of Conservation

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MarineWatch Aims



Photograph: Pongakawa school during pool training for the Rocky Reef Snorkel Survey - Photograph © Indigo Pacific

- Develop individual and collective knowledge about the marine environment through observation, experience, surveying and monitoring
- Empower local communities with knowledge, experience and strategies for action to achieve marine conservation aims
- Encourage environmental education and action for the environment



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Marine Surveying

- MarineWatch is about looking in the sea to find out what's there which is also called **MARINE SURVEYING**
- Look at the picture on the right: What is the scientist actually doing in this picture?
- What do you think might be hard or easy about surveying underwater?



Photograph: Conducting a marine survey using underwater paper, quadrat and scuba gear

Bay of Plenty Polytechnic



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Marine Surveying

- When doing a marine survey we might look at:
 - **Species diversity** – what animals and plants are living at a site, or
 - **Species abundance** – how many animals and plants are living at a site, or
 - Some marine surveys might measure the **size** of animals or plants as an indication of the health of an area or population.
 - A marine survey is a one off **snap shot** of marine life.
 - If we carry out a survey more than once over time then this is known as **marine monitoring**



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Problems for marine surveyors

- It is hard to collect good information and conduct quality surveys. Some problems encountered by marine surveyors include:
 - Getting the right survey design
 - Being rigid and strict in how the data is collected – making sure it is good data!
 - Getting cold and working in tough conditions
 - Observer bias – some fish for example like people others don't – how do you make sure you count what's really there? How do you also make up for the fact that some people might be better at it than others?
 - Bad visibility
 - How do you know what influence tides, currents, weather conditions etc have on your results?



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