

Estuary Survey



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POLYTECHNIC
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
- Tīhei mauri ora



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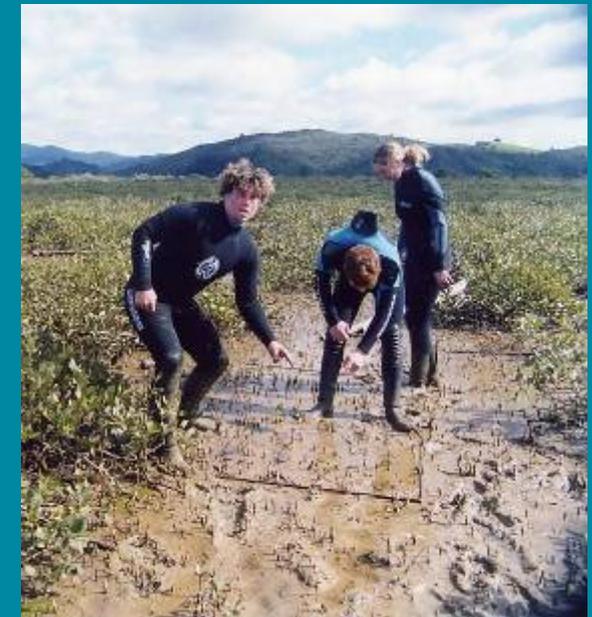


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Aims of the estuary survey

- To look at what animals and plants live in the estuary or harbour
- To look how many animals (such as pipis) there are
- To see where animals and plants live between the high and low tide line
- To look at changes over time
- AND to get our feet wet and have fun



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Why observe marine life?

- There are all sorts of interesting things we can see from just observing marine life.
- For example we might observe the movement of an anemones tentacles or how the animal turns into a tight ball if disturbed.



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Why observe marine life?

- We might spend time observing the mud whelk and watch its seek out sick and dying shellfish.
- These animals are scavengers and get together to have whelk parties.
- They seek out sick and dying shellfish and do a good job of cleaning up the seashore, before they go rotten and start to smell!



Photographs © Tony & Jenny Enderby

Estuary Survey

- We can use the estuary survey to look at diversity, abundance and zonation of key estuarine animals and plants.
- Every scientific survey has a question that it aims to answer.
- For example, the question might be, how many mud snails are there per meter of mudflat? Or how many species of reef fish can we find on a section of reef?
- In the case of this survey we are interested in the diversity, abundance and distribution (or zonation) of estuary animals and plants between high and low tide.



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What can we learn?

- From this survey some of the things we might discover include:
 - The diversity of flora and fauna and how this alters over time
 - The density and zonation of estuary animals
 - The zonation and percentage cover of estuary plants
 - Changes in the cover and zonation of estuary plants
 - Changes in the density and zonation of estuary animals

Recording changes over time

- If we repeat the survey more than once we can look at changes occurring in our area with time.
- Schools have the perfect opportunity to do this as surveys can be timetabled for the same time each year!
- Surveying marine life for changes over time is called monitoring.
- By monitoring an area we may find for example, a reduction in mud snails or a complete absence of cockles where once there were many.
- Ideally we will survey the same site at least once a year to look for changes.



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Collecting quality data

- To get good results we have to try and keep as many factors the same as possible.
- If we are to monitor changes over time then we need to make sure that:
 - The survey is conducted in the same way each time
 - The same site is surveyed
 - The survey is done at roughly the same time each month or year (for example, this might mean doing the survey at the beginning of every March.)
- **Why do you think it might be important to keep factors the same?**



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Interesting comparisons

- If you are working with a marine reserve or marine protected area it can be interesting to survey different sites and make comparisons.
- To do this, we can monitor sites of similar habitat inside and outside the reserve to make comparisons.
- This picture was taken at a site where a rahui had been placed on mussel collecting. Mussels recovered fast and were more abundant than surrounding areas.
- Perhaps because the mussel population was booming – large numbers of reef and spiny stars were also observed.



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