Hauraki Gulf Monitoring Project

Classroom Introductory Activities – Primary Schools

All schools are welcome to participate in the Hauraki Gulf Monitoring Project. These activities will help develop background understanding about the local environment and assist with planning a field trip to the shoreline to do a Marine Metre Squared survey.

Activity #1: Introduction to the Hauraki Gulf
The Hauraki Gulf is an extremely special place which is called home by thousands of species. Here is a video by the young ocean explorers which is a great introduction to the area! The Incredible Hauraki Gulf

Activity #2: Introduction to Mm2
Marine metre squared is a tool to examine what is living on a shore of any type, be it muddy, sandy or rocky. This can then be used as a tool to see how the species that live on a shore change over time. The Mm2 Website stores all of the mm2 data entered and this allows us to compare data over time and between locations.
To enter data for the Hauraki Gulf Monitoring Project you will need to have a registered login, it is easiest if you (the teacher) have one login that all the students use. When you make your login please email the New Zealand Marine Study Director Sally Carson at sally.carson@otago.ac.nz so that your registration can be approved.

On the MM2 website there are resources which can help introduce your class to the idea of the project. Some notable ones are linked below
Northern Rocky Shore Guide
Northern Sandy/Muddy Shore Guide
Videos in the Resources section of the Mm2 Website

Activity #3: Understanding the importance of the Hauraki Gulf/Tīkapa Moana/Te Moanauni-ā-Toi

The Hauraki Gulf is part of the landscape of Auckland. How many of you have been to the seashore? Swum in the waters of the Gulf? Or been on a boat in the Gulf? What three words would you use to describe it?

In 2-5 minutes, create a mind map of all the ways in which the Hauraki Gulf influences the lives of Aucklanders. Some things to think about could be:

- Food – what seafood do you eat from the Gulf?
- Play – how do you and others use the Gulf for recreation?
- Jobs – what industries rely on the Gulf?
- Visitors – what attracts people to the area?
- Marine life – what types of animals / plants call the Hauraki Gulf home?

Activity #4: Who lives in the Gulf?

Monitoring the animals/plants living in the Gulf, and how their numbers have changed over time, will help us in understanding the health of the environment. .

Make a list of marine animals and plant you expect to find during our shore survey. What might these animals/plants need to survive?

Hauraki Gulf Monitoring Project

In 2020, the Hauraki Gulf Marine Park marked its 20-year anniversary! However, the 'State of the Gulf' report highlighted a number of concerns... There have been large decreases in populations of fish, shellfish and other kai moana as well as birdlife over the past 20 years.
There were multiple newspaper articles written about the report including:

- RNZ -Report Paints Grim Picture of Hauraki Gulf Marine Park
- Newshub - Pretty Embarrassing: The Poor State of the Hauraki Gulf
- NZ Herald - State of the Hauraki Gulf: Crayfish in peril, snapper just hanging in there

We need to better manage and look after OUR Hauraki Gulf and you all have a role to play! One way we can do that is by gathering further information about the different plants and animals (biodiversity) living in the Gulf. Learning about the biodiversity and measuring how populations changes over time – is like a health check for the Gulf.

Review the mind map you just completed, do these activities affect the health of the Hauraki Gulf and the marine life you just listed? Add a √ next to the activities you think are good for the marine life, and an X to the activities that may be harmful and ? if you are unsure.

Resources to Use:

- To help you get familiar with the idea of marine pests, watch this short video from the Ministry of Primary Industries Help 'kina' fight marine pests.
- Sound scape of the Hauraki Gulf Underwater racket from ships in Hauraki Gulf Affecting Marine Life
- State of the Hauraki Gulf (both full report and summarised version available) – https://gulfjournal.org.nz/state-of-the-gulf/
- Hauraki Gulf marine life - beautiful posters (some are interactive!)

Activity #5: Learning about Marine Metre Squared

A tool we can use to find out more about changing species over time is through Marine Metre Squared, a citizen science project which uses quadrats (like a scientist) to investigate what lives on our shoreline. You can find out how to do a Mm2 survey by watching these videos here: How to do a rocky shore survey and how to do a sandy/muddy shore survey. As you watch the videos, think about why we might use a quadrat instead of sampling the whole shoreline!

Question - A science investigation usually starts with a question… what questions do you have about the marine life of the Hauraki Gulf? Brainstorm with your classmates or family and write down your questions. For example:

- What animals and plant are common on the shore?
- Do you find different critters on different seashore types (e.g. soft vs rocky)?
- Do you find different seaweeds at different times of year?
- Is one type of animal more common that another?
- Are there less species in a location where there are more waves? Are there less species in locations where there are more people visiting?
- How many marine pests do you think you'll find?

Skills - Since you are thinking like scientists, in 2-5 minutues, make a list of skills you think you need to have as a scientist. Teamwork is also a very important part of science so in 2-5 minutes, come up with some ideas of what qualities/things you need to do in order to work together as a team.

Resources to Use:

- To find out more about quadrats, and how they are used by scientists, see Science Learning Hub: Quadrat.
- You can have a go at making your own quadrat either with rope (instructions here) or plastic pipes and elastic (instructions here).

Activity #6: Planning your expedition to the shore

We have gone through a lot of background knowledge covering the Hauraki Gulf and some of the issues it faces. Now it's up to you, as citizen scientists, to plan out your investigation to the shore later in the year (using the attached document 'HGMP Planning Template', ideally print as A3).

First you need a research question – one of the main questions we want to focus on is on the impact and spread of marine pests in the Hauraki Gulf. You may also have additional questions – what else do you want to find out from your trip/s to the shore? What is your motivation for going? Review your questions listed in Activity 5.

Then you need to think about how you are going to answer the question – planning of your study. When should we go to the shore? Where should we go? What equipment will we need? What information will we collect? Who can help us? Who might be interested in what you are doing?

NEXT STEP: Mm2 survey on your local seashore. Go to www.mm2.net.nz for further direction and resources.