



Hauraki Gulf Monitoring Project Progress Report, November 2017

Foundation North provided the New Zealand Association for Environmental Education (NZAEE) with funding in November 2017 for a citizen science seashore monitoring programme in the Hauraki Gulf, Auckland using the Marine Metre Squared (Mm2) Project as an extension to Seaweek 2017 into place-based action. This funding has just been extended into 2018.

The Marine Metre Squared Project - Ngā Tini o te Waitai

Marine Metre Squared (Mm2) is a citizen science project owned and managed by the New Zealand Marine Studies Centre, University of Otago. It is an easy way for anyone to survey the plants and animals living on their local seashore and participate in long term monitoring of their marine environment.

Literally, the statement Ngā Tini o te Waitai translates as “the multitudes of the sea water”. Waitai refers to salt water or sea water. Tini means crowds or a great number. Tini also connects to Tinirau, who in Māori myth descended from Tangaroa (the god of the sea) and is the father of fishes. Used in conjunction with the Marine Metre Squared name, it describes the environment and what we are hoping to understand and look after through this project.

Outcomes

It is intended that the data collected will contribute to both the community and those managing the Gulf understanding better the impacts and issues affecting the Hauraki Gulf in the long term, and what changes are taking place affecting seashore ecology.

It is recognised in the Sea Change - Tai Timu Tai Pari - Hauraki Gulf Marine Spatial Plan that environmental education both inside and outside the classroom is important for present and future generations, for unifying a ‘sense of place’ and should be encouraged.

Seeking opportunities for citizens to contribute to the research effort in understanding the impacts happening in the Gulf and adding value to research projects by involving community groups are other key recommendations of the Plan. It is recognised that harnessing the hearts and minds of the community and mana whenua and unifying a ‘sense of place’ and purpose are the keys to the future health of the Hauraki Gulf Marine Park. Opportunities to participate in kaitiaki/guardianship activities such as community shellfish monitoring and planting on islands or in catchments is one of the objectives of the Plan. The Hauraki Gulf Marine Metre Squared Monitoring Project is one such opportunity for children, their parents and wider community to engage with collecting useful data about their local marine environment and exploring the impacts that human activities are having on it - and what they can do to encourage positive change and develop a sense of kaitiaki / guardianship.

Using Seaweek as a vehicle to both recruit groups for the monitoring project, and to celebrate their work and connection to their local marine environment through events and activities that appeal to their wider community, will ensure that the two projects have mutual and cumulative benefits that expand on their individual impacts and link communities around the Hauraki Gulf with a kaitiaki / guardianship purpose to care for it.

Progress November 2016 to November 2017

The 'Preparing for Seaweek' 2017 and 2018 workshops and the Auckland Regional Coordinator's networks have been used to recruit school and community groups to join the programme and commit to long term monitoring of their local seashore. Auckland Council Enviroschools Coordinators are also encouraging schools to participate in the programme.

A number of groups in four general areas of the Hauraki Gulf joined the programme in 2017. These areas are in Devonport, Pakuranga, Beachlands/Maraetai and Colville. The groups involved included 6 schools, 7 pre-schools, a Sea Scout group and the wider community. Auckland Council Park Rangers have also been supporting the fieldwork in the Beachlands/Maraetai area. Uptake of the programme in 2017 has been implemented in full by 6 schools. The pre-schools have not yet participated and the Sea Scout group are planning to join for 2018.

Expressions of interest to join the 2018 programme have already been received from six schools and groups in Waiheke Island, Torbay, Takapuna, the Tamaki Estuary, Brookby and the Te Puru Sea Scouts. Recruitment is proceeding with these groups at present.

The Mm2 project is supported by the New Zealand Marine Studies Centre (NZMSC), based at Otago University and Director Sally Carson is supervising implementation of the programme by the Seaweek National and Auckland Coordinator

Dr Mels Barton. NZMSC are providing resources, shore identification guides and the database which holds the data collected, plus technical support to the Project Manager. NZMSC has a small grant with DOC's Community Conservation Partnership fund to use Mm2 to support regions across New Zealand to increase understanding of the local environment but also collect relevant data that could lead to improved management of the coast and influence environmental changes.

The programme involves up to 6 visits per school / group by the Project Manager to support their data collection, uploading and processing of data over the period of about a year. Key questions that each group will address are:

- Why should we engage with this project?
- What does this information tell us about our marine environment?
- What is having an impact on our marine environment?
- How can we better understand what is affecting our marine environment?
- What can we do to help restore our coastal environment?

The intention is that after the first year these groups will be confident enough to collect future data sets on their own and will be involved in community action projects related to their site. The results will be shared with the wider community in each area.





Group 1: St Leo's Catholic School, Devonport have completed the whole programme. The entire school came to the beach for the first fieldwork day and the 30 senior students completed five Mm² squares, supported by their teachers and parent helpers. A smaller group completed four squares on the second fieldtrip. The seniors were lucky enough to have NZMSC Director Sally Carson run their comparison and sharing session to look at their data. It is hoped that the school will use the experience upon which to base an activity during Seaweek 2018 and continue to monitor Torpedo Bay in future.

Group 2 - Sunnyhills School, Pakuranga have received an introductory teacher briefing session and the 20 students collected and uploaded their first data set of five Mm² squares. Their fieldwork was delayed by a cyclone earlier in the year so they plan to collect their second data set in term 1 of 2018.

Group 3 - Beachlands Intermediate School have received an introductory teacher briefing session, and have collected and uploaded their two sets of field data. Over 120 students participated in the first fieldwork day plus 14 teachers and parent helpers and 14 Mm² squares were completed. The second fieldtrip involved 32 students who collected 12 data sets. Their sharing and data comparison session is planned for term 1 2018.

Group 4 - Colville School, Colville Harbour Care and the Colville community have completed the whole programme and have been extremely enthusiastic about participating in this project. They have obtained their own funding and recruited an Environmental Coordinator to work with the community on protecting their catchment. Representatives from Moehau Environment Group and Waikato Regional Council also attended the briefing session. The Colville school has 30 pupils aged 5-13 and the whole school participated in collecting the first set of data which comprised seven soft shore and four



rocky shore Mm² squares. The second fieldtrip took the seven keenest students who collected two soft shore Mm² squares and the senior class participated in the data sharing and comparison session. The school Principal and the Environmental Coordinator are discussing ideas for participating in Seaweek 2018.

Group 5 - Maraetai Beach Primary School have received an introductory teacher briefing session and collected and uploaded two data sets with 40 students completing eight Mm² squares twice. Their data comparison and sharing session is planned for December 2017.

Group 6 - Bucklands Beach Primary School have received an introductory teacher briefing session and collected and uploaded one data set with a second fieldtrip and data upload session planned for December 2017. The 30 students have uploaded four Mm2 data sets to date.

Te Puru Sea Scout Keas group have received an introductory teacher briefing session and plan to have their first data collection fieldtrip in February 2018.

Te Puru Community Centre has coordinated and supported the work of Beachlands Intermediate, Maraetai Beach Primary and Te Puru Sea Scouts and enabled additional support from the Auckland Council Regional Parks Rangers to be available to help with fieldwork. They continue to advocate uptake of the programme to other schools in their area.

Takapuna GIFT Education have an introductory briefing session booked for all their staff for December 2017 and this brand new school for gifted children is keen to participate fully as soon as their first students are enrolled.

Workshops

Sally Carson, Director of the NZ Marine Studies Centre held a teacher workshop at Te Puru, Maraetai to educate participants about the context for and use of data collected using Mm2 and raise awareness of invasive species during the winter of 2017.

Teacher workshops to support a new resource for Year 11 on Ocean Acidification took place around the country, including in Auckland and Northland in October-November 2017.

Mm2 featured at a citizen science conference (keynote presentation and fieldtrip) hosted by the Mountains to Sea Education Trust in Northland (Leigh 21-23 April 2017) and a Mm2 workshop was held in Whangarei at the beginning of May.

Resources

All the groups were provided with a class set of NZMSC seashore identification guides, comprising Rocky Shore Guide, Sandy / Muddy Shore Guide plus Te Reo versions of both guides. They have also received a full set of the Hauraki Gulf Forum poster series (six years of three posters per year) and a set of NZMSC workbooks (Rocky Shore Activity Book, Mudflat Mysteries Activity Book, Rocky Shore Colouring Book). All these resources have been funded by organisations other than Foundation North to date. A new resource in the form of an Activity Book to show how Mm2 can address environmental issues is proposed but requires funding to progress.

All the groups were provided with a Mm2 field kit comprising a metre squared made of plastic pipe, bucket, sieve, trowel and sample tin. Another 20 kits have been purchased to lend to groups as required to complete their first year's fieldwork.



Impact

There are now 498 individuals and groups registered for the Mm2 project in the Auckland Region (a 46% increase on the 340 in 2016) and 139 in Northland (a 40% increase on the 99 in 2016) indicating the level of interest in the project and the success of using both Seaweek and the Hauraki Gulf Monitoring Project in these regions to actively promote it.

In Auckland the number of groups uploading their data has increased from only 48 (10%) in 2016 to 126 (25%) in the year to November 2017, with 73 of those data sets being as a direct result of this project. In Northland as contrast only 2 groups have done so, which is significantly below the national average. This shows that additional support, such as is being provided by this project, is needed to effectively engage these groups and individuals in taking action for their environment.

To date:

- Six schools and community groups have committed to and are undertaken monitoring, with a further six schools/groups keen to be involved in 2018.
- Four schools (237 students and 36 adults) have done two field trips and have uploaded data.
- Two schools (50 students and nine adults) have done one field trip and have uploaded data.
- Two of the above schools (77 students and three adults) have done data comparisons and discussions.
- TOTAL: 287 students and 47 teachers/parents have participated in the programme.

Evaluation

An evaluation methodology has been developed to measure outcomes of the project and teachers in the groups have already provided pre-survey evaluation form data. Post-survey evaluations will be performed at the end of their first year and analysed so that a report can be produced for April 2018.

Next Steps

The rest of 2017 and term 1 of 2018 will be spent supporting these initial 6 groups to complete the programme and encouraging them to participate in Seaweek 2018. The Beachlands / Maraetai group already has the Pohutukawa Coast Times local paper interested in their work and two articles have been published on the project in March and April 2017.

Workshops have been held in the Auckland Region in November 2017 which have encouraged a number of new groups to consider joining the project. These new groups will be supported during 2018 to complete the project, with the aim of participating in Seaweek 2019 with their communities.



Thanks to Foundation North and the New Zealand Marine Studies Centre, Otago University for supporting this monitoring programme.

