



## Hauraki Gulf Monitoring Project Progress Report, May 2018

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 (Mm<sup>2</sup>) Project as an extension to Seaweek 2017 into place-based action. This funding has been extended into 2018.

### The Marine Metre Squared Project - Ngā Tini o te Waitai

Marine Metre Squared (Mm<sup>2</sup>) 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 family/whanau 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 May 2018

The 'Preparing for Seaweek' 2017 and 2018 workshops and the Auckland Regional Seaweek 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 and this has expanded into four more areas in 2018. These areas are in Takapuna/Devonport, Torbay, Waiheke Island, Te Atatu, Rosebank, Pakuranga, Beachlands/Maraetai and Colville. The groups involved include 10 schools, a Sea Scout group, two community groups and the wider community. Auckland Council Park Rangers have also been supporting the fieldwork in the Beachlands/Maraetai area. The programme in 2017 was implemented in full by six schools in 2017 and by four more schools and two community groups in 2018. The Sea Scout group has joined for 2018 but are struggling to resource their commitment.

The new Takapuna Academy for Gifted Education school and Torbay Primary School have fully committed to the 2018 programme and have already received their introductory briefing and done their first data collection and upload, plus allocated dates for fieldwork and data analysis for the rest of the year. Te Puru Sea Scouts had their first data collection fieldtrip date planned but had to cancel due to a lack of resources. Waiheke Primary had their introductory briefing and was all set to collect their first set of data on the day the hurricane tore through Auckland, so we now plan to do fieldwork in June and are rescheduling their dates for the rest of the year. The Whau River Catchment Trust has been briefed and ran an event during Seaweek to collect data with the public. They plan to do another session during winter. Community Waitakere's educators

have been briefed and are supporting Te Atatu Intermediate School who have had an introductory briefing and collected and uploaded their first data set.

The Mm<sup>2</sup> 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 Mm<sup>2</sup> 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 six visits per school or 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 Mm<sup>2</sup> 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 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 5 Mm<sup>2</sup> squares. Their fieldwork was delayed by a cyclone earlier in the year and their plan to collect their second data set in term 1 of 2018 was delayed by the weather.

**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 Mm<sup>2</sup> squares were completed. The second fieldtrip involved 32 students who collected 12 data sets. Their sharing and data comparison session is planned for 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 Mm<sup>2</sup> squares. The second fieldtrip took



the seven keenest students who collected two soft shore Mm<sup>2</sup> squares and the senior class participated in the data sharing and comparison session. They are planning some transect investigations for winter 2018 (see attached report).

**Group 5 - Maraetai Beach Primary School** have completed the whole programme with 40 students completing eight Mm<sup>2</sup> squares twice. Their enviro-lead teacher and Deputy Principal are enthusiastic about continuing the project and they have already committed dates and completed more fieldwork in 2018.

**Group 6 - Bucklands Beach Primary School** have received an introductory teacher briefing session and collected and uploaded two data sets. The 30 students have uploaded nine Mm<sup>2</sup> data sets to date and had a data comparison and sharing session in term 1 of 2018. They plan to continue monitoring their local beach and have undertaken a litter clean-up during the summer.

**Group 7 - Te Puru Sea Scout Keas group** have received an introductory teacher briefing session and had their first data collection fieldtrip planned for February 2018 but they have struggled to resource participation and are looking to just train group leaders instead of taking the whole class.

**Group 8 - Takapuna Academy for Gifted Education** has fully committed to the 2018 programme and has already received its introductory briefing session, collected and uploaded their first data set and are planning their next field-rip for June 2018.

**Group 9 - Torbay Primary School** has had their introductory briefing and collected and uploaded their first set of data. Their next fieldtrip is planned for August 2018.

**Group 10 - Waiheke Primary School** has had their introductory briefing and was all set to collect their first set of data on the day hurricane-strength winds tore through Auckland. They will now do fieldwork in June 2018.

**Group 11 - Community Waitakere** educators have had their introductory briefing and will work with

**Group 12 - Te Atatu Intermediate School** who collected and uploaded their first data set in May 2018.

**Group 13 - Whau River Catchment Trust.** This community group's educator has had her introductory briefing and ran a Seaweek event to collect data at Rosebank with the public. They plan to arrange another event later in the year.

**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.

## 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 Mm<sup>2</sup> 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.

Mm<sup>2</sup> 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 Mm<sup>2</sup> 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 Mm<sup>2</sup> can address environmental issues is proposed but requires funding to progress. The Rocky Shore Colouring Book and Mudflat Mysteries Activity Books have both recently been translated into Te Reo.

All the groups were provided with a Mm<sup>2</sup> 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 595 individuals and groups registered for the Mm2 project in the Auckland Region (a 75% increase on the 340 in 2016) and 172 in Northland (a 74% 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 38 in 2016 to 64 (68% increase). The percentage of those registered that are also uploading data is 11%. However the number of Mm<sup>2</sup> surveys has increased to 289 (an increase of 156% from 113 surveys in 2016). In Northland as contrast only 3 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:

- Thirteen schools and community groups have committed to and are undertaken monitoring.
- Five schools (267 students / 44 adults) have done two field trips and have uploaded data.
- Three schools and one community group (70 students / 40 adults) have done one field trip and uploaded data.
- Four of the above (147 students / seven adults) have done comparisons and discussion of data.
- **TOTAL:** 337 students and 84 adults 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 a report can be produced for November 2018.

## Next Steps

The rest of 2018 will be spent supporting the initial six and the new six groups to complete the programme and encouraging them to participate in Seaweek 2019. 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.

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

