Maketu Ongatoro Wetland Society Inc.

Maketu Spit - Biodiversity Management Plan
Annual Report 2014/15

When we started this BMP in 2010, no one had any clear idea of quite how the plan would work out. It looked good on paper, but that is not always an indicator of the actual results. In this instance, the results have exceeded expectations and have, I hope, opened up a door to a new way of developing and expanding the conservation of the unique natural biodiversity of Aotearoa New Zealand.

The BMP has had two major benefits, firstly the environmental benefits of starting to remove the various pest animals and plants from the spit, and giving us a better understanding of how to do this. Secondly it has helped MOWS to develop into a significant local voice for native wildlife.

Now, as we look to renew this plan, we are looking to run three other BMPs this year with the prospect of adding others in the future. In time it may be possible to merge them into a single plan, which would help to avoid administrative and budgeting duplication, and produce even more significant environmental and economic benefits for the community.

Kaituna Rediversion

This major engineering project made significant progress during the year, with the final design being submitted for Resource Consent and a hearing held at Uncle Boys in May. MOWS submission focused on two main issues; the increased pollution that more river water will bring to the estuary and the increased danger of a spit breach being caused by the rapidly expanding flood tide delta. We discussed this latter with the rediversion team and have come to an agreement whereby we/they will monitor the erosion of the spit and should it reach a critical stage, BOPRC will take remedial action. Monitoring started in April 2015 and will continue on a quarterly basis. Results will be noted in next year's report.

Erosion on the inside of the spit.

Signage

In July we erected two new identical signs in the car park in the Kaituna Scenic Reserve at the end of Ford Road. These help to explain the importance of Maketu Spit and the work that we are doing there. We plan to use the same basic design for similar signs at Newdicks Beach and Dotterel Point. We also erected a new DOC dotterel sign made from corten steel, at the Maketu boat ramp, this replaced an existing WBOPDC sign. The cover photo shows this sign

New sign at Te Tumu

Monitoring

Monitoring is an important element of the BMP which enables us to measure, the impact of our work, and to use the information gathered to better direct our work in the future. The two major areas of monitoring are shorebirds and particularly the northern New Zealand Dotterel *Charadrius obscurus*, which breeds at the distal end of the spit, more that 1% of the global population are found there. The other major monitoring operation is for the native shore skink *Oligosoma smithii*, which is found the length of the spit, but especially at the distal end.

While the monitoring of the breeding bird species at the distal end is done on a voluntary basis, the rest of the monitoring operation, reptiles, invertebrates and plants requires greater skill and a scientific approach. With this in mind we have appointed Moniqua Nelson-Tunley as our Scientific Officer to have oversight over all of these programmes.

New Zealand Dotterel

A separate report is attached which summarises the NZ Dotterel monitoring. This indicates that numbers are continuing to increase following the post-Rena low. The increase this year was modest, possibly because the breeding potential of the spit is reaching capacity. As in previous years, actually counting chicks in the well vegetated breeding area makes it difficult to confirm breeding success.

Other Bird Species
Variable oystercatcher had another good year, the number of adults was unchanged, but the number of chicks fledged increased from 10 to 14. We had 38 pairs of black-billed gulls, an increase of 10 over the previous year and 154 pairs of white-fronted terns, up from 125 the previous year. The red-billed gull colony was similar to the previous year and appears top be key in attracting the other two species to breed there.

Shore Skink.
This year we changed the layout of the pitfall traps used for monitoring. This was partly because many at the carpark end were being disturbed by *H. sapiens*. The new layout is a series of small grids distributed along the spit. As the change was made in the autumn we do not yet have any new data. One bit of bad news was the capture of a rainbow skink at the western end on the harbor side of the spit. This was almost certainly introduced in a plant pot as we did a significant amount of planting in this area in 2012/13. We carried out one eradication session in June with no results – this could mean that there are no more rainbow skinks. We will continue the eradication programme through 2015/16 to be sure.

Invertebrates and Vegetation
Funding was not available for this work this year, but has been built into the new BMP which starts on July 1st.

Pest Control – Animals
The pest control programme was similar to last year consisting of a pre-season rodent control operation at the distal end and year round trapping at the two trapping fences. We increased the number of bait stations used in the rodent control in July and August, with 90 stations deployed. This year we added a third much shorter fence on the Papahikahawai Island causeway with a single DOC 200 trap in it which has been a notable success and seems to indicate that hedgehogs are quite capable of climbing up the chicken wire on the gate. We also installed two Good Nature traps on the harbourside, one with rodent lure, the other with stoat lure. These have been effective and we plan to increase their numbers.

The numbers caught during the year are:

Location	**Mustelid**	**Rat**	**Cat**	**Mouse**	**Hedgehog**	**Rabbit**	**Total**
Fence #1	nil	6	nil	nil	1	nil	**7**
Fence #2	4	6	nil	3	4	1	**17**
Causeway	1	nil	1	nil	7	nil	**8**
Good Nature	1	2	nil	11	nil	nil	**13**
Other	nil	nil	3	nil	nil	nil	**4**
Totals	**6**	**14**	**4**	**14**	**12**	**1**	**51**

Good Nature kills: we have bodies for one stoat two rats and two mice, but not for the others kills – we have assumed mice in the absence of evidence to the contrary.

Comparative figures:
Results for the trapping of all species show an increase catch with all species, Most of this increase can be attributed to the causeway fence/trap and the Good Nature traps. It is reasonable to interpret this as a result of the new fence on the Papahikahawai causeway and the use of two Good Nature traps.

Year	Mustelid	Rat	Cat	Mouse	Hedgehog	Rabbit	**Total**
2014/15	6	14	4	14	12	1	**51**
2013/14	7	6	2	0	10	2	**27**
2012/13	8	6	0	0	1	0	**15**
2011/12	4	2	1	10	7	0	**24**

Taking mice out of the picture, kill rates have increased from 15 in year one, to 37 in year 3, the increases being attributed, at least in part to the construction of the #2 and causeway fences and the introduction of Good Nature traps.

Rabbit
Rabbits are not a major issue, though they do target pingao and so need to be controlled. We caught one rabbit in the #1 fence in late summer. To be on the safe side we carried out a rabbit control operation, mainly between the causeway and the #2 fence, in June/July. There were no obvious signs of rabbits – scrapes or nibbled vegetation, and it is likely that most bait was taken by rats.

Black-backed Gull
Two nests were located in the dotterel breeding area, the eggs were pricked and no young were produced. We also brought in an outside contractor to hit the breeding colony on the Brain land using alphachlorolose. This resulted in the death of at least 53 birds, we also know of one red-billed gull that died, as scavengers they are difficult to stop taking the bait.

Pest Plant Control
These are becoming a bigger problem than anticipated, and significant effort was put into getting on top of the various problem species:

Pine
This year we did not poison any more pines, but focused on clearing up some of the dead ones, those that presented a potential danger due to being close to the track, and those that had fallen onto the harbourside beach preventing easy access and control of other plants such as tall fescue and kikuyu. Having cleared most of the beach, we obtained a permit and burnt the wood just above the low-tide mark. We anticipate having to do this at least once more as more trees collapse.

Velvet Groundsel - *Senecio elegans*
This is an ongoing programme and is largely done on an as seen basis whilst we are engaged in other work, however we would like to thank Sheelagh Leary who has

taken a particular dislike to this plant and spent a number of hours focusing on getting rid of this canny pest. While numbers are down significantly, it will never be eradicated due to its having windblown seeds.

Tree Lupin – *Lupinus arboreus*
Last year we made a major effort to get rid of all the large specimens of this species with the result that this year, while we have removed a significant number of plants, they have almost all been quite small and easily pulled up, and very few have been able to set seed. We anticipate numbers gradually reducing as the seed bank is exhausted.

Saltwater Paspalum - *Paspalum vaginatus*
This species is less of a threat than previously as some areas where it grew have been eroded away, but new ones keep reappearing, this too is an ongoing control programme, there is however significantly less than previously and it is no longer an ecological threat.

Pampas - Cortaderia selloana
We continue to remove all new plants. This is an ongoing control programme and is likely to continue as such given the huge numbers of plants in the surrounding area and their windborne seeds.

Tall Fescue – *Festuca arundinacea*
This is currently the most serious ecological threat on the spit. An aggressive perennial grass, it gradually becomes exclusive and has had a significant impact on muehlenbeckia in some areas of the back dune. This year we started a control programme, using both a hand gun and the spray-bar that we attach to the ATV. This has been successful, but limited as there are quite large areas affected. Getting on top of this pest will be the major focus of the programme this coming year.

Other pest species
We have still not managed to start dealing with Dimorphotheca *Osteospermum fruticosum* in an organized way, we hope to start this year. We did some control work on some areas of Bur Medic *Medicago minima* which is found in the area of the ngaio bush at the distal end, we are uncertain how big a problem it is, but if it keeps spreading it will become one. A number of other perennials are potential threats in the distal end, and we will look to control these together in the future. Among these is Lesser Trefoil *Trifolium dubium* . We control Cape Weed *Arctotheca calendula* in the car park to avoid it spreading down the spit and will also deal with a couple of small stands of Montbretia that have appeared.

Planting Programme
This has continued during the year. We held two working bees with Coastcare, the programme is focusing largely on fore dune plants and we have been working to improve the dune close to the carpark. Wooden fence posts were replaced with waratahs as the wooden ones were stolen for firewood. We still have trouble with the theft of the fencing tape and the yellow caps to the waratahs.


Maketu Spit mid-dune in autumn.

Important Bird Area

During the year, Birdlife International published its list of Seabird Important Bird areas (IBAs) in New Zealand. Maketu was noted as one of only 17 on the mainland of North Island. This is a significant accolade and must in part be put down the work that MOWS has been doing over the last six years in reporting and monitoring native bird species.

Rubbish

This is probably the one depressing element of this report. While we expect to make an annual cleanup of the beaches and harbourside, we also have to make regular rubbish clean-ups in the carpark and along Ford Road. Fishermen, at least the ones that use the Kaituna Scenic Reserve are very bad at cleaning up and apparently enjoy leaving, bottles, cans, plastic bags and disposable diapers. There appears to be particular delight in leaving as much fishing line around as possible and in chucking beer bottle out of the car window as they drive south down Ford Road.

They also make a habit of stealing the fencing material and waratah caps. We gave up using wooden posts as these were used for barbecues – hopefully poisoning the participants, so we now use steel waratahs. Most fishermen appear to have zero interest in the work we are doing and seem to enjoy fishing in a degraded environment.

Summary

This is the end of the first five year term of this BMP and shows very clearly the value of the long-term approach the system provides. Ecological restoration takes time and needs long term programmes to be able to develop appropriate long term, sustainable plans and systems and solutions to deal with the problems.

Achievements

In the first 5 years we have:

- Increased the numbers of breeding pairs of New Zealand Dotterel, in spite of the impact of the MV.Rena disaster.
- Ensured the ongoing breeding success of the variable oystercatcher
- Recorded the breeding success of red-billed gulls, black-billed gulls and white fronted terns on Maketu Spit.
- Confirmed the existence of a significant population of native shore skink.
- Conducted a survey of invertebrates indicating that at least four undescribed species are present on the spit.
- Reduced the number of alien pest animal species on Maketu spit.
- Planted several thousand native plants, both fore dune and back dune.
- Improved the road verges and road safety non Ford Road (not technically part of the BMP)
- Controlled the invasive grasses, sea couch and saltwater paspalum
- Removed all large established pampas tree lupin and gorse
- Killed most of the pine trees.
- Helped to have Maketu named as an Important Bird Area by BirdLife International.
- Worked with Maketu Kura to help the school become involved on a regular basis.
- Helped train local people to carry out the work required by the BMP
- Involved the local community in the conservation of their rohe.

Julian Fitter,
Maketu
30 July 2015

Lachnagrostis billardii - sand wind grass on Maketu Spit