

Shore Skink Survey, Tiritiri Matangi Island, 28 December 2010 to 3 January



This report can be cited as: Milton, K. and Stewart, J. 2011. *Shore Skink Survey, Tiritiri Matangi Island, 28 December 2010 to 3 January 2011*. Supporters of Tiritiri Matangi (Inc.), Auckland.

Fieldwork team leaders: Kay Milton (KM) and John Stewart (JS)

Other team members: Simon Fordham (SF), Morag Fordham (MF), Alison Bray (AB), Roger Bray (RB), Jonathan Jepson (JJ).

Other helpers: Liz Maire (LM, day 2 and 3), Andrew Nelson (AN) and Bethany Jackson (BJ, days 6 and 7).

Method

The survey was carried out over seven days – one day for setting up the traps and six days of checking the traps and hand-searching. Checking and hand-searching were carried out between 8.00 am and 10.00 am each day. After Day 1, when the traps were set up for the first time, the routine was as follows:

Traps were opened and checked systematically moving south along the beach (from row 11 to row 1). Any shore skinks found in the traps were processed and released. Moko and copper skinks were identified and released without processing. After each trap was checked, it was left open.

Once all traps had been checked, two people moved systematically from row 1 to row 11, re-baiting and setting the traps. During this procedure, additional skinks were sometimes captured in the traps. Other team members carried out hand-searches under logs, seaweed and the occasional artificial refuge left from previous surveys.

On Day 7 the traps were opened and captive skinks processed as before. Then 20 of the 33 traps, all except those highest up the beach in grassy areas, were removed and the holes filled in. The orange flagging tape was left in place, though it is unlikely that it will still be useful next year. The remaining 13 traps (all the C row plus two of the Bs) were filled, closed and left in a safe condition for next year's survey.

The 20 sets of buckets, lids and wooden covers have been stored in the implement shed. All the other equipment and paperwork (except for the PIT tag reader and one copy of the Field Guide) have been taken off the Island. JS and KM have the skink set (SF and MF have the gecko set).

Personnel

Due to the late organization of the survey and the resulting lack of available accommodation, the personnel varied from day to day. Team members present on each day were as follows:

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
KM, JS, SF, MF, AB, RB	SF, AB, RB (+ LM)	SF, AB, RB (+ LM)	KM, JS, MF, SF, JJ, AB, RB	KM, JS, MF, AB, RB, JJ	KM, JS, MF, SF, AB, RB, JJ (+ AN, BJ)	KM, JS, MF, SF, RB, JJ (+ AN, BJ)

On Days 2 and 3, SF led the field team. JS and KM led on other days. Additional helpers (LM, AN, BJ) were staying on Tiri at the time and expressed an interest in the survey. LM is a member of the Motuora lizard monitoring team and has undergone the lizard-handling training. AN and BJ work at Auckland Zoo. BJ is a vet with a lot of experience in handling reptiles. The large number of people involved was potentially an issue (see below), but did not cause any difficulties.

Results

A total of nine different individual shore skinks were caught. Five of these were gravid females, the other four were adults. No juveniles were caught. There was just one recapture, of a gravid female first processed on Day 2. Of the ten captures (nine first-time and one recapture), five were in pitfall traps and five were under logs or seaweed. Of the five in traps, three were in the lowest (A) row and two were in the middle (B) row. The logs and seaweed where shore skinks were hand-caught were all in the sandy or pebbly area of the shore (not amongst the grass).

Most animals appeared in good condition, with no mites and few abnormal scars or marks except for tail regeneration, which was present in five individuals. One animal had a toe missing on its right foreleg. The gravid females ranged in weight from 5.75 to 7.75 g and two of the others appeared to have healthy weights of 4.0 and 5.5 g.

The remaining two were much lighter at 1.5 and 1.75 g. Their weights were double-checked. We don't know enough about growth patterns in skinks to assess these results. Were these two individuals sick (they appeared healthy and lively)? Were they adolescents that had reached full length but not yet full weight? Of course we were aware of the possibility of mistakes in species identification, so we examined these two very carefully. We are confident that they were shore skinks, not copper skinks. Both were pale in colour, without the copper skink's face pattern and with no yellowish tinge on the belly.

Other species caught included six copper skinks and ten moko skinks. The copper and moko skinks were all in the two higher rows of traps (C and B). One common gecko was also found under a log on the shore.

Comments and issues for future reference

On the whole, the survey went smoothly despite the changes in personnel. There were no problems with the traps, all animals were handled safely and released in good condition as far as we could tell. There were a few errors in carrying out the methodology. For instance, we

forgot to treat Day 1 as an official catching day and, although we caught a shore skink under a log, we did not process it. In fact this was almost certainly the gravid female who was later caught twice and was seen under the same log almost every day. We also, by mistake, used the same mark (FL ●) for the first two days instead of just the first day. This turned out not to be a problem as there was only one recapture, of the gravid female mentioned above.

The survey brought to light a few errors and deficiencies in the documentation and planning, plus other things to think about for the future:

1. One trap (A06) was missing from the GPS image provided for us, probably because it had been incorrectly labelled during the installation of the traps. We took new GPS readings at all the traps and will produce a new image for comparison with the existing one.

2. The system of marks used for different capture days we found inconsistent and a bit confusing to use. For instance, on Day 1, the F in 'FL ●' refers to the leg (foreleg), not the position of the dot (which in this case is behind the leg), but on Day 3, the F in 'FR ●' refers to the position of the dot (in front of the leg), not the leg (which in this case is a hindleg). Similarly, the B on Day 2 refers to the leg (back/hindleg), and the B on Day 4 refers to the dot position (behind a foreleg). We suggest a three-letter mark reference as follows:

BLf = behind left foreleg,
FLh = in front of left hindleg,
FRh = in front of right hindleg,
BRf = behind right foreleg,
etc.

In this sequence, the first letter always refers to the position of the dot in relation to the leg, and the second two letters always refer to the position of the leg on the animal.

3. It would be helpful if the list of marks indicated that there are, in fact seven days not six, and that Day 1 is set-up day, and Day 7 is close-down day when there is no need to mark any new skinks caught. This would have alerted us to the fact that we are supposed to process and mark animals caught during set-up.

4. Appendix 1 in the draft *Monitoring Plan* shows a field data sheet for shore skinks, but it includes full details for copper and moko skinks as well, so in effect it is a field data sheet for all three species. We thought we had been told, on the training weekend, that we should release coppers and mokos without processing, which is what we did, but when we looked at the table in Appendix 1, we thought we might have made a mistake. It would be helpful if Appendix 1 could reflect exactly what we are expected to do.

5. There is nothing in the instructions to indicate how, or even if, we should record recaptures. In the event there was only one, which we have recorded as caught but not processed. Is this correct or was there no need to mention recaptures at all?

6. In the *Field Guide* it would be very helpful to have included typical weight ranges for each species (this was an issue in the case of the two very light animals we caught). It would also be helpful to have belly photos for the shore skink so that it can be compared with the copper skink.

7. The description of the survey methods to be used at Fisherman's Bay, as it appears in the *Monitoring Plan*, differs from the reality. Instead of the 23 traps and eight artificial refuges described in the *Plan*, we had 33 traps and no artificial refuges (except for a couple left over from before which were not properly set up). If the intention is to continue with this year's methods, then it would be helpful to change the description in the *Plan* to fit the reality.

8. The large number of people participating in the survey was potentially an issue. Although it did not cause any problems on this occasion – indeed the extra help was very welcome – it could become difficult to control the survey process with a large party involved. We appreciate that this was a consequence, not of the planning of the survey – given that the draft *Monitoring Plan* recommends two or three people per team – but of our management of the survey on this occasion and of the particular circumstances in which it took place:

- The uneven availability of space in the bunkhouse meant that not all the 'right' people (i.e. the full skink team) could be on Tiri for the full seven days, so others (members of the gecko team) had to take responsibility for the survey in our absence.
- The members of both teams (skink and gecko) were keen to gain experience in surveying the 'other' species, so gecko team members helped with the skink survey and skink team members helped with the gecko survey.
- The survey took place at the busy holiday time when there is pressure on everyone present to do other work as well, particularly guiding. Because we were initially unsure how long the skink work would take each day, we tended to include more people to get the work done more quickly and free us up in time to do guiding if necessary.
- Also because this was the busy holiday time, when the bunkhouse is full of SoTM members, there were other people present who were interested, wanted to help, and had experience of working with animals. In the circumstances indicated above, it would have been difficult to reject offers of help and expressions of interest, even had we wanted to. We should say that only the trained volunteers handled lizards during the survey.

In future it should be possible to organize the survey so that a more limited team is involved, as originally intended. In particular, we suggest avoiding the busy Christmas/New Year period; a week earlier in December might be better. It would also be possible to separate the skink and gecko surveys so that not all the lizard monitors are on Tiri at once. Or, if we do conduct both the surveys over the same seven-day period, we could arrange it so that only the team leaders plus, say, two others, do the skink survey each day. Personnel could change each day to give all the lizard monitors the chance of working with skinks. The gecko team leaders may wish to organize their survey in a similar way.

Kay Milton and John Stewart
6 January 2011