Happy New Year
Well what will the year bring?
My wish list:
- Progress will pick up on our battle with the rats.
- A coastal walking track is completed around Motu Kaikoura.
- Bellbirds are seen on the island.
- A new species of reptile is found.
- We make progress on alternative energy for our buildings. Not all rely on large amounts of resource.

Thanks to the Auckland Council Biodiversity Team, we now have a draft biodiversity plan.

The main implication for our rodent programme is the recommendation to set out a 100m by 100m grid of bait stations across the island. When you add this up it amounts to over 50km of tracks! This will be a challenge to achieve but it is necessary now that we are in a management rather than eradication mode for these devils. Again, thanks to the Auckland Council, we now have six permanent rat monitoring lines set out across Motu Kaikoura, and the adjacent peninsula of Great Barrier to the south, so we can monitor our progress in the battle.

As you will see inside, monitoring is an important part of what we do. How do we know we are making progress unless we have a yardstick to measure against? We have teams providing yearly monitoring of vegetation, birds, and reptiles. All provide in-depth reports for you to read and show the positive progress that is being made.

Our thanks to these monitoring teams for the dedication and professionalism they bring.
On a more mundane level we could no longer put off replacing our aging sewerage system. Thanks to funding from the Lion Foundation, good weather, and quick work from Max Jamieson’s team from Great Barrier Plumbing this was achieved before the end of last year.

As you can see the job of restoration ranges from developing new ideas and programmes as well as the ongoing maintenance of existing facilities – another example of the latter, and the challenges of servicing an off shore island, you will also read about inside. Thank you for your support.

Harry Doig
Chair
February 2012

**Introducing Sarah Dwyer**

Sarah Dwyer, a PhD student at Massey University, is currently in the second year of her doctoral research. The primary focus of Sarah's research is investigating the distribution and relative density of common dolphins (Delphinus sp.) in the Hauraki Gulf.

Fieldwork is conducted from a 5m vessel, which Sarah operates across a wide area of the Hauraki Gulf, from the northern limit of Great Barrier Island to the southern reaches of the Firth of Thames.

In addition to studying common dolphin demographics, photo-identification of bottlenose dolphins (Tursiops truncatus) is also carried out - particularly in Great Barrier Island waters, a previously unstudied region for marine mammals. In order to conduct dolphin research in Great Barrier Island waters, Sarah makes monthly research trips away from her usual base at Gulf Harbour. Motu Kaikoura Trust provides accommodation for Sarah and her volunteer, as well as use of the jetty for the research boat, once a month. Without this assistance, fieldwork logistics would be very challenging and would no doubt compromise data collection.

**Common dolphins that were feeding just off the southeast point of Kaikoura Island on Monday (18th July) morning. You can even see one of the fish they are rounding up!**

**Bottlenose dolphin jumping out of the water just off Whangaparapara.**

**Wow – what an amazing photo by Sarah. Although not at Motu Kaikoura we thought this photo was too good not to share.**
Some members of the Auckland Botanical Society have visited Motu Kaikoura several times since it was purchased, to monitor and record changes to the vegetation as they occur. Five vegetation plots were set up in June 2007 and these are due to be revisited in June 2012. The visit of 17 members and friends for Labour Weekend was undertaken to continue this process of monitoring.

After settling into the *Lost Resort* Lodge we had time for a walk up the road and around Crawford Bay before dinner. This lower portion of the road that crosses the island gave us an idea of how the ground cover is regenerating, from grazed bare by the deer to a thick covering of grasses – mostly the native *Microlaena stipoides* – and seedling plants. Ferns do well on the roadside bank, and a species not previously recorded on the island, *Lygodium articulatum*, was soon seen. A new plant of the umbrella fern, *Sticherus flabellatus*, (only two plants recorded previously) was another pleasing sight. Seedlings of hangehange (*Geniostoma ligustrifolium*), *Helichrysum lanceolatum*, mahoe (*Melicytus ramiflorus*), *Parsonsia capsularis*, bush lawyer (*Rubus cissoides*) and five finger (*Pseudopanax arboreus*) were flourishing. A good sign for the development of a future broadleaf forest were occasional seedlings of *puriri* (*Vitex lucens*) and one of *tawapou* (*Pouteria costata*). Spraying has been carried out at Crawford Bay to eliminate the *kikuyu* (*Pennisetum clandestinum*) that was spreading along the foreshore and smothering the important strand plants, and all but one small clump has been killed. This will soon be dealt with (Rod Miller, pers comm.).

Next day’s walk started along the *Parihakoakoa* Track. A short way along the track is a large rock outcrop that has become known to us as *Ophioglossum* Rock. On the summit grows a low ephemeral “garden” of tiny plants. These plants must be seen in the spring, for as soon as the weather warms up they frizzle and dry in the heat. We fell to our knees, and with noses almost touching the ground, we could indeed see many minute plants of the fascinating fern, *Ophioglossum coriaceum*. Associated plants were shivery grass (*Briza minor*), orchids *Microtis unifolia* and *Thelymitra aff. longifolia*, sundew (*Drosera auriculata*), hot rock fern (*Cheilanthes sieberi*), native pelargonium (*Pelargonium inodorum*) with pink flowers, the blue flowered *Anagallis arvensis* var. *coerulea*, the grasses *Aira caryophyllea* and rat’s tail (*Sporobolus africanus*), and a rapidly spreading member of the Asteraceae, *Facelis retusa*, with fluffy seedheads.

While negotiating the many undulations of this track under a mainly kanuka canopy, and with much tree daisy (*Olearia furfuracea*) in the gullies, it could be seen that the wind-dispersed species, *Clematis paniculata*, rangiora (*Brachyglottis repanda*) and *Parsonsia capsularis*, were much more widely spread than bird-dispersed species. However, where trees such as kohekohe (*Dysoxylum spectabile*) and wharangi (*Melicope ternata*) grew near the coast, there were many seedlings and saplings nearby.

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*Labour Weekend on Motu Kaikoura 2011*  
Maureen Young
When the broadleaf forest in Taraire Gully was finally reached the party was too weary to do much exploring, though the fern *Asplenium gracillimum* was added to our list. One of the vegetation plots that was measured in 2007, and which had a complete lack of ground cover at that time, was noted to contain a sward of the sedge *Carex solandri*, and saplings of lacebark (*Hoheria populnea*), kohekohe, karamu (*Coprosma robusta*), rangiora, supplejack (*Ripogonum scandens*), and taraire (*Beilschmiedia tarairi*).

Just past Taraire Gully the track sidles past some large rock bluffs. These were refuges for plants of renga lily (*Arthropodium cirratum*) when deer were present, and now there are fresh plants spilling down the slopes. We were able to confirm that *Carex spinirostris*, with bright red glumes and utricles, was indeed present on the island. A few tiny plants of a *Caladenia* orchid intrigued us, and Gael, with the aid of her pen tip and some warm breath managed to open the flower of one, which had pink petals. This was later identified as *Caladenia bartlettii*, another new record.

Next day on the Overlook Track we started downhill through some “ho-hum” kanuka cover, but the find of the weekend was soon to be revealed. On the left hand side of the track is an area of bare red clay that is also found on other parts of the island and is known as “the Badlands”. It took two pairs of sharp eyes to spot that, growing on three of the rather stunted kanuka on the Badlands, were many, many plants of the tiny mistletoe, *Korthalsella salicornioides*. This addition to our list caused much excitement. A single plant of the rarely seen orchid, *Caladenia atradenia*, was growing on the nutrient-poor soils of the trackside. Although the flower was just past its best the green/brown colour was obvious, as was the chocolate-coloured labellum. A few more plants were seen of the pink *Caladenia bartlettii*. Although rather early for flowers, many of the developing sun orchids were obviously *Thelymitra aemula* – the angled stem-bracts and the stout, rather glaucus stems were a clue, and the occasional bud was developed enough for a “caesarean” to reveal its identity. *T. pauciflora* plants were reasonably common, especially along the airstrip.

On one rock outcrop were several clumps of the daisy, *Celmisia major*, and a single flower was much photographed. On another outcrop were a couple of mature plants of *Hebe pubescens* ssp. *rehuarum* growing out of deer reach and on the ground below c. 50 seedlings were flourishing. The approach to the Mt. Overlook lookout point was heralded by a thick groundcover of the dainty maidenhair fern, *Adiantum aethiopicum*. After checking out the view over the channel to Great Barrier Island, and noting several new adventive plants, we dropped down steeply for a few metres and lunched in the sunshine on a rocky bluff. A plant of *Thelymitra* aff. *longifolia*, with eight stems bearing copious perfumed flowers, was another photographic lure.

The native angelica, *Scandia rosifolia*, was seen before we turned onto a marked trail which led us southwards. We soon came to an area where, under the kanuka, there were thickets of *Helichrysum lanceolatum* and *Rhabdothamnus solandri*, with occasional trees and seedlings of kowhai (*Sophora chathamica*). The old aerial maps show that there was a small area here that was never completely cleared, and this probably explains the richer under storey. As the trail neared the coast, one of the few original pohutukawa (*Metrosideros excelsa*) trees was found to be sheltering an adult tree of wharangi and dozens of
Over the weekend c. 50 new records were added to the species list for the island. Twenty of these are native, and of the introduced plants only the onion weed (*Allium triquetrum*) needs to be considered for eradication.
**Bird Survey  Mel Galbraith**

Our visit to the island to survey the birds took place just before Christmas, just managing to fit in between a couple of the unpleasant weather patterns that crossed the country over the festive season. The crossing to the island from Sandspit was very rough, but the sea conditions favoured the numerous Cook’s petrels that were making spectacular use of the strong winds.

No new species were recorded this year, but the general consensus amongst the bird survey team was that the small bush birds – fantail, grey warbler, silvereye – were more abundant. Analysis of the actual numerical data may show this in time, but perhaps the observation of more shining cuckoo than usual is an good indicator of a healthy population of their host, the grey warbler. Kaka put on their usual raucous displays from dawn to dusk. The botanical survey team in October had observed a pair of variable oystercatchers nesting at Bradshaw’s Cove. By the time of our visit, the pair had three well-grown chicks in tow.

One exciting discovery this year was a morepork nest, complete with two resident chicks. The chicks were about 100mm high, and clearly well fed. The debris around the nest showed evidence of many weta meals, which is welcome sign of healthy invertebrate populations (but not from the weta perspective, I guess!). Incidentally, the weta boxes installed 2 years ago were checked, and found to be almost 100% occupied, again indicative of a robust population.

The rough boat trip out was compensated by a pleasantly calm trip home! But with a lack of wind, there were very few seabirds around – except for a flock of hungry individuals that were following a fishing boat returning to port. With a minor alteration of our course, we were treated to some close up views of white-faced storm petrels, the endangered black petrel and the flesh-footed shearwater. We anticipate that seabirds such as these may ultimately colonise Motu Kaikoura.
Morepork chicks with parent waiting to return to the nest – they are so cute!!

Thanks Mel for sharing these stunning photos
Reptile Surveys – July 2008 TO February 2011

Tim Martin

Method

In order to determine the distribution and habitat use of potential species present on Motu Kaikoura, 100 ACOs (Artificial Cover Objects) made from triple layered stacks of Onduline (corrugated bitumen roofing) were permanently installed in representative habitat types throughout the island. Permanent installation allowed for the reptile surveys to be undertaken during one trip each year but reduces their usefulness as a tool for detecting change in abundance, as ACOs tend to accumulate inhabitants over time. To use ACOs as a tool for detecting changes in abundance, ACOs must be installed at least 6-8 weeks prior to checking and then retrieved from the field when the check is completed.

The Onduline was cut into pieces 400 x 280 mm, and three layers were stacked, separated by small pieces of 10 mm dowel. The dowel was glued to the underside of each sheet, to create a gap which lizards can occupy but one which rodents cannot access. The ACOs were arranged in 10 clusters of ten.

Restricting the number to 100, with appropriate placement, ensured that all ACOs could be checked in a two day trip to the island. The ACO cluster at Boulder Bay was lost through wave action and the build-up of cobbles and only one ACO remained at this site at the time of the March 2010 monitoring check. This ACO cluster was reinstalled at the time of the 2011 monitoring round; these ACOs were placed close to the beach, but to the landward side of dense coastal vegetation.

ACOs are not likely to sample all potential species on the island; they specifically targeted ground dwelling lizards. However ACOs are one of the easiest and most cost efficient methods for the detection of lizards and the presence of ground-dwelling lizards can be used as an indicator for populations of more cryptic, arboreal species.

Results

July 2008 – In July 2008 all 100 ACOs were checked once for reptile presence. Two copper skinks (*Oligosoma aenea*) were present in two of the ACOs on the stabilised dunes at Bradshaw Cove. The July 2008 monitoring round was undertaken immediately prior to the rodent eradication bait drop.

March 2010 - In March 2010, 90 ACOs were checked for reptile presence. Only one ACO remained at Boulder Bay and one ACO was missing at Bradshaw Cove. The missing ACO at Bradshaw Cove was replaced using the one remaining at Boulder Bay and monitoring of the site at Boulder Bay was temporarily discontinued.

Copper skinks were present at Bradshaw Cove, at the airstrip and at the rocky outcrop and a total of four copper skinks were seen in ACOs. Moko skinks (*Oligosoma moco*) were seen at Bradshaw Cove and a total of five individuals were seen in ACOs. At Bradshaw Cove two adult copper skins and one adult moko skink were seen in an ACO.

The ACOs were all checked a second time during the trip. During the second check copper skinks were recorded for the first time in the gully pines, (one adult). The remaining three skinks were seen at the airstrip (one copper skink and one moko skink) and Bradshaw Cove (one moko skink). During the second check lizard faeces (species unknown) were found at Mini Mitre. The two checks occurred so that each ACO was checked once in the morning and once in the mid to late afternoon.

Spot light searches were undertaken after dark during warm, still conditions. Several hours of searching in the vicinity of Mitre Peak resulted in no sightings of arboreal lizards.
**February 2011** - In February 2011, 90 ACOs were checked for reptile presence and 10 ACOs were installed along the foreshore of Boulder Bay to bring the total number of ACOs to 100.

Three adult moko skink were present at Bradshaw Cove and one adult moko skinks was found at the airstrip. All four moko skink were found in the third layer between the bottom tile and the ground.

Three ACO clusters were checked a second time during the trip (Mini Mitre, Airstrip, Bradshaw Cove). One juvenile moko skink was present at Mini Mitre which is the first lizard record for this site.

**Overview**

Three species of lizards have been confirmed as present on the island –

**Moko skink**, which are widespread in grassland, shrubland and on rock outcrops

**Copper skink**, which are widespread in grassland, shrubland and forest habitats

**Shore skink** which are present on the boulder beach below Mount Overlook. Juveniles of copper skinks and moko skinks have been sighted.
Collating the results from 2008, 2010 and 2011, reptiles are known to be occupying ACOs at eight of the ten sites. Given that of the ten sites now being monitored only one was selected because reptiles were seen there (the airstrip), occupancy at eight sites is encouraging and indicative of skinks being very widespread on Motu Kaikoura in a wide variety of habitat types. The two sites where reptiles have yet to be seen are in mature coastal forest and in the ridge pines. Both of these sites had minimal undergrowth when the ACOs were first installed but the habitat quality of these sites is improving with the regeneration of the understorey following the removal of deer.

Detection of Gecko Species
ACOs target ground-dwelling lizard species and have low detection rates for arboreal gecko species. Closed cell foam covers (CCF) which mimic pieces of loose bark on trees has recently emerged as the leading method for monitoring arboreal gecko species in New Zealand (Bell 2009). The draft Biodiversity Plan for Motu Kaikoura recommends the installation of 200 CCF covers on Motu Kaikoura: three transects of 40 within coastal habitats and two transects of 40 within broadleaf forest remnants. This sampling strategy is the standard method employed by Auckland Council which will facilitate the comparison of results with other studies in the region. CCF covers would significantly expand the lizard monitoring programme on Motu Kaikoura and incorporate a method that targets species such as forest gecko and Pacific gecko.

Pitfall Trapping
Shore skink were seen at Boulder Bay during the installation of ACOs in December 2007. At this time there was also a tentative sighting of egg-laying skink. Assessment of the lizard populations on this boulder beach, where the abundance of cover is almost unlimited, will require pitfall trapping. This technique requires handling in order to remove reptiles from the traps and would require a research and collection permit from the Department of Conservation. Pitfall traps could be permanently installed if they had lids, with the lids removed for each annual survey period; this would allow the monitoring of lizards to continue using only one survey trip per year.

Pitfall trapping can be used to monitor changes in the abundance of lizard species. This method could be employed within forest and shrubland habitats to monitor long-term changes in lizard populations.

Thank you to the Lion Foundation for their very generous grant for the new sewerage system. We now have an up to date, hygienic system which will be much appreciated by the many groups that visit.
111 call for an outboard motor!

Trustee Rod will take you on the journey

On Tuesday 29 November 2011, responding to a call from our caretaker Will Scarlett that the outboard had problems, Rodney Aero Club member Ross Hendricksen and I flew to the island (after taking out the back seat of the plane) to collect it. We stayed overnight. Always a delight and privilege.

Next day we worked the tides and pulled the boat out at Old House Bay, cleaned up the motor, transported it on the mule to the airfield ready to fly. This required the removal of the two front aircraft seats to accommodate fitting the motor, gently settle and tie it in place and then fly back to Kaipara Flats at 6 p.m. P.S. We put the front seats back!

On Thursday 1 December another club member Wayne Drinnan and his father came out to Kaipara Flats and helped lift the outboard on to the trailer. Remove and replace seats again and do appropriate form filling. We delivered the motor to Mahurangi Marine at Snells Beach for stripping and costings.

It was decided that it could be repaired at under half the cost of a new outboard so the Trust made the decision to repair it. It had water leaking into cylinders so needed a rebore, new pistons, rings, bearings, valve grind, seals, filters, head plane, new anodes and oil. An hour meter was fitted and a long test run carried out. With the Christmas rush in full swing, holidays fast approaching and parts having to be purchased overseas it was finally all ready by Friday 6 January. It was collected on the trailer, transported to the airfield where trustee Ron Burr and grandson came to the airfield for loading and the reverse process took place with seat removals, etc. Loaded other gear into the trusty Cessna 172 ZK EJR and flew to Motu Kaikoura. The Fasher family (previous island owners) and friends were staying in the lodge so we got their assistance to gently lift the motor out of the aircraft. One of their group was a body builder so we put him to good use. The motor was then delivered to the boat ready to install the next day.

On Tuesday 10 January the motor was installed and taken for a test run with Will. All was okay. Not a simple process being on an isolated island. When on the mainland it is just a drive to the repair shop with your boat on the trailer.

A big thanks to all those involved especially Wayne of Mahurangi Marine for giving the job priority at a very busy time of the year.

www.motukaikoura.org.nz
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Rosalie Miller
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“Having vision is not enough.
Change comes through realising the vision
And turning it into a reality”

Sir Peter Blake