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Abstracts of papers presented at the Ornithological Society of New Zealand AGM and Conference, 2-3 June 2012, Tauranga, New Zealand

ORAL PRESENTATIONS

Keynote Plenary

C/V Rena Oiled Wildlife Response

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The C/V Rena ran aground on the Astrolabe Reef within the Bay of Plenty in the early hours of October 5th, 2011, carrying 1770T of heavy fuel oil and 1330 containers. Although the New Zealand Wildlife Health Centre at Massey University has had a contractual agreement with Maritime New Zealand for Oiled Wildlife Response (OWR) since 1999, this was the first time this system has been tested in a large-scale spill response. Wildlife personnel and equipment were mobilised within hours of the grounding, and a functional search and collection operation and oiled wildlife facility were up and running within 36 hours of the incident. The co-operation of local people, the Department of Conservation, iwi representatives and the National Oiled Wildlife Response team were essential in delivering an effective mitigation response.

Oiled Wildlife Response in New Zealand is fully integrated into the National Oil Spill Contingency Plan, and as such, was incorporated within the Incident Command Structure during the C/V Rena spill response. The largest challenges faced by the wildlife ICC team included the spatial dislocation from the Oiled Wildlife Facility; the initial integration with other central government agencies within the response; acquiring appropriate logistical and administrative support from the central response; and achieving a balance of wildlife priorities with those of the wider spill response.

The Oiled Wildlife Facility was developed using a tent based temporary hospital system at the Tauranga wastewater treatment plant. This system provided a unique flexibility in being able to plan the rehabilitation site and the ability to scale the response up and down as required. The heating of the tents was accomplished with a ducted central heating system that performed well in cool and warm conditions. Windy conditions and attention to animal security created special challenges for the tent based response. The initial response was begun in one tent and two cargo containers, but at the peak of the spill response there were twenty two tents and five containers on site. A total of 423 oiled live birds were admitted, and 381 of these were blue penguins, Eudyptula minor for which we achieved a successful release rate of 95%. A total of 2063 dead birds were collected from the oil-affected area during the response and 66.7% had some degree of oiling ranging from light to completely saturated. The most common species found dead (n= 880) were diving petrels Pelecanoides urinatrix. A total of 60 threatened New Zealand dotterels were pre-emptively captured and housed in captivity for 1 – 3 months. Of the 60 birds captured only four were externally oiled to the point that washing was required. Intensive beach cleaning activities had enabled a total of 54 dotterels to be successfully returned to the wild by day 74 of the response. Health problems for captive birds were encountered and included minor trauma, pododermatitis and capture myopathy, and despite aggressive treatment six dotterels died in captivity from aspergillosis infections.

Impacts of the Rena oil spill on New Zealand seabirds

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The container ship *M.V. Rena* ran aground on the Astrolabe Reef 22 km off the Tauranga coast (Bay of Plenty, New Zealand) on 5 October 2011. The

resulting spill of c.350 tonnes of heavy fuel oil over the following 6 weeks caused the largest oiled wildlife incident in New Zealand history, and triggered a large and complex oiled wildlife response (managed by Massey University and Maritime New Zealand). We summarise information obtained from over 2000 dead birds handled following the *Rena* oil spill. Over 1350 oiled seabirds of 29 species were recovered dead. The main species affected (with the number of oiled individuals recovered dead) were common diving petrel (*Pelecanoides urinatrix*; 703), fluttering shearwater (*Puffinus gavia*; 240), Buller's shearwater (*P. bulleri*; 156), little penguin (*Eudyptula minor*; 90), white-faced storm petrel (*Pelagodroma marina*; 51), sooty shearwater (*Puffinus griseus*; 40), and little shearwater (*P. assimilis*; 20). None of these species is listed as Threatened under the New Zealand threat classification system, however, all seven taxa are listed as At Risk.

Common seabirds of the Bay of Plenty inshore waters that were not recovered in large numbers both visibly oiled and dead included grey-faced petrel (*Pterodroma macroptera gouldi*; 2), flesh-footed shearwater (*Puffinus carneipes*; 5), Australasian gannet (*Morus serrator*; 4), pied shag (*Phalacrocorax varius*; 3); little shag (*P. melanoleucos*; 0), southern black-backed gull (*Larus dominicanus*; 2), red-billed gull (*L. novaehollandiae scopulinus*; 2) and white-fronted tern (*Sterna striata*; 0).

Large numbers of apparently unoiled seabirds of a few species were also recovered dead on Bay of Plenty beaches following the *Rena* grounding, including 177 common diving petrels, 171 sooty shearwaters, 66 Buller's shearwaters, 64 flesh-footed shearwaters, 30 fluttering shearwaters, 24 little penguins and 22 white-faced storm petrels. Histology samples from many of these individuals were collected to allow assay for the presence of ingested hydrocarbons.

Management of New Zealand dotterels following the Rena oil spill: did we do the right thing?

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The main impacts of the oil spill from CV Rena in October 2011 were felt in the central Bay of Plenty between the northern end of Matakana Island and Otamarakau. This stretch of coastline held about 6% of the global population of the northern New Zealand dotterel (*Charadrius obscurus aquilonius*), an endemic shorebird classified as Threatened (Nationally Vulnerable). 60 of these birds were pre-emptively caught and held in captivity while their beaches were cleaned. 54 birds (90%) survived the captive experience and were released in late November and December. Longer-term monitoring of these birds is under way. Preliminary results suggest the exercise in pre-emptive capture was successful.

Lessons from the Rena volunteers

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Following the Rena oil spill off the coast of Tauranga, there was an unprecedented response from residents who wanted to help. The Bay of Plenty Regional Council, with help from Maritime New Zealand, quickly set about organising these volunteers to assist with oil clean up from the beach. Staff from the University of Waikato, Bay of Plenty Polytechnic, and Bay of Plenty Regional Council, are running research into the volunteer experience. This paper will present the results of an online survey of volunteers which may provide important insight into how to better organise volunteer groups.

Rena, the Maketu experience

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The MV Rena went aground close to one of the largest colonies of the northern race of the endemic New Zealand Dotterel *Charadrius obscurus aquilonius*, in the middle of the breeding season. The NZD is a threatened species with total population around 1700 with some 120 found in the Bay of Plenty. One of the responses to this event was the pre-emptive capture of 60 individual New Zealand Dotterel which were held in captivity at the Te Maunga wildlife facility. 20 breeding individuals, out of a total population of around 25, were taken from Maketu Spit on the 12th, 15th and 19th of October. 17 birds were returned to the spit on December 3rd, by which time two had died from Aspergillosis, a fungal lung disease, a third died in Palmerston North after Christmas, from the same disease. Of the 40 other birds taken from other areas, two died. The story raises a number of issues and questions: Was pre-emptive capture the right response to the situation? was there a clear and present danger? were they held too long in captivity? did the cost of the operation justify it? given a mortality rate of 15% for the Maketu birds and 8% overall, should such an operation be considered in future? What lessons can we learn from this, was the decision making process appropriate or rigorous enough? Could it have been done better, differently?

Causes of seabird mortality in the Bay of Plenty, Oct-Nov 2011

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From 11 October to 18 November 2011, 2,063 dead birds were recovered on Bay of Plenty beaches following the grounding of the container ship *Rena* on 5 October and the subsequent spillage of 350 tonnes of heavy fuel oil. Of 1,376 birds recovered dead, 66.7% showed external contamination with oil (details discussed by Baylis *et al.*, this conference), however, 687 (33.3%) showed no external signs of oil and there is no direct evidence to link these deaths to the spill.

The number of individuals unoiled versus oiled, varied greatly between species. For species with >20 dead recovered (unoiled / total number dead; %): flesh-footed shearwater (64/69; 92.8%), Australasian gannet (30/34; 88.2%), sooty shearwater (171/211; 81.0%), blue petrel (11/23; 47.8%), white-faced storm petrel (22/73; 30.1%), Buller's shearwater (66/222; 29.7%), little penguin (24/114; 21.1%), common diving petrel (177/880; 20.1%), fluttering shearwater (30/270; 11.1%), little shearwater (1/21; 4.8%).

Autopsies were carried out on 326 birds to investigate why they died. It was assumed that most birds externally oiled died because of the oil, however there may have been other contributing causes of mortality for some of these. Here we focus on the autopsies of unoiled birds to investigate other causes of mortality. The causes of death for unoiled birds of the 10 most commonly recovered species were: at least 26 died before the oil spill, 57 starved, 29 apparently died as a result of amateur fishing activities, 3 apparently were injured while diving, 2 had egg peritonitis, 1 had aspergillosis, 1 had been preyed on, 1 had its proventiculus perforated by a fish bone, 12 died of unknown causes.

For unoiled birds, starvation was the main cause of death of common diving petrels (78%; 15/17), Buller's shearwaters (74%; 14/19) and sooty shearwaters (68%; 15/22) but none of the flesh-footed shearwaters (0/15) died of starvation. October-November coincides with an annual period of high natural mortality for Buller's and sooty shearwaters.

The 29 unoiled autopsied birds apparently killed in fishery related activities, included 100% of flesh-footed shearwaters (15/15), 32% of sooty shearwaters (7/22) and 26% of Buller's shearwaters (5/19). Hooks used by amateur fishers (?for snapper) were found inside 2 flesh-footed shearwaters, 2 sooty shearwaters and 1 Buller's shearwater. Most fisheries related deaths were caused by trauma, such as broken wings, crushed skulls and stab wounds - presumably inflicted when birds were removed from fishing hooks.

New Zealand birds online: Delivering the perfect website for and by OSNZ members

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A web-based encyclopaedia of New Zealand birds is under development by Te Papa and OSNZ, utilising funds from the Department of Conservation's TFBIS (Terrestrial and Freshwater Biodiversity Information Systems) fund. A prototype website has been developed to allow upload of text, images, sound files and pdf extracts from selected bird books. This prototype website will be presented at the AGM, to demonstrate some of the features that the final website will deliver.

OSNZ members are invited to contribute to the website in three ways: by contributing text on their favourite species, contributing digital images and sound files, and providing or checking bird lists from their favourite birding sites. Progress on sourcing content for the website will be summarised, and the process for how to get involved as a contributing writer or photographer explained.

It is hoped that the final website will be launched at the 2014 OSNZ AGM.

Results of a community-based morepork survey in Hamilton city

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Moreporks are an iconic native species that are relatively widespread throughout much of New Zealand. Although a considerable amount of

research has been conducted on this species in forested and 'unmodified' areas, comparatively little is known about moreporks that reside within urban areas. Here we present results from a morepork survey conducted within a New Zealand city, Hamilton. Twenty sites were established in areas that we considered capable of supporting morepork populations (e.g., amenity parks and gully sections with established vegetation). Teams of observers recorded the time and direction of all morepork vocalisations at sites for 1h each night for five consecutive nights between 2015-2230h in late October 2011. Observers were largely made up from members of the community and were given some training to identify the different types of morepork vocalisations. Moreporks were detected at 80% (16/20) of sites at least once over the survey period. Of these 16 'successful' sites, 13 recorded moreporks on ≥2 nights and birds were detected every night at five sites. Furthermore, two to three moreporks were detected at 11 sites, which suggested that those birds were breeding. We suggest that these results may be used: 1) as baseline data that future surveys can be compared to; and 2) as an alternative way of quantifying the success of urban restoration projects and pest control operations, as many of the desired outcomes of those projects (e.g., increased native vegetation cover and reduced mammalian predators) would have a positive impact on urban morepork numbers. We also recommend that including members of the public in similar surveys is highly desirable as it raises awareness around conservation issues and introduces ornithology to a wider audience.

An 'enigmatic' gland with promising traits: the uropygial gland of hihi (*Notiomystis cincta*) and kiwi (*Apteryx* spp.)

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The uropygial gland is the only large glandular structure on the epidermis of birds, yet the function of the UG secretion, and thus the gland, remains unknown despite many hypotheses having been put forward. For example, some suggest that the secretion has parasitic protective properties; others propose that the secretion is used in communication. Hihi and kiwi uropygial glands have never been described; therefore in this presentation I will discuss preliminary results which are leading us to a better understanding of the structure and function of this gland in these birds.

Tuhua (Mayor Island) restoration

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Brief description of Tuhua followed by an overview of the ecosystem restoration work undertaken to date, and that proposed for the future. This also provides some background for the Tuhua field trip participants on Monday 4 June and what species they might encounter.

Tuhua is a 1277 ha volcanic island situated 26 km off shore and owned by Te Whanau a Tauwhao ki Tuhua. The Maori owners as represented by the Tuhua Trust Board have signed a joint co-management agreement with the Department of Conservation for the ecological restoration of the island. This enabled a successful mammal pest eradication operation to proceed with species subsequently released to date being NI robin, pateke, NI brown kiwi, tuatara and orange fronted parakeet.

Ongoing restoration work is currently focused on quarantine and biosecurity, weed control, species monitoring and translocations, marine reserve management, and infrastructure improvements.
After being closed for a number of years Tuhua was opened back up to the public 3 years ago between Labour Weekend and Easter when caretakers are in residence. Visitor information can be found at: http://www.destinationoutdoors.co.nz/themedetail3.asp?mapid=131.

Keynote Plenary

Long-term research into Buller's albatrosses at The Snares – 65 years and no sign of retirement

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When Dr Lance Richdale spent 6 weeks studying Buller's albatrosses at The Snares in 1948 he would have had little idea of how important his observations would be in the 21st century. Subsequent expeditions to The Snares by staff and students of the University of Canterbury and then staff from NIWA, Te Papa and DoC have recorded extensive information about this endemic species. I discuss the development of the project, from the documentation of basic breeding biology and annual cycle, through to the need to determine whether fisheries bycatch affected the population size and trend. Initially, land-based studies provided almost

all of the information, but over the past 10 years miniaturisation of electronic devices has enabled fine-scale tracking of the birds at sea, opening up new avenues of research. I use data from this long-term population study to present information on breeding success, recruitment and longevity, and changes in annual survival and population size, and show how these demographic parameters have changed with time. Finally, I present results from a multi-year tracking study to illustrate how foraging may vary from year to year. During the breeding season Buller's albatrosses forage primarily over the continental shelf and slope off the South Island, as well as crossing the Tasman Sea to feed off eastern Tasmania. However, their foraging ranges change as the breeding season progresses. After breeding they cross the Pacific Ocean to spend 2-3 months feeding off the coast of Peru and Chile. Despite the longevity of this study there is still much to learn about and from Buller's albatrosses.

An update on Vanuatu's *Pterodroma* petrels

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In March 2012, I undertook a second trip to Vanuatu with Stephen Totterman to study *Pterodroma* petrels - this time collared petrels (*Pterodroma brevipes*) on the southern island of Tanna. In March 2011, Totterman, Colin Miskelly and I researched the status of the Vanuatu petrel (*Pterodroma occulta*) on the more northerly island of Vanua Lava. The Vanuatu petrel was first collected in 1927 but only described in 2001. Its breeding site was found only in 2009. While working on Vanua Lava we reported the first collared petrels captured ashore there, including a dark and a paler bird. This threw doubt on the taxonomic status of the recently described magnificent petrel (*Pterodroma brevipes magnificens*), which was supposed to be confined to nesting on northern Vanuatu islands and to be "monomorphic and solely occurring in a dark form" (Bretagnolle & Shirihai 2010 Bull. B.O.C. *130*: 286-301).

Our 2012 results from Tanna showed that most collared petrels on this island are pale morphs, in contrast to those on Vanua Lava, however dark morphs do occur on Tanna and other islands in southern Vanuatu. The limited information available suggests a similar breeding timetable and genetic structure for *Pterodroma brevipes* throughout Vanuatu.

Collared petrels are locally common on Tanna but are preyed on by cats and humans, and probably also by rats, pigs and dogs. Anecdotal accounts indicate that the species is declining on southern Vanuatu islands but local customs and taboos make carrying out field work difficult.

Analysis of Vanuatu petrel data from 2011 shows that this species lays in mid February to early March, and fledges in July. The Vanuatu petrel is sometimes considered a subspecies of the white-naped petrel (*Pterodroma cervicalis*) but its breeding season is 1.5 months later, so Vanuatu petrels are laying when white-naped petrels are hatching, which supports separate species status for both taxa. A genetic comparison of these two species is planned.

The great prion wreck of 2011: causes and consequences of New Zealand's largest recorded seabird mortality event

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A quarter of a million prions (Procellariidae: *Pachyptila* spp) are estimated to have died during a severe storm that affected much of New Zealand during 11-20 July 2011. A deep depression anchored south of New Zealand created storm-force southerly winds in the western Tasman Sea, which turned westerly before slamming into New Zealand's 1500 km-long west coast. Starved prions of all 6 species were recovered dead, although more than 80% of the birds recovered were broad-billed prions (*P. vittata*). Densities of dead birds on some beaches on the west coast of the North Island exceeded 1000 birds km^{-1} (i.e. one bird per metre), however, the total number of birds killed was difficult to estimate due to thousands of birds being blown inland. Other than prions, the only species affected in any numbers was common diving petrel (*Pelecanoides urinatrix*), with perhaps 1,000 birds killed.

The largest previous prion wreck recorded in the Ornithological Society of New Zealand beach patrol scheme was about 15,000 birds killed in 2002. The largest previous wreck of broad-billed prions was 1385 birds in 1961, which is 2 orders of magnitude less than estimated mortality from the 2011 event. Fulmar prions (*P. crassirostris*) were also killed in unprecedented numbers in 2011, but the difficulty in distinguishing this species from the more abundant

fairy prion (*P. turtur*) further complicates mortality estimates.

Visits to seven broad-billed prion colonies near Stewart Island and one in the Chatham Islands between December 2011 and May 2012 revealed birds to be present in low numbers. These visits also provided opportunities for collection of reference material to facilitate genetic provenancing of a sample of the birds found dead in 2011.

Provisioning behaviour and chick development of the grey-faced petrel (*Pterodroma macropera gouldi*)

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The presentation will summarise the results of my research into the egg & chick survival & chick growth of the grey-faced petrel as well as inform on the at sea distribution of breeding pairs.

What trend information is available about New Zealand shag species, and is it sufficient to assess species conservation status?

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Shag species are particularly evident about New Zealand's major harbours, estuaries and their adjacent coastal areas. These same areas are often associated with and therefore influenced by our major cities. Shags populations, by being near the end of the food chain and often carrying out much of their foraging in waters heavily impacted by human populations (pollutants, fishing), are vulnerable to a variety of impacts resulting from human activities. Members of the OSNZ have carried out many surveys over the years of the birdlife of lakes, harbours and coastlines. Some of these surveys have been repeated up to 4 times at regular intervals, e.g. Wellington Harbour coastal bird counts at 10-yearly intervals since 1975. As a result this information resource is useful in assessing population trends of some shag species. We will detail the results available for a few species from various sites through the country over the past 40 years or so, and what the results suggest about species conservation status.

eBird as a tool to describe the pattern of birds at Bayfield Inlet, Dunedin

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Ninety six counts of birds using standard walks around Bayfield Inlet, Dunedin, between July 2008 and December 2011 recorded 36 species of birds and a total of 8346 individuals. All Data was uploaded to eBird and this talk describes how this information can be retrieved and used as the basis for further analysis. Seasonal patterns are described for royal spoonbill, white fronted tern and pied oystercatcher. The talk is an example of how all members can build bird observations into records and into data.

Aspects of the ecology of the Southern black backed gull (*Larus dominicanus*) on Rangitoto Island

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The Department of Conservation (Taylor 1998) recognises a need to update the distribution of common sea birds including Southern black-backed gull, and specifically notes the Rangitoto population of this species as being of interest. There is little information available on the changes to the population size of Southern black-backed gull (Larus dominicanus) on Rangitoto Island since studies carried out in the 1970s. Of special interest would be relating any changes in breeding colonies to the changes in the vegetation (and even the wider urban environment) that have occurred since the earlier studies. Breeding colonies of black-backed gull on Rangitoto were identified and mapped over 2011/2012 breeding season using direct nest counts on the sites and by the use of the photographic surveys. Collected data is compared with historical data. A longer-term study of the dispersal of black-backed gull from the Rangitoto colonies is to be developed by the Department of Natural Sciences, Unitec. Methodology and

protocols for this study will be developed as part of this project.

Thirty years of the moult recording scheme in New Zealand: a review of progress and moult patterns in selected species

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Moult is a critical time in the life of birds and determining when it occurs, how long it takes to complete and how many wing or tail feathers are lost at one time are essential in understanding the vulnerability of a species during moult. We have been systematically recording the patterns of plumage moult in New Zealand birds through the OSNZ Moult Recording Scheme for over 30 years. The New Zealand Scheme, modelled on the British Trust for Ornithology Moult Enquiry, was launched in 1981 at a time when little was known of moulting patterns for many New Zealand species. Since then 3272 moult records for 130 species have accumulated, mostly using the N.Z. Moult Card for recording data on birds in active moult, or the Summary Form for Birds Not in Moult. Half of the records received (52%) were from birds in active moult, the rest being from non-moulting birds. Most records (64%) were from live birds examined in the hand. The house sparrow *Passer domesticus* with 603 records headed the species list, while the silvereye *Zosterops lateralis* came next with 496 records. We use data from these two common species to illustrate current approaches to avian moult analysis, and to compare their patterns of moult in New Zealand and overseas. Finally we review future trends in moult study and how these might relate to the future of the OSNZ Moult Recording Scheme.

Water off a duck's back: Superhydrophobicity from feathers?

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The hydrophobic nature of feathers is well-known, although the water repellancy is poor in comparison to other natural and synthetic materials. Previous studies have suggested that the hydrophobicity results purely as a result of the microstructure of the feathers, and is not associated with the preen oil. Based on our previous work on superhydrophobic surfaces and taking inspiration from nature, we have undertaken studies to determine whether the hydrophobicity can be improved and thereby show whether the structure of feathers can provide the basis for superhydrophobicity.

Wind farms and birds

GERRY KESSELS

A current hot topic amongst the ornithological fraternity, Gerry has been working solidly on wind farms in the Western Waikato, and will present some evidence to the conference regarding the potential impacts to birdlife from wind turbines.

Current distribution of South Island kokako

ALEC MILNE

A database of South Island kokako reports have been categorised and mapped. In particular, emphasis has been placed on the presence of the wattle. This anatomical feature allows unequivocal identification of this species. The resulting map of observations is indicative of their current distribution.

POSTER PRESENTATIONS

Population and flight paths of South Island pied oystercatchers at Auckland Airport

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Bird-aircraft collisions (bird strikes) are a major threat to aviation safety, resulting in vital ongoing management and monitoring of bird populations at airports. In this study, populations of South Island pied oystercatcher (SIPO) were monitored at two key roost sites around Auckland Airport. SIPO are the most prevalent species at Auckland Airport and represent the greatest potential bird strike hazard. The aim of the study was to determine population numbers and trends at each site, as well as major flight path interactions occurring over a complete tidal cycle. Population data was gathered with a direct count population census at fortnightly intervals over a five month period using both

active counting and photography methods. Flight path data was collected three times at each site by recording any incoming or outgoing movements of SIPO over a complete tidal cycle. The results will contribute to improved management of SIPO and other bird species at Auckland Airport.

Takahē translocation networking: A new tool for use in disease surveillance

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Pathogenic diseases are increasingly recognised as a challenge to the conservation of wildlife, and information regarding epidemiology of pathogens within populations is vital for determining ecosystem health. Many insights into ecological and evolutionary processes have come from studies of island systems. Diversity, abundance, and movement of species are restricted on small islands and as a result provide ideal opportunities to study the dynamics of pathogen systems. Endangered flightless birds can be highly susceptible to disease due to their small isolated populations and exposure to novel pathogens can significantly impact a naive population. Takahē (Porphyrio hochstetteri) is an iconic critically endangered New Zealand flightless rail under the active management by the Department of Conservation. Translocations of takahē between "island" sanctuaries are common place to minimise the effects of inbreeding and provide insurance against threats. We aim to use this species as a model in order to increase our understanding of pathogen transmission pathways within an ecosystem. Consequently, this may allow us to address potential vectors and reservoirs of pathogens within this ecosystem and ultimately contribute to wildlife
conservation.

Save our Shorebirds/ Bay of Plenty Shorebird Protection Programme

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The beaches, shorelines and estuarine systems of the Bay of Plenty provide important breeding and roosting sites for a range of native shorebirds including the endangered New Zealand Dotterel, Oystercatchers and White Fronted Terns. However, these shorebirds are under serious threat from predators such as stoats, rats, hedgehogs, and cats. Human impacts such as oil and debris from the Rena event have also impacted on these birds.

The Rena event has bought to the fore the need to protect our rare shorebirds and create safe environments. Forest & Bird continues to assist in the Rena response operation following the spill. For the past 18 years Forest & Bird has worked with partners including the Department of Conservation, Ports of Tauranga and the Bay of Plenty Regional Council to protect Bay of Plenty Shorebirds. This work has focused on Matakana Island, Maketu Spit and the wider Eastern Bay of Plenty region. Maketu and Matakana Island have both been seriously affected by the Rena disaster

Are microbes contributing to the decline of New Zealand's national icon, the kiwi?

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The overall objective of this study is to investigate the microbiology of the kiwi egg and how it affects hatching success, with the intention of providing strategies to improve hatching success in the wild. Kiwi eggs could be particularly susceptible to microbial infection because they are thin shelled, very porous, are incubated in humid/soiled nests for ~80 days, and first-laid eggs can be left exposed ≥13 days before incubation starts. The specific aims of the project are: (1) Identify the microorganisms that kiwi eggs are exposed to before and over the incubation period and determine their possible contribution to egg mortality through their classification. (2) Describe the infectious process by selected microorganisms on kiwi eggs. (3) Experimentally examine the effect of nests conditions on emu egg microbiota and hatching success using existing kiwi nests. We predict: (a) Emu eggs exposed to humid conditions will have greater microbiota and lower hatching success when compared to humidity reduced nests. (b) Disinfected eggs will have lower bacterial growth when compared to all other treatments. (4) Examine the effect of kiwi nest characteristics on hatching success. (5) Using the knowledge gathered provide guidelines on how to decrease the chances of microbial infections of eggs in the wild. To date microbiological samples have been collected from

kiwi nest chambers and show a large number of fungi and bacteria, also preliminary egg cultures show the presence of fungi and Gram positive cocci, both organisms that have been implicated in trans-egg shell infections. Therefore in this presentation I will focus on preliminary results and show how this project will benefit wild kiwi hatching success in the future. However, recent funding cuts by the Department of Conservation and Ports of Tauranga have resulted in a halt to the NZ Dotterel Protection programme on Matakana Island. In addition recent funding applications to support shorebird protection in the eastern Bay of Plenty have not been successful. Forest and Bird's Shorebird Protection Programme will redress this and ensure that gains made over the last 18 years are not lost.

New Zealand Garden Bird Survey – the first 5 years

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The New Zealand Garden Bird Survey started in 2007, with the objective of monitoring long-term trends in the numbers of birds visiting gardens in winter, especially native species such as tui, bellbird, and kereru. Volunteers spent one hour in midwinter each year recording for each bird species the largest number of individuals detected at any one time, as an index of abundance. The most numerous species recorded were house sparrow and silvereye. Numbers varied regionally (e.g. more house sparrows in northern regions and more silvereyes in southern regions). Urban gardens had higher counts of house sparrows, silvereyes, and greenfinches, but rural gardens had higher counts of most other species. At least twice as many house sparrows, silvereyes, and greenfinches were counted in gardens where supplementary food (bread, fat, fruit, seeds, or sugar-water) was provided than in gardens where it was not. There were changes in the abundance of some species over the years, but it is too soon to know if these were the beginnings of long-term changes.

Current status of the Hauraki Gulf population of the spotted shag (*Stictocarbo punctatus*) – preliminary results

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The Hauraki Gulf is the northern-most population of the spotted shag (Stictocarbo punctatus). Ornithological records and publications on the historical status of this species in the Gulf represent surveys carried out at least 25 years ago. Although not a threatened species, the population of the spotted shag s considered to be declining as a result of its sensitivity to (human) disturbance, with the species identified as in need of regular monitoring. This project aims to record the current status of the spotted shag within the Hauraki Gulf.