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Abstracts of papers presented at the Ornithological Society of New Zealand AGM and conference, 30 May 2009, Orewa, New Zealand

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ORAL PRESENTATIONS

Movements of bar-tailed godwits and red knots within New Zealand

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The Ornithological Society of New Zealand (OSNZ) ran a colour-banding programme to study the movements of Arctic-breeding waders (bar-tailed godwit, *Limosa lapponica baueri*, and red knot, *Calidris canutus rogersi*) in New Zealand from 2004-2007. 770 bar-tailed godwits and 345 red knots were colour-banded around the country, and OSNZ members and other observers made over 9500 sightings of 721 godwits and over 1500 sightings of 275 knots during the project. Most re-sightings were from the capture site, but movements of up to 1185 km (one way) were documented. Godwits and knots both showed the pattern of young birds being on average more mobile than adults; knots were generally more mobile than godwits. Some juvenile or immature godwits wandered widely around New Zealand and apparently settled on a long-term 'wintering' location during these explorations. Small numbers of godwits were recorded making stopovers upon arrival from migration. Overall, it is clear that non-breeding knots use an extensive network of sites around New Zealand and probably move frequently between them. Knots banded in the Firth of Thames were recorded from Parengarenga Harbour in the Far North down to Tasman Bay in the northern South Island, but it is not clear how regular these long-distance movements are. Godwits, in contrast, are much more likely to remain at one site or intertidal system and not venture far away during the non-breeding season. A report on this project will be published by the Department of Conservation later this year and will be freely available.

Breeding and behaviour records of peafowl (*Pavo cristatus*) at Mansion House Historic Reserve, Kawau Is, New Zealand, 1992-2008

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Information was collected from a small population of peafowl living in Mansion House Historic Reserve, Kawau Island, from 1995 to 2009. Peacocks used an expanded lek breeding system, and displayed at areas where human and natural foods occurred. Mating took place between late Sep and mid Dec. Breeding was successful in the presence of a substantial North Is weka (*Gallirallus australis greyi*) population. An average of 1.4 ($se = 0.6$, $n = 10$) young were fledged per successful clutch. No evidence indicated that peacock evening calling influenced calling of weka.

New Zealand falcon distribution survey 2006-2009

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On 1 Jun 2006 at the OSNZ AGM in Wellington the National NZ Falcon Survey was launched to collect and collate falcon observation records from around the country. The survey is due to cease on 31 May 2009 on completion of 3 full years. A summary of progress to date (30 Apr 2009) is given

describing a total of 4,703 individual records that have been collated dating back to 1942. A brief analysis, by year, month, region and breeding status is then provided for the 2,129 records submitted directly to the survey. This analysis shows that the year 2008 provided 408 records and 2007 371 records. The most popular month for NZ falcon observations was Nov with 230 closely followed by Apr with 228 and Mar with 226. Regionally, Canterbury provided the most records at 321. Manawatu-Wanganui followed with 320 and Otago with 302 providing the only 3 to exceed 300 records. Wellington was the next region a distance back on 212. Of the 2,129 records received only 116 (6%) were confirmed as breeding, 389 (18%) are regarded as suspected breeding whilst the vast majority of 1624 (76%) were recorded as non-breeding. The analysis is then followed by some of the more interesting events and information that have been provided by respondents to the survey so far.

A seabird colony database for New Zealand

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Forest and Bird, in their role as New Zealand's Birdlife International partner, have responded to one of the needs identified in the State of New Zealand's Seabirds report published by OSNZ and have made a grant to produce a seabird breeding colony database. This database will pull together all available published and unpublished information on the breeding sites of all species of New Zealand seabirds. Once completed, the database will be used to identify candidate sites for Important Bird Areas for Birdlife Internationals World Bird Database and will give us a better idea of where conservation priorities for New Zealand seabirds lie. Most information entered so far has been from published papers, books and reports, yet a lot of the important information is likely to be from unpublished sources. Here we give an overview of progress made so far, and make an appeal for any unpublished information.

Foraging patterns of banded rail (*Rallus philippensis*) within mangroves and over open mudflats

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There is increasing pressure to restrict the spread of mangroves but we have no knowledge of the effect that mangrove removal has on secretive wetland bird species. Mangroves provide cover for birds while foraging but they may only forage in mangroves in close proximity to their main roosting habitat. The aim of the study is to find out how far banded rail are prepared to move from their primary roosting habitat into mangroves (under cover) or onto mudflats (where there is no cover). Two saltmarshes in the Ohiwa harbour are being studied. At the Nukuhou saltmarsh the mangroves cover an extensive area seaward of a large area of rushes while at Burma Road (the control site) rail habitat consists of open mudflat without mangroves seaward of rushes. Transects are walked at both sites, starting at the rush habitat and extending into the mangroves or open mudflat. Any banded rail footprints crossing the transect lines are recorded with GPS and superimposed onto Regional Digital Aerial Mosaics. From this data it is possible to determine how extensively mangroves are utilised by banded rail and how far to seaward the birds forage. The results from this study will assist us to understand how three dimensional mangrove habitat influences the foraging patterns of banded rail. It will also allow us to assess the impact that the control and removal of mangroves is having on saltmarsh populations of banded rail.

The new checklist of New Zealand birds

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The current checklist project began in Oct 2001 when the OSNZ Council appointed a new Checklist

Committee that eventually settled on 8 members. The completed manuscript was submitted to the publisher (Te Papa Press, Wellington) in Nov 2008, the length of time to completion reflecting the magnitude of the task, and the complexity of the content. With publication expected in 2010, there will have been a 20-year interval between each of the 3 most recent editions (2nd edition, 1970; 3rd edition, 1990). It is currently a very difficult time to be writing a checklist, with fast-changing views being published regularly on the taxonomy and relationships of birds, most studies relying on recent advances in DNA technology. The new checklist will provide an up-to-date listing of the birds of the New Zealand region, including Norfolk and Macquarie Is, and the Ross Dependency (Antarctica), and be a primary reference for their nomenclature, taxonomy, classification, status and distribution (current, historical and fossil). OSNZ members will find some things new and different in the sequence of birds and in their Latin and common names. However, the changes have been conservative, relying on multiple lines of evidence, and an attempt has been made to harmonise where possible with the usage in recent Australian publications. Only 1 common name is given in the species headings, so that users are given 1 clear preference. Alternative English names are mentioned in the species texts, and alternative Maori names are listed in an appendix. For the 1st time, the checklist will give complete synonymies (lists of disused former Latin names) for the native birds. Readers of old historical works should find every New Zealand bird name listed in the checklist under the species by which it is currently known. Species known only from fossils more than about 1 million years old are listed in an appendix, as are the numerous failed introductions of exotic birds.

Bird conservation projects in the Auckland Regional Parks

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The Auckland Regional Parks network comprises 26 parks with a total area of about 40,000 ha. The parks include the 2 largest indigenous forests near Auckland in the Waitakere and Hunua Ranges, and coastal peninsula parks such as at Tawharanui, Mahurangi, Wenderholm, Shakespear and Duder. The parks are owned by the people of the Auckland region and managed by the Auckland Regional Council (ARC). Management of the parkland balances recreation, farming and the conservation and restoration of natural and cultural heritage. The Regional Parks harbour significant fauna including the only natural kokako population near Auckland, 1 of only 3 mainland gannet colonies, expanding populations of NZ dotterels, kereru, tui, bellbirds and tomtits, and also Auckland green geckos, moko skinks, Hochstetter's frogs and long-tailed bats. Mainland island management began on the parks in 1993, with projects to protect and enhance populations of kereru at Wenderholm and kokako in the Hunua Ranges. This work has benefited other species, and also enabled experimental releases of North Is robins at Wenderholm in 1999, and robins and whiteheads in the Hunua kokako area in 2001 and 2003 respectively. The kokako population at Hunua is managed jointly by the ARC and Department of Conservation. Recently, the size and genetic diversity of the population has been boosted by releases of kokako from the King Country. Sound anchoring was successfully employed to home the new birds close to their release sites. In the Waitakere Ranges, the 1200 ha Ark in the Park open sanctuary project is a successful partnership between West Auckland Forest and Bird and the ARC. Robins, whiteheads and hihi have been released, and the 1st kokako release will occur later this year. In 2004, a 2.5 km pest-proof fence was built across the Tawharanui peninsula and mammalian pests were eradicated, to create the 550 ha Tawharanui Open Sanctuary. Since 2004, green and forest geckos, brown kiwi, robins, whiteheads, brown teal and red-crowned kakariki have been released. After a long absence, bellbirds from Hauturu naturally colonized Tawharanui en masse in early 2005. They have now become one of the most abundant forest birds. Kaka have also colonized naturally, and the 1st locally-bred young were seen during the 2008-09 summer. A 2nd predator-fenced open sanctuary is planned for Shakespear Regional Park and the adjoining Defence land at the tip of the Whangaparaoa Peninsula.

Kea (*Nestor notabilis*) research 2008 - 2009: Bird repellents to prevent ingestion of 1080, population estimates of kea and nest monitoring

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The Kea Conservation Trust initiated 3 projects in 2008; a winter and summer survey of kea populations across the species range, and research into bird repellents to repel kea from

1080 baits. The 1st winter survey ran throughout Jul 2008 and utilised a pool of volunteers to record maximum kea numbers. This proved to be a valuable advocacy tool helping raise awareness of kea and providing information on kea presence in 42 locations throughout the South Is. The summer survey was run over a 10 day period during Jan 2009, and employed 49 field personnel (inclusive of DoC staff) to survey 90 spurs located across 3 kea habitats in the Nelson Lakes, Arthur's Pass and Borland Range, Fiordland areas. A total of 27 birds were banded over the 3 sites, and 2 satellite transmitters placed on juveniles at Nelson Lakes. Research is also underway in conjunction with Department of Conservation into bird repellents to prevent kea from ingesting 1080 baits with captive trialling on kea and field trialling of rats and possums scheduled to commence mid 2009. Additional 2009 projects include nest monitoring in the Nelson Lakes area (to assist in timing of the 2010 summer survey), and trialling of anodised aluminium colour bands in conjunction with DoC for long-term distance identification of wild kea.

Fast food for kaka (*Nestor meridionalis septentrionalis*) – kaka nutrition and movements in the Auckland region and beyond

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Since 2007, the Kakawatchnz Network has gathered kaka sightings from members of the public (mostly in the Auckland region, but also from the Coromandel Peninsula and northern Waikato). These sightings are used to construct distribution maps to show the movements of kaka in these mainland areas and changes throughout the year as the birds respond to food availability. Many of the sighting reports include information on the species of trees the kaka are using for roosting or feeding, the food source the kaka are exploiting, and other behavioural observations. This information is analysed to provide an insight into the movements of kaka on this area of the mainland, and to link it with other surveys of kaka, such as the ones carried out on Aotea (Great Barrier Is). This presentation outlines some of the movement and nutrition information that has come from this project.

Tiritiri Matangi: an update

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This illustrated talk will focus on the most recent events on Tiritiri Matangi Open Sanctuary. The island has seen many changes, from having a coastal forest cover pre-human, through the Maori occupation, which introduced kiore, to bare farmland after 100 years of European farming. The 10-year planting period (1984-94) resulted in the present young forest, which is now bursting with life. The releases of rare & endangered species (15 to date), current bird numbers, translocations to other sanctuaries, the impact of high visitor numbers, and some key recent events - both positive & negative - will be described. Anne Rimmer is a member of the Supporters of Tiritiri Matangi and a volunteer guide on the island. She is the author of "Tiritiri Matangi: A Model of Conservation" (rev. 2009).

Bioaccoustic monitoring of New Zealand birds

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Bioacoustic methods of bird monitoring are well established internationally and are commonplace within the academic community. Fixed acoustic monitors can be used to detect the passage of a wide range of bird species using vocal cues only. Bioacoustics can be used independently or as part of a suite of different monitoring techniques and can provide a robust means of monitoring some bird populations. Recent technological advances and concurrent price reductions are increasingly opening up these technologies to industry professionals and enthusiastic amateurs. I outline an application of this technology in the context of recent avian monitoring work for a potential wind farm site. In this setting, we are using basic pressure zone microphones to aid in the detection of bird movements across the site. Microphones and associated laptops are networked to a bank of deep-cycle batteries, allowing them to record 24-hours a day. Data is subsequently downloaded and analysed using free, readily accessible call extraction software. Some of the strengths and limitations of this technique will be presented. Finally, I suggest possible further applications and

advocate for the use of bioacoustic technologies by amateur and professional ornithologists in the future.

Effects of ectoparasitism on the reproductive success of little blue penguins (*Eudyptula minor*) from Tiritiri Matangi Is, Auckland, New Zealand

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Little blue penguins (*Eudyptula minor*) are threatened on mainland New Zealand and their status on offshore islands is largely unknown. There has been evidence that high ectoparasite loads are detrimental to the reproductive success of seabirds, including penguins. Therefore parasitism may be an important factor influencing reproductive behaviour. To explore nest parasite loads and how levels of infestation correlate with reproductive success (breeding success, fledging success and number of chicks per pair), we investigated the incidence of ectoparasites in the nests of blue penguins on Tiritiri Matangi Is. We monitored reproductive success of control and treatment nests and examined the effect of treatment with a pyrethrum based spray on flea (*Parapsyllus longicornis*) and tick (*Ixodes eudyptidis*) loads over time. Treatment 1 nests were treated weekly while Treatment 2 nests were treated only once. Control groups were not treated. Although most treatment nests showed a decrease in nest-associated parasites after treatment, the number of treatments did not significantly affect ectoparasite load for ticks or fleas. In addition, there was no difference in the number of ticks and fleas between control and treatment nests at the end of the breeding season. However, the number of ticks was significantly negatively correlated with reproductive success for both control and treatment groups. All 3 reproductive parameters increased as tick load decreased. Possible reasons for this apparent detrimental effect of ticks on host breeding behaviour could include tick toxins, anaemia and tick-borne diseases. We did not find a significant correlation between flea load and reproductive success. Although ectoparasite loads varied between nests, we did not find any significant effects of nest type, substrate type or bird presence on ectoparasite numbers for either the control or treatment groups.

Important bird areas analysis for New Zealand

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BirdLife International has championed community conservation work for many years, with a global approach to improving species conservation status through working with over 100 partners in countries around the world. Important Bird Areas (IBAs) are an internationally recognised tool for defining conservation areas for birds, and allow for monitoring, advocacy and management for conservation benefit. In New Zealand, the BirdLife partner is Forest and Bird, and in 2008, they began the process of designating IBAs for the offshore marine area, drawing largely on satellite tracking data contributed to the BirdLife Global Procellariiform Tracking Database. Many datasets for New Zealand have been contributed by OSNZ members. A steering group, including OSNZ members was established to guide the project over the course of IBA designation in New Zealand. In coordinating and analysing the data for the IBAs work, I will discuss how IBAs criteria apply to New Zealand areas, and describe the upcoming programme of work, including ways in which OSNZ and its members can contribute.

Sightings of New Zealand fairy terns in autumn 2008 and an estimate of population size

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Sightings and band combinations of the critically endangered New Zealand fairy tern (*Sterna nereis davisae*) were recorded at known roost sites between Feb and Jun 2008. The aims were to determine as exactly as possible the subspecies population size, learn more about which roost sites are used by the birds in autumn and to find birds which might have been previously unaccounted for. Sightings were made by a skilled ranger employed by the Department of Conservation for this purpose,

and additional sightings reported by other skilled observers were also included. In total, 139 valid sightings were recorded, with fairy terns being found at 7 sites. Thirty-two individual birds were accounted for, with a reasonable likelihood that a further 6 live birds were not observed during the survey.

Bar-tailed godwits *Limosa lapponica baueri*; Images from their annual cycle

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A population of bar-tailed godwits *Limosa lapponica baueri* breed in western and northern Alaska and migrate to non-breeding grounds in New Zealand and Eastern Australia. They are the most abundant tundra breeding species occurring in New Zealand. Through colour banding and satellite tracking we now have greater knowledge of the migration strategies of this species. During northward migration they stage at sites around the Yellow Sea region, most particularly at Yalu Jiang National Nature Reserve, China, before flying on to breeding sites in Alaska. In May-Jun 2008 observations of breeding birds were made on the Yukon-Kuskokwim Delta. Aspects of migration preparations, stopover sites and breeding ecology are illustrated here.

POSTER PRESENTATIONS

Here today, gone tomorrow: transient waders and waterbirds on a small New Zealand estuary

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Surveys of wintering wader populations in New Zealand have focused primarily on the larger estuaries. What are the patterns of occurrence and numbers on the smaller estuaries? Do they serve any significant functions in the dynamics of wader populations overall? The waders and waterbirds occurring on the 86 ha Whanganui River estuary, situated on the south coast of the North Is, have been counted on 186 occasions since Apr 2006 (average interval between counts: 6.1 ± 7.8 days). A total of 26,524 individuals of 26 species were counted during this study (average of all complete counts: 194 ± 144 individuals; range: 9-700). The 3 most common species were black-backed gull, *Larus dominicanus* (47.8% of all individuals counted), pied stilt, *Himantopus himantopus* (15.8%), and red-billed gull, *Larus novaehollandiae* (12.0%), together constituting >75% of all birds counted. Apart from Pied Stilt, no waders were particularly common. Up to 28 bar-tailed godwit resided on the estuary during the summer months, one marked bird returning for 3 successive years. Small numbers of wrybill, *Anarhynchus frontalis*, pied oystercatcher, *Haematopus finschi*, and flocks of banded dotterel, *Charadrius bicinctus*, passed through but seldom stayed for long. Although the numbers involved are small, the estuary may be useful stop-over point for birds migrating between the South and North Is. Individuals of some species, such as Caspian tern, *Hydroprogne caspia*, remain on the estuary throughout the winter. Observations of colour-banded birds show that some reappear the following year. Observations to determine long-term trends continue.

Tara - Auckland Region's bulletin from 1976 to 1994

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The idea of a regular bulletin recording the ornithological activities of Auckland Region and its members was conceived by Sylvia Reed during her lengthy term as Regional Representative, 1969-82. *Tara* was first produced in Jun 1976 after which it appeared quarterly, continuing while Michael Taylor was RR, 1983-91, but ceasing in 1994 just as word-processing came upon the scene to make such journals a simpler operation. Staple items were reports of the region's monthly meeting and the results of regular activities such as beach patrols, lake and bush surveys or wader counts, some of which were also part of OSNZ national schemes. Besides these results, the region's field trips and longer expeditions were written up, and members were encouraged to submit their own observations and to describe individual projects, as well as their travels further afield. In all, *Tara* had 106 contributors during its 18 year existence. With his communicating skill and love of language, the most prolific was Dick Sibson whose 56 articles included a number of his poems. *Tara* had 'registered magazine' status and so copies were lodged with the national Hocken Library. Other full sets are held at Auckland Museum and in the region's own archives. Recently an index has been prepared to make the wealth of information within the pages of *Tara* more readily accessible. Copies of *Tara* and examples of its contents - humorous as well as serious and poetry as well as prose - will be on display.