AMOKURA

Newsletter of the Northland Region of the
*Ornithological Society of New Zealand - trading as **Birds New Zealand***

October 2017 Amokura 117

(Published in February, July and October of each year)

MEETINGS of the Northland Branch of the O.S.N.Z. are held each month on the second Thursday, for the period FEBRUARY to DECEMBER. TIME: 7-30p.m.

VENUE: Founders Room, Alzheimers Society, 148 Corks Road, Tikipunga, Whangarei.
COST: A donation of $3-00 per person per meeting is requested toward the cost of Hall hire, supper and the production and distribution of "Amokura".

ALL WELCOME

PROGRAMME TO MARCH 2017

OCTOBER
13 MEETING – 7-30p.m. - Guest speaker – Laurence Sullivan – Bird counts and wild life monitoring - http://www.northtec.ac.nz/news/2014/bush-calls-for-bird-counting-students
8 WEST COAST BEACH PATROL
18 EAST COAST BEACH PATROL (Meet at the Kensington Carpark 12:30pm)
NOVEMBER
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10 MEETING – 7-30p.m.
12 WEST COAST BEACH PATROL
15 EAST COAST BEACH PATROL (Meet at the Kensington Carpark 12:30pm)
DECEMBER
8 MEETING – 7-30p.m.
10 WEST COAST BEACH PATROL
13 EAST COAST BEACH PATROL (Meet at the Kensington Carpark 12:30pm)
JANUARY
NO MEETING
7 WEST COAST BEACH PATROL
17 EAST COAST BEACH PATROL (Meet at the Kensington Carpark 12:30pm)
FEBRUARY
9 MEETING – 7-30p.m.
4 WEST COAST BEACH PATROL
14 EAST COAST BEACH PATROL (Meet at the Kensington Carpark 12:30pm)

REGIONAL REPRESENTATIVE	**Janet Snell**	**438-5737**
SECRETARY	**Ruth Crockett**	**435-0954**
TREASURER	**Kevin Hayes**	**437-6470**
REGIONAL RECORDER	**Tony Beauchamp**	**436-2224**
REGIONAL REPORTER	**Vacant**	
AMOKURA EDITOR	**Hilton Ward**	**946-0074**

Previous Issues of Amokura - http://www.osnz.org.nz/regnews.htm

JULY

At the July meeting Heather O'Brian gave a photographic presentation of her recent South Island trip via Queenstown, Milford and Doubtful Sounds and Catlins intermingled with her stunning bird sighting photos and equally stunning scenic views. Both reminding us of the unique diversity and beautiful country we live in. (The photos were of our New Zealand Falcon, (At Skippers Canyon) South Is Robin, Rifleman, Fantails, Tomtit, Kea, Skua, Takehe, Spotted Shags and Yellow Eyed Penguin and Pipit. Thank you Heather.

AUGUST

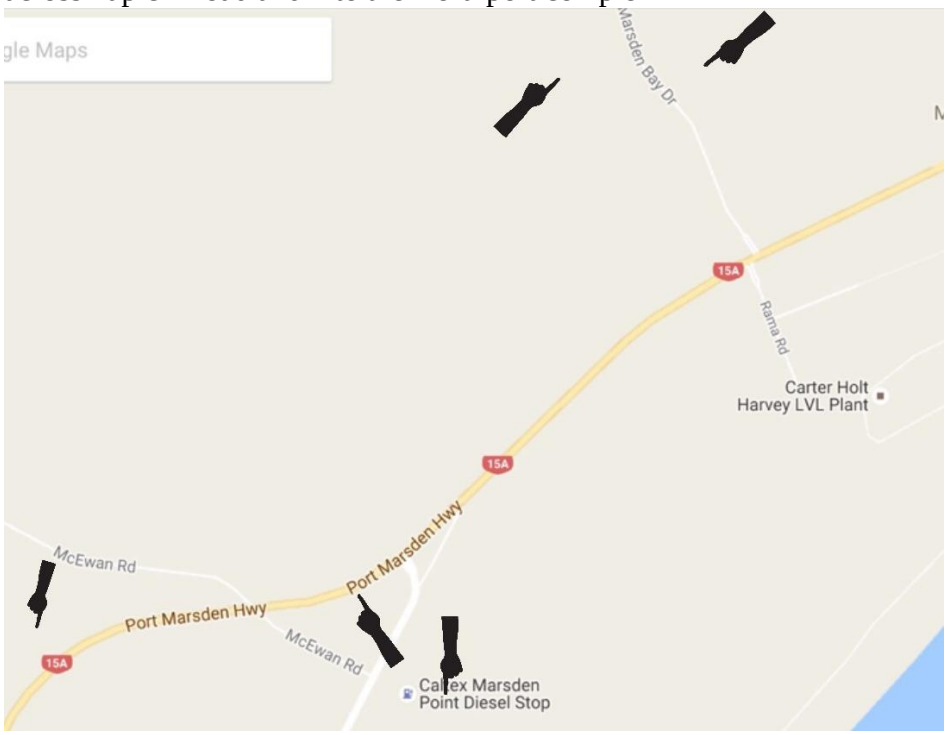
SEPTEMBER
Tony Beauchamp gave an informative presentation regarding the effects of pindone poisoning for pests on the Mangawhai Dotterel population.

Stories - Adventures – Yarns – Sightings

From Ria Kemp we have the following sightings:

The king tide bought amazing numbers of Godwits and Red Knots to Marsden bay on the 21st September. Most of them could be seen from the car park. Lovely to see them back. They are often found here at really high tides numbering up to 3000 over the summer months.

I Saw a Facebook page asking for Bittern sightings to be reported both to the page and to DOC.
I set out to find one revisiting all my old spots (see attached map)
Nope...Nothing....went home to collect my dogs for their daily walk. Driving along who should pass right across my car?? A Bittern :)
Luckily still had the camera in the car. I was able to sneak out and have a good look at him before he flew across Papich Road and into the Northport complex



Report via Susan Steedman - OSNZ

Daniel Knowles is a regular visitor to Northland as he visits his grandparents during the school holidays. At the age of 11.5 (as he insists on calling himself currently) he has a reliable knowledge of the birds that frequent the Whangarei Harbour and Waipu Wildlife Refuge. Since the age of 6 he has been allowed to carry a pocket camera when out with Gran when she is birding. His favourite subjects have been the little pied shags that roost on the groyne at Waipu.

As it is school holidays, and he is getting older, he was given the task of finding a bird that had bands, photographing it, and sending a report to the right person.

Once he had taken his photo he then walked the beach and was with Ria Kemp and Susan Steedman when they fenced the first dotterel nest on the beach. He played his part in protecting 3 eggs that could have been inadvertently crushed.

Below is a copy of the report (done on a proforma his Gran has set up) and attached is a photo of the bird he photographed to complete the task.

Sightings of NZ Dotterel
Place of Sighting: Waipu Wildlife Refuge -
Date of Sighting 27/09/2016
High Tide time on this day (Marsden Pt) 17:44 Height of Tide: 2.5m
Time of Sighting: around noon

Bands Read

Left Leg	Left Leg	Dash	Right	Right
Y	O	-	M	

Photos to show bands taken by Daniel Knowles (aged 11.5)
Person sighting reported to: John Dowding

Also breaking news from Tawapou on the Tutukaka Coast.
Grey Faced petrels have been recently been discovered nesting on a headland on the Tutukaka coast. This in an area where pest control has been carried out for a number of years. Burrows were discovered, a camera was placed to see which birds were using them. It was then that the Grey Faced Petrels were identified.

The following study was provided by Sarah Busbridge on a behavioural analysis of P. domesticus (house sparrow) that she recently wrote for university.

Behavioural analysis of the house sparrow (*Passer domesticus*).
The house sparrow (*Passer domesticus*) is now one of the world's most broadly distributed bird species, making it an ideal candidate for behavioural studies (Liebl et al., 2015). We undertook an observational study of sparrows in Albert Park, Auckland to investigate how sparrows may alter their time budget depending on whether they are in a group, or distanced from conspecifics.
Our hypothesis was that the behavioural time budget of solitary sparrows would differ from that of sparrows in close proximity to conspecifics. Based upon previous studies on the behaviour of flocking birds, we predicted that solitary sparrows would exhibit increased vigilance, spending more time on scanning behaviour and less time on foraging behaviour than sparrows that were part of a group. We based our hypothesis and prediction on observations made during qualitative sampling, such as the tendency of solitary sparrows to scan at more frequent intervals while foraging, as well as prior knowledge of the dilution effect and optimal foraging models.
The dilution effect refers to the idea that a sparrow will dilute the impact of a potential predator attack by being part of a flock, as there is a decreased chance that it will be the chosen victim (Krebs & Davies, 1993). Furthermore, a group will have better surveillance capabilities since there are more eyes to detect predators. This suggests that sparrows in a group will not have to spend as much time on scanning behaviour. However, solitary sparrows may still be found as there is a trade-off between this decreased risk of predation, and the possibility of diminished food returns due to inter-specific competition within a group. Optimal foraging models suggest that sparrows may distance themselves from the group if the

benefits of increased food intake outweigh the costs of increased predation risk and decreased time for foraging.

Results:

Table 1. Percentage of total observed time (505 seconds) that sparrows in a group (defined as within 1 m of two or more conspecifics) spent on behaviours, compared to the percentage of total observed time (401 seconds) that solitary sparrows (defined as 1.5m or further from conspecifics) spent on behaviours.

	Foraging	Scanning	Perching	Aggression	Chirping	Hopping	Flying	Preening
Group	45.7%	15.4%	3%	0.4%	0.6%	30.9%	3.8%	0.2%
Solitary	18.2%	37.7%	2.5%	0.0%	0.5%	32.4%	8.7%	0.0%

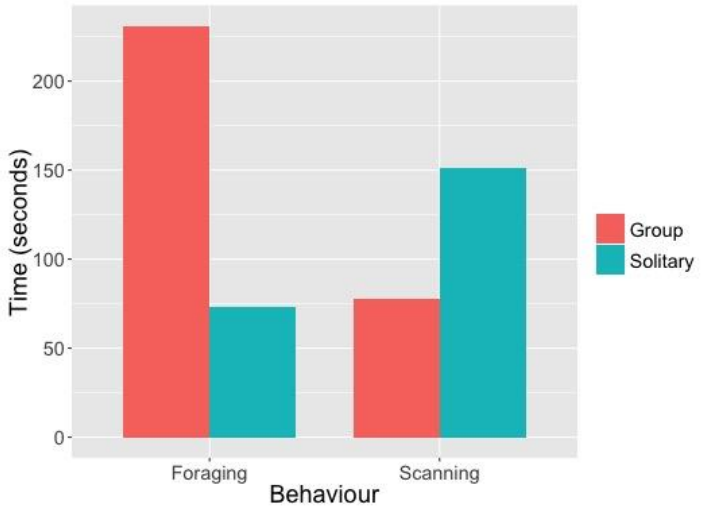


Figure 1. The total observed time, measured in seconds, that randomly selected individual sparrows within a group (n=15) spent on foraging and scanning behaviour in comparison to solitary sparrows (n=15).

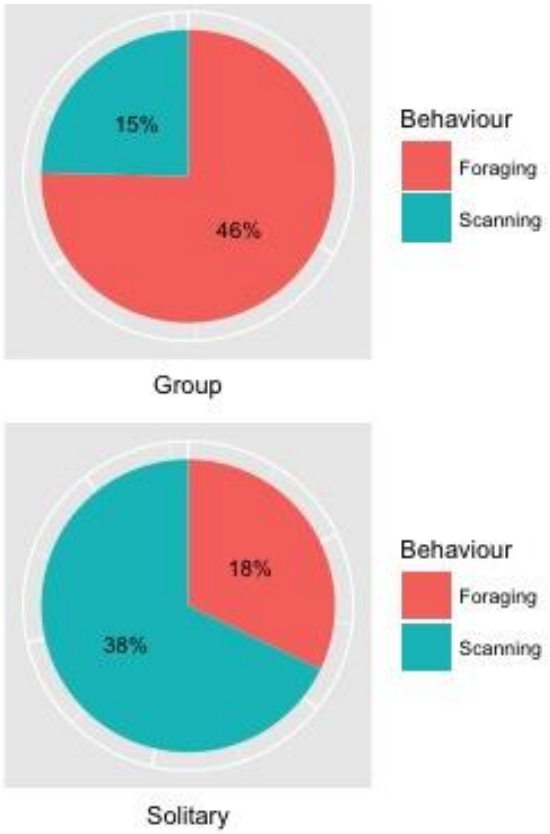


Figure 2. The percentage of total observed time that randomly selected individual sparrows within a group (n = 15) spent on foraging and scanning behaviour, compared to the percentage of time spent on foraging and scanning behaviour by solitary sparrows (n = 15).

A Welch two sample t-test was performed to compare the percentage of time spent foraging by solitary sparrows and sparrows in a group, as well as the percentage of time spent scanning. There was a significant difference in both the percentage of time spent foraging ($t = -3.23$, $df = 20.5$, $p = 0.004$), and the percentage of time spent scanning ($t = -3.52$, $df = 20.9$, p-value = 0.002). These results support our hypothesis and we can reject the null hypothesis that there is no difference in behaviour between solitary sparrows and sparrows in a group.

Discussion

We interpreted our results using Tinbergens four questions to look at the proximate causation, adaptive significance, and evolutionary history of the behaviours exhibited.

Proximate causation

External stimuli such as movement or sound which the sparrow perceives through its sensory system may be one proximate cause for the scanning behaviour observed. In the case of movement, the sparrow will perceive an animal or object as light enters its retina. The photons will be converted into electrical energy in the photoreceptors, and transferred to the brain through the retinal ganglion cells that form the optic axis (Fernández-Juricic, 2012). Here the visual information is processed, causing the bird to move its head, looking for any possible sources of danger.

A proximate cause for foraging behaviour may be internal stimuli such as the animals hunger level. If a sparrow is very hungry it may forage for food in response, and reduce the amount of time spent on other activities. A sparrow also may only digest as much food as its digestive system will allow, placing an upper limit on the time it may spend foraging.

A possible developmental explanation for the frequent head movement of sparrows while foraging or scanning, is that they have learned through experience, that by moving their head they increase the quality of visual information they are gathering, thereby increasing the probability that they will detect a predator or food if either is present (Fernández-Juricic, 2012). It is also possible that they may have learned either of these behaviours from their parents or neighbours.

Adaptive significance

We would expect that both solitary sparrows and sparrows in a group are budgeting their time and behaving in ways that will maximise their survival and reproduction in the given environmental conditions (Elgar, 1987). For sparrows, maximising fitness may involve a trade-off between budgeting time for scanning behaviour to reduce the risk of predation, and foraging behaviour to minimize the risk of starvation (McNamara & Houston, 1992). Our results suggest that the amount of time spent on these behaviours will be influenced by whether the bird is part of a group or distanced from conspecifics, and this may in turn be influenced by the risk of predation and food availability in the area.

Flocking behaviour may confer a selective advantage as birds that forage in flocks will reduce their individual risk of predation, decrease the time they must spend in predator vigilance, and increase the amount of time that can be spent on foraging for food (Elgar, 1986). Our results support this as the birds we observed in groups spent less time scanning and more time foraging than solitary birds (Fig. 1, Fig. 2). However, living in a group also has costs such as, increased competition for food and increased conspicuousness to predators (Krebs & Davies, 1993). Since an individual is out to maximise its own success and not the success of the colony as a whole, if the benefits do not outweigh these costs, then the sparrow may forage alone (Krebs & Davies, 1993). The increased amount of time spent on scanning behaviours that we observed in solitary sparrows, may be an attempt to counteract the increased risk of predation. This allows them less time for foraging, but as they do not have to share food resources, it may still result in a net energy gain.

Ecological conditions will likely determine which behaviours are favoured. High predator densities may favour flocking behaviour, as will clumped distributions of super-abundant food as there will be enough to go around and more eyes to locate the patches. Low predator densities and more scarce or indivisible food resources may favour solitary foraging behaviour.

Evolutionary history

We may be able to better understand our results within the context of the sparrows evolutionary history.

The behavioural evolution of the house sparrow is closely associated with the cultural evolution of humans and the development of agriculture (Pinowski & Kendeigh, 2012). The expansion of monoculture-style farming increased the predictability of the birds finding abundant supplies of seed for persistent periods of time (Pinowski & Kendeigh, 2012). The sparrows ancestors evolved to exploit these food opportunities and this increase in food availability may have led to the development of flocking behaviour as super-abundant food resources meant that intra-specific competition was less of a factor. This sociality in the sparrows ancestors may also have been selected for due to its anti-predator benefits in the absence of the thick cover of dense woody vegetation near human settlements which previously would have provided protection from predators (Lima, 1993).
The evolutionary history of the sparrow, may also impose certain physiological constraints which have effected behaviour. In the case of vision, sparrows visual system, like other avian species, has variable performance across the visual field (Fernández-Juricic, 2012). Some sectors provide higher levels of resolution and motion detection (Fernández-Juricic, 2012). As a result, birds need to move their eyes and heads to be able to observe their surroundings with high resolution (Fernández-Juricic, 2012). Furthermore, although sparrows have laterally placed eyes which give them good peripheral vision, they still have a blind spot. This feature is present in all vertebrate eyes. For sparrows, this means they must move their head to compensate for the lack of visual information in this area and ensure there are no predators there (Fernández-Juricic, 2012). Both of these factors may influence the way the sparrow scans for predators and the amount of time they must spend doing so.

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EAST COAST BEACH PATROL – SUMMARY – Code NE

Compiled by P. R. SMITH – Period JAN to JUN 2016

MONTH	JAN	FEB	MAR	APR	MAY	JUN	TOTALS
FROM	Ruakaka Riv	Ruakaka	Ruakaka Riv	Ruakaka Riv.	Ruakaka Riv..	Ruakaka Riv.	
TO	Waipu River	Sth of tip	Sth of Tip.	Sth of Tip	Sth of Tip.	Sth of Tip.	
DISTANCE	10.0km	7.0 km	8.5 km	8.5 km	8.5 km	8.5 km	
PATROLLERS	M.Robinson	. J Snell	P. Cozens J Hudson	A. McCracken P. Cozens	J. Hawken Kathy ?	V. Lowe	
Wandering Albatross							
Royal Albatross							
Black-browed Mollymawk							
White-capped (shy mollymawk)							
Grey-headed Mollymawk							
Buller's Mollymawk							
Light-mantled Sooty Albatross							
Flesh –footed Shearwater	1			2			**3**
Buller's Shearwater	1	8			1		**10**
Sooty Shearwater	2						**2**
Short-tailed Shearwater	1					1	**2**
Fluttering Shearwater	17	36	5	5		19	**82**
Hutton's Shearwater							
Little Shearwater	2						**2**
Common Diving Petrel	**5**	**2**	1	2	**5**	**4**	**19**
Black Petrel	1				**1**		**2**
White-chinned Petrel							
Kerguellen Petrel							
Cape Pigeon							
Antarctic Fulmar							
Northern Giant Petrel							
Fairy Prion	5						**5**
Thin-billed Prion							
Antarctic Prion							
Broad-billed Prion							
Lesser Broad-billed Prion							
Prion sp							
Blue Petrel							
Pycroft's Petrel							
Cook's Petrel	3	5		19			**27**
Black-winged Petrel							
Mottled Petrel							
Grey-faced Petrel		2		1		3	**6**
White-faced Storm Petrel		1					**1**
N.Z. Storm Petrel	1						**1**
Blue Penguin	1	10	12		3		**26**
Australasian Gannet	3	1	1	1	1	1	**8**
Pied Shag			1		1		**2**
Wedge-tailed Shearwater	1						**1**
Petrel Sp.							
Variable Oystercatcher							
Southern Black-backed Gull		2	1				**3**
Red-billed Gull		2					**2**
Caspian Tern		**1**					**1**
White-fronted Tern							
Magpie				1	1		**2**
Morepork				1			**1**
Australasian Harrier						1	**1**
Domestic Fowl						2	**2**
TOTALS	**44**	**70**	**21**	**32**	**13**	**31**	**211**

Recent Sightings by Members

Bird	Number	Place	date	Name
Myna	6	Puriri Court	29-Jun-16	Ruth & David Crockett
Starlings	4	202 Kamo Rd	29-Jun-16	Ruth & David Crockett
Spur Winged Plover	2	202 Kamo Rd	29-Jun-16	Ruth & David Crockett
Red Billed Gulls	55	Pataua South	11-Jul-16	Ruth & David Crockett
Caspian Tern	1	Pataua South	11-Jul-16	Ruth & David Crockett
Black Backed Gulls	3	Pataua South	11-Jul-16	Ruth & David Crockett
Sparrows	8	Pataua South	11-Jul-16	Ruth & David Crockett
South Is Pied Oyster Catchers	13	Pataua South	11-Jul-16	Ruth & David Crockett
Variable Oyster Catchers	4	Pataua South	11-Jul-16	Ruth & David Crockett
Myna	2	Pataua South	11-Jul-16	Ruth & David Crockett
Kingfisher	3	Pataua South	11-Jul-16	Ruth & David Crockett
Pukeko	5	Pataua South	11-Jul-16	Ruth & David Crockett
Spur Winged Plover	2	Pataua South	11-Jul-16	Ruth & David Crockett
Grey Warbler (Juv)	1	Taheke St, Tikipunga	7-Nov-16	P Smith & K Hayes
Reef Heron	1	Tutukaka Hbr	16-Mar-16	P Kane
Australasian Bittern	1	Ruakaka Wetland	6-Jun-16	Heather O'Brian
Cattle Egret	8	Between Te Arai & Mangawhai		janet Snell, Karen Miller, julie Hudson
Australasian Bittern	1	12 Old Mill Ln wetland	6-Sep-16	Melva & Hilton Ward
Pied Stilts	2	12 Old Mill Ln, Waiotoi River	8-Sep-16	Melva & Hilton Ward
Dunnock	1	12 Old Mill Ln	5-Sep-16	Melva & Hilton Ward
Shining Cuckoo	1	12 Old Mill Ln	16-Sep-16	Melva & Hilton Ward