



Monitoring long term trends in the use by birds of Te Waihora-Lake Ellesmere: the importance of the 2013 initiative

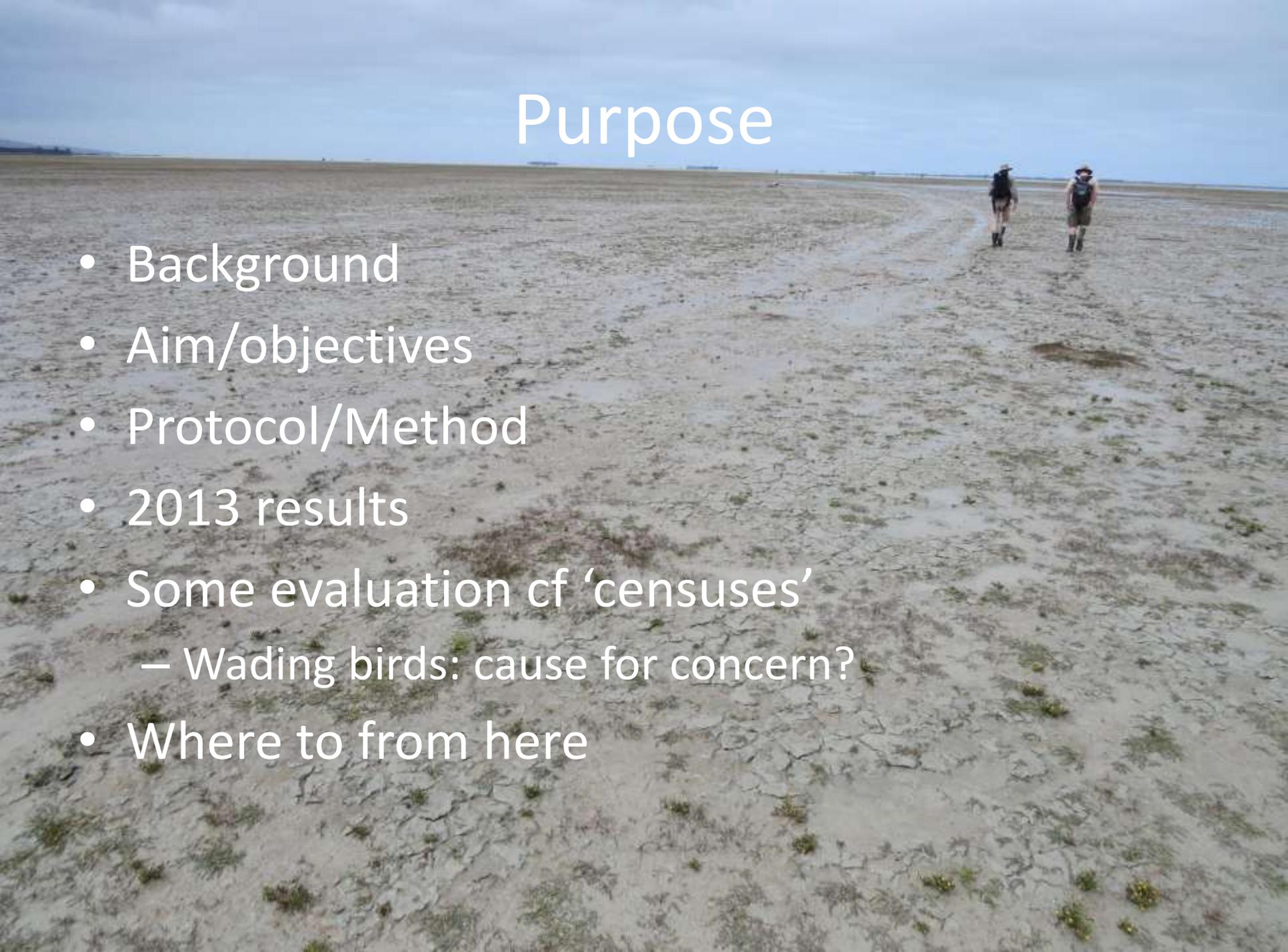
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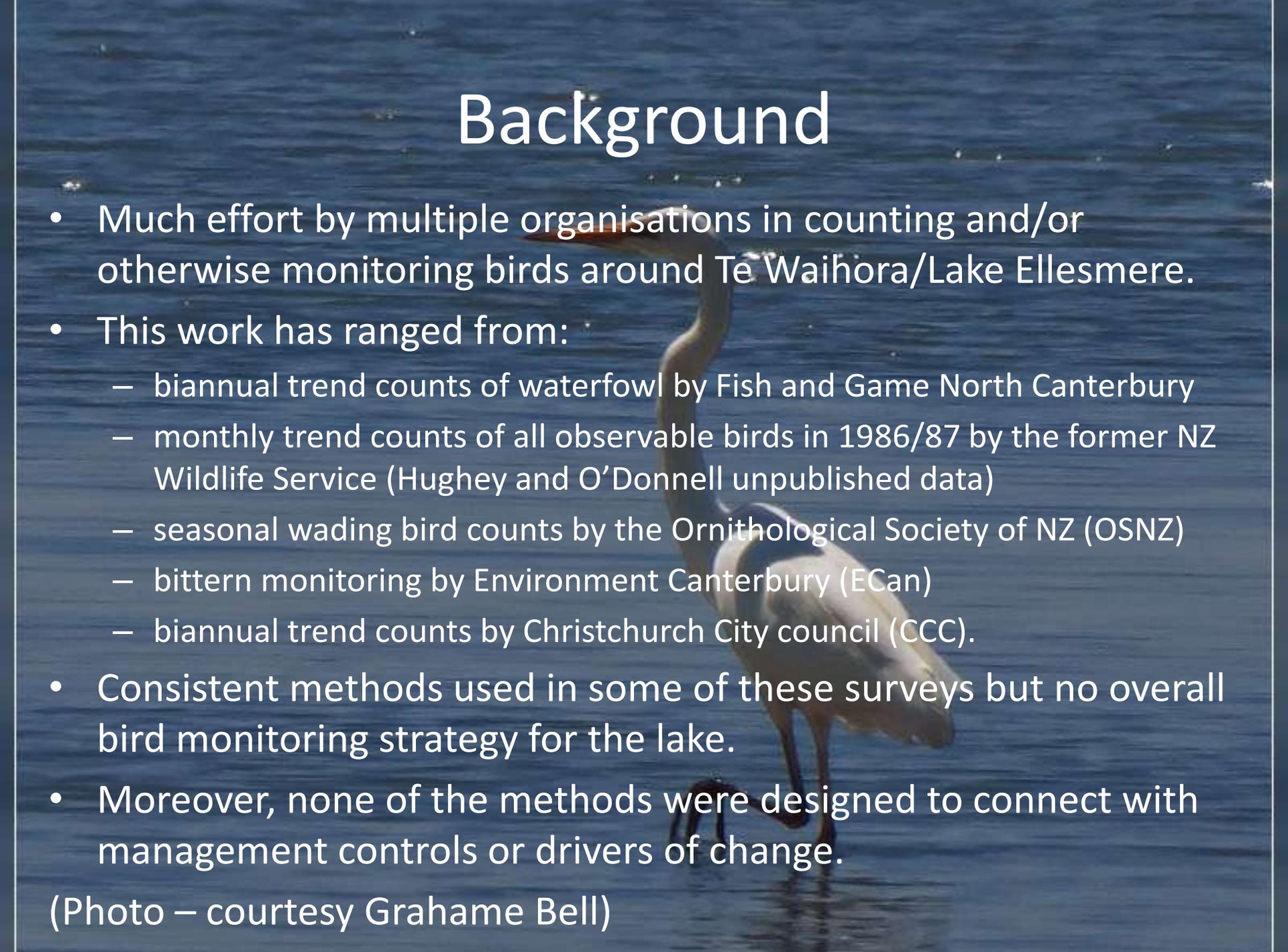
25th Feb 2013

Purpose

- Background
- Aim/objectives
- Protocol/Method
- 2013 results
- Some evaluation of 'censuses'
 - Wading birds: cause for concern?
- Where to from here



Background

A white swan is the central focus of the image, standing in shallow, rippling blue water. The swan is facing left, with its long neck curved upwards. The background is a vast expanse of water with some small, dark spots that could be other birds or debris. The overall scene is serene and natural.

- Much effort by multiple organisations in counting and/or otherwise monitoring birds around Te Waihora/Lake Ellesmere.
- This work has ranged from:
 - biannual trend counts of waterfowl by Fish and Game North Canterbury
 - monthly trend counts of all observable birds in 1986/87 by the former NZ Wildlife Service (Hughey and O'Donnell unpublished data)
 - seasonal wading bird counts by the Ornithological Society of NZ (OSNZ)
 - bittern monitoring by Environment Canterbury (ECan)
 - biannual trend counts by Christchurch City council (CCC).
- Consistent methods used in some of these surveys but no overall bird monitoring strategy for the lake.
- Moreover, none of the methods were designed to connect with management controls or drivers of change.

(Photo – courtesy Grahame Bell)

Aim/objectives

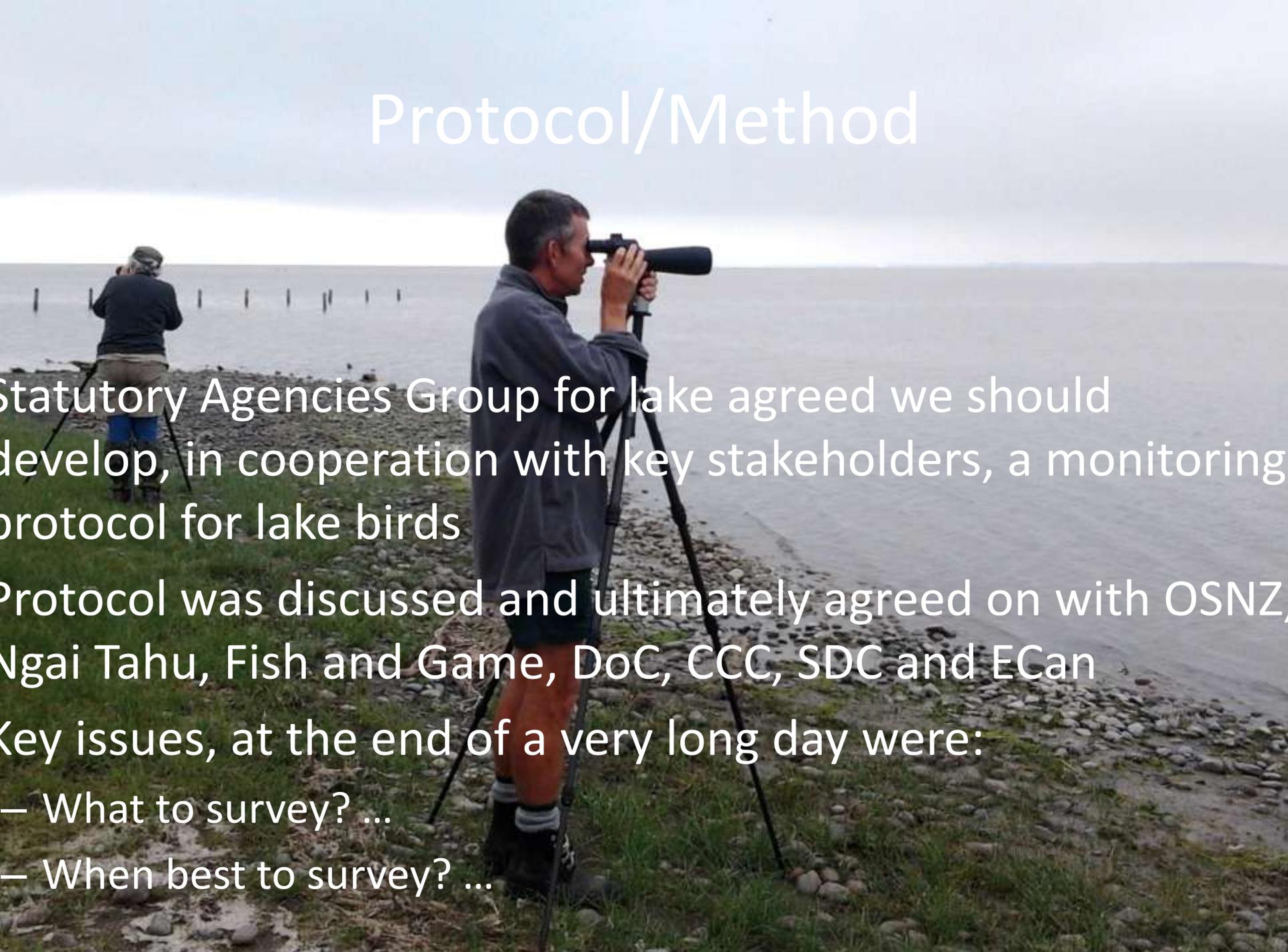
- Aim:

- *Develop and implement an integrated monitoring programme for the diverse range of birdlife and associated values of Te Waihora/Lake Ellesmere that provides timely, cost effective and relevant information for lake and birdlife managers, and other stakeholders.*

- Objectives:

- identifies spatial variation by guild, and where necessary within-guild (e.g., for black swan and Canada geese);
- uses geographically consistent spatial boundaries;
- incorporates standard recording practice, i.e., a standard data sheet;
- undertaken at least annually for comparative purposes;
- provides data that can be readily compared to the 1980s baseline bird abundance data;
- incorporates the least possible resource and skill requirements;
- management relevant;
- has results which can be readily and speedily distributed to interested parties; and
- links to state of the lake reporting.

Protocol/Method



Statutory Agencies Group for lake agreed we should develop, in cooperation with key stakeholders, a monitoring protocol for lake birds

Protocol was discussed and ultimately agreed on with OSNZ, Ngai Tahu, Fish and Game, DoC, CCC, SDC and ECan

Key issues, at the end of a very long day were:

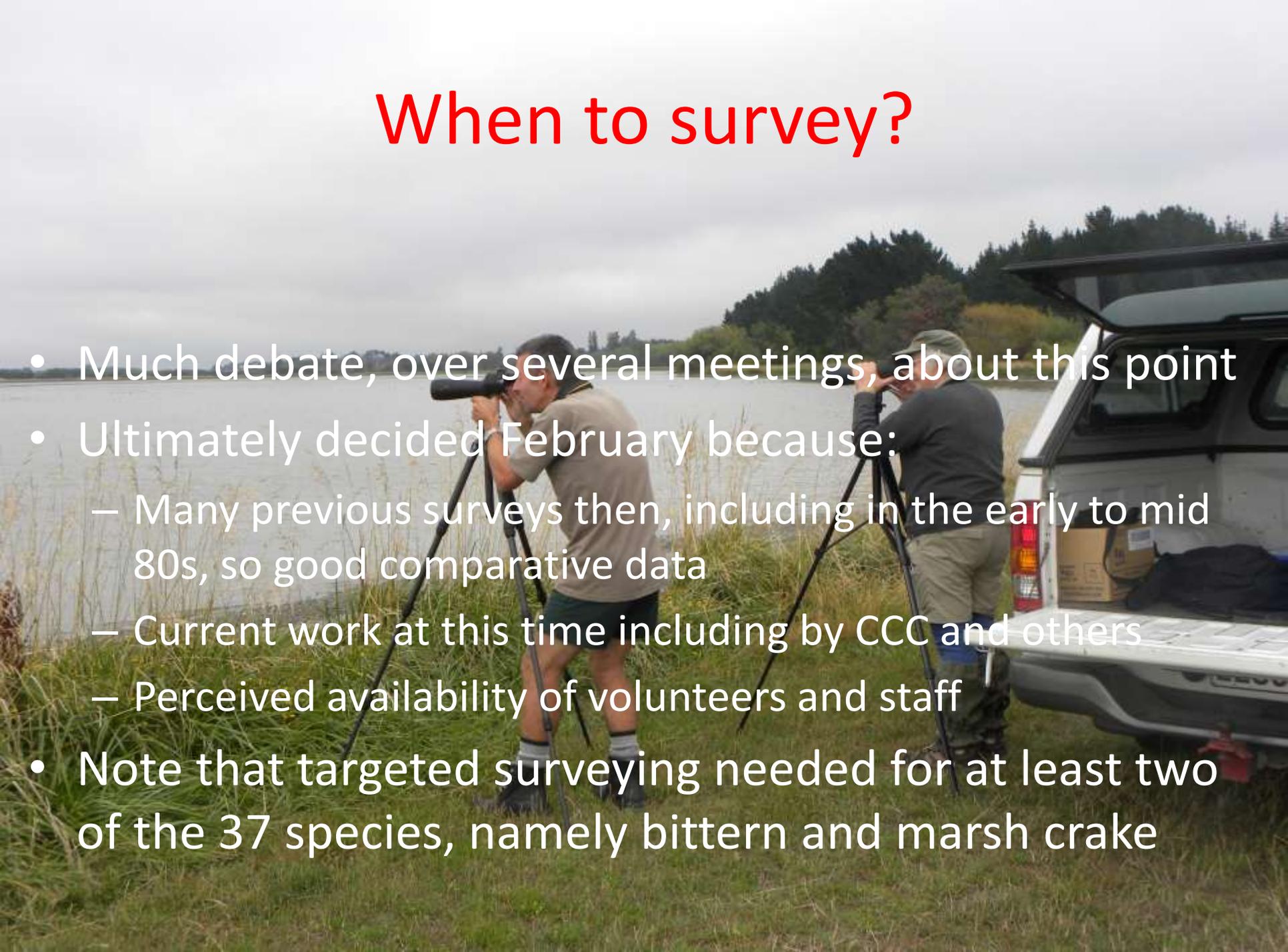
- What to survey? ...
- When best to survey? ...

What to survey?

- All wetland birds to be recorded but reporting, for management purposes, on 37 species representing 7 guilds of wetland bird species. Guilds and key species:

Guild and example species	Maori name	Scientific name
1. Open water divers		
Little cormorant	Kawaupaka	<i>P. melanoleucos</i>
NZ scaup	Papango	<i>Aythya novaeseelandiae</i>
2. Deep water waders		
Royal spoonbill	Kotuku ngutu-papa	<i>Platalea regia</i>
Pied stilt	Poaka	<i>Himantopus himantopus</i>
Bar-tailed godwit	Kuaka	<i>Limosa lapponica</i>
3. Shallow water waders		
Banded dotterel	Tuturiwhatu	<i>C. bicinctus</i>
Wrybill	Ngutu parore	<i>Anarhynchus frontalis</i>
Lesser knot	Huahou	<i>Calidris canutus</i>
Sharp-tailed sandpiper		<i>C. acuminata</i>
4. Dabbling waterfowl		
Black swan	Wani	<i>Cygnus atratus</i>
Grey teal	Tete	<i>A. gracilis</i>
6. Aerial hunting gulls & terns		
Black-billed gull		<i>Larus bulleri</i>
Caspian tern	Taranui	<i>Sterna caspia</i>
7. Swamp specialists		
Australasian bittern	Matuku	<i>Botaurus poiciloptilus</i>
8. Riparian wetland species		
Australasian harrier hawk	Kahu	<i>Circus approximans</i>

When to survey?

- Much debate, over several meetings, about this point
 - Ultimately decided February because:
 - Many previous surveys then, including in the early to mid 80s, so good comparative data
 - Current work at this time including by CCC and others
 - Perceived availability of volunteers and staff
 - Note that targeted surveying needed for at least two of the 37 species, namely bittern and marsh crake
- 
- A photograph showing two individuals conducting a field survey. They are positioned on a grassy bank overlooking a large body of water. Both are using tripods and binoculars to observe the area. The person on the left is wearing a light-colored t-shirt and shorts, while the person on the right is wearing a dark jacket and khaki pants. In the background, there is a dense line of trees under an overcast sky. To the right, the open rear hatch of a white SUV is visible, containing some equipment and a cardboard box.

0 1 2 4 6 8 10 Kilometres

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Te Waihora Lake Shore Management Areas
(after Taylor 1996)

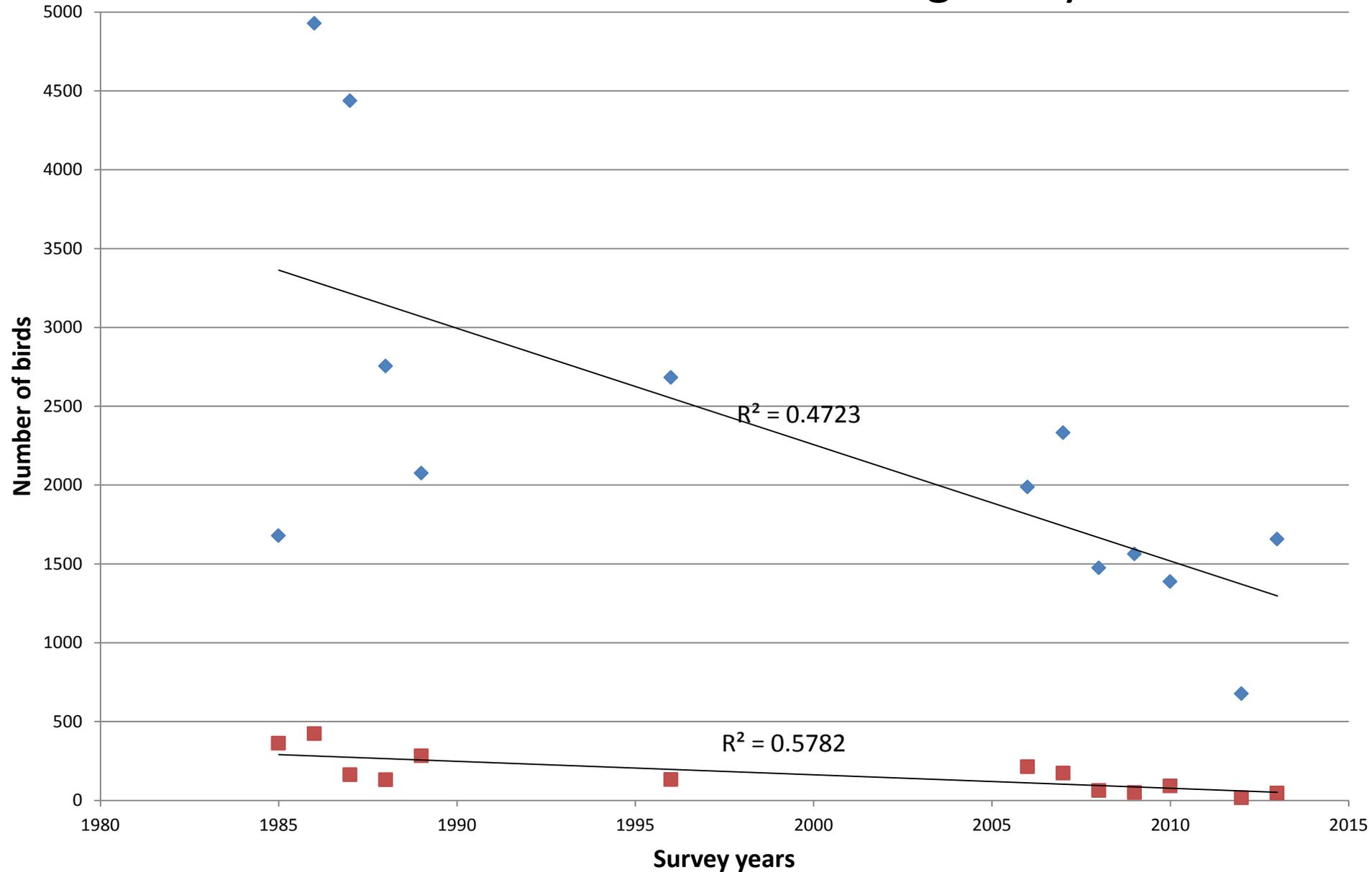
2013 survey

- Carried out on Saturday 9th February – lake was very low (having been open to the sea for months), weather started foggy, then warm and then a little windy
- 32 participants of varying ability (and this is important)
- Press releases made and information share amongst all contributing organisations
- 55,728 birds, representing all 7 guilds (yes, a bittern was seen)
- Highlights:
 - We did it!
 - Huge Caspian colony along Greenpark Sands
 - Virtually all the Arctic migrants in Selwyn Bay (lucky me!)
 - Huge Royal Spoonbill colony

Some analysis of the longer-term data set

- With the assistance of others, including Andrew Crossland and Colin O'Donnell, I now have a set of 'counts' (not complete – marked *) for 13 years: 1985, 1986, 1987, 1988, 1989, 1996*, 2006, 2007, 2008, 2009*, 2010*, 2012*, 2013
- Have done some analysis of pre and post 2000 wading bird data – see graph following for Guild 3 = shallow water waders ...

Trends in Guild 3 – shallow water migratory waders



◆ NZ shallow water migrant waders

■ Arctic shallow water migratory waders

Some key species of migratory waders over these same time periods

	1985	1986	1987	1988	1989	1996	Mean (pre 2000)	2006	2007	2008	2009	2010	2012	2013	Mean (post 2000)
Key NZ migrating wading birds															
Pied Stilt	1300	7362	2212	2067	2776	2328	3008	2937	2566	5776	4063	3549	1986	3726	3515
Banded Dotterel	1659	4846	4399	2749	2038	2554	3041	1757	1873	1328	963	1230	548	1228	1275
Wrybill	19	81	38	5	37	128	51	230	459	146	599	157	128	429	307
Key Arctic migrating wading birds															
Red Knot	85	44	31	85	17	27	48	34	16	11	21	10	0	0	13
Curlew Sandpiper	47	60	26	2	86	27	41	2	1	3	0	2	0	1	1
Red-necked Stint	200	137	71	0	99	63	95	26	63	18	13	25	15	34	28
Bar-tailed Godwit	20	0	2	41	30	1	16	325	119	145	175	259	91	436	221

Where to from here?

- Having an agreed protocol, and commitment to improvement, is an important output
- Having 'newish' to birdwatching people helping was also important, and can be improved over time
- Monitoring over time will allow us to continue to look at trends etc, as per the preliminary analysis I have undertaken here
- And, this data can increasingly be a part of ongoing data collection that reports on the state of Te Waihora/lake Ellesmere, across its full range of values