

# Local, Regional, National and International aspects of managing NZ's braided rivers: 'finally we are walking the talk!'

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Black-fronted tern



Male Wrybill Plover on nest



# Outline

- A short story of how not to look after our rivers and their birds – the implications of water resource development, weeds and pests
- Local challenges: sustaining commitment and how in Canterbury Zone Committees can help
- Regional and National challenges: partnerships and shared learning and PF2050
- Global challenges: climate change
- Overall views: Frustrations and advances – many steps forward and only a few back, ‘how we are finally walking the talk’

# How did we get it so wrong?

- (1) – its not new. One of my favourite books, Edgar Stead's 1932 The Life Histories of NZ Birds, details weed and mammalian predator issues on the Rakaia in the very early 1900s. It was predictable for ecological reasons.
- (2) – it was also predictable, because we were, and still are to some extent, a 'Daniel Boone' economy. Dams were built (Waitaki and Clutha), rivers diverted and dried up (Pukaki), and large quantities of water abstracted (Rangitata, Opihi, Hurunui, others) with little to no thought of conservation implications.
- And simple maths, over time, leads to  $1 + 2 =$  very bad ... for braided rivers

# The 2017 PCE report has found that ...

## **Waders**

Oystercatchers, dotterels, snipes, stilts, and some others can be put into a group of 16 mostly endemic wading birds that range across the coast, wetlands, and riverbeds where many nest. All are vulnerable except two – the poaka (pied stilt) and the recently arrived spur-winged plover. **The kaki (black stilt) is regarded as a taonga species by Māori, and is nationally critical.**

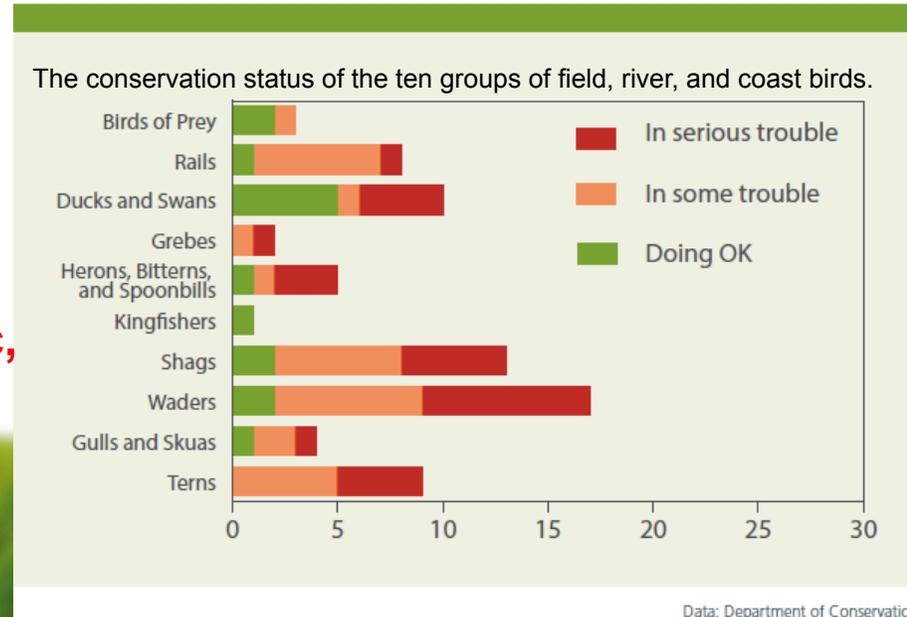


## **Gulls and skuas**

There are three gull and one skua species in New Zealand. While the large and aggressive black-backed gull (karoro) is in good shape, **the much smaller endemic black-billed gull (tarāpuka) is the most threatened gull in the world.**

## **Terns**

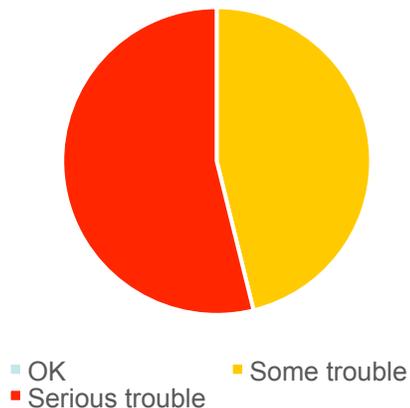
The eight tern species and one species of noddy in New Zealand are all vulnerable. **Only one – the black-fronted tern (tarapirohe) – is endemic, and it is in serious trouble.**



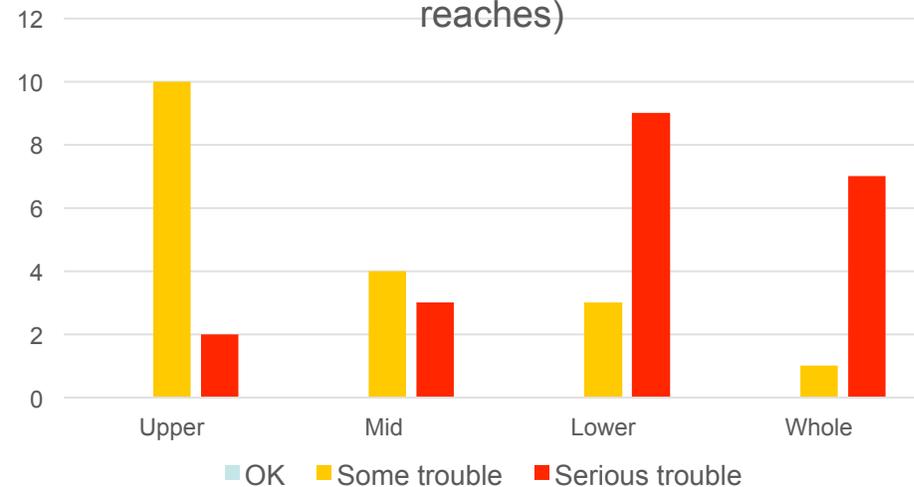
# And habitat isn't a lot better, not surprisingly

- Lower river reaches are in parlous states; upper are good to mixed but under pressure.
- Lets use the PCE's bird conservation status classification scheme, based on a combination of weeds x pests x river flows:

Status of habitat (weeds x predators x river flow) in upper, middle and lower reaches of Canterbury and Marlborough braided rivers (N=39 reaches)

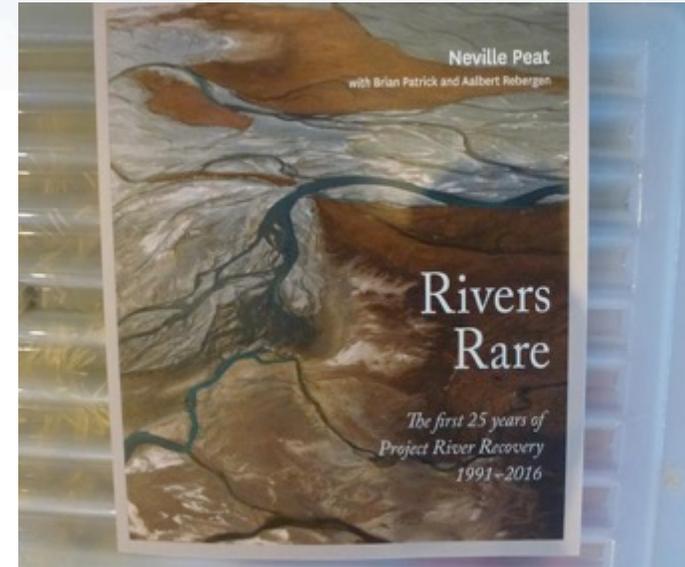


Status of habitat (weeds x predators x river flow) in Upper, Middle, Lower and Whole rivers in Canterbury and Marlborough (N=39 reaches)



# So bottom line – things are not great, but they might be getting better

- We now know a lot more than we did, e.g., esp from Project River Recovery & related work
- But also from community initiatives & partnerships – on the Ashley, Upper Rangitata, Lower Waitaki ...
- And closer working relationships between DOC & regional councils (esp ECan) and between DOC & energy companies (esp Meridian) (although have the irrigation companies stood up in this space?)
- And learning from doing – Tasman River kahi, Ohau & Clarence black-fronted terns, Lower Waitaki artificial islands ...



A wide-angle landscape photograph showing a vast, flat, rocky plain in the foreground. The ground is covered with small, grey stones and several distinct, circular patches of bright green moss or lichen. In the middle ground, there is a line of dark green trees. The background features a range of mountains, some with snow-capped peaks, under a bright blue sky with scattered white clouds.

So there is promising news but there are challenges – can we step up to these?

## Local & Regional challenges: how in Canterbury Water Zone Committees, e.g., Hurunui-Waiaiu, can help

- Local initiatives vital – we can't have all our eggs in the one basket, i.e., diversity is important and thus a suite of managed sites needed
- Who drives these initiatives? In the Mackenzie and Lower Waitaki it has been DOC, on the Ashley the local river care group, etc
- In Hurunui-Waiaiu the Zone Ctte is working closely with ECan (and hopefully DOC) to develop, and see implemented, a plan for the large braided rivers including a core focus on the birdlife
- I then see this model being replicated in other zones, e.g., Selwyn-Waihora, Waimakariri-Ashley and Ashburton: imagine the possibilities! And I see it being replicated in other regions!

# What the Hurunui-Waiaiu plan might contain and do

- Plan - cost effective work involving targeted:
  - Predator control – eg, on river spits such as that below the Shark's tooth on the Waiaiu where there is almost always a breeding colony of black-fronted terns
  - Construction of 1-2x 1-2ha weed free islands within each of the Hurunui and Waiaiu rivers
  - some broader scale weed control work
  - targeted black-backed gull control
- Implementation - the ZC will have: ECan, the irrigation and farm development companies – AIC, HWP, NTP & others (e.g., water related tourism interests) – and DOC working together

# National challenges: partnerships & shared learning & PFNZ 2050

- I think its possible to have a PFNZ by 2050 – some don't!
- Challenge is enormous, and only possible if we embrace, with care, new technologies and if we have a strategy to move forward with
- Between now and the new technologies we are going to develop more and better, and much more cost effective, non genetic ways of controlling predators at much larger scales – we are going to need to work together and learn together to do this: local and regional initiatives the fundamental building blocks
- New technologies will likely be genetically based –we will be mapping the genetic code of stoats, hedgehogs (please) and other nasties; at advanced levels but years away, we will be using 'user friendly and targeted' gene technologies to control predators (and agricultural pests, and disease carrying mosquitos (for example)).
- In the meantime we must continue with the incremental advances

# Global challenges: climate change

- There is more than one global challenge, e.g., an avian bird flu or similar that threatens to wipe out our taonga species
- But in reality, and in our face now, it is climate change and its implications
- I propose two totally different potential implications for our braided river birdlife from climate change:
  1. Unliveable large, uncontrolled, rivers that in spring are flooding far more frequently due to heavier and more persistent rainfall in the west – as predicted by CC models
  2. Northern harbours and places like the Firth of Thames where a 1 meter sea level rise threatens to damage the winter feeding grounds of birds like wrybill
- What can we do in the face of these challenges? For 1 – multiple opportunities but they need to include foothill catchment rivers like the Ashley; controlled rivers like the Lower Waitaki, etc; For 2 - hmmm !!!

# Reflections walking forward

- There is no question – after decades, indeed a century or more, the tide is turning for braided rivers and their birds
- We can be optimistic but we will need ongoing investment, and more of it, to sustain and build on the gains we are seeing in the Mackenzie and a few other places – science and technology will play ever increasing roles as we work at larger and larger scales
- Achieving these gains requires NZ Inc to work together – tangata whenua, land owners, energy companies, irrigators, DOC, Regional Councils and community organisations
- But in the face of this optimism lies climate change - our planning needs to encompass resilience thinking that can respond appropriately to this and other changing needs.