

Wetlands for people and place: developing a blueprint for ecosystem service restoration in wetlands

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Wetlands provide a wide range of ecosystem services

- Carbon storage
- Sediment retention
- Flood mitigation
- Groundwater recharge
- Aesthetic features
- Habitat for unique avian species



New Zealand's wetlands are a valuable resource

An array of funding mechanisms have been designed to improve wetlands



An abundance of grassroots restoration efforts



Logos from NatureSpace website

Restoration efforts haven't distributed funding equitably

- Racial and economic disparities in funding for wetland restoration have been noted (Dernoga et al 2015)
- Historical wetland draining have also disproportionately affected the poor and vulnerable (Adekola et al. 2015)

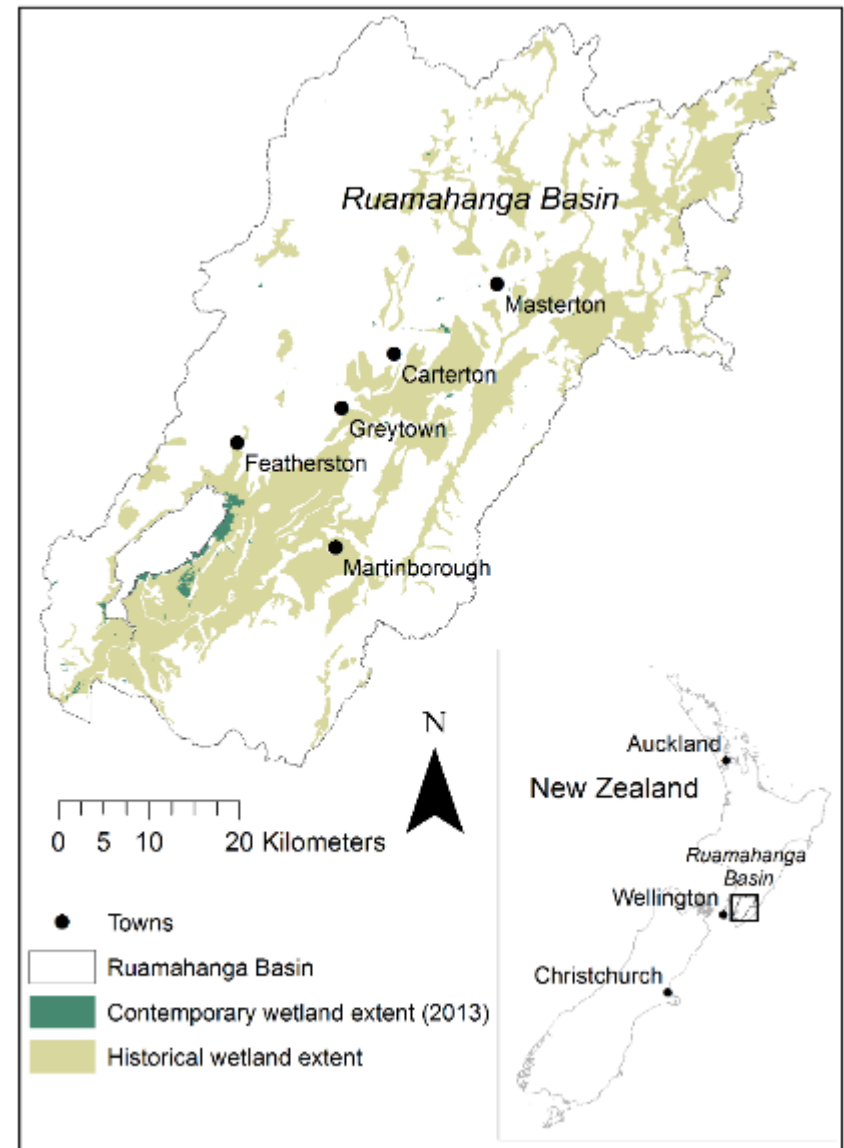
Ensure optimal and equitable strategies for wetland restoration while also making the most of grassroots restoration efforts



Chris Poulin/USFWS

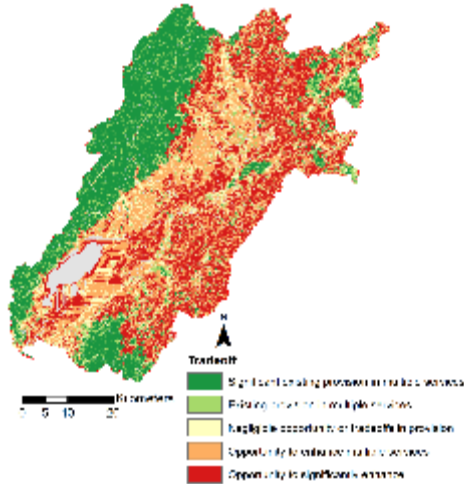
Ruamahanga Basin

- 3289 km² basin is home to ~40,000 New Zealanders
- Iwis Ngāti Kahungunu and Rangitane
- Historically rich in wetlands



Multifaceted approach to identifying key locations for wetland restoration

Where are the best locations for restoration from a biophysical perspective?



Where are the best locations for wetland restoration from a stakeholder perspective?



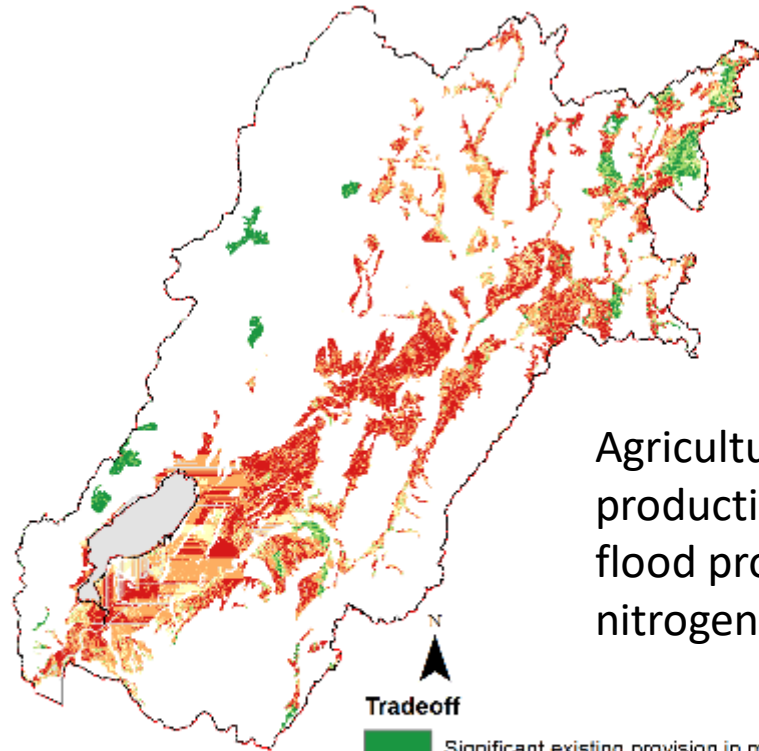
Which locations are most feasible based on cost and landownership?



Would different prioritization approaches distribute wetland ecosystem services equitably?



Where are the best locations for restoration from a biophysical perspective?



Agricultural productivity vs. flood protection vs. nitrogen retention



Results based on digital elevation models, climate data, and land cover

Which locations are most feasible based on cost and landownership?

- Context may affect cost for different treatments
- Readily available volunteers
- Predator control
- Planting trees
- Earthworks



Would different prioritization approaches distribute wetland ecosystem services equitably?

- Wetland restoration is an investment in people
- Restoration businesses
- Certain groups of people benefit locally and downstream
- Historical injustices



Fair and strategic wetland restoration that also builds communities

Ask questions about the beneficiaries of ecosystem services

Multi-faced approaches can lead to more equitable restoration



Thank you

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