

OBJECTIVE **9** **Research** 

Undertake research that increases understanding of wetlands.

NATIONAL / REPORT CARD 2015



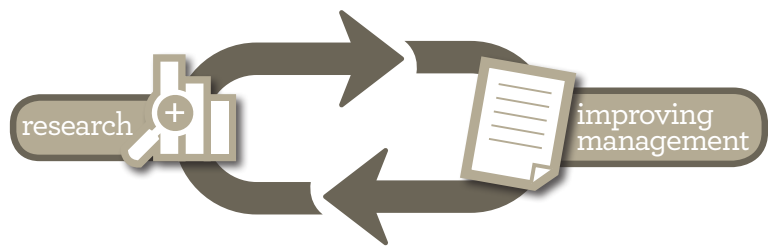
Scientific research guides our management decisions to help protect and restore wetland ecosystems. Identifying the greatest threats to our wetlands assists managers to put effort in the right places.

Arawai Kākāriki has led a national research programme to address knowledge gaps that are a barrier to freshwater conservation – covering the fields of ecohydrology, palaeoecology, environmental economics, botany, zoology, ecology and conservation biology.

Research partnerships

Arawai Kākāriki has developed research partnerships with universities and research institutions which enabled us to grow our funding and do more research collaboratively. Our progress is measured by:

- the number of research projects undertaken with research partners
- use of findings to improve wetland management.



REGIONAL COUNCILS = 3 projects

- Environment Southland
- Waikato Regional Council
- Environment Canterbury

OTHER ORGANISATIONS = 4 projects

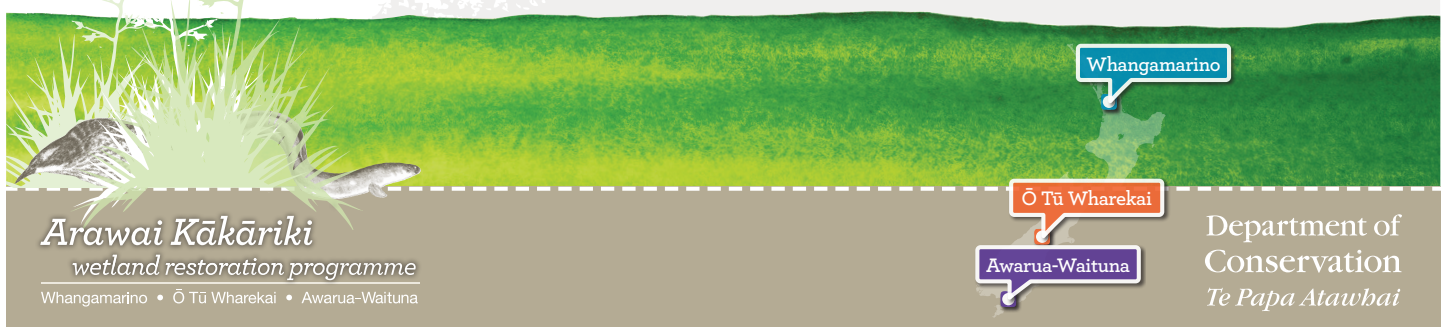
- Te Rūnanga o Arowhenua
- Te Ao Marama
- Lagoon Technical Group
- range of contributors for Australasian Bittern project

CROWN RESEARCH INSTITUTES = 9 projects

- NIWA (3 projects)
- Landcare Research (5 projects)
- Cawthron Institute

UNIVERSITIES = 11 projects

- University of Queensland (1 project)
- University of Waikato (3 projects)
- University of Otago (4 projects)
- Massey University
- University of Canterbury (2 projects)





How the research has benefited conservation

DOC has invested in 18 collaborative research initiatives spread over 3 main research themes. We have assessed their benefit to conservations specifically as it relates to:

- water quality management
- water level management
- invasive species management
- threatened species recovery
- advocacy to protect remaining wetlands.

We have assessed their benefit to the Arawai Kākāriki programme in the following ways:

Type of benefit:



New approach to on-ground conservation



Stakeholder response including additional funding






Advocacy to improve regional policies and consents under RMA



Addressed fundamental knowledge gap

Understanding wetland history

- **University of Queensland** - Palaeoecological history of wetlands and lakes in the Ashburton Basin 
- **University of Otago MSc**- Palaeoecological history of Waituna Lagoon 
- **Te Rūnanga o Arowhenua** - State of the Takiwa - Ō Tū Wharekai 

Addressing catchment impacts

- **NIWA/Landcare Research** - Assessing nutrient impacts on high country wetlands 
- **University of Canterbury MSc** - Nutrient load budget for Lake Clearwater 
- **Environment Canterbury** - Effect on nutrients on ecological integrity of the Ashburton lakes 
- **University of Otago** - Nutrient limitation of algae in Waituna Lagoon 
- **Enviro. Southland/Te Ao Marama/Lagoon Technical Group** - Ecological guidelines for the conservation of Waituna Lagoon 
- **University of Waikato MSc** - Hydrology and ecology of Whangamarino wetland 
- **Waikato Regional Council/University of Waikato/Landcare Research/NIWA** - Understanding the impact of the Lower Waikato flood scheme on Whangamarino 
- **Landcare Research** - Measuring wetland loss in Southland 
- **Landcare Research** - Towards quantitative limits for freshwater wetlands 

Enhancing native species

- **NIWA/Landcare Research** - Response of wetland ecosystems to willow control 
- **University of Otago** - Resilience of aquatic macrophytes in Waituna Lagoon 
- **Massey University PhD** - Population dynamics and detection of Australasian Bittern 
- **Wide range of contributors** - Changes in the distribution of Australasian Bittern in New Zealand 
- **Cawthron Institute** - Effectiveness of restoration on lowland streams: Waituna Creek 
- **University of Canterbury PhD** - Herbivore impacts on native vegetation at Awarua Wetland 

NEXT ACTIONS...

We have been successful in working collaboratively with research agencies and post-graduate students. Looking ahead, we need to ensure these projects influence conservation outcomes at the Arawai Kākāriki sites and other wetlands in New Zealand.



Share...

research findings across New Zealand to improve wetland management



Review...

continue to assess how the value of research projects



Identify...

the highest priority conservation issues - future research focus