

# Ewen lab hihi research update

October 2014



## ACCEPTED PAPERS, MEDIA & OUTREACH

- **John, Leila** along with Stefano Canessa and Jim Groombridge have now had their Conservation Biology paper "Improving supplementary feeding in species conservation" published online open access (it features a worked hihi example). Available for download at: <http://onlinelibrary.wiley.com/doi/10.1111/cobi.12410/abstract>

## PRESENTATIONS, VISITS & NEWS *conference presentations, visits to and from group members etc*

- **Congratulations to Anna Santure** who has been awarded a New Zealand Marsden Fund grant valued at NZ\$929,200 (see details below). **Patricia** and **John** are Co-I's on this project.
- Welcome to **Rachel Shepherd** who is helping in the field on our hihi projects (first Kapiti island and now on Tiritiri Matangi helping **Donal**).
- **Lydia** has successfully hosted a large group of volunteers who surveyed the Maungatautari hihi population.
- **John** visited Tiritiri Matangi for a few days to touch base with Donal, the island rangers, SoTM members and of course the hihi.

## FEATURE STORY: Executive summary from Anna Santure's Marsden Fund grant.

### ***Predicting the adaptive potential of small populations: a case study in the endangered New Zealand hihi***

Predicting how populations adapt to environmental challenges requires knowledge of both the complex genetic basis of traits linked to survival and reproduction, and the selection pressures acting on the population. We will use one of the best long-term studies of an endangered wild bird population in the world, the hihi (*Notiomystis cincta*) population on Tiritiri Matangi Island, to understand the evolutionary potential of this iconic New Zealand species. In the coming decades, climatic conditions are likely to become unsuitable for hihi throughout their current northern range, unless the populations can adapt to a warmer and drier climate. Our dataset of 1,500 individuals, from a long term population study in a well-characterised environment, offers a unique opportunity to determine both the genetic basis of traits important for survival and reproduction, and the selection on these traits. We will identify hihi with high predicted fitness that will be targeted for breeding programs and founding new populations, maximising the evolutionary potential of these new populations. This research will pave the way for understanding the evolutionary potential of other threatened populations, and will broaden our basic biological understanding of how evolutionary processes are determined by the genetic basis of traits in wild populations.

*More detail of our planned project can be obtained from emailing Anna or her co-investigators. Anna will soon be providing a more detailed account of her project to the hihi recovery group.*

## FUNDING *our major funders and new funding news*

- **New funding from the Royal Society of New Zealand Marsden Fund!! Anna Santure (PI), Patricia Brekke and John Ewen (Co-Is) have been awarded NZ\$929,200.**

### **CURRENT AND PAST FUNDING – thank you!**

+ British Research Council + Royal Society + Leverhulme Trust + Department of Conservation + AXA-fund + NERC + SoTM + ASAB + Massey University + NZ Safety Ltd + Royal Society of New Zealand.

## STAFF AND STUDENT CONTACTS

### Permanent Staff

- Professor Doug Armstrong (Massey University, New Zealand [D.P.Armstrong@massey.ac.nz](mailto:D.P.Armstrong@massey.ac.nz))
- Dr John Ewen (Institute of Zoology, United Kingdom [john.ewen@ioz.ac.uk](mailto:john.ewen@ioz.ac.uk))
- Dr Phillip Cassey (University of Adelaide, Australia [phill.cassey@adelaide.edu.au](mailto:phill.cassey@adelaide.edu.au))
- Dr Rebecca Kilner (University of Cambridge, United Kingdom [rmk1002@hermes.cam.ac.uk](mailto:rmk1002@hermes.cam.ac.uk))
- Dr Nathalie Pettorelli (Institute of Zoology, United Kingdom [nathalie.pettorelli@ioz.ac.uk](mailto:nathalie.pettorelli@ioz.ac.uk))

### Research Fellows

- Dr Patricia Brekke (Institute of Zoology, United Kingdom [patricia.brekke@ioz.ac.uk](mailto:patricia.brekke@ioz.ac.uk))
- Dr Rose Thorogood (University of Cambridge, United Kingdom [rose.thorogood@gmail.com](mailto:rose.thorogood@gmail.com))
- Dr Kevin Parker (Massey University, New Zealand [k.parker@massey.ac.nz](mailto:k.parker@massey.ac.nz))
- Dr Aliénor Chauvenet (Institute of Zoology, United Kingdom [Alienor.Chauvenet@ioz.ac.uk](mailto:Alienor.Chauvenet@ioz.ac.uk))
- Dr Leila Walker (RSPB Scientist, United Kingdom [leila.walker@rspb.org.uk](mailto:leila.walker@rspb.org.uk))

### PhD Students

- Kate Richardson (Massey University, New Zealand [k.richardson@massey.ac.nz](mailto:k.richardson@massey.ac.nz))
- Victoria Franks (University of Cambridge, United Kingdom [vix\\_franks@hotmail.co.uk](mailto:vix_franks@hotmail.co.uk))



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