Black stilt/kakī: a brief history of conservation genetic management and goals for genomic research

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Kakī, or Black Stilt
*(Himantopus novaezealandiae)*

Contemporary Distribution

Braided Rivers
Upper Waitaki Basin

1981, 23 adults alive
2016, < 100 adults alive
Captive Breeding/Rearing for Translocation
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Why genetic management?

• Minimize loss of genetic diversity
  - Reduce inbreeding
  - Maximise evolutionary potential

• Maintain genetic integrity
Hybridisation between kakī and poaka

Kakī
(Himantopus novaezelandiae)

Light Hybrids
D1
D2

E

Dark Hybrids
F
G

H
I

Poaka
(Himantopus himantopus leucocephalus)
Hybridisation between kakī and poaka

No evidence of cryptic hybrids, except for 1 bird

Steeves et al. 2010
Egg dumping in kakī

Wild bird with atypical plumage had DNA that could not be attributed to either kakī parent.

Overbeek et al. In Review
Inbreeding in kakī

Hagen et al. 2011

Significant negative relationship between hatching success and genetic relatedness.
Estimating relatedness in kakī

Pedigree

Genetic Markers

Genomic Markers

Compare all methods to find the most effective method for estimating relatedness.
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