

Conservation Management of Black-fronted Terns

Update on current state of research

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1. How do breeding colonies of black-fronted terns relate to each other?

2. What are ways to improve their situation?

1. How do breeding colonies of black-fronted terns relate to each other?

- Genetic study
- Morphometric study

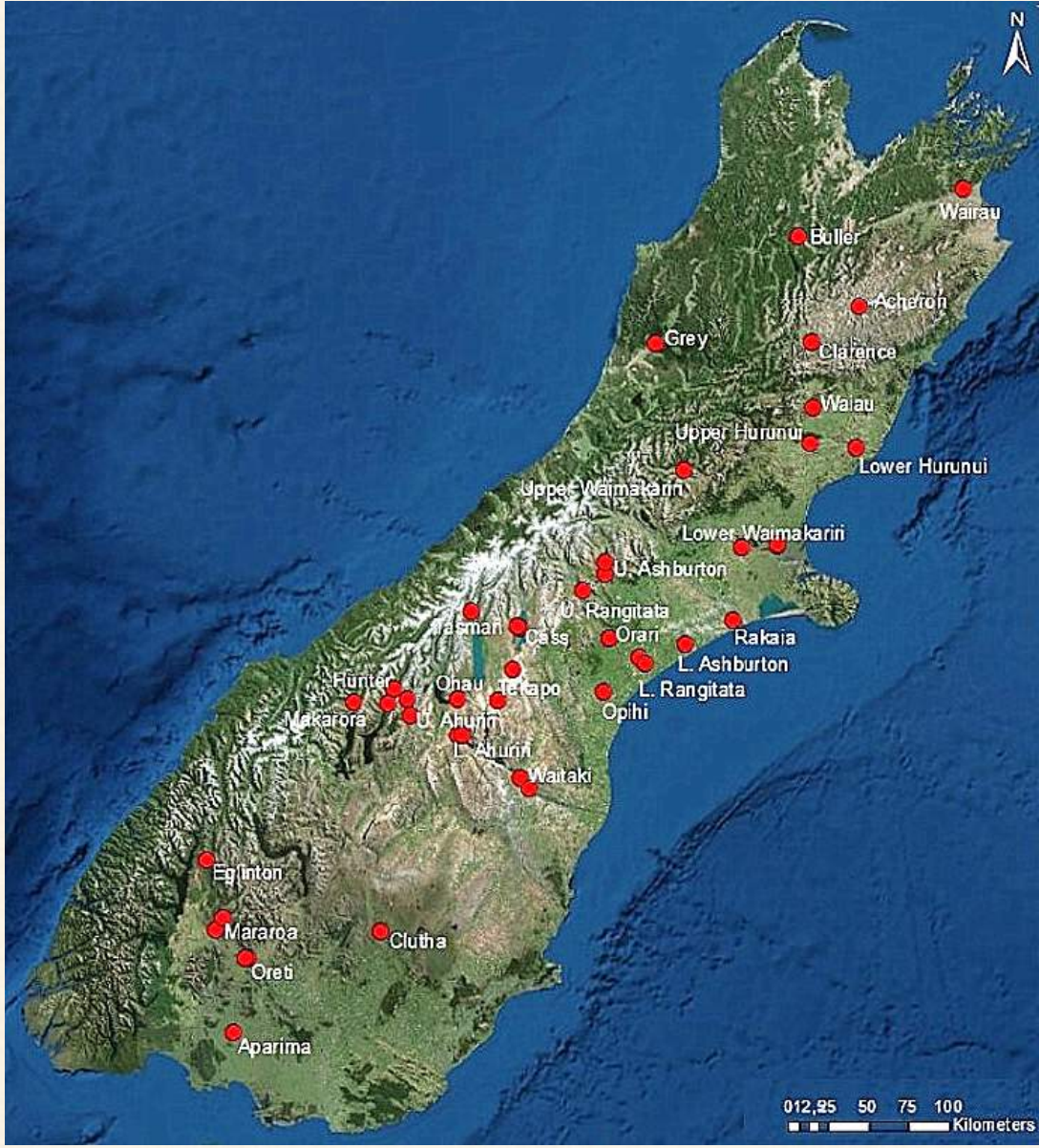
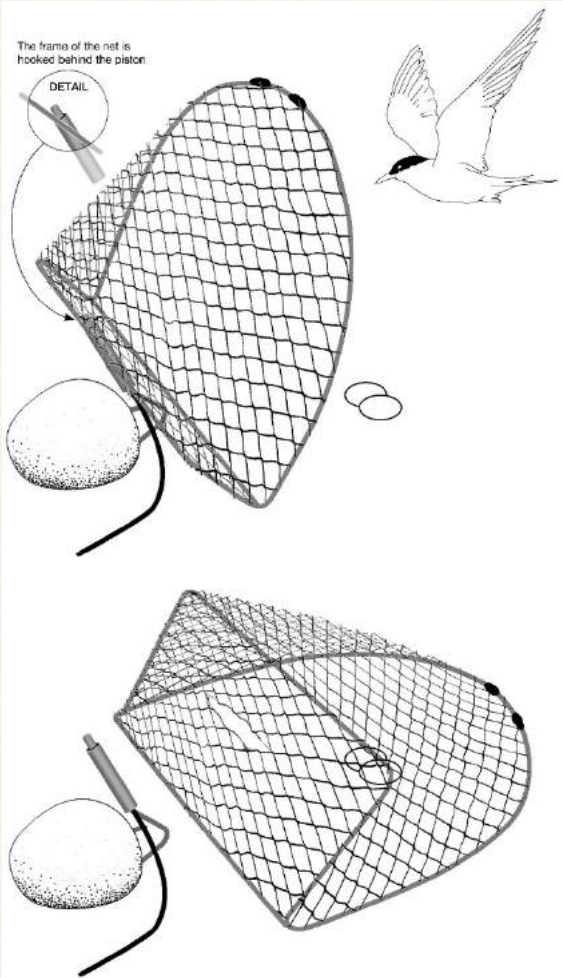


2. What are ways to improve their situation?

- Habitat modification



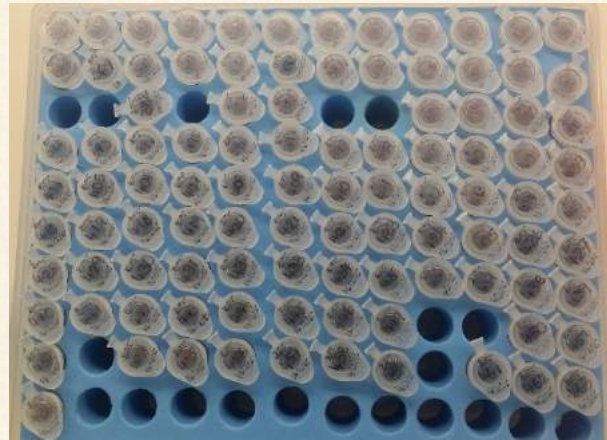
Population structure



Population structure

Genetic analysis - Microsatellites

- 589 samples

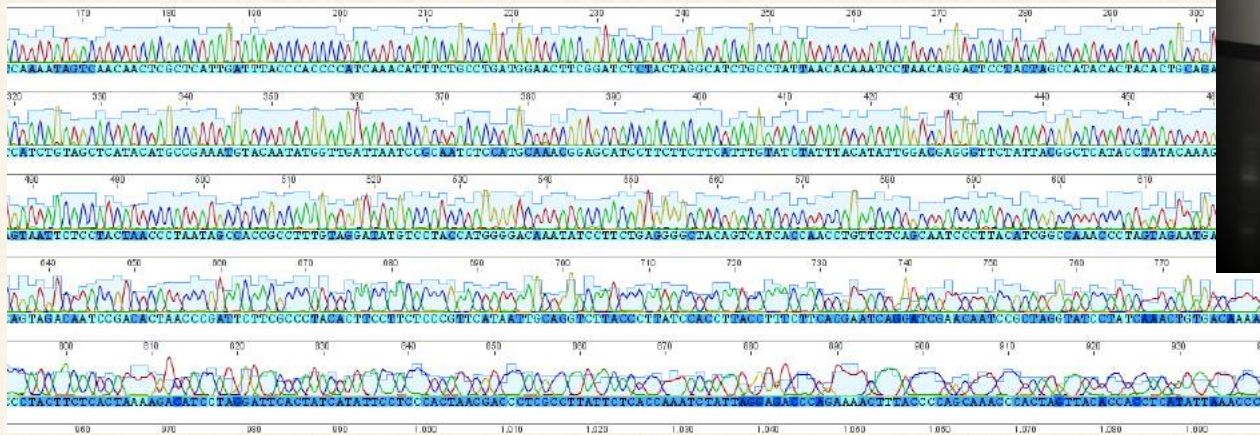


- 48 microsatellite primers tested, 20 work consistently, one sex-linked

Population structure

Genetic analysis – Mitochondrial DNA

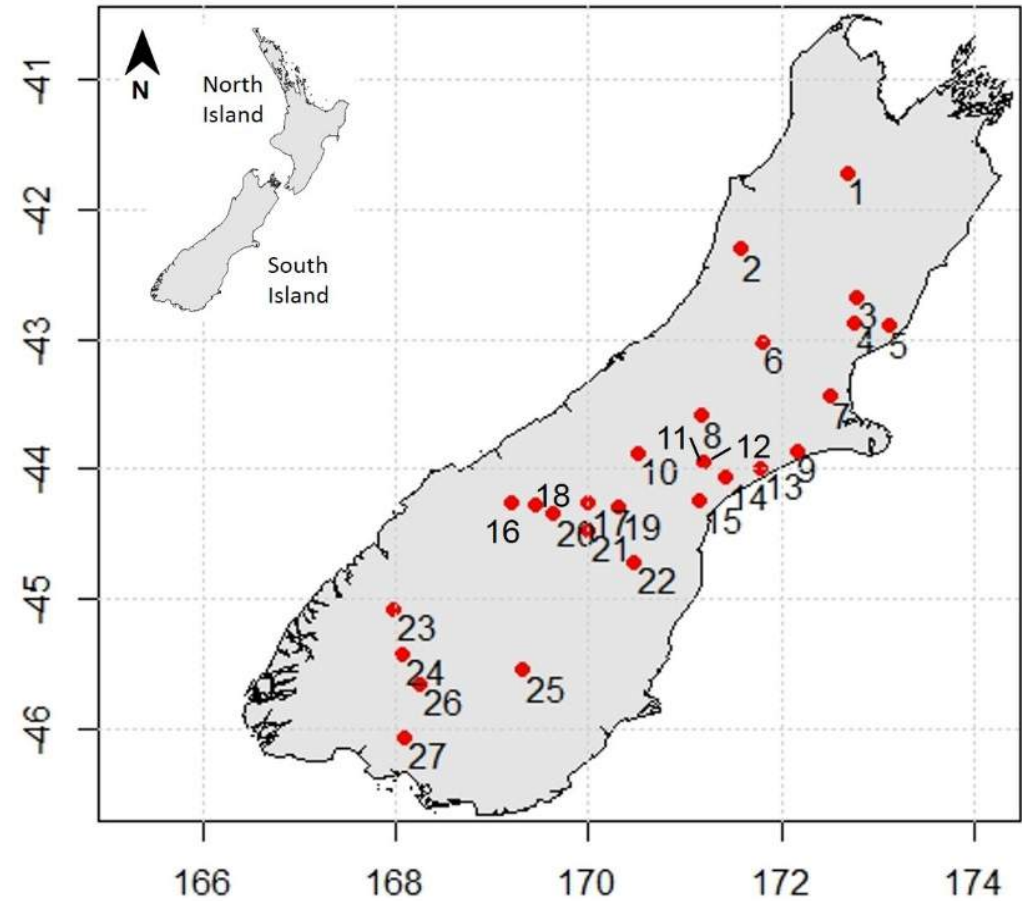
- Primers currently being developed



Population structure

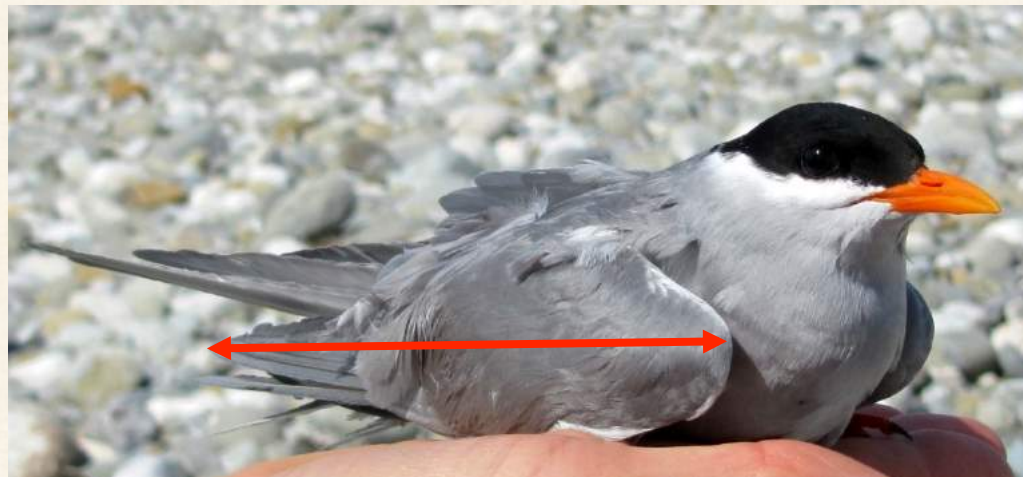
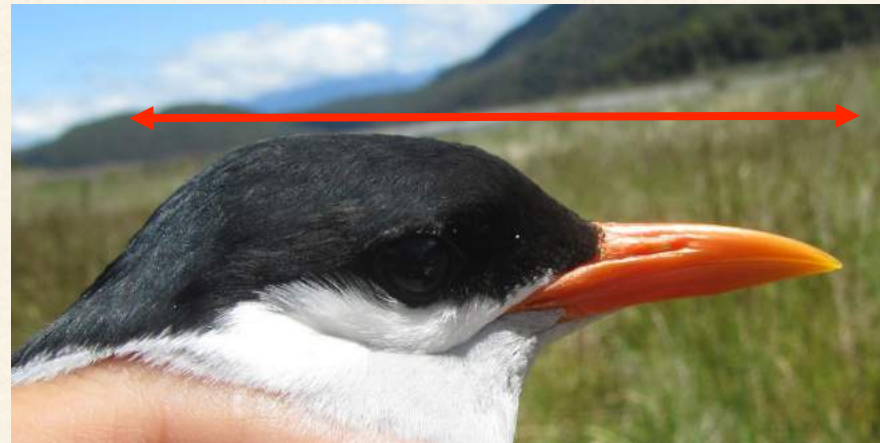
Morphometric study

- 356 breeding adults
- 27 rivers



Population structure

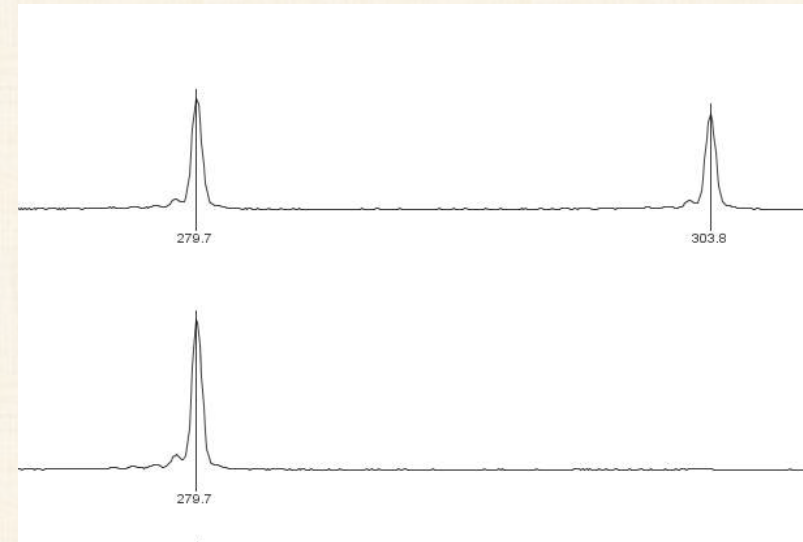
Morphometric analysis – 4 traits measured

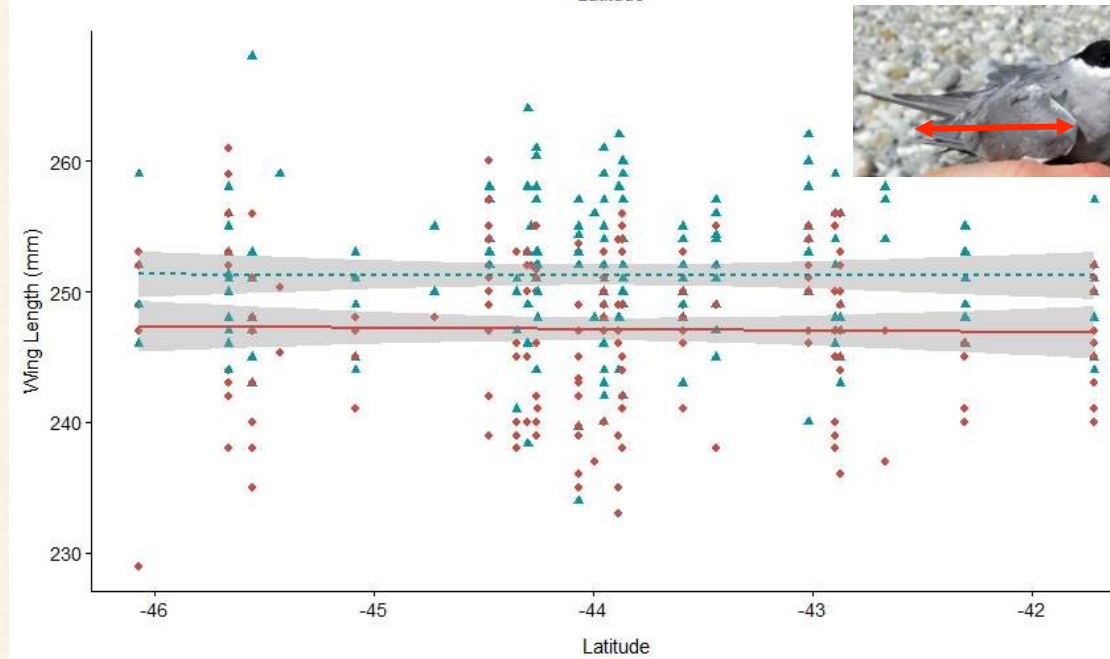
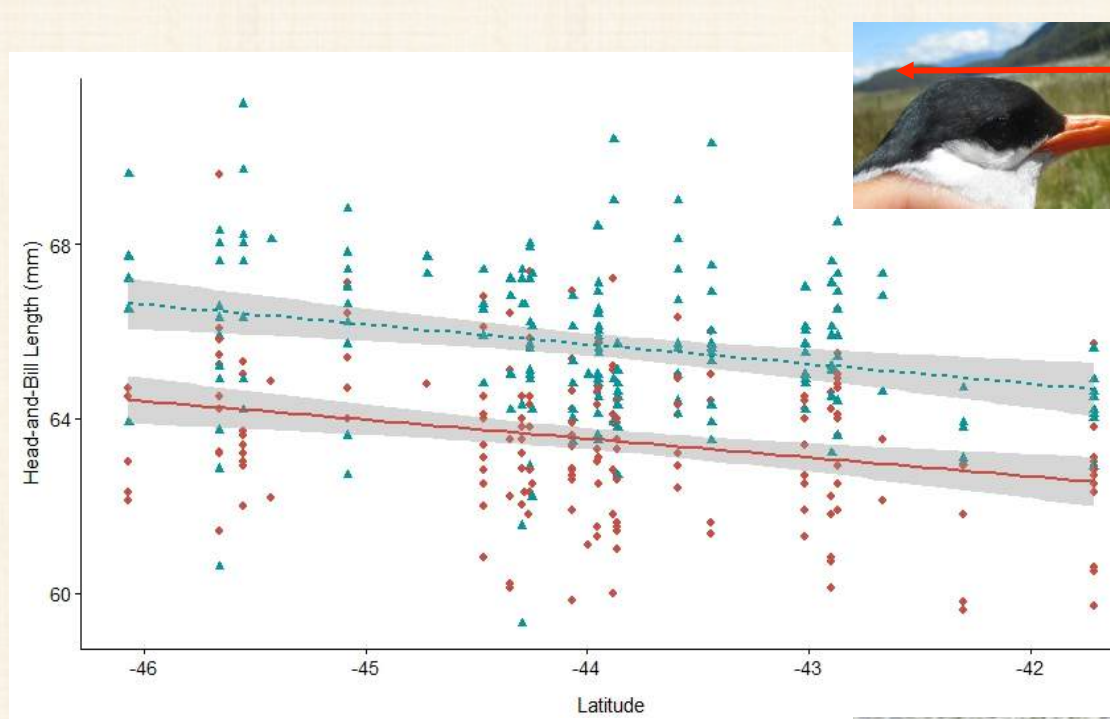
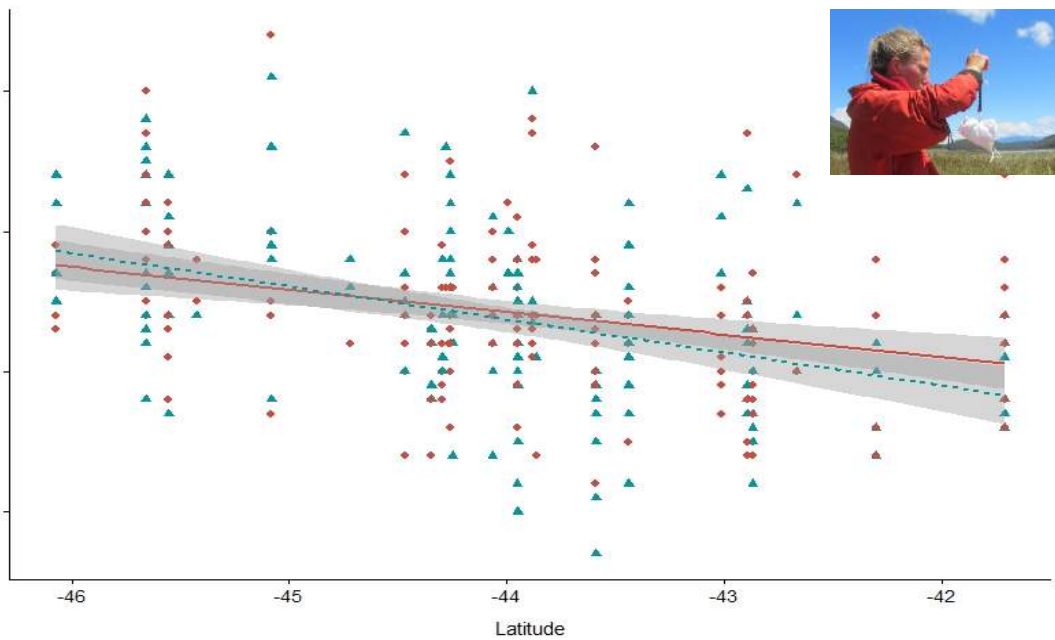
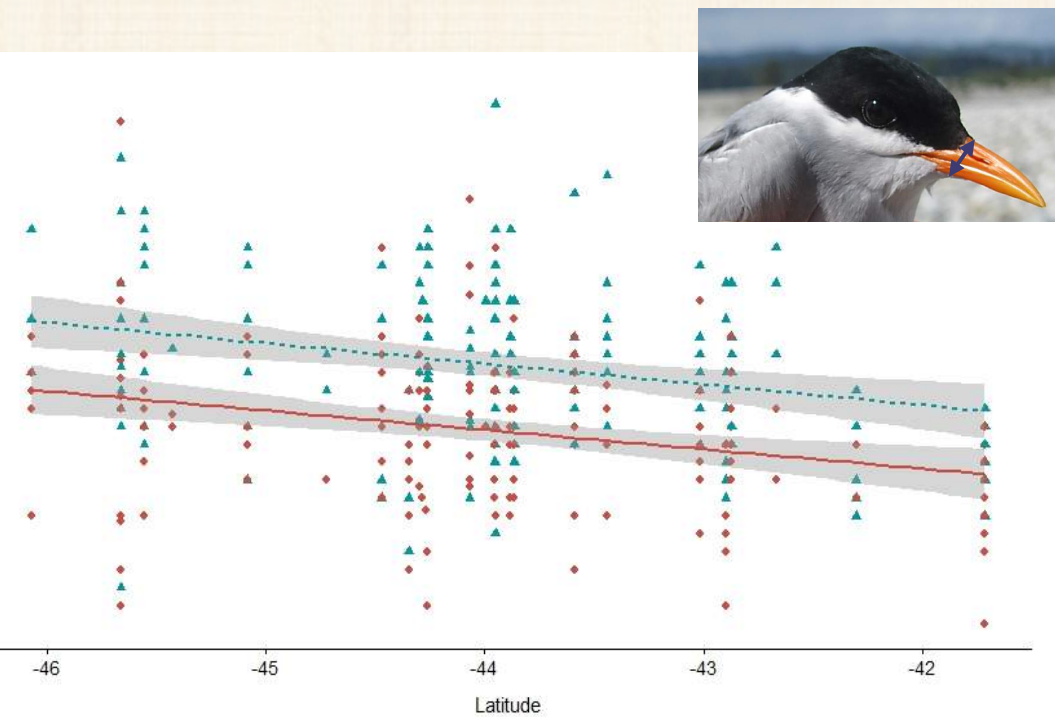


Population structure

Morphometric analysis – Molecular sexing

Male or female?





Implications from population structure research

- Morphometric study indicates that there is a latitudinal gradient between breeding populations
- Sexual dimorphism present, but not easily distinguishable by measurements
- Genetic results to complement morphometric study

Management options

Habitat modification



Management options

Habitat modification



Management options

Habitat modification

- Anecdotal evidence of good acceptance of cleared areas in Eglington, Tekapo and Waitaki river
- So far no large-scale research into the effectiveness as a management tool

Management options

Vegetated island to cleared island



Management options

7 islands cleared so far

- Measures of success for islands as management tool:
 1. Cost of creating & keeping free of weeds
 2. Visitation rates of mammals
 3. Use by braided river birds
 4. Breeding success compared to previous records and other parts

