

# A first assessment of genetic diversity for an endangered freshwater fish



**Common name/s:** Swan Galaxias  
**Scientific name:** *Galaxias fontanus*

## CONSERVATION BACKGROUND

The Swan galaxias is an endangered freshwater fish with a severely fragmented distribution in headwater streams of two Tasmanian watersheds. Population connectivity is restricted by the downstream presence of introduced fish species. To secure the few remaining natural populations Swan galaxias have been translocated to several fish-free streams.

## PROJECT AIMS

1. Undertake a first assessment of genetic diversity in natural populations
2. Evaluate how well diversity is preserved in translocated populations to inform future management efforts

## KEY FINDINGS

- Reference genome produced
- Individuals from the two distinct watershed populations (South Esk vs Swan) are very genetically distinct, indicating prolonged isolation of fish in these separate drainages.
- Translocated populations have similar levels of genetic variation as their respective source populations. These populations were each established with approximately 50 fish.
- There is no indication that Swan Galaxias have hybridised with congeneric climbing galaxias where they currently coexist.

## IMPLICATIONS FOR SPECIES CONSERVATION

Maintenance of genetic diversity is an important factor influencing long-term survival of a species. From the perspective of maintaining genetic diversity in Swan galaxias, the priority populations for future translocations are Dairy Creek (South Esk) and Duke River (Swan). New populations formed by mixing fish from multiple sources within a watershed could be considered to maximize genetic diversity.

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**Photo credit:** Gerald R. Allen

