

Ngā Ika e Heke

Securing populations of īnanga, shortjaw kōkopu, longfin eel / tuna and lamprey across Aotearoa New Zealand



Freshwater rangers recording fish data during a night-time spotlighting survey. Photo: DOC

About Ngā Ika e Heke

This project began in 2018 and is an extension of our existing biodiversity restoration work. Its goal is to secure populations of four migratory native fish species:

- īnanga
- shortjaw kōkopu
- longfin eel/tuna
- lamprey / kanakana / piharau.

These species move between freshwater, estuary and marine habitats to complete their lifecycles. They encounter many threats and pressures in all these areas. Work to secure populations must therefore be carried out at a catchment scale to ensure the fish can live in and move between all the habitats they need. This approach is likely to benefit other freshwater species as well.

Project team and partners

Ngā Ika e Heke includes a North Island and a South Island coordinator and up to 13 rangers across the country. The rangers work with local iwi, hapū and whānau, councils, landowners and the community. Coordinators and rangers are supported by DOC's national freshwater science and technical team.

Our work

We will secure populations of these species by:

1. Working with iwi, hapū and whānau to co-design the programme of work.
2. Collaborating with partners and communities in local actions.
3. Taking action in priority waterways to improve habitat and enable migratory fish to complete their lifecycles.
4. Using policy and legal mechanisms to help migratory fish.
5. Carrying out essential research to restore populations of these species.
6. Collecting and reporting information that shows progress towards the project's goal.

Introducing the species

Īnanga

Conservation status: At Risk – Declining
Juvenile īnanga make up most of the native fish caught as whitebait. This species is restricted to lowland areas because of their limited ability to climb upstream. Adult fish grow to about 11 cm.

Shortjaw kōkopu

Conservation status: Threatened – Nationally Vulnerable
This species is the most threatened of the whitebait species. It has a distinctive overbite. Shortjaw kōkopu live in rocky small to medium-sized rivers in forested areas. Adult fish grow to about 20 cm.



Shortjaw kōkopu. Photo: Angus McIntosh, University of Canterbury



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Longfin eel / tuna

Conservation status: At Risk – Declining

This species is the world's largest freshwater eel, growing to 2 m long and weighing up to 30 kg. Tuna travel to the Pacific Ocean to spawn and can live for up to 100 years.

Lamprey / kanakana / piharau

Conservation status: Threatened – Nationally Vulnerable

This species is ancient, dating back more than 360 million years. Lamprey have a circular fleshy mouth filled with hundreds of small teeth, which they use to climb steep waterfalls while migrating upstream. During their ocean life stage, lamprey parasitise fish and marine mammals. Adults can reach 75 cm.



Lamprey are caught, measured and released during a West Coast stream survey. Photo: Suze Harris, DOC

Research strategy

More knowledge about all these species will inform and help the conservation work. Cost-effective methods and tools are also needed to manage these populations.

Project research includes:

- **species and populations:** assessing the current populations, understanding the ecology of all life stages and exploring species relationships to the environment
- **critical habitats:** understanding the state and conservation of the habitats used at critical times or during vulnerable life stages
- **pressures and threats:** responses to human-caused pressures and threats
- **tools and methods for recovery and management:** developing standards, methods and tools for intervention, including fish passage research.

Options for management

In partnership with iwi, hapū, whānau and local communities, we will identify the threats to fish populations at individual sites and explore ways to secure their populations. Some management options are described below.

Habitat degradation and loss

Identify and restore habitat for adult fish and spawning by fencing, planting and weed control as appropriate. Habitat may also be protected through advocacy and legislative tools.

Water quality and quantity

Advocate for improvements if poor water quality or inadequate flows are affecting these species at individual sites.

Instream barriers

Identify, modify, replace or remove structures that prevent or reduce the species' ability to migrate up and downstream. Advocate for improving fish passage beyond individual sites.

Fishing and whitebaiting

Explore options to reduce fishing with local iwi, hapū, whānau and the community if harvesting fish is identified as a pressure at specific sites.

Pests and diseases

Explore options for surveillance and awareness-raising if pest animal and plant species occur at specific sites. Ways to contain, control or eradicate pests and diseases may also be investigated.

Climate change

The project will build resilience into the restoration work and contribute to DOC's Climate Change Adaptation Action Plan.

Contact

Contact us if your work aligns with this project and you are interested in collaborating.

Email: info@doc.govt.nz