



Fish monitoring with eDNA analysis

Fish species have been surveyed at six sites in the catchment. Several threatened species are present and others traditionally used for mahika kai.

The types of fish at a site can be an important indicator of water quality and ecosystem health. Some species may be highly valued as mahika kai. Others may be threatened and in need of protection to help prevent their populations declining.

Fish types in Te Hapakupu catchment were monitored at six sites using eDNA testing in December 2022.



Banded kōkopu

Photo: Shaun Lee



Photo: Jacob W. Frank

What is eDNA testing?

eDNA stands for environmental DNA, which is the tiny traces of genetic material fish and other animals leave behind in the water as they go about their business. Samples of water can be analysed in very fine detail to identify exactly what species are present at the testing site and further upstream.

Freshwater survey

Ten species of fish were detected at the five freshwater sites. Of these, the banded kōkopu and both long and short fin eels are considered threatened (at risk-declining).

SPECIES	STATUS
Banded kōkopu	Threatened / mahika kai
Bluegill bully	Not threatened
Common bully	Not threatened
Redfin bully	Not threatened
Upland bully	Not threatened
Īnaka - migratory galaxiids	Not threatened / mahika kai
Tuna - NZ longfin eel	Threatened / mahika kai
Tuna - shortfin eel	Threatened / mahika kai
Brown trout	Introduced
European perch	Introduced

There is no evidence yet of the non-migratory types of galaxiids, which are becoming very rare throughout the country. If they do appear in the next rounds of monitoring, options for their protection will be looked at, as trout will eat them and compete with them for habitat.



Tuna - NZ longfin eel

Photo: Shaun Lee

Estuary survey

At the sixth site, the estuary at the mouth of Te Hākāpupu, seven species of marine fish were identified:

SPECIES	STATUS
Kahawai	Mahika kai
Patiki (Sand flounder)	Mahika kai
New Zealand smooth skate	Mahika kai
Yelloweye mullet	Mahika kai
Clingfish	Not threatened
Spotty	Not threatened
Thornfish	Not threatened

The Toitū Te Hākāpupu project will do more testing elsewhere in the catchment for other endangered species: non-migratory galaxiids in particular. The project's Catchment Management Plan is being developed over the next two years. It will include ways to support threatened fish species, such as riparian planting and habitat improvement, as well as other actions to improve water quality and reduce erosion.

A partnership project by:



In collaboration with:



Find out more at: www.orc.govt.nz/toitutehakapupu