



Te Puna Waiora o Nukutaurua Freshwater fish

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There are five types of freshwater fish in Mahia. They are 3 of tuna (eels), 5 of types of Inanga, koura (freshwater crayfish), kākahi (freshwater mussels) and the mysterious pātiki mohoao (black flounder)

There are fish, like black flounder) and mullet in the estuary as well as 100's of different insects like worms, beetles and mayfly's.

They all depend on clean fresh water

Te Puna Waiora o Nukutaurua includes protecting our freshwater for all living things.

During the period 1800 to 2020

There used to be lots of food sources such as freshwater fish, but the quality of the freshwater that these fish need to survive has declined.

Since 1900 the wetlands have reduced by over 90%. The flow of streams has decreased and flooding has increased, and so has erosion and runoff. The level of silt, nitrogen, phosphorus and debris has increased.

The bugs that the fish eat have reduced

It is no longer possible to catch freshwater fish.



Whats it like now?

75% of New Zealand's 50 freshwater fish are threatened. These fish used to inhabit Mahia's 30 streams, but no longer do. Unless we act now, our children will never see these taonga.



We also need to make sure the tiny insects and food for freshwater fish can survive. Without the insects we won't have the fish. Without the bugs and fish we won't have our special birds.

Many of the little bugs are more sensitive to the quality of the water. They need the water to be really clear and clean.

Can we fix this?

With a lot of mahi and using many different ideas we can make a big difference.

The big one is cleaning up the streams with fencing and planting. This is happening now but more needs to be done.

To speed up the process Mahia needs to restore the breeding areas by reducing fishing.

Instead of waiting for others to do something. Mahia needs to take action now. We need to help reduce erosion, fix storm water flows and clean up waste-water.

In some areas there are opportunities to move fish back into streams, reconstruct wetlands and recreate river environments for whitebait.

Streams and wetlands cannot contain silt, chemicals and debris. The fish need places to breed and grow to restart the lifecycle.



Education and learning

The game changer for our freshwater fish is education. If we all understand we will all act together to make the change happen.

Who to talk to.

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Koura (freshwater crayfish)



Koura are native to New Zealand. They live in streams and lakes.

The once plentiful fish is in decline as a result of habitat destruction, erosion of stream banks, silt, weeds, depleted water flows and reduced food sources.

Management of riparian zones, passage ways and healthy water is needed to reverse the decline.

Koura can thrive in ponds and have actually been commercially farmed. There is the potential repopulate dams and stream in Mahia.

Kākahi (freshwater mussels)

There are three native Kākahi species. They are all at risk and in serious decline.

The juvenile's live in sediment beds for at least five years before emerging.

To live they need clean water that won't clog their gills.

They can then live for 20-30 years and produce eggs each year. In the past they were a good source of kai.

Very little is known about Kākahi but they are of importance. They indicate the health of freshwater and filter it to improve it.

They can be transport to reestablish them in clean water



Inanga (white bait)

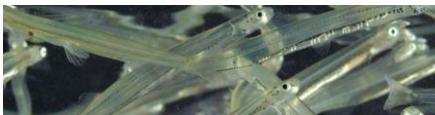
There are five inanga species in New Zealand. Four are endangered.

Inanga can still be caught in Mahia but there is not much to catch.

Inanga have a very complex life. In particular their spawning requires healthy water and the right river bank vegetation for laying eggs.

More inanga, and in particular the 4 threatened species need the riverbanks to be fixed and the wood debris to be removed to breed more.

During the recovery period, fishing should be reduced for a period of time to help.



Pātiki mohoao (black flounder)



Black flounder are native fish and can only be found in New Zealand. They are seen in the Kōpuawhara Streams and Maungawhio Estuary

They are the only flatfish that can live entirely in freshwater but also live in estuary's and the ocean.

Little is known about them but their lifecycle requires a passage to the sea and no barriers to upstream migration.

To thrive in streams they need abundant small fish and bugs for their diet and low levels of silt and protection to breed

Black Flounder - if the water and breeding areas are protected, they will become a good food source in the future.

Tuna (eel)



Tuna are a taonga fish. The New Zealand tuna are adapted to many freshwater environments but their numbers have fallen dramatically over the last 100 years.

The decline is linked to reduced habitat, migration barriers and very high levels of commercial fishing.

The key for tuna is they mature to breed at 20 years or longer.

The decline today of breeding females has a very long term impact. There are no simple fixes and protection of every living tuna is critical.

Invertebrates (species with no backbone), small bugs, small fish

There are over 20,000 invertebrate species in NZ!. 90% of them native to NZ.

Many of these use freshwater as part of the life cycle.

The little creatures in the water are important. The other fish need them to survive. Most invertebrates are insect larvae so they are important for plant pollination and birds.

They are very sensitive to changes in the water quality. Chemicals, oxygen silt and stream side habitat have a big impact.

Mahia need to understand these little creatures and look after them like our taonga fish.

