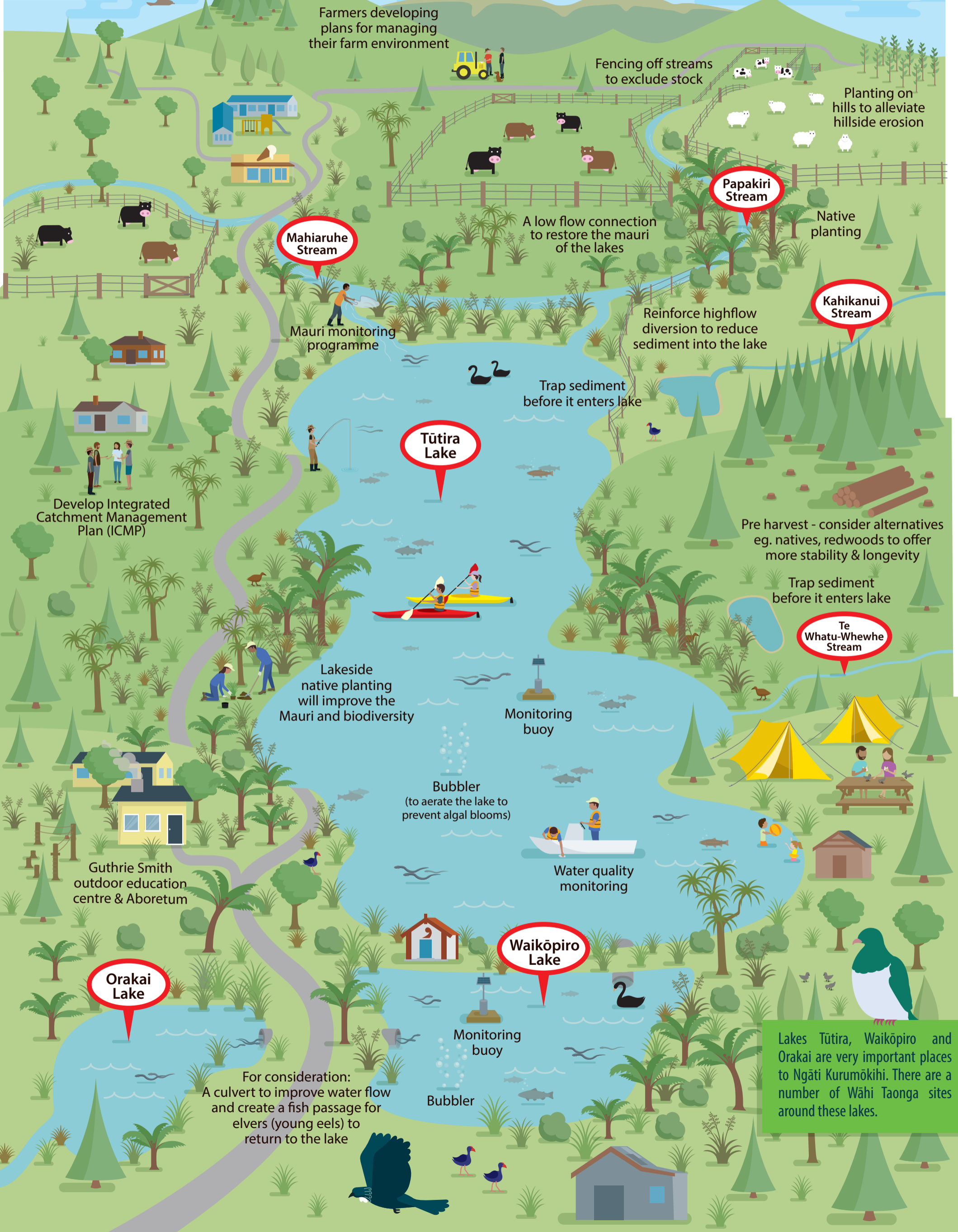


# A Plan for Tūtira...

At Tūtira, the Hawke's Bay Regional Council and Maungaharuru-Tangitū Trust are developing a plan to highlight what needs to be done to restore the mauri (life-force) of Lakes Tūtira and Waikōpiro, making a place that families can happily return to and where children can swim. This project builds on mahi being done via Maungaharuru-Tangitū Trust's Tūtira Mai Nga Iwi initiative and has received funding from the Freshwater Improvement Fund, which is administered by the Ministry for the Environment. Here's a snapshot



Farmers developing plans for managing their farm environment

Fencing off streams to exclude stock

Planting on hills to alleviate hillside erosion

Mahiaruhe Stream

A low flow connection to restore the mauri of the lakes

Papakiri Stream

Native planting

Mauri monitoring programme

Reinforce highflow diversion to reduce sediment into the lake

Kahikanui Stream

Trap sediment before it enters lake

Tūtira Lake

Develop Integrated Catchment Management Plan (ICMP)

Pre harvest - consider alternatives eg. natives, redwoods to offer more stability & longevity

Trap sediment before it enters lake

Te Whatu-Whewhe Stream

Lakeside native planting will improve the Mauri and biodiversity

Monitoring buoy

Bubbler (to aerate the lake to prevent algal blooms)

Water quality monitoring

Guthrie Smith outdoor education centre & Aboretum

Orakai Lake















Waikōpiro Lake

Monitoring buoy

Bubbler

For consideration: A culvert to improve water flow and create a fish passage for elvers (young eels) to return to the lake

Lakes Tūtira, Waikōpiro and Orakai are very important places to Ngāti Kurumōkihi. There are a number of Wāhi Taonga sites around these lakes.

A Plan for Tūtira...	What	Why	Who	How	When
<b>Our Lake</b>					
	Real time water quality monitoring	To better understand the lake ecology and monitor progress towards outcomes	Hawke's Bay Regional Council (HBRC)	New buoy installed in Tūtira Lake, existing buoy transferred to Waikōpiro Lake.	2018
	Regular water quality monitoring	To better understand the lake ecology and monitor progress towards outcomes	HBRC	HBRC staff will continue to undertake regular water monitoring with the addition of new sites on the Papakiri Stream and Lake Orakai.	2018 (ongoing)
	Air curtain oxygenating the lake	To increase the oxygen levels in the lake, in turn reducing algal blooms and fish kills	HBRC, Maungaharuru-Tangitū Trust (MTT)	The air curtain trial will continue in Waikōpiro. If successful another will be installed in Tūtira Lake.	Waikōpiro 2017 Tūtira 2019
	Possible installation of a southern outlet to go under the highway	To improve water flow and create a fish passage for young eels	HBRC, MTT, Department of Conservation (DOC), Guthrie Smith outdoor education centre and Aoretum	Subject to further investigation, a culvert will be installed between Orakai Lake and Waikōpiro Lake.	2021
<b>Our Land</b>					
	Lake side native planting	To improve the biodiversity and mauri around the lake	MTT	An ongoing programme of 42,000 riparian plantings are planned along the lakes and streams.	2018
	Stock exclusion around lakes and streams	To improve water quality by stopping cow poo and soil from entering the lake	Landowners, HBRC	Fencing around streams and lakes to prevent stock from entering waterways.	2018 - 2022 (ongoing)
	Reinforcing high flow diversion into lake	To reduce the overflow of water/sediment into the lake during heavy rain	Landowners, HBRC, MTT	Strengthening of the existing diversion embankment through reconstructing, raising and lengthening the 1km stopbank.	2019
	Low flow connection of Papakiri Stream	To improve the mauri of the lake	Landowners, HBRC, MTT	Reconnection of the Papakiri Stream. It will allow 50% flow into the lake, while restricting flow/sediment during heavy rain events.	2019
	Creation of Sediment traps	To trap sediment before it enters the lake	HBRC	Sediment traps will be constructed on the Kahikanui & Te Whatu-Whewhe Streams.	2018
	Consider alternative species for planting post-harvest	To offer more hillside stability and forest longevity	HBRC	Investigation into the most appropriate alternative tree species to be planted to replace pines being harvested.	2019
	Hillside planting	To alleviate hillside erosion	Landowners, HBRC	Trees are planted on erosion-prone hillsides.	2018 (ongoing)
	Developing farm environment management plans (FEMP's)	To enable farmers to monitor and manage the run off from their properties	HBRC	Farmers will work with land management staff to create a plan which includes general farm information, environmental risks, good management practises and areas for improvement.	FEMPs created 2018 - 2019 Reviewed in 2020 - 2022
	Mauri monitoring programme	To measure mauri in the lakes for cultural purposes and monitor progress towards outcomes	MTT	Maungaharuru-Tangitū will undertake an ongoing mauri monitoring programme in the Lakes.	2018
	Integrated Catchment Management Plan (ICMP)	To produce a plan that identifies and coordinates actions in the Tūtira Catchment	HBRC, MTT, Landowners	The creation of an ICMP which will outline the objectives and actions to meet the community's vision for Lake Tūtira.	2018