Tasman Wetlands for Water Quality and Freshwater Ecosystems

April 2021 – June 2026

Project purpose	This project is only for work in Tasman District and is in two parts: 1. Enhancing natural wetlands and 2. Creating new wetlands. By controlling weeds, replanting, restoring natural hydrological regimes and creating new wetlands, this project will improve: 1. Health and resilience of native wetland vegetation communities and the biota they support; 2. Downstream water quality, in-stream habitat and summer flows; 3. Climate change mitigation and adaptation by storing carbon and moderating flood flows and low flows.
Project summary	This project will undertake restoration within at least 40 existing natural wetlands and create seven new constructed wetlands across the Tasman district, facilitating improvements to biodiversity and stream health. This project is over five years and an integrated partnership with iwi and will be in collaboration with landowners, DOC, NIWA and community organisations. High priority natural wetlands, identified by their ecological and cultural significance, will be targeted for weed removal, planting and hydrological restoration. Constructed wetlands will intercept runoff from various land uses, improving water quality, and/or creating habitat for fish and birds.

1 Project objectives

Objective *Describe the tangible results your project is trying to achieve.*	Key performance indicators (KPIs) *KPIs are a measurable value that demonstrates progress towards objectives.*	How will you monitor and evaluate the achievement of this objective? *How will you measure your progress and demonstrate that the objective has been achieved?*	Baseline information *Describe the current situation, using the data you have available.*	Expected outcome *What will change as a result of the objective being met? What will be the benefit?*
1. By June 2026, at least seven new constructed wetlands will be created in the Tasman district to reduce nutrients, sediment loads and likely presence of disease-causing organisms and/or to create functioning habitat for wildlife.	A minimum of 5.85 ha across at least 7 new wetlands will be created, draining approximately 300 ha or more of high intensity land use farmland. At least 93,800 wetland and terrestrial plants will be planted in the new constructed wetlands. Survival rates of plants will be 80%. At least another 40,000 wetland plants will be established by direct seeding in the new constructed wetlands. At least 600 m of fencing will be erected with at least a 3 m setback to keep livestock from entering the new wetlands. A pest animal control programme will be established at the largest constructed wetland, Motueka Delta (3.5 ha). This will include both bait traps and plant sleeves to protect	Water quality monitoring will be undertaken at four constructed wetland sites. This will entail events-based water samples of Total Suspended Solids, Total Nitrogen, Nitrate-N, Total Phosphorus and *E. coli*. Monitoring will also include annual surveys at these four sites to assess plant survival rates. Establishment rates of plants from direct seeding will be assessed annually. Fences will be inspected 12 months after installation to ensure they are effective at preventing livestock entry to wetlands. Planting, fencing and wetland creation areas will be tracked through GIS shapefiles Pest animal trapping numbers will be accounted for annually at the Motueka Delta wetland once habitat has been created.	At least six months of baseline data (2-3 samples) will be collected prior to construction works, followed by two years of quarterly samples. There is currently no pest animal trapping at the Motueka Delta, but the programme run by Tasman Environmental Trust in Waimea Inlet is a good model from which to work.	Improved water quality parameters (N, P, suspended solids) downstream, with associated improvements in instream habitat, fish numbers, and reduced algae growth. Plants will flourish on fenced sites and be protected from potential damage caused by stock. Fencing helps landowners meet the obligations of the 2020 National Policy Statement for Freshwater Management. The outcomes of direct seeding provide data on the usefulness of this technique as an effective alternative wetland revegetation method. Better survival of native animals and plants at

	48,000 wetland plants, 3,960 terrestrial plants, and 1.9 ha of plants establish using seed dispersal.			Motueka Delta due to pest animal control.
2. By June 2026, weed control in at least 40 natural wetlands will protect and enhance native vegetation communities in natural wetlands across Tasman district.	High impact woody weeds such as willow, poplar and broom are controlled in 90% of the wetland areas to a level where ongoing surveillance and removal can feasibly be continued by Council, DOC, Iwi or community groups. Other weed species will be controlled on a site by site basis, to enhance site values and wetland health.	Annual or biennial surveys of wetland areas that have had weed control to ensure control has been effective and no re-infestation is occurring.	Situation varies widely among wetlands. Of the wetlands selected for weed control, weeds cover between <1% and 60% of the area, but most are pre-explosion with less than 5% cover. Common transformative weeds include willow, poplar, broom, montbretia, *Tradescantia* and blackberry.	Exotic plant invasion will be halted and native flora and fauna will continue to dominate in the areas treated, the wider wetlands, and, in some cases, the surrounding wetland network.
3. By June 2026, 17,000 woody and herbaceous plants will be planted at seven natural wetland sites in the Tasman district to help restore native wetland vegetation communities.	At least 17,000 woody and herbaceous plants will be planted. Target: 80% survival rate of planted wetland and riparian plants. Weeds (woody and herbaceous species) will be cleared from 100% of planting sites prior to planting. At 100% of planting sites, native plants will be released from weeds at regular intervals through first 2 years after planting. Six community planting days held.	Annual surveys of selected planted areas to assess plant survival and maintenance required, for at least 2 years after planting Annual photos taken at set locations (photo points) to provide visual record of changes in vegetation over time at planting sites. Audit of restoration practices and success at 10% of sites by independent contractor or project manager. Record of community planting day attendees kept. Fences will be inspected 12 months after installation to ensure	Situation varies widely between wetlands. At planting sites, native vegetation coverage is generally very low (<10%), but some sites will involve planting in 'light wells' where exotic weeds are removed from native vegetation. Revegetation sites requiring fencing currently allow stock access.	Flourishing vegetation communities in priority wetlands around Tasman are sustaining healthy ecosystems and providing high quality habitat for native species. Native plantings improve resilience by shading and suppressing weed establishment in wetland and riparian areas, particularly where shrub and tree canopies are planted. Plants will flourish on fenced sites and be protected from potential damage caused by stock.

	At least 1000 m of fencing will be erected with at least a 3 m setback to keep livestock from entering the newly planted areas.	they are effective at preventing livestock entry to wetlands.		Fencing helps landowners meet the obligations of the 2020 National Policy Statement for Freshwater Management.
4. By June 2026, natural hydrological regimes will be restored in at least 4 natural wetlands in the Tasman district by infilling or blocking ditches which can be accessed, and by removing excess sediment.	Natural hydrological processes will be restored at a minimum of 4 wetlands. On average, water levels within the wetland will be restored to be within 300 mm of that within a suitable adjacent reference site. Wetland plant cover will be >80% within five years after works.	Minimum of 2 surveys of water tables after restoration. Survey and photo points of wetland and 'dryland' species cover and recruitment of native species.	Drainage ditches and excess sedimentation have lowered water tables and resulted in invasion of non-wetland weeds in at least 4 wetlands.	Native wetland plants and animals will return. Natural wetland function will return, restoring water quality, attenuating flood flows, improving summer low flows, and improving carbon sequestration.

2 Activity table and estimated budget for the life of the project

For each objective, list the main tasks/activities that will be undertaken and total estimated costs for the year. All figures should exclude GST.

	Activity				
Objective	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. By June 2026, at least seven new constructed wetlands will be created in the Tasman district to reduce nutrients, sediment loads and likely presence of disease-causing organisms and/or to create functioning habitat for	1.1 Engage a contractor to carry out earthworks at Reilly (Stage 1), Berkett (already consented), and Eves Valley constructed wetlands	1.1 Engage a contractor to carry out earthworks at Porter constructed wetlands.	1.1 Engage a contractor to carry out earthworks at Motueka Delta and McKay constructed wetlands.	1.1 Engage a contractor to carry out earthworks at Ball constructed wetland, as well as Stage 2 of the Reilly constructed wetland (already consented).	1.1 New construction activities as required, to be determined by possible underspend on previous years.

wildlife.	1.2 Engage contractor to plant the Reilly Stage 1 and Berkett constructed wetlands using a combination of seedlings and direct seeding, with assistance from the NZ Landcare Trust. Total plants: 7,155.	1.2 Engage contractor to plant the Eves Valley and Porter constructed wetlands. Total plants: 21,090.	1.2 Engage contractor to plant at McKay constructed wetland. Total plants: 4,545 plants.	1.2 Engage contractor to plant the Ball and Reilly Stage 2 constructed wetlands. Total plants: 9,135.	1.2 New plantings as required, to be determined by possible underspend on previous years.
	1.3 Order plants, guards and stakes for next year. (Year 1 equipment sourced prior to project funding.)	1.3 Order plants, guards and stakes for next year.	1.3 Order plants, guards and stakes for next year.	1.3 Order plants, guards and stakes for next year if required.	
			1.4 Engage community partnerships (e.g. iwi, Tasman Bay Guardians, TET, NZ Landcare Trust) to plant the new constructed wetlands at Motueka Delta using a combination of seedlings (51,960 wetland and terrestrial plants), and direct seeding (1.9 ha: approx. 40,000 plants).	1.4 If required, engage community partnerships to undertake further direct seeding in areas where seeds did not germinate in Year 3 in Motueka Delta.	1.3 If required, engage community partnerships to undertake further direct seeding in areas where seeds did not germinate in Year 3 in Motueka Delta.
		1.4 Evaluate plant establishment		1.5 Evaluate plant establishment rates	1.4 Evaluate plant establishment rates

		rates from direct seeding at Reilly.		from direct seeding in Motueka Delta.	from direct seeding in Motueka Delta.
	1.4 Engage community partnerships by holding one Constructed Wetlands workshop with key stakeholders.		1.5 Engage community partnerships by holding one Constructed Wetlands workshop with key stakeholders.		
	1.5 Engage contractor to carry out maintenance at Year 1 wetlands, as required.	1.5 Engage contractor to carry out maintenance of plantings at Year 1 and 2 wetlands, as required.	1.6 Engage contractor to carry out maintenance of plantings at Year 1 - 3 wetlands, as required.	1.6 Engage contractor to carry out maintenance of plantings at all wetlands, as required.	1.5 Engage contractor to carry out maintenance of plantings at Year 2, 3 and 4 wetlands, as required.
	1.6 Complete application for a global resource consent for constructed wetlands across the Tasman district (this process is already underway - Jan 2021). If this application is declined then apply for individual consents for the Year 2 wetlands, as required.	1.6 If global consent was declined then then apply for individual consents for the Year 3 wetlands, as required.	1.7 If global consent was declined then then apply for individual consents for the Year 4 wetlands, as required.	1.7 Assess budget for Year 5 with potential to do more wetlands. Apply for resource consent as required.	
	1.7 Conduct water quality and plant survival monitoring at Reilly wetland, and engage consultant to conduct water	1.7 Conduct water quality and plant survival monitoring at Eves Valley wetland, continue monitoring of the Reilly wetland and	1.8 Engage consultant to continue water level and salinity monitoring at Motueka Delta.	1.8 Conduct water quality and plant survival monitoring at Ball wetland and continue monitoring of the Motueka Delta	1.6 Continue environmental monitoring of the Motueka Delta and Ball wetlands.

	level and salinity monitoring at Motueka Delta.	engage consultant to continue water level and salinity monitoring at Motueka Delta.		and Eves Valley wetlands.	
	1.8 Map, photograph and survey the Year 1 constructed wetlands (Reilly Stage 1 wetland, Berkett wetland and Eves Valley wetland).	1.8 Map, photograph and survey the Year 2 constructed wetland (Porter wetland) and planting at Eves Valley wetland.	1.9 Map, photograph and survey the Year 3 constructed wetlands (McKay wetland and Motueka Delta Wetland).	1.9 Map, photograph and survey the Year 4 constructed wetlands (Ball wetland and Reilly Stage 2 wetland).	1.7 New maps and photography to be determined by possible new projects in Year 5, as determined by underspend on previous years.
	1.9 Produce two new constructed wetland design for the Year 2 wetlands (Eves Valley and Porter wetlands).	1.9 Produce two new constructed wetland designs for the Year 3 wetlands (McKay wetland and Motueka Delta Wetland).	1.10 Produce two new constructed wetland designs for the Year 4 wetlands (Ball wetland and Reilly Stage 2 wetland).	1.10 Assess budget for Year 5 with potential to do more wetlands. Produce wetland designs as required.	
	1.10 Construct at least 150 m of 2 wire electric fence around new wetlands.	1.10 Construct at least 150 m of 2 wire electric fence around new wetlands.	1.11 Construct at least 150 m of 2 wire electric fence around new wetlands.	1.11 Construct at least 150 m of 2 wire electric fence around new wetlands.	
			1.12 Engage consultant to commence animal pest control programme at Motueka Delta (3.5 ha).	1.12 Engage consultant to continue animal pest control programme at Motueka Delta (3.5 ha).	1.8 Engage consultant to continue animal pest control programme at Motueka Delta (3.5 ha).
2. By June 2026, weed control in at least 40 natural wetlands will protect and enhance native vegetation	2.1 Assess weeds and complete restoration plans for at least 10	2.1 Assess weeds and prepare restoration plans for 20 natural	2.1 Assess weeds and prepare restoration plans for remaining 10		

communities in natural wetlands across Tasman district.	natural wetland sites.	wetland sites, as required.	natural wetland sites, as required.		
	2.2 Apply for resource consents for aerial application of herbicides, and any herbicide application near waterways, as required.	2.2 Apply for resource consents for aerial application of herbicides, and any herbicide application near waterways, as required.			
	2.3 Engage contractors to control weeds in at least 8 natural wetlands (first sweep of weed control).	2.3 Engage contractors to control weeds in at least 15 natural wetlands (first sweep of weed control).	2.2 Engage contractors to control weeds at least 17 natural wetlands (first sweep of weed control).		
		2.4 Engage contractors to undertake monitoring, surveillance and follow-up weed control in at least 8 wetlands where weed control has been carried out.	2.2 Engage contractors to undertake monitoring, surveillance and follow-up weed control in at least 23 wetlands where weed control has been carried out.	2.1 Engage contractors to undertake monitoring, surveillance and follow-up weed control in at least 40 wetlands where weed control has been carried out.	2.1 Engage contractors to undertake monitoring, surveillance and follow-up weed control in at least 40 wetlands where weed control has been carried out.
3. By June 2026, 17,000 woody and herbaceous plants will be planted at seven natural wetland sites in the Tasman district to help restore native wetland vegetation communities.	3.1 Assess natural wetland planting sites and prepare restoration plans for at least 4 wetlands.	3.1 Assess natural wetland planting sites and prepare restoration plans for at least 3 wetlands.			
	3.2 Engage contractors to prepare planting areas by carrying out weed control.	3.2 Engage contractors to prepare planting areas by carrying out weed control.	3.1 Engage contractors to prepare planting areas by carrying out weed control.	3.1 Engage contractors to prepare planting areas by carrying out weed control.	

	3.3 Order 3,800 plants and guards and stakes where required.	3.3 Order 7,000 plants and guards and stakes where required.	3.2 Order 6,200 plants and guards and stakes where required.		
		3.4 Engage contractors to plant woody and herbaceous plants in at least 2 wetlands.	3.3 Engage contractors to plant woody and herbaceous plants in at least 3 wetlands.	3.2 Engage contractors to plant woody and herbaceous plants in at least 2 wetlands	
		3.5 Hold two community planting days.	3.4 Hold two community planting days.	3.3 Hold two community planting days.	
		3.6 Engage contractor to maintain plantings.	3.5 Engage contractor to maintain plantings.	3.4 Engage contractor to maintain plantings.	3.1 Engage contractor to maintain plantings.
		3.7 At all planted wetland sites, monitor rates of plant survival, and at selected sites, audit contractors work to ensure it meets best practice and restoration plan outcomes.	3.6 At all planted wetland sites, monitor rates of plant survival and at selected sites, audit contractors work to ensure it meets best practice and restoration plan outcomes.	3.5 At all planted wetland sites, monitor rates of plant survival and at selected sites, audit contractors work to ensure it meets best practice and restoration plan outcomes.	3.2 At all planted wetland sites, monitor rates of plant survival and at selected sites, audit contractors work to ensure it meets best practice and restoration plan outcomes.
		3.8 Construct at least 350 m of 2 wire electric fence as required.	3.7 Construct at least 350 m of 2 wire electric fence as required.	3.6 Construct at least 300 m of 2 wire electric fence as required.	
4. By June 2026, natural hydrological regimes will be restored in at least four wetlands in the Tasman district by infilling or	4.1 Prepare hydrological regime restoration plans for at least 2 wetlands.	4.1 Prepare hydrological regime restoration plans for at least 2 wetlands.			

blocking ditches which can be accessed, and by removing excess sediment.	4.2 Apply for resource consents required to implement hydrological restoration.	4.2 Apply for resource consents required to implement hydrological restoration.			
		4.3 Engage contractor to block ditches at 1 wetland (Black Valley wetland).	4.1 Engage contractor to block ditches at 2 wetlands and remove any excess sediment.	4.1 Engage contractor to block ditches at 1 wetland.	4.1 Engage contractor to complete any remaining hydrological restoration, if required.
	4.3 Engage contractor to monitor indicators of hydrology before re-wetting.	4.4 Engage contractor to monitor indicators of hydrology after re-wetting.	4.2 Engage contractor to monitor indicators of hydrology after re-wetting.	4.2 Engage contractor to monitor indicators of hydrology after re-wetting.	4.2 Engage contractor to monitor indicators of hydrology after re-wetting, if required.