

## Waimea Inlet Enhancement Project

### 1 Project objectives

Provide between three and six concrete statements which describe the tangible results your project will achieve. Note that some project outcomes will be achieved over a longer timeframe, however the objectives described here must be achievable within the duration of the funding. Please ensure that:

- Objectives are SMART (Specific, Measurable, Achievable, and Realistic within the Timeframe of the project). Refer the Public Waterways and Ecosystem Restoration Fund Guide for Recipients for more information on setting SMART objectives.
- All objectives are clearly defined and achievable within the duration of the funding.
- Each objective has at least one key performance indicator (KPI).
- Successful completion of tasks and activities will lead to achievement of the project objectives.
- You have a clear plan for measuring, evaluating and reporting whether your project objectives have been met.

An example has been provided to demonstrate the level of detail required.

Objective	Key performance indicators (KPIs)	How will you monitor and evaluate the achievement of this objective?	Baseline information	Expected outcome
<i>Describe the tangible results your project is trying to achieve.</i>	<i>KPIs are a measureable values that demonstrates progress towards objectives.</i>	<i>How will you measure your progress and demonstrate that the objective has been achieved?</i>	<i>Describe the current situation, using the data you have available.</i>	<i>What will change as a result of the objective being met? What will be the benefit?</i>
By 2025, 3.05 ha of instream and near stream habitat will be restored and protected for native species at Poorman Valley Stream, Reservoir Creek and between Waimea River Delta and Manuka Island.	Number of reaches with appropriate substrate (large woody debris; gravel) added to provide habitat in Poorman Valley Stream and Reservoir Creek (Target: 3 stream reaches, totalling 350 m in length);  Number of reaches where excess sediment removed to enhance inanga spawning habitat in Reservoir Creek (Target: 1 stream reach, at least 30 m long, riparian areas regrassed after completion);	Assessment of substrates at habitat enhancement sites to ensure appropriate habitat remains in-situ (12 months after initial works and/or after significant storm events) – replace if necessary;  Monitoring of inanga spawning, twice throughout project;  Inspection and recording of fences for integrity, 12 months after installation.	Surveys of substrate in tributaries have identified either lack of appropriate substrate or excess sediment. Sediment build-up at the inanga spawning site on Reservoir Creek now means that it is too high for the spring tide to reach and therefore virtually eliminates spawning potential;  State of the Environment data and rapid habitat assessment data available	Native vertebrate and invertebrate species are flourishing in tributaries, with enhanced spawning of inanga and other native species;  2 km of watercourses are fenced to protect native vegetation and exclude stock, therefore stopping breakdown of banks by stock and direct defecation into waterways;

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	Distance of fence erected (Target: 2 km enclosing 3 ha) to exclude stock from small watercourses between Waimea River Delta and Manuka Island, which drain directly into Waimea Inlet.		for key species at some sites;  There is currently no fencing around the watercourses between Waimea River Delta and Manuka Island.	Reduced sediment and nutrient runoff to waterways, thereby improving the overall health of the watercourses and adjacent estuarine areas.
By 2025, 8 ha of marsh bird habitat will be enhanced by the development of biodiversity corridors between freshwater and estuarine ecosystems in the Waimea River Delta.	<p>Waimea River Delta restoration plan developed, including details of pest plant control, restoration of hydrological connectivity, freshwater wetland creation and planting, with map of site with activities located (Target: plan completed in Year 1);</p> <p>Waimea River Delta restoration plan implemented resulting in the restoration of: hydrological integrity and connections, appropriate substrate, vegetation communities, and salt marsh habitat; and the creation of freshwater wetland habitat (Target: 8 ha of high quality habitat for marsh birds restored in Waimea River Delta);</p> <p>Freshwater wetland habitat and salt marsh habitat will revegetated (Target: up to 2 ha of the total restoration area).</p>	<p>Monitoring of populations of Australasian bittern and banded rail in the Waimea River Delta restoration area;</p> <p>Plant survival rates will be assessed annually.</p>	<p>Existing datasets for marsh bird populations are available through previous biennial surveys;</p> <p>It is believed that currently one Australasian bittern may be present in the Waimea River Delta area;</p> <p>However, there is currently very little suitable habitat for marsh birds in the Waimea River Delta, and until some habitat is restored, it is unlikely that the area supports populations of even modest size for any species;</p> <p>The area proposed for the freshwater wetland is currently infested with tall fescue.</p>	<p>Effective corridors between freshwater and estuarine ecosystems are established to facilitate biodiversity movement across the landscape;</p> <p>Populations of endangered bird species in Waimea Inlet are increasing, with endangered species breeding in the restored habitat;</p> <p>Vegetation across the site is dominated by native species with limited infestations of exotic species.</p>

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<p>By 2025, in 1 ha of salt marsh, methods of restoring salt marsh vegetation communities will be tested to develop effective restoration techniques for areas that are difficult to restore.</p>	<p>Identification and mapping of trial sites and elucidation of restoration techniques to be tested (Target: 2 trial sites identified and trial designs developed);</p> <p>Establishment of trials testing: substrate addition and/or remediation; removal of barriers to establishment of native vegetation; and revegetation techniques (e.g. enhancement of existing vegetation, plugs, nursery-raised plants, natural regeneration) (Target: 2 trial sites established).</p>	<p>Trials to evaluate restoration techniques will be established, monitored and reported annually.</p>	<p>Existing mapping indicates that there are 303 ha of salt marsh communities across Waimea Inlet (2014 data).</p>	<p>Extent of salt marsh habitat increasing in Waimea Inlet, with healthy native vegetation sequences supporting a diversity of estuarine flora and fauna species;</p> <p>Increased salt marsh restoration skill base enabling development of an effective restoration programme, with knowledge spread broadly across local agencies and community.</p>
<p>By 2025, weed control will be undertaken at 30 sites in and around Waimea Inlet to protect sites with high natural values and those with recent plantings, and to manage populations of key weed species, including high impact weed species.</p>	<p>Populations of key weed species mapped in and around Waimea Inlet (Target: mapping undertaken in Year 1 and Year 5);</p> <p>A weed management strategy for Waimea Inlet developed, which will include what species are to be controlled at identified sites, including maps (Target: strategy completed in Year 2);</p> <p>Weed control undertaken to meet targets set within strategy for control of populations of specified weed species, including high impact species (Target: 20 sites);</p>	<p>Mapping of populations of key weed species undertaken in Year 1 and in Year 5 to assess progress against targets in management strategy;</p> <p>Areas with high natural values surveyed at least biennially to ensure weed populations are not adversely affecting values;</p> <p>Populations of high impact weed species monitored after weed control to ensure control has been effective.</p>	<p>Maps outlining current populations of tamarisk, jellybean iceplant, narrow leaved wilsonia and spartina are available;</p> <p>Mapping in Year 1 will provide baseline data for weed populations;</p> <p>The Tasman-Nelson Regional Pest Management Plan 2019-2029 lists some pest organisms and appropriate control measures for each, and complements National Accords that arise from the Biosecurity Act 1993;</p>	<p>Native vegetation communities in the Waimea Inlet, and the biodiversity they support, are thriving in the absence of large populations of high impact weeds.</p>

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	<p>Weed control undertaken to protect vegetation communities in sites with high natural values and to protect new plantings in revegetation sites around Waimea Inlet (Target: 10 sites).</p>		<p>Weed threats to Significant Natural Habitat (SNH) sites documented in 2020 report.</p>	
<p>By 2025, develop and implement a revised Waimea Inlet Management Strategy and Action Plan (2022-2025).</p>	<p>Consultation with local iwi and with the broader community undertaken (Target: at least 3 workshops or other forums held in Years 1 and 2);</p> <p>Revised Waimea Inlet Management Strategy and Action Plan (2022 - 2025) developed (Target: Strategy completed in Year 2; Action Plan completed in Year 3).</p>	<p>Strategy effectiveness evaluated by extent of community engagement with restoration activities around Waimea Inlet, including community planting days and other public events;</p> <p>Evaluation of achievement of actions in 2022 - 2025 Action Plan, from 2022.</p>	<p>The existing Waimea Inlet Management Strategy was completed in 2010;</p> <p>National policies such as the National Policy Statement on Freshwater Management and the National Policy Statement on Indigenous Biodiversity have been completed since the initial management strategy was developed;</p> <p>Reports for Nelson City Council and Tasman District Council on estuary ecosystems and their restoration potential have been completed in 2020;</p> <p>Existing data on community engagement provides a record of the number of volunteer hours contributed to planting days and other activities.</p>	<p>Implementation of the revised Waimea Inlet Management Strategy enhances engagement with Waimea Inlet by the broader community, including iwi, and facilitates actions that improve the condition of ecosystems in Waimea Inlet.</p>

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### 2 Activity table for the life of the project

*For each objective, list the main tasks/activities that will be undertaken.*

Objective	Activity				
	Year 1 (2020-2021)	Year 2 (2021-2022)	Year 3 (2022-2023)	Year 4 (2023-2024)	Year 5 (2024-2025)
1. By 2025, 3.05 ha of instream and near stream habitat will be restored and protected for native species at Poorman Valley Stream, Reservoir Creek and between Waimea River Delta and Manuka Island	<ul style="list-style-type: none"> <li>Apply for resource consent to undertake habitat enhancement in Reservoir Creek</li> </ul>	<ul style="list-style-type: none"> <li>Engage contractor to restore substrate in two reaches of Poorman Valley Stream</li> </ul>	<ul style="list-style-type: none"> <li>Engage contractor to fence approximately 1 km of small watercourse/s between Waimea River Delta and Manuka Island</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and maintain previous years fencing</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and report on inanga spawning</li> </ul>
	<ul style="list-style-type: none"> <li>Map areas of Reservoir Creek to be treated</li> </ul>	<ul style="list-style-type: none"> <li>Review map of Poorman Valley Stream treatment areas, update map if required</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and maintain substrate, and fencing</li> </ul>		
	<ul style="list-style-type: none"> <li>Engage contractor to restore substrate in one reach of Reservoir Creek</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and maintain substrate in 2 treated reaches of Reservoir Creek</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and report on inanga spawning</li> </ul>		
	<ul style="list-style-type: none"> <li>Engage contractor to remove excess sediment from one reach of Reservoir Creek</li> </ul>	<ul style="list-style-type: none"> <li>Review map of fencing sites, update map if required</li> </ul>			
	<ul style="list-style-type: none"> <li>Map areas of Poorman Valley Stream to be treated</li> </ul>	<ul style="list-style-type: none"> <li>Engage contractor to fence approximately 1 km of small watercourse/s between Waimea</li> </ul>			

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		River Delta and Manuka Island			
	<ul style="list-style-type: none"> <li>Map areas to be fenced</li> </ul>				
<p>2. By 2025, 8 ha of marsh bird habitat will be enhanced by the development of biodiversity corridors between freshwater and estuarine ecosystems in the Waimea River Delta</p>	<ul style="list-style-type: none"> <li>Write Waimea River Delta restoration plan , including details of pest plant control, restoration of hydrological connectivity, freshwater wetland creation, and planting, with map of site with activities located</li> </ul>	<ul style="list-style-type: none"> <li>Engage contractor to restore hydrological connectivity and create freshwater wetland areas</li> </ul>	<ul style="list-style-type: none"> <li>Engage contractor to undertake site preparation and planting in freshwater wetland and salt marsh habitats, as required per restoration plan</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and report on plant survival rates</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and report on plant survival rates</li> </ul>
	<ul style="list-style-type: none"> <li>Apply for resource consent required to undertake plan</li> </ul>	<ul style="list-style-type: none"> <li>Engage contractor to commence other required restoration activities set out in restoration plan, e.g. weed control</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and report marsh bird populations in Waimea River Delta</li> </ul>	<ul style="list-style-type: none"> <li>Engage contractor to continue Waimea River Delta restoration plan activities</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and report marsh bird populations in Waimea River Delta</li> </ul>
	<ul style="list-style-type: none"> <li>Engage contractor to start implementing restoration plan, including commencing site preparation e.g. weed control</li> </ul>				<ul style="list-style-type: none"> <li>Engage contractor to maintain Waimea River Delta as required, e.g. weed control</li> </ul>
<p>3. By 2025, in 1 ha of salt marsh, methods of restoring salt</p>	<ul style="list-style-type: none"> <li>Identify and map potential trial sites where successful</li> </ul>	<ul style="list-style-type: none"> <li>Design first trial</li> </ul>	<ul style="list-style-type: none"> <li>Design second trial</li> </ul>	<ul style="list-style-type: none"> <li>Maintain both trials that commenced in Year 2 and Year 3</li> </ul>	<ul style="list-style-type: none"> <li>Maintain both trials that commenced in Year 2 and Year 3</li> </ul>

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marsh vegetation communities will be tested to develop effective restoration techniques for areas that are difficult to restore	restoration of salt marsh is constrained by knowledge gaps				
	<ul style="list-style-type: none"> <li>Identify restoration methods to test which have the potential to enhance restoration success, e.g. remediating substrate; removing plant recruitment barriers; revegetation techniques</li> </ul>	<ul style="list-style-type: none"> <li>Gain appropriate resource consents to carry out first trial</li> </ul>	<ul style="list-style-type: none"> <li>Gain appropriate resource consents to carry out second trial</li> </ul>	<ul style="list-style-type: none"> <li>Monitor, evaluate and report both trials</li> </ul>	<ul style="list-style-type: none"> <li>Monitor, evaluate and report both trials</li> </ul>
		<ul style="list-style-type: none"> <li>Install first trial, using contractors to remediate substrate and undertake any required weed control, planting and/or other activities</li> </ul>	<ul style="list-style-type: none"> <li>Install second trial, using contractors to remediate substrate and undertake any required weed control, planting and/or other activities</li> </ul>		
				<ul style="list-style-type: none"> <li>Maintain, monitor, evaluate and report first trial</li> </ul>	
4. By 2025, weed control will be undertaken at 30 sites in and around Waimea Inlet to protect sites with high natural values and those with	<ul style="list-style-type: none"> <li>Engage contractor to map populations of key weed species</li> </ul>	<ul style="list-style-type: none"> <li>Complete development of weed management strategy</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and report on sites with high impact weeds</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and report on high value sites and sites with high impact weeds</li> </ul>	<ul style="list-style-type: none"> <li>Engage contractors to map populations of key weed species</li> </ul>
	<ul style="list-style-type: none"> <li>Commence development of weed management strategy, which will</li> </ul>	<ul style="list-style-type: none"> <li>Monitor high value sites and sites with high impact weeds</li> </ul>	<ul style="list-style-type: none"> <li>Engage contractors to carry out weed management, as per</li> </ul>	<ul style="list-style-type: none"> <li>Engage contractors to carry out weed management, as per</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and report sites with high impact weeds</li> </ul>

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recent plantings, and to manage populations of key weed species, including high impact weed species	include what species are to be controlled at identified sites, including maps		weed management strategy	weed management strategy	
	<ul style="list-style-type: none"> <li>Engage contractors to carry out weed management at sites with recent plantings and/or high impact weed species</li> </ul>	<ul style="list-style-type: none"> <li>Engage contractors to carry out weed management, as per weed management strategy</li> </ul>			<ul style="list-style-type: none"> <li>Engage contractors to carry out weed management, as per weed management strategy</li> </ul>
5. By 2025, develop and implement a revised Waimea Inlet Management Strategy and Action Plan (2022-2025)	<ul style="list-style-type: none"> <li>Commence community consultation on Waimea Inlet Management Strategy</li> </ul>	<ul style="list-style-type: none"> <li>Conclude community consultation on Waimea Inlet Management Strategy</li> </ul>	<ul style="list-style-type: none"> <li>Consultant to complete development of Action Plan (2022 - 2025)</li> </ul>	<ul style="list-style-type: none"> <li>Continue implementation of Action Plan (2022 - 2025)</li> </ul>	<ul style="list-style-type: none"> <li>Continue to implement Action Plan (2022 - 2025)</li> </ul>
	<ul style="list-style-type: none"> <li>Engage consultant to commence Management Strategy development</li> </ul>	<ul style="list-style-type: none"> <li>Consultant to complete Management Strategy</li> </ul>	<ul style="list-style-type: none"> <li>Begin implementation of Action Plan (2022 - 2025)</li> </ul>	<ul style="list-style-type: none"> <li>Monitor, evaluate, and report on Action Plans achievements</li> </ul>	<ul style="list-style-type: none"> <li>Monitor, evaluate, and report on Action Plans achievements</li> </ul>
		<ul style="list-style-type: none"> <li>Engage consultant to commence development of Action Plan (2022 - 2025)</li> </ul>			