



Jobs for Nature evaluation

Freshwater Restoration Thematic Case Study

Jobs for Nature (J4N) is a \$1.2 billion programme that manages funding across multiple government agencies to benefit the environment, people, and the regions. It is part of the COVID-19 recovery package. J4N funds projects focused on providing employment and delivering environmental outputs.

Year 2 of the J4N evaluation generated findings around three thematic-based case studies, in addition to a Te Ao Māori evaluation. This report covers the case study on freshwater restoration.

Twenty-three J4N projects with a focus on freshwater restoration are included in this case study and have informed this report.

Freshwater restoration

Freshwater restoration projects in this case study had a focus on freshwater rehabilitation, improving fish passage, wetland, stream and lake riparian planting, and aquatic weed control.

In this case study, we looked for three elements outlined in the J4N investment strategy which guided decision making for the environment:¹

- Projects and other aligned initiatives target a holistic system view of catchments and ecosystems.
- Projects target interventions known to have a broad and strong influence on environmental outcomes within an ecosystem or catchment.
- Projects fit within a regional/catchment strategy.

¹ Investment Framework 2021

Are freshwater restoration projects doing the right things?

Alignment with policy and programme intent

Some J4N projects in this case study focused on a single catchment or estuary; while others supported initiatives across a large region or rohe covering lakes, streams, wetlands and estuaries. Freshwater restoration was often part of a broad programme of environmental goals and objectives. Increasing employment, building capacity and capability, and supporting mātauranga Māori were variously described as complementary goals.

“There are milestones that cover, pest animal control, pest plant control. There’s revegetation and restoration work along the wetlands and rivers. Also, just general restoration work through the Regional Park and wetland. Pest control across the whole boundary block, and there are wildling pines.... Then there are the goals for the iwi to build capacity and have mātauranga Māori informing the project...it’s a big job.”

Project Manager

Some of the waterways maintained by the Hem of Remutaka restoration project



J4N projects clearly described the threats to freshwater systems and the difference they intended to make. For example, a DOC funded project noted that only 3% of Wellington’s original wetland remains, and discussed how the J4N project would enhance

three key water systems through weed control, restoration planting and fencing. The project also intended to restore sections of contiguous coastal scarp which had been highly modified and protect rare and threatened flora/fauna including *crassula pendularis* (nationally critical), *muhlenbeckia astonii* (nationally endangered), *kōkōwai skink* (at risk, declining), and *NZ dotterel* (recovering).

An MfE J4N allocation funded the Waitangi Management Plan which will support environmental education and create employment opportunities to better water quality. This will be achieved through cultural health monitoring, fencing, planting and predator monitoring. The catchment ecological restoration plan is intended to promote best practice in the restoration work. The restoration plan covered five sub-catchments encompassing the Waitangi River catchment. Most of the land and waterbeds are in private ownership and there are areas of public land under DOC management along the Waitangi River and around Lake Owhareiti.

The freshwater fund under J4N enabled the community to reduce sediment deposition on shellfish beds which has altered the shellfish species present, and supported food gathering opportunities, and recreational use. The fund also enables job creation and builds capacity in freshwater management and restoration. The Waitangi River also included popular swimming areas and several swimming sites.

Ability to adjust to changing circumstances

The J4N programme pivoted to emphasise environmental outcomes in response to lower than forecast unemployment rates. It enabled approval of the funding of holistic wider catchment-based restoration projects which focused on whole-of-landscape nature-based infrastructure.

At a local and regional level J4N projects reported that it took time for this change to be reflected in contract adjustments for existing projects. This created pressure for some projects, having to manage underspends to meet original employment targets and freshwater restoration targets. Contract variations for FTE were described as difficult to negotiate, at an operational level locally. J4N changes to contract conditions were not able to be easily adjusted to changing circumstances.



Streambank erosion in Rai Valley – August 2023;
Photo: Marlborough District Council



Culverts in Te Hoiere Catchment that are barriers to fish passage.

To what extent are freshwater restoration projects achieving their intended changes?

The J4N projects selected in this case study had seen benefits through riparian planting, restored wetlands, and repaired ecosystems. The J4N programme had assisted regional communities and Māori to advance freshwater and biodiversity restoration goals. However, it will take time to achieve all project outcomes. This section illustrates some of the achieved project outcomes.

Managing erosion vulnerability

Some J4N freshwater projects involved developing restoration plans, integrated catchment management plans, and ongoing monitoring systems. For example, in Te Hoiere a J4N project used a geospatial tool to better understand the catchment by establishing a way to assess erosion vulnerability. The mapping work combines different datasets from above and below the ground, as well as historical information, to better understand the likelihood and influences of erosion

in the catchment. Through reliably identifying land at risk of erosion, the data enables land managers to make better decisions.

The J4N Te Hoiere project also provides support to reduce barriers for the freshwater fish in the waterways to reach the sea. Catchment condition surveys and modelling work with NIWA inform priorities for the fish remediation programme.²

² <https://www.tehoiere.org.nz/about/catchment-actions/fish-barriers>

Building freshwater restoration skills, knowledge and capacity

J4N project kaimahi are learning new skills and knowledge about rivers, lakes, wetlands and estuaries, and skills and experience in freshwater restoration.

"We watched as they [DOC] named every single plant around a wetland.... It was great training. We also did water testing, going out in our waders. We have lamprey in the lakes...it was really cool. They filter water, and they go out to sea attached to fish." Kaimahi

Partnerships to conserve Tūturiwhatu

Parangarahu Lakes, within the Hem of Remutaka J4N project, are a sanctuary for birdlife in the Wellington Region with over 50 species, including regionally rare species such as dabchick, tomtit, rifleman, whitehead, kākārīki, falcon, banded dotterel, and grey duck. The J4N project provided support to the Banded Dotterel Management Plan that unifies conservation efforts for Greater Wellington, the Mainland Island Restoration Operation (MIRO), Taranaki Whānui ki Te Upoko o Te Ika, Birds New Zealand, the Friends of Baring Head Trust and Hutt City Council. The work involves pest control, rāhui, erecting signage and fencing, and providing community education.

The partnership was described as healthy and supporting the effective implementation of the management plan. The management plan aligns with the J4N freshwater restoration activities, and the synergies between projects and activities is helping to reduce duplication and enhancing the overall effectiveness of the project.

Iwi had been putting a rāhui on the beaches when dotterel were breeding in an effort to save the eggs, which are nestled amongst stones. The Hem of Remutaka project assisted with trap servicing during the dotterel nesting season and with bird monitoring. There is a reported increase of annual hatching success from only 3% of nests to a high of 57%.⁴

"We see thousands of dotterel birds...I knew nothing about them...we learnt about the birds through monitoring. We caught the chicks and got to catch and tag them and are now qualified to do the work." Kaimahi

Parangarahu Lakes Block includes Lake Kohangapiripiri and Lake Kohangatira. The lakes support a rich succession of wetland vegetation, including oioi (jointed wire rush) and glasswort, closer to the sea, and raupo, toetoe, flax and giant umbrella sedge further inland.⁵



Banded Dotterel and their eggs³

3 Images credited to Eastbourne-Wainuiomata coastline tūturiwhatu/banded dotterel management strategy 2021–2026 – Tūturiwhatu/banded dotterel nest;adult male tūturiwhatu/banded dotterel

4 <https://www.gw.govt.nz/your-region/news/greater-wellington-supports-banded-dotterels-increasing-hatching-stats-with-new-strategy/>

5 <https://miro.org.nz/parangarahu-lakes/>



Are freshwater restoration projects bringing additional benefits?

Tukipo Freshwater and Biodiversity Enhancement

The J4N programme is supporting the Tukipo Freshwater and Biodiversity Enhancement project in Hawke's Bay to improve water quality and biodiversity across the 22,000 ha Tukipo catchment. The project demonstrates the achievement of additional benefits that go beyond the value of J4N funding invested. The project has helped to bring the community together.

"I would say the success of the project is 98% because of community buy in, and that's the key. It has brought our farming community closer together. It has made us think about farming and trees differently. I think it's opened people's minds to the benefits." Catchment Care Committee

J4N projects have worked together and helped to get significant tasks completed, there has been shared benefits of partnering to create employment opportunities.

"We had all teams working together and all had to be done in 10 days (30,000 plants in this catchment). But if we didn't have Mauri Oho, we couldn't have got the job done...they [government agency partner] would have had to have burnt the seedlings. Mauri Oho were so fast!" Project Manager



Tukipo Nursery

The Tukipo Freshwater and Biodiversity Enhancement project brought the timing of planned activities forward and has carefully managed its allocated funding.

"We often run on the smell of an oily rag...if you give us a dollar we will use it well and make it stretch...I would say J4N has advanced my restoration plans by 15 years." Catchment Care Committee

The project also supported farming communities in their efforts to implement catchment plans for freshwater restoration aligned to new rules and regulations. The project reported that it had exceeded the targets for environmental restoration work on the Tukituki Catchment Plan.

"Restoration amongst farmers and planting natives has become 'normalised', and we have over delivered on the Tukituki Plan. We prefer a carrot such as J4N funding as opposed to a regulation stick." Catchment Care Committee

Te Arawa Lakes Trust J4N project

The six iwi-led landscape scale restoration projects, involving wetlands, pest eradication, beehive placement, community initiatives, and water monitoring align with J4N programme policy and goals. J4N has been enabling of kaitiakitanga and supportive of iwi aspirations to improve the wellbeing of their taonga tuku iho.

"There are 14 lakes with the taonga species bylaw. We would like to be the monitors of the taonga species...we don't want people coming in and eating our taonga species...our people come to the lakes more...when our people are active out there, they already have the mātauranga locally...they know how the lake works."

Operations Manager

The J4N programme has enabled investment in the creation of new resources and tools to support freshwater restoration. The Te Arawa Lakes Trust J4N project includes an innovative trial of uwahi or harakeke flax mats to smother weeds in lakes.

"A friend who worked at council suggested I come to the Lake conference at Wanaka.... It was there that I suggested using harakeke mats as opposed to more hessian weed mats from Sri Lanka. A couple of weeks later and COVID-19 hit, and then we were approached to trial the harakeke mats or uwahi. While other people were having a COVID-19 break, we were very busy with doing the funding applications." Project Manager

J4N helped the iwi by investing in new resources, new tools, and new ways of doing things that add value to the way ecosystems are restored.

"The weeds grow in thick mat, which the uwahi smothers. If you lift up the uwahi, there are heaps of kakahi and koura...it provides a good habitat for these taonga species and protects them from carp." Operations Manager

There has been a large investment in training that has enabled staff to undertake diving and lead a science monitoring programme. Iwi members are qualified to undertake health and safety training around the lake. J4N funding has enabled the iwi to upskill their own people so that environmental restoration work can be done with greater efficiencies.

"Working for your iwi and government organisations...the difference is the iwi just gets in there and does it...we do it safely...I can do all the training around health and safety...for this project the government agencies were just really slow to get these going...with government agencies there's too much mucking around"

Operations Manager



Te Arawa Lakes Trust weed mat

J4N enabled iwi to train their people to have specialist skills and certifications in water safety, diving, as boat skippers, bush skills, offroad driving, heavy machinery, firearms, and use of poisons. They have also grown scientific capability and have relationships with NIWA, University of Waikato, University of Victoria, and the Cawthron Institute. They have also developed kaitiaki cadetships and one of the team has gained a Masters degree in environment based on uwahi.

Before J4N, the local and regional councils outsourced services for lake monitoring to contractors that were not based in the community. These contracted services would constantly contact iwi for information about the lakes. The Lakes Trust now attracts a range of contracts from councils and DOC with J4N kaimahi undertaking scientific monitoring of the lake environments, including lake beds and wetlands. The iwi team maintain iwi relationships as opposed to outside contractors coming in and trying to navigate this space. It is considered more cost effective. The contracts provide valued salaries for communities and iwi, who now have 17 full-time and 35 contracted positions.

How well do freshwater restoration projects fit with other strategies?

Hokianga Catchment Restoration Project

The Hokianga Catchment Restoration Project involves planting and fencing (riparian, wetland, and erosion prone areas), pest plant control, and eco-sourcing and growing native plants to improve the health of the freshwater catchments within the Hokianga district, thereby improving the health of the Hokianga Harbour and the community that rely on it. The work is consistent with other catchment management plans nationally, and aligns with Te Mana o te Wai and the National Policy Statement for Freshwater Management 2020.

The genesis of this J4N project can be traced back to 2004 when a local man, Will Stensness, formed a harbour care group in response to degradation of the Hokianga Harbour and its tributaries. It was reported that his frustrations grew when fish stocks were so low that it took him 3 hours to catch a flounder and he had difficulty getting a kayaking business off the ground because of rubbish in the Whirinaki River: "That's our cupboard out there. It has to be looked after."⁶ He identified that livestock and sediment runoff was partly responsible for the harbour's deteriorating water quality and reducing this would be the main aim of the Hokianga Harbour Care Collective.

Will Stensness championed for a "living systems approach to deliver multiparty outcomes" in Hokianga and Northland from 2004 to 2009.⁷ He recognised Northland had employment and environmental challenges; however, funding applications were often declined and funding applications were oversubscribed. The project built relationships with the regional council, MPI, DOC and MFE. In 2020 MPI invested funding to support the expansion of three existing community native plant nurseries to produce an additional 128,000 seedlings over 3 years. Then in 2021, the project received \$2 million of J4N funding and additional funding from Pub Charities and Foundation North.

The J4N project aims to establish 250,000 native, eco-sourced plants and restore 80 ha of riparian, wetland and erosion prone land around the south Hokianga, and complete 70 km of fencing and 60 ha of pest plant control. The project team works with landowners, iwi/hapū/whānau and communities.

⁶ Article in Northland Times, 25 February 2004.

⁷ <https://www.kaitiakitanga.org/hokianga>. Sadly, Will passed away in 2013, however the work he identified that needed to be done is happening. Nei ra te mihi ki a koe e te Rangatira, haere ki te moe o ngā tupuna, ki te aroha o te Atua. E moe, e moe, haere atu ra. Nei ra te pupuri i nga tini mahara, e nga mate haere, haere, haere ki te po.



"Our kaupapa is simple – to improve the health of the Hokianga Harbour by restoring the health of the waterways and catchments that flow into the harbor" Project Manager

The project also works with Reconnecting Northland.

"They [Reconnecting Northland] have been great. We have been weaving work together.

They are connecting at the iwi, council, government agency level.... The J4N project is seeking funding to develop a longer-term integrated plan so they [Reconnecting Northland] can seek funding (e.g. philanthropic) to keep the mahi going. Hokianga is a test case for this.

They have been great!" Project Manager

Hokianga Catchment Care has run multiple education workshops, hui with hapū and have just facilitated a wānanga around freshwater across Te Tai Tokerau. The wānanga, held in March 2024, was called 'Kaitiakitanga into the Future' and was well attended by around 70 people. The wānanga participants identified that a comprehensive engagement/consulting phase with everybody affected was needed.

"We haven't had much buy in from marae. MOUs designed by the governance team to formally engage hapū and marae has been locked in as a milestone [in the J4N contract]. This is more bureaucratic and complicated than the simple landowner agreements in place for other lands... It is also helpful if you already have relationships with iwi. My relationships come from the other side Te Rōroa with my previous DOC work. Fortunately, we have brought on board [Iwi Coordinator position] to help us out." Project Manager

The Iwi Project Manager was from Rawene, and she had helped run previous J4N initiatives. This may help restore relationships with the original Hokianga Harbour community participants of the 32 marae who came to the first hui in 2004.



Lake Omapere benefits from J4N work with landowners.

Are the benefits of freshwater restoration projects likely to last?

Data indicates that 39 of 47 freshwater and marine taonga species are threatened with extinction, or at risk of becoming threatened.⁸ Freshwater restoration J4N projects demonstrated that they are helping to establish sustainable land use practices and create healthy waterways that address the survival of freshwater species and ecosystems. Some of these environmental benefits will be ongoing; however, others will depend on the ongoing availability of a skilled workforce to maintain environmental initiatives.

Many of the projects adopted systems view by focusing restoration efforts at the catchment and ecosystem level, such as the Tukipo Freshwater and Biodiversity Enhancement and the Hokianga Catchment Restoration projects. There is evidence that these projects have helped to change land use practices to more sustainable ways. The alignment of these practices to new regulatory requirements should strengthen their sustainability.

⁸ <https://stats.govt.nz/news/our-indigenous-species-are-at-risk-of-extinction/>



Restoring the Mauri of Moawhitu

The Restoring the Mauri of Moawhitu J4N project has been successful in restoring wetland water levels and initiating revegetation. The environmental gains of raising the water levels and destocking the surrounding land will last, and iwi are enthusiastic about the opportunity of harvesting tuna from the lake when stocks allow. However, sustaining the environmental work and maintaining the people connection to the lake after the J4N funding is finished will be a challenge.

"The lake suffered from a decision to farm close to the lake. The waters were drained by previous farm owners. It ended up with lake edges on which they could not get anything to grow...It was an ecological disaster for the lake. The amount of change I have seen over the last couple of

years is phenomenal. With the retired farm, the trees can now grow, free from browsing. The biggest difference has been fixing the weir and raising the water level. That has made such a difference...having people come out and plant and reconnect, well, that has been magic. Seeing people grow, hearing stories from kaumatua about how this place was back in the day..."

Project Manager

"Moawhitu...it has helped me reconnect to my roots. It is my baseline about who we are today. My conservation journey has actually started here...now we are looking at the best possible option for the frogs to protect them, and what we need to do to restore their environment as part of climate change." Kaimahi

Sustaining employment outcomes will be a challenge in some projects

Some freshwater restoration projects have built capability that has led to ongoing employment opportunities, particularly as nursery, fencing, planting and environmental monitoring contractors. Moreover, projects reported building networks of volunteers, such as a trapping network, that would continue beyond J4N funding. But many projects reported that employment outcomes will be difficult to maintain after J4N funding support, especially in regional communities that have historically experienced high unemployment.

Projects in Northland, for example, reported that the employment outcomes would be difficult to sustain. They indicated that the region had suffered from underinvestment over a long time and that, while J4N was able to build on investment in a skilled workforce made under the Provincial Growth Fund, there were not yet clear pathways for their workers and the contracting environment was very competitive. One project reported that it was hoping to pick up contracts from agencies like Waka Kotahi, but that it had established partners and work programmes. Concerns about being able to sustain employment beyond J4N funding was frustrating for projects who felt they were just getting on top of some of the environmental challenges, like pest control, and they feared the positive environmental outcomes reversing without a workforce to maintain restoration activities.

"I chair a farming community. Contracts for our kaimahi for pest contract on land blocks or forestry blocks are already being done by someone else. Employment is tough here. It has been valuable having these young people retained in our communities. Going to the big cities, Auckland, they get lost and they get in trouble. Here we treasure them. Nurture them, teach them how to hold the paepae. They are the boys who dig our graves. Their hunting skills have served us well for pest control of the ngahere. When we went into the bush possums were hanging off the trees. We are just getting on top of them now...but that is all going to go backward unless we find a way to keep these young men employed." Iwi representative



Figure 3 <https://wildfish.org/latest-news/the-role-of-aquatic-insects-in-understanding-water-quality/> The role of riverfly in species understanding water quality



Partnerships provide a foundation for ongoing collaboration

J4N funding enabled many freshwater restoration projects to establish partnerships to support project delivery. Projects expect that these partnerships will endure and help to sustain some of the employment and environmental gains achieved by these projects.

Taking a whole catchment approach, the DOC Ngā Awa river management programme is working in partnership with others to restore the biodiversity of 14 rivers from mountains to sea. A J4N project involved with this programme, Te Hoiere, is achieving river restoration through the Kotahitanga mo te Taiao partnership model. This partnership delivers freshwater restoration outcomes, social impact and climate resilience. This Te Tau Ihu partnership involves regional and local councils, MPI, Uru Karaka, MfE and DOC, and this was seen as beneficial to the freshwater restoration projects in this region. The partnership model provided a foundation that was 'operationalised' at the J4N project level and was now seen as business-as-usual.

"The greatest thing this region took away from J4N was the wonderful working relationships we all developed in Te Tau Ihu." Regional Council Representative

At a project level, iwi, DOC, and regional and local councils sat on the management and governance of several of J4N freshwater restoration projects in the Wellington region. These partnerships were considered critical for enabling a shared vision and the sharing of resources.

Freshwater restoration projects also demonstrated enduring relationships with iwi. A project with significant employment and environmental outcomes works in a 'Treaty House Partnership'. Ātiawa ki Whakarongotai is the 'Iwi house' and DOC, and the regional and district councils align their roles as the 'kāwanatanga (Crown) house'. The project aligns with the kaupapa and principles of the Iwi Management Plan:

"Mana under lies programme, wairua creates a safe space – te ao tūroa – what we are doing every day." Project Manager

Lesson learned

Management of adjacent water systems is critical

While J4N freshwater restoration projects built strong partnerships with governments, landowners and others, the outcomes and sustainability of benefits is dependent on effective management of wastewater and stormwater, and effective drainage and water reticulation systems.

Some projects reported that their freshwater restoration work is negatively impacted by poor waste treatment, including ageing infrastructure which led to the practice of discharging raw sewage in heavy rainfall events. Riparian planting and fencing were not a substitute for addressing poor quality sewage treatment. Iwi were particularly vocal in reporting these concerns.

“The wastewater overflows in Northland are a common problem during bad weather and Māori are fed up with the failure of local authorities to manage the problem.” Kaumatua

Poor drainage infrastructure, the management of stormwater discharges, and neighbouring landowner management of waste and lands were identified as impacting on projects' freshwater restoration work. This included management practices on adjacent state-owned Pāmu (Landcorp) farms.

“So that’s all farmed. And that’s under Landcorp, Pāmu.... So we haven’t been able to get in there. So, all the waterways run into the estuary...I think it was 70% of Napier’s stormwater drains into the estuary... and so we can do all the plantings we like but until they fix there, nothing’s going to change.” Project Manager

Water reticulation was also a critical issue for some projects. Some J4N projects included provisions for water reticulation and this was seen as key to achieving uptake of the required 50/50 contributions to fencing off waterways and planting. However, not all projects included budget for this and these projects often struggled to get farmers to take up the 50/50 offers, which then impacts on the project’s success.

“...they obviously can’t fix the waterways off until there is water reticulation set up. So, one of our farms here, we did actually include water reticulation in our application this time. And I’m trying to think what the most expensive farm budget; might have been about \$40K. It was quite significant with one farm.” Project Manager

The success of J4N water restoration projects is, to some extent, dependent on the effective management of these wider and connected water systems.



Moehau ki te Moana restoring waterways that lead to the sea



Water reticulation is important for J4N projects to work

Projects benefit from dedicated leadership

Some projects had been negatively impacted by changes in project management and leadership. One project only had the resources to appoint a part-time project manager, who had since left to take up full-time work elsewhere. In another project, the project manager was appointed 12 months after the funding allocation decision, and they found themselves always playing catch-up on the contracted outputs.

Changes or delays in appointing project leadership had flow-on effects. For example, in one project it contributed to delays in engaging key stakeholders, including tangata whenua. This had a significant impact as the waterway had high value to the hapū and it meant that mātauranga Māori was not adequately considered in the project from the outset.

Jobs for Nature can leverage enthusiasm and passion for nature-based initiatives

Freshwater restoration projects have engaged many people. Being involved in repairing the natural environment has connected people to nature and helped people to form a kinship with the environment. There is an opportunity to leverage off this relationship and strengthen the culture of kaitiakitanga or stewardship of lands and waters to sustain community engagement in nature-based work. J4N helped kaimahi to understand the cultural and historical water and landscape they were working on, in partnership with iwi. With knowledge comes understanding and insight.

"We've become so passionate about it...it matters beyond a work matter." Kaimahi

The next generation are excited about the possible future of their taiao.

"I flat with our co-workers, and her son is crazy excited about it all, and wants to know about what we are doing. He's 5 years old, and he comes to planting days and is so active about restoring the landscape." Kaimahi

In large population centres, there has been substantial community engagement in trapping, ecosystem monitoring and habitat building. For example, the Hem of Remutaka has Taranaki whānau driving the freshwater outcomes in partnership with NZ Conservation, Regional Council and DOC. Kaimahi have loved learning about the iwi landscape.

J4N has taught New Zealanders about how to undertake freshwater restoration, equipping them with skills and knowledge. J4N has also inspired a new generation to do something about restoring the waterways, capturing hearts and minds, and imagination.



The Hem of Remutaka