

Land Development + Ecology

Green and brownfield developments can often have a range of complex environmental opportunities and constraints that can be hard to navigate.

Tonkin + Taylor's Ecology + Water Science team is focused on helping our clients secure developable land and grow the housing supply in Aotearoa New Zealand, while enabling regulatory compliance and resource, environmental, and infrastructural sustainability goals to be achieved along the way.

Our services

We have leading expertise in land development and our support for these projects includes a comprehensive range of Ecology and Water Science services.

Our large and diverse Ecology + Water Science team comprises over 50 professional ecologists. We have a number of leading specialists in terrestrial, freshwater, wetland, and marine ecology; but also ecologists skilled in project delivery and management.

We understand the requirements of the land development sector and the rapidly changing regulatory environment and have niche skills in undertaking rapid pre-purchase assessments to ensure our clients go into site purchasing with their eyes wide open. We can help position your approach and solution for success by supporting pragmatic decision-making around ecological risk, consenting, design, monitoring and ongoing auditing.

We offer an end to end approach aimed at minimising uncertainty in cost and project delays and optimising project and ecological outcomes. We understand the need for solutions that help to optimise the cost of programme delivery or construction.

Our ecology team routinely collaborates with other complementary services within T+T including fluvial geomorphology, contaminated land/geoscience, hydrology, geology, civil, geotechnical engineering, and hydraulic modelling. We also work closely with T+T's experts in Data and Digital to explore and develop novel approaches to data capture, manipulation and visualisation that is aligned with project needs.

Comprehensive offering

- Ecological constraints and opportunities (red flag) assessment during due diligence, project conception and scoping stages
- Investigation and survey design and data collection for environmental and ecological effects assessments
- Freshwater, wetland, marine and terrestrial ecology impact assessments
- Wetland delineation under the NPS FM
- Advice on ecological permit requirements and responsibilities under the Wildlife Act
- Support for obtaining project specific ecological permits (MPI, DOC, Wildlife Act Authority)
- Technical advice and expert witness representation through RMA proceedings including Environment Court
- Fish passage assessment, advice and design
- Environmental management systems
- Mitigation and offset and compensation modelling and advice (SEV, BOAM, BCM)
- Stream diversion design
- Stream and wetland rehabilitation plans
- Mana whenua and stakeholder consultation/ collaboration
- GIS and vegetation mapping using UAV/drones
- Remediation planning, design, and implementation
- Post remedial monitoring and management
- Compliance monitoring

Track record

LEAD Alliance Housing Development Programme - Auckland

We have been involved with the LEAD Alliance since the inception of the programme, working closely with the other development specialists to ensure a streamlined and efficient brownfield development process. This included contribution to neighbourhood Stormwater Management Plans, preparation of opportunity and constraints assessments for individual superlots, wetland delineation, fauna relocation and management, as well as contributing to stream daylighting and stream restoration plans. Throughout the process, T+Ts ecologists have been required to support a range of resource consents applications including bulk earthworks, and streamworks, which has necessitated working closely with the Auckland Council regulatory team to ensure often tricky consenting processes do not delay the development programme.

Ryman Healthcare Limited - Auckland and Christchurch

We have supported Ryman Healthcare on two retirement village developments in Auckland and Christchurch. In Auckland, we prepared a Lizard Management Plan, a Native Fish Management Plan, and a Stream Channel Design and Enhancement Plan for Ryman Kohimarama. In Christchurch, we prepared a Freshwater Fauna Capture and Relocation Plan for Ryman Northcross, which was implemented by Ryman contractors. More recently, we provided advice to Ryman around the management of indigenous bird species that were damaging native wetland plantings in stormwater treatment wetlands.

Housing Development - Kainga Ora - Bay of Plenty

Our team has been supporting Kainga Ora with bulk earthworks consent for enabling works at a large site in Tauriko, Bay of Plenty. The site involves extensive wetland and stream network and works encroached into some of these features to provide for the necessary stormwater management infrastructure to be built. Working alongside project engineers and planners, our ecologists worked through the resource consenting process with the regional and district council. Consent was granted in early 2024.

Beachlands South Plan change ecology assessments - Beachlands South Limited Partnership - Auckland

We have been supporting BSLP with its Beachlands South Plan Change Project since 2020. Our initial ecology work comprised opportunities and constraints assessments of the 300 hectare site to inform project planning. We then undertook comprehensive terrestrial, wetland, freshwater and marine ecological investigation and impact assessments to inform Master Planning and the Private Plan Change application to re-zone rural land for urban development. We also provided specialist water quality, geotechnical, contaminated land, hydrogeology and coastal hazard management services to the project.



Maitahi Village - CCKV Maitai Dev Co LP - Nelson

Our ecologists were involved in assisting and guiding the client during their application for a private plan change with the Nelson City Council. This included the preparation of technical reports, maps and ongoing guidance documents, as well as providing expert witness statements at a council hearings panel. The purpose of our work was to inform the plan change application on current features of ecological value, areas that may be ecological constraints or provide opportunities on the designs of future developments. This plan change was accepted by Nelson City Council and now the client is undertaking further design elements before seeking resource consents to develop the land.

Drury Town Centre Private Plan Change - Kiwi Property - Auckland

T+T ecologists have been supporting the Drury Town Centre project for several years. Starting with the development of an ecological overview to inform master planning and structure planning in Drury, the team then developed an opportunity and constraints assessment, a landscape and ecological enhancement framework and an assessment of ecological effects to accompany a private plan change application, and presented ecological evidence at plan change hearing in mid-2021. The private plan change was granted in early 2022. Throughout the project, the team have been collaborating with stormwater specialists to ensure an integrated and water sensitive approach to stormwater management, and have been the lead ecologist for Stage 1 of the development, which recently received consent through the Fast Track consenting process.

Beach Road - Beach Road Estates Ltd - Kaiapoi

Several of our freshwater ecologists were tasked with assisting a large and staged residential development being constructed within Kaiapoi. Their involvement was sought by the client as the realignment of a spring fed stream was required to facilitate the construction of future stages of the development. T+T ecologist worked proactively and collaboratively with planners, river engineers, iwi, and the client to prepare an ecological impact assessment and develop a stream biodiversity offsetting plan which included the realigned stream and increased biodiversity values. This resource consent was granted, and site works are well under way.

Spedding Block Private Plan Change - Oyster Capital Ltd - Auckland

T+T ecologists were engaged to support a proposed industrial private plan change in west Auckland. The team worked closely with the client to minimise effects on streams and wetland, and collaborated with stormwater specialists to ensure integrated and water sensitive approach to stormwater management. As the Lead Ecologist, Justine Quinn presented evidence to a Council level hearing in May 2022 with the plan change approved in early 2023. Since the plan change was issued, T+T has continued to support the project with resource consent applications and construction supervision.

Broad scale O+C reporting – Multiple Clients - Nationwide

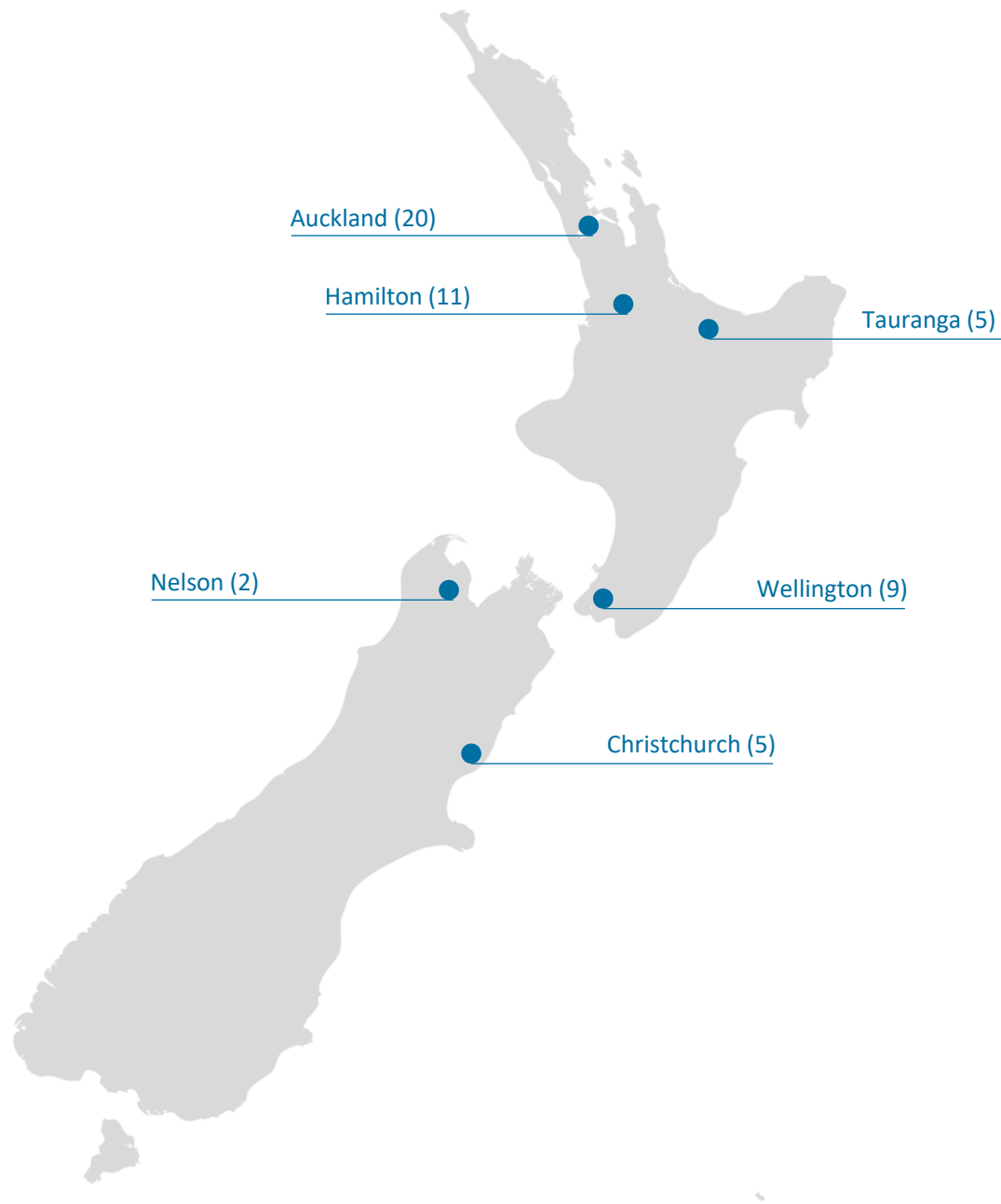
T+T specialises in providing ecological advice to land developers in the form of opportunities and constraints analysis to inform pre-purchase or early scheme plan development and subsequent ecological impact assessments. Having initial input, T+T has assisted our clients in making informed decisions about expected yield from sites prior to significant investment occurring. Working alongside clients and their key consultants, we identify the likely ecological constraints that could hold up a project, and identify opportunities to resolve these while enabling projects to proceed.

Pre-purchase O+C assessment – Ministry of Education - Waikanae

T+T ecologists were asked to undertake an ecological opportunities and constraints assessment to inform a pre-purchase assessment for the Ministry of Education (MOE). Site investigations involved mapping and characterising interconnected wetland systems, stream networks, as well as potential terrestrial ecological constraints. This, and other assessments, have assisted our clients in making informed decisions about property purchase for development and informed them on the difficulty or ease of resource consenting pathways.

Local capability

Our Ecology team is spread throughout Aotearoa New Zealand. Our one-company structure and 'best for project' approach enables us to seamlessly draw on skillsets available throughout the country and tailor delivery teams to client and project needs..



Contact us



Dr Liz Curry
**Terrestrial Ecology Technical Director /
Principal Ecologist, Nelson**

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Liz is a terrestrial ecology specialist and has led several major transport, waste, energy and infrastructure projects involving complex ecological issues. She is based in Nelson and has strong relationships with local regulatory bodies, and central government agencies which assists with a more streamlined consenting process.



Fiona McIntosh
Senior Terrestrial Ecologist, Tauranga

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Fiona has extensive experience in a wide variety of terrestrial and wetland projects including surveys, ecological impact assessments, vegetation and habitat monitoring, and natural area management and restoration plans. Her experience includes common terrestrial and wetland habitat types and unique geothermal, sand dune, and wetland habitats.



Sam Heggie-Gracie
Terrestrial Ecology Specialist, Auckland

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Sam has broad terrestrial ecology expertise with technical strengths in wetland ecology, terrestrial and wetland birds, and lizards.



David Pickett
Ecology Specialist, Wellington

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David has wide ranging field experience in freshwater and terrestrial ecological investigations, including sediment and water quality monitoring, freshwater fish and macroinvertebrate surveys, forest/wetland vegetation surveys, long-tailed bat ecology, as well as lizard, and forest bird surveys. Combined with a passion for geological processes and having worked throughout the country, he has a broad understanding of landscape level ecological systems and how their respective sub-disciplines effect the whole.



Dr Jamie MacKay
Senior Terrestrial Ecologist, Auckland

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Jamie is a Department of Conservation-certified bat ecologist with extensive experience in managing potential effects on bats as a result of development including roading projects, wind farms, and large subdivisions.



Duncan Law
Senior Freshwater Ecologist, Christchurch

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Duncan specialises in freshwater ecology and management of ecological resources in large multi-disciplinary, infrastructure projects. He is based in Christchurch and has a range of experiences in supporting resource consenting projects in the South Island.



Dean C Miller
Ecology + Water Science Discipline Manager
/ Principal Freshwater Scientist, Hamilton

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Dean specialises in resource evaluation and management work in freshwater environments with specific areas of expertise in water quality, aquatic ecology, fish passage and ecological impact assessment including complex biodiversity offsetting packages.



Justine Quinn
Freshwater Ecology Technical Director /
Principal Scientist, Auckland

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Justine's experience extends across multiple disciplines within the freshwater space, ranging from ecology and water quality to policy and regulatory. She has had extensive experience in the property development and urban stream daylighting space, and is a trusted advisor to several private development companies.



Liza Kabrle
Principal Aquatic Scientist, Auckland

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Liza has extensive experience in fresh water science and is the lead ecologist for the LEAD Alliance neighbourhood development team. Her experience in this space extends across ecology and water quality, to regulatory and policy requirements.



Patrick Lees
Senior Freshwater Ecologist, Christchurch

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Patrick has experience working on a variety of public and private land development projects. He is experienced in the preparation of freshwater biodiversity and ecological impact assessments; the design and implementation of mitigation / biodiversity offset and compensation packages, stream biodiversity restoration initiatives; and monitoring programmes.