Biodiversity Plan 2026-2030

Contents

Definitions

Biodiversity:

Biological diversity, or the variety of life found in a given place. This can be measured in terms of species richness. It can also be measured in terms of prevalence of specific kinds of species. For the purposes of this Plan, biodiversity efforts are directed towards increasing the diversity of species native to Aotearoa / New Zealand.[1]

Ecosystem:

The complex of living organisms, their physical environment, and all their interrelationships in a particular unit of space.[2]

Ecological restoration:

The process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed.[3]

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[1] https://www.britannica.com/science/biodiversity
[2] https://www.britannica.com/science/ecosystem
[3] https://www.ser.org/
Image Credit: Noah Fenwick

Cultural Narrative

This strategy acknowledges the importance of the cultural narrative for the University of Canterbury, which has been developed with Ngāi Tūāhuriri.

MANA	WHAKAPAPA	TOHU
The status of iwi and hapū as mana whenua is recognised and respected.	Māori names are celebrated.	Mana whenua significant sites and cultural landmarks are acknowledged.

TAIAO	MAHI TOI	AHI KĀ
The natural environment is protected, restored and/or enhanced.	Iwi/hapū narratives are captured and expressed creatively.	Iwi/hapū have a living and enduring presence and are secure and valued within their role.

Vision

That Ilam Campus, Gardens, Fields, and Dovedale Campus become a link in the ecological corridor of the north-west of the city, and act as a reservoir of biodiversity, for the benefit of all. This plan details numerous initiatives regarded as aspirational, with the aim that every opportunity to implement them is pursued.

Background

The University of Canterbury has introduced many measures over the years aimed at enhancing the ecological well-being of Ilam and Dovedale campuses, Ilam Gardens and Fields. These have mainly focused on native plantings of the waterways and other areas, and stormwater filtration. While many plans, frameworks and strategies over recent decades have referred to ecological restoration and/or biodiversity enhancement, this plan and the previous plan bring together the different initiatives in a coherent package, and clearly identify the priorities for this work.

Image Credit: University of Canterbury Biodiversity Plan 2022-2025

Planning Context

Aotearoa is a biodiversity hotspot, with a very high proportion of endemic species. These species are vulnerable to human impact, resulting in a significant decline in species numbers. In the Christchurch area, several important pockets of biodiversity exist, including Ihutai/ Avon Heathcote Estuary, Ōruapaeroa/ Travis Wetland Nature Heritage Park, the Christchurch Botanic Gardens, Pūtaringamotu/ Riccarton Bush, Styx Mill Conservation Reserve, the Groynes, and parts of Banks Peninsula. The University of Canterbury's Ilam and Dovedale campuses, and Ilam Gardens and Fields, constitute an important area of greenspace in the north-west of the city and are recognised as a steppingstone for some fauna; a hono (link) that helps to foster ki uta ki tai (mountains to the sea philosophy).

The University has already implemented many measures which have had a positive effect on biodiversity. However, with a coordinated approach there is scope to improve this significantly.

This Biodiversity Plan strives to reflect the ambitions of Ngāi Tahu 2025 and the Mahaanui Iwi Management Plan (2013), which comments extensively on the importance of indigenous biodiversity to Māori, including the following:

"To protect, restore and enhance remaining wetlands, waipuna and riparian areas"[5], and
"To continue to work in partnership with the Department of Conservation, local authorities and the community to protect, enhance and restore indigenous biodiversity."[6]

"Indigenous biodiversity, and the landscapes and ecosystems that support it, is a fundamental part of the culture, identity and heritage of Ngāi Tahu, particularly with regard to mahinga kai and the connection between people and place through resource use... The degradation and loss of indigenous species and diversity is one of the major factors affecting the poor cultural health of many sites and waterways…"[7]

"Restoring indigenous biodiversity values is one of the most important challenges for the future management in the takiwā. A healthy economy relies on a healthy environment. Indigenous biodiversity, along with air, water and soil, are tāonga; they are the region's natural capital, providing a suite of essential ecosystem services. Although these services are often taken for granted, they have immense value to cultural, social and economic well-being. A major concern for tāngata whenua is that

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[5] Mahaanui Iwi Management Plan (2013): 96. Mahaanui Iwi Management Plan 2013 (mahaanuikurataiao.co.nz).
[6] Mahaanui Iwi Management Plan (2013): 130. Mahaanui Iwi Management Plan 2013 (mahaanuikurataiao.co.nz).
Image Credit: University of Canterbury Biodiversity Plan 2022-2025
[7] Mahaanui Iwi Management Plan (2013): 131. Mahaanui Iwi Management Plan 2013 (mahaanuikurataiao.co.nz)
Image Credit: University of Canterbury Biodiversity Plan 2022-2025

urban and township planning continues to promote, and often prioritise, the planting of exotic species in residential land developments, along waterways and in reserves and open space."[8]

This plan also takes into account the Christchurch Biodiversity Strategy (2008)[9] and the Canterbury Biodiversity Strategy (2008)[10]. Both of these strategies focus on the protection of existing biodiversity values and the enhancement of degraded habitats. The Christchurch Biodiversity Strategy has as a specific goal that "Species and habitats important to Ngāi Tahu are protected and restored."

The plan builds on the University's Sustainability Policy and Strategy and a number of University of Canterbury planning documents. The University Strategy contains a biodiversity section: "Improve the biodiversity of the University's campus", and an action to "Approve and implement the Biodiversity Plan and Waterways Plans". This document puts this part of the Strategy into effect.

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[8] Mahaanui Iwi Management Plan (2013): 131. Mahaanui Iwi Management Plan 2013 (mahaanuikurataiao.co.nz)
[9] Christchurch Biodiversity Strategy (2008) Biodiversity Strategy: Christchurch City Council (ccc.govt.nz)
[10] Canterbury Biodiversity Strategy (2008) Canterbury Biodiversity Strategy | Environment Canterbury (ecan.govt.nz)
Image Credit: University of Canterbury Biodiversity Plan 2022-2025

In 2020 the Government refreshed its Biodiversity Strategy: Te Mana o te Taiao: Aotearoa New Zealand Biodiversity Strategy[11], with a vision that "the life force of nature is vibrant and vigorous": "Te Mauri Hikahika o te Taiao". It signals five outcomes to be achieved by 2050:

- Ecosystems, from mountain tops to ocean depths, are thriving
- Indigenous species and their habitats across Aotearoa New Zealand and beyond are thriving
- People's lives are enriched through their connection with nature
- Treaty partners, whānau, hapū and iwi are exercising their full role as rangatira and kaitiaki
- Prosperity is intrinsically linked with a thriving biodiversity

The Strategy rests on three pou:

- Tūāpapa: Getting the system right
- Whakahau: Empowering action
- Tiaki me te whakahaumanu: protecting and restoring.

Reporting Framework

This University of Canterbury Biodiversity Plan outlines specific targets and actions related to identified areas. This work supports the University's Sustainability Strategy. Reporting on this Biodiversity Plan is prepared by the University's Biodiversity Advisory Committee and provided to the current sustainability management, as well as published on the University of Canterbury Biodiversity web page.

This Plan

An earlier 2019-2024 University of Canterbury Biodiversity Plan was originally developed by a Biodiversity Working Group, which consisted of a mixture of academic and general staff. We would like to acknowledge input from Professor Jim Briskie, Professor Tom Cochrane, Darryl Cone, Professor Jon Harding, Professor Dave Kelly, Professor Angus McIntosh, Dr Justin Morgenroth, Dr Matt Morris, Dr Tara Murray, and Dr Pieter Pelser.

In early 2022, the original plan was refreshed and extended to the end of 2025 due to the development of a Sustainability Policy, the University's Strategy mentioned above and a change in overall sustainability planning at the University with the appointment of Professor Jan Evans-Freeman as Pro-Vice-Chancellor Sustainability. This meant some items could be brought forward and created an opportunity for revision.

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[11] Te Mana o te Taiao: Aotearoa New Zealand Biodiversity Strategy (2020): Aotearoa New Zealand Biodiversity Strategy: Biodiversity (doc.govt.nz)

Biodiversity Framework and Principles

The underlying principle of this Plan's approach is that the more diverse the biological life is on campus, the more ecologically healthy it will be. This not only helps the University meet its environmental obligations but also supports core research and teaching opportunities. It recognises that biodiversity adds to the well-being of staff and students and the ability to be more connected to our biological heritage.

The key areas this strategy deals with are:

- Waterways
- Plants
- Vertebrate animals
- Soils
- Microbes, fungi and invertebrates
- Tāonga species

In order to achieve positive outcomes for these areas, the following approaches are recommended:

- Improve plant diversity: include a diverse range of species in new plantings
- Improve bird populations: focus on planting bird-friendly plants and increasing control of introduced predators
- improve stream life: focus on stormwater treatment to benefit invertebrates and fish
- Improve cryptic biodiversity: microbes, fungi and invertebrates will benefit from unmanaged areas of native planting
- Improve conditions for tāonga species
- Enhance Ki uta ki tai (connections between mountains and sea)

Ecological restoration is usually measured in terms of the changing populations of individual species, and assumes that as an ecosystem heals, numbers of marker or 'desirable' species will increase until they reach a point of equilibrium. The return of an animal or plant that has long been absent is normally heralded as a sign of a successful programme. An example of this in the University's context is the bellbird, which has begun to colonise campus in the years after an important 1990 bird count and a large programme of native plantings throughout campus in the intervening twenty years.

Image Credit: Professor James V. Briskie

This strategy does not rely on a pre-European benchmark of ecological richness and health, but it does acknowledge the importance of native species as markers of ecological wellbeing.

Current Situation

Staff from the School of Biological Sciences have monitored a range of species at varying frequencies and for varying lengths of time. Some of this monitoring has been previously reported in the annual University's Sustainability Reports. In general, it may be said that despite a somewhat ad hoc approach to ecological restoration at the University of Canterbury, there has been good progress around birds and plants since the mid-1990s.

Despite some important work to improve stream health (especially on the Waiutuutu-Okeover Stream), it is still regarded as being moderately polluted.

The Waterways Monitoring Framework was agreed to in 2018, and Waterways Monitoring Assistants were employed to support this in 2021. A Biodiversity Projects Coordinator was employed in 2022 to coordinate the next tranche of work as outlined in this and the previous plan.

Key reference documents
UC Strategic Plan (2020)
UC Sustainability Policy (2020)
UC Biodiversity Plan, 2019-2024 (2018)
UC Biodiversity Plan, 2022-2025
UC Sustainability Framework (2018)
Campus Master Plan (2016)
UC Landscape Master Plan (2017)
UC Waterways Issues and Options (2015)
UC Landscape Concept (2014)
UC Landscape Strategy (2013)

Image Credit: Seamus Moran

2026 Plan

Targets	Action
Shift Macroinvertebrate Community Index (MCI) rating of campus streams from 'moderately polluted' to 'mildly polluted' by 2035.	Continue to monitor the University's waterways systematically, as outlined in the Waterways Monitoring Framework.
	Eliminate sediment runoff from UC land into the waterways.
	Monitor the impact of UC discharges of cooling water from legacy buildings into streams on the ecosystem.
	Review UC-owned infrastructure for contamination sources (including heavy metals, hydrocarbons and sediment) (e.g. copper downpipes, carpark filtering). Aim to include priorities in the Asset Management Plan.
	Assess which discharge points are the worst and begin by targeting these.
Reduce impact of introduced species on campus birdlife, invertebrates and reptiles (targets to be identified).	Coordinate nest monitoring on the University's campus to gain an understanding of current nest survival rates.
	Collate all known data and investigate hosting this online.
	Continue coordinating the predator study to monitor the presence of mustelids, rodents, hedgehogs, and cats on campus.
	Continue the ongoing development of the Predator Control Programme designed to reduce predator numbers on UC land in Ilam. Seek opportunities to engage the surrounding community to strengthen this work outside of UC land in Ilam.
	Provide opportunities for teaching from the Predator Control Programme.
	Suppression and eradication of invasive exotic pest plant species.
The University's 30% canopy cover target facilitates improvements to biodiversity and other ecosystem services, namely cooling effects and flood mitigation/water quality improvements.	Undertake regular GIS assessments of canopy cover as data sets become available, and/or assess from the Fulcrum database.
	Continue the Fulcrum tree database project, expanding focus from hazard management to all trees.
	Plant more trees (including exotic plant species that are known to provide nectar/fruit to native animal species in areas of bare lawn (if needed)) to help achieve the canopy cover target.
	Plant and manage a diverse range of tree species that can be used as teaching resources.
	Establish systems and processes within FM that will lead to the achievement of the canopy cover target.
Increase numbers of native birds overall by 100% within 5 years, with a particular focus on at least a 50% survival rate of nests	Increase plantings of native fruiting trees attractive to kereru, e.g., miro, kahikatea, totara, matai, by including these in the tree replacement programme.
	Increase plantings of bellbird-attracting species, e.g., native tree fuchsia, rewarewa, harakeke, and kowhai; exotic *Eucalyptus* and *Banksia*.
	Increase plantings favourable to grey warblers (the shining cuckoo's host) and other insectivore birds.
	Coordinate bird monitoring on the University's campus to capture and record species diversity and abundances.
Increase biomass on campus.	Maintain biomass levels by restricting green waste removal from the campus and creating opportunities for incorporating more.
Increase invertebrate biodiversity.	Coordinate invertebrate survey and reporting.
	Redevelop the Biodiversity Meadow with a native planting scheme, supporting native fauna.
	Create opportunities to increase biodiversity in undisturbed areas of the University's campus, Ilam Gardens, the edges of Ilam Fields, and Dovedale Campus, working closely with Grounds staff.
	Plan for areas to showcase insects of interest (e.g., giant stick insects, tree wētā, native bees).
Showcase and expand the University's biodiversity research.	Seek to secure baseline research funding to undertake ongoing monitoring.
	Organise a single campus-wide event to promote current research and teaching activities.
	Develop the Geological Rock Garden to showcase Banks Peninsula Biodiversity and expand on existing showcasing.
	Develop a central repository for relevant research.
Increase fish species in-stream.	Coordinate fish species survey on the three waterways on campus to understand diversity and track changes over time.
	Investigate opportunities to successfully support further native fish species.
Herbicide reduction	Establish a baseline for herbicide use and report against this annually.
	Map potential 'plantable areas' on campus that could enhance the university's role in Ki uta ki tai.

Protect and enhance the campuses role as a hono in Ki uta ki tai	Map areas of existing significant habitat for indigenous biodiversity.
	Seek out opportunities to strengthen Ki uta ki tai on campus and in the north-west part of the city.

2027 Plan

Targets	Action
Shift MCI rating of campus streams from 'moderately polluted' to 'mildly polluted' by 2035.	Continue to monitor the University's waterways systematically, as outlined in the Waterways Monitoring Framework.
	Sediment removal from campus streams if required
	Eliminate sediment runoff from UC land into the waterways.
	Monitor the impact of the University's discharges of cooling water from legacy buildings into streams on the ecosystem
	Review UC-owned infrastructure for contamination sources (including heavy metals, hydrocarbons and sediment) (e.g. copper downpipes, carpark filtering). Aim to include priorities in the Asset Management Plan.
Reduce impact of introduced species on campus birdlife, invertebrates and reptiles (targets to be identified).	Coordinate nest monitoring on the University's campus to gain an understanding of current nest survival rates.
	Collate all known data and investigate hosting this online.
	Continue coordinating the predator study to monitor the presence of mustelids, rodents, hedgehogs, and cats on campus.
	Continue the ongoing development of the Predator Control Programme designed to reduce predator numbers on UC land in Ilam. Seek opportunities to engage the surrounding community to strengthen this work outside of UC land in Ilam.
	Provide opportunities for teaching from the Predator Control Programme.
	Suppression and eradication of invasive exotic pest plant species.
The University's 30% canopy cover target facilitates improvements to biodiversity and other ecosystem services, namely cooling effects and flood mitigation/water quality improvements.	Undertake regular GIS assessments of canopy cover as data sets become available, and/or assess from the Fulcrum database.
	Continue the Fulcrum tree database project, expanding focus from hazard management to all trees.
	Plant more trees (including exotic species that are known to provide nectar/fruit to native species in areas of bare lawn (if needed)) to help achieve the canopy cover target.
	Plant and manage a diverse range of tree species that can be used as teaching resources.
Increase numbers of native birds overall by 100% within 5 years, with a particular focus on at least a 50% survival rate of nests	Increase plantings of native fruiting trees attractive to kereru, e.g., miro, kahikatea, totara, matai, by including these in the tree replacement programme.
	Increase plantings of bellbird-attracting species, e.g., native tree fuchsia, rewarewa, harakeke, and kowhai; exotic *Eucalyptus* and *Banksia*.
	Increase plantings favourable to grey warblers (the shining cuckoo's host) and other insectivore birds.
	Coordinate bird monitoring on the University's campus to capture and record species diversity and abundances.
Increase biomass on campus.	Maintain biomass levels by restricting removal from the campus and creating opportunities for incorporating more.
Increase invertebrate biodiversity.	Coordinate invertebrate survey and reporting.
	Redevelop the Biodiversity Meadow with a native planting scheme, supporting native fauna.
	Create opportunities to increase biodiversity in undisturbed areas of the University's campus, Ilam Gardens, the edges of Ilam Fields, and Dovedale Campus, working closely with Grounds staff.
Showcase and expand the University's biodiversity research.	Seek to secure baseline research funding to undertake ongoing monitoring.
	Organise a single campus-wide event to promote current research and teaching activities.
	Develop the Geological Rock Garden to showcase Banks Peninsula Biodiversity and expand on existing showcasing.
Increase fish species in-stream.	Coordinate fish species survey on the three waterways on campus to understand diversity and track changes over time.
	Investigate opportunities to successfully support further native fish species.
	Work with Christchurch City Council and other stakeholders to reduce migratory barriers on streams for fish downstream of UC.

Herbicide reduction	Establish a baseline for herbicide use and report against this annually.
Protect and enhance the campuses role as a hono in Ki uta ki tai	Map areas of existing significant habitat for indigenous biodiversity.
	Research a 'no net loss' policy for habitats that support indigenous biodiversity.
	Seek out opportunities to strengthen Ki uta ki tai on campus and in the north-west part of the city.

2028 Plan

Targets	Action
Shift MCI rating of campus streams from 'moderately polluted' to 'mildly polluted' by 2035.	Continue to monitor the University's waterways systematically, as outlined in the Waterways Monitoring Framework.
	Eliminate sediment runoff from UC land into the waterways.
	Monitor the impact of the University's discharges of cooling water from legacy buildings into streams on the ecosystem
	Review UC-owned infrastructure for contamination sources (including heavy metals, hydrocarbons and sediment) (e.g. copper downpipes, carpark filtering). Aim to include priorities in the Asset Management Plan.
Reduce impact of introduced species on campus birdlife, invertebrates and reptiles (targets to be identified).	Coordinate nest monitoring on the University's campus to gain an understanding of current nest survival rates.
	Collate all known data and investigate hosting this online.
	Continue coordinating the predator study to monitor the presence of mustelids, rodents, hedgehogs, and cats on campus.
	Continue the ongoing development of the Predator Control Programme designed to reduce predator numbers on UC land in Ilam. Seek opportunities to engage the surrounding community to strengthen this work outside of UC land in Ilam.
	Provide opportunities for teaching from the Predator Control Programme.
	Suppression and eradication of invasive exotic pest plant species.
The University's 30% canopy cover target facilitates improvements to biodiversity and other ecosystem services, namely cooling effects and flood mitigation/water quality improvements.	Undertake regular GIS assessments of canopy cover as data sets become available, and/or assess from the Fulcrum database.
	Continue the Fulcrum tree database project, expanding focus from hazard management to all trees.
	Plant more trees (including exotic species that are known to provide nectar/fruit to native species in areas of bare lawn (if needed)) to help achieve the canopy cover target.
Increase numbers of native birds overall by 100% within 5 years, with a particular focus on at least a 50% survival rate of nests	Increase plantings of native fruiting trees attractive to kereru, e.g., miro, kahikatea, totara, matai, by including these in the tree replacement programme.
	Increase plantings of bellbird-attracting species, e.g., native tree fuchsia, rewarewa, harakeke, and kowhai; exotic *Eucalyptus* and *Banksia*.
	Increase plantings favourable to grey warblers (the shining cuckoo's host) and other insectivore birds.
	Coordinate bird monitoring on the University's campus to capture and record species diversity and abundances.
Increase biomass on campus.	Maintain biomass levels by restricting removal from the campus and creating opportunities for incorporating more.
Increase invertebrate biodiversity.	Coordinate invertebrate survey and reporting.
	Create opportunities to increase biodiversity in undisturbed areas of the University's campus, Ilam Gardens, the edges of Ilam Fields, and Dovedale Campus, working closely with Grounds staff.
	Plan for areas to showcase insects of interest (e.g., giant stick insects, tree wētā, native bees).
Showcase and expand the University's biodiversity research.	Seek to secure baseline research funding to undertake ongoing monitoring.
	Organise a single campus-wide event to promote current research and teaching activities.
	Develop the Geological Rock Garden to showcase Banks Peninsula Biodiversity and expand on existing showcasing.
Increase fish species in-stream.	Coordinate fish species survey on the three waterways on campus to understand diversity and track changes over time.
Herbicide reduction	Establish a baseline for herbicide use and report against this annually.
	If supported, establish a 'no net loss' policy for habitats that support indigenous biodiversity.

Protect and enhance the campuses role as a hono in Ki uta ki tai	Seek out opportunities to strengthen Ki uta ki tai on campus and in the north-west part of the city.
	Actions taken to raise the profile of tāonga species, for example, through habitat enhancement, events, art integration or interpretation.

2029 Plan

Targets	Action
Shift MCI rating of campus streams from 'moderately polluted' to 'mildly polluted' by 2035.	Continue to monitor the University's waterways systematically, as outlined in the Waterways Monitoring Framework.
	Sediment removal from campus streams if required
	Eliminate sediment runoff from UC land into the waterways.
	Monitor the impact of the University's discharges of cooling water from legacy buildings into streams on the ecosystem
	Review UC-owned infrastructure for contamination sources (including heavy metals, hydrocarbons and sediment) (e.g. copper downpipes, carpark filtering). Aim to include priorities in the Asset Management Plan.
Reduce impact of introduced species on campus birdlife, invertebrates and reptiles (targets to be identified).	Coordinate nest monitoring on the University's campus to gain an understanding of current nest survival rates.
	Collate all known data and investigate hosting this online.
	Continue coordinating the predator study to monitor the presence of mustelids, rodents, hedgehogs, and cats on campus.
	Continue the ongoing development of the Predator Control Programme designed to reduce predator numbers on UC land in Ilam. Seek opportunities to engage the surrounding community to strengthen this work outside of UC land in Ilam.
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	Continue the Fulcrum tree database project, expanding focus from hazard management to all trees.
	Plant more trees (including exotic species that are known to provide nectar/fruit to native species in areas of bare lawn (if needed)) to help achieve the canopy cover target.
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2030 Plan

Targets	Action
Shift MCI rating of campus streams from 'moderately polluted' to 'mildly polluted' by 2035.	Continue to monitor the University's waterways systematically, as outlined in the Waterways Monitoring Framework.
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	Monitor the impact of the University's discharges of cooling water from legacy buildings into streams on the ecosystem
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Increase fish species in-stream.	Coordinate fish species survey on the three waterways on campus to understand diversity and track changes over time.
	Investigate opportunities to successfully support further native fish species.
	Work with Christchurch City Council and other stakeholders to reduce migratory barriers on streams for fish downstream.
Herbicide reduction	Establish a baseline for herbicide use and report against this annually.
	Map areas of existing significant habitat for indigenous biodiversity.

| Protect and enhance the campuses role as a hono in Ki uta ki tai | Seek out opportunities to strengthen Ki uta ki tai on campus and in the north-west part of the city. |
| | Actions taken to raise the profile of tāonga species, for example, through habitat enhancement, events, art integration or interpretation. |

Recommended long-term Actions

Targets	Action	
Shift MCI rating of campus streams from 'moderately polluted' to 'mildly polluted' by 2035.	Review and select appropriate stormwater filters or alternative engineering solutions for outlets originating from off-site.	
	Remediate the Ephemerals stretch of Waiutuutu |Okeover Stream upstream of Ilam Road, along Ilam Fields to the property boundary. Use the 2008 plan as a basis, and incorporate current and future research, particularly utilising mussel shell bunds. Support could be sought from CCC and Environment Canterbury.	The timber covering and sides of the box drain section have deteriorated and have been identified as a health and safety issue that will require remediation in the future. The box drain daylighting/remediation project was supported by CCC, with ecology assessments, landscape design, and construction design completed. Both UC and CCC have previously budgeted funding.
Increase species richness of aquatic invertebrates to 2010 levels	"Daylight" stream crossings by replacing culverts with bridges as resources allow at Forestry, Engineering Link and Engineering Road.	
Re-introduction of native species that are known to have been present or would have been locally present on campus.	Research and identify species of rare plants, lizards, invertebrates, and other organisms; investigate reintroduction; when resources and capability are available, carry out translocations.	
Increase fish species in-stream	Investigate opportunities to support the successful conservation of further native fish species, possibly through Master's and/or PhD projects, which would deliver outcomes including recommendations and defined targets.	
The university minimises its impact on biodiversity loss globally	An assessment is carried out of biodiversity losses associated with activities at the university. Briefing document produced for SLT consideration.	
	Research a metric(s) that could be used to monitor the universities' reducing impact on biodiversity loss globally. (Metrics/tools are available through STARS and GRI for this work).	
	Establish systems and processes within FM that will lead to a reduction in biodiversity loss associated with the university's activities.	
Showcase and expand UC's biodiversity research.	Develop a central repository for relevant research pertaining to this plan.	

Targets	Action Description	Deliverable/ Milestone	2026				2027				2028				2029				2030				Lead
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Shift MCI rating of campus streams from 'moderately polluted' to 'mildly polluted' by 2035.	Continue to monitor UC's waterways systematically.	UC's waterways are monitored according to the Waterways Monitoring Framework (WMF).																					Biodiversity Coordinator, Waterways Monitoring Assistants, Sustainability Advisor
	Sediment removal from campus streams if required.	Sediment is removed from streams as required (according to the WMF).																					Biodiversity Coordinator, Sustainability Advisor
	Eliminate sediment runoff from UC land into the waterways.	Identify all areas of risk, map them, and categorise them in order of significance.																					Biodiversity Coordinator
		New, additional, or replacement understory plantings in riparian areas to reduce and prevent sediment runoff.																					Head of Grounds
	Remove the Waiutuutu Stream boxed drain section and restore its habitat. If possible, extend the work to the UC boundary.	Redevelop the existing project investigation/plan when funding becomes available, and implement works.																					Waterways Action Group, Sustainability Advisor
	Monitor the impact of UC discharges of cooling water from legacy buildings into streams on the ecosystem.	UC discharges of cooling water from legacy buildings into the streams is monitored for toxins that could impact stream ecosystems.																					Sustainability Advisor
	Review UC owned infrastructure for contamination sources (including heavy metals, hydrocarbons and sediment) (eg copper downpipes, carpark filtering). Aim to include priorities in the Asset Management Plan.	Improvement plans are limited to downpipe filtration, aim to have continuing expansion of these devices and seek other options to futher reduce dischardged contamination.																					Waterways Advisory Group, Sustainability Advisor
	Assess which discharge points are the worst, and begin by targeting these.	Worst discharge points are identified, and plans confirmed for correcting these.																					Sustainability Advisor
Minimise the impact of invasive pest species on the campus's native fauna and flora, including birdlife, invertebrates, and reptiles (targets to be determined).	Coordinate monitoring presence and abundance of predator pest species on campus.	Undertake periodic monitoring and retention of data.																					Biodiversity Coordinator
	Coordinate nest monitoring on the University's campus to capture and record survival rates.	Undertake nest monitoring programme, and collate data.																					Biodiversity Coordinator, Sustainability Advisor
	Coordinate predator control methods to protect and support birdlife, invertebrates, and reptiles in Ilam.	Methods for predator suppression are maintained, ethical, and aligned with best practices and industry advancements.																					Biodiversity Coordinator
	Expand predator control to cover all UC land in Ilam, and influence the surounding neighbourhood.	Implement predator control on Dovedale Campus and student accommodation, and support the wider community to strengthen predator suppression.																					Biodiversity Coordinator
	Suppression and eradication of invasive exotic pest plant species, particularly those with a high risk of further establishment or spread.	Identify high-risk species and focus on removing these plant species through normal weed control, with an emphasis on eradication.																					Head of Grounds, Biodiversity Coordinator
	Support teaching and learning of monitoring and predator control methods.	Opportunities are provided for practical, in-field experience in monitoring and predator control methods.																					Biodiversity Coordinator, Sustainability Engagement Coordinator, Sustainability Advisor
The University's 30% canopy cover target facilitates improvements to biodiverity and other ecosystem services namely cooling effects and flood mitigation/ water quality improvements.	Plant more trees (including exotic deciduous species), in areas of bare lawn (if needed), to help achieve canopy cover target.	Appropriate trees as identified are planted.																					Head of Grounds
	Plant and manage a diverse range of tree species that can be used as teaching resources.	Assess current extent and continue planting with appropriate trees as identified.																					Head of Grounds
	Continue the Fulcrum tree database project, expanding focus from hazard management to all trees.	The Fulcrum project is ongoing, following the operational plan for Grounds, which includes capturing non-records during removal.																					Head of Grounds
	Establish systems and processes within FM that will lead to the achievement of the 30% canopy cover target.	Undertake regular GIS assessments of canopy cover as data sets become available, and/or assess from the Fulcrum database.																					Biodiversity Coordinator
		Effective systems and processes are documented and implemented, including revision of Environmental Design Guidelines and recommendations to include in these.																					Head of Grounds, Biodiversity Coordinator
Increase numbers of native birds overall by 100% within 5 years, with a particular focus on at least a 50% survival rate of nests.	Increase plantings of native fruiting trees attractive to kereru (eg. miro, kahikatea, totara, matai) by including these in the tree	Continue planting with appropriate trees as identified.																					Head of Grounds
	Increase plantings for nectar feeding species (eg. fuchsia, rewarewa, harakeke, kowhai; Eucalyptus, Banksia).	Continue planting with appropriate trees as identified.																					Head of Grounds
	Increase plantings favourable to grey warblers (shining cuckoo's host) and other native insectivore birds.	Continue planting with appropriate trees, shrubs and other native plant specis as identified.																					Head of Grounds
	Coordinate bird monitoring on the University's campus to capture and record species diversity and abundances.	Undertake periodic monitoring to understanding and track species diversity and population trends.																					Biodiversity Coordinator

Goal	Action	Measure	Responsible
Increase biomass on campus.	Maintain biomass levels by restricting removal from the campus and creating opportunities for incorporating more.	Reserve unnecessary tree removal and retain removed material as dead wood for decomposition. Continue using bark mulch for weed control.	Head of Grounds
Increase invertebrate biodiversity.	Coordinate invertebrate survey and reporting.	Coordinate periodic invertebrate surveys, collate and report to the Biodiversity Advisory Committee.	Biodiversity Coordinator
	Create opportunities to increase biodiversity in undisturbed areas of the University's campus, Ilam Gardens, and the edges of Ilam Fields, and Dovedale Campus, working closely with Grounds staff.	Management plans confirmed with Grounds regarding which sections of Ilam Campus, Ilam Gardens and Ilam Fields edges will be left undisturbed for habitats.	Biodiversity Coordinator
		Management plans for undisturbed areas implemented and assessed for suitability.	Head of Grounds
		Redevelop Biodiversity Meadow with a native planting scheme, supporting native fauna.	Biodiversity Coordinator
	Plan for areas to showcase insects of interest (eg giant stick insects, wētā, native bees).	Plans to showcase insects of interest developed with relevant academic and Grounds staff, and confirmed.	Biodiversity Coordinator
		Insect showcase areas established.	Head of Grounds
Increase fish species in stream.	Coordinate fish species survey on the three waterways on campus to understand diversity and track changes over time.	Identify the appropriate locations, considering barriers, and undertake periodic surveying in these locations, collate and share data to annual Waterways Report.	Biodiversity Coordinator, Waterways Advisory Group, Waterways Monitoring Assistances.
	Investigate opportunities to successfully support further native fish species.	Masters and/or PhD projects. Funds secured for agreed project/s on restoring native fish species.	Sustainability Advisor
	Work with Christchurch City Council and other stakeholders to reduce migratory barriers on streams for fish downstream of UC.	Initial discussions with CCC and other stakeholders commenced to explore possibilities for removing migratory barriers for fish downstream of UC.	Sustainability Advisor, Biodiversity Coordinator
Protect and enhance the campuses role as a hono (link) in Ki uta ki tai and raise profile of tāonga species.	Map potential 'plantable areas' on campus that could enhance the university's role in Ki uta ki tai.	Plantable areas mapped, utilising GIS systems to manage and track changes over time. Categories assigned.	Biodiversity Coordinator
	Map areas of existing significant habitat for indigenous biodiversity.	Significant areas of indigenous biodiversity mapped utilising GIS systems to manage and track changes over time.	Biodiversity Coordinator
	Research a 'no net loss' policy for habitats that support indigenous biodiversity.	A policy is researched and put forward to FM leadership.	Biodiversity Coordinator
	If support, establish a 'no net loss' policy for habitats that support indigenous biodiversity.	No net loss policy for idigenous biodiversity established.	Biodiversity Coordinator
		Identify campus land areas that are inappropriate or classified as high-risk land use for future development or construction.	Biodiversity Coordinator
	Seek out opportunities to strengthen Ki uta ki tai on campus and in the north-west part of the city.	Approve and implement a plan for areas to extend and strengthen Ki uta ki tai.	Head of Grounds
		Identify areas on Dovedale campus to ensure the continuation of Ki uta ki tai throughout the entire UC estate.	Biodiversity Coordinator, Head of Grounds
	Actions taken to raise profile of tāonga species, for example through habitat enhancement, events, art integration or interpretation.	Actions taken to raise profile of tāonga species, for example through habitat enhancement, events, art integration or interpretation.	Biodiversity Coordinator
Showcase and expand UC's biodiversity research.	Seek to secure baseline research funding to undertake on-going monitoring.	Funding for ongoing monitoring work is secured.	PVC Sustainability, Sustainability Advisor
	Organise a single campus-wide event to promote current research and teaching activities.	A single event to showcase biodiversity work and opportunities on campus, preference to acknowledge International Day of Biodiversity.	Biodiversity Coordinator
	The development of the Geological Rock Garden is ongoing.	Further development of Geological Rock Garden to showcase Banks Pennensular Biodiversity and expand on exsiting showcasing.	Head of Grounds, Biodiversity Coordinator
	Develop a central repository for relevant research.	Investigate methods to establish data and research storage solutions and ensure security, collaborating with IT and Library.	Biodiversity Coordinator

Theme	Action	Measure / Output	Timeline	Responsibility
Herbicide reduction	Establish a baseline for herbicide use and report against this annually.	Baseline for herbicide use is established and reported on.		Head of Grounds
Review and revise UC Biodiversity Plan	Review progress on Biodiversity plan annually	Biodiversity Plan annual report to SLT.		PVC Sustainability, Sustainability Advisor
	Full review of Biodiversity plan every 3 years	Revised Biodiversity Plan reviewed and updated.		Biodiversity Coordinator, Sustainability
	Biodiversity Plan submitted to SLT for comment.	Biodiversity Plan approved by SLT.		PVC Sustainability, SLT
The university minimises its impact on biodiversity loss globally	An assessment is carried out of biodiversity losses associated with activities at the university	Briefing document produced for SLT consideration		Recommend proposing Precurment action
	Research a metric(s) that could be used to monitor the impact of the University on biodiversity loss globally	To be actioned depending on SLT decision		Recommend proposing Precurment action
	Establish systems and processes within FM that will lead to a reduction in biodiversity loss associated with the university's activities.	To be actioned depending on SLT decision		Recommend proposing Precurment action

KEY

Colour	Category
(blue)	waterways improvements/ water quality
(dark blue)	fish species
(red)	predator controi/nest survival
(green)	tree planting/biomass/native bird
(brown)	terrestrial invertebrate
(purple)	biodiversity research
(orange)	herbicide use
(yellow)	Biodiversity Plan