# Part 2 – Resource management overview

# SRMR – Significant resource management issues for the region

# ECO – Ecosystems and indigenous biodiversity

## Issues

### SRMR-ECO-I1 Indigenous biodiversity and subdivision, use and development [RPS]

**Whakatū Nelson's natural environment includes significant indigenous terrestrial, freshwater, coastal and marine biodiversity values that are susceptible to damage through subdivision, use and development.**

Whakatū Nelson's biodiversity has been shaped by its atmospheric and marine climate, its geology and topography and its environmental history. Cold adapted flora and fauna are found in the mountains, with those species adapted to warmer conditions occupy the lowlands.

A substantial portion of Whakatū Nelson's land area is covered by indigenous vegetation, including native forest (34%), regenerating kanuka (8%) and native grasslands (3%). The remainder is occupied by farms, exotic forestry and urban development, featuring a mix of introduced and indigenous species.

Whakatū Nelson still retains some significant tracts of coastal and lowland forest, special assemblages of matai / black beech and tanekaha / southern rata forest, and 17 species of nationally threatened plants. It also marks the southern limit for species such as pukatea and tawa, and the western limit for ramarama and leafless lawyer. Whakatū Nelson is the national stronghold for shovel mint and Mineral Belt endemics.

Overall, about a third of Whakatū Nelson's land area is covered by significant indigenous vegetation, some of which will contain habitats of indigenous fauna. It is recognised that habitats of indigenous fauna are often located outside of areas of significant indigenous vegetation. This includes approximately 14,000 hectares owned by the Crown and administered by the Department of Conservation, and Nelson City Council. An additional almost 4,000 hectares of forest, coastal ecosystems and freshwater wetlands are located on private land, and these have been identified by Nelson City Council as being Significant Natural Areas (SNAs). The Horoirangi Marine Reserve protects marine life and habitats in an area of 904 hectares.

Indigenous upland forest and mineral belt ecosystems are reasonably well represented and protected by virtue of their inclusion in the publicly-owned conservation estate, or by being valued and retained by private owners. Acutely or chronically threatened ecosystems in Whakatū Nelson generally comprise those located in coastal and lowland areas, and are based around estuaries, coastal and lowland flats and coastal hill country. They are generally under-represented in the conservation estate, and the few remaining areas may be vulnerable to clearance, drainage, or infilling associated with current land use and potential development.

Whakatū Nelson's significant river systems, the Maitai and Wakapuaka, together with the numerous smaller streams entering the Waimea, Haven, Delaware and Whangamoa estuaries, provide important habitat for a range of native freshwater fish, birds, crustaceans, macroinvertebrates and plant species.

Numerous activities threaten freshwater biodiversity values, whether they are located in, on or over the beds of rivers or streams, or in the broader catchments. They may directly affect habitats through structures and stream works (e.g. weirs, bridge aprons, channelling, culverts) or through sedimentation or discharges of contaminants associated with the use of land. Climate change is likely to lead to an increased frequency and intensity of storm events, exacerbating the effects of sedimentation in rivers, streams and the Coastal marine area. The potential function of rivers and streams as biodiversity corridors, linking the hills to the coast may be compromised by urban development, fragmented ownership and activities undertaken in the riparian margin.

The four key estuaries support salt marshes, habitats for flatfish, wading and migratory birds, and spawning grounds for coastal fish. A rocky coastline, islands, the Boulder Bank, undersea rocky reefs, offshore waters and sandy and muddy sediments, are habitats for a diverse range of micro and macroinvertebrate species, shellfish, and inshore, reef and ocean-going species of fish, mammals and birds.

Reclamation, construction of structures, sources of sedimentation, and contamination in waterways can impact on marine biodiversity values.

**SRMR-ECO-I2 Impact of pests and climate change on indigenous biodiversity [RPS]**

**Whakatū Nelson's significant indigenous biodiversity values are being seriously compromised by the spread of pest plants and animals and those values are also vulnerable to effects of climate change.**

Whakatū Nelson's remaining indigenous biodiversity represents a fraction of that existing prior to human settlement. However, the wholesale loss of natural and regenerating areas on land through clearance (or drainage and/or infilling in the case of wetlands) has not been a significant issue in Whakatū Nelson in the recent past.

The most serious threat to significant indigenous biodiversity values in Whakatū Nelson is the damage caused by pest plants (such as old man's beard, Himalayan honeysuckle, banana passion fruit, wilding pines) and animals (such as pigs, possums, goats, rats, mice and mustelids). These threats present serious risks of localised ecosystem collapse and/or localised extinction of threatened species, especially in combination with vegetation disturbance and fragmentation.

Pressures on Significant Natural Areas (SNAs) may also arise through stock incursion, where such areas remain unfenced.

Pressure on freshwater biodiversity also comes from the spread of pests, particularly didymo, coastal fish, and aquatic plants. In the marine environment, exotic species such as pacific oysters and undaria seaweed have established large populations.

Climate change may exacerbate the impacts of pest plant spread, as well as other stressors (such as reductions in rainfall and stream flows, and increasing temperature, storms and risk of fire) on already vulnerable indigenous biodiversity values.

## Objectives

**SRMR-ECO-O1 Biodiversity and subdivision, use and development [RPS]**

Whakatū Nelson's significant indigenous biodiversity values are identified, protected from inappropriate subdivision, use and development, and restored and enhanced.

**SRMR-ECO-O2 Impact of pests and climate change on indigenous biodiversity [RPS]**

Whakatū Nelson's significant indigenous biodiversity values are safeguarded from the spread of pest plants and animals and their resilience to the effects of climate change is increased.

## Policies

**SRMR-ECO-P1 Assessment of significant biodiversity [RPS]**

Identify and assess significant natural areas in Whakatū Nelson's terrestrial environments using nationally recognised criteria to identify their 'significance'.

**Explanation**

As described in SRMR-ECO-I1 ecological surveys have confirmed the significance of a portion of Whakatū Nelson's terrestrial natural areas. Work to confirm remaining significant values is being completed, in consultation with landowners. Means to identify and protect the significant biodiversity values associated with other natural areas need to be developed in advance of and in the absence of comprehensive information about their location. The criteria for identifying the level of 'significance' are drawn from the Department of Conservation guidelines for assessing significant ecological values (2016) and the Draft National Policy Statement for Indigenous Biodiversity (2019). The criteria include representativeness, rarity and distinctiveness, diversity and pattern, and the ecological context and have been widely adopted by local authorities. The way in which the effects of proposals in areas confirmed as significant have been addressed is set out in detail in Chapter ECO – Ecosystems and indigenous biodiversity of the Nelson Plan.

**SRMR-ECO-P2 No net loss of significant biodiversity values [RPS]**

No net loss of the full range of ecosystem types and locations of Whakatū Nelson's significant and non-significant indigenous biodiversity by restricting use and development, and subdivision and associated activities that may adversely affect those values.

**Explanation**

The protection of areas of significant and non-significant indigenous biodiversity and significant and non-significant habitats of indigenous fauna both within and outside of SNAs can only be achieved by avoiding, remedying, mitigating or (in limited circumstances) the offsetting of adverse effects of

activities that would compromise those values. Vegetation clearance (on land), and drainage or infilling (in the context of wetlands), are examples of activities that may compromise biodiversity values.

Any protective measures need to be developed within an understanding of the risk of actual loss. As indicated in SRMR-ECO-I1, Whakatū Nelson's remaining biodiversity values exist largely due to the ethic of stewardship exercised by public and private owners. Although the likelihood of wholesale destruction of those values through clearance, drainage or infilling is remote, the consequences, were it to occur, would be significant. In particular, there are identified acutely and chronically threatened ecosystems that are nationally significant and it is important that these be protected from any net loss. Therefore, at the very least, provisions are needed to ensure that any net loss, however unlikely, is avoided. Such provisions also help to protect the investments that private and public landowners make in controlling pests, which represent the greatest and more immediate risk to biodiversity value.

**SRMR-ECO-P3 Activities in significant natural areas [RPS]**

Provide for activities in significant natural areas that are compatible with restoring and enhancing the indigenous biodiversity values of these areas.

**Explanation**

The cultural use of significant natural areas by tāngata whenua needs to be provided for. Some activities associated with efforts to restore indigenous biodiversity such as fencing, access tracks and weed control can generate temporary and/or minor environmental effects. However, due to the significant benefits arising, activities associated with environmental restoration and scientific research are provided for in areas that are significant in biodiversity terms. Low impact recreational activities such as hiking or mountain biking, could be accommodated depending on the level of associated disturbance. Facilitating access can increase public awareness of and appreciation for biodiversity values.

**SRMR-ECO-P4 The spread of pest species [RPS]**

Reduce the risk of pest plant and animal spread on indigenous biodiversity values in terrestrial, freshwater and coastal and marine environments, in particular in areas with significant values, by:

1. ensuring Nelson City Council and other public authorities appropriately manage their land holdings and reserves and the marine and coastal environment;
2. supporting the kaitiaki role of Whakatū Nelson tāngata whenua;
3. fostering an ethic of stewardship among private owners; and
4. supporting and collaborating with community groups and other public agencies.

**Explanation**

As described in SRMR-ECO-I2, pest plant and animal spread represents the greatest risk to Whakatū Nelson's biodiversity values, particularly on land in both public and private ownership. These risks may be exacerbated by climate change, particularly wetter and warmer conditions. Nelson City Council can exercise leadership through the management of its own land holdings and reserves. Decisions relating to the Nelson City Council's forestry holdings, over options for replanting of commercial species or indigenous regeneration, can take into account the opportunity to manage pest species along their borders, as well as enhancing biodiversity values. Nelson City Council can also demonstrate

leadership through the coordination, facilitation, direct support, acknowledgement and celebration of the efforts of others. Nelson City Council will fulfil this role and assist others in realising theirs through the following means:

1. identifying specific pest problems that landowners have obligations to address under the Tasman-Nelson Regional Pest Management Plan;
2. managing Council's own land holdings and reserves that it administers;
3. actively supporting pest control and restoration efforts by assisting Whakatū Nelson tāngata whenua and private landowners with advice, information, funding, incentives and the like;
4. working with other public agencies (such as the Department of Conservation), private owners and community groups to co-ordinate pest control and restoration efforts;
5. acknowledging and celebrating the efforts of all parties, including volunteers, through awards, publicity and the like;
6. damage by stock incursion can also be averted through Nelson City Council's support of fencing efforts by owners; and
7. in the freshwater and marine environments, Nelson City Council can also support the pest control efforts of other agencies.

**SRMR-ECO-P5 Resilience of biodiversity [RPS]**

Strengthen the resilience of indigenous biodiversity values in Whakatū Nelson by:

1. enhancing the functioning of riparian margins as biodiversity corridors;
2. creating and maintaining esplanade reserves and strips, setbacks from significant areas and corridors between significant areas as buffers and linkages to areas containing significant indigenous biodiversity values;
3. providing opportunities for the inland retreat of coastal species;
4. encouraging the planting of naturally occurring, locally sourced indigenous species and the creation of habitats for indigenous species as well as pest plant and animal control; and
5. acting on the outcomes of research on the effects of climate change.

**Explanation**

The value of the riparian areas associated with Saxton, Jenkins and Sharlands Creeks, Orphanage, Poorman Valley and Brook Streams, and the Maitai River as biodiversity corridors, linking the hills to the coast, can be enhanced by expanding the network of reserves, and through planting and weed control. Linkages and corridors can also be made between significant areas across the district.

The direct impacts of climate change on biodiversity values are not something the Nelson City Council can practically address, although it can enhance the resilience of those values through its support of pest control efforts and the creation of corridors, buffering areas and opportunities for retreat. To effect this, the 'hardening' of riparian and coastal edges needs to be avoided.

An example of an animal pest control and habitat enhancement is the Nelson Halo, a focus of intensive pest plant and animal control effort surrounding the Brook Waimarama Sanctuary. The restoration of coastal margins is an example of buffering between the land and coastal marine area.

## Methods

| Regulatory methods | Who | Links to policy |
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| **The Nelson Plan** | | |
| **SRMR-ECO-M1 [RPS]**<br>Identify and map significant natural areas, and include a framework of objectives, policies and rules to protect the values of and manage effects on significant natural areas. | Council | SRMR-ECO-P1<br>SRMR-ECO-P2<br>SRMR-ECO-P3<br>SRMR-ECO-P4<br>SRMR-ECO-P5 |
| **SRMR-ECO-M2 [RPS]**<br>Include a framework of objectives, policies and rules to protect and enhance terrestrial, riparian and coastal margins from inappropriate subdivision, use and development. | Council, DOC | SRMR-ECO-P4<br>SRMR-ECO-P5 |
| **SRMR-ECO-M3 [RPS]**<br>Include a framework of objectives, policies and rules to maintain and enhance the natural and cultural values and qualities in the PREC6 – Conservation precinct, and protect them from adverse effects of use and development. | Council, DOC | SRMR-ECO-P1<br>SRMR-ECO-P2<br>SRMR-ECO-P3<br>SRMR-ECO-P4<br>SRMR-ECO-P5 |
| **Other legislation, statutory policies, standards and plans** | | |
| **SRMR-ECO-M4 [RPS]**<br>Implement Tasman-Nelson Regional Pest Management Plan and Top of the South Marine Biosecurity Partnership. | Top of the South Councils, iwi | SRMR-ECO-P4 |

| Non-regulatory methods | Who | Links to policy |
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| **Non-statutory plans and strategies** | | |
| **SRMR-ECO-M5 [RPS]** | Council | SRMR-ECO-P1<br>SRMR-ECO-P2 |

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| Take account of biodiversity values in decisions over future land use and management within the Nelson City Council's forestry holdings. | | SRMR-ECO-P3<br>SRMR-ECO-P4<br>SRMR-ECO-P5 |
| **Advocacy and education** | | |
| **SRMR-ECO-M6 [RPS]**<br>Promote and provide education on Nelson's biodiversity attributes. | Council | SRMR-ECO-P4<br>SRMR-ECO-P5 |
| **SRMR-ECO-M7 [RPS]**<br>Provide education on how to avoid or minimise the effects of development proposals on recognised biodiversity values. | Council | SRMR-ECO-P2<br>SRMR-ECO-P3<br>SRMR-ECO-P4<br>SRMR-ECO-P5 |
| **SRMR-ECO-M8**<br>Acknowledge and celebrate the restoration efforts through awards, publicity and the like. | Council | SRMR-ECO-P4<br>SRMR-ECO-P5 |
| **Funding and assistance** | | |
| **SRMR-ECO-M9 [RPS]**<br>Support landowner pest and stock control, and restoration efforts in significant natural areas, and other areas through use of incentives and initiatives. | Council, owners | SRMR-ECO-P2<br>SRMR-ECO-P3<br>SRMR-ECO-P4 |
| **SRMR-ECO-M10 [RPS]**<br>Continue funding for pest management and restoration initiatives, including Nelson City Council's own biodiversity programme and other initiatives. | Council | SRMR-ECO-P4 |
| **SRMR-ECO-M11 [RPS]**<br>Provide incentives for the protection of significant natural areas including rates remissions. | Council | SRMR-ECO-P2<br>SRMR-ECO-P3<br>SRMR-ECO-P4<br>SRMR-ECO-P5 |
| **SRMR-ECO-M12 [RPS]**<br>Identify and restore habitat, improve access, incentivise planting and weed control, create and enhance reserve networks and biodiversity corridors, buffer areas and inland retreat options for species in terrestrial, coastal and riparian areas in collaboration | Council, iwi, community groups, owners | SRMR-ECO-P3<br>SRMR-ECO-P5 |

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| with Whakatū tāngata whenua and community stream care and coast care groups, and with the agreement of owners. | | |
| **SRMR-ECO-M13 [RPS]**<br>Providing advice, technical support and funding through a range of initiatives and programmes. | Council | SRMR-ECO-P2<br>SRMR-ECO-P3<br>SRMR-ECO-P4<br>SRMR-ECO-P5 |
| **SRMR-ECO-M14 [RPS]**<br>Assist in coordinating restoration efforts by putting community groups, private owners and public agencies in touch with each other. | Council | SRMR-ECO-P2<br>SRMR-ECO-P3<br>SRMR-ECO-P4<br>SRMR-ECO-P5 |
| **SRMR-ECO-M15 [RPS]**<br>Review research on the implications of climate change on biodiversity values. | Council | SRMR-ECO-P2<br>SRMR-ECO-P3<br>SRMR-ECO-P4<br>SRMR-ECO-P5 |
| **Partnerships** | | |
| **SRMR-ECO-M16 [RPS]**<br>Support the work of the multi-party Nelson Biodiversity Forum, and the realisation of the Nelson Biodiversity Strategy. | Council, Biodiversity Forum, Nelson Environment Centre | SRMR-ECO-P2<br>SRMR-ECO-P3<br>SRMR-ECO-P4<br>SRMR-ECO-P5 |
| **SRMR-ECO-M17 [RPS]**<br>Collaborate with Whakatū tāngata whenua, the Department of Conservation, Brook Waimarama Sanctuary and others on joint pest control efforts across the conservation estate, Nelson City Council reserves and the Sanctuary. | Council, Brook Waimarama Sanctuary, DOC, other partners | SRMR-ECO-P2<br>SRMR-ECO-P3<br>SRMR-ECO-P4 |
| **SRMR-ECO-M18 [RPS]**<br>Enter into MOUs with government departments, agencies and private landowners to facilitate biodiversity outcomes. | Council, DOC, MoE, NZTA, owners | SRMR-ECO-P1<br>SRMR-ECO-P2<br>SRMR-ECO-P3<br>SRMR-ECO-P4<br>SRMR-ECO-P5 |
| **SRMR-ECO-M19 [RPS]** | Top of the South | SRMR-ECO-P2 |

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| Ensure inter-council representation to the Kotahitanga mō te Taiao Alliance. | councils, iwi, DOC | SRMR-ECO-P3<br>SRMR-ECO-P4<br>SRMR-ECO-P5 |

## Principal reasons

**SRMR-ECO-PR1 [RPS]**

Significant indigenous biodiversity values are present in Whakatū Nelson in freshwater and marine environments, as well as on land (although the full significance of these values in a terrestrial sense remains to be confirmed). All such values and ecosystems must be identified and protected, with a particular focus placed on controlling the spread of pests. The community has indicated strong support for the control of pests on both public and private land, and for broader initiatives intended to maintain and enhance biodiversity. Activities associated with use, development and subdivision that may adversely affect and lead to the loss of significant natural areas, and the values they contain, also need to be managed.

## Anticipated environmental results

| Relevant policies | Anticipated environmental result |
|---|---|
| **SRMR-ECO-P1 [RPS]**<br>Identify and assess significant natural areas in Whakatū Nelson's terrestrial environments using nationally recognised criteria to identify their 'significance'. | **SRMR-ECO-AER1 [RPS]**<br>Whakatū Nelson's significant indigenous biodiversity values are identified, protected from inappropriate subdivision, use and development, and restored and enhanced. |
| **SRMR-ECO-P2 [RPS]**<br>No net loss of the full range of ecosystem types and locations of Whakatū Nelson's significant and non-significant indigenous biodiversity by restricting use and development, and subdivision and associated activities that may adversely affect those values. | |
| **SRMR-ECO-P3 [RPS]**<br>Provide for activities in significant natural areas that are compatible with restoring and enhancing the indigenous biodiversity values of these areas. | |
| **SRMR-ECO-P4 [RPS]** | **SRMR-ECO-AER2 [RPS]** |

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| Reduce the risk of pest plant and animal spread on indigenous biodiversity values in terrestrial, freshwater and coastal and marine environments, in particular in areas with significant values, by:<br>1. ensuring Nelson City Council and other public authorities appropriately manage their land holdings and reserves and the marine and coastal environment;<br>2. supporting the kaitiaki role of Whakatū Nelson tāngata whenua;<br>3. fostering an ethic of stewardship among private owners; and<br>4. supporting and collaborating with community groups and other public agencies. | Whakatū Nelson's significant indigenous biodiversity values are safeguarded from pest plant and animal spread, and the resilience of indigenous ecosystems to the effects of climate change is increased. |
| **SRMR-ECO-P5 [RPS]**<br>Strengthen the resilience of indigenous biodiversity values in Whakatū Nelson by:<br>1. enhancing the functioning of riparian margins as biodiversity corridors;<br>2. creating and maintaining esplanade reserves and strips, setbacks and corridors to buffer areas containing significant indigenous biodiversity values;<br>3. providing opportunities for the inland retreat of coastal species;<br>4. encouraging the planting of naturally occurring, locally sourced indigenous species and the creation of habitats for indigenous species as well as pest plant and animal control; and<br>5. acting on the outcomes of research on the effects of climate change. | |