BEFORE A HEARING PANEL
CONSTITUTED BY NELSON CITY COUNCIL

IN THE MATTER	of an application by **CCKV Maitahi Development Co LP** and **Bayview Nelson Limited** for a change to the Nelson Resource Management Plan (Private Plan Change 28)
IN THE MATTER	of Part 5 and Schedule 1 of the Resource Management Act 1991

STATEMENT OF EVIDENCE OF ROBERT JAMES GREENAWAY (RECREATION)

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Section A – Introduction and Scope of Evidence

Name, qualifications and experience

[1] My full name is Robert James Greenaway.

[2] I am a Director of Rob Greenaway & Associates (R&R Consulting (NZ) Ltd) and have been since 1997. Prior to this, I was a Recreation and Tourism Consultant for Boffa Miskell Limited, from 1995 until 1997, and before that I held the same position at Tourism Resource Consultants, from 1990 until 1995.

[3] I graduated from Lincoln University in 1987 with a three-year Diploma in Parks and Recreation Management with Distinction, and completed 18 months of postgraduate study in conservation management. I hold the status of an Accredited Recreation Professional with Recreation Aotearoa (the NZ Recreation Association), and I am a member of the Recreation Aotearoa Board of Accreditation for member accreditation to professional status. I am also a member of the New Zealand Association for Impact Assessment. In 2011 I was appointed as an inaugural Board member of the Sir Edmund Hillary Outdoor Recreation Council, to assist Sport New Zealand with the implementation of the National Outdoor Recreation Strategy, amongst other things.

[4] I was awarded the Ian Galloway Memorial Cup in 2004 by Recreation Aotearoa (of which I am a past Executive Member) to recognise "excellence and outstanding personal contribution to the wider parks industry". In 2013 I was awarded the status of Fellow with Recreation Aotearoa.

[5] I have comprehensive experience in undertaking recreation and tourism impact assessments and recreation and reserve management planning. I have presented evidence at more than 100 hearings, including for multiple land development projects, predominantly in Auckland, Canterbury, Queenstown-Lakes and the Tasman District. In the Nelson-Tasman region I have prepared multiple reserve management plans (including for the Brook Recreation Reserve, Saxton Field, Trafalgar and Rutherford Parks

and Kaiteriteri Recreation Reserve), Tasman District Council's Open Space Strategy and Reserves General Polies and an asset management plan for the Great Taste Trail, reviews of open space and esplanade width provisions to assist the preparation of the Whakamahere Whakatū Nelson Plan, and user surveys of various local settings including the Maitahi/Mahitahi River. I am currently working with Nelson City Council (NCC) and Koata Ltd on long-term agreements for public access to Koata Ltd whenua for recreation in the Maitahi/Mahitahi Valley, particularly mountain biking. I have completed many other recreation planning projects regionally, and more than 500 projects nationally and internationally.

[6] I have lived in Nelson for about 16 years and am a regular recreational user of the Maitahi/Mahitahi Valley for, in particular, swimming and mountain biking.

Expert Code

[7] While this is not an Environment Court hearing I have met the standards in that Court for giving expert evidence.

[8] I have read the Code of Conduct for expert witnesses issued as part of the Environment Court Practice Note 2014 (Part 7). I agree to comply with the Code of Conduct. I am satisfied that the matters addressed in this statement of evidence are within my expertise. I am not aware of any material facts that have either been omitted or might alter or detract from the opinions expressed in this statement of evidence.

Role in Project

[9] I have been engaged by CCKV Maitahi Development Co LP and Bayview Nelson Limited to:

(a) Review the effects of Maitahi Bayview Private Plan Change 28 (PPC28) on the existing recreation opportunities and values of the Maitahi/Mahitahi Valley; and

(b) Consider the potential for the originally proposed Structure Plan and relevant rules to deliver the necessary open space and

recreation settings and connections that I and other technical experts consider necessary for the Maitahi Bayview development, considering its special location in Nelson City.

[10] I have participated in expert conferencing with Mr Andrew Petheram of Nelson City Council and confirm the contents of the Recreation and Open Space Joint Witness Statement (JWS) dated 13 May 2022.

Scope of Evidence

[11] I have not previously prepared a technical assessment to accompany the PPC28 application, and, subsequently, my evidence includes an assessment that supplements the Plan Change Request. Although conferencing has not identified any significant areas of difference or concern with Council's expert witness, I set out an analysis of the matters of interest to my speciality. I have included a description of the existing environment as an appendix to assist the Commissioners in understanding the recreation setting of the Maitahi/Mahitahi Valley and summarise the key issues, as I see them, in the body of my evidence, and address matters which have arisen from submissions.

Section B – Executive Summary

[12] My evidence considers the degree to which the PPC28 proposal will achieve the necessary provisions for recreation and open space within the Plan Change area, and what effects it may have on recreation values in the Maitahi/Mahitahi Valley.

[13] I have prepared a JWS with the Nelson City Council's recreation and open space expert, and we are in broad agreement regarding the key elements of the evidence that I have prepared.

[14] I also address three areas of concern raised in submissions:

(a) That the proposal will result in the loss of greenspace in the Maitahi/Mahitahi Valley. I find that it will increase the amount of greenspace provided and that the open space provisions of the

proposal are appropriate considering the local terrain and the connections with existing areas of public open space.

(b) That the proposal will result in conflict with existing recreational opportunities and values in the Maitahi/Mahitahi Valley. I find that the local increase in population will lead to increased use of local recreation resources, but that this would also result from general population growth in Nelson. There will be the need to 'harden' some local recreation assets to cope with this increased demand. There is also the potential for adverse effects via increased conflict between vehicles and runners, walkers and cyclists within the Maitahi/Mahitahi Valley Road corridor. Mr Petheram and I in our JWS defer to the traffic experts for their more fulsome assessment, but note that there is ample scope in the Maitahi/Mahitahi Valley road corridor for various solutions to this issue.

(c) That effects on water quality in the Maitahi/Mahitahi River will adversely affect swimming in the River. In my evidence I refer to survey work that I have previously completed for the NCC which identifies existing concerns about water quality in the Maitahi/Mahitahi River. I defer here to the assessment Mr Stu Farrant who addresses methods to maintain and improve water quality and habitat in Kākā Stream and the Maitahi/Mahitahi River.

[15] I have made several recommendations about clarifying and expanding on the proposed connections with existing public space in the proposed Structure Plan. These include an additional pathway on the northern side of the Bay View ridge linking Bay View Road with the Sir Stanley Whitehead Path, and an alternative treatment to access to Dennes Hole (with an agreed interface plan attached to the JWS). These recommendations have been agreed with other experts and the applicant and now appear in the revised Structure Plan which I discuss later in my evidence.

[16] Considering, for example, proposed Policy RE6.1 which directs that development of the Maitahi Bayview area shall generally provide for "Recreational opportunities to meet the needs of current and future

residents", Section X.9 *Ecological outcomes and freshwater,* which makes reference to the implementation of the NPS-FM and NES 2020, and the need to implement the requirements of the *Nelson Tasman Land Development Manual*, I find that the proposal adequately meets the expectations of the NRMP for recreation and open space.

Section C – Evidence

[17] I have focused my evidence on the two main themes of public submissions on PPC28 relating to recreation values and opportunities. These are:

(a) The proposal would result in loss of open space in the Nelson City's greenbelt. While the concept of 'open space' in this context might apply to landscape values more-so than publicly accessible land (since there is none in the Plan Change area), I address public access for completeness.

(b) The development will conflict with existing recreational opportunities and values in the Maitahi/Mahitahi Valley. I take this to include potential issues with carrying capacity at existing local (to the Plan Change area) recreation settings. Carrying capacity refers to the ability of a recreation setting to provide satisfactory recreation experiences considering the number of people present at a site (or the number and type of interactions between users).

(c) Effects on water quality in the Maitahi/Mahitahi River will adversely affect water contact recreation, particularly at Dennes, Girlies and Black Hole and the Nelson Haven.

[18] I also consider:

(a) Effects on trout and trout habitat in the Maitahi/Mahitahi River;

(b) How open space linkages – tracks and paths – can link with neighbouring areas of open space and existing access ways; and

(c) How the proposed areas of open space within the Plan Change area will function.

Loss of open space

[19] The Plan Change area is currently private land and does not supply any public recreation opportunities. As I identify in paragraph [64] in my Appendix 1, a publicly accessible track across private land on the ridgeline between the Centre of New Zealand and Bayview Road was previously maintained as a fire break by the landowner. This was closed for Health and Safety reasons in 2020 when the owners proceeded to clear gorse, remove goats, install fencing, and start construction of the Bayview Road residential subdivision. This track was never part of the public realm but was a benefit while it was open. No loss of public recreation space will occur as a result of PPC28. I consider how the proposal proposes to add public open space in the Kākā Valley later in my evidence.

Conflict with existing recreation opportunities and values

[20] I identify the existing recreation values in the Maitahi/Mahitahi Valley near Kākā Valley in my Appendix 1. These are (in no order):

(a) Swimming in the Maitahi/Mahitahi River at Sunday, Black, Girlies and Dennes Hole;

(b) Trout fishing in the Maitahi/Mahitahi River;

(c) Walking, dog walking, cycling and running beside the River and on nearby areas of open space such as Botanical Hill, Sir Stanley Whitehead Park and Branford Park;

(d) Cycling, running and walking on the Maitahi/Mahitahi Valley Road;

(e) Sports activities on the Maitai Cricket Ground and at Bradford Park (disc golf at the latter); and

(f) Picnicking, relaxing and enjoying the scenery on public land around the Maitahi/Mahitahi River generally.

[21] In terms of effects on landscape values from the public settings around the Plan Change area, I defer to the evidence of Mr Tony Milne. I note that he

considers that PPC28 will result in visual and landscape effects ranging between very low to low on the users of recreation trails which might afford views over the proposed development area (his paragraph [72]).

[22] It is difficult to assess effects of PPC28 – in isolation – on the carrying capacity of local recreation settings, as most – if not all – of the effects arising from population growth would be common to any additional provision of housing in Nelson City, considering the accessibility and proximity of the Maitahi/Mahitahi Valley to the Nelson Central, and the nature of the recreation experiences available. For example, there are no alternative local river swimming holes near the centre of Nelson, and while residents of Stoke might be attracted to the Lee and Roding Rivers, residents around Nelson City will be attracted to the Maitahi/Mahitahi Valley. Walkers and dog-walkers are more likely to recreate locally, whereas cyclists travel further to preferred settings. Sports players – such as cricket and disc golf – will travel to wherever their sport is played.

[23] The Structure Plan proposes areas of open space within the Plan Change area with indicative walk and cycleways, and a neighbourhood reserve. These will provide for much local recreation, and attract use from outside the development area, particularly on any extension to the Sir Stanley Whitehead Track. However, I would expect new residents of Kākā Valley to also rely on walkways on Botanical Hill, Sir Stanley Whitehead Park, Branford Park and along the Maitahi/Mahitahi River. This will result in increased encounter rates for existing users and may be considered an adverse effect of local residential development. But, as I have mentioned, this will be an outcome common with most population growth in Nelson.

[24] In my Appendix 1 from my paragraph [65] I describe a survey of recreational users of the Maitahi/Mahitahi Valley that I carried out for the NCC in 2015.[1] In that survey, 11 respondents (out of 419) noted that the area could be 'crowded at times' as one of the area's 'worst aspects' (Table 4 in Appendix 1). A 'calm' or 'peaceful atmosphere' was identified as the most commonly mentioned 'best aspect' of the River (Table 3). I have no

[1] The report is appended in full to the submission of Mr David Jackson (submission 51).

other data to indicate what the carrying capacity of the Maitahi/Mahitahi River Valley for recreation might be.

[25] Potential recreation conflict – as a result of surpassing local carrying capacity or from other causes of conflict – in the recreation settings local to the Plan Change area will require management with or without the proposal in place if population growth in Nelson occurs. Mr Andrew Petheram and I are in agreement that some hardening of local recreation settings is likely to be required as a result of increased local recreation activity, as stated in our JWS.

[26] Mr Petheram and I consider in our JWS the potential for conflict between additional vehicles on Maitahi/Mahitahi Valley Road and people running, walking and cycling within the road corridor. We defer to the traffic experts for their analysis of necessary road developments, but both note the ample scope within the Maitahi/Mahitahi Valley for implementing various on and off-road access options to reduce conflict.

Water quality in the Maitahi/Mahitahi River and Nelson Haven and Effects on trout habitat in the Maitahi/Mahitahi River

[27] The survey of Maitahi/Mahitahi River users that I completed for the NCC in 2015 (Appendix 1 from my paragraph [65] and specifically Figures 16 and 17) showed that water quality and toxic algae were considered the main priorities for improvement in the River, followed by riparian planting and making the River more 'fish friendly'. I take this to indicate very clearly that any adverse effects on any water quality parameter as a result of development in the catchment would be viewed as a significant adverse effect, considering the high recreational value of swimming in the River indicated by the same survey. The 2015 survey also signalled perceptions of an existing water quality problem indicated by algal growth, 'dirty water' and 'slime' (Table 4 in Appendix 1).

[28] The Maitahi/Mahitahi River is a locally significant trout fishery ideally suited to junior anglers, as discussed in my Appendix 1 from my paragraph [71].

[29] Effects of development within the Plan Change area – from both construction and ongoing occupation – is considered in the evidence of Mr Stu Farrant who addresses the methods to maintain and improve water quality in Kākā Stream and the Maitahi/Mahitahi River.

Path linkages

[30] Figures 2 and 3 in my Appendix 1 show the revised Structure Plan overlaid on the NCC Top of the South GIS maps for 'recreation' in the City. These show potential trail linkages between open space zones within the Plan Change area and Sir Stanley Whitehead Park, Botanical Hill and Bayview, Botanical Hill via Branford Park, Dennes Hole and the eastern end of the Maitai Cricket Ground. Potential paths also follow Kākā Stream. Paths are also shown beside main access roads.

[31] My recommendations for developing access and links with existing open space outside the original Structure Plan area are (in addition to correcting the location of the connection to the Maitai Cricket Ground):

(a) The path shown beside the proposed road on the ridgeline between Kākā Valley and Brooklands will not function as an extension to the Sir Stanley Whitehead Path as it will be within a relatively developed urban roadway setting. I have recommended that a pathway be indicated downslope north of proposed housing where uninterrupted views of the sea can be gained, and where a more rural setting will exist. I understand that as services to future subdivisions may need to be constructed on this alignment, a path on the necessary benching there is a natural final outcome.

(b) The survey of Maitahi/Mahitahi River users that I completed for the NCC in 2015 (Appendix 1 from my paragraph [65] and specifically Figures 16 and 17) indicated that new recreation facilities were a low priority for the Maitahi/Mahitahi River setting. I therefore did not support the addition of new access to Dennes Hole as shown in the original Structure Plan. I have recommended that Dennes Hole be maintained in as close to its existing condition

as currently exists. Accordingly, a "Maitahi Development Dennes Hole Interface" plan has been prepared by Rough Milne Mitchell Landscape Architects and is appended to the Recreation and Open Space JWS. Both Mr Petheram and I are in agreement that this is an appropriate potential treatment for Dennes Hole.

I recognise that such a development would be at the pleasure of NCC and no doubt require future consent applications.

(c) A path is shown in the Structure Plan linking near the northern end of the mountain bike jump park accessed off Branford Park. This may form the main recreational pedestrian and cycle link between the development area and Nelson City. It will have no impact on Dennes Hole and will pass through an area already developed for active recreation. Again, this is a future consideration. I have suggested an addition linkage in this area to the circuit path at the northern-most corner of Branford Park.

Functioning of open space zones

[32] The Recreation and Open Space JWS considers all other issues of relevance to my evidence and the appropriateness of the proposed open space zones. Mr Petheram and I are in agreement that the open space areas proposed are adequate in size, including the widths of esplanade reserves, and that the proposed set-back from Dennes Hole reserve land of 80m is suitable. I understand that the neighbourhood reserve has been provided for and located in conversation with NCC.

[33] We refer to the role of the *Nelson Tasman Land Development Manual* in being used to define a range of walk and cycle way standards suitable for the local topography when consents are applied for. The topography suggests that the tracks and trails provided for will range from easy and fully accessible on easier terrain to more challenging at, for example, the head of the Kākā Stream.

[34] Considering this and, for example, proposed Policy RE6.1 which directs that development of the Maitahi Bayview area shall generally provide for

"Recreational opportunities to meet the needs of current and future residents", Section X.9 *Ecological outcomes and freshwater,* which makes reference to the implementation of the NPS-FM and NES 2020, I find that the proposal adequately meets the expectations of the NRMP for recreation and open space.

Section E – Section 42A reports

[35] Mr Petheram has prepared a s42A report relating to 'parks and recreation matters' and considers the same issues canvassed in my evidence. We are in agreement over the potential effects of PPC28, and I am in accord with the recommendations made by Mr Petheram in his paragraph 64. Mr Petheram's recommendations (in summary), and the means by which they are addressed are:

(a) Water quality in Kākā Stream and the Maitahi/Mahitahi River – PPC28 includes a range of provisions to restore and enhance water quality, which will be the subject of detailed design and assessment submitted with future resource consent applications;

(b) Sensitive infrastructure design – Design principles are incorporated in PPC28 and designs will be subject to approval by Council at consenting stages.

(c) Transport solutions for pedestrian and cyclist safety, and links to existing recreation tracks and trails – addressed by the revised Structure Plan, Services Overlay and matters addressed by the transport specialists.

[36] Mr McIndoe completed a s42a Urban Design Report. I refer to his report section titled 'Amenity, health and wellbeing'. I agree with Mr McIndoe where he considers the likely benefits to new residents in the Plan Change area from easy access to open spaces and recreation opportunities, and the creation of additional publicly accessible open space within Kākā Valley.

Conclusion

[37] Access to and enjoyment of quality recreation experiences in urban and peri-urban areas is vital to community and individual well-being. My assessment, that of Mr Petheram (as stated in his s42A report and our JWS), and that of Mr McIndoe (in his s42a Urban Design Report section titled 'Amenity, health and wellbeing') are in accord in finding that PPC28 has limited adverse effects on existing recreation amenity in the Maitahi/Mahitahi Valley and Nelson City (effects that would be common with most forms of population growth in Nelson); and that quality recreation opportunities will be created by PPC28.

[38] Key issues arising from PPC28 for recreation amenity that I identify are very similar to those summarised in Mr Petheram's s42A report (his paragraph 64):

(a) Maintaining recreation amenity in the Maitahi/Mahitahi River for swimming via the maintenance and improvement of water quality;

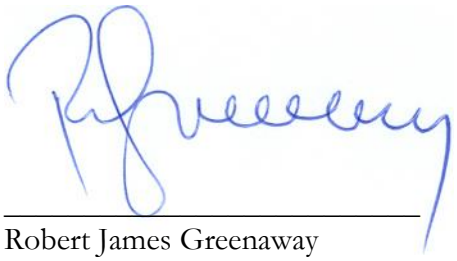
(b) Managing effects on existing recreation settings in the Maitahi/Mahitahi Valley by sustaining and improving the existing natural qualities of Dennes Hole, and potentially 'hardening' some local recreation assets in response to additional demand;

(c) Relying on the existing scope within the Maitahi/Mahitahi Valley to develop safe pedestrian and cycle access between the Plan Change area and Nelson City; and

(d) Clarifying pedestrian and cycle connections between the Plan Change area and adjacent existing public open space, specifically between Sir Stanley Whitehead Park and Bayview, upstream of Dennes Hole, and to Branford Park via the jump track valley.

[39] Mr Petheram adds the requirement for sensitive placement within reserve areas of any necessary infrastructure, and I agree.

Dated 15 June 2022



Robert James Greenaway

Appendix 1: Existing Environment

[40] In this appendix I describe the recreation values and opportunities associated with the Maitahi/Mahitahi Valley, based largely on Strava data and a survey of recreational users of the Maitahi/Mahitahi River that I completed for the Nelson City Council in 2015 to assist with reconsenting the Maitai water supply.

Neighbouring open space

[41] Figure 1 shows the boundary of the proposed Plan Change area in red overlaid on the Nelson City Council Top of the South GIS map layer for 'recreation'. This shows Council-administered public land in green (not all of which are reserves) and walking and cycling tracks in green and yellow. The key for the GIS layer refers to the yellow tracks as for 'tramping' although they are mostly mountain bike tracks. Green tracks are defined as for walking and are largely walking only.

[42] Figure 2 shows the PPC28 Structure Plan overlaid with the same Top of the South GIS layer indicating that the proposed open space zones are largely contiguous with areas of existing recreation space in the west. Proposed zones in the Plan Change area are defined as per the key in PPC28. Proposed Open Space zones are shown in green.

[43] Figure 3 gives more detail on this western area showing the proximity of the Plan Change area to the Maitai Cricket Ground, Branford Park, Botanical Hill and Sir Stanley Whitehead Park. The Top of the South maps do not show 'hydro parcels' which also provide public access (river bed administered by Land Information New Zealand (LINZ)).

[44] Figure 4 shows further detail about land status where the proposed Plan Change area borders the Maitahi/Mahitahi River near Dennes Hole. There is a mix of land types, including gazetted reserve, ungazetted park, road reserve, esplanade reserve and river bed. The Dennes Hole Reserve was gazetted as a 'Recreation Ground' in 1916. Part of the Maitahi/Mahitahi River has meandered onto land owned by the applicant (CCKV Maitai Dev Co LP in this location). Land areas not otherwise defined are privately held.

The data in Figure 4 are sourced from the LINZ cadastre and the Walking Access Commission's WAMS mapping system.

Figure 1: PPC28 Boundary (red) and NCC Top of the South Maps recreation layer showing reserves and tracks

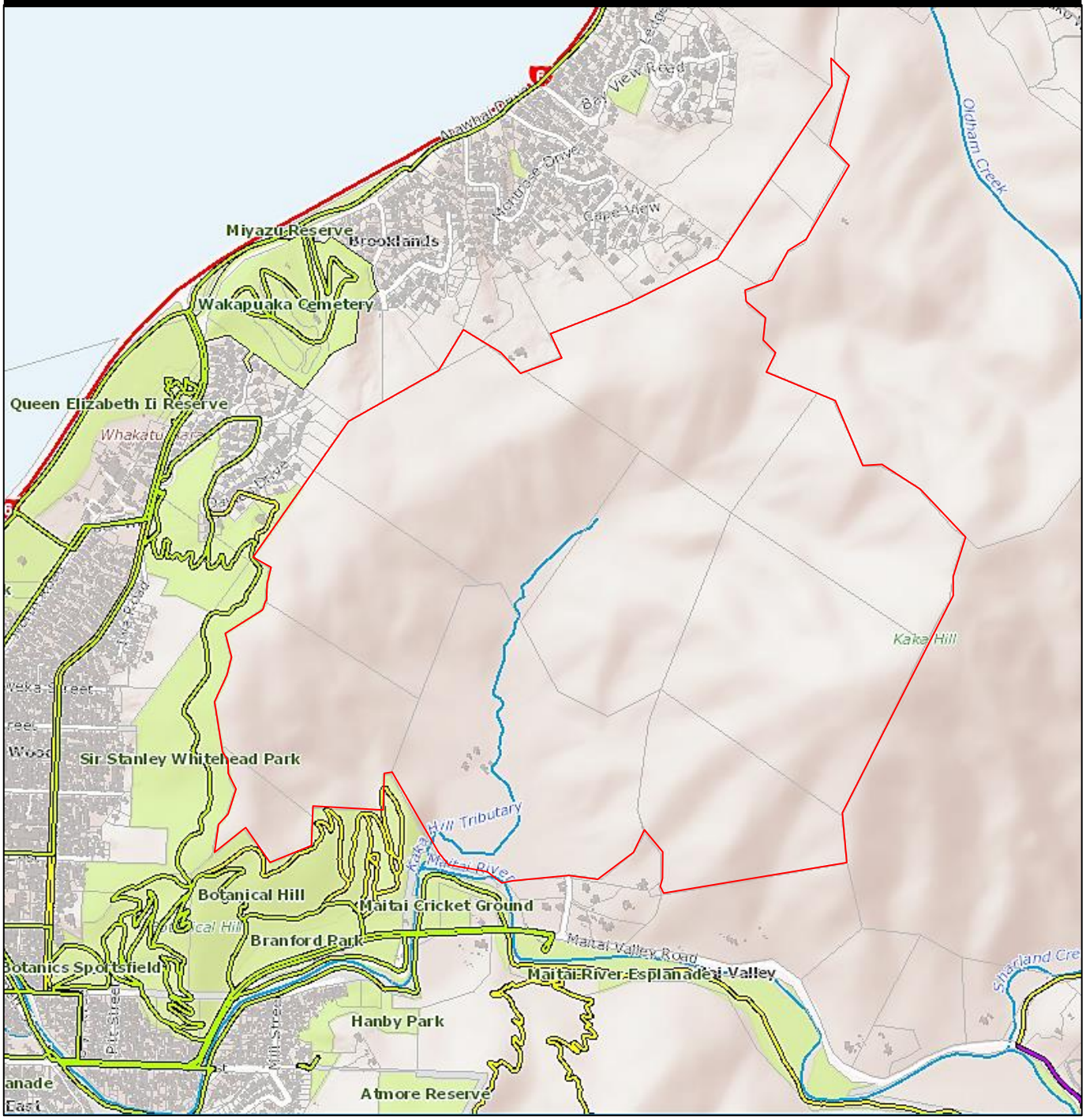


Figure 2: PPC28 revised Structure Plan with NCC Top of the South Maps recreation layer showing reserves and tracks

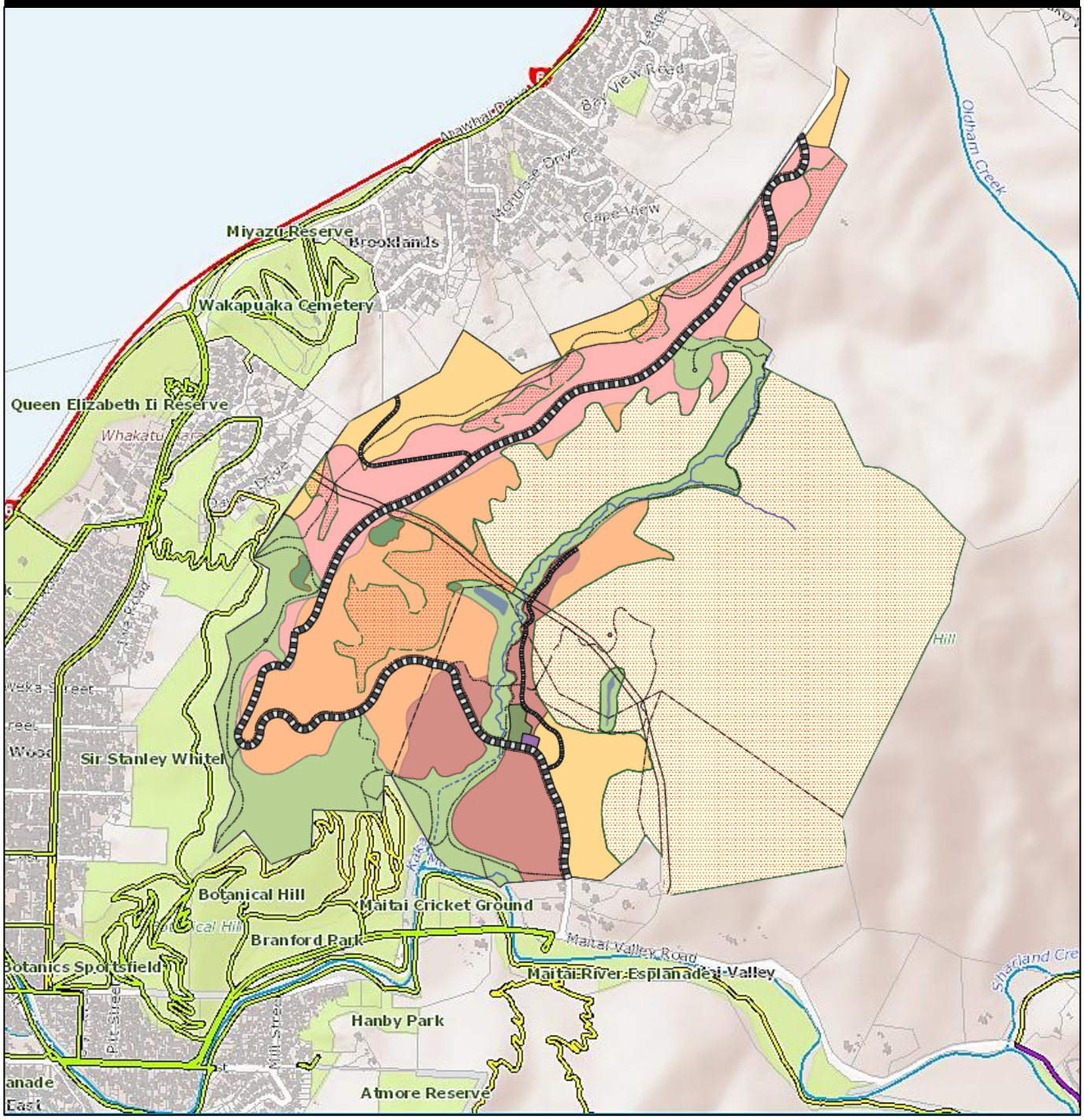


Figure 3: South-west PPC28 revised Structure Plan and NCC Top of the South Maps recreation layer

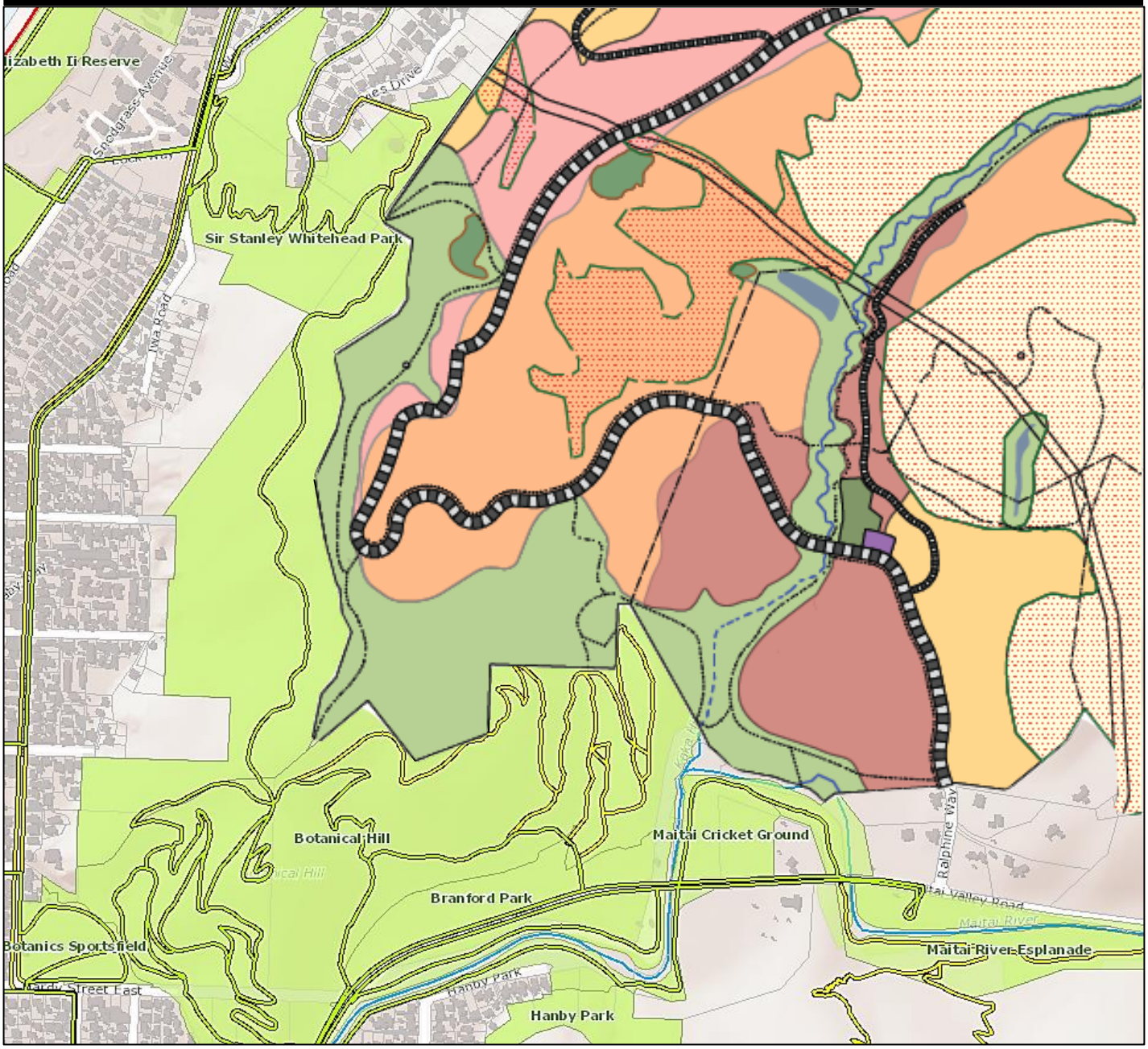
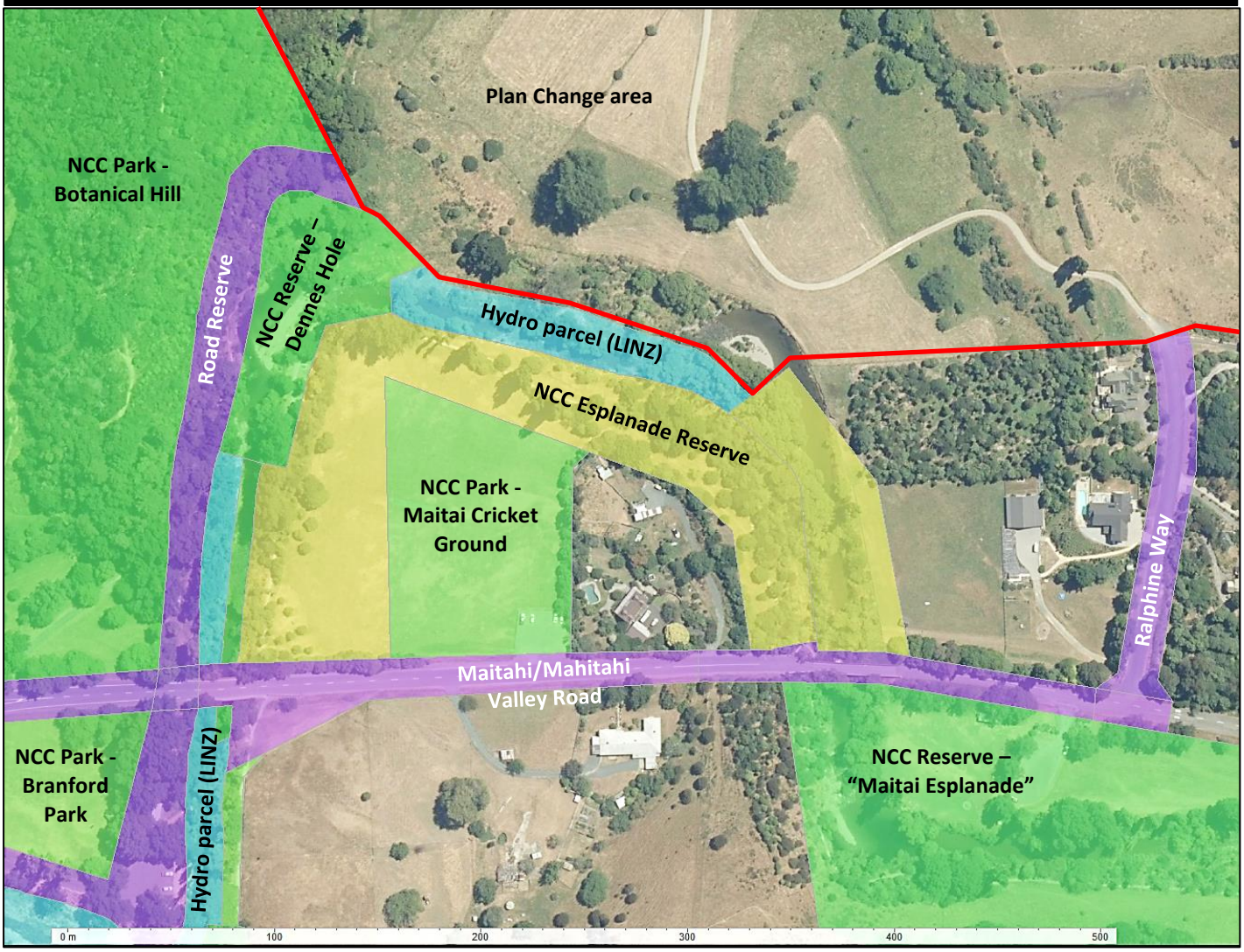


Figure 4: Land status near Maitahi/Mahitahi River and PPC28 boundary (red)



[45] The NCC areas of public land adjacent to the Maitahi/Mahitahi River are managed according to the Council's *Esplanade and Foreshore Reserves Management Plan 2008* – although not all esplanade reserves by the RMA definition. The Maitahi/Mahitahi River reserves considered in the *Esplanade and Foreshore Reserves Management Plan* extend from the Maitai Dam to the QEII bridge in the lower River, and four subdivisions of this long reach are identified. Those near the Plan Change area are within the Maitai Motorcamp to Jickells Bridge section, part of which is shown in Figure 5.

Figure 5: Western end of 'Maitai Motorcamp to Jickells Bridge' esplanade reserves

[46] The *Esplanade and Foreshore Reserves Management Plan* notes in reference to all the Maitai esplanade reserves (p52):

> *The Maitai River esplanade reserves are considered to be one of Nelson's most important "flagship" open space and recreation areas. This status reflects their high use, visibility and proximity to the city.*

[47] Specific to the river section shown in Figure 5, the Plan states (p58):

> *Downstream of Sunday Hole, the reserve includes only some of the river's true left bank below Gibbs Bridge (the true right is in private ownership) and where it skirts around the outside of the Maitai Cricket Ground. Beyond Dennes Hole, both banks are included within the reserve again. Dennes Hole is also supposed to be dog-free but dogs are regularly seen here. The walkway runs through this whole area and is planted in*

established natives such as pittosporum, kowhai and cabbage trees. Downstream the reserve and walkway continues on to join Branford Park and Sunday Hole.

Aging and dying riverside willows are also considered a problem along this stretch of the Maitai.

[48] Management issues (p58) are identified to be "maintenance" of willows, dogs in dog-exclusion areas, and weeds; with an ambiguous action to "Maintain riverside willows."

[49] Branford Park is also included in the *Esplanade and Foreshore Reserves Management Plan,* which notes (p60):

Branford Park was previously considered a "boy racer" hangout. As a result of complaints from local residents about vandalism, rubbish, noise etc, the Council approved a development plan for the park. This included bollard fencing to prevent access and damage to the grass; new sealed parking and vehicular accessways; an additional future cycleway / walkway on the river's true right and additional toilets.

[50] Branford Park also hosts a popular disc golf course (or frisbee golf) and provides access to a mountain bike jump park developed by the Nelson Mountain Bike Club on the eastern corner of Botanical Hill.

[51] Botanical Hill and Sir Stanley Whitehead Park are managed according to the NCC's *Conservation and Landscape Reserves Management Plan 2009*. For the former, this Plan states (p69):

A number of high-standard benched tracks traverse the eastern slopes of Botanical Hill, providing several walking routes to the summit of Botanical Hill (147m) and on to Sir Stanley Whitehead Park and the Maitahi/Mahitahi Valley. The reserve is very popular as it provides pleasant walks at the edge of the city centre, has features of historic interest and provides good views across the city. It is highly valued by the community. The reserve has potential to provide for a wider range of recreational uses, especially in the more modified parts of the reserve.

[52] 'Important reserve management issues' included management of weeds, notably sycamore, pest animals – such as goats – entering from neighbouring land, managing conflict between walkers and mountain bikers, and maintenance and restoration of native species.

[53] For the Sir Stanley Whitehead Park, the Plan states (p72):

> *Facilities at the reserve include signs and interpretation panels and a benched track that traverses the reserve between Botanical Hill Reserve and Davies Drive at Walters Bluff. Informal mountain-bike tracks have been formed within the Eucalypt plantation at north end of the reserve. Dogs are permitted on a leash. Open grassed slopes of the reserve are leased for gazing. Walking, running and mountainbiking are popular uses of the reserve. The reserve is clearly visible from the central part of Nelson City, forming a prominent part of the backdrop to the city.*

[54] 'Important reserve management issues' include managing slope stability to protect downslope property, managing fire risk and native restoration and improving public access to the Reserve.

[55] A Sports Ground Reserve Management Plan is yet to be prepared, and reference to the Maitai Cricket Ground is made in the NCC *Parks and Reserves Asset Management Plan 2018-28* (2018) noting that it has a low-maintenance-cost artificial wicket, no lights and no stands, and does not require irrigation.

[56] The NCC Freedom Camping Bylaw 2017 permits a maximum of two self-contained vehicles per night in the Maitai Cricket Ground carpark.

Strava data

[57] Strava is increasingly becoming a useful tool for identifying the relative levels of interest in various recreation activities by setting. Strava is a social media platform where users record their GPS activity via their smartphones while recreating. The data are uploaded to a central database, allowing speed and time comparisons with other cyclists, runners, kayakers and swimmers (for example), and the monitoring of individual activity or training targets. While the service is popular with professional athletes, its membership is dominated by casual recreation participants. Strava does not state its membership numbers, but 42 million international users were reported in 2019 (80% outside the US) with an additional million per month. It is now very popular amongst regular cyclists and runners, and is also used by the likes of rowers, kayakers, waka ama and swimmers.

[58] International comparisons between different forms of data gathering show a degree of reliability for Strava data with a range of 1% to 12% of users recorded on-site that are connected to the service; and this is growing.[2,3] I have completed several analyses recently in Nelson and Wellington comparing Strava use with reliable cycle counters; and where the routes are heavily used by cyclists, Strava participation can be very high – up to 67% at Third House on the Coppermine Trail in Nelson (a recreational mountain bike ride) and 63% for commuting and training cyclists on SH2 between Petone and Ngauranga in Wellington. Such response rates would compare favourably to (or better than) an on-site intercept survey of users in an outdoor setting, particularly since the Strava data are collected over all seasons and all day (an intercept survey would normally only cover relatively short time periods and be confined to specific interception points). Nevertheless, caution needs to be applied to the use of Strava data as they show participation by only Strava members. There will be an inherent bias to the more competitive and tech-savvy, and some data accumulate from users staying logged in when they are doing other activities, such as driving. Some records are also offset by tens of metres due to either poor GPS reception or map projection errors. However, most records appear in their correct locations.

[59] It is more difficult to identify the level of Strava uptake by runners and walkers at sites where pedestrian counters are installed, since the counters do not differentiate between walkers and runners, while Strava does. However, in Nelson at the entrance to the Codgers Mountain Bike Park, I estimated 10% of pedestrians (walkers and runners) recorded their activities on Strava in the first nine months of 2019, and at Third House, which is a more challenging walk or run, the figure was 27%. Running is a good proxy for walking to indicate areas of relative value.

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[2] Herrero, J. 2016. *Using big data to understand trail use: three Strava tools*. TRAFx Insights Series 2016. Available at: https://www.trafx.net/img/insights/Using-big-data-to-understand-trail-use-three-strava-tools.pdf

[3] https://medium.com/strava-metro/cdc-finds-strava-metro-data-correlates-strongly-with-census-active-commuting-data-8ab1be0fe130

[60] Strava is therefore a little like a tag and release programme, but unlike, for example, tagging 10 longfin eels with GPS devices and seeing where they head to breed[4] Strava essentially tags several thousand active people in an area and monitors where and how they recreate. Its greatest strength is therefore in showing the relative value of settings for different forms of recreation.

[61] Strava allows heatmaps to be filtered by runners and cyclists, as well as water-based activities such as swimming and kayaking. Figure 6and Figure 7 show Strava heatmaps for Nelson for cycling and running respectively. These both show the popularity of the Hira Forest area (Sharlands Creek) and the Codgers Mountain Bike Park for both activities, and the role of the Maitai Road and nearby tracks in linking these recreation settings, and particularly, The Coppermine Trail for cycling, but also running. Both figures also indicate the general scale of uptake of Strava by the recreation community.

[4] As NIWA did in 2019 and earlier in the century see https://www.rnz.co.nz/national/programmes/ourchangingworld/audio/2018695044/mystery-of-the-longfin-eel-s-breeding-ground

Figure 6: Strava heatmap for Nelson – Cycling. 12 months of data to March 2022

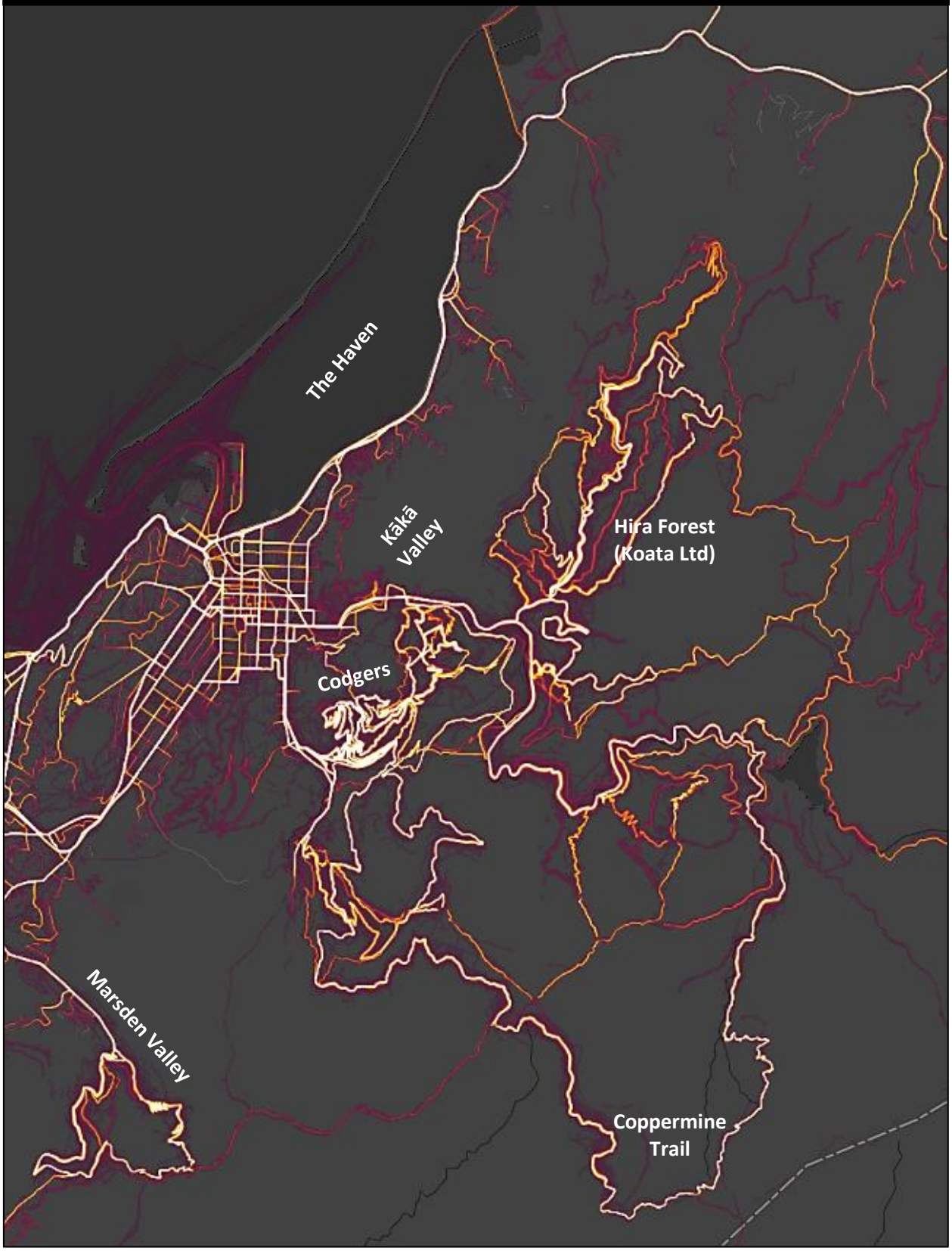
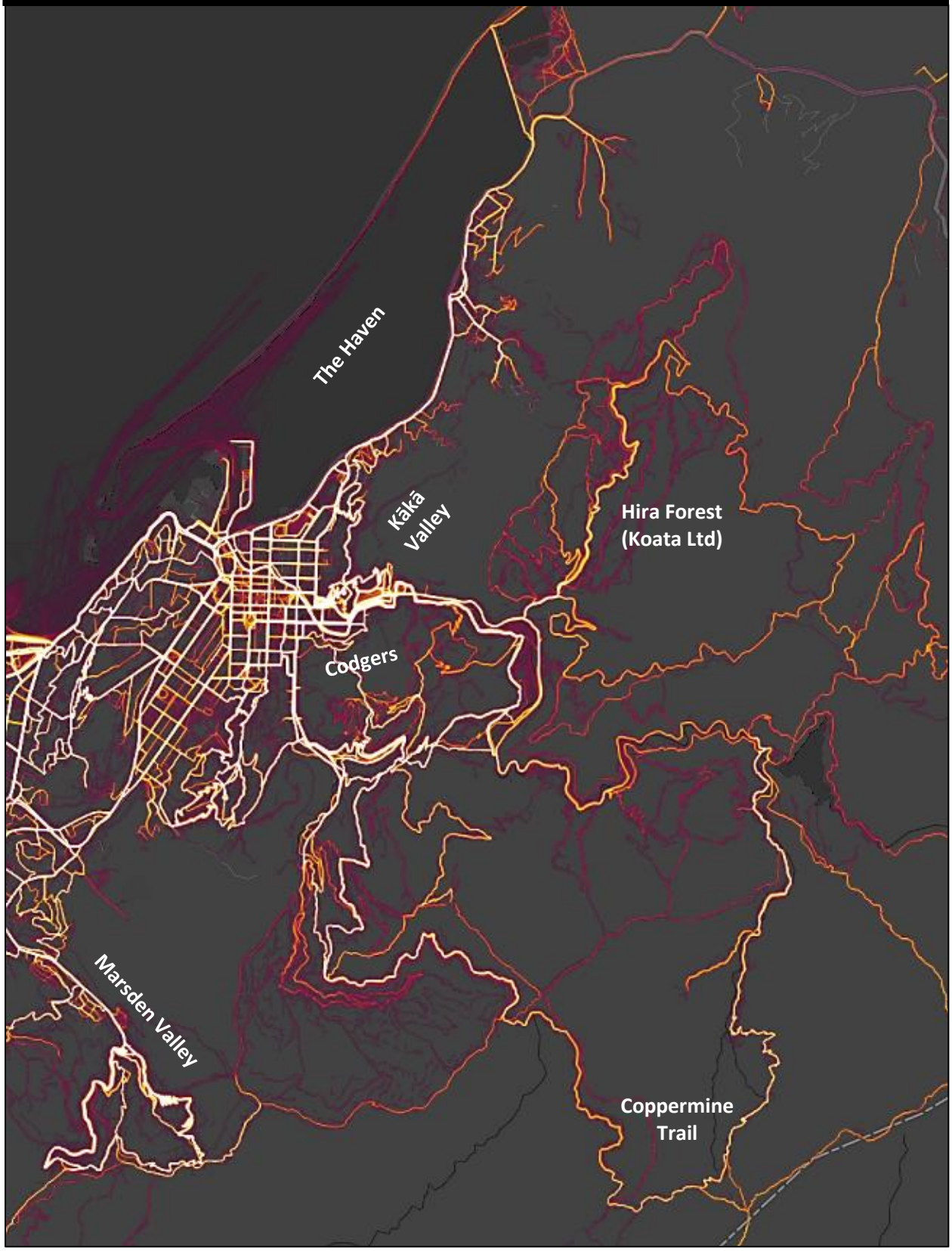


Figure 7: Strava heatmap for Nelson – Running. 12 months of data to March 2022



[62] Figure 8 displays the same Strava data for cycling focused on and around Kākā Valley, with Figure 9 showing running. These indicate the dominance of pedestrian use of the Sir Stanley Whitehead Track and the Centre of NZ (Botanics) area – where cycling is largely restricted – and the preference for cyclists to use the Maitai Road over the Maitahi/Mahitahi riverside track around the Maitai Cricket Ground – whereas runners far prefer the riverside track compared with the road. Many cyclists turn off or onto Maitai Road east of Gibbs Bridge to access or exit the Codgers mountain biking tracks using the riverside track there.

[63] There is no public access to the land within the Plan Change area, and only a very little sneaky running is shown in Figure 9 along the ridgeline between Brooklands and Kākā Valley.

[64] Prior to 2020, public access was permitted over private land along the ridgeline between Brooklands and Kākā Valley between the Centre of NZ and Bay View Road. Figure 10 and Figure 11 show Strava data for 2018 to 2020 for the Kākā Valley area taken from a report that I prepared on another local topic in 2020 (Strava does not provide historic data online). This shows some use of the ridgeline track for cycling (and I mountain biked the route several times in those years), but relatively high use for running (similar to that of the Sir Stanley Whitehead Track). I take this to indicate quite strong existing latent demand for recreational access to this setting.

Figure 8: Strava heatmap for Kākā Valley – Cycling. 12 months of data to March 2022

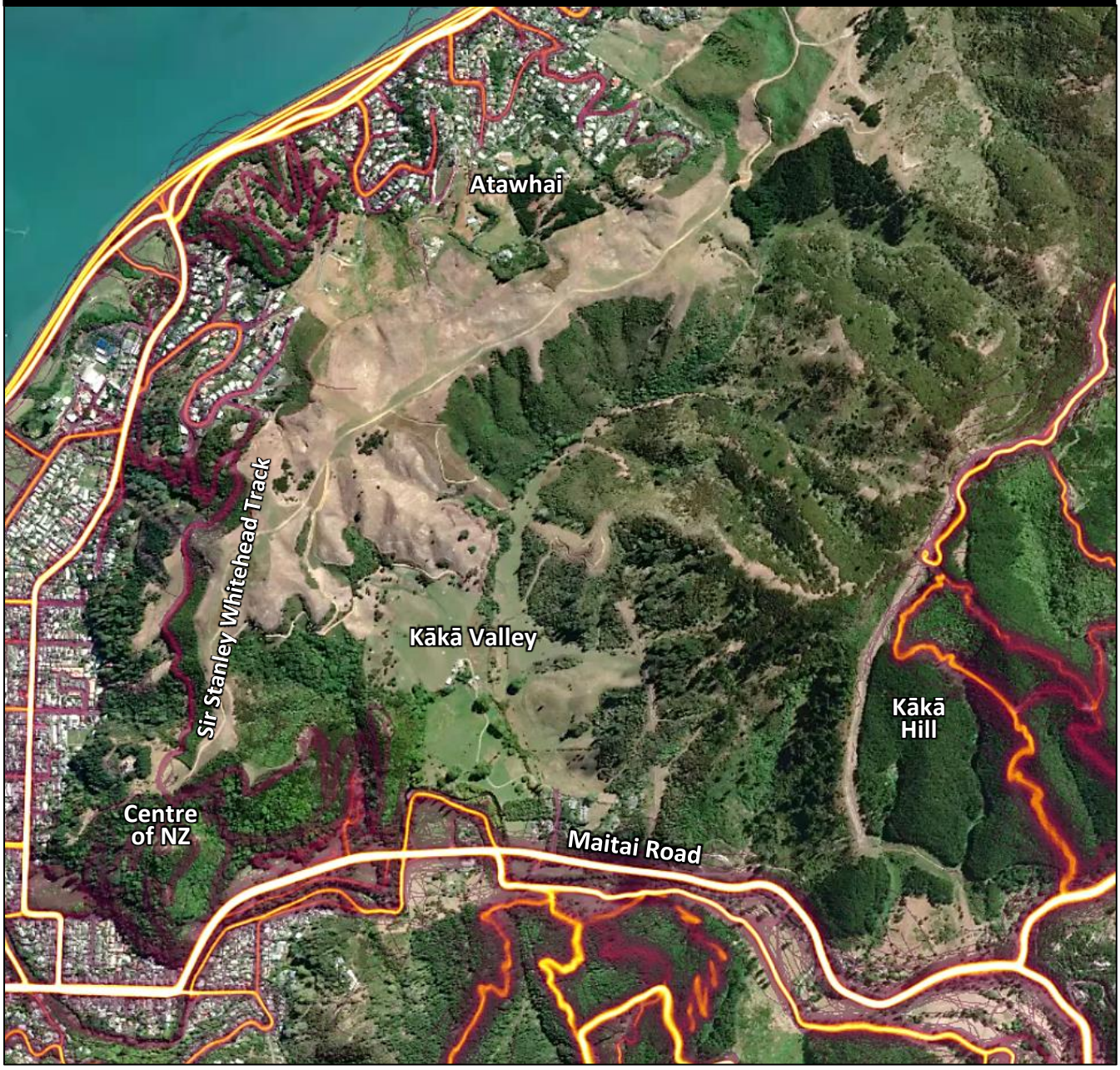


Figure 9: Strava heatmap for Kākā Valley – Running. 12 months of data to March 2022

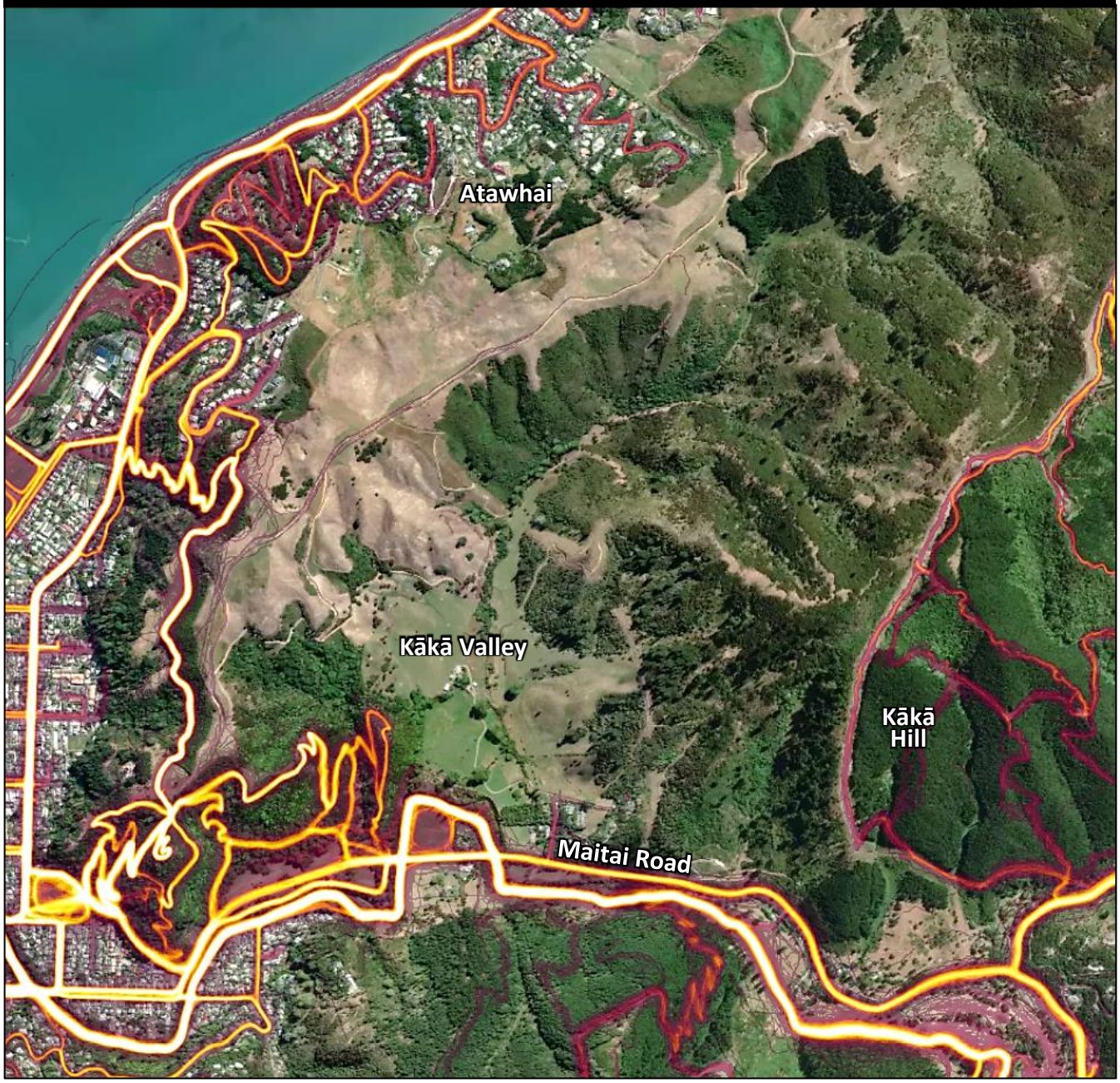


Figure 10: Strava heatmap for Kākā Valley – Cycling. 2018 - 2020

Figure 11: Strava heatmap for Kākā Valley – Running. 2018 - 2020

Maitahi/Mahitahi River user survey 2015

[65] In 2015 I carried out a survey of visitors to the Maitahi/Mahitahi and Roding Rivers to assist the Nelson City Council in reconsenting the water takes for regional supply.[5] Two methods were applied in the Maitahi/Mahitahi Valley – an intercept survey of users of the River and its banks with 419 respondents, and a mail-drop questionnaire delivered to residents living near the River with 102 respondents (from 229 delivered forms).

[66] My key findings were:

(a) The accessibility of the Maitahi/Mahitahi River and its scenic qualities were its top 'best aspects'.

(b) Flow levels were of less interest to respondents than were algae and water quality. Algae and toxic algae were key concerns, although there appeared to be some confusion about what algae is.

(c) Water quality was also a strong area of interest, but what constitutes poor water quality was poorly described, with it including water clarity, algae and 'pollution'.

(d) Residents were more likely to consider the River to have changed for the worse in comparison with other river users, and other river users were more likely to consider the river to be better or the same as when they first visited, rather than worse.

(e) The River was highly valued for recreation and natural and scenic values, and respondents were able to name many more positive aspects than negative ones.

[67] Table 1 and Table 2 list the main and all other recreational activities undertaken by river users from the intercept survey and residents respectively. Cyclists and runner were under-represented in the response set for river users as they often sped past the interview staff and runners are

[5] Greenaway, R. 2015. *Roding and Maitai Rivers User Survey 2015*. Prepared for the Nelson City Council

not keen on cooling down during their activity. Table , for example, shows that resident respondents almost all walked beside the river and for 54% it was their main activity, while 58% swam at some point, but it was the main activity for only 5% of respondents.

Table 1: Activities – river users (n=418)		
	Main	**Other**
Walking	42%	61%
Swimming	28%	63%
Dog walking/swim	10%	17%
Mountain biking	6%	27%
Picnicking	5%	27%
Relaxing	3%	7%
Sightseeing/scenery	2%	5%
Running	2%	10%
Other	2%	
	100%	

Table 2: Activities – residents (n=102)		
	Main	**Other**
Walking	54%	92%
Dog walking	20%	42%
Looking at the water	12%	84%
Swimming	5%	58%
Cycling	5%	46%
Running	2%	5%
Other	2%	
	100%	

[68] Figure 12 and Figure 13 illustrate the location, scale and type of main activity undertaken by river users and residents respectively, as reported in the surveys. River section 4 (indicated in the square boxes which also show the number of responses (*n*) relevant to each river section) included three popular swimming holes – Black, Dennes and Sunday – and was a very popular reach of the River for the intercept survey (although the survey technique means the ability to make absolute comparisons between the popularity of each river section has weaknesses), and had a high level of use for swimming. Walking by the River was by far the more popular main activity for residents, and they tended to use more sections of the lower River equally. It is worth noting that the intercept survey occurred over

summer, when swimming is popular, and the residents' survey considered use all year (residents might swim in summer but walk all year, making walking their main activity). Note also that different colours are used in each figure for each activity (light blue is walking in Figure 13).

Figure 12: River users' Maitai River activities by sites - scaled

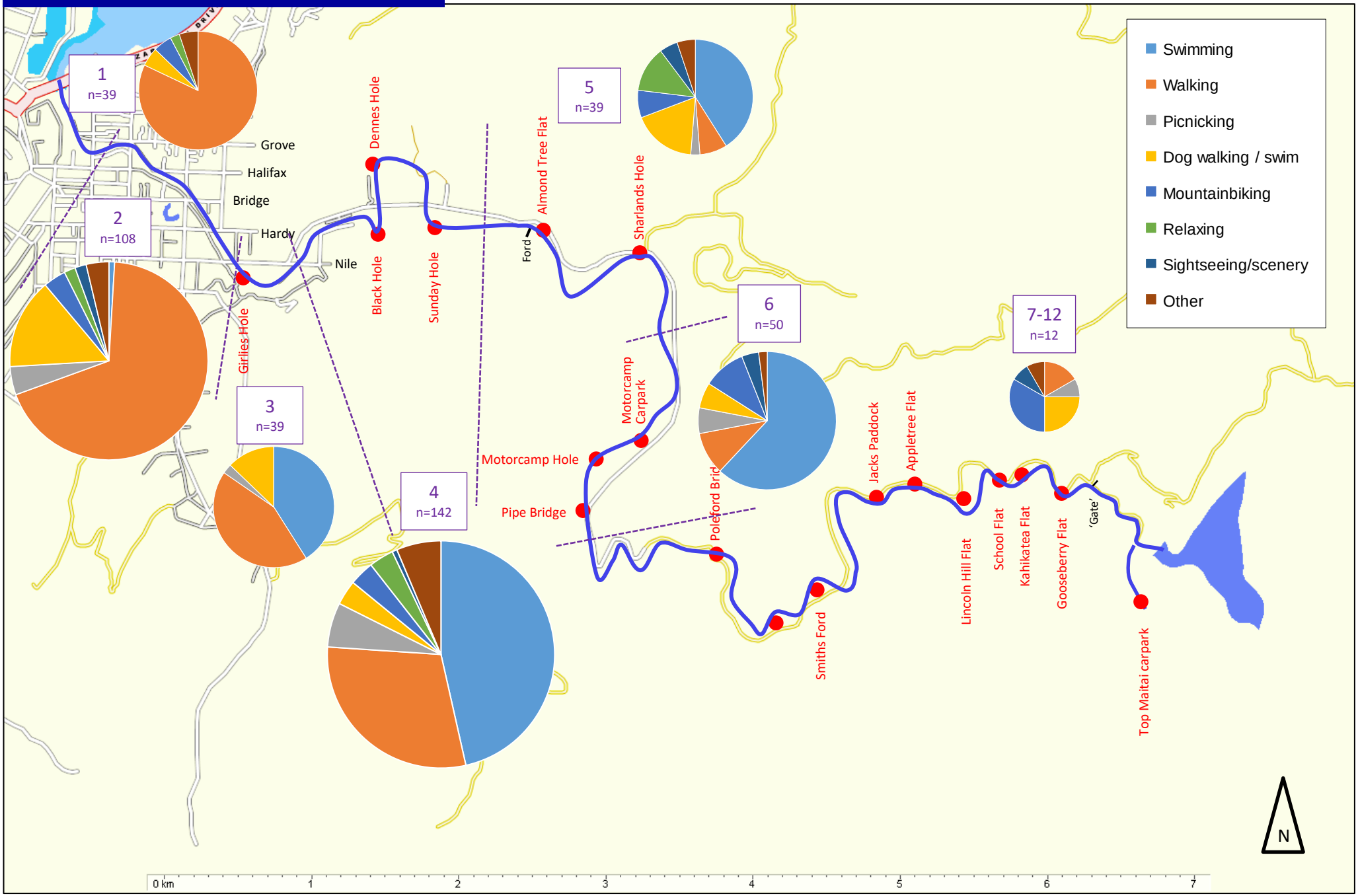
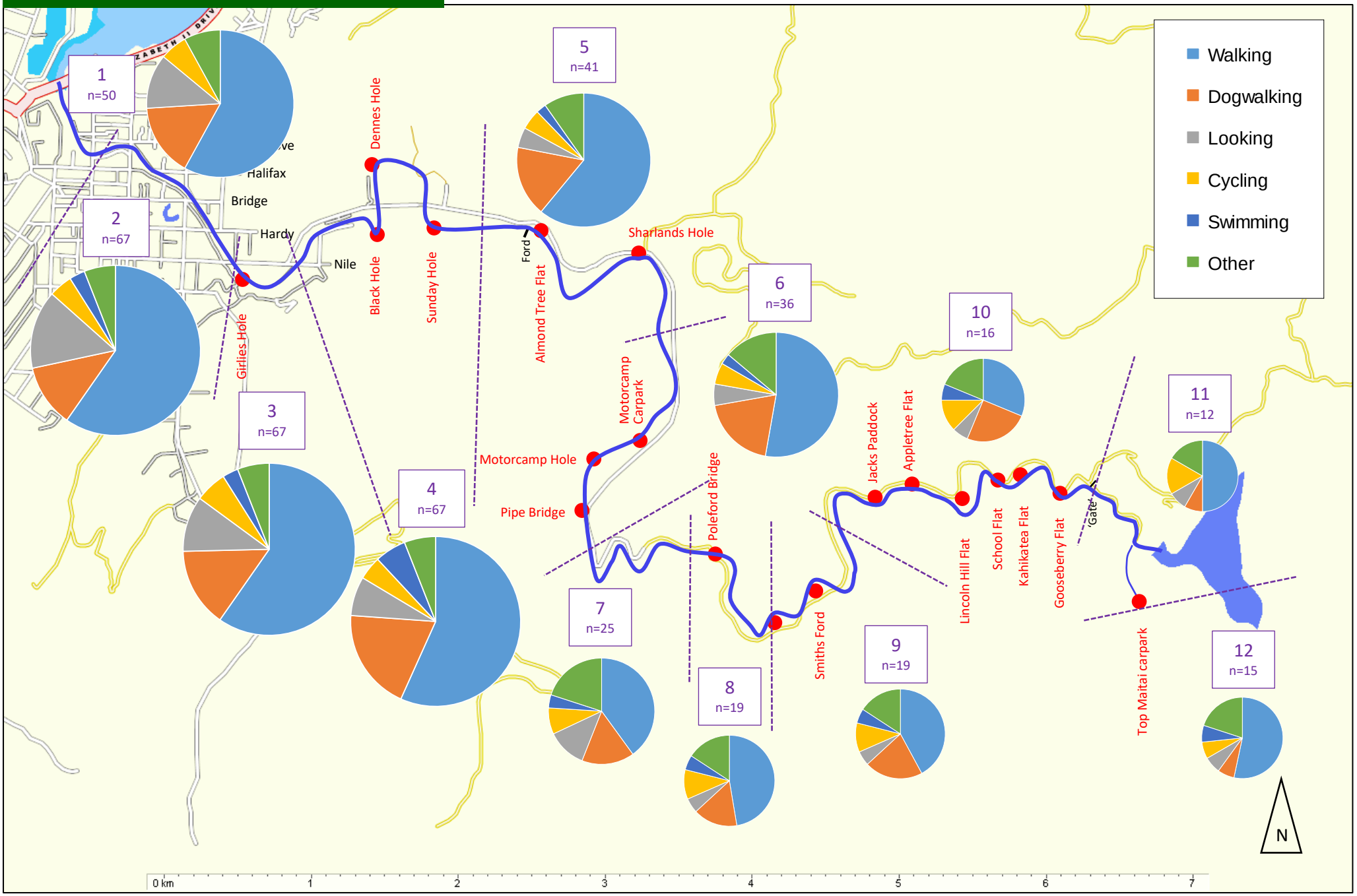


Figure 13: Residents' Maitai River activities by sites - scaled



[69] Figure 16 and Figure 17 show river users' and residents' preferences for improvements to the river setting. These data were based on a closed question with the options of ordering the three top priorities from the following list:

(a) More recreation facilities

(b) Making the river more fish-friendly

(c) More native riparian or riverside planting

(d) Improving water quality

(e) Managing toxic algae

(f) Managing slippery algae

(g) Managing sediment inflows to the river

(h) Improved flood protection works

[70] The figures are ordered by the counts for priority 1 and 2 options. Managing water quality and toxic algae were the top issues, followed by riparian planting and making the River more fish-friendly. Adding more recreation facilities was a low priority.

Figure 14: River users' Maitai River priorities for improvement (count)

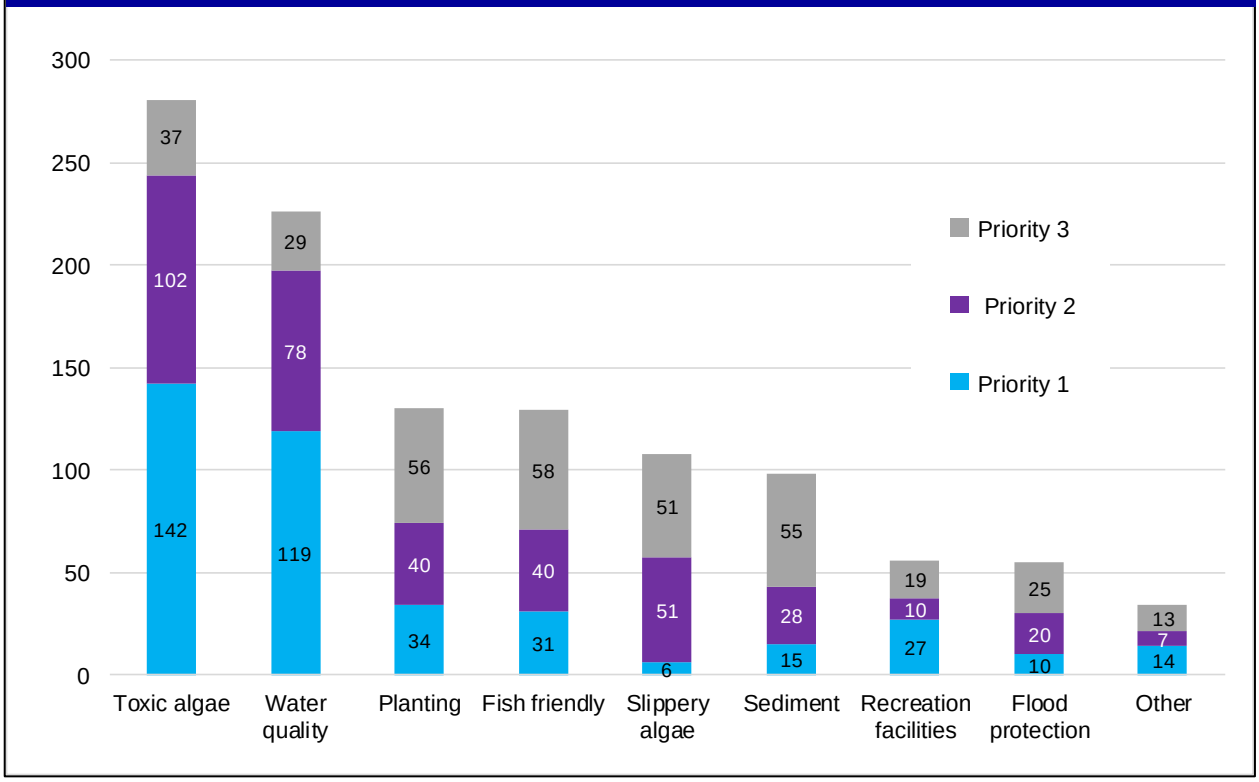


Figure 15: Residents' Maitai River priorities for improvement (count)

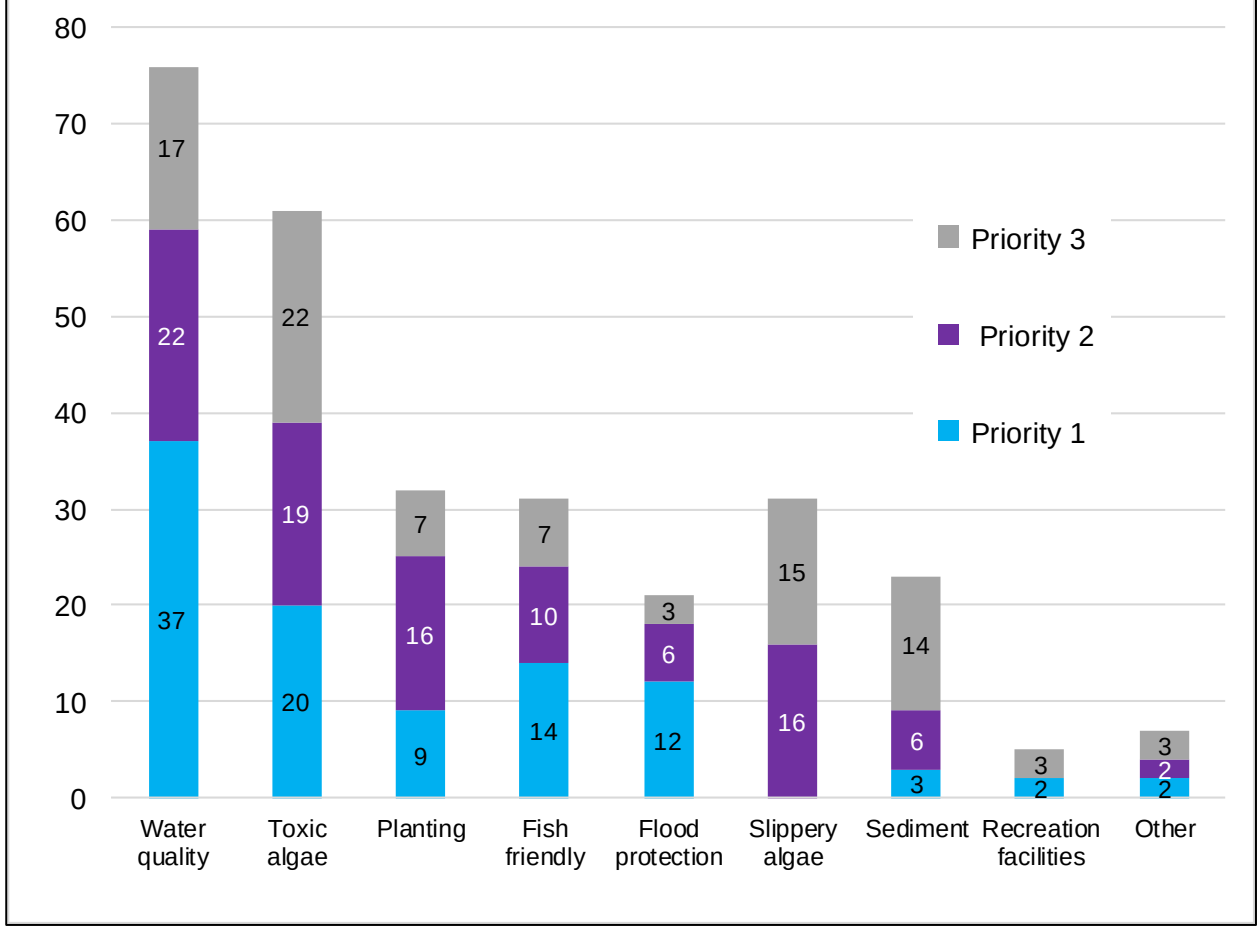


Table 3: Best aspects Maitai River (count)	
Calm atmosphere / peaceful	115
Close to town / accessible	102
Walking / cycling / running tracks	96
Beautiful / nice view/scenic	74
Trees / bush	74
Swimming / swimming hole	70
Clear / clean water	43
Dog walking / friendly/swimming	41
Natural surroundings	41
River	38
Wildlife	33
Family friendly	25
Grass / green	21
Social setting	18
Few people	17
Facilities	13
Large open space	11
Safe	11
Shade	10
Well maintained	9
Changing facilities / toilets	8
Lots of activities to do / multi-use	7
BBQ / picnic area	6
Car parking	6
Jump off rocks / bridge	5
Sunny	3
Easy access to river	1
Warm water	1
Other	60

Table 4: Worst aspects Maitai River (count)	
Algae / bloom / growth	37
Toxic algae / cyanobacteria	34
Mosquitos / sandflies / wasps etc	30
Litter / rubbish	25
Cyclists	24
Dogs / dog poo	22

Water quality	19
Water level low	17
Pollution	12
Dirty water/sludge / gunk / brown stuff in river	12
Slipperiness/slime	11
Crowded (at times)	11
Anti-social behaviour	11
Amenities and facilities lacking	7
Gorse / broom / weeds	4
Access to water	3
Toilets	1
Stones / rocks sharp	1
Drive in on road	1
Other	97

Trout fishing

[71] The National Angler Surveys carried out periodically by the New Zealand Fish & Game Council show a variable level of angler activity in the Maitahi/Mahitahi River comparable with some other local waterways. Table 4 shows the level of angler activity over time on several waterways in the Nelson / Marlborough Fish & Game region, including the Maitahi/Mahitahi River, in angler days and showing one standard error for each estimate.[6]

Table 4: National Angler Survey data 1994 – 2015, Maitahi/Mahitahi River and nearby waterways (Unwin 2016)

Nelson/Marlborough Region

Catchment	Angling water	2014/15	2007/08	2001/02	1994/95
Waimea River	Waimea River	350 ± 110	390 ± 150	240 ± 80	1,780 ± 340
	Wai-iti River	20 ± 20	190 ± 130	30 ± 20	100 ± 50
	Wairoa River	1,310 ± 540	200 ± 120	550 ± 140	280 ± 90
	Roding River			70 ± 60	
	Lee River	10 ± 0	50 ± 50	80 ± 30	130 ± 120
Total, Waimea catchment		1,680 ± 550	830 ± 240	980 ± 180	2,290 ± 370
Maitai River	Maitai River	430 ± 220	60 ± 40	280 ± 170	180 ± 60

[6] Unwin, M. (2016). *Angler usage of New Zealand lake and river fisheries. Results from the 2014/15 National Angling Survey.* Prepared for Fish & Game New Zealand. NIWA client report

[72] John Kent, in his very comprehensive guide to trout fishing in the South Island describes angling on the Maitahi/Mahitahi River (p41):[7]

> *The Maitai River, which drains the Bryant Range and flows west through Nelson city, holds small brown trout and is great for junior anglers. Exotic forestry in the headwaters has had a detrimental effect on the river. The Maitahi/Mahitahi Valley Road provides good access to the middle and upper reaches.*

[73] The Fish & Game New Zealand Nelson/ Marlborough Region *Sports Fish and Game Management Plan 2008* identifies the Maitahi/Mahitahi River as a locally significant fishery.

[7] Kent, J. (2009). *South Island Trout Fishing Guide.* Penguin