

Westpower Limited - Waitaha Hydro Scheme

Recreation Assessment

To: Diana Clendon, Permissions Senior Advisor, Hokitika

From: Ian Wightwick, Technical Advisor – Recreation, Hokitika

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Assyst Request Number: R50630 - Advice required on Waitaha Hydro Concession application

Westpower Limited - Waitaha Hydro Scheme – Recreation Assessment

Summary of the proposal

Westpower Limited has proposed a 16 to 20 MW run-of-the-river hydro-electric power scheme for the Waitaha River.

The Scheme includes a 4-5 m high weir and diversion structure located at the entrance of Morgan Gorge, near Kiwi Flat. A tunnel approximately 1.5 km long will take water from the intake to a powerhouse located below Morgan Gorge, on the true right of the Waitaha River, upstream of the Douglas Creek confluence, with a tailrace returning water to the river at the 'Alpha Creek' confluence.

It is proposed that the maximum volume of water to be diverted from the Waitaha River is 23 cumecs (23m³/s) but the water take will vary depending on the flows of the river and the minimal residual flow¹. It is proposed that there will be a 3.5 m³/s residual flow immediately below the intake at the head of Morgan Gorge. The abstraction reach would include approximately 2600 metres of the Waitaha River, including Morgan Gorge.

The 3.5 m³/s residual flow would be augmented by side streams that flow into the Waitaha River to become more than 4.2 m³/s for 50% of the time above the tailrace at 'Alpha Creek'.

The construction of a road is required from Macgregor Creek to the powerhouse. Access from the power house to the intake at the top of Morgan Gorge would be via the tunnel and helicopter and therefore no new road will be required as part of the scheme to access Kiwi Flat.

The intake, powerhouse and road up Macgregor Creek is located on land within the Waitaha Forest Conservation Area and in the Department of Conservation West Coast *Te Tai Poutini* Conservation Management Strategy is zoned as backcountry-remote.

West Coast *Te Tai Poutini* Conservation Management Strategy

3.6.1 Recreational opportunities

3.6.1.1 Provision and management of recreational opportunities

The West Coast Te Tai o Poutini provides a diversity of recreational opportunities, ranging from those in accessible locations to those in remote areas. Although the majority of people using its public conservation lands are on day trips, undertaking activities such as sightseeing, picnicking and short walks, the Conservancy is also widely recognised as a focus for recreational activities in more remote areas.

Roads provide ready access to a variety of different environments and recreational opportunities. Walking tracks, which range from short, wheelchair-standard nature walks to demanding multi-day

¹ Page iii Volume 1 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

tramps, assist people to appreciate the wild beauty of the West Coast Te Tai o Poutini. Public access to national parks and other public conservation lands is free of charge. Aircraft enable all paying clients, irrespective of age, health or physical ability, the opportunity to appreciate remote and rugged terrain.

The extensive tracts of remote lands, including gazetted wilderness areas, set the Conservancy apart from many other places in New Zealand. Walking, tramping, camping, wildlife viewing, hunting, fishing, caving, climbing, ski-touring, rafting, kayaking, boating, whitebaiting, mountain biking, horse riding, four-wheel driving and recreational gold fossicking may all be undertaken in a natural setting. The more remote localities provide people with the chance to experience solitude, challenge, independence, tranquillity and closeness to nature.

All public conservation lands on the West Coast *Te Tai o Poutini*, including national parks, have been zoned for different types and levels of recreational use. The Department's recreational opportunities spectrum (ROS) framework was used as a basis for creating these recreation zones and public conservation lands on the West Coast are divided into five different zones: (1) gazetted wilderness areas; (2) remote ; (3) backcountry-remote; (4) frontcountry and (5) intense interest sites. During the development of the recreation outcome zones the recreational character, tourism focal points recreational opportunities, existing patterns of use, access and existing authorised uses, including concessions were taken into account. The zoning system identifies broad recreation outcomes at Places, by describing where the major recreational facilities and services are and the areas that will remain free of high levels of public use².

The West Coast Te Tai o Poutini Conservation Management Strategy states that for the foreseeable future it is expected that the majority of people will continue to focus on recreational opportunities such as short walks and visitor centres, although it is likely that there will also be increasing interest in backcountry experiences. The major challenge the Department faces is maintaining the integrity of recreational experiences within the spectrum of opportunities available (e.g. by protecting natural quiet, natural light and remoteness values). In some cases, it may be appropriate to permit an activity to take place at a low level and/or in a restricted area for an initial period, during which time the effects will be monitored closely, or even to prohibit a proposed activity. In other cases, it may be appropriate to expand the scale and/ or level of activity to cater for increasing demand. Management of issues associated with recreation and tourism activities is discussed in Section 3.6.4.

The ongoing interest in outdoor recreation means that there may be demand for new facilities in previously undeveloped areas. If such demands are always met, the qualities of the range of opportunities available in West Coast Te Tai o Poutini public conservation lands will diminish. In some cases, the provision of facilities (such as accommodation) may be more appropriately undertaken outside of public conservation lands. Provision of recreational facilities and management of recreation and tourism concessions are discussed further in Sections 3.6.2 and 3.6.3 respectively.

The objectives and policies presented below describe how the Department will provide and manage opportunities for people to experience public conservation lands in the West Coast Tai Poutini Conservancy as a whole.

² West Coast *Te Tai Poutini* Conservation Management Strategy 2010 – 2020 Volume 1 2010-2020 pages 114

Objectives

- 1. To provide a comprehensive range of recreational opportunities that enable people with different capabilities and interests to enjoy and appreciate West Coast Te Tai o Poutini public conservation lands, whilst protecting natural, historical and cultural heritage from adverse impacts of recreational use.*
- 2. To avoid or minimise conflicts between different users, including people undertaking different types of activities in the same location.*
- 3. To raise awareness of the value (including physical, mental and cultural value) of outdoor recreation for the health of people and communities.*

Policies

- 1. The Department's recreational zoning framework should be used to identify and manage an appropriate range of recreational opportunities within the Conservancy's public conservation lands and to minimise conflicts between different types of recreational uses.*
- 2. The Department's recreational zoning framework and appropriate restrictions on mechanised access and use should be implemented in order to safeguard natural, historical and cultural heritage and the ability of the public to experience solitude, peace and natural quiet in public conservation lands.*
- 3. Recreation opportunities that are based on the special character and features of West Coast Te Tai o Poutini public conservation lands should be provided, taking into account existing opportunities available elsewhere in the country, both within and outside of public conservation lands.*
- 4. When assessing proposals for new activities or facilities, the extent to which those proposals complement existing recreational opportunities within or adjacent to public conservation land, and maintain the integrity of the recreational zone, should be taken into consideration.*
- 5. The reasonable requirements of different groups of people (such as the disabled, the elderly and young children) and the desired recreation outcomes for Places should be taken into account when maintaining or upgrading existing facilities or when considering proposals for new recreational facilities or modes of access.*
- 6. The Department may investigate and, where appropriate, invite and consider concession applications for the provision of new recreational facilities and/or services which may best be provided by concessionaires.*
- 7. Where there is uncertainty about potential adverse effects associated with the provision of recreational facilities or services, a precautionary approach should be adopted in order to ensure that natural, historical and cultural heritage and other recreational opportunities are protected.*
- 8. Sites should be identified for monitoring and assessment of:*
 - o a) the physical and social effects (including cumulative effects) of recreational activities, facilities and services in public conservation lands;*
 - o b) levels of public use and trends in visitation; and*
 - o c) levels of public satisfaction with the range of recreational opportunities provided.*

The information gained from this monitoring should be used to identify measures that can be employed to avoid further effects and to minimise adverse effects that are already occurring.

- 9. The Department should foster realistic expectations by informing potential users and information providers about the recreational opportunities available and the types of experiences and conditions likely to be encountered in different locations.*

10. *All recreational facilities and services should contribute to the quality of people's experiences within the Conservancy. In particular, concessionaires and other operators should assist people to appreciate and care for the public conservation lands that they use.*
11. *The Department should proactively engage with local communities, conservation, recreation and tourism industry associates to identify their expectations for recreational facilities and services on or adjacent to public conservation land.*
12. *The Department should work with local communities to identify, promote and implement opportunities for encouraging more local people to be active more often in appropriate ways on public conservation land and surrounding areas.*
13. *The Department should work collaboratively with other people and organisations to conduct targeted qualitative and quantitative research on recreational users (e.g. monitoring of conflict between user groups) as required.*

See also

Section 3.1.2.5 Protection of wāhi tapu and wāhi taonga

Section 3.2.1 Public awareness and education

Chapter 3.5 Authorised uses of public conservation lands

Sections 3.6.1.2 – 3.6.1.6 (Recreational zones)

Section 3.6.4.2 Aircraft

Section 3.6.4.9 Non-powered vehicles (mountain biking)

Section 3.6.4.12 Powered water craft

Section 3.6.4.17 Vehicle use

Section 3.8.4 Public access

Chapter 4.2, 'Recreation and tourism in 2020' (all Places)

Maps 7, 9, 11, 13, 15, 17 and 19a-c (recreation outcome maps)

Conservation General Policy 2005, Policies 9.3(a)-(b)³

Backcountry - remote zone

The proposed location of the Waitaha Hydro Scheme is located in the Backcountry – remote zone within the Hokitika Place.⁴

The 'backcountry-remote' zone provides opportunities to access extensive natural settings where facilities are provided but a considerable degree of physical challenge, self-reliance and isolation is involved. Although users of these areas usually travel in groups for company and safety, the expectation is that groups will generally be small and that encounters with other groups will be infrequent, except on a limited number of high-use tracks (see Appendix 7) and rivers (see Section 3.6.4.10). Huts and tracks that see relatively little use provide the opportunity for solitude for those who seek a greater sense of isolation and challenge but still need the security of some facilities, especially with the topographical difficulties and climatic extremes regularly encountered on the West Coast Te Tai o Poutini. Overnight use is more intensive at some sites and at certain times of the year.

³ West Coast *Te Tai Poutini* Conservation Management Strategy Volume 1 2010-2020 pages 114-117

⁴ Map 17 Hokitika Place recreation outcomes page 240 West Coast *Te Tai Poutini* Conservation Management Strategy Volume 1 2010-2020

Within the backcountry-remote zone an extensive network of backcountry facilities (such as roads, routes, tracks, huts, bridges, cableways and signs) and road-end facilities (car parks, shelters, track information) provide access to a wide range of backcountry experiences. Many of these facilities pre-date the establishment of the Department of Conservation (1987) and were originally provided by the New Zealand Forest Service for their wild animal control operations. As a result, many of the huts, tracks and bridges were not designed primarily as a recreational resource, although from the outset they were available for recreational use. Trampers, climbers, hunters and fishers have traditionally used these facilities and, in the past, access has been largely on foot. However, in some places these patterns are now undergoing change as new activities (e.g. kayaking, rafting, mountain biking) create demands for access to areas in the backcountry-remote zone. Increased use is also now being made of air access (see Section 3.6.4.2) for both new and traditional forms of backcountry recreation.

Hokitika Backcountry

New Zealanders continue to regard the extensive Hokitika backcountry as the country's backcountry adventurer 'capital', because of the comprehensive network of backcountry tracks, routes and huts. Opportunities range from multi-day valley and trans-alpine tramping via remote and challenging terrain, to day tramps and weekend trips to accessible huts or natural hot pools (the latter are found in several valleys, including at Cedar Flats in the Taipo valley (and Morgan Gorge in the Waitaha valley). A number of tramping tracks and historic huts are associated with historic routes across the Southern Alps Kā Tiritiri o te Moana, especially Harper Pass Noti Taramakau, Browning Pass Noti Raureka and Whitcombe Pass Rakaia Wai Pakahi. Numerous opportunities exist for extended north to south traverses utilizing routes and passes into the Newton Saddle, Mikonui, Tuke, Mungo and Waitaha catchments. Circuitous routes are also available, such as the Scamper-Torrent circuit up the Waitaha Valley and down the Smyth Range.

Recreational facilities are generally concentrated on valley floors along the more popular tramping and traditional access routes. However there are several huts, ridge routes and a few bridges specifically sited to maximise 'non-tracked' linkages between valleys. Such facilities include Bluff Hut, Sir Robert Hut, Moonbeam Hut, County Stream Hut, County Junction swingbridge, Price Basin Hut and Ivory Lake Hut⁵.

Westpowers' assessment of the recreation use and facilities in the Waitaha Valley

The recreation and tourism assessment of effects provides a detailed description of the recreation opportunities, facilities, management and levels of recreation use that the Waitaha catchment receives.

Westpower correctly identifies that people are attracted to the Waitaha River and catchment for whitewater kayaking, tramping and hunting. No angling occurs above the Morgan Gorge and the river is rarely jet boated and then only in the lower reaches. There is little or no commercial guiding in the Waitaha Valley.

A small scale gold mining operation using hand tools and a small suction dredge is authorised to operate between Kiwi Flat and Douglas Creek.

⁵ Desired outcome for Hokitika place page 248 West Coast *Te Tai Poutini* Conservation Management Strategy Volume 1 2010-2020

Westpower identifies although there is a low level of use for the recreation activities undertaken in the Waitaha Valley, the remote and challenging recreation experiences available are highly valued by users.

Summary of recreation use and facilities in the Waitaha valley

The Waitaha valley is used by a low number of trampers, mountaineers, hunters and kayakers.

The Department of Conservation maintains a marked route⁶ up the true right (north bank) of the Waitaha River to the top of Morgan Gorge, crossing the Waitaha River at this point and continuing up the true left to the 6 bunk Kiwi Flat Hut. (allow 2.5 – 4 hours from the road end to Kiwi Flat).

The Permolat Trust under a management agreement with the Department maintains marked routes up the Waitaha Valley from Kiwi Flat to the 6 bunk Moonbeam and Top Waitaha huts as well as a route from the Waitaha River to the 6 bunk Country Stream Hut and to the 4 bunk Scamper Torrent Hut⁷.

From Country Stream Hut people can access the 6 bunk Smyth hut in the adjacent Wanganui River catchment, via the Smyth Range. From Top Waitaha Hut foot access continues to the 6 bunk Ivory Lake Hut. Foot access to Ivory Lake has always been somewhat of a challenge due to its remoteness and uncompromising rough lower stretches of the Waitaha valley. This became more so when DOC ceased maintaining the mid and upper valley tracks in the 1990's. Fit and experienced trampers can expect to take 2 -3 days to make the journey from the Waitaha road end to Ivory Lake⁸.

The Department of Conservation supports Westpowers' estimate that that approximately 50 hunters use the Waitaha Valley area annually and fewer than 150 trampers and day visitors access Kiwi Flat annually⁹.

Huts book records show that visitor use of Kiwi Flat Hut peaked in 2012 with approximately 123 people per annum recorded as staying in the hut and 37 people per annum recorded staying at Ivory Lake in 2014¹⁰.

Huts book records show that visitor use of Country Stream hut peaked in 2010 with approximately 17 people per annum recorded as staying in the hut and 35 people per annum were recorded as staying at Scamper Torrent hut¹¹.

⁶ Routes are described as challenging overnight tramping/hiking, track unformed and natural, may be rough and very steep, suitable for people with a high level of backcountry skills and experience, including navigation and survival. Be completely self sufficient, track has markers, poles or rock cairns, expect river crossings, sturdy tramping/hiking boots required.

⁷ Management Agreement between Permolat Trust and Direct-General of Conservation dated 2 October 2014

⁸ <http://remotehuts.co.nz/huts/ivory/>

⁹ Page 6, Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

¹⁰ Department of Conservation, annual hut book/bednight data - AMIS.

Whitewater kayaking in the Waitaha valley

Westpower estimates that the total number of kayakers using the Waitaha River would be approximately 50 per year. The Department consider that this appears to be a fair assessment and matches the estimate in the River Values Assessment Method (RiVAS) assessment in 2009¹².

Westpower comments that owing to the very challenging nature of the kayaking and the advanced skill level required to paddle the Waitaha River the number of people able to paddle it is small and those able to paddle the upper Waitaha River and the Morgan Gorge is a subset and these runs can only be paddled by experts.

Westpower refers to the guide book Charles, G (2006) New Zealand Whitewater: 125 Great Kayaking Runs 4th edition for a description for the kayak runs on the Waitaha River¹³ and comments that the Waitaha River is awarded national status and Charles (2013) calls it one of the best runs in the country.

Updated information on the Waitaha River is provided in G Charles in New Zealand Whitewater 180 Great Kayaking Runs 5, revised edition 2013. In this Guidebook the Waitaha River is described *as one of the best runs on the West Coast and thus one of the best in the country, this is a step up from the Arahura and Whitcombe – it even has a lovely wander through lush forest near the end!*¹⁴

Graham Charles¹⁵ describes the Waitaha River from the just above Moonbeam Hut as Class IV-V+¹⁶.

¹¹ Department of Conservation, annual hut book/bednight data – AMIS

¹² Refer Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014, (Appendix 4 Analysis output from RiVAS (Booth et al 2009). *Note Whitewater NZ comment that Booth 2008 estimate 100 users per annum refer additional Information from Whitewater NZ on the proposed Westpower Waitaha Hydro Scheme, Douglas A Rankin page 6, 1 May 2015 and that this perhaps gives a misleading impression of the use and therefore the value (use is associated with value but not necessarily the key determinant of value) of the Waitaha River.

¹³ Page 35, Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

¹⁴ Page 35, Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

¹⁵ New Zealand Whitewater 180 Great Kayaking Runs 5, Graham Charles Revised Edition 2013 page 232

¹⁶ *The whitewater grading system gives a loose expression at best. (running a Class V rapid on a flooded West Coast river four hours from the nearest vehicle access is very different to a sunny day, roadside, well known Class V) Ratings are no substitute for your own experience.* New Zealand Whitewater 180 Great Kayaking Runs 5, Graham Charles Revised Edition 2013 page 11. The ratings are popularly agreed upon whitewater grades similar to the western United States and Europe. The + and – ratings add a little more subtlety and depth, but do not indicate the difference between big water and technical commitment. To this extent there are 21 grades- seven base grades with each one carrying the possibility of being slightly harder or easier. The usual subjective warnings about risks to life and the possibility of dying are not included. Class IV is described as difficult rapids requiring a series of controlled moves, cross current and spinning confused water. Scouting often necessary and a reliable roll is mandatory. Class V Very difficult, long and violent rapids. Nearly always

“The normal put in is just above Moonbeam Hut. A short warm-up and Class IV boulder gardens lead down to ‘the ‘big drop’, an obvious slot between two giant boulders and a HUGH hole at the bottom. Good luck and keep the ropes handy. Clear of this some more boulders take you into an easy gorge and a chance to relax and enjoy the scenery. The tunnel section is next up and has three big rapids in a row culminating in The Tunnel. This is a fabulous stretch of water and is all portageable if needs be. The river takes a break for a while and pushes through a couple of gorges. You’ll come to an obvious rapid which runs hard into a wall and then turns hard right through a very small gap. Either run the rapid or portage on the right and seal launch off the obvious break in the cliff into the run out of the rapid. Things ease after this down to the portage. Once down to Morgan Gorge, find the track on the true right (this is a new track (2012) and it will improve and get amongst it. The portage is hard work no matter who you are. If it is your first time it is a good idea to stick together as it is very easy to wander off the track and waste time trying to find each other. Put back in whenever you feel the urge. There is still some solid Class IV boating (which feels harder because you’ll be knackered) before the gradient eases right off for the run down to the take out and the walk up to the cars”.¹⁷

Andy England also describes the most common run on the Waitaha River being from above Moon beam Hut to the head of Morgan Gorge (7.5 km) with parties undertaking a 2 hour portage to bypass Morgan Gorge, putting in again at the bottom for the gorge for an approximate 5 km paddle to the take out point on the true right of the river below Robinson slip¹⁸.

Whitewater NZ describe that the reach below Morgan Gorge can be Class (Grade (V) depending on where the river is accessed, and this reduces to Class IV, and finally II as the gradient lessens as the river is descended. This section of the river can be accessed from the road end. It offers the opportunity for kayakers to access the river at different points commensurate with their ability and the degree of challenge they would like to experience they would like to experience and run. It also offers kayakers a chance to test themselves on more difficult white water piece by piece, a classic technique where ‘creek’ boaters learn the art of making steep descents by running one rapid, then another above it, and so on, until the whole difficult and steep run can be linked together¹⁹.

must be scouted. Definite risks in the event of mishap. Requires a series of controlled, precise, ‘must make’ moves to navigate successfully.

¹⁷ New Zealand Whitewater 180 Great Kayaking Runs 5, Graham Charles Revised Edition 2013 page 232

¹⁸ An assessment of the whitewater recreational values of West Coast rivers – whitewater kayaking, Andy England, LEaP Research Paper No 2 January 2011, Lincoln University Canterbury NZ – Waitaha River.

¹⁹ Additional Information from Whitewater NZ on the proposed Westpower Waitaha Hydro Scheme, Douglas A Rankin page 8, 1 May 2015.



An easier small gorge feature on the middle Waitaha Gorge run. (Photo: Zak Shaw Photography)

The Morgan Gorge

Graham Charles, New Zealand Whitewater 180 Great Kayaking Runs, 5th Edition provides a *Very Hot Tip Morgan Gorge is an unreal place – but think carefully about timing and flow before heading in.*

Don't go into Morgan Gorge the hot tip used to say. I should know... I wrote it. I must've forgotten as we sat at the entrance to the gorge in January 2002. We had run the river in four hours and arrive at the portage around the gorge in the early afternoon. When we flew over the gorge it looked like some good lines existed and there were some portages around the impossible stuff. Like moths to a flame we were all drawn to the excitement of the unknown. Like a lost world the twisting corners kept things hidden, there were some hard drops, some mandatory portages and we were in up to our armpits. We made it over halfway through before we met our nemesis, a rapid no one wanted to try, but with no way back and no way around. We left the boats and began the climb up the only possible break in the vertical moss walls. We made the cars that night after seven hours of walking and bush crashing. The boats took a further nine hours the next day after we abseiled in and hoisted them out and carried upstream and eventually around the gorge. It wasn't until 2010 that a strong local team ventured back in, had good water levels for it and put what was left to rest. It's very flow dependent and even strong teams still have to climb out if levels aren't right."

Ian Wightwick²⁰ met with Matt Bennett and Doug Rankin from Whitewater NZ and Mick Hopkinson of the New Zealand Kayak School on 4 November 2014 to ensure that the kayaking values of the Waitaha River were understood by Department of Conservation.²¹

Mr Wightwick also met with kayakers²² who have made runs of the Waitaha River, including descents from near Ivory Lake, the Windhover Gorge and Morgan Gorge so that the Department can describe the put in and take out points for each section of the Waitaha River, when the sections were paddled, a description of the technical nature of the white water, a description of the water landscape (water quality and river features), description of the valley landscape, description of degree of wilderness, notable flora and fauna, a description of the overall character of the section of river and distinctive features of the trip on each section of river (key words)²³. The comments from Whitewater NZ and kayakers who have made runs on the Waitaha River are incorporated into this report below.

Since 2010 a few strong and experienced kayakers have made descents of the Morgan Gorge. Whitewater NZ commented that the white water in the Morgan Gorge is described as very committing and 'pushy' (powerful) because of the very constricted nature and gradient of the river channel in the bedrock down through which the water flows. There are distinct white water rapids with 'calmer' spots in between. Due to both flow properties and bedrock structure the rapids

²⁰ Department of Conservation Technical Advisor – Recreation – Hokitika

²¹ Conservation Act 1987 section 17S(4) (a) The Minister may, at the expense of the applicant,—

(a) commission a report or seek advice from any person (including the Director-General) on any matters raised in relation to the application, including a review of any information provided by the applicant:

²² Keith Riley, Kevin, England, Blair Trotman, Barney Young, Zak Shaw, Justine Venables and Phil Johnston

²³ E mail from Ian Wightwick to to Doug Rankin, WhitewaterNZ 18 November 2014

contain a wide variety of hydraulic features, including breaking waves, boils, holes, slides, drops and eddies, some of which are large and characteristic²⁴.

Parties have returned to complete a run of the Waitaha River with a decent from just over 1200m near Ivory Lake to Top Waitaha Hut in January 2012²⁵. This added two days of exceptionally hard kayaking and portaging on top of the classic run. At this time they portaged Windhover Gorge, but in January 2013 the final piece of the puzzle in the Waitaha was completed, with a descent of the Windhover Gorge to Moonbeam Hut²⁶.



Matt Coles running the first part of the top drop in the Windhover Gorge (Photo: Zak Shaw Photography)

Kayakers described that the Morgan Gorge section includes a unique and confined bedrock gorge containing continuous rapids and drops of a different character than the other sections of the Waitaha River.

Whitewater NZ comment virtually all the data in the application which examines the significance of the setting to kayakers refers to that around Waitaha Gorge run. An understanding of all the kayak

²⁴ Page 6 Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015

²⁵ Keith Riley, Zak Shaw, Willam Martin, Paul Currant and Justin Venable

²⁶ As per comms Keith Riley, Kevin, England, Blair Trotman, Barney Young, Zak Shaw and Phil Johnston 27 November 2014

runs on the Waitaha River is needed because the proposed development will impinge on them all, in one way or another²⁷. *In particular the river is recognised by kayakers as having one of the greatest concentrations of high class runs in a pristine West Coast wilderness setting in New Zealand, with some outstanding natural features (the Morgan Gorge and other gorges). This elevates the status of the importance of the river to above other rivers or runs where perhaps only one high Class run is present, where the wilderness and wild and scenic values may not be as high, where flow reliability may not be good, and where the natural environment and river features (eg gorges, bed and bank features) may not be as spectacular²⁸.*

A summary of comments from those who have paddled the Waitaha River are:

Paddling the upper Waitaha River and the Morgan Gorge is described by kayakers as the pinnacle of hard whitewater kayaking experiences available in New Zealand and around the world.

Kayakers describe the Waitaha as pristine water, huge beautiful schist boulders and vertical dramatic gorge walls overhanging in places. The dramatic cascading and complex rapids are of exceptional international quality.

The Waitaha River is a remote, pristine wilderness with stunning scenery. Kayakers have described the Waitaha River as one of the most dramatic and inspiring landscapes in the entire world²⁹.



²⁷ Additional Information from Whitewater NZ on the proposed Westpower Waitaha Hydro Scheme, Douglas A Rankin page 8, 1 May 2015.

²⁸ Additional Information from Whitewater NZ on the proposed Westpower Waitaha Hydro Scheme, Douglas A Rankin page 8, 1 May 2015.

²⁹ As per comms Keith Riley, Kevin, England, Blair Trotman, Barney Young, Zak Shaw and Phil Johnston 29 November 2014

Mikey Abbott kayaking through part of the water sculpted and smoothed Morgan Gorge (Photo: Dave Kwant)

Helicopter access and the huts in the Waitaha Valley allows for multiday trips for kayakers who want to 'step up' to this challenge.

Future use of the Waitaha River by kayakers

It is difficult to predict potential future use of the Waitaha River, including Morgan Gorge. Westpower comments *that fewer than 10 individuals might kayak the upper Waitaha Gorge and/or Morgan Gorge in any one year, although these sections might not be run at all for long periods, and there is a limited pool of suitably skilled kayakers*³⁰.

This reflects current use of these sections of the Waitaha River, however, improvements in gear and equipment have made it possible for sections of rivers such as the Morgan Gorge to now be paddled, that were until recently considered too challenging to be paddled. Whitewater NZ commented that as very challenging and technical rivers such as the Waitaha are paddled more often, the aspiration by paddlers to complete such runs on the river can increase. An increase in the number of people being taught kayaking skills via polytechnic and clubs can also see more people developing the necessary experience and expertise to undertake kayak runs such as those found on Waitaha River³¹.

Waitaha Hot pools

Hot pools are located on the true left of the Waitaha River near the bottom end of the Morgan Gorge. Access to the hot pool is quite challenging and requires either fording the Waitaha River below Morgan Gorge or tramping up to the Morgan Gorge swingbridge and back down the true left of the gorge.³² People are required to climb down a steep section of rock, immediately beside the river to access the pools. A record of the use of the hot pools is not kept, however, the Department agrees with Westpower's comments that due to the difficulty of access the number of people visiting the hot pools is considered to be low³³.

The potential effects of the hydro proposal on recreation use of the Waitaha Valley

The potential effects of the scheme on recreation use of the Waitaha Valley will include:

- The effects of the construction of the access road, tailrace, powerhouse, tunnel and weir.
- The presence of the access road, tailrace, powerhouse, tunnel and weir in the backcountry-remote setting.
- The presence of the weir and intake on an otherwise natural and unmodified river.

³⁰ Page 53, Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

³¹ As per comments with Whitewater NZ and NZ Kayak School 3 November 2014

³² <http://www.nzhotpools.co.nz/hot-pools/waitaha-river-hot-springs> 21 January 2015

³³ Page 49, Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

- Reduced opportunity for kayakers to paddle the Morgan Gorge and the section of river from the bottom of the gorge to the tail race as a result of diverting up to 23m³/s from Morgan Gorge to 'Alpha Creek'.

The construction of the access road, tailrace, powerhouse, tunnel portal and potential effects on recreation use of the area.

Walking up the Waitaha Valley starts at the end of legal road on the true right of Waitaha River, approximately 4km below Macgregor Creek. From the car park, people pick their way up the riverbed beside farmland to Macgregor Creek. From Macgregor Creek people follow the river bed and low terraces for around an hour and the track then leaves the river and climbs and follows a series of benches above Morgan Gorge to the swingbridge at the bottom of Kiwi Flat.

An unsealed access road is required to be constructed from Macgregor Creek to the site of the tailrace, power house and tunnel. The access road over public conservation land will be approximately 1.7 – 2.00 km in length depending on final alignment. The road may be up to 7.5m wide³⁴.

The tunnel portal exit, penstock, power house, switchyard and tailrace will be established on a grassy /shrub terrace between a steep bluff and Alpha Creek. The area is approximately 1.7 ha. The overall footprint of the powerhouse is 30m x 15m and up to a maximum height of 10m above ground³⁵. The powerhouse will be a concrete structure which will house two turbines, generating equipment and the control room.

³⁴ Refer Vol 1 Appendix 4 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

³⁵ Page 42 Refer Vol 1 and Appendix 1 Map 6 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014



Photo simulation of powerhouse refer Appendix 9 – WHS. (note a darker colour scheme is being reconsidered to minimise the impact of the structure on the setting and a separate assessment on the visual amenity effects is being carried out)

The switchyard will be about 20m x 20m and there will be a 66kV transmission line leaving the switchyard to take power away. The transmission line will be carried overhead on poles and follow the access road.

The tailrace will extend from the powerhouse to discharge water to the Waitaha River. The tail race will be about 5m wide at the base and 3 m deep, with approximately 2 to 1 batters and a 20m top width.

The powerhouse site will require flood protection works, most likely to consist of an armoured-rock stop bank up to 1m high with a 4m wide top, extending from the toe of the terrace to the powerhouse. Flood protect will also be required at Alpha Creek, downstream of the powerhouse to protect the access road and tailrace.

A precast concrete tunnel portal will be required at the power house site to protect the tunnel from slips and rockfall.

Comment

The access road would have a physical presence in what is the start of a largely unmodified natural environment. The new access road would however, provide improved foot access up the lower Waitaha River to the start of the tramping track near the powerhouse.

The public will still not be able to drive to Macgregor Creek and along the new access road over public conservation land due to access over sections of the road lower down the valley being located on private land.

The physical presence of elements of the power scheme including the access road, tunnel portal exit, penstock, power house, switchyard and tailrace will affect the remote like characteristics of the area. This is predominately due to the industrial style modification occurring within an area that currently contains very little modification within the backcountry- remote zone.

Westpower states that the powerhouse, switchyard and tailrace occupy a discrete footprint downstream from Morgan gorge. Westpower comments that the visual effects of the power house will be mitigated by using a colour pallet to minimise its impact on people visiting the area. Additional vegetation will be used to screen the visual prominence of the powerhouse and switchyard. The alignment of the access road and the transmission line will avoid where appropriate, any large individual or stands of mature trees between Macgregor Creek and the powerhouse area.

Westpower states that noise emissions from the ongoing operation of the scheme will be low in comparison with the relatively high levels of ambient noise from the Waitaha River and that any potential noise effects will be no more than minor for recreational users in the area.

Westpower commented that in recognition of the potential construction effects, and to address changes in recreation amenity generally the existing foot track on the true right may be realigned to avoid leading visitors to or past development areas³⁶.

Westpower commented that to mitigate impacts of the hydro scheme and improve tramping access into the valley they could provide enhanced foot access or an alternative foot access track on the true left of Morgan Gorge (if landowner approval was gained) as this would give better access to the hot springs and views into the Gorge, and reduce interaction with the Scheme head-works at Kiwi Flat³⁷.

Westpower proposes that a special condition be included in the concession:

- 17.2 Subject to the agreement of the Grantor, the Concessionaire shall provide alternative track access on the true right of the Waitaha River for recreational visitors between Macgregor Creek and Kiwi Flat.

This shall be provided and maintained at the Concessionaire's expense for the duration of the Concession, and routed to avoid the powerhouse site construction area.

³⁶ Page 14, Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

³⁷ Page 66, Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

The Department considers that Landowner approval to shift foot access back to the true left of the Waitaha Valley is unlikely to be provided.

On 21 October 2014 the Department requested additional information from Westpower to detail the location and feasibility of constructing an alternative track on the true right to allow people walking to Kiwi Flat to avoid both seeing and hearing the powerhouse.

On 16 January 2015 Westpower confirmed that it is viable to construct a track via Alpha Creek to reach a higher terrace and bypass the powerhouse site and that this could potentially be of a higher standard and improved grade to the existing track to Kiwi Flat. (refer Appendix 1 of this report) .

The Department considers that the construction of this alternative track away from powerhouse will help to minimise the impact of the scheme, particularly for those people who tramp down the Waitaha Valley.

Note, a section of track from the high level route to the Waitaha River, immediately below the gorge will need to be retained to allow kayakers portaging Morgan Gorge to re-enter the river above the power scheme.

The proposed Special condition 17.2 should remain and include the maintenance of access around the power house to Tramping Track Standard³⁸ described in the New Zealand Handbook Tracks and Outdoor Visitor Structures SNZ HB8630:2004.

Kayakers walking into the lower Waitaha River and putting in near the bottom of Morgan Gorge will need to continue to walk directly past the proposed powerhouse site and access around the power house and associated infrastructure will be required to allow foot access to Morgan Gorge.

Over time, deer may return to the flats around the around the powerhouse and a small number of hunters may also want foot access around the powerhouse. Westpower should continue to provide this access.

Intake channel, tunnel portal and weir at the head of Morgan Gorge

The proposed hydro scheme is a run-of-river design to avoid the need to develop a large scale dam structures, impoundment and water storage lakes.

The proposed intake infrastructure consists of a low weir across the river, an intake channel and tunnel portal on the true right bank of the Waitaha River at the head of Morgan Gorge refer photo simulation below.

Infrastructure includes an underground sediment settling basin, collection channel and penstock intake and a sediment flushing tunnel, a tunnel to access basin for maintenance and a main tunnel portal and intake. The infrastructure takes the river flow to the intake gate and incorporates a channel and gate to sluice sediment past the intake. An intake gate housed at the start of a roofed culvert would convey the flow into the tunnel. A second intake gate mounted in a shaft constructed in the natural rock face is to allow water intake during high flood periods when the lower gate will be subject to high sediment load.

³⁸ Refer Appendix for description of the standard for a tramping track

A permanent foot access track will also be required from the existing DOC track on the true right of the river at the top of the Morgan Gorge down to the intake site. Westpower state that the track would be constructed to DOC standard with vegetation clearance kept to a minimum.

It is recommended that should the hydro scheme be approved and additional special condition be included:

The Concessionaire shall build and maintain foot access from the existing track on the true right of the Waitaha River to the intake to Tramping Track Standard described in the New Zealand Handbook Tracks and Outdoor Visitor Structures SNZ HB8630:2004

The weir will be a reinforced concrete structure 4 -5 m high, 1 m wide and span the river channel at the head of Morgan Gorge. It is envisaged that the weir will have a depressed crest for the residual flow to pass. This arrangement will concentrate the residual flow into a chute and allow kayakers to use the river at all times³⁹.

Comment

Westpower proposes that a special condition be included in the concession:

- 17.3 The downriver face of the weir shall be designed to allow kayaking access into Morgan Gorge. The Concessionaire will consult with Whitewater New Zealand on the development of the weir design.

Whitewater NZ comment that the construction of the weir as proposed at the entrance to the Morgan Gorge will also create a hazardous industrial structure likely to be lethal to kayakers. Industrial weirs that have water flowing over them and that are safe for kayakers to negotiate are complex and difficult to design. Thus, safe access around the weir and for re-entry into the river for kayakers wanting to run the Morgan Gorge, or to allow rescue would be needed if the scheme were to go ahead⁴⁰.

It is recommended that for the concession application to be considered complete, Westpower provide additional information to confirm that the design of the weir is safe for kayakers to negotiate and that it provides for safe foot access around the weir for re-entry into the river and to allow for rescue of kayakers should the need arise.

Morgan Gorge swingbridge

Westpower has suggested that they relocate the swingbridge over the Morgan Gorge at Kiwi Flat to reduce visibility of the weir and diversion structure⁴¹.

³⁹ Page 2 and Figure 3 diagram of intake channel Waitaha Headworks Concept Volume 2 Westpower: Waitaha Hydro Scheme – July 2014

⁴⁰ Page 17 Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015

⁴¹ ⁴¹ Page 66, Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

Comment

Given that the weir, diversion structure and portal will be visible from the riverbed and track immediately above the Morgan Gorge swingbridge, the Department considers there to be little benefit in relocating the swingbridge to another location further down the Morgan Gorge.



Photo simulation of intake structures refer Addendum March 2015

Impacts of the construction activities on recreation use of the Waitaha Valley

Westpower states that construction activities, especially at the down-river end of Kiwi Flat, and at the powerhouse, will take three to four years. Construction noise and human activity, especially at the head-works, during this period will be 'significant' during the construction process and incompatible with the experiences associated with a remote recreation setting.

The concession application was amended in March 2015 to reduce the proposed area of land near Morgan Gorge required to locate contractors' facilities during the construction period from 2000-2200m² to approximately 200-250m² (15m x15m) and an area retained as a helipad.⁴²

A 10 m x 10m temporary steel platform, 7 m in height is proposed to be located above or adjacent to the tunnel portal to house a site office, self contained toilet and storage of some construction materials. In addition, it is also proposed that a temporary wooden structure be constructed for a

⁴² Page 9, Addendum Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – March 2015

helipad beside the intake site. An 80m long foot access track will be required from the existing DOC track on the true right of the river to the contractors' platform.

Westpower proposes that a special condition be included in the concession:

- 17.1 During the construction period, the Concessionaire shall provide information on construction activities that may affect recreational users within the area surrounding the construction footprint.

This information shall be made available on the Westpower website, and on appropriately located signage approved by the Grantor. The information shall include:

- a) a description of the type, timing sequence and location of construction activities;
- b) potential hazards (including in-river hazards) arising from construction activities, including advice on avoiding hazards and construction activities generally; and
- c) any effects on the flow regime.

This initiative is supported and should the hydro scheme be approved the special condition be reworded to include that the information is also made available on the Department of Conservation web site, and those of key stakeholders such as www.remotehuts.co.nz and the Whitewater NZ website.

Proposed water takes and flow regime

The proposed water takes have been modelled up to a maximum 23m³/s, and residual flow of 3.5 m³/s immediately below the intake.

There will be a water level monitor in the tunnel at the start of the penstock. When the level rises the Scheme control system will open the guide vanes to take more water and the generation output from the Scheme will increase. If the water level drops the opposite will happen.

When the hydro scheme reaches the maximum take, the intake gate will close sufficiently so that excess water remains in the river. There may also be some spill from the sediment settling basin through the flushing channel. When the flow gets below the minimum required for one turbine to operate then the Scheme will be shut down until there is sufficient water. This is likely to be in the range of 2-3 cumecs above the residual flow.

Planned starting and stopping of the hydro scheme can be managed using ramping procedures to prevent a sudden increase in flow in the main stem of the river or in the case of starting, increased discharge from the tailrace. Procedures will be put in place to manage situations which may result in the hydro scheme shutting down without notice e.g. automatic emergency shutdowns. The effects on stops and starts will be closely monitored during commissioning and the initial operational period and the information gained to determine the appropriate safety procedures and level of response to manage these situations and to ensure public safety⁴³.

Westpower comments that for a take of 23 m³/s, and residual flow of 3.5 m³/s, flow effects are represented by a lower minimum flow at the Gorge (3.5 m³/s under the scheme compared with 4.8 m³/s naturally) and a reduced period of time that mid-range flows exist. Flood flows are barely affected.

⁴³ Page 45 Volume 1 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

Westpower stated the *while the preferred kayaking flow for Morgan Gorge is unclear, mid-range flows of 11.8 – 23.3 m³/s which currently occur for 40% of the time annually will be available under the Scheme for 7% of the time annually (146 days per year to 26). Over summer (Dec, Jan, Feb), that flow range will be available for 13% of the time compared to 33% naturally (30 days per year to 12). Flows above 23.3 m³/s would be reduced from 40% of the time to 15% on an annual basis, and 23% over summer. Flows above 11.8 m³/s naturally occur for 80% of the time and would, with the scheme in place, occur only for 22% of the time, and 35% of the time in summer (a change of 292 days per year of flows over 11.8 m³/s to 80 days). This represents a constraint on the kayaking opportunity in the Gorge, and in much of the Douglas Creek reach for those portaging the Gorge as well as those kayaking it (a shift from the quite common availability of moderate-range flows to relatively infrequent availability).*⁴⁴

Westpower comment that *more use of the Morgan Gorge would be needed to establish an ideal flow range.* England (2011) description of the Waitaha River in general: “A lot of the Waitaha is very committing, set in gorges with steep rock sides. It is also physically and mentally (if not emotionally!) tiring, creating an epic adventure style of kayaking. On this trip, the Waitaha was at the lower end of medium flow and approx 30 m³/s. It is commonly run lower than this and higher. At lower flows, holes can be even more powerful in places and rocks can be disconcerting, while at higher flows rapids can be very quick and powerful. It is unlikely that the Waitaha would get kayaked at flood flows as it would be very powerful and almost impossible to portage rapids in the gorges. It does, however, have a broad range of useful flows making the Waitaha’s flow very reliable throughout late spring through to autumn⁴⁵.”

Westpower propose that ceases to abstraction will enable kayaking of the Morgan Gorge to continue at agreed times, in addition to when the flow through the Gorge is sufficient to kayak. Further discussion on cease to abstract/no take days is discussed below.

Alternative options to manage flow regimes

Alternative options to manage flow regimes were considered and discussed with Whitewater NZ by Westpower. For example, it might be possible for the scheme to be managed by Westpower to take variable amounts of water on high flow days to produce controlled flows in the 17.5 and 22.5 cumecs suitable for kayaking down the Morgan Gorge whilst still generating some power. However, Westpower is concerned that controlled flows might not be able to be maintained when a kayaking party was in the Morgan Gorge and have confirmed that they are not prepared to operate their power scheme in a manner where they could produce controlled flows that kayakers could use⁴⁶. Whitewater NZ accepts this position.

Comment

As noted, Ian Wightwick met with Whitewater NZ⁴⁷ on 4 November 2014 to get an understanding of whitewater values of the Waitaha River. Information was also requested on the river flow and

⁴⁴ Page 7, Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

⁴⁵ Footnote Page 7, Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

⁴⁶ Rob Caldwell, CEO Westpower, personal communication (Whitewater NZ), meeting with Westpower at Christchurch, 13th May 2014.

⁴⁷ Meeting with Matt Bennett, Doug Rankin and Mick Hopkinson

conditions required by kayakers to paddle the Morgan Gorge. Information was also requested on how the operation of the proposed scheme may impact on whitewater kayaking values and whether or not the proposal to have cease to abstraction days would work for kayakers wishing to paddle the Morgan Gorge.

In January 2015 Whitewater NZ prepared a report⁴⁸ for the Department on information on the river flows required by kayakers to run the Morgan Gorge and the impacts of the proposed hydro scheme on whitewater and kayaking values.

The flows required by kayakers wanting to run the Morgan Gorge are estimated to be between 17.5 and 22.5 cumecs⁴⁹.

The flows required by kayakers wanting to run the lower 1.5 km from just below the most difficult rapids on the Morgan Gorge to the proposed powerhouse are estimated to be 10-50 cumecs⁵⁰.

Whitewater NZ comment that preliminary analysis of the impact of the proposed hydro scheme on the Morgan Gorge and the availability of flows suitable for kayakers has indicated that there would be a significant reduction in the availability of flows suitable for kayakers. Analysis was carried out using hydrology data from the catchment provided by Westpower. Available days suitable for kayaking were determined by calculating the number of days flows were in the suitable 17.5 to 22.5 cumec kayaking flow band at Kiwi Flat (at the entrance to the Morgan Gorge), both under natural conditions and when the proposed scheme was running⁵¹.

Whitewater NZ comment that, on average, the number of days where flows (natural flow) were suitable for kayaking the Morgan Gorge over the September to May kayaking season, based on data from the 2006-2012 years, was 51.9 days and that this number would be reduced to 8.8 days, an 83% reduction, if the scheme was installed (refer Table 1 below)⁵².

⁴⁸ Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015 Appendix 2

⁴⁹ Refer page 13 Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015

⁵⁰ Refer page 13 Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015

⁵¹ Refer page 13 Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015

⁵² Refer page 14 Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015

Table 1. Mean and median flows (cumecs) and numbers of suitable days available for kayaking the Morgan Gorge before and after installation of the proposed Westpower power scheme

Data set	Natural flow			Modified flow			Days lost	
	Mean	Median	No. days	Mean	Median	No. days	No.	Percentage (%)
Full year on average, 2006-12 ^a	32.7	19.0	59.1	17.4	3.5	8.9	50.2	85
September – May kayaking season, on average, 2006-12 ^a	37.5	21.9	51.9	20.2	3.5	8.8	43.1	83
December – February peak kayaking season, on average, 2006-12 ^a	46.0	26.7	17.5	26.6	3.7	4.5	13.0	74
September – May kayaking season, wet, 1995-96 ^b	51.8	30.9	50	31.3	7.9	7	43	86
September – May kayaking season, dry, 1976-77 ^b	29.2	18.1	35	14.1	3.5	7	28	80

^a Approximate as full data not available for 2006 or 2012.

^b From synthetic data.

However, Whitewater NZ consider that flow conditions of at least 40 -45 cumecs are required above the intake for Westpower to take 23 cumecs and leave a residual flow in the right flow range for kayaking. Whitewater NZ commented that these conditions are likely to occur in periods close to or during rain events. In these circumstances the river is likely to be falling or rising relatively quickly and in these conditions the actual flow at a given time is difficult to predict, making the river unsafe for kayaking.⁵³

Whitewater NZ comment that *In the report by Greenaway (2014) it is important to note that in the analysis of the impact of flow changes as a result of the proposed scheme the flow requirements for kayakers down the Morgan Gorge (and 1.5km reach below the Gorge) have not been correctly identified*⁵⁴.

Whitewater NZ state that *after further analysis of the flow data, consideration of river flow patterns, weather patterns likely during some of the flow options discussed in the preliminary analysis above,*

⁵³ Detailed presentation of flow and analysis is available in information provided by Whitewater NZ, Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015

⁵⁴ Refer footnote 4 page 14 Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015

and further discussions with Westpower, it is apparent that the days where the residual flows were suggested as being 'suitable' for kayaking in Table 1 will not be useable at all.

In other words, if the proposed Westpower hydro scheme goes ahead, none of the predicted 'suitable' days would be realistically available to kayakers. As a result, the scheme represents a 100% loss of the resource to kayakers.

This arises for several reasons as follows:

Firstly, Westpower have confirmed that they are not prepared to operate their power scheme in a manner where they could produce controlled flows that kayakers could use. They are concerned about liability should something happen, which meant controlled flows might not be able to be maintained when a kayaking party was in the Morgan Gorge. It is understandable that Westpower would be particularly concerned if this happened and a kayaking party had an incident caused by changing flows.

Secondly, the proposed residual flows passing down the Morgan Gorge when Westpower were taking flows of 23 cumecs are unsuitable for supporting safe navigation by kayakers. This is for two reasons. As Westpower have stated, they are not prepared to guarantee a high enough minimum residual flow in the affected reach. The proposed minimum residual flow of 3.5 cumecs effectively excludes kayakers from the resource. In addition, days when the river is flowing high enough for Westpower to take 23 cumecs and leave a residual flow in the right flow range for kayaking, are likely to be in periods close to or during rain events. In such circumstances the river is likely to be falling or rising relatively quickly. Without Westpower being prepared to manage takes to prevent natural rapid changes in flows (i.e., management to 'smooth' the rate of change in flows in the Gorge) there are unacceptable risks for kayakers attempting a run. This applies to both situations where the flows are rising or falling too steeply to provide a safe flow window.

Whitewater NZ also commented that when kayaking the Waitaha Gorge run, the river journey is normally completed by rejoining the river as soon as one is comfortable after portaging the Morgan Gorge. With the flow being constrained below the Morgan Gorge to the powerhouse this 1.5 km section of previously runnable good white water will have to be portaged or the ability to kayak this reach of the river will be severely constrained⁵⁵.

As noted above, the flows required by kayakers wanting to run the lower 1.5 km from just below the most difficult rapids on the Morgan Gorge to the proposed powerhouse are estimated to be 10-50 cumecs⁵⁶.

The number of days that the annual estimated 50 – 100 kayakers who paddle the Waitaha River and continue there from below Morgan Gorge and the 5 km downstream to the take out point is not known. From the information provided by Westpower (refer page 22 of this report) it appears that when the scheme is operating between 12 and 26 days are available at mid range flows of 11.8 – 23 cumecs and there will be a higher number of days when the flow is greater than this.

⁵⁵ Additional Information from Whitewater NZ on the proposed Westpower Waitaha Hydro Scheme, Douglas A Rankin page 11, 1 May 2015.

⁵⁶ Refer page 13 Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015

Comment

Westpower proposes that a special condition be included in the concession:

- 17.5 Once the Scheme is operational, the Concessionaire shall provide real-time flow data and camera footage of the Waitaha River at the intake location on its website. That information shall be available for kayakers, other recreational visitors and the general public to view.

Westpower state that making river flow information publically available would enable kayakers to better judge optimal kayaking periods and take advantage of suitable natural flows which augment the residual flow⁵⁷.

The Department considers that while this information will help kayakers make informed judgement on whether or not to paddle the Waitaha River, including Morgan Gorge, the situation would remain that when the power scheme is operating at capacity no days may be suitable for kayakers to complete a run of the Waitaha River, including Morgan Gorge.

Ceases to abstraction /No take days

Westpower propose that ceases to abstraction will enable kayaking of the Morgan Gorge to continue at agreed times, in addition to when the flow through the Gorge is sufficient to kayak.

Westpower state that this will represent a change to the current quality of experience which occurs within a predominantly natural backcountry-remote setting with no artificial constraints on participation. Making river flow information publically available would enable kayakers to better judge optimal kayaking periods and take advantage of suitable natural flows which augment the residual flow. However, the net adverse effect of the Scheme on kayaking the Morgan Gorge is likely to be 'high'.

When flows are suitable for kayaking in the Gorge (naturally or via a cease to abstraction) there should be no experience of hydro developments until the powerhouse is encountered near 'Alpha Creek'⁵⁸.

Westpower proposes that a special condition be included in the concession:

- 17.4 The Concessionaire shall consult with Whitewater New Zealand on the potential for developing a regime of ceases to abstraction to provide natural flows in Morgan Gorge, to support a continued kayaking opportunity in Morgan Gorge.

Whitewater NZ consider that it would be essential that such no take days would need be available on request at very short notice so that kayakers wanting to descend the gorge could watch weather and flow patterns to determine when they could make a descent and then calling up at short notice to do so when conditions were right.

⁵⁷ Refer Page 62 Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

⁵⁸ Refer Page 62 Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

Details on how the no take days would be managed, who can request them, how long a period they will apply for and how many no take days will be made available each year are not described by Westpower in the concession application.

Whitewater NZ commented that Westpower need to indicate how many no take days or control flow days they may be prepared to offer in mitigation for the development of the scheme, should the scheme go ahead⁵⁹.

Whitewater NZ state that *it would be essential that such no-take days would (need) be available on request at very short notice so that kayakers wanting to descend the gorge could watch weather and flow patterns to determine when they could make a descent and then calling up at short notice to do so when conditions were right*⁶⁰.

Whitewater NZ, however, commented that while Westpower accepts that no take days where natural flows were made available at very short notice would be needed to provide for kayakers, Westpower were not willing to discuss how many days this might be until they had got a DOC concession for proceeding with the scheme (and then resource consents would be needed)⁶¹.

Comment

The issue of whether agreement on the number of no take days where natural flows are made available at short notice as an acceptable form of mitigation is controversial.

For many kayakers, retaining a wild and scenic river including the Morgan Gorge is very important even if they do not have the skills and experience to paddle this section of river. For these reasons, they do not consider it is appropriate to negotiate a number of no take or controlled flow days.

Whitewater NZ comment that it is important that wilderness/wild places are not only held in high regard by those who use the place, they are also held in high regard by those that don't use the resource but who know about them, and appreciate them for knowing that they are there.

However, Whitewater NZ consider that Westpower needs to indicate how many no-take or controlled flow days they may be prepared to offer in mitigation for the development of the scheme. Further information on these matters is needed so that Whitewater NZ can truly confirm the impacts of the scheme on kayaking values⁶².

⁵⁹ Page 46 Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015

⁶⁰ Page 40 Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015

⁶¹ E mail from Doug Rankin, Whitewater NZ to Ian Wightwick 23 October 2014

⁶² Page 47 Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015

Given that there is no information provided by Westpower on the proposed number of ceases to abstraction/no take days and the protocol for implement of no take days , the Department considers that currently there is insufficient or inadequate information provided by Westpower to allow a complete assessment of the effects of the hydro scheme, including the effects of any proposed methods to avoid, remedy, or mitigate the adverse effects of the proposed activity on kayak use of the Waitaha River.

The Department considers that should agreement be reached with on the number of no take days and the hydro scheme is approved, an addition of special condition should include;

The Concessionaire will meet the Department of Conservation and Whitewater NZ annually to review the effectiveness and management of the no take days, who can request them, how long a period no take days will apply for and how many no take takes will be made available each year.

Comparative analysis of the Waitaha River with other rivers on the West Coast

River Values Assessment System (RiVAS)

In 2009, the River Values Assessment Method (RiVAS) system (Hughey et als) was used to describe and rank whitewater rivers on the West Coast. This assessment method used expert groups to allocate scores across multiple criteria, including whitewater grade, mode of access, perception of scenic attractiveness, perception of wilderness, quality of hydraulic values, number of users, flow reliability, user catchment and regional value to produce a ranking for overall whitewater kayaking importance.

Of the 58 West Coast kayak runs assessed, 28 were identified as of 'high' value, 29 of 'medium' value and 1 of 'low' value. The Waitaha River was assessed as of 'high' value for kayaking with a final weighting of 19⁶³.

Whitewater NZ commented that the Waitaha Gorge run was given *a total score of 19 which ranked it 2nd equal along with eight other reaches of valued West Coast Rivers out of the 28 runs arbitrarily assessed as having value. The reason the river did not receive the highest score of 20, and join the top 6 highest scoring and ranked rivers, was that it was estimated user numbers at the time of the survey (50) were less than 100 and there for attracted a score of 2, where as the score of the other six top first equal river were all 3 (>100 users per year)⁶⁴. RiVAS only provides a snapshot of kayakers use of different river runs in time, at the time the survey was done For example Booth (2008) earlier*

⁶³ Refer Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014, (Appendix 4 Analysis output from RiVAS (Booth et al 2009)

⁶⁴ Additional Information from Whitewater NZ on the proposed Westpower Waitaha Hydro Scheme, Douglas A Rankin 1 May 2015.

reported a higher annual usage number of about 100 kayaker/visitor per annum⁶⁵ and is also only referring to the Waitaha Gorge run and not the values associated with the Morgan Gorge run and any other runs on the Waitaha catchment.

Table 4 below depicts West Coast kayaking runs by grade and the form of access to the run.⁶⁶ Twenty-eight runs accessible only by helicopter were identified, all of grade 3 or higher. The Waitaha River was one of 14 grade 5 runs with helicopter access. Grade 5 and grade 4 runs were identified as the most common kayaking opportunities on the West Coast (24 and 14 runs respectively). Grade 5 can be applied to a river like the Waitaha where grade 6 sections can be portaged. There are also, eight grade 4,5, four Grade 3, four grade 3,4, three grade 3, one grade 2,3 and four Grade 2 runs on the West Coast.

Access (main form)	Whitewater grade							Total
	2	2,3	3	3,4	4	4,5	5	
Helicopter				2	6	6	14	28
Long walk-in					3	2	5	10
4WD		1						1
2WD	4		3	2	5		5	19
Total	4	1	3	4	14	8	24	58

The use of the terms 'national', 'regional' and 'local' were avoided in the assessment as the analysis was not completed at a national level. An assessment of 'high' value indicates a high level of importance at the regional level, and this is likely to imply significance at the national level – although a national-level assessment would be needed to confirm this.

The assessment also considered the 'scarcity' of the type of run at a national level, and the Waitaha River was described as 'nationally scarce'.

Andy England (2011:3), who participated in the West Coast RiVAS assessment, commented *This method has the strength of being relatively easy to repeat by regional councils, for which it is aimed, and applicable across various river-based activities. In my opinion, the numerical base for the system offers a limited insight into a region's river activity, albeit useful and a vast improvement on the knowledge that usually exists in organisations such as regional councils. Where applied, it is also*

⁶⁵ Reference for Douglas A Rankin to Booth K (2008) Waitaha River Recreation Assessment, report prepared for Westpower by Lindus Consulting, 15 September 2008 (note this information not included in the Westpower application)

⁶⁶ Refer Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014, (Appendix 4 Analysis output from RiVAS (Booth et al 2009) page 31

useful in that it is current and (if staff are involved directly) helps staff to increase their understanding of relevant issues for river users.

However, England also commented that those who participated in the West Coast RiVAS assessment, identified some shortcoming with the method, including *The overall product, a set of numerically ranked rivers, is of limited depth and value on its own; it requires further examination to be used as a decision making tool but could be useful for a strategic planning tool.*

An assessment of the whitewater recreational values of West Coast rivers – whitewater kayaking

Andy England subsequently paddled 38 rivers (sections), on the West Coast in 2010, including the Waitaha River and wrote trip reports for each river as part of an Assessment of the whitewater recreational values of West Coast rivers – whitewater kayaking⁶⁷.

Mr England described the overall character of the Waitaha River as the pinnacle of one-day wilderness adventure kayaking on the West Coast and a classic grade 5 river trip of world class. The Waitaha offers an intense and aggressive whitewater challenge set amongst spectacular gorges, with a known challenge held back for the end of the day in the form of the Morgan Gorge portage. Morgan Gorge now being paddled leaves a delectable challenge open to the world's most skilled whitewater kayakers.

Whitewater kayakers spoken to in 2014, commented that other than the Waitaha River, only one other river (the Hokitika) and some of its tributaries such as the Mungo and Whitcombe Rivers offers such a range and variety of extremely challenging white water for the most expert of kayakers. However, because a number of the Waitaha runs are more challenging still, thus resulting in its pinnacle status and there is no other resource offering the same mix and level of extremely challenging white water that can substitute for the Waitaha River⁶⁸.

As part of his assessment, Mr England also compiled a data set describing the values and use of a total of 60 rivers (sections), using an on-line survey of the kayaking community.

Mr England, described that the West Coast of the South Island has a number of rivers that provide outstanding kayaking and rafting white water and amenity values over a range of Classes of difficulty.

Mr England commented that In comparison to other regions of NZ and the world, the West Coast region has a very high density of rivers that offer great whitewater challenge, inspiring river scenery and a strong wilderness feel. Added to this are such qualities as cleanliness and clarity of water, a

⁶⁷ An assessment of the whitewater recreational values of West Coast rivers – whitewater kayaking Andy England Leap Research Paper No2 January 2011

⁶⁸ Page 10 Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015

range of access arrangements including helicopter access, geographic closeness of rivers meaning low travel times between rivers, and a wider regional experience that offers additional social attractions.

That so many rivers of the West Coast are valued so highly does not belittle their assessment, but truly represents their remarkable qualities. It makes it impossible to segregate a common set of top rivers, but a general trend is that northern Westland has the highest concentration of top rated rivers for whitewater challenge, with very high scores for scenery and wilderness; while northern Buller and South Westland have small concentrations of rivers top rated for wilderness and scenery with high ratings for whitewater challenge.

The main whitewater kayak users of West Coast rivers are highly specialised and experienced, which reflects and is reflected by the high proportion of more challenging rivers, yet the region is also held in high regard as a destination to aspire to by users of lower ability. Of interest is the demographic profile of survey respondents, showing that most whitewater kayakers on the West Coast are male, of widespread ages, educated to bachelor's degree or beyond, professionally employed with incomes above national averages.

At a relative level, the Waitaha was ranked amongst 60 West Coast rivers⁶⁹ as:

- 35th for 'number of respondents' having used a river.
- 12th for percent of international respondents using a river.
- 8th for 'overall importance'.
- 5th for 'whitewater challenge'.
- 10th for 'scenery from river'.
- 5th for 'wilderness feeling'.

Mr England notes that the survey results have a "definite bias towards harder rivers, reflecting the respondents' profile [more advanced kayakers generally." Westpower comment that the survey period (winter 2009) preceded the first full descent of the Morgan Gorge (February 2010) and so the data will relate predominantly to the other sections of the Waitaha River⁷⁰.

Summary of options to avoid mitigate or remedy the potential adverse effects of the hydro scheme on recreation use of the Waitaha Valley

⁶⁹ Refer pages 83- 88 An assessment of the whitewater recreational values of West Coast rivers – whitewater kayaking Andy England Leap Research Paper No2 January 2011

⁷⁰ Refer page 31 Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

Westpower initially had two options for the Scheme. Option A involved a weir at the bottom of the Waitaha Gorge and Option B involved a weir at the top of Morgan Gorge.

Westpower considered that of the two options, the proposed Option B (that proposed) will have the least adverse effect on recreational use of the Waitaha Valley.

Westpower, however, states that *the effects of the proposed Option B on the wild and scenic qualities of the Waitaha River are difficult to mitigate, considering the key issue is a change from an uncontrolled and undeveloped state to one with hydro structures and a controlled flow regime*⁷¹.

Westpower, commented that the following management options can be considered for the proposed hydro scheme to support continued recreational use of the setting.

Comments on these measures are provided in italics.

- Design the lower face of the weir to allow kayaking access to Morgan Gorge. This is considered essential. *For the concession application to be considered complete, Westpower provide additional to confirm that the design of the weir includes the provision of safe access around the weir for re-entry into the river for kayakers wanting to run the Morgan Gorge, and to allow rescue should the need arise.*
- Improve access for the kayak portage from the top of Morgan Gorge to 'Alpha Creek', to address lowered kayak amenity in the abstraction reach (this may be located on either bank of the River, but private land access issues on the true left suggest it will remain on the true right). *The current route on the true right bank is likely to be used in the foreseeable future. The route is used by both trampers and kayakers who portage down Morgan Gorge. The standard of the route can be improved, however, people spoken to comment that the route at the current standard is part of the challenge of visiting the Waitaha Valley.*
- Improve tramping access to the valley to support recreational use of the area, to address changes in recreation amenity generally. This could include transferring access to the true left of Morgan Gorge (if landowner approval was gained), where it was originally, giving better access to the hot springs and views into the Gorge, and reducing interaction with the scheme head-works at Kiwi Flat. This would contribute a small mitigation for kayaking amenity, but the net effect on kayaking in and below the Gorge would remain 'high' due to the loss of flow availability. *Landowner approval to shift foot access back to the true left of the Waitaha Valley is unlikely to be provided. Westpower has provided additional information on 16 January 2015 which confirmed that it is viable to construct a track via Alpha Creek to reach a higher terrace to bypass the powerhouse site and potentially be of a higher standard and improved grade to the existing track to Kiwi Flat. It is considered that*

⁷¹ Refer Page 66 Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

the extension of the route over terraces for the use by people who wish to avoid seeing or hearing the power station and associated infrastructure would help avoid the recreational impacts. However, the section of the route to allow kayakers to access the bottom of Morgan Gorge will need to remain. The track should be constructed and maintained to Tramping Track Standard described in the New Zealand Handbook Tracks and Outdoor Visitor Structures SNZ HB8630:2004

- Relocate the swing bridge over the Morgan Gorge at Kiwi Flat to reduce visibility of the weir and diversion structure. *It is considered that this is unnecessary because the weir and diversion structure will be visible from the riverbed and route immediately above the swing bridge.*
- Develop a regime of ceases to abstraction to support continued kayaking in Morgan Gorge. *The Department supports Westpower comments that should the hydro scheme be approved a regime of no take days is essential to retain the opportunity for kayakers to paddle the Morgan Gorge. However, the issue of agreeing on the number of no take days where natural flows are made available at short notice, prior to any approval of the hydro scheme is controversial.*

For many kayakers retaining an unspoilt character of river including the Morgan Gorge is the priority, including people who do not have the skills and experience to paddle this section of river.

- Provide online real-time flow data for the Waitaha River at Kiwi Flat to support kayaking in the river. *The Department support this proposal*
- Provide online information on construction activities, including the type, location and duration of works, potential hazards (including in-river hazards), advice on avoiding hazards and construction activities generally, and any effects on the flow regime. The Department support this proposal providing that the information is also made available on the Department of Conservation web site, and those of key stakeholders such as www.remotehuts.co.nz and the Whitewater NZ website.
- Due to the relative small scale nature of the proposed hydro scheme headworks structure, power house and associated infrastructure the scheme could be removed if it was no longer required. *Consider that while the weir and infrastructure could be removed if the scheme is approved, however, the reality is that the adverse effects will be present for the life of the scheme.*
- To minimise the impact of the proposed track from the true right of the Waitaha River at the top of Morgan Gorge to the intake it is recommended that the track is constructed and maintained to Tramping Track Standard described in the New Zealand Handbook Tracks and Outdoor Visitor Structures SNZ HB8630:2004

Conclusion

Westpower has provided a detailed description and assessment of the recreation use of the Waitaha Valley.

The Department considers that the Waitaha study area receives low use from kayakers (50 – 100 PA), and trampers and hunters (<150 PA) is a fair assessment of the level of recreation use of the area. The Department, however, considers that this level of use is not uncommon for Backcountry – remote zones on the West Coast due to its remoteness and the fact that it is relatively hard to travel through. The kayaking values of the river are associated with the relatively untouched ‘wilderness’ environment and a number of challenging white water runs on the river of extreme difficulty, suitable for only the top level of expert kayakers⁷². Due to the high level skills and experience required to tramp, hunt or kayak in the Waitaha Valley the level of use is low but the recreation opportunity is highly valued by those who visit.

The Department agrees with the Westpower statement that *the scheme has the potential to affect the quality and nature of the recreation experience in the area under application by changes to the remote-backcountry characteristics of the Kiwi Flat and Douglas Creek settings (via the installation of hydro diversion structures, access and the powerhouse) and an altered flow regime in the Morgan Gorge and much of the Douglas Creek reaches.*

The Department considers that the Westpower assessment of the effects on most trampers and hunters accessing the Waitaha Valley will largely be localised changes to what is currently an undeveloped backcountry-remote setting is fair. Access from Macgregor Creek to near the powerhouse will be improved but overall the tramping and hunting experience will remain 'hard won', the experience may be diminished by the presence of a functioning hydro scheme and associated infrastructure⁷³.

The Waitaha River was assessed as one of 14 grade 5 runs with helicopter access on the West Coast. Grade 5 and grade 4 runs were identified as the most common kayaking opportunities on the West Coast (24 and 14 runs respectively). Westpower comments that there is a high level of choice for high-grade kayaking options on the West Coast, and the Waitaha contributes to a relatively abundant kayaking opportunity setting (and hence its significance at the international level).

England, described the overall character of the Waitaha River as the pinnacle of one-day wilderness adventure kayaking on the West Coast and a classic grade 5 river trip of world class⁷⁴.

⁷² Additional Information from Whitewater NZ on the proposed Westpower Waitaha Hydro Scheme, Douglas A Rankin page 18, 1 May 2015.

⁷³ Refer conclusion by Westpower page 66 Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

⁷⁴ Page 239 An assessment of the whitewater recreational values of West Coast rivers – whitewater kayaking Andy England Leap Research Paper No2 January 2011

Whitewater kayakers spoken to in 2014 commented that, compared to the Waitaha River, only the Hokitika River and some of its tributaries such as the Mungo and Whitcombe Rivers offers such a range and variety of extremely challenging white water for the most expert of kayakers. However, kayakers spoken to consider there is no real substitute because the runs on the Waitaha River are more challenging still, there is no other resource offering the same mix and level of extremely challenging white water.

The Department also considers that direct restrictions from the proposed scheme on the ability to carry out existing recreation activities primarily limited to kayaking, and the impacts include effects on those highly-experienced kayakers seeking to paddle the Morgan Gorge, and on all kayakers on the river who portage the Gorge but use the river below it to complete their journey, with the latter potentially facing an additional 1530 metre portage when flows are inadequate due to the scheme.

The Department also considers that both national and international visitors, and in particularly kayakers, regardless of whether or not they have the ability to paddle the Morgan Gorge highly value and appreciate the intrinsic worth of retaining rivers on the West Coast and around the world that can flow uninterrupted and are free of hydro dams and their associated structures.

Westpower comments that scale of change in kayaking opportunity is difficult to quantify considering the ability to kayak the river at a variety of flows. Flows above 11.8 m³/s naturally occur for 80% of the time and would, with the Scheme in place, occur only for 22% of the time, and 35% of the time in summer (a change of 292 days per year of flows over 11.8 m³/s to 80 days). The frequency of mid-range flows of 11.8 – 23.3 m³/s currently occur for 40% of the time (all year), and this would reduce to 7% of the time with the Scheme in place (146 days per year to 26). This is a shift from the quite common availability of moderate-range flows to relatively infrequent availability.

In January 2015, Whitewater NZ provided up to date information that kayakers wanting to run the Morgan Gorge will need river flows estimated to be between 17.5 and 22.5 cumecs. Flow conditions of at least 40 -45 cumecs will be required above the intake to take 23 cumecs and leave a residual flow in the right range for kayaking. Whitewater NZ comment that this is only likely to occur in periods close to or during rain events and in these circumstances the river is likely to be falling or rising relatively quickly and in these conditions the actual flow at a given time is difficult to predict, making the river unsafe for kayaking. As a result, none of the days that are predicted by Westpower as being 'suitable' for kayaking Morgan Gorge would be realistically available to kayakers.

The Department agrees with Westpower conclusion that mitigations are available to reduce the scale of effects on kayaking through no take days/ceases to abstraction but the change from a river in its natural state means that the final effect on kayaking on the Waitaha River remains 'high'.

The Department agrees with Westpower that the challenge in protecting the regional kayaking resource, with the Morgan Gorge in mind, ensuring that weir design and construction is carried out in consultation with kayakers.

The Department considers that the downriver face of the weir needs to be designed to allow kayaking access into Morgan Gorge and provide for safe foot access around the weir for re-entry

into the river and to allow for the rescue of kayakers. Westpower will need to consult and reach agreement with Whitewater New Zealand on the development on the final design of the weir design and provide this information to the Department for the concession application to be considered complete.

The Department agrees with Westpower that the challenge in protecting the regional kayaking resource, with the Morgan Gorge in mind, will be establishing a protocol for ceases to abstraction that is suitably flexible for kayakers.

At present there is no information provided by Westpower on the proposed number of ceases to abstraction/no take days and whether agreement can be reached with Whitewater NZ on the number of no take days and the protocol to implement of no take days.

Given this situation, the Department considers that currently there is insufficient or inadequate information provided by Westpower to allow a complete assessment of the effects of the hydro scheme, including the effects of any proposed methods to avoid, remedy, or mitigate the adverse effects of the proposed activity on kayak use of the Waitaha River.

The Department considers that should agreement be reached on the matter of no take days and the hydro scheme be approved an additional special condition be included in the Concession requires that the Concessionaire meet with Whitewater NZ annually to review the effectiveness and management of the no take days; who can request them; how long a period they will apply for and how many no take days will be made available each year.

Appendix 1 Alignment of alternative track to avoid power house.



Waitaha Hydro
Scheme - Aerial Photc

Westpower Limited - Waitaha Hydro Scheme

Recreation Assessment

To: Diana Clendon, Permissions Senior Advisor, Hokitika

From: Ian Wightwick , Technical Advisor – Recreation, Hokitika

Date: 27 May 2015

Assyst Request Number: R68900 - Advice required on Waitaha Hydro Concession application

Background

On 19 March 2015, I provided advice on the effects of the proposed Waitaha Hydro Concession application on recreation use of the area under application. (see above).

In this advice, I stated that the Department considers that the downriver face of the weir needs to be designed to allow kayaking access into Morgan Gorge and provide for safe foot access around the weir for re-entry into the river and to allow for the rescue of kayakers. Westpower will need to consult and reach agreement with Whitewater New Zealand on the development on the final design of the weir design.

I also concluded that the Department agrees with Westpower that the challenge in protecting the regional kayaking resource, with the Morgan Gorge in mind, will be establishing a protocol for ceases to abstraction that is suitably flexible for kayakers.

I said that at present there is no information provided by Westpower on the proposed number of ceases to abstraction/no take days and whether agreement can be reached with Whitewater NZ on the number of no take days and the protocol to implement of no take days.

I said that the Department considers that should agreement be reached on the matter of no take days and the hydro scheme be approved an additional special condition be included in the Concession requires that the Concessionaire meet with Whitewater NZ annually to review the effectiveness and management of the no take days; who can request them; how long a period they will apply for and how many no take days will be made available each year.

Given this situation, the Department considers that currently there is insufficient or inadequate information provided by Westpower to allow a complete assessment of the effects of the hydro scheme, including the effects of any proposed methods to avoid, remedy, or mitigate the adverse effects of the proposed activity on kayak use of the Waitaha River.

On 25 March 2015 the Department wrote to Westpower Ltd pursuant to Section 17s(3) of the Conservation Act requesting further information on:

The proposed number of ceases to abstraction/no take days and whether agreement can be reached with Whitewater New Zealand on the number of no take days and the protocol for implementation of no take days.

And

For Westpower to confirm that that the design of the weir would be safe for kayakers to negotiate and that it provides for safe foot access around the weir for re-entry into the river for kayakers wanting to run the Morgan Gorge, or to allow for the rescue of kayakers should the need arise.

Task

Westpower has provided a response to DOC's request for further information.

Please provide comment - or update your recreation report on this and confirm or otherwise if you now think DOC has enough information on the effects on recreation values to proceed with the application ie whether we now have enough information to recommend a decision - I note that Westpower has not managed yet to met with Whitewater NZ and have not reached an agreement with them, they have rather added new conditions where they will provide two no take days per year.

Comment

On 30 April 2015 Westpower advised the Department that they have not been able to reach agreement and are not in a position to confirm that agreement can be reached with Whitewater NZ (WWNZ) in regard to the number of no take days and the protocol for implementing these.

Westpower comment that they have met with WWNZ representatives (both local and national) on five occasions between July 2012 and May 2014, including a site visit to the Waitaha in January 2014. The purpose of the meetings was to, provide information about the Waitaha Hydro Scheme; understand the effects of the Scheme on the kayaking community; and discuss measures to mitigate these effects.

In addition, Westpower provided WWNZ with the Waitaha River flow data to enable them to undertake their own analysis on the effects of the hydro scheme on flows for kayaking. WWNZ was provided with an opportunity to comment on the draft Assessments of Effects on Recreation and Tourism Report prepared by Rob Greenaway of Greenaway & Associates and the Natural Character, Landscape and Visual Amenity Effects Report prepared by James Bentley of Boffa Miskell.

Westpower comment that the matters that DOC has sought further information on (no take days and weir design), have been discussed in the meetings with WWNZ and prior to lodging the application with DOC, including whether agreement could be reached on these matters. Whilst

agreement was not reached during these discussions, Westpower included proposed conditions 17.3 and 17.4 in the concession application to provide for the continued opportunity to kayak Morgan Gorge in a way which addresses kayaking interests.

Weir Design

In the concession application Westpower proposed that WWNZ will be consulted on the development of the weir design.

17.3 *The downriver face of the weir shall be designed to allow kayaking access into Morgan Gorge. The Concessionaire will consult with Whitewater New Zealand on the development of the weir design.*

Westpower comment that implicit in this, was that safety features would be considered as part of this consultation and design process. This condition does not specifically address foot access to enable kayakers the option of entering the Gorge below the weir or the provision of a point from which kayakers can be rescued.

Westpower have proposed a redrafted condition that now require that the safety features of the weir achieve an overall standard of difficulty for kayak and foot access into Morgan Gorge no greater than already exists, with achievement of that standard being certified by suitably qualified persons.

17.3 The safety features of the weir shall be designed in consultation with Whitewater New Zealand.

- 1) The safety features of the weir are to achieve an overall standard of difficulty for kayak and foot access into Morgan Gorge no greater than already exists.
- 2) The design plans for the safety features of the weir shall be certified as to their achievement of condition (1) by:
 - a) a suitably qualified and experienced engineer with experience in the design and operation of weir structures; and
 - b) a person with experience in water safety, particularly in kayaking on rivers.
- 3) The Concessionaire shall prior to the commissioning of the project, provide a certificate from a suitably qualified and experienced engineer confirming that the construction of the weir has occurred in accordance with the design plans certified under condition (2).

Westpower state that it must be noted that:

- these safety features do not preclude the need for kayakers to evaluate the risks of kayaking this section of the Waitaha River as they would normally;
- the Morgan Gorge is a naturally unsafe environment which is very difficult to access (and get out of); and

- there are a number of other requirements to be addressed in designing the weir and as outlined in the application these include: preventing fish access into Kiwi Flat other than for koaro; enabling duckling access; and retaining engineering and economic integrity.

Comment

The Department considers that in consultation with Whitewater NZ, the redrafted condition 17.3 will provide for the downriver face of the weir to be designed to allow kayaking access into Morgan Gorge and provide for safe foot access around the weir for re-entry into the river and to allow for the rescue of kayakers.

Cease to abstract/No take days

A no take day requires the hydro scheme to be switched off, on the date and for the time agreed, to enable kayakers to kayak Morgan Gorge under natural flow conditions.

The original condition proposed in the application concession was as follows:

17.4 *The Concessionaire shall consult with Whitewater New Zealand on the potential for developing a regime of ceases to abstraction to provide natural flows in Morgan Gorge, to support a continued kayaking opportunity in Morgan Gorge.*

Although Westpower has not been able to reach agreement with Whitewater NZ on the number of cease to abstraction/ no take days and the protocol to implement them, they propose that condition 17.4 in regard to the no take days is replaced with the following: *(these include slight modification by Ian Wightwick eg changing Concession Holder to read Concessionaire).*

17.4 (1) The Concessionaire shall cease the take at the intake on two occasions per calendar year in accordance with condition [3] if the following conditions are met:

- a) no later than 7 days before the nominated day, the Concessionaire receives notice from Whitewater New Zealand (or their successors or nominees ("WWNZ")) nominating a proposed no- take day;
- b) the Concessionaire gives WWNZ notice of its decision whether to grant WWNZ's request no later than 5 days before the nominated day (the Concessionaires consent may not be unreasonably withheld);
- c) WWNZ gives the Concessionaire notice confirming its request no later than 12:00 pm on the day before the nominated day; and
- d) the Concessionaire has not received a cancellation notice under condition [2].

2. If, before 7:00am on the nominated day, the Concessionaire receives notice from WWNZ that WWNZ wishes to cancel a no-take day, the cancelled day is not regarded as a 'no-take day' and

WWNZ may select one alternative no-take day in accordance with the process in conditions 1a) to 1d), or as otherwise agreed in writing between the Concessionaire and WWNZ.

3. If the conditions set out in conditions [1] or [2] are met, the Concessionaire will cease take at the intake between the hours of 7.00 am and 5.00 pm on the nominated day. However, the Concessionaire may resume the take at the intake earlier than 5.00 pm on the nominated day if notified by the WWNZ nominee that all kayakers have left the affected reach of the river in accordance with the Protocol.
4. If the Concessionaire receives a cancellation notice under condition (2) or [3] after the specified time, the day is deemed to be a "no-take day" and, on receipt of the cancellation notice, the Concession holder may, at its discretion, resume taking water from the intake.
5. Any additional requests for no take days shall be considered by the Concessionaire at the Concessionaires absolute discretion.
6. All notices under conditions [1]-[4] must be sent in writing and to the contact person specified in the Protocol.

Westpower also state that:

A Protocol outlining the specific details of the "no-take" regime will be finalised in consultation with Whitewater New Zealand prior to operation of the hydro scheme. An additional clause to include:

7. The cease to abstract no-take Protocol will be reviewed by the Concessionaire on an annual basis, unless the details change for a contact person, in which case the Protocol must be updated as soon as reasonably practicable. The Protocol will include but not be limited to:
 - a) the respective contact persons for WWNZ and the Concession holder (to whom notices must be sent);
 - b) methods of communication and contact details;
 - c) responsibilities of each party (including that the WWNZ contact person advise the Concessionaire that all kayakers have left the affected reach of the river on the nominated day);
 - d) the section of affected reach to which notification in (c) applies; and
 - e) notification of no-take days.

The proposed conditions do not preclude any person or group electing to kayak the Morgan Gorge at any time whether under natural flows or operational flows.

In addition to the organised recreational no take days, there may be days when the hydro scheme is shut down for routine maintenance etc.

Comment

Westpower commented that overall the Waitaha River was reported to have approximately 50 kayak days per annum. That is kayakers spending a day or less on the river, which may include the same people doing more than one trip per year⁷⁵. Westpower also commented that the use estimates of 50 kayakers is (based on helicopter records and RiVAS) for those paddling in the Waitaha Gorge section and mostly portaging the Morgan Gorge) annually.

Westpower comment that fewer than 10 individuals might kayak the upper Waitaha Gorge (above Country Stream) and/or Morgan Gorge in any one year, although these sections might not be run at all for long periods, and there is a limited pool of suitably skilled kayakers⁷⁶.

Westpower further commented that since 2002 and over a period of 13 years there have been 6 -7 attempts (successful and not) to kayak Morgan Gorge. Westpower comment that usage of the Morgan Gorge section of the river is expected to continue to be low and that there may be many lengthy periods of time when it remains un kayaked⁷⁷. Westpower note that Whitewater NZ acknowledges that the use of the Waitaha River is low compared to other kayaking runs on the West Coast and nationally⁷⁸, and that due to the both the technical difficulty of the runs and access, “most kayakers cannot and will not ever kayak these difficult runs”.

Westpower considers that this low use usage number is directly relevant to the number of no-take days that is appropriate to be offered in mitigation of adverse effects.

Whitewater NZ, however, comment that Booth (2008) earlier reported a higher annual usage number of about 100 kayaker/visitor per annum and this is also only referring to the Waitaha Gorge run and not the values associated with the Morgan Gorge run and any other runs on the Waitaha catchment⁷⁹.

⁷⁵ Page 31, Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

⁷⁶ Page 53, Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

⁷⁷ Westpower’s comment: Impacts of the proposed Waitaha River Westpower Hydro Scheme on White Water Kayaking Values, Prepared by Westpower 30 April 2015

⁷⁸ Refer Page 11 Impacts of the proposed Waitaha River Westpower Hydro Scheme On White Water and Kayaking Values, Douglas A Rankin and Shane Orchard, January 2015 for original text.

⁷⁹ Refer additional Information from Whitewater NZ on the proposed Westpower Waitaha Hydro Scheme, Douglas A Rankin page 6, 1 May 2015

Westpower comment that there is a high level of choice for high-grade kayaking options on the West Coast, and the Waitaha contributes to a relatively abundant kayaking opportunity setting (and hence its significance at the international level).

Westpower describe fifty-eight rivers runs on the West Coast. Of these 58 river runs, the Waitaha River was assessed as one of 14 grade 5 runs with helicopter access on the West Coast. Overall, grade 5 and grade 4 runs were identified as the most common kayaking opportunities on the West Coast (twenty-four and fourteen runs respectively). There are also, eight grade 4,5, four Grade 3, four grade 3,4, three grade 3, one grade 2,3 and four Grade 2 runs on the West Coast⁸⁰.

The Department concludes that based on this information the Waitaha River receive approximately 50 – 100 PA kayak visits per annum, however, the average number of days the river is run each year is not known.

It is difficult to predict potential future use of the Waitaha River, including Morgan Gorge. Whitewater NZ commented that improvements in gear and equipment have made it possible for sections of rivers such as the Morgan Gorge to now be paddled. As technical rivers, such as the Waitaha are paddled more often, the aspiration by paddlers to complete such runs on the river can increase. An increase in the number of people being taught kayaking skills via polytechnic and clubs can also see more people developing the necessary experience and expertise to undertake kayak runs such as those found on Waitaha River ⁸¹.

Conclusion

The proposed scheme will impact of kayakers ability to paddle the Morgan Gorge and the stretch of river from below Morgan Gorge to Douglas Creek (the location of the tail race). The number of days that the annual estimated 50 – 100 kayakers who paddle the Waitaha River, portage the Morgan Gorge and continue their journey from below Morgan Gorge and the 5 km downstream to the take out point is not known.

Whitewater NZ comment the flows required by kayakers wanting to run the lower 1.5 km from just below the most difficult rapids on the Morgan Gorge to the proposed powerhouse are estimated to be 10-50 cumecs. Westpower comment that when the scheme is operating there will be between 12 and 26 days available at mid range flows of 11.8 – 23 cumecs and there will be a higher number of days when the flow is greater than this. This is a shift from quite common availability to relatively infrequent availability.

Whitewater NZ comment that kayakers wanting to run the Morgan Gorge will need river flows estimated to be between 17.5 and 22.5 cumecs. Flow conditions of at least 40 -45 cumecs will be

⁸⁰ Refer Table 4 page 31 Page 53, Volume 4, Appendix 19 Westpower: Waitaha Hydro Scheme Application for Concessions and Assessment of Environmental Effects. – July 2014

⁸¹ As per comments with Whitewater NZ and NZ Kayak School 3 November 2014

required above the intake to take 23 cumecs and leave a residual flow in the right range for kayaking. Whitewater NZ comment that this is only likely to occur in periods close to or during rain events and in these circumstances the river is likely to be falling or rising relatively quickly and in these conditions the actual flow at a given time is difficult to predict, making the river unsafe for kayaking. As a result, none of the days that are predicted by Westpower as being 'suitable' for kayaking Morgan Gorge would be realistically available to kayakers.

The Department agrees with Westpower conclusion that mitigations are available to reduce the scale of effects on kayaking through no take days/ceases to abstraction but the change from a river in its natural state means that the final effect on kayaking on the Waitaha River remains 'high'

Given the diverse views of the members of Whitewater NZ, it is accepted that at this time Westpower have not been able to reach agreement with Whitewater NZ on the number of cease to abstraction/no take days. Westpower Ltd has, however, stated a willingness to continue to talk to WWNZ on these matters.

Given that there have been 6 -7 attempts (successful and not) to kayak Morgan Gorge over the past 13 years it seems reasonable to provide for 2 cease to abstract /no take days per annum.

Should demand to kayak the Morgan Gorge either increase or decrease over the term of the proposed concession, an additional condition can be included to review the number of cease to abstract /no take days on a 5-yearly basis.

Although Westpower have not reached agreement with Whitewater NZ on the number of cease to abstract /no take days, the Department now considers that there sufficient and adequate information to allow a complete assessment of the hydro scheme, including the proposed methods to avoid, remedy, or mitigate the adverse effects of the proposed activity on recreation use in the area, including kayak use of the Waitaha River.

Appendix

New Zealand Handbook Tracks and Outdoor Visitor Structures SNZ HB 8630:2004

2.7 Tramping Tracks

These tracks cater for Backcountry Adventurers, including trampers, hunters, anglers and mountaineers. A few may be suitable for mountain-bikers as well as pedestrians (see 2.7.9). Tramping Tracks generally follow the lie of the land and are commonly not formed.

2.7.1 General

Tramping Tracks shall be marked, and may traverse a wide range of terrain and cater for backcountry visitors with generally moderate to high backcountry skills and experience. Trips on these tracks vary in length from half-day to multi-day.

2.7.2 Track formation/Geometry

2.7.2.1 Marking

The track shall be marked except where a formed track exists and can be easily followed.

Markers, poles or cairns must be clearly visible from one to the next, in either direction, in all but

the worst weather conditions. Track markers (other than cairns and poles) shall follow the specifications set out in Appendix B.

Tracks across recent slips shall be marked.

2.7.2.2 Benching

In developing new tracks, or upgrading existing ones, benching is to be limited to where:

- (a) Environmental or visitor impacts need to be mitigated, for example to provide an alternative route to avoid severe erosion and deep gullies centred on the track on steep slopes; or
- (b) No practicable alternative option for redesigning or rerouting the track exists, for example where a steep slip has taken out a section of track; and
- (c) There is high enough use to warrant benching.

2.7.2.3 Maximum grade

There is no maximum grade.

2.7.2.4 Steps

Steps should generally not be used except where their use will prevent erosion or significant visitor impacts.

Steps must not have a gradient that exceeds 45° (1 in 1). The maximum vertical rise between landings for all steps is 8 m. (A landing is defined as break of at least 1 m in a run of steps.)

New steps shall have a maximum riser height of 250 mm and a minimum tread length of 250 mm.

2.7.3 Surface/Pavement

2.7.3.1 Walking surface width

There is no minimum width on Tramping Tracks. Where surface material such as gravel is used, the maximum surface width shall be 0.3 m.

2.7.3.2 Track surface

The track surface shall generally be the natural surface and may include mud, water, roots and embedded rocks.

Major obstacles such as windfalls are to be removed or the track diverted around them. Generally minor obstacles such as rocks, tree roots and earth are not to be removed.

2.7.4 Structures

2.7.4.1 Boardwalks

Boardwalks are not generally provided on Tramping Tracks. Instead where muddy, sandy or swampy conditions exist tracks are to be drained, rerouted or raised. If there is no alternative, new boardwalks may be constructed or existing ones replaced only where they are necessary to mitigate significant environmental effects.

2.7.4.2 Width

The minimum width for new access structures shall be 0.6 m.

2.7.4.3 Bridges

Watercourses shall be bridged where they cannot be safely crossed without the help of others during times of normal water flow. Bridges may be 3-wire crossings.

Watercourses shall also be bridged where:

- (a) No reasonable alternative wet weather track exists: and
- (b) They cannot be safely crossed unassisted when in flood; and
- (c) Floods occur with a frequency that means the watercourse is a barrier to progress or becomes a significant hazard to over 25 % of the predominant visitor group (BCA) a year; and
- (d) There is no accommodation/shelter within 2 hours walking distance where visitors can wait until the river/stream conditions improve.

C2.7.4.3

Existing bridges across any watercourse will not be replaced at the end of their life unless the above criteria are met.

2.7.4.4 Ladders

Ladders may be used where a significant hazard exists.

2.7.4.5 Guardrails, barriers, chains or handwires

Guardrails, barriers, chains or handwires may be used at locations where a significant hazard to visitors exists but only where no other reasonable option such as re-routing the track exists.

C2.7.4.5

Existing guardrails, barriers, chains or handwires are only to be replaced at the end of their life if a significant hazard exists.

2.7.4.6 Viewing platforms

Viewing platforms are generally not provided.

2.7.4.7 Shelters

Shelters may be provided in appropriate locations along these tracks where:

- (a) The total walking time from the start of the track return (if on a day Tramping Track) without shelter, or from the start of the track or between huts without shelter exceeds four to five hours;
- (b) There are significant numbers of relatively inexperienced visitors using the track; and
- (c) There is exposure to adverse weather conditions on the most distant parts of the track.

Where shelters are provided, toilets should also be provided at those locations that are or may become popular stops, provided the visitor numbers warrant it.

2.7.5 Furniture

Seats and picnic tables are generally not provided.

2.7.6 Vegetation

Vegetation shall be cleared to ensure there is a clear passage and a clear view of track markers, poles or cairns. Cut woody vegetation shall be cleared from the track surface.

Where a formed or benched track is required as in 2.7.2.2 or 2.7.4.1, vegetation shall be cleared to ensure a clear view of the track surface and the way ahead.

Where the track is an actively managed historic site, vegetation control shall be managed so as to protect the historic integrity of the track.

2.7.7 Information for visitors

2.7.7.1 Signage

Direction signs shall be placed at all track entrances and at junctions or crossing points where there is a significant risk of getting lost. Direction signs are to show walking times, and may show distances.

At locations where there is a change from Tramping Track to Route, appropriate symbols and words to describe the change shall be used on the relevant sign.

Where sprays or chemicals have been or are to be used on the track, temporary signs shall be erected for an appropriate time as a warning to track users.

2.7.7.2

Track condition

Track condition information regarding, for example, unusual track conditions, shall be made available at track entrances or through off-site means.

2.7.7.3 Recommended footwear

The footwear recommended for these tracks is tramping boots.