INDEPENDENT REVIEW OF RECREATON ASSESSMENTS OF EFFECT - WESTPOWER LTD PROPOSED FAST TRACK WAITAHA HYDRO SCHEME

On behalf of the Waitaha River

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Executive Summary

This report provides an independent review of the evidentiary basis and methodological defensibility of three linked recreation assessments used in support of Westpower's proposed Waitaha hydro scheme: Booth (2008), Greenaway (2014), and Greenaway (2025). Comparative context is also drawn from the West Coast RiVAS application (Booth et al., 2009) and England's (2011) assessment of whitewater recreational values.

Across the report lineage, the central finding is that later assessments rely heavily on inherited claims and framings while providing insufficient independent updating, limited transparency, and weak treatment of uncertainty – despite long time intervals, changing recreation practices, and evolving project designs. The 2025 report, in particular, is framed as an "*update*" and continues to draw on Booth-era interview statements and reductionist proxies without transparent re-validation through new user research.

Key findings of the Review

1. Lineage dependence and circular sourcing: The assessments form a dependency chain in which Booth (2008) materially shapes the 2014 and 2025 assessments, and the 2025 assessment in turn relies on the 2014 framing. Booth (2008) was not publicly available until 2025 via OIA request for this review. This creates a compounding risk: significant weaknesses in the foundational report propagate forward and become treated as settled baseline.
2. Insufficient methodological transparency for consent-level decisions: The review identifies recurring deficits in how evidence was collected, analysed, and reported (e.g., sampling logic, recruitment, interview protocols, coding/interpretation, and reproducibility). For example, the 2014 and 2025 assessment reports methods but collects no primary data and re-interprets inherited qualitative material without documenting analysis procedures. In

effect, opacity of methodology translates to uninterpretable results and in this case substantially impaired utility for decision-making.

3. Conceptual "*value*" ambiguity and construct collapse: The lineage repeatedly blends distinct concepts – use levels, significance labels, substitutability, experiential qualities, and management categories – without stable definitions or a coherent analytical framework. In Booth (2008), "*value*" is used in multiple overlapping ways that reduce interpretability; in Greenaway (2025), the mixing of use and value is explicit and produces a form of construct collapse that undermines interpretive validity for decision-making.
4. Over-reliance on RiVAS outputs beyond intended use: RiVAS outputs are treated as decision-grade evidence, despite being a reductionist regional framework not designed as a project-level effects assessment tool. The review's position is that this use can systematically downplay effect magnitude when applied without contextualisation, uncertainty treatment, or complementary primary data. Furthermore, project specific data collection recommendations made in 2008 were not conducted in later assessments – leaving decision-makers with the same 'data gap' in 2025.
5. Bias and disclosure weaknesses: The 2014 and 2025 assessments lack basic qualitative practice expectations around positionality and bias handling. For the 2025 report, the review identifies undisclosed prior involvement and a report structure that aligns closely with a pro-development framing.
6. Selective representation of affected communities and values: The 2025 assessment omits key recreation constituencies and value dimensions (including Māori values and multiple recreation user groups), creating a narrowed portrayal of who is affected and what is at stake.

Implications for decision-makers

The combined effect of these issues is that decision-makers relying on the 2025 assessment risk misinterpreting low recorded use as low value, accepting

substitutability claims without defensible equivalence analysis, and underestimating irreversible effects on a rare and sensitive recreation setting. The cumulative effect of this series of substantially flawed assessments presents decision-makers with an aged, incomplete and inaccurate representation of place and the relationships of people to the Waitaha River.

On the review's analysis, the Booth (2008), Greenaway (2014), and Greenaway (2025) recreation assessments are not consistently fit for purpose as a robust technical basis for consent-level decision-making about recreation effects in the Waitaha Valley, primarily due to inherited evidence weaknesses, insufficient methodological transparency, conceptual instability around "*value*," and bias/disclosure concerns. As such, these assessments do not provide decision makers with an accurate and trustworthy platform for consideration of the effects of the proposed hydro-electrical scheme in the Waitaha River and should be disregarded.

Introduction

This report provides an independent review of three interrelated recreation assessments prepared in support of the hydro scheme application and tangentially two additional studies which also consider the recreational affordances of the Waitaha River. Three primary reports are:

1. Booth (2008) – *Waitaha River Recreation Assessment*, an unpublished consultant report prepared for Westpower Ltd (obtained via Official Information Act request to WestPower and DOC).
2. Greenaway (2014) – *Westpower Waitaha Hydro Scheme: Recreation and Tourism Assessment of Effects*, produced in support of the Westpower concession application (drafted by Rob Greenaway & Associates[1]).
3. Greenaway (2025) – *Waitaha Hydro Scheme Recreation Report*, submitted under the Fast-Track consenting process as part of Westpower's renewed application.[2]

The following two studies provide comparative example, context and additional information about the Waitaha River:

1. Booth, K., England, A., Rankin, D., Unwin, M., Charles, G., England, K., Riley, K., & Ritchie, D. (2009). Part A: Whitewater kayaking in the West Coast Region: Application of the River Values Assessment System (RiVAS).
2. England, A. (2011). An assessment of the whitewater recreational values of West Coast rivers—Whitewater kayaking (Land Environment and People Research Report No. 2). Land Environment & People, Lincoln University.

The three recreation assessments (Booth (2008), Greenaway (2014, 2025)) form a lineage of assessments all related to a proposed hydro-electric development on

[1]chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://assets-global.website-files.com/651c86ebfeb114a88ed331d0/665413cd712010739aad5dff_Appendix%2019%20-%20WHS%20-%20Recreation%20Report.pdf

[2]https://www.fasttrack.govt.nz/__data/assets/pdf_file/0018/11088/Appendix-28-recreation-report.pdf

the Waitaha River (specifically affecting Morgan Gorge and surrounding reaches). An overview of applications, applicable laws, and outcomes is available in Appendix B. This review's scope is confined to how these reports' evaluations, methodology and data are used to assess recreation and tourism values, and the negative effects of reliance on these by decision-makers.

The Waitaha River on Te Tai Poutini (West Coast) of New Zealand is a remote and highly valued site for recreation, known for its wilderness character, whitewater challenges, and ecological integrity. An application under the Conservation Act 1987 for the proposed run-of-river hydro electrical scheme on the river was rejected in 2019 by then Environment Minister David Parker primarily "*because establishing the power scheme in this location would have significant impacts on the natural character of the area, the intrinsic value of the area and people's enjoyment of it.*[3]" The Minister observed that*, "The area is largely unmodified by humans…near to pristine and yet is accessible for recreation. The area is valued for its natural beauty and wilderness qualities for recreation. The proposal would have significantly undermined the area's intrinsic values which people experience when they tramp and kayak there. I considered expert advice and submitters' views and concluded that the adverse effects of the activity could not be adequately or reasonably mitigated."*

In September 2025 Westpower again applied under the Fast Track Approvals Act.[4] As such, the proposed development is being considered under a framework which does not support circumspection and consideration of the effects on recreation affordances as Galloway, S., & Baker-Galloway, M. (2025) note. The narrowed scope of public and expert consultation and significantly constrained

[3] https://www.beehive.govt.nz/release/waitaha-river-hydro-application-declined

[4] https://www.legislation.govt.nz/act/public/2024/0056/latest/LMS943260.html

timeframes do not support the science required to effectively assess effects on people and place.

The Federated Mountain Club (FMC) notified the Fast-track Approvals Panel Convenor that: *"Significant inaccuracies include misrepresentation of legal public access to the Waitaha Valley, claims of improved access despite Westpower confirming they have no plans to facilitate such access, false suggestions that FMC and other groups would financially benefit, and inappropriately applying an outdated (11 year old) peer review. A significant amount of the information used to support the report is over 10 years old. There are also at least two organisations listed in Westpower's application as having been consulted who Westpower appear to have not formally met with since 2008."*[5]

This present review has been undertaken to clarify the nature and limitations of evidence used in assessing the impacts of the proposed hydro power scheme on recreational values for the Waitaha. The review critically analyses the content and sources of each recreational assessment, cross-checking references and consistency across the 2008, 2014, and 2025 versions. Key claims about recreation significance, usage levels, and effects of the hydro scheme were traced back to their original sources (when available) to test for accuracy and currency.

Methodology

This review follows standard practices of checking and verification of claims made using source material contemporaneous with the research being reviewed. The relevant reports were collected and read paying attention to sources of empirical evidence and claims made about recreation that rely on expert

[5] Federated Mountain Clubs of New Zealand Press Release, 08 September 2025, "*Waitaha Hydro application presents false information to Fast-track Panel*"

judgement. Each was analysed to compare their objectives, scope and framing, methods and data, observations and implications. Then analysis was done across the reports to determine the components of empirical evidence versus interpretation of an expert consultant at each stage to assess the degree to which decision-makers are reliant upon each. Lastly, analysis of the claims and assumptions underpinning the reports was conducted to ascertain what these assessments portray about the recreation affordance, as well as what is excluded from consideration.

Document Review

Documents considered in this review include the three recreation reports listed above which were read critically for this report. Each was read for its objectives, scope and framing, and methods and data. Particular attention was paid to the empirical evidence provided for each as well as where the author's judgment provided the basis for a report's suppositions and conclusions. Observations are provided for each.

Booth (2008) – Waitaha River Recreation Assessment

The unpublished 2008 Booth report is one of the core documents reviewed So far as we are aware, this is the first public review of Booth (2008). It was not publicly available during 2014 application round nor in the current fast track application until obtained by this report's author via OIA request.

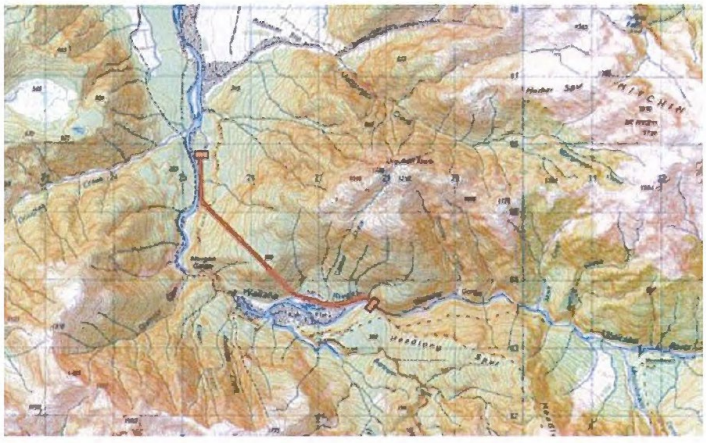

Figure 1: Option 1: Intake at bottom of Morgan

Objectives

The purpose of the report is the *"investigation of the recreational values of the area and the potential effects of this scheme*

upon these values." The stated study objectives were to*: Describe the current recreational use of affected sections of the river and other recreation-related values; to assess the significance of these recreational values; and to outline the likely effects of a Hydroelectric power scheme upon these values* (p. 1).

The proposal is described as a run of the river scheme[6], targeted to produce approximately 120Gwh per year with an approximate peak output of 20MW. The report outlines two options for the scheme with Option 1 placing the intake at the bottom of the Waitaha Gorge, and Option 2 where the intake is located at the top of Morgan Gorge. Booth then describes scheme details that 'would be similar' regardless of option, including a river-wide concrete weir (5-7m above average flow levels) to take in water, and similar tunnel and powerhouse design. The transmission lines and access road are included here, but logically these would be very different depending on placement of the intake weir.

Scope and Framing

Figure 3: Scheme option 2

While the objectives of the study are clearly stated, a significant lack of detail about how the work is framed and conducted creates substantial confusion regarding the values being discussed at any one time.

[6] Water is extracted at a high elevation and diverted through tunnels to low elevation using gravity to provide the necessary force to turn the turbines and generate power.

Methods and Data

The author does not include in the report any references to methodological guidance or critical review of the manner in which interview participants were ethically treated (e.g. informed consent) or how interviews were conducted, what interviewees were told or asked. Each of these undefined design elements accumulate uncertainty as to interpretation. With no description of how data were selected, weighted, or coded a clear method of analysis appears to be non-existent or ad hoc at best.

The first indication of method appears in the scheme summary. Interviewees were provided a *summary of the proposed scheme "usually described orally". "Some informants were aware of the scheme, while others were not"* (p. 5) stating that "*scheme details had not been finalised"* However, two options were provided to interviewees and there is no mention of how these were presented compared or discussed with interviewees.

Booth describes the methodology as *"a literature review and key informant interviews and a site visit was undertaken at the beginning of the study*." (Booth, 2008, p. 7). The literature review provides a listing of various types of literature, including public policy documents, guidebooks, websites and recreation research literature with no criteria or inclusive list provided nor explanation of why or how the included literature was selected or relevant.

The interview data in this report isn't a separate appendix of transcripts or a standalone dataset. It's the qualitative information elicited from "*key informant interviews*" and then written into the report as summaries, paraphrases, and occasional direct quotes. Interviewees were "*recreation organisations and individuals knowledgeable about recreation in the area*", interviewed face-to-face or by telephone.

The report explicitly says the "*current recreational use*" section draws on key informant interviews (plus guidebooks and websites). Many interview-derived statements are cited as personal communication, which is another way the interview content shows up without full quotations (e.g., helicopter-use trend and angling claims)[7]. So, practically, the "*interview data*" is the author's captured informant knowledge (notes/recall from phone/in-person conversations) that is embedded throughout the narrative, rather than provided as raw interview records. As well, the informant list is not exhaustive (i.e., purposive, not comprehensive sampling).

Empirical Evidence Versus Author's Judgement in Booth (2008)

Table 1 provides an overview of the instances where the author has provided empirical evidence in support of claims being made versus where the reader is reliant on the author's judgement, as well as considerations and assumptions the informed reader and presumably decision-maker must need accept in order to gauge the validity of the findings. The claims made, any empirical evidence, and the component of individual judgment are annotated in the table.

[7] There is no explanation for the difference between an interview and a personal communication.

Table 1: Booth (2008) Empirical Evidence Versus Author's Judgement			
Report Element/Conclusion	**Empirical Evidence**	**Author's Judgement**	**Limitations for Decision-making**
Scheme description (Options 1 & 2 and common components)	Descriptive project information about intake locations, tunnels, powerhouse, access road, and the intention to reduce flows to an "*approved residual flow*" in specified reaches (p. 2).	Assumes these scheme details are sufficiently settled and accurate for effects inference; the report itself flags that scheme details may still need defining for later effects work (p. 28).	*The reader must accept that the assessment is not connected to a specific proposal and that discussions are speculative and not factual.*
Method, sources, and scope	Stated methods: literature review, key informant interviews, site visit; web searching including blogs/video sources. Missing are research design, data handling and analysis or validation of incomplete or assumed data.	Selection of sources and coverage risk is explicit: few recreation data exist (p. 27); no existing usage statistics (p.19); hut books are only indicative (P. 19); neither web search (p. 35) nor interviewee list (p. 4) are exhaustive.	*Reader must accept the author's synthesis under acknowledged data scarcity*.
Baseline recreation use ("*low level of use*", activities present/absent)	Drawn from key informant interviews and guidebooks or websites; explicitly notes the database is "*virtually non-existent*" (p. 18).	The "*low use*" characterisation and activity mix are plausibly grounded but not backed by a systematic count programme.	*The reader relies on interview and literature triangulation rather than independent monitoring. Note: the author specifies basic monitoring as the first recommendation, which does not appear to have occurred.*
Use numbers via Kiwi Flat hut book analysis	Hut book analysis (Fred Overmars) provides an empirical trace of sign-ins; includes a time series figure and descriptive statistics.	The report states hut books are not reliable for totals (p. 18); the conversion to estimated bed nights/day users depends on assumptions (e.g., a 30% entry rate and tripling counts). Research used to validate (Overmars et al. 2005) not available for review.	The r*eader must accept those assumptions as reasonable with no substantive analysis.*

Table 1: Booth (2008) Empirical Evidence Versus Author's Judgement			
Report Element/Conclusion	**Empirical Evidence**	**Author's Judgement**	**Limitations for Decision-making**
Setting attributes and "wilderness" character	Empirical inputs are largely qualitative: repeated descriptors from informants (awesome/beautiful/wild), plus references to facility maintenance activity (Permolat) as an indicator of importance. (p. 22)	The step from qualitative descriptors and maintenance signals to an overall "*wilderness*" value framing is interpretive.	*Readers must accept the author's weighting of informant narratives as representative of values.*
Experiences provided (solitude, challenge, "*accessible remoteness*")	Uses DOC strategy language about remote-area experiences, and interviewee phrasing ("*accessible remoteness*").	Translates a mix of policy statements, interview language into a single experience typology (remote and challenging) is a judgement call about what best characterises the place and for whom.	*The reader must accept that the author is circumspect and comprehensive in construction.*
Economic benefit discussion	Evidence is limited to informant comments about spending by international kayakers (e.g., helicopter use, living costs).	The report explicitly says a full benefits assessment is outside scope, then infers "*it seems reasonable*" there is some economic spin-off (p. 23)	*The reader must accept this as a stated inference rather than measured impact.*
Resource substitutability/uniqueness framing	Uses DOC inventory/context (huts, track kms) and DOC statements about extensive remote tracts; also reports that informant opinions varied and may be "*strategic*". (p. 22)	The "*catch-22*" argument (abundance yet collectively unique; encroachment risks reducing collective value) is conceptual synthesis.	*Readers must accept the author's reasoning about regional substitutability and how much weight to put on contested informant views.*

Table 1: Booth (2008) Empirical Evidence Versus Author's Judgement			
Report Element/Conclusion	**Empirical Evidence**	**Author's Judgement**	**Limitations for Decision-making**
Significance assessment (regional/national/international labels)	Draws on informant claims (e.g., elite international kayakers) and DOC statements about Hokitika and West Coast kayaking significance.	The author notes there are "*no accepted criteria*" for thresholds. (p. 24) The assignment of "internationally significant" (kayaking) and "*regionally/potentially nationally significant*" (tramping) therefore depends on professional judgement about scale, comparators, and interpretation of qualitative evidence.	*The reader must accept that scarce data were sufficient to support the author's claims based on the author's expertise.*
Effects assessment framing and limitations	Explicitly positioned as an "*initial assessment*"; confined to the affected reach stating that downstream flow effects require separate consideration once details are available.	It is unclear whether the framing and limitations are the author's or the clients.	*Readers must rely on the author's judgement because effects predictions are made while scheme details are not finalised and because some pathways (e.g., below powerhouse) are explicitly deferred.*
Options comparison (river and track effects)	Option-difference statements in the scheme summary are tied to the described layouts (e.g., dewatered stretches; inundation at Kiwi Flats; track flooding).	The magnitude/extent of these outcomes depends on final design and operating regime.	*The reader must accept that the stated implications follow from the option descriptions as presented.*
Headline effects conclusions (loss/mitigation/opposition)	Some specific kayaking reach implications are logically linked to option descriptions (e.g., Morgan Gorge dewatered; rapids lost; portage increased).	The strongest judgement load in the report: "*wilderness values…will be lost and cannot be mitigated*" and "*strong opposition…can be expected*" are normative and predictive conclusions that go beyond measured data.	*The reader must accept that the author is qualified to predict future decisions and behaviours.*

Table 1: Booth (2008) Empirical Evidence Versus Author's Judgement			
Report Element/Conclusion	**Empirical Evidence**	**Author's Judgement**	**Limitations for Decision-making**
Access road effects	Reports "*two views*" from informants and notes visual effects concerns; also states a road would make some trips feasible as day/overnight options.	"*Likely to alter the amount and nature of use*" and the "*frontcountry shift*" framing are predictive interpretations of behavioural response, not supported by before/after studies in this report.	*The reader must accept that the author is qualified to predict future decisions and behaviours.*
Recommendations (data collection and consultation)	Recommendations are directly justified by the "*dearth of data*" finding and propose specific candidate sources (e.g., submissions review, helicopter records, track counter, hut books).	The prioritisation of what to measure and how (what counts as "*simple*", what is feasible/defensible for consent) is professional judgement—though transparently linked to the identified evidence gap.	*The reader must accept that the conclusions drawn are valid while at the same time accepting the author's recommendations that the data is incomplete.*

Decision-makers reading this report as the basis for the later recreation assessments are left with a significant range of expert judgements that must be accepted in the absence of empirical evidence or rigorous methodological design in order to consider any future application by Westpower. However, this report was not made available as part of the public application documents and was not available for review until October of 2025.

Observations

Booth 2008 falls short of the mark for coherent recreation assessment. While the author does provide some empirical evidence, it is presented as lists of facts from various sources and heavily overlaid with the author's judgement and does not provide clarity as to the limitations of the work. In addition, the work has been threaded with a difficult-to-follow treatment of 'values' which does not add a useful structure for discussion as intended – this point is expanded on below.

The primary validity concern here is that the reader must rely upon the expert's judgment far more than is warranted with clear evidence of a bias towards assumption. Table 1 identifies instances of empirical evidence versus an individual writer's judgement found in Booth (2008) and what the limitations reader would have to accept as a result of reliance on the writer's judgement versus any empirical evidence.

What the reader can trust is the empirically supported interview data in Booth (2008) without re-interviewing the previous or new participants

- Key informant interviews occurred (face-to-face and by telephone)
- The listed people were approached as "*recreation organisations and individuals knowledgeable about recreation in the area*". (p4, Appendix A).
- The interview sample is purposive and explicitly "*not…exhaustive*" of all recreational interests. (Ibid)
- The "*current recreational use*" narrative is partly grounded in those interviews (and also websites/guidebooks).

- Where the report uses double quotation marks, that is explicitly flagged as a direct quote from a key informant, with anonymity mostly preserved.
- Personal communications statements (e.g., about helicopter use and trends) are attributed interview content, but they are still reported rather than auditable data.

So, based on this work it is empirically defensible to write things like: "*In 2008, key informants reported or perceived X*" (and cite the report). We can foreshadow that it would not be empirically supported if, six years later, those interview-derived statements are reinterpreted as evidence of what was true in 2014, or how much recreation actually occurred, or what "*recreationists*" generally valued, then you are extrapolating beyond what the document can strictly evidence, because:

- The raw interview material (transcripts/notes, interview schedule, coding decisions, checks on interpretation) is not presented, only the author's synthesis and selected quotes are available.
- The report itself notes the wider situation: "*Few recreation data are available,"* so the interview material is filling a data gap rather than triangulating against a robust monitoring dataset.
- The informant list is not exhaustive, so narrative silences (who isn't there, which activities/values are under-represented) are structurally possible.

The 2008 interview material can only be empirically referred to as archival documented perceptions at that time ("*reported*", "*perceived*", "*indicated*"). Any claims about change over six years must be clearly identified as hypotheses unless other evidence is added (hut book trends, helicopter flight logs, club trip logs, updated guidebooks/web logs, DOC concession/track data, national angling survey updates, etc.). One can cite Booth 2008 as empirical source material about what those informants said in 2008, but anything beyond that is the author's inference, and must be labelled as such.

Significant Methodological Limitations

Compounded by the lack of clarity as to what is being studied (i.e. values) are several other methodological concerns that further cloud the characterization and utility of 'recreational values'.

- There is no clarity around who was selected for consultation and why, as well as who was excluded from these discussions or how the face to face and phone interviews were conducted, or what questions were asked nor are full contextualized responses included.
- No transcripts or in depth discussion about the qualitative data are provided.
- No clarity is provided as to how the interviews were coded for analysis or what form of analysis was conducted.
- No information is provided about what indicators, thresholds, or rankings were used nor how they were developed
- Significance levels are framed as ad-hoc
- Experiential claims not tied to systematic place methods
- Substitutability is only discussed qualitatively.

Poor explanation of research methods risks under- or over-stating national significance and effects on scarce advanced whitewater experiences. Based on this report insufficient information exists to either repeat this research or apply it elsewhere.

2009 Whitewater kayaking in the West Coast Region: Application of the River Values Assessment System (RiVAS)

The next available research reference for the Waitaha River is a regional assessment of selected West Coast Rivers using RiVAS (Booth et al., 2009). It ranks 58 West Coast kayak runs on 41 rivers and includes the Waitaha as "*high*" value within that multi-river matrix.

Read alongside the 2008 Booth report which considers only the Waitaha River, the 2009 report provides far greater explication of methodology and process, despite the endemic flaws identified in the RiVAS methodology and process under peer review (Tadaki & Sinner, 2014). The stark difference in approach raises further questions about the apparent lack of rigour applied to a client report when a

contemporaneous process with much greater attention to scientific method was being conducted by the same researcher. This review does not critique the 2009 RiVAS study, but it does consider how it is interpreted by Greenaway in 2014 and 2025.

2011 An Assessment of the Whitewater Recreational Values of the West Coast Region

An Assessment of the Whitewater Recreational Values of the West Coast Region (England, 2011) was produced during a Royal Society of New Zealand Teacher Fellowship in collaboration with the Department of Conservation and Lincoln University. The report compiles data collected between 2009 and 2011 on the recreational whitewater kayaking values of major West Coast rivers. The data record provided in the research report is included as Appendix A in this report.

Picture 19: Morgan Gorge on the Waitaha River; grand, pristine, spectacular, awesome, daunting, tempting, terrifying, inspiring and first fully kayaked in 2010.

Data sources included geotagged photographs, river-trip reports, application of the RiVAS methodology, the 2010 West Coast Whitewater Kayaking Survey, and interviews with paddlers. The study's objectives were to: Develop a consistent system for assessing recreational value from a whitewater perspective (with potential use for other activities), assess and record the value of major West Coast river drainages to whitewater recreationists, and present data in forms useful for management planning and social impact assessment assessments.

Rivers were evaluated for difficulty, scenic quality, wilderness character, flow reliability, accessibility, and significance to kayakers. A survey assisted in quantifying user origins, trip frequency, and perceived importance. The report concludes with guidance for land and rescue managers and outlines directions for further research. Overall, it establishes a structured, evidence-based baseline of West Coast whitewater recreation use and value, compatible with RiVAS methods and intended to inform conservation and development decision-making from a more grounded perspective.

References to the Waitaha River

The Waitaha River receives detailed treatment as a premier example of world-class wilderness whitewater on the West Coast. Key information extracted from the Waitaha River Report Form (20 Feb 2010) includes:

A description of the 13.6 km section from Moonbeam Hut through Morgan Gorge to Robinson Slip – rated as a Classic Grade 5, with steep, technical, pool-drops in whitewater with powerful hydraulics, sieves, and caves. Hydrological records are cited indicating a reliable flow from late spring to autumn (generally, this section is paddled at 30 cumecs). England describes the river as having silty-green opaque water flowing through striking bedrock and boulder formations in multiple gorge sections with waterfalls and sculpted rock walls. England notes the scenic contrasts between tight gorges and the open flat valley as one travels down the river.

England characterizes the wilderness quality and overall experience as "*the pinnacle of one-day wilderness adventure kayaking*." The portage around Morgan Gorge (1–1.5 hours through dense bush) is considered integral to the adventure – a very different perspective than that offered by the other recreation assessments of the Waitaha. The environment is described as pristine apart from monitoring equipment and survey markers linked to hydro-scheme investigations. England also notes Whio (blue duck) sightings at Kiwi Flat on previous trips.

The survey England conducted to generalize his findings produced data from 36 paddlers with direct experience of the river across 92 recorded trips. The respondents had paddled the Waitaha River an average 2.6 trips each. The respondents rated the river extremely high for importance, challenge, scenery, wilderness, and flow reliability. England also provided a grounded assessment of management considerations for access and a clear perspective on the effects of hydropower on the kayaking experience. He also provides notes for search and rescue in situ.

In summary, the Waitaha River is portrayed as an exceptional, high-wilderness, high-difficulty whitewater environment central to West Coast kayaking culture and emblematic of the tensions between recreation and prospective hydropower development.

2014 Recreation Assessment of Effects

A second assessment of recreation and tourism effects of a different run of the river scheme was conducted in 2014 (Greenaway, R., 2014). It begins without

preamble with a detailed description of the proposed development and a one sentence description of the study area as "*defined as the Waitaha catchment*." This report relies heavily upon Booth, K. (2008) for recreation perspectives other than those inferred by the author. While the list of interviewees from the unpublished 2008 report are included, no direct quotes of interviewees are given in the nine occasions where the interviewees' perspectives are used in support of Greenaway's position. Yet the detailed and attributable quotes from England, A., (2011) are not referenced or included in the 2014 report (nor the later 2025 report).

Objectives

Greenaway, R., (2014) aimed to describe existing recreation use within the Waitaha Valley, determine the significance of those values, identify effects of the proposed hydro scheme on recreation, and to propose mitigation. These objectives are broadly appropriate for a standard AEE-style recreation assessment. However, none of the objectives are accompanied by methodological commitments, definitions of value, or any reference to accepted social-science standards. As with Booth, K. (2008), the term *value* is used variably and without conceptual clarity, introducing early ambiguity into the assessment.

Scope and Framing

The Waitaha River is treated primarily as a technical environment, where recreation values can be "*scoped*," "*ranked*," or "*summarised*" for planning purposes. The author explicitly relies on, Booth, K. (2008), RiVAS outputs from Booth et al. (2009), DOC hut books, and informal consultation.

This creates an inherited framing issue: the core evidence base is dominated by a flawed 2008 report, and no effort is made to interrogate or replace that weakness. The 2014 assessment presents itself as an "*update*," but largely inherits faulty premises, especially: absence of primary data, absence of public participation,

uncritical acceptance of RiVAS as authoritative, and over-weighting of expert opinion.

Methods and Data

The methods reported include a literature and guidebook review, review of DOC hut-book summaries, interpretation of RiVAS (Booth et al., 2009), re-interpretation of interviews conducted by Booth in 2008) and a site visit. However, no primary data were collected for this assessment. All interviews referred to in the report are those conducted by Booth in 2008. There is no explanation of coding, analysis, weighting, or interpretation. The RiVAS outputs used were from an early-stage, time-pressured regional panel that was not designed for project-level recreation impact assessment. There is no verification of the reliability of inherited data.

As with Booth, K. (2008), this fails the minimum standard for qualitative method transparency in terms of sampling, recruitment, questions asked, and interpretive logic. All remain undocumented. Greenaway also provides no methodological critique of Booth (2008) while repeating England's methodically appropriate statement of limitations as critique indicating an asymmetric application of standards (See Asymmetrical Reporting section).

Empirical Evidence Versus Author's Judgement in Greenaway (2014)

As with Booth (2008) there are a number of limitations present that affect the capacity of decision-makers to base conclusions on empirical evidence versus the judgement of an individual consultant. Table 2 identifies the critical elements in Greenaway (2014), what empirical evidence is provided in support, the author's reliance on their own expertise, and the limitations decision-makers face in their reliance on this report and its findings.

Table 2: Greenaway (2014) Empirical Evidence Versus Author's Judgement			
Report Element	**Empirical evidence**	**Author's Judgement**	**Limitations for Decision-makers**
Overall method and inputs	Multiple lines of inquiry are listed: field site visits, use of Booth 2008 interview data, a 2012 DOC gaps analysis, attendance at public info days, meetings with key recreation organisations, interviews/personal communications, literature/online sources, relevant policy documents, and review of other specialist technical assessments.	The author is explicit that conclusions about effects in this report are theirs, based on "*subsequent research*" and a revised scheme design, so the synthesis and weighting of inputs is interpretive rather than empirical.	*The reader must accept that 2008 findings, based on a different proposal, are transferable to the 2014 proposal without the need to conduct new interviews and collect new data to verify that the author's judgement is correct.*
Baseline "*low use*" characterisation (numbers in the hundreds)	The report provides quantified estimates for annual use by activity (e.g., ~50 kayakers on the main gorge section; fewer than 10 on the hardest sections; ~50 hunters; fewer than 150 trampers/day visitors to Kiwi Flat).	Those figures are not presented as results of a systematic count in this report; they're a derived baseline from mixed sources (incl. earlier work and interviews).	*The reader must trust the author's aggregation, representativeness, and that the figures remain valid given "developments over time."*
Kiwi Flat Hut use estimates	Hut-book data (2000–2012) are used; the report states the hut-book entry rate is unknown and applies DOC's "*~30%*" assumption, tripling recorded entries to estimate ~210 bed nights/year + ~75 day users, and notes missing entries (e.g., Westpower investigation staff/consultants).	The conversion from hut-book entries to total use depends on a contestable multiplier (and the report acknowledges uncertainty about entry rates and hut-book reliability).	*The reader must accept the tripling rule-of-thumb and that it is conservative/appropriate for this hut/context.*

Table 2: Greenaway (2014) Empirical Evidence Versus Author's Judgement			
Report Element	**Empirical evidence**	**Author's Judgement**	**Limitations for Decision-makers**
Flow regime changes quantification (Morgan Gorge/abstraction reach)	The report uses a modelled flow record (39 years) and presents exceedance-style statistics comparing natural flows with a 23 m^3/s take and 3.5 m^3/s residual flow (e.g., availability of 11.8–23.3 m^3/s drops from 40% to 7% annually; details on flood/fresh frequency and residual-flow spell lengths).	Translating flow-duration changes into recreation impact severity still requires judgement (e.g., what flow bands matter most; how paddlers respond, what counts as "*constraint*").	*The reader must trust the author's choice of relevant thresholds/interpretation for kayaking practicality.*
Kayaking impact: Morgan Gorge opportunity becomes constrained	The report states the preferred kayaking flow for Morgan Gorge is unclear and notes more use would be needed to establish an ideal flow range; it also provides comparative flow-availability statistics and recommends mitigations (controlled ceases to abstraction; online flow info; track/location review).	*Because the "ideal flow range" is acknowledged as not established, the conclusion that the opportunity remains but is "highly constrained" depends on expert judgement about paddler preferences, safety/portage feasibility, and what constitutes an unacceptable reduction in usable days.*	*The reader must accept the author's conclusions without empirical evidence.*
Significance framework (local → international) and thresholds	The report explicitly states there are "*no accepted criteria*" for significance levels/thresholds and then defines its own rating system (including "*locally significant*" and "*not significant*"), plus notes that user numbers are not a single determinant of significance (e.g., low encounters can be the value).	Because the framework is author-defined, the weighting of criteria (rarity, reputation, substitutability, access difficulty, user numbers) is normative.	*The reader must accept the author's chosen thresholds and how they're applied to specific activities/river reaches.*

Table 2: Greenaway (2014) Empirical Evidence Versus Author's Judgement			
Report Element	**Empirical evidence**	**Author's Judgement**	**Limitations for Decision-makers**
Kayaking significance: "*internationally and nationally significant*" (as part of West Coast suite)	The report grounds this in the suite logic (Waitaha as a component of the West Coast's high-grade rivers) and ties low use to extreme difficulty and difficult access (incl. helicopter access for get-in and difficult portage).	The claim depends on judgement about how much *membership in the regional 'complex' of rivers* should elevate the status of a specific river/reach, and how strongly "*difficulty*" should drive significance irrespective of low use.	*The reader must accept the author's conclusions without empirical evidence.*
DOC CMS "*backcountry-remote*" setting and compatibility	The report quotes/relies on the DOC CMS zoning description for "*backcountry-remote*" and identifies the scheme as falling within that zone.	The report asserts that a hydro-development is "*not compatible*" with that category yet also asserts CMS outcomes for the place will still be achieved with the scheme - both are evaluative conclusions that depend on judgement about policy intent, thresholds for incompatibility, and what "*still achieved*" means in practice.	*The reader must accept the author's conclusions without empirical evidence.*
Effects ratings and residual effects (Table summary)	The report provides a structured effects table (by activity) with effect description, level of effect, mitigation and residual effect (e.g., "*high*" residual effects for Morgan Gorge constraints and whole-river natural-state change; high effects at Kiwi Flat for tramping/hunting experience due to infrastructure in a backcountry-remote setting; "*nil/low*" for some others).	The categorical ratings (nil/low/moderate/high) are ultimately professional judgement calls; the table rarely shows an explicit decision rule mapping evidence to rating.	*The reader must trust consistency of rating across activities and that mitigation of residual effect estimates are realistic.*

Table 2: Greenaway (2014) Empirical Evidence Versus Author's Judgement			
Report Element	**Empirical evidence**	**Author's Judgement**	**Limitations for Decision-makers**
Regional recreation/tourism effects "*very slight*" (availability of substitutes)	The report states regional effects will be slight due to many alternatives and low Kiwi Flat use and reiterates in the regional effects summary that there are "*numerous alternative backcountry-remote and white water settings*."	The report does not, in these sections, enumerate or systematically compare substitutes (quality/uniqueness/functional equivalence). The "*substitutability equals a slight regional effect*" link therefore relies on judgement about what counts as a meaningful alternative and how reputational effects propagate.	*The reader must accept the author's conclusions without empirical evidence.*
"*Uncontrolled river*" quality and international significance risk	The report argues that added management constraints (needing to confer with Westpower to secure natural flows via ceasing abstraction) may remove a key quality that makes Morgan Gorge internationally significant.	This is a values-based interpretation: it assumes a particular recreation attribute (freedom from third-party control/permission) is central to "*international significance*," even if the reach is rarely used.	*The reader must accept that attribute hierarchy and its effect on significance.*

Table 2 shows how judgement-load increases decision risk.

Observations

The assessment does provide descriptions of tracks, huts, and routes, a clearer picture of hunters and trampers than the Booth 2008 report, recognition of kayaking significance and a useful descriptive environmental context. However, all user numbers are speculative or derived from hut books only.

Notably, none of the recommendations Booth makes to improve understanding of the effects on the recreational affordance of the Waitaha were undertaken for the 2014 report, nor the 2025 report.

While kayak use is summarised using Booth 2008 and Booth et al, 2009, no effort was made to develop empirical data to support these reports or the claims made by them. The significance assignments are not reproducible. Substitutability claims are asserted, not demonstrated despite the data available in the RiVAS 2009. No sense-of-place, attachment, or relational values appear anywhere in the analysis. And most critically, the interpretation of kayaking significance is entirely derivative from Booth and RiVAS, not from 2012–2014 data.

As a result, there are significant validity and reliability concerns which significantly limit the interpretability of the report. For validity, there are concerns for both internal and external scientific truthfulness[1]. The internal threats include: Unverified inheritance of flawed Booth, K. (2008) data, no definitions of value, no evidence of triangulation of methods despite clear design flaws, and no presentation of any analytic process and no treatment of the resultant uncertainty. RiVAS data is used outside its intended purpose with no rationale for doing so. As

[1] Internal validity has to do with the accuracy of a study's cause and effect conclusions, while external validity refers to the generalizability of conclusions to other populations, settings, and times.

a result, the 2014 assessment produces conclusions that cannot be replicated or tested.

Regarding external validity, the report draws conclusions about: National significance, substitutability, effects on kayaking, and the relative importance in the West Coast network. These claims are made without national datasets, without comparative methods, and without engagement with kayaking communities. External validity is therefore weak.

Reliability is undermined by reliance on 2008 interviews as reported – there is no evidence that Mr Greenaway had access to the interview notes, recordings or transcriptions – with no repeat or verification, absence of documented scoring or coding, use of RiVAS outputs beyond scope, absence of structured expert elicitation in 2014, lack of full peer review (the 2014 "*peer review*" is not included). There is no methodological path to follow as one expects of evidence based processes. In other words, a different assessor using the same evidence could not be expected to reach the same judgments.

Further the report displays a range of framing biases. Pro-development bias is visible when effects are framed as "*manageable*" and "*localised*" without evidence. The report relies on reductionist value framing where values are converted into significance classes without discussion of meaning or experience, or definition of value. Assumptions from Booth, K. (2008) are accepted uncritically so the report carries inheritance bias. There is evident bias toward expert voice as no user voices are collected directly when user voices were certainly available. The report also presumes West Coast rivers are interchangeable for high-grade kayaking, contrary to place research and constitutes substitutability bias. Absent entirely are consideration of Māori perspectives, relational values, sense of place, lived experience, or cumulative effects.

2025 Recreation Assessment of Effect

The Greenaway (2025) assessment of effects for recreation reaches its conclusion in 25 pages; relying on eight appendices and five attachments. As such it is heavily reliant on the two previous reports and inherits their flaws and limitations as a result. This report accepts and entrains the limitations for decision-makers of the two previous studies as identified in Tables 1 and 2. Appendix C provides detail on the changes in the hydro-project design from 2008.

Objectives

The stated objectives in Greenaway, R., (2025) are to: Describe the existing recreation environment in the Waitaha Valley; assess the significance of recreation values, assess effects of the proposed hydro scheme; and propose mitigation to avoid, remedy, or mitigate effects. These are standard AEE objectives, however, as with both earlier reports, the objectives are not accompanied by methodological commitments or definitions of key concepts (values, significance, effects, substitutability). This allows interpretation to drift toward consultant preference and client framing. The objective "*to rely on the 2014 report with updates*" introduces a fundamental methodological risk, because the 2014 report itself relied heavily on the fatally flawed Booth 2008 report.

Scope and Framing

The 2025 assessment positions the Waitaha within DOC's *backcountry-remote* setting and frames recreation use as "*low*" and "*specialist*." The report frames kayaking as a declining activity and makes no mention of significant developments in whitewater recreation. The packraft has emerged globally in the interim and already young paddlers are descending Grade V and VI rapids in them. Greenaway, R., (2025) makes no mention of packrafting, nor were leadership of Pack Rafting New Zealand (PRANZ), the national association for the

activity, involved in this report[2]. The report frames tramping/canyoning as stable or increasing, while providing no empirical evidence for either statement.

The report frames the scheme as "*small scale*" within a large regional recreation resource – generalizing the value of the Waitaha River in itself – and then frames effects as "*localised*" and "*mitigatable*." This framing strongly resembles the 2014 framing but is more strategic and tightly aligned with the developer's interests. Notably reframing kayaking from *high significance, pinnacle experience* to an activity "*in decline*" on a "*low use*" river with "*manageable effects*." The report elevates canyoning and tramping to "*balance*" the kayaking narrative. The report is overly conclusive – foregrounding the ability to "*mitigate*" even when mitigation is speculative or dependent on discretionary future choices by DOC or user groups.

No positionality statement is provided for either the 2014 or the 2025 Greenaway reports. No declaration of prior involvement, ongoing advisory relationship or other conflicts of interest are made explicit, although it is indicated in the provided CV which reveals long-term work for Westpower.

Methods and Data

The methods listed included four site visits (2014–2024), a literature review, hut book analysis (Kiwi Flat), interviews with helicopter operators (with very little detail provided). The 2025 report persists in the use of Booth, K. (2008) interview statements, and relies on RiVAS outputs (Booth et al., 2009) and England (2011). In addition the report relies on Strava heatmap analysis which has known biases and cannot be considered representative data for recreation behaviours (Venter et al., 2023).

[2] Personal communication

The 2025 report has major methodological deficiencies. There are no new user interviews from identified groups (i.e., kayakers, packrafters, trampers, hunters, canyoners) were conducted despite the 11 year span from 2014. There was no participatory engagement with any recreation organisation except WWNZ for negotiation of mitigation (a matter outside the scope of the reports). Helicopter pilot statements are used in place of recreation user research. No sampling logic, recruitment method, or coding of any qualitative data. Hut-book data treated as representative, contrary to DOC guidance and standard sampling practice.

RiVAS is used as if scientifically authoritative, despite being known as a reductionist methodology and unsuited for consent-level assessment (Tadaki & Sinner, 2014). No uncertainty analysis, no triangulation, no methodological limitations acknowledged. By 2025 standards in social-impact and recreation planning research, these methods do not meet minimum defensible thresholds.

Empirical Evidence Versus Author's Judgement in Greenaway (2025)

Table 3 provides an overview of the empirical evidence presented in the 2025 report, where the author's judgement is provided as evidence and the effects of these on the reader and decision-maker reliant upon it.

Table 3: Greenaway (2025) Empirical Evidence Versus Author's Judgement			
Report Element	**Empirical Evidence**	**Author's Judgement**	**Implications for Decision-makers**
What this update is based on	The report is explicitly an update drawing on earlier Waitaha recreation work (2008, 2014) and a revised scheme design.	That older data remains valid under changed access patterns, recreation trends, and post-COVID visitation shifts, and pertains to revised scheme design.	*The reader must accept that data, conditions, and recreation behaviour dating back to 2008 remain unchanged and accurate in 2025 (i.e., tracks, hut condition, helicopter operators, boating patterns).*
Field basis	Site visits occur across multiple years (including 2008, 2013, 2024) and are combined with desk-based mapping/review.	Whether those visits are sufficient to ground fine-grained effect ratings (especially for perceptual/setting effects and seasonal use).	*The reader must accept what was directly observed vs inferred without systematic field notes and repeated seasonal checks.*
Author's own judgement is foregrounded	The report states conclusions are those of the author (even where informed by prior work).	Any "*overall*" or "*net effect*" rating is ultimately a professional judgement synthesis, not a measured result.	*The reader must accept the author's reasoning (criteria, evidence, weighting, and rating) for each judgement of effect (high, moderate, low) without explicit evidence.*
Recreation use levels at Kiwi Flat	Hut book counts (2000–2024) used to estimate visitor trends, with stated limitations (unknown recording proportion; DOC estimate ~30% but likely higher for remote huts; figures conservative).	Translation of hut-book entries into actual use magnitude and trends (multipliers, representativeness, missing books 2013–2016).	*The reader must accept the author's assumptions and conclusions without the use of independent track counters, hut occupancy sampling, helicopter logs, or maintenance logs to triangulate conclusions.*

Table 3: Greenaway (2025) Empirical Evidence Versus Author's Judgement			
Report Element	**Empirical Evidence**	**Author's Judgement**	**Implications for Decision-makers**
Activity mix (what people do there)	Hut book activity coding rules are described (e.g., "*armed tramping*" treated as hunting; hot pools separated; "*DOC work*" combined), plus observed emergence of canyoning/kayaking records post-2021.	The coding choices materially shape the activity profile (e.g., reclassifying "*not stated*" as tramping/hunting).	*The reader must accept the author's subjective treatment of available data and interpretation of inconclusive or missing data and resulting conclusions.*
Access route/where people actually walk	Strava heatmap is used as an evidence source; limitations are acknowledged (Strava users are a subset; differing estimates of representativeness).	Inferring the dominant route choice from an inherently biased dataset, then using that inference to moderate effect ratings (e.g., "*perceptual only*" depending on route).	*The reader must accept the author's inferences and generalization based on a limited data set with known biases without the benefit of ground-truth with GPS tracks from diverse user groups, or on-site observation/track condition surveys.*
Track condition and "	The report describes difficulty locating markers/route finding issues in places, which affects how users experience the valley.	Inferring experiential quality (the "*remote*" feel) from track difficulty is partly judgement and may vary strongly by user skill.	*The reader must accept the author's unidimensional inferences regarding the internal experiences of users and their multifaceted relationships with place.*
Kayaking flow opportunity (quantified change)	Flow availability statistics are reported (e.g., mid-range 17.5–22.5 m^3/s dropping from ~34.3% to ~4.7% annually; >22.5 m^3/s reduced too).	Treating those percentages as "*opportunity*" assumes paddlers can act on them; timing, travel, weather, and team readiness complicate that link.	The reader must accept the author's contextualzation of opportunity without the benefit of event-based opportunity analysis (weekends, forecast windows), triangulate with historic trip reports/club logs.

Table 3: Greenaway (2025) Empirical Evidence Versus Author's Judgement			
Report Element	**Empirical Evidence**	**Author's Judgement**	**Implications for Decision-makers**
Claim that flow stats over-estimate true kayaking opportunity	The report explicitly notes preferred flows coincide with other factors, so percentage-of-time can overstate real trip feasibility.	The *degree* of over-estimation isn't measured here and is a qualitative inference.	The reader must accept the author's inferences and judgement regarding high level kayaking without quantification against historic trips vs flow windows (trip diary datasets, club records, and guide logs).
Kayaking significance (regional/national/international framing)	The report anchors significance via the West Coast "*complex*" and RiVAS ranking context (e.g., Waitaha listed as highly kayaked Class V on the Coast; internationally significant framing).	Weighting "*complex value*" vs "*river-specific value*" is a judgement choice that can change the significance conclusion.	*The reader is left to decide whether significance attached to this river or to the portfolio of rivers without an explicit valuation frame showing how the conclusion changes under each frame.*
Significance criteria are acknowledged as contested	The report states there are no nationally accepted criteria; RiVAS is presented as the main attempt; it also distinguishes "*value*" from "*use*" and notes option/existence values are beyond scope.	Any significance determination is necessarily judgement-heavy because the criteria/thresholds are not fixed and some value types are excluded.	*The reader must accept the author's judgement on the use of flawed instruments without calibration in the absence of nationally accepted significance criteria, use/value inferences, and determination of scope.*
"[illegible]" (low-use still significant)	The report explicitly states low encounter rates and that use levels don't alone determine value/significance.	Applying that principle to conclude "*very high*" significance is still a judgement step (how much low use can still imply high value, and why).	*The reader must accept the author's logic, inferences and generalizations about the Use/Value proposition without defensible thresholds or comparative benchmarks (other valleys/rivers) rather than narrative assertion alone.*

Table 3: Greenaway (2025) Empirical Evidence Versus Author's Judgement			
Report Element	**Empirical Evidence**	**Author's Judgement**	**Implications for Decision-makers**
Hunting: magnitude and patterns	Evidence includes hut book (hunting recorded as popular), plus interviews (2013, 2024) and reference back to Booth (2008) regarding species, seasonality, helicopter access and approximate numbers.	The "*~50 hunters per annum*" style estimate is not independently validated here; it's a triangulated judgement from interviews and past work including Booth (2008).	*The reader must accept that the data sources, time and method of collection, veracity at the time and validity after significant time remain useful as estimates in 2025 without confirmation with current data.*
Safety risk from rapid flow changes (Morgan Gorge)	A downstream-flow assessment is summarised with numeric thresholds (e.g., load rejection scenario totals; conclusion of very low but slightly uncertain risk; mitigation via 10 m^3/s bypass valve + warnings).	Accepting that the bypass valve and warnings "*appropriately mitigate*" is partly an expert judgement (explicitly framed as "*in the opinion of the authors*").	*The reader must accept that underlying modelling assumptions and peer review adequately specify performance criteria (response time, warning placement, residual risk acceptance) and practical mitigation.*
Perceptual/natural character effects	The report explicitly includes perceptual effects (e.g., "*knowing*" the river is no longer wild/natural) as part of effect pathways.	Perceptual impact magnitude is not directly measurable here; ratings depend on the author's interpretation of visitor psychology and setting expectations.	*The reader must accept the author's interpretation of visitor psychology and setting expectations without visitor use research (intercepts/surveys), and specification of whose perceptions matter (local users, destination users, expert users).*
Overall "*[illegible]*" calls (e.g., whole-river kayaking)	The report connects quantified loss of mid/high flows to a "*major change from uncontrolled setting*" and assigns a "*high*" net effect for kayaking the entire river.	The step from hydrology stats to a categorical "*high*" is judgement (weighting flow loss vs planned cease-to-abstraction benefit).	*The reader must accept the author's judgement and inferences for translation of categorical data points to experiential quality without direct experience or explicit weighting for expert users.*

Observations

The 2025 report is useful in that updated hut-book counts are provided. There is recognition of growth in canyoning participation and identification of access issues via private land. As well, more detailed mapping and diagrams and clearer descriptions of infrastructure effects are provided. However, as illustrated in Table 3 the use of empirical evidence versus author judgements increases dramatically despite the intervening decades between data collection and the current report's conclusions.

There is also systematic and selective omission of 2014 baseline detail. Compared to the 2014 report, the 2025 version strategically removes – or fails to update: detailed descriptions of tramping routes, full user-group breakdowns (hunters, trampers, kayakers separately), rich user narratives of kayaking significance, detailed access discussions, or explicit recognition of the Waitaha's pinnacle-status among kayakers. As well as presenting 2014 data with no consideration of change in the interim, the report fails to consider emergent activities such as packrafting – about which a great deal has been known since 2023 (Galloway, 2023). This omission dampens the qualitative richness and experiential weight of recreation affordances and experiences.

The 2025 report misrepresents kayaking trends – asserting a significant decline in participation, while providing no empirical data, new interviews, and relies on helicopter operators while ignoring technological and cultural shifts (packrafts, ultralight gear, new kayaking cohorts). For example, one of the main advantages of the packraft (which the author does not mention) is its packability, a distinct advantage in places such as the Waitaha River. The author's judgements produce a methodologically unsupported 'decline' narrative with no supporting empirical evidence.

Use-frequency is repeatedly used as a proxy for importance, significance, substitutability, the scale of effects. This is contrary to all contemporary values frameworks, including those widely used in New Zealand since at least 2010. Regarding the tangental hot springs and safety discussion, the author relies entirely on engineering modelling and dismisses experiential and behavioural realities of recreation groups, and omits experiential safety practices in canyoning and kayaking. For the reader, this creates unrealistic assumptions about risk and appropriate thresholds.

Findings of the Review

The collection of reports developed to support WestPower's application for a Hydroelectric development on the Waitaha River do not present a coherent argument for said development due to the many persistent errors in conceptualization, design, methods selected, application, analysis and interpretation of the data that begin in 2008 and are permitted to endure to the 2025 report.

The overarching finding of this review is that a series of consultant reports have presented a mixture of direct evidence, inferred relationships and expert conjecture (Tables 1-3) to describe the acceptability of a hydroelectric power scheme which itself evolved with each iteration from 2008 to 2014 to 2025 (Appendix C). The 2025 report relies heavily on a 2008 initial assessment of a very different design and capacity of hydro scheme – keeping in mind that the 2008 study had *two* separate design proposals presented "*usually described orally*" to the interviewees (p. 1). Yet without preamble or any methodological explanation findings from a qualitative desktop study are carried forward to 2014 and then to 2025 and each time applied to a different hydro scheme design 17 years later with no attempt to validate the authenticity of this extended interpretation with new data.

Implications flowing from Booth (2008)

The implications of errors in Booth 2008 include the inflation or deflation of significance; without indicators and thresholds claims of national importance lack auditability and affecting balancing of consent decisions.

Claims about substitutability are likely misaligned in that advanced-class IV–V scarcity is asserted but not tested against any replicable inventory. Prominence in Charles (2006) is cited to claim national standing, but this is not a significance test. As well, Booth cites the 1981 Egarr recreation surveys with no regard for the time past nor the evolution of whitewater recreation in the interim (p. 12).

There are critical errors in the 2008 report's design, method, treatment of research subjects, handling and interpretation of data. Even were the observations and conclusions held a basic degree of provenance; there is no quality assurance regarding method to be found. The ratio of empirical evidence to author's judgement is decidedly biased toward the latter as a result (Table 1). Readers of this report cannot interrogate the author's conclusions with supporting interviewee narratives as there are none provided.

Conclusions based on this report are therefore questionable at best, and it follows that any reinterpretation or extension of Booth's interpretation and conclusions are untenable. As such there is no way to determine the trustworthiness or authenticity of the work as there is no grounding of the work in the literature, explanation of method or analytic process – leaving the reader with no capacity to assess the reliability and validity of the data and therefore the research as a whole.

Dependence on Booth 2008

Booth (2008) serves as the basis for later conclusions by Greenaway (2014, 2025) – which informed both the DOC position (Wightwick, 2015) and the information application decision-makers have had available to them during the process.

The two subsequent recreation assessments (Greenaway, R., 2014, 2025) depend on Booth (2008) materially. The peer review dated February 2014 by Dave Bamford does not list the Booth (2008) report among materials reviewed (Greenaway 2025, Attachment 4)[1]. Some may question the fairness of applying academic research standards to what is in effect a planning report, and there is some practicality to that argument. However, as Booth, K. (2008) forms the basis for much of the conclusions of both Greenaway and Wightwick with no regard to critical flaws in the 2008 report, a rigorous critique was required and warranted. The 2008 report was read with the context of 2008 in mind – the critique relies on contemporaneous research standards and capabilities available to the author as a consultant and staff member at the University of Canterbury.

It is important to keep in mind that this project carries substantial and irreversible change to a river ecosystem with remarkable recreation affordance and natural justice requires the highest standards of assessment be utilized.

As well, the timing of the Booth Report in 2008 coincides with the methodological development of the RiVAS model. The RiVAS methodology document were not published until December 2010 (Hughey & Baker, 2010).

[1] While there is a place holder in the 2014 report for a peer review statement, none is included. We presume that the 2014 peer review report was carried forward to the 2025 report and was omitted from the 2014 report document. The material aspect here is that the 2014 peer review did not consider the 2008 Booth report itself as part a review of evidence, and that no further peer review was sought for the 2025 report.

The purpose and scope of the 2008 study – to assess recreation values and likely effects of the proposed Waitaha hydro, focusing on tramping, angling, hunting, and advanced whitewater kayaking, aside from its dependence on the word value is clear. The empirical evidence base cited (reports, guidebooks, hut books, and websites) limit the scoping of recreation taking place on site, even with informant corroboration. There is no evidence of attempts to generalize findings beyond the expert interviews. The lack of supporting literature, clear definitions, and methodological systems increase the potential for bias arising from a consultant report prepared during an application process.

Booth 2008 *could* have served as a useful scoping project, but that would be the outer limit of its fitness-for-purpose: suitable for scoping, not for defensible "*national significance*" findings. The report recognises whitewater values for advanced kayakers and scarcity but use levels for kayaking rely on secondary sources and informants, e.g., the narrative of prominence in Charles (2006). Effects framing is qualitative. No flow-regime or opportunity-spectrum indicator model is applied to predict change, rank loss, or test seasonality. The author critiques weak national-list methods yet adopts an informal significance frame without a replacement standard, creating internal inconsistency. Expert voices are heavily weighted (Report Appendix A), which is valid when formal panel protocols, scoring, and uncertainty treatments are used. No context is provided beyond the interviewee's names and selected short quotations.

None of the structures that were being contemporaneously developed by the RiVAS team - expert panel protocols, indicator sets, thresholds, weightings, or ranking of outputs or explicit "*significance*" decision rule or national comparators are evident in the assessment conducted for Westpower. It is odd that research including that produced about the Waitaha less than a year later appears to be in full RiVAS format with Dr Booth as lead author (Booth et al., 2009). Of particular note, Booth 2008 is not listed as a reference in Booth et al., 2009, nor is it clear

what overlap in data exists when there is overlap in time, authorship and interviewee membership.

No explanation was available as to why the peer review conducted for the 2014 recreation assessment (Greenaway, 2014) did not question the reliability and validity of the 2008 recreation assessment.

Key validity threats arise from reliance on an unpublished, client-commissioned report with no peer review.

Greenaway, R. (2014) explicitly replies upon Booth's 2008 45-page, preliminary assessment and its 23 stakeholder interviews, with no critique of its quality. The 2014 conclusions are Greenaway's based and there is no evidence of checking these conclusions with the interviewees. Reinterpretation and reporting of 2008 interviewee quotes by Greenaway in 2014 without re-analysing transcribed interview notes or recordings and gaining the agreement of the original interviewees as due diligence and standard ethical practice requires. This violates the ethical protections designed to protect research subjects – as well as the provenance of any narrative communicated by the original interviewee. This occurs Greenaway, R. (2014) and is reproduced in Greenaway 2025 and significantly undermines the authenticity of any conclusions and cannot be trusted.

In Greenaway, R. (2014), Appendix 1 reproduces the Booth interviewee list, without any indication of contact by the author to update interviewees and verify conclusions in either 2014 or 2015. "*Reference to a preliminary recreation effects assessment of the Scheme, as it was proposed in 2008, prepared by Lindis Consulting in 2008 (Booth 2008) including the findings of 23 stakeholder*

interviews (see Appendix 1 of this report). Data from these interviews[2] *are used in this report where referenced. All conclusions made in this report about the effects of the Scheme on recreation and tourism values are those of the author of this 2013 document and are based on subsequent research and a revised Scheme design"* (P.5). We presume the 2013 document Greenaway refers to is his own 2014 report. No research design to reinterpret 5-year-old interviews is provided which presents a significant threats to the validity of the 2014 and 2025 reports.

Greenaway (2014) reproduces RiVAS output authored by Booth et al. (2009) which stands in stark contrast to the 2008 work, again without comment on methodological disparities. The main text also quotes positions "*from Booth, K. (2008)*" on uniqueness and kayaker views, confirming direct dependence for some claims. The DOC consent assessment (Wightwick, 2015) also notes Booth, K. (2008) and points to Greenaway's 2014 inclusion of RiVAS outputs, indicating it too treats Booth's work and the 2014 content as key inputs.

While Booth, K. (2008) contains significant limitations that persist through the following studies. There are also elements of Booth, K. (2008) that are misrepresented, omitted or amplified in the Greenaway reports (2014, 2025). Booth, K. (2008) explicitly states that assigning national significance to the Waitaha was a speculative judgment based on limited data and subjective opinion (p.12). Neither the 2014 nor the 2025 reports cite or communicate this caveat. Instead, they treat Booth's data and conclusions as authoritative and definitive, using them to support claims of high recreational and national significance thereby misrepresenting Booth, K. (2008).

[2] Only brief interviewee quotes are provided in Booth 2008, no substantive analysis of qualitative data is present, or rationale given for why a particular quote was selected.

Booth's work was a preliminary assessment based on 23 interviews and clearly limited in scope. Greenaway's later reports extrapolate from these interviews to much broader claims about national and international significance, without acknowledging the narrow evidence base Booth relied on. The 2025 report even treats Booth's data as current despite the 15-year gap since data collection.

Booth reported some elite kayakers describing the Waitaha as "*inspirational*" or "*aspirational*" (P.23) the claim that the Waitaha is the "*ultimate goal*" appears to come from Booth as there is no attribution of that statement to a kayaker in relation to the Waitaha. Greenaway generalizes this to label the river as a "*pinnacle*" or "*Mt Cook*" of kayaking (2014, P.45; 2025, P. 19), without noting that some of these statements came from kayakers who had never paddled the river (Booth, 2008, P. 23). This misleads readers about the depth of experience informing those judgments and amplifies the status of the Waitaha River in an ungrounded manner.

Implications Flowing from Greenaway (2014)

These concerns translate to serious implications for the utility of this report. The Waitaha's recreational significance is systematically understated. Substitutability has been mischaracterized. If rivers are incorrectly treated as interchangeable, decision-makers may believe effects are minor when they are not. The report presents confidence it does not empirically possess. Every subsequent report relying on this assessment inherits these weaknesses. Councils and DOC who considered this report in their decision-making would likely have been under-informed about the true magnitude of effects.

The Greenaway, R. (2014) assessment lacks methodological transparency and relies on invalid or unverified data (Booth 2008). The report misapplies RiVAS – a regional assessment tool for comparing all the rivers in a region - as an assessment of effect for a hydro-electric project on a single river and

demonstrates no engagement with contemporary place or recreation research. It fails to meet normal standards of qualitative rigor, provides conclusions that are not reproducible, and it embeds framing biases likely to downplay effects. As such, it cannot be considered a reliable or defensible assessment of recreation effects for the Waitaha proposal, nor does it provide a robust basis for consent-level decision-making.

Implications Flowing from Greenaway (2025)

As with the previous reports, threats to validity are significant. They include reliance on flawed and unreviewed statements about 2008 interviews, selective narrative shaping, uncritical use of RiVAS outputs as decision material, treating hut-book numbers as representative of total use, and speculative estimates labelled "*conservative (high)*." There is an absence of uncertainty treatment and inconsistent handling of significance definitions.

Construct Validity Confounded by Overuse of 'Values'

Construct validity has fatal flaws originating with Booth (2008) that flow through to the 2025 report. While Booth (2008) provides operational definitions and criteria against which to assess various 'values,' they lack supporting literature, rationale, method or indication of significance, and as a result the reader has no clarity as to the actual values being studied or how to define those values. The components of value described include six separate present multiple, overlapping, and contradictory uses of the word *value*:

1. Current and potential use,
2. Setting attributes (natural, managerial, activity-specific),
3. Experiences,
4. Benefits,
5. Resource substitutability; and
6. "*Option value*"

The use of the word value does *not* provide clarity on the author's intent in its use. Booth even stipulates a 2-step process: "*First the values of the resource for*

recreation must be identified. Second, the significance of these values assessed" (p. 21). Value is discussed as an economic/non-economic benefit (utility), then set aside from scope; as "*resource value*" tied to substitutability and uniqueness; as "*recreational values*" that are later converted into significance ratings (international, national, regional); as a collective or system-level "*value set*" for the West Coast, distinct from site-specific value; and as experiential qualities users "*value*" (e.g., low encounters), blending preferences with attributes. The overuse of the word value (80 occurrences) across six (6) vague definitions in this report contributes to its overall lack of clarity and reliability.

The reports mix use, significance, substitutability, experiential qualities, management categories, and potential effects without conceptual separation or definition. By social science standards this creates construct collapse - values cannot be meaningfully interpreted (Spector, 1992; Weller & Romney, 1990). The assessments also make claims about national significance, regional alternatives, international relevance without comparative national datasets or a structured method. These conclusions therefore lack external validity.

Reliability is constrained by the absence of reproducible coding of data, unclear interpretation logic, inconsistent referencing between appendices and main text, reliance on subjective judgments, absence of independent peer review, lack of transparency in interview selection (inherited from Booth, 2008). If another assessor replicated the method, substantially different results would be expected.

Significant bias was indicated in the 2025 report. The author has worked for Westpower on Waitaha since at least 2012. This is not disclosed in the methods section, and the structure of the report systematically aligns with a pro-development framing. Reductionist value bias observed in the manner in which recreation is defined via significance categories, use-frequency, substitutability, and DOC management settings. This excludes place, identity, attachment, sense of wilderness, symbolic or cultural meanings. Substitutability bias is evident in that

the report claims numerous regional substitutes, but provides no equivalence analysis, discounts earlier research valuing the Waitaha (England 2011), ignores unique gorge morphology, and ignores Morgan Gorge's global rarity as a paddling feature. Omission bias is present in that key experiential dimensions present in the 2014 report are absent. No Māori values are considered, which disregards a significant set of well-being interests of connection to the river or for mahinga kai. There was no engagement with trampers, hunters, packrafters, canyoners, or kayakers.

Decision-makers relying on this assessment would underestimate effects on the experiential quality of the Waitaha and misinterpret low use as low value. Tables 1-3 illustrate the heavy reliance on expert judgment versus empirical evidence that compounds with each report. Taking these reports as written, decision-makers may assume kayaking value is in decline when evidence does not support it and accept substitutability claims that are not defensible. They may ignore cumulative and perceptual effects and underestimate effects on setting integrity of a backcountry-remote area – overlook the role of Waitaha in the West Coast recreation identity. As a result of relying on these reports, decision makers may misapply mitigation measures that do not address core experiential losses. However, the most serious implication is the systematic understatement of irreversible effects in a highly sensitive and rare recreation setting.

Greenaway, R., (2025) does not meet contemporary standards for social-impact or recreation-assessment methodology (Department of Conservation, 2012; Greenaway, 2021; Kenneth F. D. Hughey et al., 2011; Tadaki et al., 2021). It relies on a flawed evidence base (Booth 2008, incomplete 2014 assessment) and uses RiVAS in a way unsupported by its creators or peer literature.

Greenaway, R., (2025) also fails to integrate modern values research (Tadaki & Sinner, Newton & Sinner, etc.) and omits or downplays material baseline information while at the same time overstates substitutability and mitigation

viability. The work lacks methodological transparency, robustness and shows multiple forms of bias and as a result produces conclusions that are not defensible in a planning, legal, or scientific context. Accordingly, the assessment cannot be considered reliable, valid, or fit for purpose as a technical basis for decision-making about effects on recreation in the Waitaha Valley.

Change in Argument from 2014 to 2025

The 2025 report states "*This report is based on a similar assessment completed by the same author in 2014. This report relies on much background data gathered at the time, with sufficient review to ensure that the information still applies, and with updated data where relevant*" (p. 36). This statement implies that the two reports are intended to be taken together, one a continuance of the other. However, there are several arguments made that are either dropped or shifted from 2014 to 2025 – that are not related to changes in the application or the standards of valid assessment.

Detailed Recreation Facilities & Route Descriptions

The 2014 report included detailed mapping and descriptions of huts, ridgelines, swing bridges, and routes (Bluff Hut, Sir Robert Hut, Moonbeam Hut, County Stream Hut, Ivory Lake Hut, swing bridges, and ridge routes linking valleys) and the management by DOC and Permolat Trust. The 2025 report provides information on infrastructure, access routes, and managed hut networks are revised versions of the 2014 text that do not appear to be updated with the 2025 data.

In doing so the 2025 report reduces visibility of the interconnected hut/track system, making the Waitaha appear more isolated and less socially valuable. Decision-makers may assume the area supports fewer activities or has lower dependence on infrastructure. It undercuts the contribution of volunteer networks (Permolat, tramping clubs), effectively excluding their work from the narrative.

Quantified Recreation Use Data (by Activity)

In the 2014 report estimates are provided by DOC for hunters, trampers, and kayakers, but these data are not considered again a decade later in 2025. Instead of updating use data, the author shifts to general "*peaks*" through 2022–24 without breaking down by user category to the same level of precision.

This change makes it harder to compare across time or by user group and likely exaggerates variability (spikes 2022–24) while losing sense of baseline consistency. Groups like hunters may effectively disappear from consideration, even if their steady but low presence is important for cultural and social value.

Qualitative User Descriptions from Paddlers & Literature

In the 2014 report there are rich quotes describing Morgan Gorge and the Waitaha as *pinnacle-grade*, *pristine*, and internationally noteworthy based on guidebook commentary (Charles 2006/2013), and first-person paddler descriptions. However, in 2025 the evocative, user-based narrative framing seems reduced or omitted, with a heavier focus on technical baselines and effects, rather than definitions of experience.

As a result, decision-makers no longer see the lived experience of recreationists. Emotional and symbolic weight, critical in legal and policy arguments about significance, is diminished. This risks the Waitaha being judged on numbers alone, rather than its role as a 'pinnacle experience'. This shift aligns with a consultant agenda to objectify and reduce the recreation value to metrics that are easier to downplay.

Descriptions of Support Infrastructure and Access (Helicopter Use)

The 2014 report noted helicopter access enabling multiday trips and kayaker entry (e.g., helicopter-assisted portages into Morgan Gorge). Yet in 2025, a decline in heli-kayak trips is referred to but the nuanced framing helicopters as enabling remote access is minimized. Potential shifts of access preferences due to the emergence of the packraft is also not considered.

The enabling role of helicopters for specialist recreation is erased and only the decline narrative remains. This leads to asymmetric framing – that kayaking is "*in decline*" while tramping and canyoning are growing. This could justify investment and mitigation for trampers or canyoners, but not kayakers, packrafters or hunters, hastening loss of advanced whitewater opportunities.

Reference to Mining Activity

Mention is made in 2014 of a small-scale gold mining operation between Kiwi Flat and Douglas Creek (hand tools and suction dredge), but this item is not present in the 2025 report.

This removes a piece of local socio-economic context where recreation co-existed with extractive use. In 2014, mining underscored the multi-use pressures in the valley but its absence in 2025 simplifies the picture to a hydro vs recreation binary. This weakens the sense of cumulative impacts and the fragility of recreation values in contested landscapes.

Interpretation of changes from 2014 to 2025

The 2014 report's more immersive, grounded, user-texture-rich baseline – highlighting infrastructure, access, user numbers, and experiential character – is largely absent in the 2025 version. Instead, the latter likely emphasizes up-to-date flow data, significance assessments, and mitigations, but with less rich contextual framing.

There are a range of cross-cutting implications that arise from this series of reports. For Decision-Makers there is less texture, less diversity of activities, and fewer user voices – making it easier to conclude that "*effects are minor*" and "*mitigation is sufficient*."

For Recreation communities, hunters, trampers, kayakers, and canyoners risk being fragmented. Some groups (e.g., trampers/canyoners) are highlighted while

others (hunters, expert kayakers) are obscured. Packrafting does not exist in these reports

For the public, the reports shift from portraying Waitaha as a living, richly used recreation landscape to a technical site with declining niche use. That framing lowers the public's emotional stake. These omissions reduce recognition of how recreation evolves (e.g., packrafting, inflatables, ultra-light gear). Without explicit baselines and narratives, these activities won't be considered at all in future environmental effects monitoring.

Asymmetrical Reporting for Booth vs England

While Greenaway refers to Booth interviews (23 occasions across both reports), he does so in a consistently asymmetrical way – favouring Booth while sidelining England. This pattern constitutes methodological and interpretive bias. England (2011) generated extensive qualitative material from paddlers, including free-text comments, narrative explanations, and detailed interview-style responses embedded in the online survey. Yet in both the 2014 and 2025 Greenaway reports: Not a single England interview quote is reproduced or participant identified and no substantive narrative comments are referenced. Greenaway uses England *only* for river rankings, a single methodological disclaimer about bias ("*However, England's survey sample is self-selected and may not be representative of actual use*" (2014, P. 46) or descriptive statements from the preface. England's work is reduced to a set of numerical rankings leaving out depth that might support contradictory narratives.

However, Greenaway includes 23 key-informant interviews references from the unpublished Booth (2008) report including their names. Greenaway quotes Booth's interviewees indirectly, e.g., statements about access, flow, significance, or effects and uses Booth's interview findings as if they are raw data. He relies heavily on Booth's qualitative interpretations to support, low overall use, types of

activities, the character of the gorge, and the presence or absence of constraints. Greenaway also reinterprets Booth's descriptions to align them with his revised scheme design. Yet, Greenaway never acknowledges Booth's own methodological weaknesses, including the lack of a sampling strategy, non-random informant selection, a small sample size, and a known strategic positioning of interviewees (which Booth mentions explicitly on page 23).

This is selective adoption without methodological scrutiny compounded by the fact that Booth, K., (2008) was not publicly available at the time. This is the core asymmetry. Greenaway reports England's limitation that the survey has a "*definite bias*" toward hard rivers. He repeats this sentence in both reports[3]. This positions England's work as methodologically constrained. Booth, K., (2008) does NOT present a sampling strategy, uses a small, hand-picked pool of expert interviewees, acknowledges respondent strategic bias in relation to the hydro proposal and describes the uncertainty and speculative nature of some rankings (P. 12).

However, Greenaway never reports any limitations for Booth (2008), assesses representativeness, mentions selection bias or strategic responses and never acknowledges uncertainty in Booth's significance assessments. This positions Booth's work as methodologically unproblematic, even though it is far more limited than England's. The net effect of this asymmetrical reporting is that England appears flawed and limited while Booth appears robust and reliable. This is an artefact of Greenaway's reporting choices—not the underlying research.

Greenaway appears to use the parts of England, A., (2011) that *lower significance* (bias caution), and uses the parts of Booth that *lower significance* (reported low

[3] Page in 2014 and page 59 in 2025)

use, descriptive setting). He avoids the parts of England that *raise* significance (qualitative assessments), and the parts of Booth that *raise caution* (strategic responses, speculative assessments).

Conclusions

In their survey of lost protections for recreation spaces Galloway and Baker-Galloway (2025) observe that "*without reinstating robust planning processes (including community input and appeal rights) specifically for recreation, each generation risks inherited parks and trails being paved away or overrun by commercial interests including tourism. Recreation's hard-won ground under the RMA and other statutes has been eroded, even though the scientific and social evidence in its favour has not. To the point where community feedback is minimised and fast-track decisions risk being based on evidence/reports that do not receive public scrutiny in any meaningful way*" (P. 15).

Replacing Environment Court objections with a submissions process to the very decision-maker proposing development removes an independent review and constrains challenges to narrow questions of law or costly judicial review. This weakens leverage to secure access easements, track realignments, flows, noise buffers, or conditions that maintain affordances. As well, compressed timeframes (10-20 working days, with limited extensions) are ill-suited to assembling recreation evidence or expert input, especially for volunteer recreation clubs.

After a thorough analysis, this review concludes that the existing assessments of Waitaha River's recreation values are insufficiently robust and fall short of best-practice standards in several respects. Booth, 2008 fails to demonstrate an acceptable assessment of recreation on the Waitaha River. The 2014 Greenaway report contextualized the Waitaha to a degree – grounding it in huts, tracks, voices, and modest but meaningful numbers across multiple groups. The 2025 report technocratized the Waitaha, abstracting it into significance categories, selective data points, and a narrow focus on kayaking decline – with no review or

update to the 2014 data which is itself based largely on the 2008 initial assessment. This shift marginalises many recreation groups, underplays long-term cumulative effects, and strategically reduces the evidential weight of recreation values in the statutory process. The critical findings are outlined below:

1. Lack of Independent Updating: Claims that no data exists fall short over a span of many years. Later reports did not independently re-assess the Waitaha River's recreation values but largely echoed earlier findings. This despite the 2008 report calling for user monitoring. The 2014 Greenaway report borrowed heavily from Booth (2008) – itself an *unpublished* client report – and the 2025 report in turn relies on the 2014 work. While some updating occurred (e.g. acknowledgment of new canyoning activity by 2024, inclusion of recent helicopter use anecdotes), others were not (i.e. packrafting). The core evaluation of significance remained essentially unquestioned and static from 2008. This is problematic given the dynamic nature of recreation. Over 17 years, participation trends, access infrastructure, and user demographics have changed, yet no new user surveys or field studies were conducted. For example, if kayaking numbers have declined or if the river has seen new forms of recreation (such as packrafting or canyoning), these developments are not fully captured. The dependence on legacy information, without transparent re-validation, undermines confidence in the accuracy of the 2025 assessment.

2. Transparency and Source Issues: The reports exhibit a pattern of citing one another in a circular fashion, which obscures original data sources. Many statements in Greenaway (2014) and (2025) reference "*investigations*" from 2008–2013, but specifics are often lacking (e.g. which survey or whose expert opinion). The Booth (2008) report on which they rely was not readily available to stakeholders at the time. This lack of transparency means readers (including planners or decision makers) cannot easily verify key claims – for instance, the actual number of kayakers using the river annually, or the basis for describing the

quality of the experience. The review finds that much of the quantitative information (such as estimates of 50 kayakers per year using the gorge) traces back to rough figures in 2008 or to the RiVAS study, rather than to systematically collected empirical data in the field. In a planning context, such opaqueness can be problematic; robust decisions require that evidence be traceable and peer-reviewed, especially when dealing with public natural resources.

3. Reliance on RiVAS without Contextualization: The Greenaway reports lean on the River Values Assessment System results to characterize the Waitaha's significance. RiVAS (West Coast whitewater kayaking application, published 2010) classified dozens of rivers into High/Medium/Low value for kayaking. The Waitaha was one of 28 rivers labeled "*High value*" in that region. The 2014 and 2025 assessments use this to suggest that while the Waitaha is important, it sits among many peers. This interpretation is an unnecessary oversimplification. RiVAS was intended as a *starting point* for understanding relative values, not a final verdict. The method's authors explicitly noted it provides a ranked list "*of limited depth on its own*" that requires further qualitative examination. However, the Waitaha reports did not probe deeper into what being "*High value*" actually means for this river. Critically, the RiVAS exercise itself was based on expert judgments made in 2008–09 with "*few relevant data available*" and all attributes scored subjectively. No update to those scores was done in the 2020s. Therefore, treating RiVAS rankings as current and definitive is misleading. It ignores changes (e.g. new rivers being pioneered, shifts in kayaker preferences) and the inherent uncertainties acknowledged by the RiVAS experts. In effect, the assessments used RiVAS as a crutch for significance, instead of conducting a fresh significance appraisal that accounts for the Waitaha's unique combination of features (remoteness, difficulty, pristine setting).

4. Gaps in Addressing Substitutability: A major principle in recreation planning is to assess whether alternative sites can provide similar experiences if one site is

lost or altered. The notion of substitutability helps gauge the true impact of a development – if an experience is one-of-a-kind, its loss is far more significant. The review finds that the Waitaha assessments touched on this concept only superficially. The 2025 report, for instance, contends that the West Coast has a concentration of rivers, implying paddlers have other options, and it uses RiVAS to identify "*the scale of alternative kayaking options*" available. However, this analysis is incomplete. It fails to ask: can any other river fully substitute the particular mix of attributes the Waitaha offers (a multi-day wilderness paddle culminating in an extreme Class V gorge in a near-untouched valley)? By not explicitly answering that, the reports potentially undervalue the opportunity cost of losing recreational access or quality on the Waitaha. Even among West Coast rivers, many are heli-access only or shorter runs; few, if any, mirror the Waitaha's combination of length, challenge, and setting. This gap was evident in the reports' impact assessment: they conclude effects on kayaking are manageable partly because "*only a few expert kayakers*" are affected and they have other rivers – a conclusion the review finds debatable without a more rigorous substitutability analysis.

5. Limited Consideration of Sense of Place and Community Values: Modern freshwater planning emphasizes that rivers hold meaning beyond just their use as recreation sites. Factors such as cultural identity, spiritual value, and the sense of place a river provides to a community are now recognized in policy (e.g. the concept of Te Mana o te Wai in New Zealand's freshwater framework). The Waitaha assessments largely omit these dimensions. They are technocratic in tone – focusing on quantifiable metrics like visitor days, river grade, and facility presence – but do not report any engagement with the local community (e.g. no interviews with residents or iwi about what the river means to them). There is also no mention of the historic or heritage aspect of recreation in the valley (such as the long-standing use of Kiwi Flat Hut by trampers, or the river's renown in the kayaking community).

The lack of any cited Māori values or community consultation is a notable omission given the requirements of inclusive planning. This is a significant deficiency: sense of place can be a key driver of public interest in river management and neglecting it could lead to conflict or oversight of important values. The 2025 report was prepared under tight timeframes, but even so, best practice would call for at least acknowledging community perspectives (e.g. submissions from interest groups) and the intangible qualities of the river environment that contribute to recreation experience (solitude, wilderness character, etc.). The review concludes that by not integrating these elements, the assessments present an incomplete picture of "*recreation values*", treating them as if they were solely the sum of activities like kayaking, hunting or fishing, divorced from the deeper human connections to the river.

6. Methodological Bias and Credibility: Finally, the cumulative effect of the above issues touches on the credibility of these reports in a planning or legal forum. Expert evidence on recreation is expected to be neutral and evidence based. However, the lineage of these documents shows a consistent consultancy perspective (all authored or peer-reviewed by individuals involved in the project's development process) rather than truly independent scholarship. There is an inherent tension in the same consultant preparing the AEE (Assessment of Effects) for the proponent across multiple iterations – without independent peer review apart from an internal 2014 "*peer review statement*" – and then that evidence being relied on in decision-making. This review does not allege any intentional bias, but notes that methodological shortcuts (reusing old content) tended to minimize the recognition of adverse effects. For example, the conclusion that the hydro scheme's impact on recreation would be minor is reached in each report with similar wording, despite the fact that between 2008 and 2025, recreation science and policy expectations have advanced.

An independent assessor might have placed more emphasis on irreversibility of losing a wild river experience or on the proposal's inconsistency with conservation planning objectives. The consistency of conclusions across 17 years, without substantial new evidence, suggests a predetermined narrative. This could be viewed critically by an Environment Court or Fast-Track panel expecting a frank analysis of uncertainty and significance. In short, the credibility of the 2025 recreation assessment (and its predecessors) is undermined by their failure to demonstrate methodological rigor, to openly discuss limitations, and to fully embrace a multi-faceted evaluation of recreation value.

The shortcomings identified have material implications for planning under both standard RMA processes and the Fast-Track regime. In the earlier concession application, the Minister's 2019 decision to decline was influenced more by ecological and wilderness values than recreation per se – perhaps partially because the recreation reports did not forcefully convey how exceptional the Waitaha's recreation was. Looking ahead, under the Fast-Track panel, there is a risk that these assessments, if taken at face value, could downplay significant effects (e.g. the loss of a potential "*once-in-a-lifetime*" kayaking opportunity, or degradation of the backcountry character that trampers and hunters' treasure). If decision-makers are not presented with a candid appraisal, the outcome may not appropriately weigh recreation in the balance. Conversely, addressing the identified gaps would support better-informed, more balanced decisions. It would ensure that any approval (or conditions imposed) under the Fast-Track process adequately protects what the National Policy Statement for Freshwater Management 2020 calls "*amenity and social values*" of water, which include recreation. Ultimately, the conclusion is that significant improvements are needed in how such assessments are conducted and presented, to uphold the integrity of planning decisions and to maintain public trust in expedited processes.

What does this mean for the Waitaha hydro scheme decision and for similar assessments in the future? Firstly, any conclusions about the significance of recreation in the Waitaha River Valley based on these assessments should be treated with a very high degree of caution. They are one input, but not the final word. Decision-makers should explicitly recognize the report's limitations.

Rather than three independent studies, they function as iterative editions of a single assessment. The 2014 Greenaway report was essentially an update to Booth (2008), and the 2025 report acknowledges that it "*was prepared by the same author*" as 2014 and *"relies on that older material."* This raises important considerations: Inaccuracies or overlooked aspects the initial 2008 assessment (due to its unpublished, internal nature), persist through 2014 and 2025 unless actively corrected. Each report used similar approaches (literature review, expert opinion, RiVAS data) with little evidence of new primary research (e.g. no new user surveys or systematic observations were reported in 2014 or 2025).

This review raises significant questions about whether the Environment Court or Minister has been presented with a current and valid picture of recreation values.

By providing a detailed, evidence-based critique, this report aims to support more critical and reflective practices in environmental valuation – practices that acknowledge the plurality of values at play and the political nature of seemingly technical assessments (Tadaki & Sinner, 2014). In the context of the Waitaha River, with its contested development proposal and rich tapestry of human and ecological values, such critical scrutiny is essential for planning outcomes that are both just and sustainable.

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Appendix A – Waitaha River: England, 2011

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Waitaha River (normal fly-in around Moonbeam Hut)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	Wherever the helo can land on riverbed around Moonbeam Hut, on this trip river left bank opposite Dorothy and Moonbeam Creeks, approx: 43° 08.388'S 170° 48.822'E 223 213 There is a walk-in option to the downstream end of Morgan Gorge, put-in depending on ability but around: 151 255	At downstream end of Robinson Slip, river right, approx: 43° 06.092'S 170° 43.816'E 153 254
Access description	Helicopter access usually with Kokatahi Helicopters. Helo pick-up varies depending on vehicular access to Robinson Slip, but is usually from Robinson Slip.	
Land status (banks)		
Date kayaked (for this report)	20th February 2010	
Group members (on this trip)	Paul Currant (UK/NZ) Keith Riley (NZ) Kevin England (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Classic adventure whitewater grade 5. The Waitaha is medium steep, technical g4 and g5 pool-drop river kayaking. The pools are short, except Kiwi Flat, and the rapids are medium length usually requiring several linked moves, and very close together. Whitewater is powerful and varied, with holes in particular commonplace. Hazards are very real and varied, with sieves and caves on top of the usual hydraulic hazards of holes and waterfalls. Portaging is possible but usually technical in itself, requiring skill in moving on steep rock and in at least one place a 5m seal launch into a powerful hole. 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 cumecs. 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 autumn. The section from Moonbeam to Morgan Gorge is about 7.5km, then just over 1km through or around Morgan Gorge, then just over 5km to the take-out at Robinson Slip: 13.6km in total.
Description of water landscape (inc. water quality and clarity, river bed features)	The water is almost always silty-opaque, with a green or blue grey colour. Its opacity varies throughout the season. The river bed varies from boulders to bedrock with some amazing features of both, including caves and waterfalls made from huge boulders and chutes carved from bedrock. In most of the section before Kiwi Flat, it is whitewater that is prevalent. Kiwi Flat is a gentle shingle section, followed by Morgan Gorge and downstream with more bedrock and boulder whitewater. There is no return to shingle until the take-out.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The Waitaha valley is steep sided and covered in dense native bush. The sides are dissected by slips, tributaries and waterfalls. The Waitaha has several spectacular gorge sections, although only two are named on the map (it is not usual to kayak Windhover Gorge, although I believe at least one group has). Waitaha Gorge seems to be several gorges, from river level. There is one particularly scenic section with numerous waterfalls very close together, running over cliffs on river left, which always seem to catch the sun to create rainbows. Most of Waitaha Gorge is reasonably wide, although it narrows in one section to river width and constricts the river to a winding slot with cliffs either side. The resulting erosion of the rock makes incredible sculpted gorge sides. Waitaha Gorge spills abruptly into Kiwi Flat, which is a reasonably wide grassy flat covered in layered shingle/sand beaches from floods. The valley sides wrap around Kiwi Flat on all sides with only a slot for the Waitaha River to exit from. This is Morgan Gorge which is one of the most spectacular gorges – perhaps the most spectacular - on the West Coast. It has high, vertical sides which are close together and are fluted vertically in sharp arêtes instead of the usual gentle waves of gorge wall profiles. The upstream end of Morgan Gorge has large boulders at river level but the gorge narrows further as you progress downstream, to a point where it opens out slightly and cascades over a steep rocky slip next to a huge boulder or eroded bedrock shape. There are hotpools on the left bank here. Morgan Gorge then turns to the right and flows straight out to its sudden downstream mouth. The rapids at this point go over a small waterfall into a calm pool, from which you can look back upstream (usually in awe) into Morgan Gorge. Downstream, the valley progressively widens and the gradient progressively eases until you reach Robinson Slip. Here, at the

	take-out, the Waitaha becomes a wide valley and the shingle rapids lead downstream towards the sea which is apparent in the light and openness of the valley at this point. From put-in to take-out, the Waitaha is a spectacularly scenic river, primarily for its gorge features.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	The Waitaha river trip has a very high wilderness feel, despite travelling through farmland to reach the helo pick-up and flying over a swingbridge and hut. The immediate river corridor is pristine and wild in every way, with no sign of human influence until observant paddlers notice the ominous monitoring equipment around the end of Waitaha Gorge, then the trail marker and bridge at the start of Morgan Gorge (usually a portage along the trail). There are then some signs of further industrial work on the river bank downstream of Morgan Gorge, where surveying for a potential hydro scheme has obviously taken place. Despite the detracting factors of the industrial monitoring, the Waitaha currently feels very much like a pristine wilderness adventure and the aggressiveness of the river environment adds significantly to that feeling. At the time of this trip, Morgan Gorge had not been descended right through (I was part of a group who attempted to in 2003 and members of my team from this trip successfully kayaked Morgan Gorge the day after this trip). The portage, however, is an important part of the 'wilderness' adventure experience: it is arduous, carrying a kayak through dense bush for 1-1.5 hours and requires both skill to find the trail which is frequently broken by slips and stamina to complete this portage after an intense day of difficult whitewater kayaking. The fact that there are still technically challenging rapids after the portage adds further to the sense of wilderness adventure. On this trip, I found the Waitaha to be every bit the wilderness adventure experience that I have in the past.
Notable flora and fauna (eg blue duck)	None on this trip although I have seen several whio in the river at Kiwi Flat every other time I have been here.
Description of overall character of river	This is 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.
Distinctive features of river trip (key words)	Adventure; grade 5 whitewater; gorges; wilderness; commitment; hot springs; portage
Info for land managers	Vehicular access to the road end can be difficult and it would be very useful to ease this difficulty on either bank (in the past, the south bank has been very difficult despite there being a DoC

	track). For kayakers, deterioration of the track is not a problem and possibly even adds to the adventure challenge of the day. Helo access is essential and due to usual landings in the (mobile) river bed, helo access leaves no traces. The presence of testing equipment in the river bed is ugly and offensive to kayakers. Progress towards a hydro scheme of any sort in this river would be vehemently opposed by kayakers, with no compromise position possible.
Info for rescue managers	As the track is mostly well back from the river, it is unlikely that anyone other than a kayaker would end up in the Waitaha river. Most kayak teams that paddle the Waitaha are well experienced and act as their own rescue team. In the event of a SAR op, a helo sweep of the river is worthwhile as most of the river is visible from the air (except Morgan Gorge). I would strongly recommend using an experienced whitewater spotter as there are many unusual river features. Due to the Waitaha's usual cloudiness, steepness, technical challenge and complexity, any search for an unresponsive target is likely to produce a very low POD. An experienced kayak team could search the Waitaha safely with reasonable effectiveness, especially looking for a responsive target. It would require a highly skilled team. Allow 4-6 hours from Moonbeam Hut to Kiwi Flat and more if detailed searching is required. Carrying overnight equipment on the Waitaha would be hazardous and it may be necessary in this case to plan to helo out from Kiwi Flat (or drop overnight gear there). The Waitaha holds its flow for several days after a reasonable rainfall event. At low to medium flows, it is possible to portage all grade 5 rapids (which I think is essential for risk management on SAR ops).

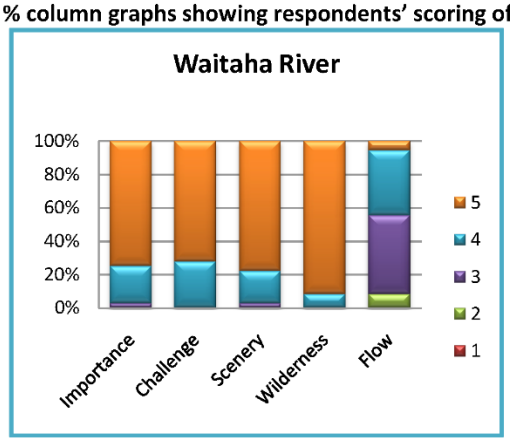
Any other notes

Put-in from helo

River scenery – waterfalls and gorge walls

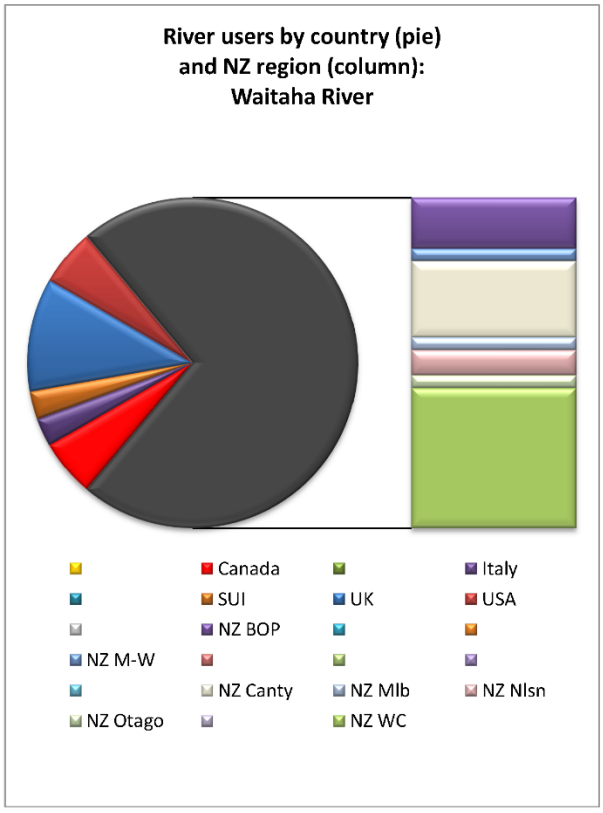
Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



Importance: 1=not, 5=extremely
Challenge: 1=none, 5=only on a good day
Scenery: 1=unattractive, 5=inspiring
Wilderness: 1=no wilderness, 5=pristine, remote
Flow: 1=unreliable, 5=very reliable

The bigger the block, the more people scored that number



Numbers	
Total number trips recorded	92
Number of respondents for this section	36
Mean number trips per person	2.6

Appendix B: Timeline of Westpower/Waitaha hydro applications, legislation and outcomes

Timeline of Westpower/Waitaha hydro applications, legislation and outcomes				
Date/period	**Application**	**Agency**	**Applicable law at time**	**Outcome/status**
July 2014	Application for concessions (lease/licence/easement) to build/operate the Waitaha run-of-river scheme on public conservation land	Department of Conservation	Conservation Act 1987 (s 17Q/Part 3B)	Entered the DOC concessions process (electronetgroup.com)
September 2016	Same concessions application (publicly notified as an "*intention to grant*")	DOC/Minister of Conservation	Conservation Act 1987	Public notification and move to hearing stage (electronetgroup.com)
December 2016	Hearing on the concessions application	DOC	Conservation Act 1987	Hearing held (electronetgroup.com)
August 2019	Decision on the concessions application	Minister for the Environment (	Conservation Act 1987 (s 17U(3) and also s 17U(2)(b) and s 17W(1)	Concessions declined (New Zealand Government Docs)
May 2022	Application for reconsideration of the 2019 concession decision	Minister for the Environment	Conservation Act 1987 (s 17ZJ)	Reconsideration sought (separate from the original 2014–2019 process)
December 2024	Project positioned to use the fast-track pathway (listed in Schedule)	EPA	Fast-track Approvals Act 2024	Enables a single process to seek multiple approvals concurrently (Westpower)
September 2025	Substantive fast-track application for "*resource consents and other approvals*" for Waitaha Hydro	EPA	Fast-track Approvals Act 2024	Application accepted as complete and progressed

Appendix C: Changes in Design from 2014 to 2025 applications

Changes in hydro power scheme design from 2014 to 2025 applications			
Proposal	**Conservation Act 1987**	**FTAA 2024**	**What changed?**
Installed generation capacity	16–20 MW peak output[1]	23 MW installed/peak output	Capacity stated increases from 16–20 MW to 23 MW.
Annual generation (stated)	115–120 GWh[2]	~120–140 GWh	Stated annual output increases (and/or is re-estimated).
Underground conveyance & access concept	A single large tunnel (~1.5 km; up to 8 m wide) providing for settling basins and a penstock/service road concept[3]	Described as separate, parallel underground tunnels: a pressurised water tunnel and an access tunnel, plus an underground desander	Major layout refinement: "*one large tunnel with internal functions*", "*two dedicated tunnels plus a desander*".
Headworks portal size & finish (visual mitigation)	2022 document refers back to an earlier assumption of a 5 m × 7.5 m access portal (to store a large digger)[4]	Update reduces portal to 3 m × 3 m, with natural rock (not concrete) and portal form reflecting schist layering[5]	Concrete, specific design mitigation changes were developed for the reconsideration package.
Above-ground access vs underground access at the top end	access from powerhouse to intake would be via tunnel + helicopter and that no new road was required to access Kiwi Flat[6]	Fast-track doc describes an iteration where an access approach was replaced with an underground access portal to minimise vegetation loss	Access approach refined toward underground access (while helicopter use still appears in the construction activity list).

[1] Notified Concession Officer's Report to Decision Maker
[2] Notified Concession Officer's Report to Decision Maker
[3] Notified Concession Officer's Report to Decision Maker
[4] Waitaha Hydro intake site – an update on design features in relation to landscape, natural character and visual amenity
[5] Waitaha Hydro intake site – an update on design features in relation to landscape, natural character and visual amenity
[6] R50630 - Advice required on Waitaha Hydro Concession application

Changes in hydro power scheme design from 2014 to 2025 applications			
Proposal	**Conservation Act 1987**	**FTAA 2024**	**What changed?**
Fish passage & recreation-specific features (made explicit)	Earlier summaries focus on core infrastructure and flows (weir/tunnel/powerhouse, residual flow, road).[7]	Later docs make explicit design objectives/features: maintain kōaro passage, exclude trout upstream, potential whio duckling access, and portage/downstream passage provisions for kayakers; plus "*strict requirement*" re kōaro passage status quo.	Not necessarily "*new*" values, but later applications harden these as design objectives/conditions and describe them in more detail.

[7] R50630 - Advice required on Waitaha Hydro Concession application