

Preliminary request for information

This is a preliminary request for information. The Panel expects that a number of the matters set out below will be traversed through the section 53 process, and the Panel may issue further requests for information following completion of that process. As a preliminary step the Panel sets out where it would be helped by further comment, and sets a deadline for a response to this request of **5pm on 9 October 2026**. This timeframe will hopefully allow the s 53 invitees to respond to information received.

1 Ecology matters

The Panel has undertaken an initial review of the Assessment of Potential Ecological Effects (Attachment 2.14, Wildlands, March 2026) (the AEcE), the updated management plans, the Population Viability Analysis (Attachment I) (the PVA), and the Applicant's responses to the section 46 advice from the Canterbury Regional Council (ECan) and the Department of Conservation (DOC), and visited the site on 24 September 2026.

To assist the Panel's understanding of the ecological effects and how they are proposed to be managed, further information is sought from the Applicant on the matters below, several of the points having been also raised by ECan and DOC in their initial comments.

1.1 Ecological impact assessment method

The Panel accepts that the EIANZ Ecological Impact Assessment Guidelines (Roper-Lindsay et al. 2018) are guidelines, not standards. However, the AEcE does not define the levels of effect used and the Panel has difficulty following how conclusions were reached, or how conclusions were reached for the suite of ecological values associated with the site (e.g., the outwash ecosystem, its component habitats, and Threatened or At Risk species). To assist the Panel's understanding it would be helpful if the Applicant preferably through its experts:

- a) Defined each level of effect used.
- b) Explained further how the level of effect was determined for each ecological value, having regard to the threat status of the ecological value affected and other relevant matters including the extent, condition or population size of the ecological value affected;
- c) More information on the level of effect before effects management. It would be helpful to know each effects management measure relied on and whether it is avoidance, minimisation, remediation, offsetting or compensation. Also the residual level of effect; and the expected biodiversity outcome (no net loss, net gain, net loss or uncertain). It would be useful if reasons were provided for the conclusions put forward.
- d) We note that ECan recommended a table showing each effect's level before and after effects management, including on the outwash plain ecosystem, with residual effects identified (Attachment 5, pp. 28–29). It considered the AEE Table 12 only a partial response, and the applicant has not since provided the table. Therefore, a consolidated summary table is sought that sets out: the level of effect before effects management; each effects management measure relied on and whether it is avoidance, minimisation,

remediation, offsetting or compensation; the residual level of effect; and the expected biodiversity outcome (net gain, no net loss, uncertain, or net loss with an assigned magnitude or level of loss), with reasons.

1.2 Vegetation assessment

ECan and DOC raised a number of concerns with the vegetation survey. Consistent with these concerns, during the site visit the Panel observed indigenous short-stature herbfield and a stony/bare-gravel mosaic within areas mapped as exotic grassland or herbfield, which appeared to correspond with the short-stature vegetation, bare ground and stones identified by the UAV survey. The Panel also observed unmapped Threatened or At Risk plants including within the solar array footprint. The Panel would be helped if it could receive:

- a) Updated, ground-truthed vegetation and habitat mapping, including the location and distribution of Threatened or At Risk vascular plants, that accurately represents the vegetation characteristics of the site.
- b) Quantitative plot data validating the vegetation mapping, and:
 - i) showing the extent of habitat suitable or potentially suitable for indigenous vascular and non-vascular plants and Threatened and At Risk invertebrates; and
 - ii) providing adequate assurance that Threatened species (including spring-flowering annuals such as *Lepidium solandri*, and non-vascular plants and lichens) that could potentially occur on the site are unlikely to be present.

1.3 Tekapo ground wētā and other notable invertebrates

The Terrestrial Invertebrate Management Plan records that Tekapo ground wētā may be present anywhere on the site, as its habitat requirements are not well understood, and assesses the effect of habitat modification as significant before management (section 5.1.3). It would be helpful if:

- a) The adequacy of the Tekapo ground wētā surveys for understanding the species' distribution was addressed, and also the significance of the site for this species, including the proportional effect on the known Tekapo ground wētā across its range and more broadly the level of adverse effect.
- b) ECan notes that the application (Figure 4.10) indicates minor or nil earthworks may occur across most of the site, and that invertebrate habitat may also occur across most of the site (AEcE Figure 11). It would be useful if the Applicant preferably through an expert could quantify the extent of Tekapo ground wētā and notable grasshopper habitat that will be lost or modified by earthworks, vehicle tracking, piling, shading and grazing, and compare it with the extent, quality and expected functional gain of the proposed enhancement areas (a habitat loss/gain assessment).
- c) It would also be helpful if it could be explained how the proposed effects management reduces the severity of effects, identifying the contribution of each management measure and supporting evidence.

- d) Similarly, evidence that the proposed type and intensity of pest control will deliver measurable benefits for Tekapo ground wētā sufficient to counterbalance residual effects, and the pest densities required to achieve stated benefits.

1.4 Kakī/black stilt and other Threatened avifauna — magnitude of effect, uncertainty and the precautionary approach

- a) ECan recommends locating the solar farm away from important bird habitat and known flyways, and DOC's avifauna reviewer considered that collision-reduction measures with merit should be applied at the outset rather than adaptively. It would be helpful if the Applicant, preferably through experts, described the options considered to avoid or reduce collision risk at the outset (such as alternative sites including already-developed land, whether substation location is a genuine constraint, excluding the parts of the site closest to the captive breeding centre and the Ōhau River, increased setbacks, or applying additional measures such as UV markings or white gridlines from the start), and the reasons for the approach adopted.
- b) It would also be useful to understand better how the level of effect on kakī/black stilt has been assessed, having regard to the threat status of the species, the site context (including proximity to the captive breeding centre, the Ōhau River and delta, wetland habitats), the scale of the solar farm and cumulative effects.
- c) Also the degree to which uncertainty and the precautionary approach have been factored into the assessment, and what a reasonable worst-case outcome would be.
- d) NPS-REG Policy F(4) directs particular regard to adaptive management, and the Supreme Court in *Sustain Our Sounds Inc v The New Zealand King Salmon Co Ltd* [2014] NZSC 40 identified the need for an adequate evidential foundation for adaptive management. Please explain the evidential basis for considering that the proposed adaptive management framework will reduce uncertainty and manage remaining risk for kakī, having regard to the PVA's findings on the relationship between the trigger level and the modelled effects threshold.
- e) The PVA reports that the kakī breeding population is projected to decline over 25 years even without collision mortality, and that the model does not include an Allee effect. Please explain what these findings mean for the additional mortality the population could sustain and its risk of extinction, including an Allee effect on those results.
- f) The kakī trigger is one bird. It would be useful to understand the probability that a single kakī fatality or injury would be detected under the proposed carcass monitoring design (25% of the panel area searched fortnightly), and the expected number of undetected fatalities if any before a detection.
- g) The Panel wishes to understand how the compensation formulas for threatened birds would operate in practice. In particular:
 - i) whether additional funding would necessarily result in additional birds, having regard to any non-financial constraints on the Kākī Recovery Programme (such

- as egg supply, aviary capacity and staffing), and whether DOC has expressed a view on this;
- ii) how the time between the loss of a bird and the recruitment of a replacement into the breeding population, and the survival of released birds, have been taken into account;
 - iii) how the loss of a breeding adult, including its future reproductive output, is reflected in the quantum;
 - iv) how the formula addresses mortality or injury that is not detected by monitoring;
 - vi) who would determine the quantum, when, and how this would be expressed with sufficient certainty in a condition.
- h) ECan's advice records that black-fronted tern flight paths cross the site (tracking data), and the AEcE records that Australasian bittern is likely to fly over it. DOC notes that bittern, spotless crane and pied shag are missing from the Avifauna Management Plan species list. It would be helpful to have a species-specific assessment of collision risk and level of effect for Threatened and At Risk avifauna other than kakī/black stilt (in particular black-fronted tern, Australasian bittern, wrybill, banded dotterel and South Island pied oystercatcher), drawing on available tracking and survey data, and explain how the proposed trigger levels, monitoring and compensation would address effects on these species.
- i) DOC advises that a substantial, upfront and secured funding commitment for avifauna recovery is likely to be necessary, as the Haldon and The Point panels indicated, unless the Applicant can show that the risk to avifauna is significantly less at this site. The Applicant acknowledges that upfront funding may be appropriate (Attachment H, section 3.3.6) and was proposed by the Applicants for Haldon and the Point. Please advise whether an upfront, secured commitment is now proposed and, if so, its quantum, the principled basis for it, how it relates to the compensation formula in (g), and the outcome of discussions with DOC.

1.5 Mammalian pest control

The AEcE and management plans rely on pest control to benefit lizards, invertebrates and avifauna, and the Applicant's invertebrate response (Attachment D) relies on site-wide pest suppression in preference to a predator-proof fenced area. For each Threatened and At Risk species, it would be helpful to identify with reference to evidence whether, and to what extent, pest mammal control is relied on to counterbalance (offset or compensate) residual effects. It would also be helpful to have a comparison of the expected biodiversity benefits of the proposed site-wide pest mammal control with those of a comparably costed predator-exclusion fenced area of high-value habitat. Also the feasibility and expected efficacy of the proposed rabbit control methods (hunting with dogs and night shooting) at this scale.

1.6 Offsetting and compensation

- a) It would be helpful to have an assessment of the ecological significance of the site, ecological effects and proposed effects management against NPS-REG Policy F (in particular clauses (2) and (5)) and CRPS Objective 9.2.3 and Policies 9.3.1 and 9.3.6, including whether a no net loss outcome is expected for each significant area and each Threatened or At Risk species.
- b) Do the Applicant's ecologists consider that the limits to offsetting and compensation are engaged in relation to impacts on any nationally Threatened species, in particular kakī/black stilt and Tekapo ground wētā, having regard to their vulnerability?

1.8 Biodiversity outcome monitoring

- a) For each ecological management plan (BVMP, TIMP, LMP, AMP and PMMP), it would be helpful to understand the monitoring design, replication, frequency and statistical power to detect a biologically meaningful change in time for adaptive management to respond, and how the performance standards and trigger levels are linked to that monitoring.

2 Landscape Questions

2.1 Effects on Landscape Values

Te Tangi a te Manu (the NZILA Guidelines on Landscape Assessment) makes the following comments about Landscape Effects in paragraphs 6.01 - 6.06. In addition, *Te Tangi a te Manu* (TTatM) draws the following distinctions between Landscape and Visual Effects in paragraphs 6.08 and 6.09. It notes that visual change and effects contribute to landscape effects: they are not a surrogate for them or separate from them. In the *Assessment of Landscape and Visual Effects* (1 May 2026), both types of effect are assessed in tandem, using 23 sets of panoramic photographs, together with 10 sets of photo simulations.

The viewpoint descriptions in the application appear to place a great deal of emphasis on the 'extent of visibility' of the proposed solar farm and its 'visual effects'. However, there does not appear to be any discussion about the application's effects on Perceptual and Associative Values in relation to the viewpoints employed, even though such effects are summarised later in the *Assessment of Landscape and Visual Effects*. This point appears to be alluded to in the *Landscape Assessment - Peer Review* prepared by Patch Ltd at paragraph 7.1, where it is stated that:

7.1. The LVA describes potential issues associated with the proposal. While I agree with these issues, I consider the Assessment of Landscape and Visual Effects portion of the LVA is somewhat 'top heavy', placing greater emphasis on visual effects while, to a lesser extent, assessing effects on landscape character.

The approach is reinforced in the older Environment Court cases of *Pigeon Bay Aquaculture Ltd v Canterbury Regional Council*,¹ and *Wakatipu Environmental Society Inc. v Queenstown-Lakes District Council*.²

Please provide additional commentary to the viewpoint assessments undertaken by RMM that specifically addresses the Perceptual and Associative Effects of the application on key landscape values. Those values could, for example, draw on key landscape factors identified in the *Pigeon Bay Aquaculture Ltd v Canterbury Regional Council* decision:

- (a) *the natural science factors - the geological, topographical, ecological and dynamic components of the landscape;*
- (b) *its aesthetic values including memorability and naturalness;*
- (c) *its expressiveness (legibility): how obviously the landscape demonstrates the formative processes leading to it;*
- (d) *transient values: occasional presence of wildlife; or its values at certain times of the day or year;*
- (e) *whether the values are shared and recognised;*
- (f) *its value to tangata whenua;*
- (g) *its historical associations.*

2.2 Effects on Outstanding Natural Landscape

In the past, the Environment Court has addressed whether or not particular areas qualify for Outstanding Natural Landscape (ONL) status, e.g. at para.s 44-49 in the decision of the *West Coast Environmental Network Inc v West Coast Regional Council*³. Such assessments have focused on two key matters:

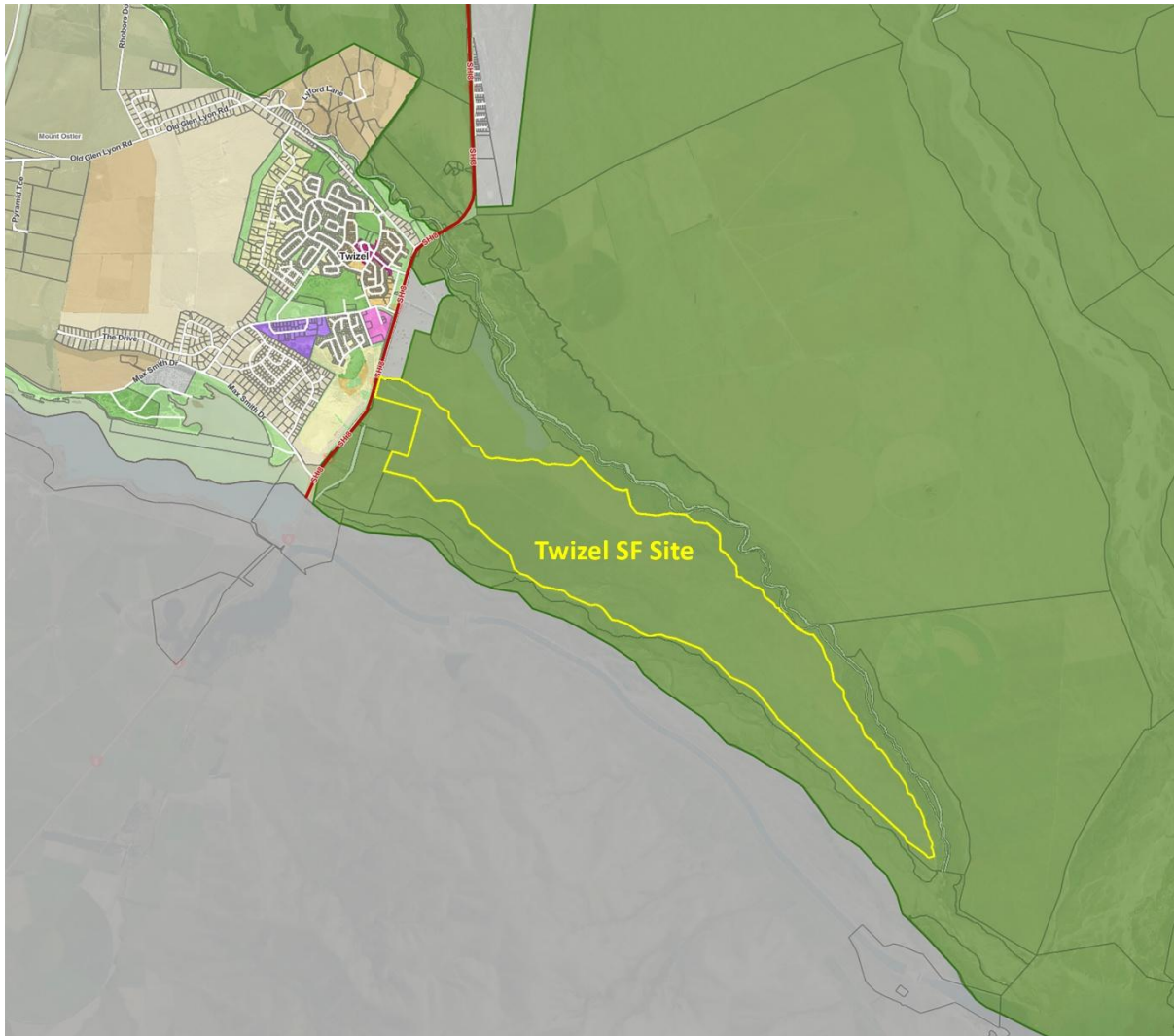
- Whether an area displays 'sufficient naturalness' to prequalify for ONL status; and
- Whether it is clearly and 'self-evidently outstanding' enough to finally confer such status.

In this regard, it is clear that the application site lies within the Mackenzie Basin ONL, whereas Twizel township and its airfield sit within 'cut-out areas' that are excluded from the ONL. This, together with the application site, is shown on the following map:

¹ *Pigeon Bay Aquaculture Ltd and others v Canterbury Regional Council* [1999] NZRMA 32/99.

² *Wakatipu Environmental Society Inc. and others v Queenstown-Lakes District Council* [1999] NZRMA 180/99 at 61.

³ *West Coast Environmental Network Inc v West Coast Regional Council* [2013] NZEnvC 047.



Current MDC mapping of the Mackenzie Basin ONL – shown in green

Even so, the character of the site – within the ONL – is clearly influenced by the presence of a range of activities and elements, including:

- Multiple transmission corridors;
- The Meridian control centre and Transpower switchyard near SH8;
- DoC's captive breeding and rearing centre;
- The margins of Twizel;
- The Ruataniwha Dam, the Ohau B and C Power Stations, and the Ohau Canal;
- Salmon farms within the Ohau Canal;
- The Sola Quarry on the subject site and quarrying on the site to the north; and
- Willow trees flanking the Ohau and Twizel River corridors – merging with Lake Benmore.

Given this situation, it would be helpful if the applicant could provide an evaluation of the impact of the Twizel Solar Farm on the values of this part of the Mackenzie Basin ONL and the site's inclusion as part of that ONL.