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Proposed Plan Change 19

ACTIVITIES ON OR WITHIN WATERBODIES

(LAKE PUKAKI)

ASSESSMENT OF VISUAL EFFECTS

October 26, 2018

Prepared for Mackenzie District Council by:
Jeremy Head
Jeremy Head Landscape Architect Ltd.

Expert Witness

Landscape Assessment

Planning

Design

Introduction

Background

1. This report has been prepared for the Mackenzie District Council (MDC) and provides a visual assessment of the potential effects of operating motorised surface water craft on Lake Pukaki.
2. This report focuses on the potential effects on amenity arising from the presence of powered private or commercial surface water craft on Lake Pukaki. The visual effects of any infrastructure (wharves, jetties, slipways) associated with water craft access points to the lake are not considered here. The landscape values of the lake and its contextual setting will also be considered, with specific regards to the lake being considered a Statutory Acknowledgement Area (Lake Pukaki)¹, its margins zoned as a Lakeside Protection Area², the lake's inclusion within an ONL (Mackenzie Basin sub-zone)³, and Site of Natural Significance⁴. Lake Pukaki is found within the Rural Zone.
3. I am familiar with Lake Pukaki and its contextual setting. On October 3, 2018 I carried out a site visit which included travelling around the full extent of the lake in both directions with frequent stops, along State Highways 8 and 80 and Hayman Road as far as Mount Cook Station where Hayman Road entered private property. I am also reasonably well acquainted with Lake Pukaki as I have been recently involved peer reviewing several private land use applications for Council⁵ located along and near to the lake's eastern shoreline. I have familiarised myself with the proposed Plan Change document and the submissions received.

Scope

4. I understand that following the submissions process (which weighed in favour of the more restrictive controls under proposed Plan Change 19), there are a number of submitters who oppose the prohibited status being put forward by Council⁶. The primary purpose of my involvement therefore included assessing areas of Lake Pukaki where motorised surface water craft *may* be acceptable while maintaining the widely held values of the lake which includes its *high levels of naturalness, grandeur, peacefulness, spectacular views, serenity, stillness, colour of the lake, sense of remoteness and other numerous characteristics that can be enjoyed by current and future generations*⁷. It was implicit that such areas where motorised surface water craft may be acceptable would be in area/s where the lake and its surrounds – notably the mountain backdrop are less readily viewed from public areas. Part of my brief was to prepare a map that defined an area where motorised surface water craft may potentially⁸ be acceptable (**Appendix 1**).

¹ Ngai Tahu Claims Settlement Act 1998.

² Map 23, Mackenzie District Plan.

³ Mackenzie Basin Subzone Map (October 2011), Mackenzie District Plan.

⁴ Map 23, Mackenzie District Plan.

⁵ Proposed lodge on the eastern shore of Lake Pukaki and developments at Guide Hill Station both by Blue Lakes Investments Ltd, 2018.

⁶ Proposed New Clause 7A.2 Activities on or within Lake Pukaki.

⁷ Some of the values included in submissions received on Proposed Plan Change 19.

⁸ Following the conclusions reached in the acoustics report, the area defined in Appendix 1 may need to be adjusted.

Summary Conclusions

5. My report concludes that Lake Pukaki has 'very high' landscape and visual values. Note – 'very high' does not equate to 'pristine' which would aptly describe a largely untouched landscape. The shorelines of Lake Pukaki have been modified over the last 150+ years by roading infrastructure, changes to vegetation patterns, and the addition of built structures and overlay of general farming practices including forestry and wilding spread. It is also acknowledged that following a series of hydro projects the lake water level is now some 45m higher than it was in its natural state. However, while all of this is the case, to most people the lake appears as a highly attractive natural waterbody locally, nationally and internationally. In certain weather conditions, Aoraki Mount Cook is clearly seen rising above the head of the lake, flanked by similar but not quite as majestic snowy peaks. For this reason, the mountain backdrop is strongly connected with Lake Pukaki both in landscape and visual terms. The lake and its mountain backdrop cannot be separated. The lake is a product of the mountain building, glaciation and post glaciation erosional processes and so the two landforms – lake and mountain are inextricably linked. This extends beyond the purely visual realm.
6. I understand from my earlier involvement assessing the Blue Lakes Investments NZ lodge proposal, that tangata whenua considers Lake Pukaki holds wāhi tapu (sacred to Māori in the traditional, spiritual, religious, ritual, or mythological sense⁹) and wāhi taonga (treasure, prized resource) values. As I understand it, Ngāi Tahu considers (Lake) Pukaki part of a natural sequence originating from Aoraki/Mount Cook and extending to the sea. The 'tears of Aoraki' (spring meltwaters discharging from the Tasman River) flow into the bowl of Pukaki, passing through to the Waitaki River system and sea. Aoraki is at the heart of the Ngāi Tahu creation traditions and is central to whakapapa and identity.
7. Notwithstanding this, I believe that there is some (limited) scope for the use of motorised surface water craft on the lake. This use area is shown provisionally mapped in **Appendix 1** - the extent of which and its rationale is discussed in detail shortly. Of note, this area does not consider land ownership (which would need to be clarified to legitimise any possibility of public lake access) or individual requirements regarding access to the lake (such as for farming operations). The appendix 1 map is a combination of several practical landscape considerations following a site-based assessment - the intent of which was to assess current lake values while possibly facilitating some surface water access and activity.
8. In my opinion the central landscape issue concerns whether or not the visible presence of surface water craft on the lake will detract from the levels of grandeur, peacefulness, spectacular views, serenity, stillness, colour of the lake, the sense of remoteness and cultural and spiritual values that are currently enjoyed. These values are widely held and can be appreciated from many different locations around the shores of the lake. It is therefore inappropriate to enable activities that potentially allow for motorised (potentially fast-moving) surface water craft and their associated visual effects which extend beyond the craft itself (bow wave, wake disturbance etc.) to impact on these highly natural values above.
9. This review has considered the information that has been made available to date. It is possible that my reasons and conclusions may be altered in response to new

⁹ Section 5(1) of the Local Government Act 2002.

information arising that becomes available prior to or at any hearing of the application.

Description of Lake Pukaki landscape character

From Glentanner to the lake outlet to the Pukaki Canal

10. This stretch of the lakeshore is essentially where State Highway 80 (SH80) traverses the western shoreline. The lake is more or less fully visible from SH80 when travelling in both directions until a point is reached approximately 1km to the north of the lavender farm. At this point the moraine lands rise up between the highway and the lake – lands which are generally covered in substantial vegetation including wilding forest. This condition extends southwards all the way until the junction with SH8.



Viewpoint 1 Looking northwards to Aoraki Mount Cook near head of Lake Pukaki. Note elevation (and elevated viewpoint) above lake here. Photograph by J Head, October 3, 2018 f=50.

11. Along this stretch (to the north of the lavender farm) numerous informal scenic viewpoint ‘pull-offs’ are found along the highway verges. The frequent use of these areas was obvious due to the degree of vehicle wheel marks etc. in the gravel. In many of these areas, this was proven during my fieldwork, where most of these areas were occupied by sightseers. Some of these areas had been deliberately upgraded by NZTA to facilitate safe pulling over. These locations are shown on **Appendix 1**. ‘Peters Lookout’ is the most popular of these scenic viewing areas and is by far the largest (Viewpoint 4). This area has recently been upgraded to facilitate organised and safe vehicle parking and maneuvering. Other improvements at this particular scenic viewing point include a toilet and tracks. At the time of my fieldwork (and at other times I have stopped here), it was busy with a mix of private cars, campervans and so forth all vying for a spot to park and take in the view.
12. Most of the viewpoints along SH80 are elevated well above the lake surface (Viewpoint 1). The terrain drops down from the road to the lakeshore quite sharply in places where bluffs occur. Taller vegetation cover is limited on the lakeside of SH80 which allows for almost unfettered views down and across the lake. In terms of potential lake access points this is limited to:
- The Twin Stream fan / Glentanner (possibly via the Glentanner motor camp).
 - The Whale Stream fan / Ferintosh.
 - Boundary Stream.
 - An area that appears open for public access approx. 1.8kms south of Boundary Stream.

- A few other locations where gates in the roadside fencing (for farm purposes) coinciding with gently dipping terrain to the lake may facilitate access.



Viewpoint 2 Looking northwards to Aoraki Mount Cook from Jacks Stream fan. Note general absence of tall roadside vegetation which would screen views to the lake and mountain view to the east side of SH80. Aoraki Mount Cook visible at left. Photograph by J Head, October 3, 2018 f=50.

13. Any potential access points along the western side of the lake have not been mapped on Appendix 1 for the following reasons:
- Privately owned land was not visually assessed in detail.
 - Most areas included traversing significant areas of farmland (broad alluvial fans) where public access may not be feasible or desired by the landowner (Viewpoint 2).
 - Access to SH80 appeared potentially dangerous – particularly with regards to slow moving vehicles with trailers leaving and accessing the highway with 100kph speed limits¹⁰ (Viewpoint 3).



Viewpoint 3 Farm access to lake from Boundary Stream. Note difficulty in accessing/leaving SH80 (at left) from these access points. Aoraki Mount Cook visible above highway. Photograph by J Head, October 3, 2018 f=50.

¹⁰ I acknowledge that this falls within the gambit of a traffic engineer and is simply my lay observation.



Viewpoint 4 From 'Peters Lookout' looking northwards to Aoraki Mount Cook. Aoraki Mount Cook visible at centre. Much of the taller vegetation along this side of the lake has been removed or is limited to the west side of SH80 (visible at centre-left) Photograph by J Head, October 3, 2018 f=50.

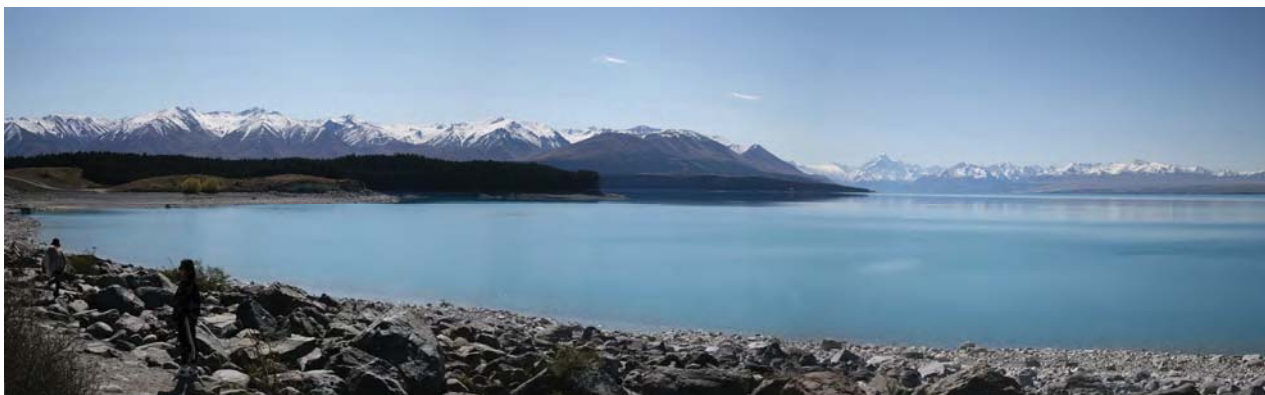
14. Further to the above, it is of my opinion that the western shoreline of Lake Pukaki has a direct visual relationship with the lake and Aoraki Mount Cook. It is readily accessible for tourists and includes SH80 which provides a smooth, safe, high speed connection from SH8 to the south and Mount Cook National Park to the north. From the many scenic viewpoints discussed above and mapped there are clear and potentially spectacular elevated views to Aoraki Mount Cook which is seen rising above the head of the lake. It is of my opinion that if motorised surface water craft extended too far towards the western shoreline, there will be an unnatural distraction introduced to the composition and appreciation of the view which at times approaches the sublime.

From the Pukaki Canal to the intersection of SH8 with Hayman Road

15. From my earlier assessment for Council with regards to the Blue Lakes International (NZ) proposed lodge I made the following statement: *"Spectacular views are afforded to Aoraki down Lake Pukaki from the southern end of the lake where a tourism node is located¹¹. Lake, mountains and glacial outwash terrain is highly visible, expressive and legible. Views are sublime, austere and coherent. Contrast is high - attributed to the broad horizontal plane of turquoise blue waters giving way to the rugged verticality of the snowcapped backdrop mountains including majestic Aoraki/Mount Cook and the Southern Alps. This is evident in countless commercial tourism advertising imagery. Even at this popular tourist stop along SH8, built forms are few and small scale. The dominant features here are confined to the seemingly constant flow of visitors' cars, camper vans and tour coaches traversing the carpark area. When standing here overlooking the bouldery foreshore and lake waters below, there is a general expectation that between the viewpoint and the horizon punctuated by Aoraki there is scant if any domestication of the intervening landscape. It is perhaps anticipated or even known that there are a few high-country homesteads and doubtless most will be aware of the presence of Mount Cook village; however, even though the proposal would not be seen from here, it is unlikely that anyone would expect people to be living here with no meaningful connection to the surrounding working rural landscape. It is a wild, expansive, remote and sometimes hostile climatic rural environment".* While this statement was referencing the incongruity of a (non-farm) private dwelling on the shores of Lake Pukaki, the sentiment can equally apply to the domestication of the lake scene attributed to motorized water craft too. The point is, both motorised

¹¹ Lake Pukaki Visitor Centre.

surface water craft and non-farm dwellings will be similar in their incongruity and resultant adverse effects on the high levels of naturalness experienced and *expected* when looking up the lake.



Viewpoint 5 View northwards up the lake from near the Pukaki Information Centre. At this time the lake was very flat providing a sharp contrast to the mountains to the north – including Aoraki Mount Cook. Photograph by J Head, October 3, 2018 f=50.

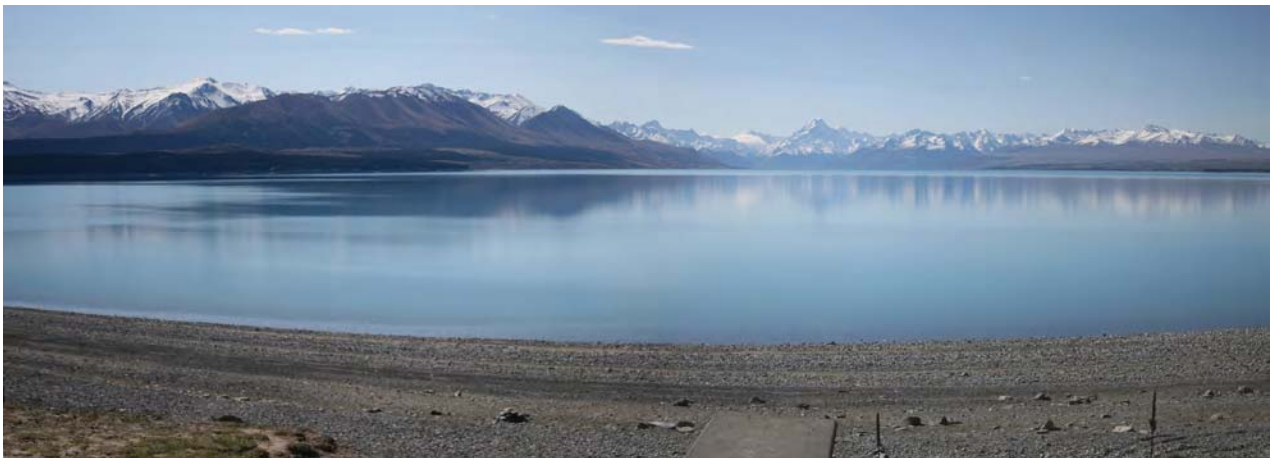
16. This stretch of the lakeshore is the busiest due to the presence of SH8 which provides the ‘main highway’ through the Mackenzie Basin. Along this stretch of SH8 there are numerous scenic viewing locations – some formed and others less so. The primary viewing area along this stretch is located at the Pukaki information centre which includes a large car and coach park (Viewpoint 5). The lakeshore along here provides abundant photographic opportunities of the lake and Aoraki Mount Cook. Also located around this end of the lake are freedom camping areas near the junction of SH8 and Hayman Road amongst the trees. The ‘historic’ Pukaki Village Zone is located at the foot of the lake elevated on the terminal moraine. In addition to the above is an elevated viewing platform near the Pukaki dam and various tracks and picnic tables dotted along the lakeshore between SH8 and the lake. At any given day – particularly when weather conditions are favourable, many of these areas are inundated with sight-seeing visitors. From these areas, Aoraki Mount Cook is doubtless the primary attraction as it is seen with little foreground topography. The lake itself forms the foreground to the lake and in calm weather conditions when the lake surface is glassy, Aoraki Mount Cook can appear to be resting on a ‘mirror’ of sorts (Viewpoint 5 above).
17. Around the southern end of the lake the topography grades down to the lakeshore in places – including where there are some existing vehicle access/freedom camping areas. Leaving the main highway and accessing public areas around the southern end of the lake is easier than it is along the western side of the lake (except for Peters Lookout). For this reason, the lakeshore is more heavily used, and for longer periods of time, often for picnics, short walks and such like activities (Viewpoints 6, 7).
18. For the above reasons, it is of my opinion that the southern end of Lake Pukaki, including the various stopping points, lakeshore generally and to a lesser degree SH8 (where views up the lake are largely from within a moving vehicle), the presence of motorised surface water craft moving about will give rise to ‘high’¹² (on the seven

¹² ‘High’: Major change to the characteristics or key attributes of the receiving environment and/or visual context within which it is seen; and/or a major effect on the perceived amenity derived from it.

point scale)¹³ of visually adverse effects. This is because from here there is little else between the viewer and Aoraki Mount Cook other than the waters of Lake Pukaki. A powered craft moving about on the lake – particularly during calm weather/water conditions will be potentially obvious, and will significantly detract from the view and experience of the place.



Viewpoint 6 View northwards up the lake from popular formed pull off from SH8. Photograph by J Head, October 3, 2018 f=50.



Viewpoint 7 View northwards up the lake towards Aoraki Mount Cook from one of several picnic areas (picnic table partially obscured in foreground). In these tranquil, clear conditions the lake and mountain connection is highly apparent. Photograph by J Head, October 3, 2018 f=50.

From the Hayman Road turnoff from SH8 to Mount Cook Station

19. The eastern side of Lake Pukaki is significantly different to the western side. It is less widely travelled as Hayman Road is largely metaled. In addition – other than the ‘shortcut’ to Tekapo via Braemar Road, it is less likely to be used by tourists as there is no obvious destination (such as Mount Cook Village). Hayman Road doubtless largely provides access for locals and a few adventurous tourists. From my field visit this certainly seemed to be the case. Most of the vehicles encountered were farm vehicles, although a few tourists were also observed.

¹³ From ‘Very High’ to ‘High’ to ‘Moderate-High’ to ‘Moderate’ to ‘Moderate-Low’ to ‘Low’ to ‘Very Low’ - Defined and agreed at NZILA assessment methodology workshop (Christchurch), Dec 4, 2017

(part of a national roadshow facilitated by retired Environment Court Judge Gordon Whiting). Results currently being compiled.

20. Numerous mature trees of varying species type are found along the strip of land between Hayman Road and the lake. I understand that most of these trees are wildings. Nonetheless the variety of species type, their seasonal change, plethora of colour has enabled a reasonably high level of amenity to evolve in places along here. Among the trees there are glimpses to the lake and in other locations, tall vegetation cover is absent allowing clear views to the lake. In other areas the trees are so dense they preclude views to the lake. In places topography also blocks views to the lake from the road. The Tekapo B power station is located along here which provides an interesting point of difference, particularly while you drive under the penstocks.



Viewpoint 8 View southwards from near 'The Pines'. Note gentle gradient down to lake over gravel beach. Photograph by J Head, October 3, 2018 f=50.



Viewpoint 9 View northwestwards from near Hayman Road (at right outside frame). Note gentle gradient down to lake amongst shade trees. Photograph by J Head, October 3, 2018 f=50.

The topography and shoreline pattern along this side of the lake is different to that on the western side. On this side, the road is generally lower in elevation and often drops quite close to lake level. The shoreline is indented with many little embayments, some of which would provide for sheltered moorings and potentially lake access points too. Beaches are found along the shoreline¹⁴ including various sizes of glacial and fluvially deposited material from large boulders down to gravel and sand. In places it is not difficult to drive from Hayman Road onto these beaches where large rocks are absent (Viewpoint 8). In other places wave action has undercut the shoreline producing steep overhangs. Large fan landforms are less prevalent than they are on the western side as the eastern side of the lake lacks large mountains and catchments that produce watercourses capable of generating alluvial fans. The only fan landform of note is located at the northern end of the lake at Landslip Creek. This aspect gives the eastern shoreline a more uniform, less undulating and benign character.

21. There are some areas where public access to the lake has been formed via short narrow gravel tracks amongst the trees. One such area has a toilet. In other areas the lake access is not formed, but is relatively easy to achieve in a 4WD vehicle (Viewpoint 9). And in other areas such as The Pines, it is easy for most vehicles to access the edge of, if not onto the lakeshore beach itself. The locations of these potential/existing lake access points are indicated in **Appendix 1**. During my field work I did not see any evidence of jetties or boat ramps, although there were parts of the lakeshore that were screened by trees where such structures could possibly be found.
22. From the many viewpoints observed around the eastern shoreline of the lake, it was more difficult to see the lake waters or Aoraki Mount Cook due to the winding road, topography, tall/dense vegetation cover or a combination of all three. This was distinctly different to the western shoreline where Aoraki Mount Cook and the lake was generally visible most of the time. However, this would change when on the lake shore obviously in which case the mountains to the west and north would be highly visible and dramatic. The point here is that for the general public passing by on Hayman Road (which appears to be in relatively low numbers), the predominant experience is of the near view largely confined to the roadsides, rather than broad landscape vistas.
23. This has led me to form the opinion that if motorised surface water craft are to be allowed on the lake, then this side of the lake may be more conducive to this activity. The reasons why this activity may be more appropriate here (compared with the southern and western shorelines) are as follows:
 - Broad views to Aoraki Mount Cook and the mountain backdrop to the lake are infrequent from Hayman Road due to topography, the winding nature of the road and taller vegetation (or a combination of all three).
 - Hayman Road is often at an elevation that is similar to the lakeshore and so physically accessing the lake appears possible.
 - The land between Hayman Road and the lake largely under a 'Lakeside Protection Area' status appears to be little used by farmers and may not unduly affect farm activities or stock capacity.

¹⁴ At the time of my field work the lake was relatively low and so some of these beaches may become inundated with higher lake water levels.

- Hayman Road is metaled, and so traffic speeds are lower which means leaving or accessing the road towing boats is less dangerous than it would be when adjacent to a state highway for example.
- Hayman Road often runs close to the lake and so along these stretches, forming physical access points to the lake would be short and relatively inexpensive.
- Hayman Road is physically connected to Tekapo via Braemar Road which would provide an alternative access for 'boaties' coming from the direction of Tekapo, reducing pressure on SH8.
- The visibility of motorized water craft moving about and up and down the eastern shoreline would be less visible from the west and SH80, as the wooded backdrop and indented shoreline provide a degree of visual 'complexity' to the scene where the presence of surface water craft would be visually better absorbed.



Viewpoint 10 View southwestwards into embayment near Boltons Gully from Hayman Road. Note gentle gradient down to lake amongst trees on opposite side, and potentially sheltered cove. Photograph by J Head, October 3, 2018 f=50.

Appendix 1 map: Explanation

24. The proposed map (**Appendix 1**) recommends areas where motorised surface water craft may be potentially more appropriate. To explain the location and extent of the approximately 22km long 'watercraft area' the following points are relevant:

- The lake is very large and so the extent of the watercraft area needs to be self-managing by the operators on the lake – in this regard obvious landforms are located at either end of the watercraft area (the summit of Aoraki Mount Cook and Morgans Island). A line is 'drawn' between the two landmarks and all water craft must keep to the east of this line and between Landslip Creek and The Pines. It is not considered appropriate or practical to provide a line of buoys to demarcate this area.
- The watercraft area must be sufficiently separated from the southern end of the lake to avoid adverse visual effects that would otherwise impact on several popular scenic viewpoints.
- The watercraft area must be sufficiently separated from the western side of the lake to avoid adverse visual effects that would otherwise impact on several popular scenic viewpoints.
- The watercraft area must be large enough to satisfy demand while also satisfying the above parameters.

25. The above points partly determine the parameters for the location and shape of the area which largely concerns setback/separation from key scenic viewing areas.

Another critical aspect that has partly determined the shape of the area are viewshafts. It is important that motorised surface water craft do not intrude key views to Aoraki Mount Cook from the busier parts of the lakeshore. This determinant has reinforced the line from Morgans Island to the summit of Aoraki Mount Cook. The intention is that any motorised surface water craft are kept to the right of key viewshafts from locations westward of the intersection of Hayman Road and SH8.

Submissions

26. I understand that 165 Submissions have been received on Proposed Plan Change 19. Of the 165 submissions received, a not insignificant number were in opposition to the more stringent rules being proposed in the plan change. There was a general sentiment that many see using the lake for recreational activities (including in motorised surface water craft, such as powerboats and jet skis) as a 'birthright'. It was also noted in many of the submissions in opposition that there is a general awareness of the scenic beauty of the lake and that these values should not be compromised by recreational activities. Some submissions went further and suggested the lake could be demarcated into zones where motorised surface water craft would be permitted and prohibited depending on location. Suffice to say this assessment has addressed these concerns and has proposed a possible solution in the map in Appendix 1.

Conclusion

27. In my opinion, Lake Pukaki and the Southern Alps – in particular Aoraki Mount Cook cannot be considered separately. Aoraki Mount Cook is physically and visually a part of the lake and vice versa. While Plan Change 19 addresses lake based recreational activities and the effects of these on the qualities of the lake itself, there are also effects on Aoraki Mount Cook (and the 'lesser' peaks) depending on what occurs on the lake below it. The broad flat surface of the lake provides a large part of the context for the mountain vista. This is through contrast – the lake is horizontal, while the peaks are jagged, triangular and upright. The lake is austere, broad, milky blue while the peaks are part snow, part rock and much more visually complex. And the mountains are 'kept back' from the viewer – the vastness of the lake providing a 'respectful distance'. It would be detrimental to this vista that is enjoyed by many at a local, national and international level if the sublime simplicity of lake and mountain was interrupted by even one motorised surface water craft crossing the lake and diminishing this grandeur. However, in my view there is scope for limited motorised surface water craft use on the lake, but it needs to be very carefully considered and controlled.

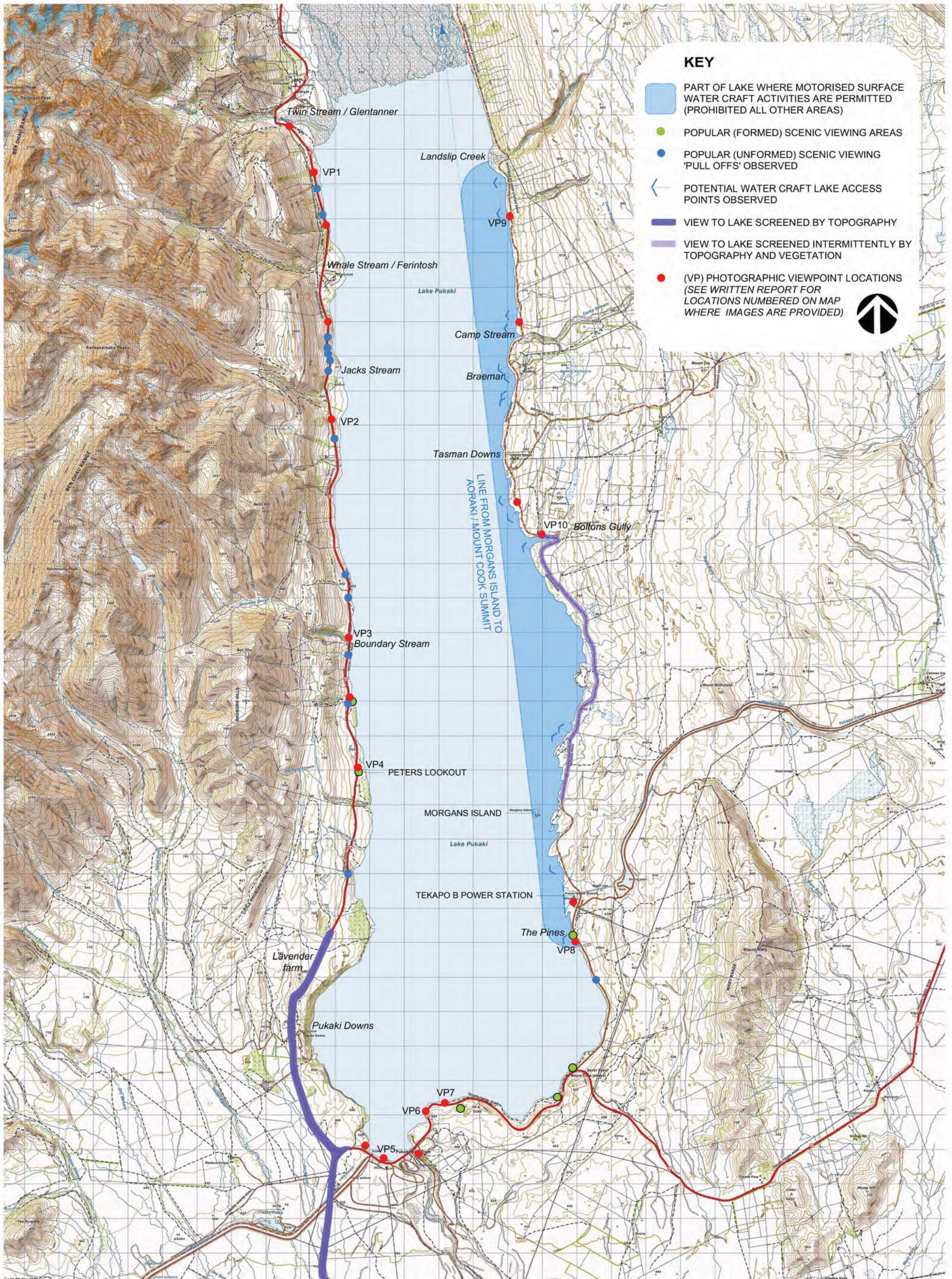


Jeremy Head
Registered NZILA Landscape Architect



October 26, 2018

APPENDIX 1 – MAP



APPENDIX 1

PLAN CHANGE 19 ACTIVITIES ON OR WITHIN WATERBODIES (LAKE PUKAKI)

SCALE 1:250,000 @ A3, OCTOBER 26, 2018

PREPARED BY J. HEAD, REGISTERED NZILA LANDSCAPE ARCHITECT

