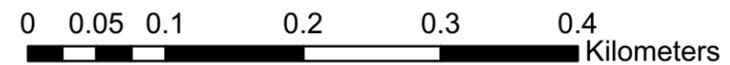
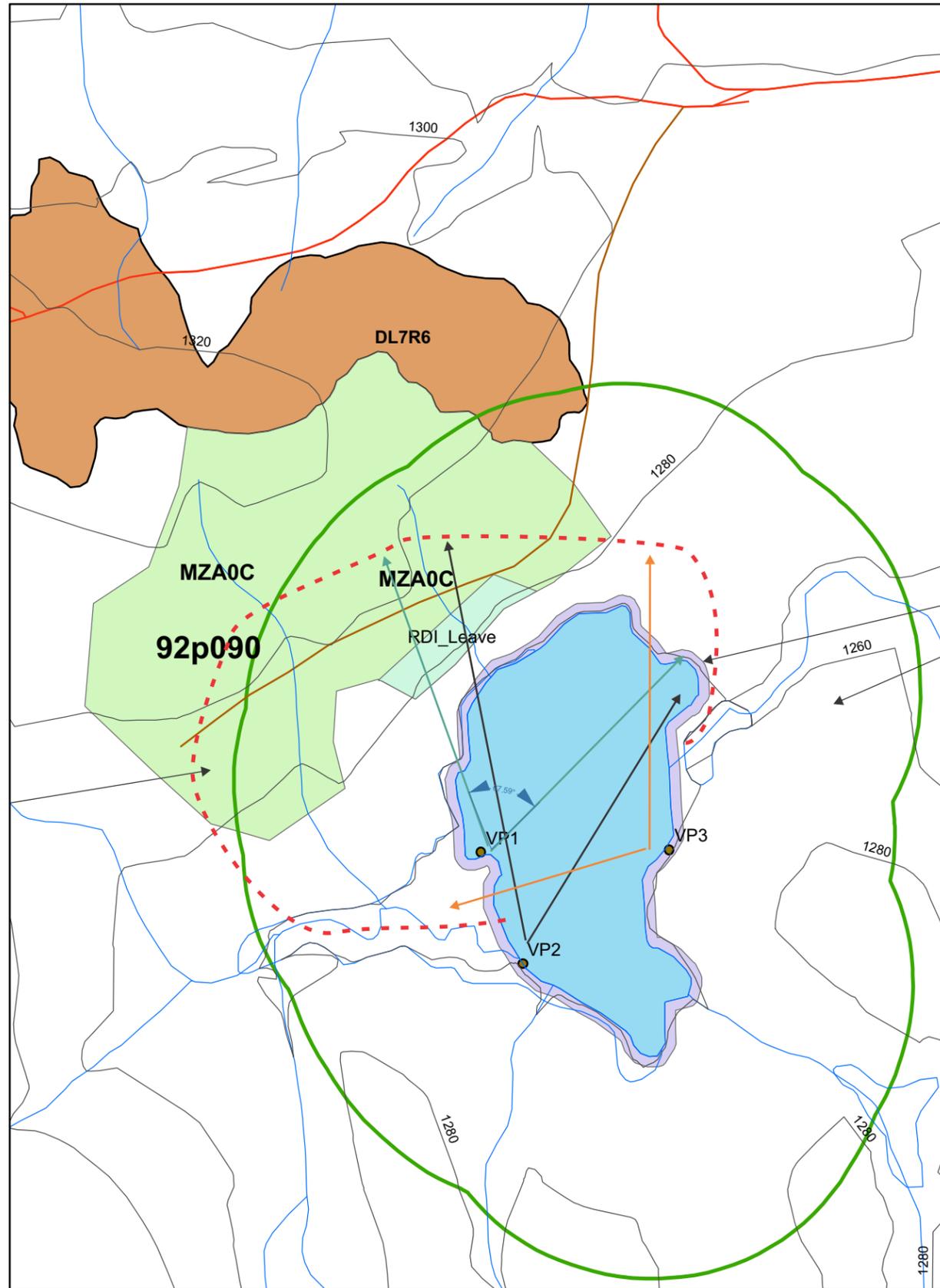


**BCTS Mackenzie 2020 VIA
TA1444 - MZA0C
Produced by
RDI Resource Design Inc
Amended July 21, 2020**

- MZA0C_Vps
- July_2,_2020_MZA0C_Proposed_Road
- Lake_1376
- Riparian_Management_Zone
- Lakeshore_Management_Zone
- RDI_Leave
- 92p090clip
- July_2,_2020_MZA0C_Block_Shape
- David2012-1-BLKS
- Ften_rds



Landform 1 (Approx.)



Contents

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9	Aerial Oblique Validation
10	Views with LMZ; RDI Leave

Note to KBF from Ches Clem on July 2:

"TA1444 block MZA0C in the Mackenzie Operating Area...is adjacent to a class C lake numbered 1376 (no name given, just a number). There is currently no access to the lake and it is not being used for recreational purposes. I contacted the Ministry of Environment and they indicated that the lake was not a high priority to be stocked with fish. I talked with the Stewardship Officer and despite the lack of recreation on the lake we still need to meet Partial Retention from the lake. This is a blurb from the Lakes Local Resource Use Plan: "C" lakes support values that are less sensitive to timber harvesting than "B" Lakes. Timber management around these lakes is less restrictive. Selection harvesting is preferred, however, with a visual quality objective of partial retention, alterations from key viewpoints may be noticeable but will not necessarily draw the viewers attention. All blocks within the lakeshore management zone and any identified lake visual management zone will require a visual impact assessment as per the Kamloops Forest Region Visual Impact Assessment Guidelines. Key viewpoints will be determined through the visual inventory process. It is not necessary to achieve the visual quality objectives from any location on the lake, but visual quality objectives must be met from identified key viewpoints. The Lakeshore Management Committee may require a licensee to complete a visual inventory to identify or amend the lakeshore visual management zone and its associated visual quality objectives." It would be challenging to get a canoe down to this lake so I walked around the perimeter and chose three viewpoints that I thought would be representative:

- 51 49 07.6, 120 07 49.3 West Side of the lake
- 51 49 04.1, 120 07 47.7 South west side of the lake
- 51 49 07.2, 120 07 40.0 East Side of the lake."

Note to KBF from Ches Clem on July 20:

So it turns out that we just need to meet Partial Retention within the Lake Management Zone (LMZ), which is a 200 meter buffer around the lake starting at the edge of the Riparian Reserve Zone (10 meters from the edge of the lake in this occasion). The definition in our Forest Stewardship Plan is:

Lakeshore Management Zone: The zone surrounding a Classified Lake that is established upland from the riparian reserve zone, a slope distance of 200 meters. Where no riparian reserve zone exists, the lakeshore management zone is measured upland from the high water mark of the lake or from the outer edge of contiguous wetland vegetation.

The minimum buffer for a lake this size (6.1 ha's) in legislation is a 10 meter Riparian Reserve Zone (no timber harvesting can be conducted within 10 meters of the lake). L1-B class lake is defined as a lake greater than 5 ha but less than 1000 ha in size.

Here is the response from the Ministry of Forests Stewardship Officer:

"Hi Ches.

Have a look at the spreadsheet called DHW_Lakes_LRUP_List: \\tension.dmz\FTP\DHW\external\publish\DHW_Lakes_Local_Resource_Use_Plan\Documents_and_Spreadsheets and look up the lake number.

In this case the requirement to manage for a Lakeshore Visual Management Zone = N so visual management is limited to the LMZ only, not beyond. Given it is a C lake and there is no further description in the GUIDLINMEMO column related to visuals or any other particulars related to harvesting, then all that is required is to manage the LMZ to a PR visual limit.

There is no file for key visual viewpoints, so BCTS would choose them. If there are higher profile points on the shore (rec site, closest point to a road, nice beach, trail ending then those should be chosen. If there is nothing like that, then from the middle of the lake may be appropriate.

The key aspect of this is, should the visuals be audited, the district would choose similar points to measure from, based on our choice. We do not have to measure from where BCTS completed the VIAs from. For the most part, I would expect the district to choose the same locations and higher profile locations are usually quite obvious. We would also know from where BCTS completed their work from.

Summary

Introduction

RDI conducted this Visual Assessment for BCTS Kamloops Business Area under contract PD18TEB007. The project was requested by Ches Clem, RPF, Planning Forester, Clearwater Field Team, BCTS Kamloops Business Area on July 2, 2020. The data package from Ches included shapefiles for the single cutblock TA1444 - MZA0C and existing and proposed roads. As well, Ches provided 3 sets of excellent photos that he took from 3 viewpoints from along the West, South-west and East shores of a lake known only as Lake 1376. He obtained these by bushwhacking in from the road. RDI has called these viewpoints VP1, VP2, and VP3 respectively as shown on the key map (Page 1) and as identified the simulation/photography pages presented from each viewpoint: VP1 - West side (8 photos); VP2 - South-West side (6 photos); VP3 - East side (8 photos). RDI placed each viewpoint group of 18mm photos into single panoramas using Autopano Giga.

Procedures and Analysis

RDI placed new data into pre-existing David Lake 2012 ArcGIS and VNS models. Each viewpoint was rendered with forest cover and an additional aerial view was produced from 1000m above VP3 for model verification showing the complete MZA0C cutblock as well as the immediately adjacent DL7R6 from the 2012 RDI analysis. Each of the 3 viewpoints were rendered as 9 single 40 degree field of View images in VNS and placed into panoramas automatically in VNS. These were cropped and placed into the CorelDraw document along with the photo-panoramas for comparison. The cutblock is located within Mapsheet 92P090. There were neither any VLI Polygons nor identified key viewpoints from Visual Landscape Inventory. The Lakeshore Guidelines mentioned by Ches required that a VQO of Partial Retention should be met, with selection harvesting preferred. The landform at the north end of the lake containing the cutblock rises only 60m above the lake. RDI designed a narrow leave strip at the base of the cutblock to further break up the exposure of the cutblock. The cutblock comes within 32m of the lake at its closest point near the creek passing through the leave strip. The leave strip adds a minimum of 35m of forest cover to the distance of the cutblock from the shore for a total minimum of 67m buffer. RDI applied the metrics of VRI Polygon 54684652 when rendering the leave strip. The leave strip was assigned Stand_Height of 26m to 28m and 1500 TPH to ensure that trees would be placed in the narrow leave strip. As provided in the comment from July 20 opposite, the minimum Riparian Reserve Zone (RRZ) where no harvesting can take place is within 10m of the lake, and the Lakeshore Visual Management Zone (LMZ) is an additional 200m from the lake. The LMZ was added to the key map on Page 1 and rendered in blue from each of the viewpoints with and without the RDI leave strip for comparison. The 3 views are enframed trees along the sides of the lake. Approximate widths of view are VP1: 68°, VP2: 45°, and VP3: 109°. These differing widths affect the relative scale of alteration.

Results

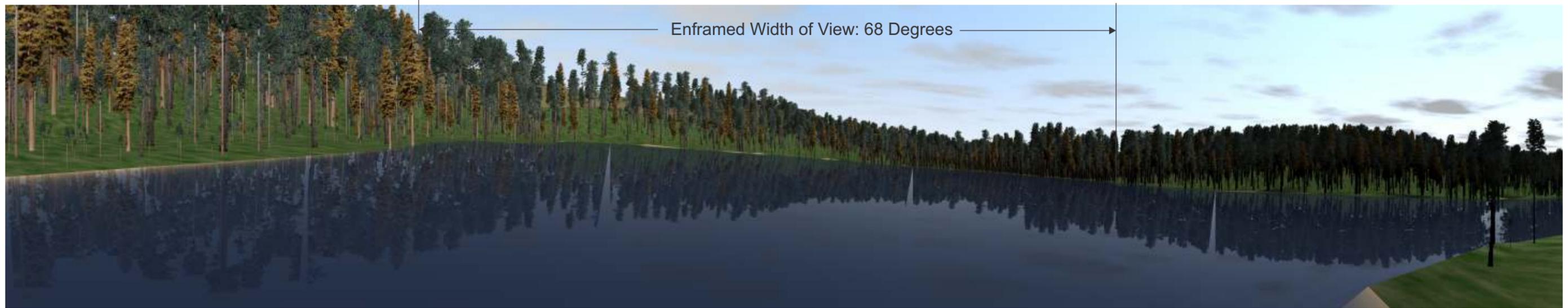
The VNS simulations indicate that the cutblock may potentially be partially exposed, seen through intervening shorezone trees from all 3 lake viewpoints. The adjacent existing cutblock DL7R6 behind MZA0C is not seen. The back skyline is predicted to appear cleared. The visual effect is that the cutblock is significantly obstructed by the intervening trees within the shorezone buffer acting partly like a selection cut visually, although a portion of the skyline will appear bared, namely from Viewpoints 2 and 3. Percent Alteration calculation from Viewpoints 2 (3.96%) and 3 (3.28%) as calculated within the enframed views indicate that the default VQO of Partial Retention can be easily met with the original cutblock configuration. Percent Alteration was not calculated for Viewpoint 1 as it is between the other two in width of view. Percent Alteration with the RDI leave strip added would reduce the percentages by about 50%, further within Partial Retention or perhaps Retention VQC. The Lakeshore Guidelines suggests selection treatment leaving trees scattered across the opening. In lieu of selection cut, RDI added a trial leave strip along the southern edge of the cutblock where the block is closest to the lake. Although not mandatory given the minor and intermittent appearance of the cutblock, the leave strip would provide additional intervention, similar to the effects of selection logging, and would mitigate exposure of the skyline. As seen in the renderings with the addition of the LMZ on Page 10, the skyline itself is slightly beyond the LMZ and would not be restricted by the LMZ Guidelines.



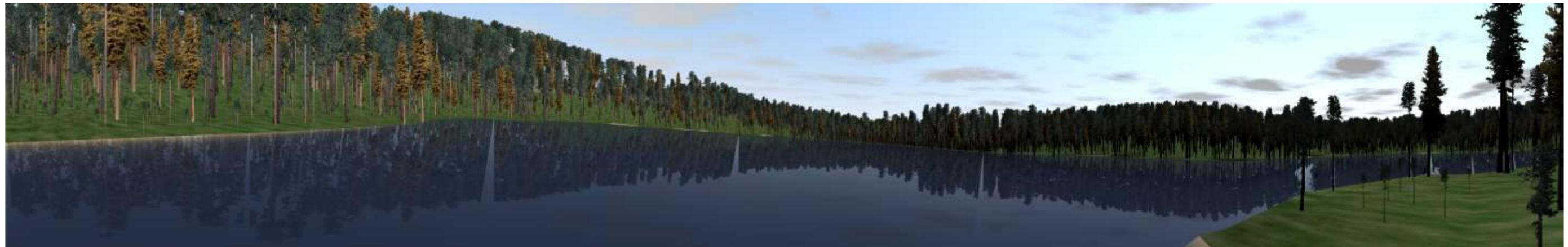
Ken B. Fairhurst, PhD, RPF
RDI Resource Design Inc
July 19, 2020 (updated July 21)



RDI Resource Design Inc
July 21, 2020



no leave



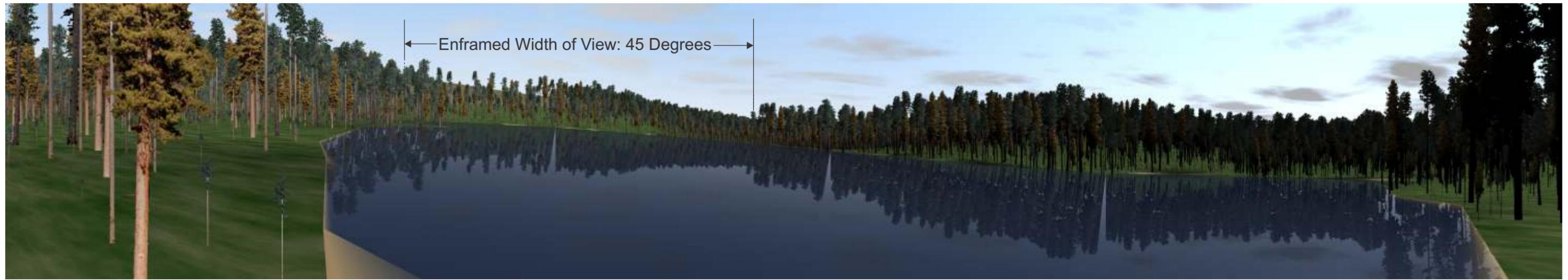
leave 26m-28m ht, 1500 sph - 0.534 ha of 12.25 ha (4%)

Percent Alteration not calculated - meets Partial Retention Visually - see Viewpoints 2 and 3 for Percent Alteration Calculations

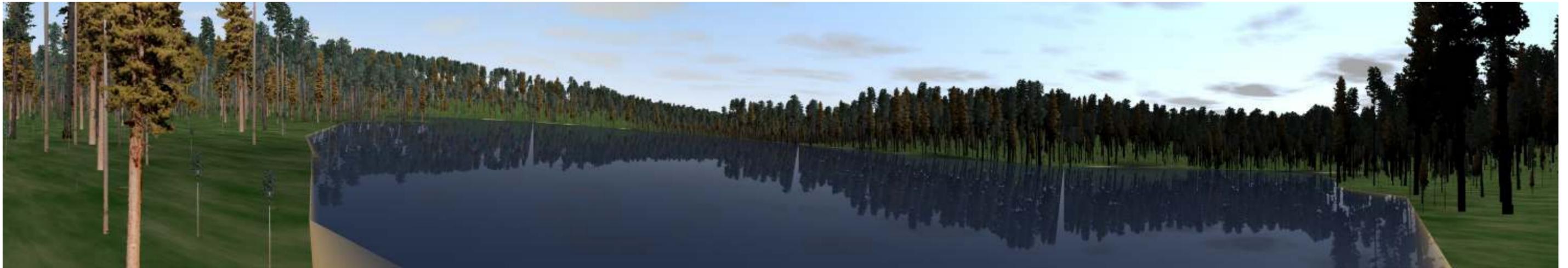


VP 1 - Images 9418-9423 - Photos by Ches Clem 2020/06/17 Canon EOS REBEL T3 18mm lens - Panorama Construction by RDI

Viewpoint 1



no leave

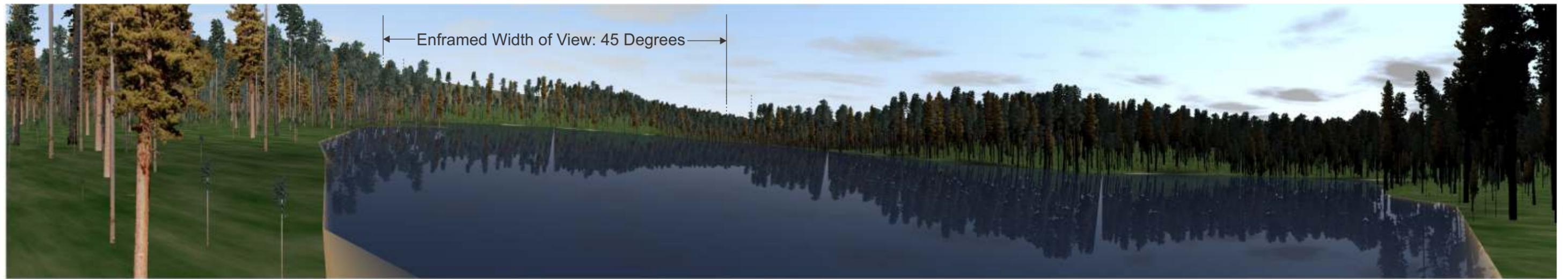


leave 26m-28m ht, 1500 sph - 0.534ha of 12.25 ha (4%)

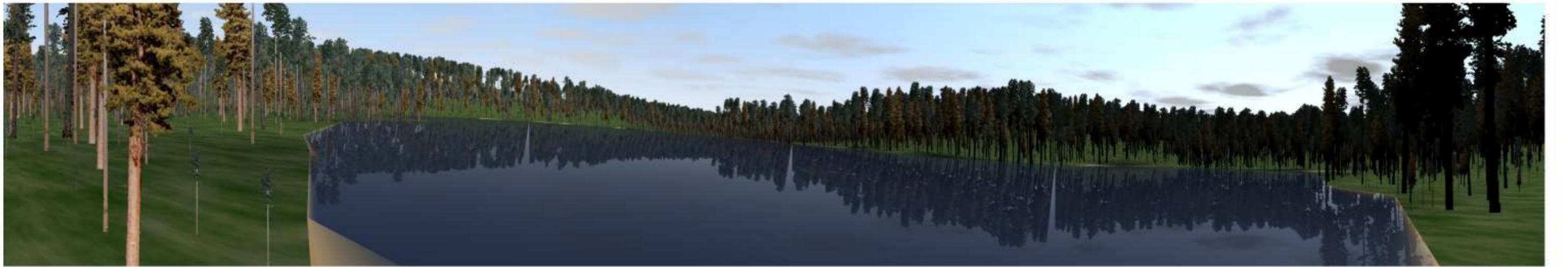


VP 2 - Images 9424-9431 - Photos by Ches Clem 2020/06/17 Canon EOS REBEL T3 18mm lens - Panorama Construction by RDI

Viewpoint 2



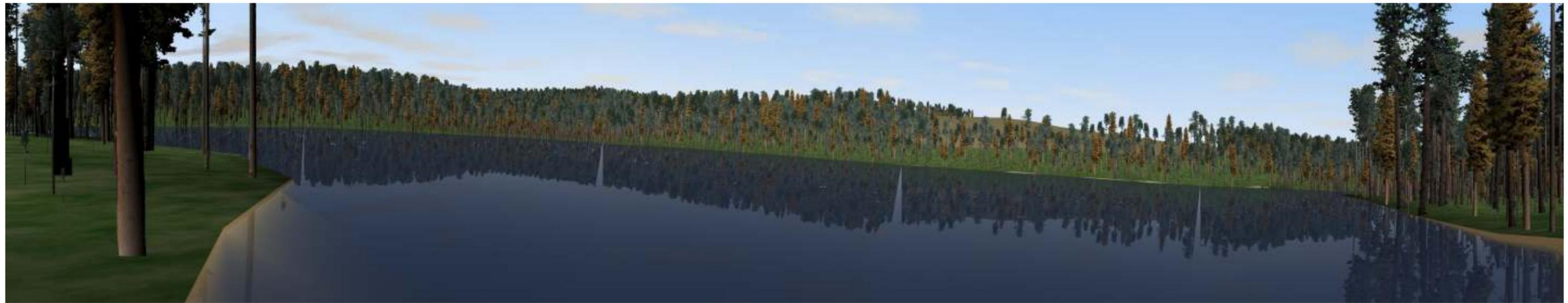
no leave



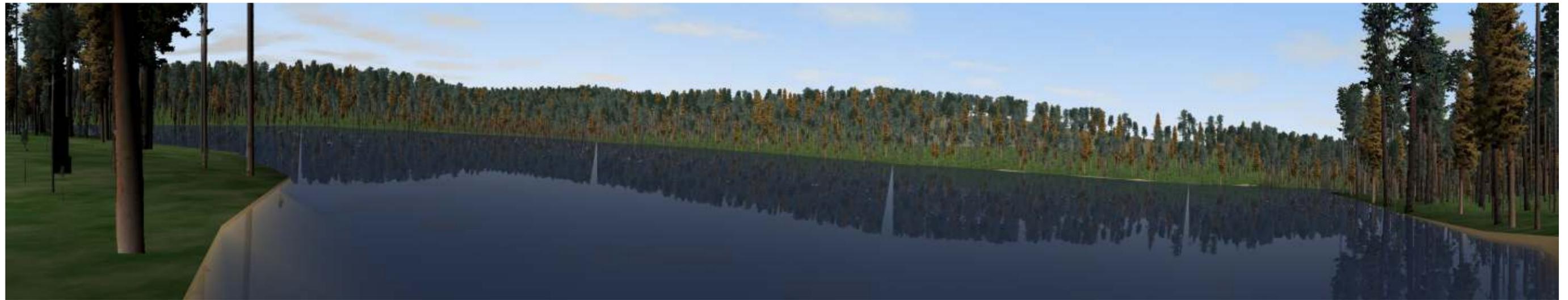
leave 26m-28m ht, 1500 sph - 0.534ha of 12.25 ha (4%)

Percent Alteration - no leave - meets Partial Retention

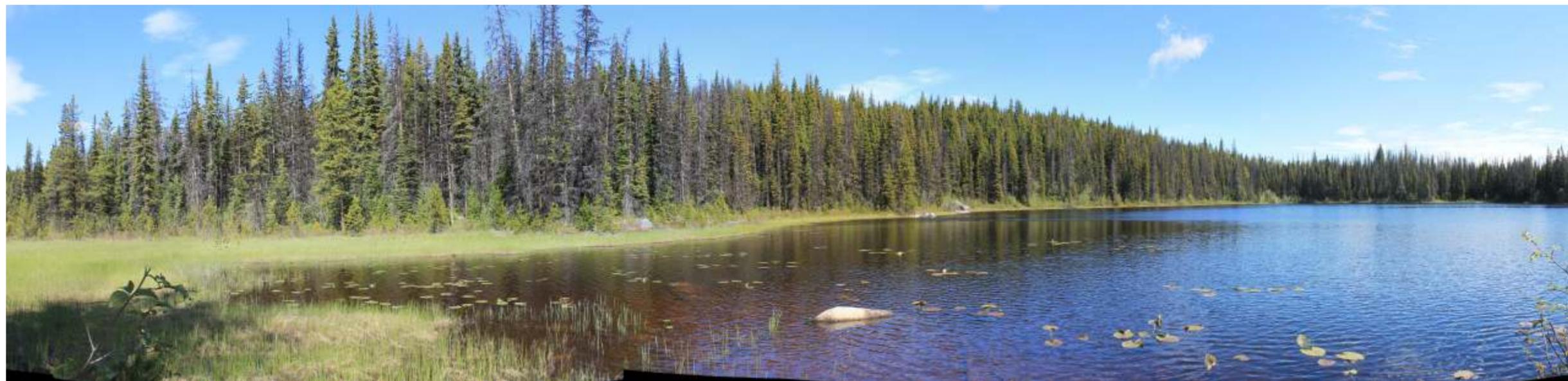
Percent Alteration Viewpoint 2		
NAME	AREA2	
Landform	117193.70	
MZA0C-1	119.29	0.10%
MZA0C-2	292.84	0.25%
MZA0C-3	311.16	0.27%
MZA0C-4	1691.33	1.44%
MZA0C-5	768.52	0.66%
MZA0C-6	382.46	0.33%
MZA0C-7	760.77	0.65%
MZA0C-8	137.47	0.12%
MZA0C-9	173.09	0.15%
Sum Alt	4636.94	3.96%



no leave

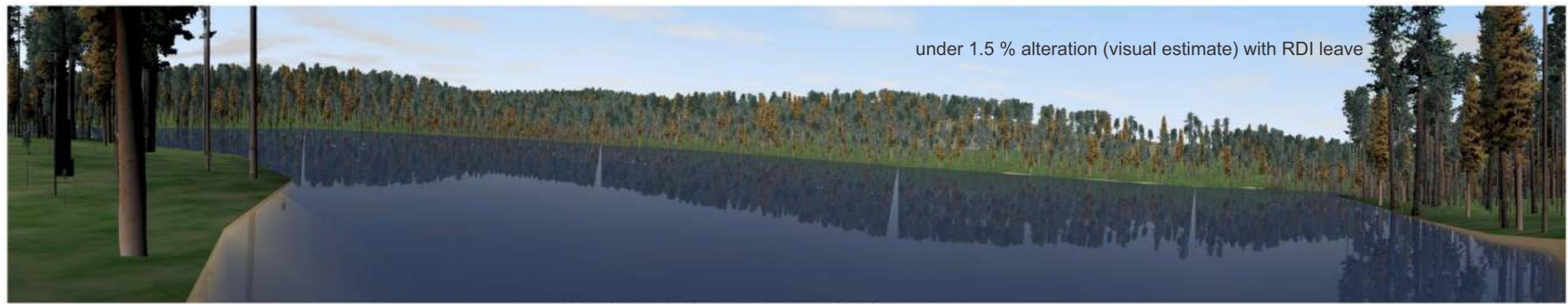


leave 26m-28m ht, 1500 sph - 0.534ha of 12.25 ha (4%)



VP 3 - Images 9410-9417 - Photos by Ches Clem 2020/06/17 Canon EOS REBEL T3 18mm lens - Panorama Construction by RDI

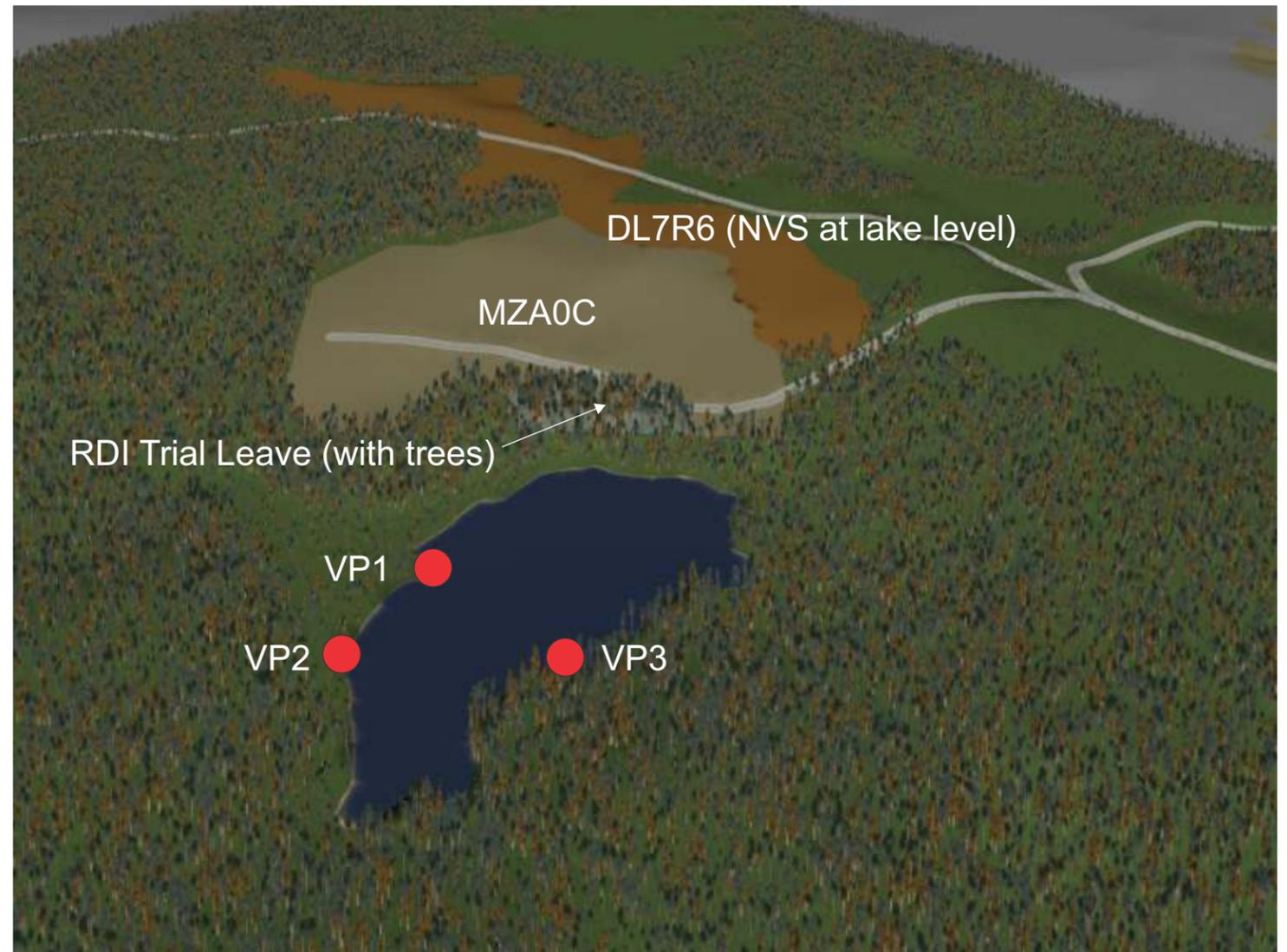
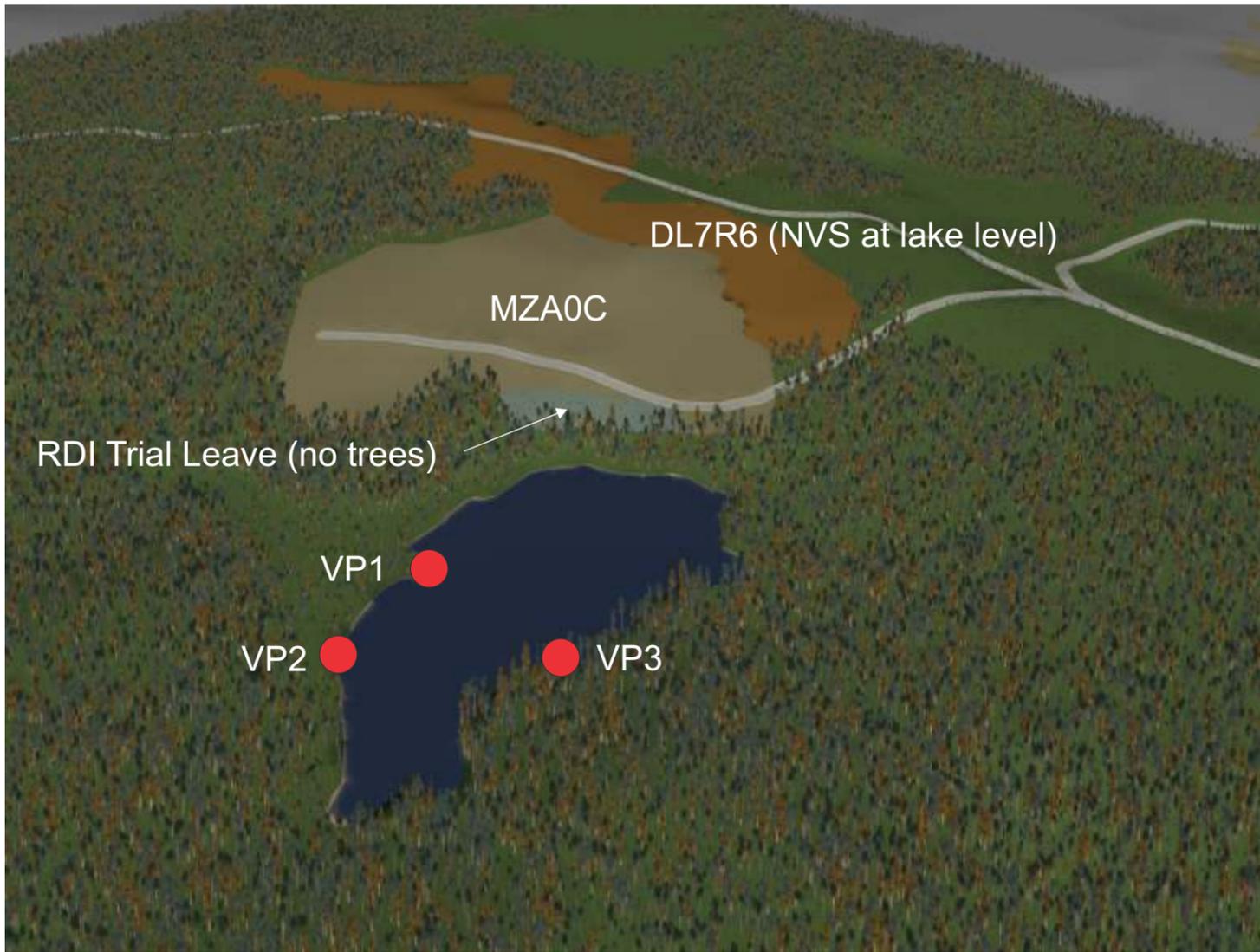
Viewpoint 3



Percent Alteration - no leave - meets Partial Retention

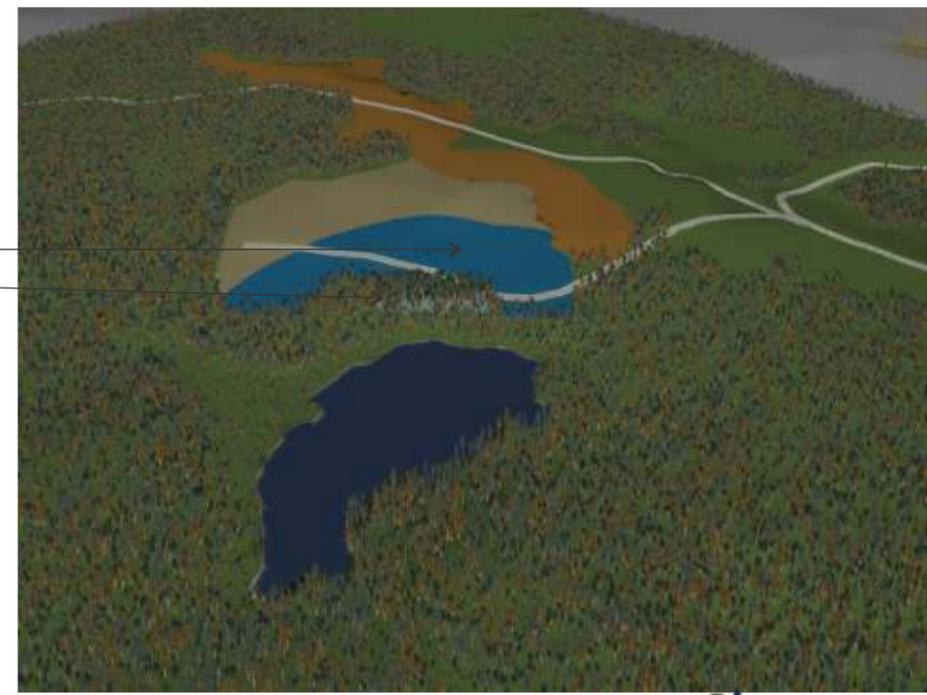
Percent Alteration MZA0C from Viewpoint 3		
NAME	AREA2	%Alt
Landform	546969.18	
MZA0C-1	13267.33	2.43%
MZA0C-2	858.67	0.16%
MZA0C-3	1303.30	0.24%
MZA0C-4	449.72	0.08%
MZA0C-5	138.83	0.03%
MZA0C-6	254.83	0.05%
MZA0C-7	301.92	0.06%
MZA0C-8	326.79	0.06%
MZA0C-9	271.95	0.05%
MZA0C-10	740.43	0.14%
Sum Alt	17913.78	3.28%

Percent Alteration - with RDI leave approximately 50% less



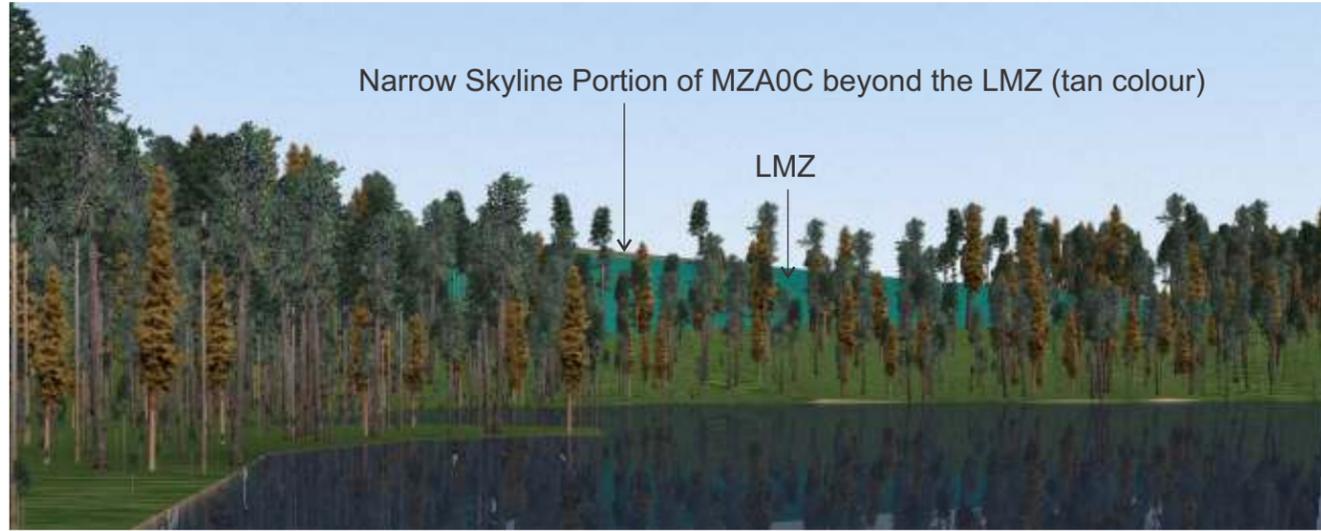
Lakeshore Management Zone (mid-blue)

RDI Leave (light blue) with and without trees

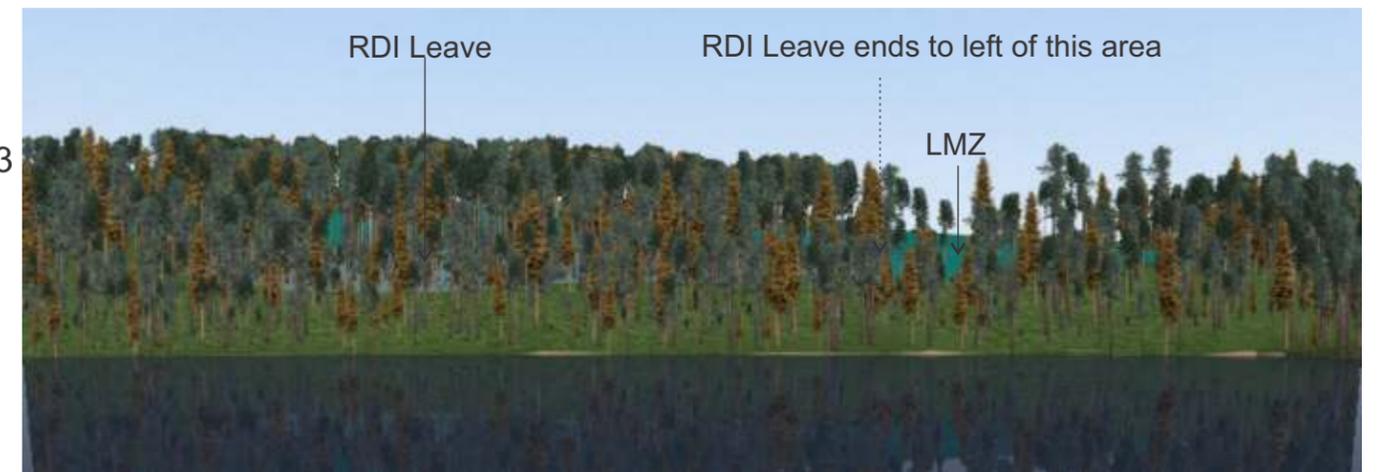
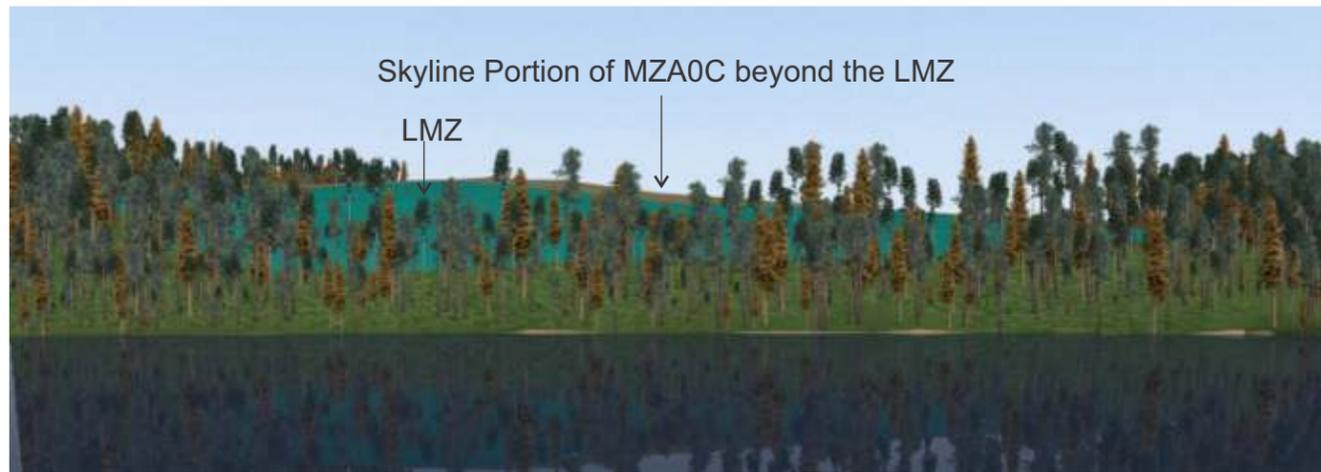
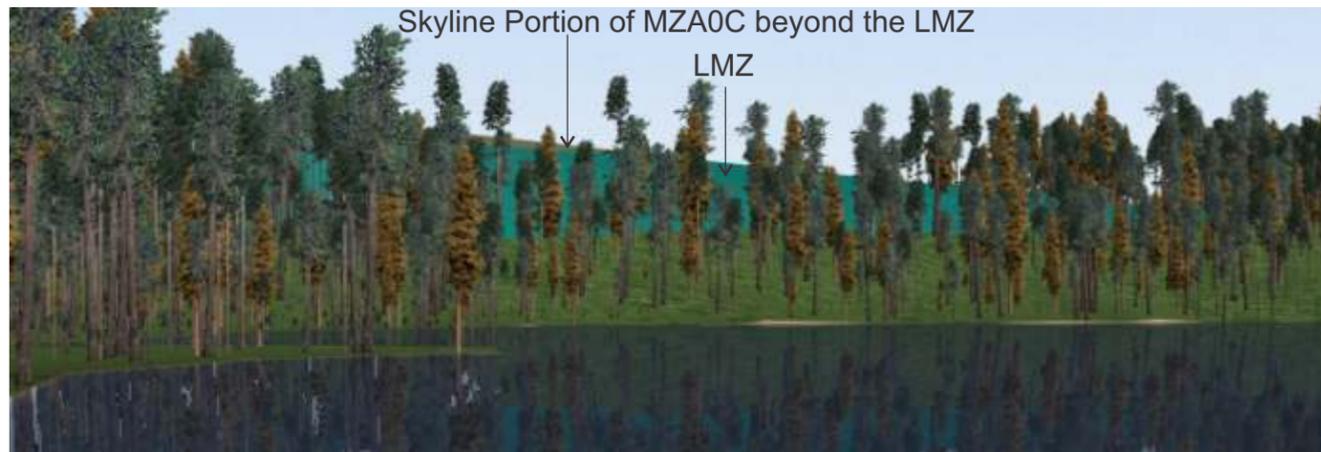


Aerial Oblique for Cutblock Validation Showing RDI Leave and Lakeshore Management Zone

LMZ - No RDI Leaf



LMZ - with RDI Leaf



All Viewpoints with Lakeshore Management Zone in Blue; without and with RDI Leaf in Grey