Felling Short

BRITISH COLUMBIA'S OLD GROWTH MANAGEMENT AREAS FALLING SHORT ON PROTECTING OLD GROWTH FORESTS

January 2024

CPAWS
CANADIAN PARKS AND WILDERNESS SOCIETY
BRITISH COLUMBIA CHAPTER

Table of Contents

Written By Meg Bjordal, Conservation Research and Policy Coordinator

Data Management and Maps by Jacob Chila, GIS Analyst

Photos by TJ Watt unless otherwise noted

CPAWS
CANADIAN PARKS AND WILDERNESS SOCIETY
BRITISH COLUMBIA CHAPTER

Executive Summary

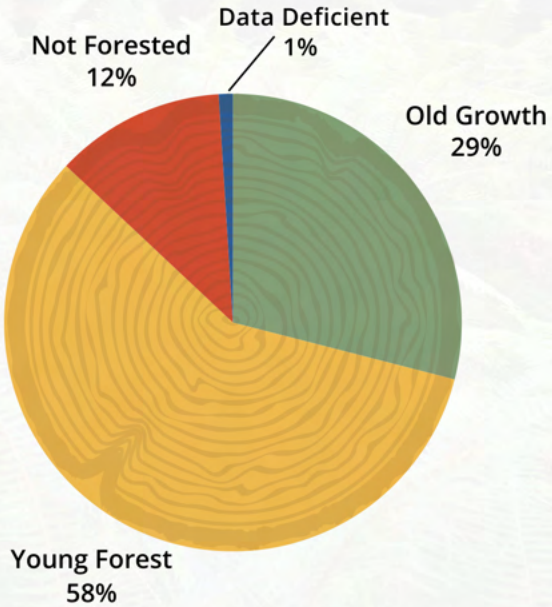
INTRODUCTION

BC committed to protect 30% of lands by 2030 in an effort to halt and reverse biodiversity loss. To achieve this, it is crucial the areas counted as protected effectively foster biodiversity and ecosystem health, long-term. Old growth forests in BC provide essential ecosystem services, support diverse plant and animal species, and are at high risk of being lost. Old Growth Management Areas (OGMAs) are a tool intended to retain old growth forests, and most of the legal OGMAs in BC currently count towards protected area targets.*

Environmental groups have repeatedly highlighted problems with BC's inflated accounting of 'other conserved areas', which include Old Growth Management Areas, and called on the provincial government to take action.** OGMAs are the largest category of 'other conserved areas' in BC, representing about 37%, and so it is critical that they meet international and Canadian criteria*** to ensure effective biodiversity conservation for land that contributes to biodiversity targets. This report analyzes the effectiveness of legal OGMAs* at both the provincial and district level in protecting old growth forests, and meeting conservation standards.

FINDINGS

Old Growth Management Areas do not meet Canadian conservation standards as they do not provide permanent protection, prohibit logging or foster the conservation of biodiverse old growth forests. Less than one third (29%) of legal OGMAs by area, province wide are composed of old forest. The majority (58%) of legal OGMAs by area are young forest. When broken down into individual OGMAs, 37% of the approximately 22,000 legal OGMAS in BC do not contain any old forest. Active cutblocks overlap 27,300 hectares of legal OGMAs in the province, an area 68 times larger than Stanley Park.



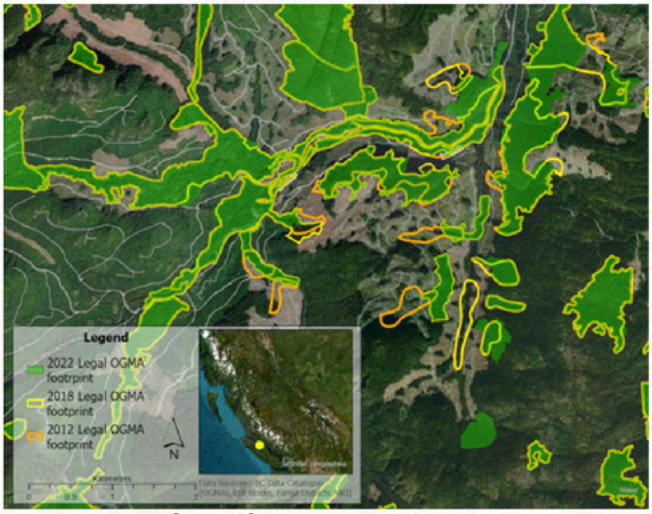
Composition of Legal OGMAs in BC by Area

*All legal OGMAs in BC as of 2022 represent 1.9% of BC's landbase, and this is what is reported on here. A slightly smaller amount of these, 1.5% of BC's landbase, is reported in the Canadian Protected and Conserved Areas Database.

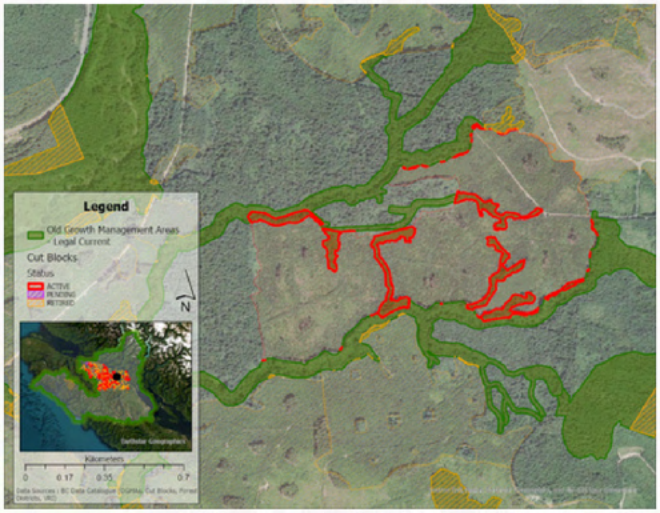
**Ball, T., & Nixon, S. (2022). *An Honest Accounting: Improving BC's approach to claiming other conserved areas.* Canadian Parks and Wilderness Society, BC Chapter & Ecojustice Canada.

***Canadian *Decision Support Tool* for Other Effective Conservation Measures.

When taking a closer look at legal OGMAs in the Campbell River Resource District as an example on a smaller scale, OGMAs do not capture very much of the old growth, leaving over 226,000 hectares of old growth forest vulnerable to logging. Examples in this region show frequent boundary changes occurring for logging, active cutblocks overlapping legal OGMAs, and fragmented patches of forest.



Boundary Changes to OGMAs



Narrow, Fragmented OGMAs and Active Cutblock Overlaps

RECOMMENDATIONS

We recommend not counting Old Growth Management Areas towards protected area targets unless legal OGMAs are improved to ensure they meet Other Effective Conservation Measures (OECM) criteria and effectively protect old growth. Immediate actions are required:

- **Amend OGMA guidelines to ensure protection of old growth.** OGMAs must be predominantly old forest, and represent large, unfragmented areas without clearcuts or roads. Boundary changes for resource extraction must not be permitted.
- **Conduct a provincial review of OGMAs:** assess OGMA management and immediately rectify where targets for retention of old forests are not being met. Identify sites that offer large, unfragmented, old growth forest to meet the retention targets and achieve biodiversity protection with OGMAs.
- **Reform laws and regulations to ensure protection from boundary changes and industrial activity**, such as logging and road building, to prevent further fragmentation of OGMAs. Put in place proper monitoring to track changes and incursions.

OGMAs that do not functionally protect old growth, nor meet basic standards for OECMs should not be counted towards protected area totals for 30x30.

CONCLUSION

Old Growth Management Areas are evidently falling short as a tool to foster biodiversity in BC forests and protect at risk old growth. OGMAs must be improved to effectively protect old growth and meet standards to count towards biodiversity targets.

INTRODUCTION

BACKGROUND

In December 2022, British Columbia joined the global movement to protect 30% of nature by 2030 (30x30) in an effort to halt and reverse biodiversity loss and mitigate climate change. Reaching this target is critical to ensure BC has functioning, healthy ecosystems. This will help preserve clean air and water, provide connected habitat for wildlife, foster biodiversity, sequester carbon, mitigate floods, and provide cultural, recreational, health and economic benefits to all, long-term.

According to BC government accounting, 19.6% of BC is currently protected.[1] This total comprises 15.5% in protected areas, including provincial parks, conservancies and ecological reserves; and the remaining 4.1% in Other Effective Conservation Measures (OECMs).[1] OECMS are areas that provide biodiversity conservation outside of formal protected areas. They are intended to be more inclusive and able to recognize Indigenous and community conserved areas.

BC played a leadership role in the Canada Pathway to Target 1 process to achieve the 2020 Biodiversity Goals and Targets during the development of the Canadian Decision Support Tool. Key standards of an OECM include: spatial definition with long-term and year-round protection, prohibition of activities that threaten biodiversity, and a relevant governing authority and effective means to preserve biodiversity in-situ.[2]

The majority of OECMS in BC (97%) fall into one of three designations: Old Growth Management Areas (OGMAs), Wildlife Habitat Areas (WHAs), and Wildland Zones.[3] As outlined in the 2022 CPAWS-BC and Ecojustice report on BC's OECMs, none of these designations meet the criteria for an OECM as defined by Canadian or International standards. This highlights a significant issue in counting the 38,476 km^2 of OECMs in BC as contributing to the tally of total protected and other conserved areas in BC when aiming to reach 30x30.

1. Environment and Climate Change Canada. (2022). *Canadian Protected and Conserved Areas Database* [2022]. https://www.canada.ca/en/environment-climate-change/services/national-wildlife-areas/protected-conserved-areas-database.html
2. Pathway to Canada Target 1. (2021). *Decision Support Tool.* https://static1.squarespace.com/static/57e007452e69cf9a7af0a033/t/608072ffe432dc2f539ecf9e/1619030785401/DST_EN_03-2021%282%29.pdf
3. Ball, T., & Nixon, S. (2022). *An Honest Accounting: Improving BC's approach to claiming other conserved areas.* Canadian Parks and Wilderness Society, BC Chapter & Ecojustice Canada. https://cpawsbc.org/wpcontent/uploads/2022/02/22-02-04-OECM-report-%C6%92-reduced-1.pdf

Old Growth Management Areas as a Conservation Tool in BC

Old forests develop the structure and complexity to foster biodiversity and provide valuable ecosystem services over time frames that comprise many human generations.[4] Trees grow old and large, and can hold many values - cultural, spiritual, recreational, ecological and economic. Over half of the estimated 25 million hectares of old growth that once stood in BC has been lost,[5] and less than 3% of productive, old forest ecosystems remain.[6]

At risk old growth forests are critically important to biodiversity in BC,[6] providing wildlife habitat and fostering ecosystems with diverse plant and animal species.[4] These forests store carbon, filter our air and water, contribute to soil richness, and provide many more ecosystem services, all of which humans need to thrive. OGMAs are a tool to protect old trees from logging in the interest of biodiversity, and are intended to retain old forest attributes.[7]

4. Gorley, A., & Merkel, G. (2020). *A New Future for Old Forests: A strategic Review of how British Columbia manages for old forests within its ancient Ecosystems.* https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/stewardship/old-growth-forests/strategic-review-20200430.pdf
5. Old Growth Technical Advisory Panel. (2021). *OG TAP Old Growth Deferral: Background and Technical Appendices.* https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/stewardship/old-growth-forests/og_tap_background_and_technical_appendices.pdf
6. Price, K., Holt, R., & Daust, D. (2021). *Conflicting portrayals of remaining old growth: the British Columbia case.* https://cdnsciencepub.com/doi/full/10.1139/cjfr-2020-0453
7. Forest Practices Board. (2012). *Conserving Old Growth Forests in BC.* https://www.bcfpb.ca/wp-content/uploads/2016/05/SIR36-OGMAs.pdf

A spatial, legal OGMA is declared under a *Land Act* old-growth order, though BC also has non-legal OGMAs. Legal OGMAs must be incorporated into Forest Stewardship/ Landscape Plans and define a spatial area with old growth attributes, whereas non-legal OGMAs may serve more as guidelines for areas that have old growth attributes, and may not be spatially defined.

Legal OGMAs cover 1.9% of BC's landbase. While this is a small portion of land overall, protecting old growth forests is critical as they are some of the most biodiverse areas in BC. OGMAs are the largest category of OECMs in BC, representing about 37%. As such, it is essential that OGMAs meet OECM criteria to ensure effective conservation for land that contributes to biodiversity targets and protects valuable old growth forests.

OGMAs have been criticized by multiple, independent reports for their shifting boundaries, allowance of timber harvesting and road construction, and lack of management.[3,4,7] With no formal, consistent monitoring program, it is impossible to know how compliant the areas are with the regulations or whether they meet the results they're intended to achieve. In July 2021, Justice Burke of the BC Supreme Court raised concerns about OGMA's ability to protect biodiversity, citing the allowance of discretionary destruction of habitat and use as "rotating reserves" rather than permanent protection.[8]

This report evaluates legal OGMAs in BC[i] to document how they measure against OECM criteria. We evaluate the quality of OGMAs by assessing their composition, and review their effectiveness by looking at overlapping cutblocks and examples of boundary changes and habitat fragmentation.

A former OGMA near Hadikin Lake on Vancouver Island that was moved so the old growth in it could be logged.

8. *Yahey v. British Columbia*, 1287 BCSC (2021). https://www.canlii.org/en/bc/bcsc/doc/2021/2021bcsc1287/2021bcsc1287.html

i. All legal OGMAs in BC as of 2022 cover approximately 1.87 million hectares or 1.9% of BC's landbase. A slightly smaller percentage of these, 1.5% is reported in the Canadian Protected and Conserved Areas Database (CPCAD). As we used legal OGMA data from the BC data catalogue, and not CPCAD for analysis, the full amount of legal OGMAs in BC (1.87 million hectares) is what is reported on here.

METHODS

The data layers used are: Vegetation Resource Index (VRI) 2022 (downloaded March 2023), Old Growth Management Areas - Legal - Current (downloaded March 2023), and Forestry Tenure Cutblock Polygons (downloaded July 2023) from the BC Data Catalogue; protected and conserved areas from Canadian Protected and Conserved Areas Database (CPCAD; downloaded June 2023); and historical legal OGMA layers (2012 and 2018) which were previously downloaded from the BC Data Catalogue (when they were available).

We excluded privately owned land from analysis. We classified 'not forested' as: non-forested alpine or subalpine parkland ecosystems (BAFA, IMA, CMA,SWBmks, SWBuns, SWBvks); and/or very low productivity forests (site index <5 meters at 50 years); and/or where the land cover is not vegetated or tree cover is less than 10%. If the site index had a null value and was not in the 'not-forested' category, then these polygons (894,182 ha) were determined to be 'data deficient' and excluded from the analysis.

We classified 'old forest' by age[ii] and BEC subzone following the Old Growth Technical Advisory Panel Technical Appendices,[5] Appendix 8, Table 8.1, column "age of old", which roughly is as follows: 141≥ years - BWBS, ESSF dry, ICH dry, MS, SBPS, SPS dry; 250≥ years - CDF, CWH, ESSF wet, ICH wet, IDF, MH, PP, SBS wet. If the age class was null, these polygons (28,853 ha) were classified as unknown age forest. The remaining forest area was categorized as 'young forest'.

We classified 'protected areas', as lands reported to CPCAD as a protected area, and excluding OECMs. 'Protected areas' are considered to be permanently protected and include areas such as national and provincial parks.

ii. We recognize that age classification does not effectively capture the complexity and values of old growth forests, as discussed by the Old Growth Strategic Review[4] and Price et al. (2021)[6], and that within old forests there are important differences in types; however, we used this method due to data availability and because it remains the common method in BC to classify old growth.

FINDINGS:
Provincial Snapshot

Of the 11.4 million ha[iii] of old forest remaining in BC, 18% is in a permanently protected area, with OGMAs capturing a further 6%. Of the 1.87 million hectares of legal OGMAs in BC, intended to protect old growth, only 29% is actually old forest (Figure 1). When broken down into individual OGMAs, 37% of the approximately 22,000 legal OGMAS in BC do not have any old forest. The small proportion of old growth captured in OGMAs, as well as OGMAs capturing not forested areas (Figure 1) minimizes effectiveness of this tool, both in facilitating biodiversity conservation and protecting old growth.

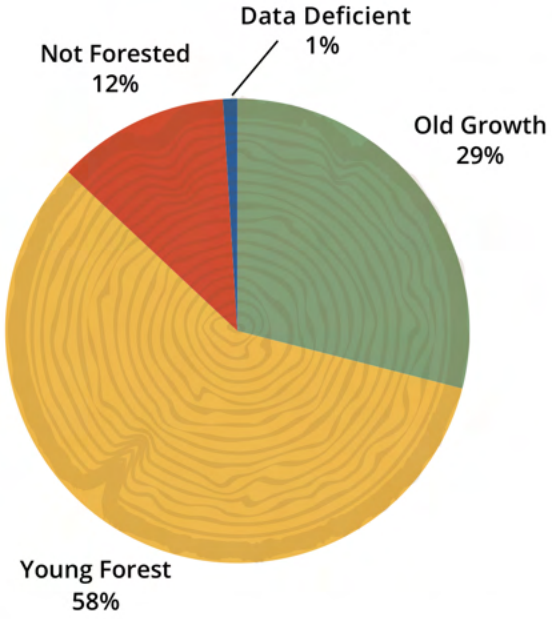


Figure 1: Proportion of forest type by area in legal OGMAs in BC.

iii. Our estimate of 11.4 million ha of old growth remaining in BC is slightly higher than the 2021 estimate by the Old Growth Technical Advisory Panel (TAP) of 11.1 million ha.[5] While we used similar methods to TAP and BC Government standards, the slight difference is due to different data layer versions and databases used, as well as specialized work by TAP to account for insect, fire, and recent harvest disturbances.

Despite the legal designation, active cutblocks overlap 27,300 hectares of OGMAs. This leaves forest in an area 68 times larger than Stanley Park vulnerable to logging inside OGMAs. OGMA orders may permit a small amount of harvesting (usually the lesser of 10% area or 10 ha), and an amendment process to allow further incursions exists.[7] An additional 54,500 hectares in OGMAs are cutblocks that have been harvested in the last 40 years, and designated as 'retired'. It is possible these OGMAs were created after the cutblocks were harvested, but OGMAs protecting second growth does not meet the objective for OGMAs to retain old forest attributes.

A clearcut on Edinburgh mountain on Vancouver Island. The viewers right half of this clearcut was an OGMA until around 2017, when the boundary was moved, so the area could be harvested in 2018.

FINDINGS:

A Closer Look, at the Forest Service District Scale

The province is divided into eight Natural Resource Regions, and further split into a total of 23 Natural Resource Districts which serve as management units for forestry. Here we take a closer look at legal OGMAs in one of the districts as an example to evaluate composition and effectiveness.

CAMPBELL RIVER RESOURCE DISTRICT

The Campbell River Resource District (DCR) is located centrally on Vancouver Island and extends over to the mainland covering a small area north of the sunshine coast. The DCR consists largely of the Coastal Western Hemlock (CWH) biogeoclimatic zone (Figure 2a), with Mountain Hemlock (MH) zone (Figure 2b) in the subalpine areas. These forests are very productive with biodiverse ecosystems that support growth of large trees. As a result they have high commercial timber value and are at risk from logging.

CONSERVATION SPOTLIGHT

The DCR includes Nootka Sound where the Mowachaht/Muchalaht and Nuchatlaht First Nations have launched Salmon Parks, an Indigenous-led conservation initiative. In this area, logging has severely impacted watershed health and is threatening salmon populations. The Salmon Parks initiative seeks to protect and restore forests to establish functioning ecosystems that support robust salmon populations. Indigenous-led conservation initiatives are critical to support biodiversity and ecosystem health in BC, and could help BC reach land protection targets.

COASTAL WESTERN HEMLOCK ZONE IN THE CAMPBELL RIVER RESOURCE DISTRICT

- CWH is a very wet and highly productive ecosystem
- most of the resource district is in this biogeoclimatic zone
- common trees:
  - western hemlock
  - western redcedar (pictured)
  - Douglas fir

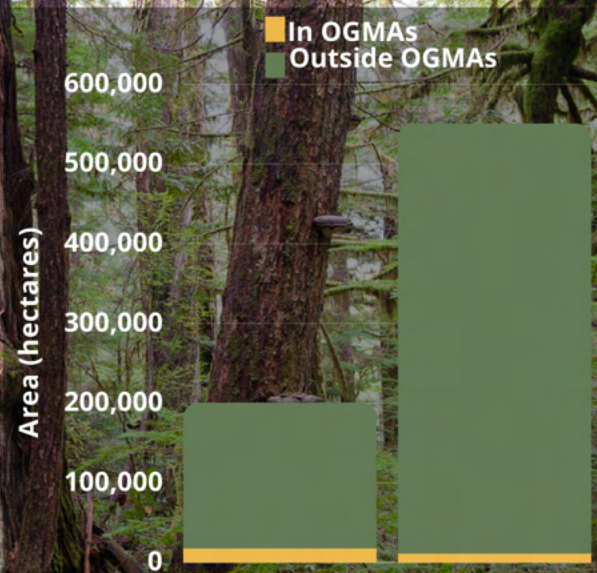


Figure 2a: CWH forest by age in the Campbell River Resource District in and out of OGMAs (excluding protected areas).

MOUNTAIN HEMLOCK ZONE IN THE CAMPBELL RIVER RESOURCE DISTRICT

- MH is a dense, productive forest at low elevations, transitioning to open parkland at higher elevations
- old growth in this biogeoclimatic zone are trees over 250 years of age
- common trees:
  - mountain hemlock
  - yellow cedar (pictured)
  - amabilis fir

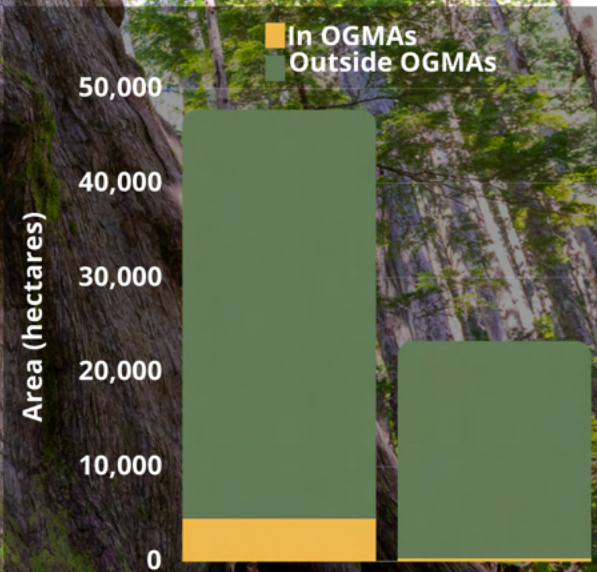


Figure 2b: MH forest by age in the Campbell River Resource District in and out of OGMAs (excluding protected areas).

Of the just under one million hectares of forest in the DCR, 16% is in permanently protected areas and 4% in legal OGMAs, despite 35% of the forest in the DCR being old growth. Of the already small amount of forest in OGMAs (Figure 2), only about two thirds are old growth (Figure 3), leaving over 226,000 hectares of old forest in the DCR vulnerable to logging. The remaining proportion of OGMAs in the DCR are made up of 33% young forest, which likely represents second growth, and 6% of non-forested land, which could include water, roads, or non-forested ecosystems like alpine areas (Figure 3).

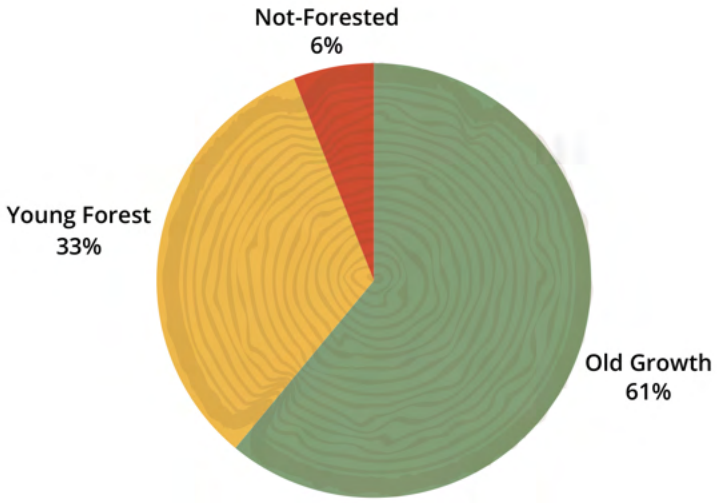


Figure 3: Proportion of forest type by area in OGMAs in the Campbell River Resource District.

Clear cut on Nootka Island in the Campbell River Resource District.

OGMA EXAMPLES

Legal OGMAs can be amended to allow boundary changes and incursions such as logging and road building.[7,9] There is a requirement to swap removed areas for other areas with similar ecological features; however, this can be waived[9] and the ability to change boundaries fails to provide long term protection. Several examples of OGMA boundary changes exist in the DCR, including multiple changes over different timeframes (Figure 4). Many of the areas removed as OGMAs, have now been harvested (Figure 4).

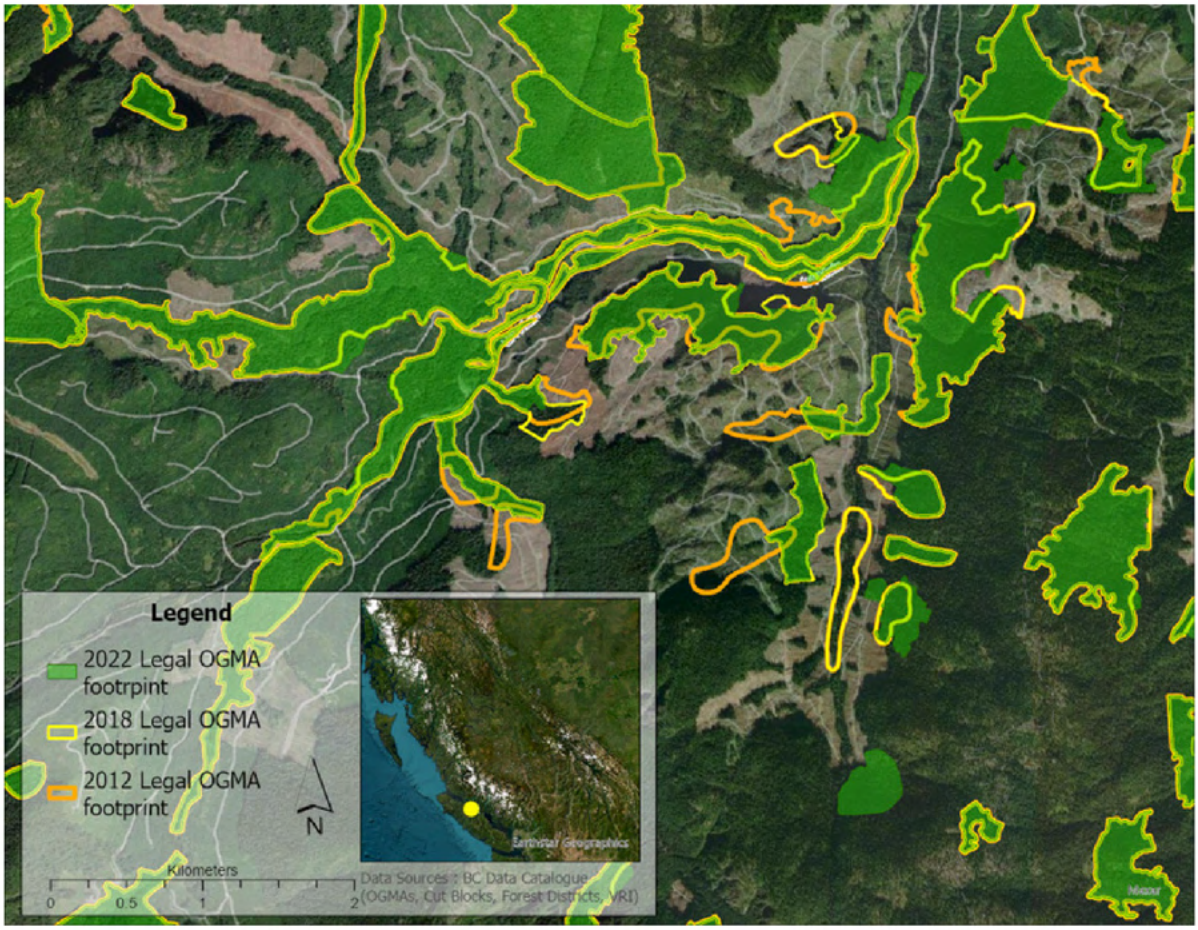


Figure 4(a-d): Examples of OGMAs in the Campbell River Resource District where boundaries have been changed over time.

9. Ministry of Water, Land and Resource Stewardship (2023). *Current Condition Report for Old Growth Forest on Vancouver Island.* https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/cumulative-effects/west-coast-region/cef-vancouverislandoldgrowth-ccr-2023-final.pdf

Figure 4(b)

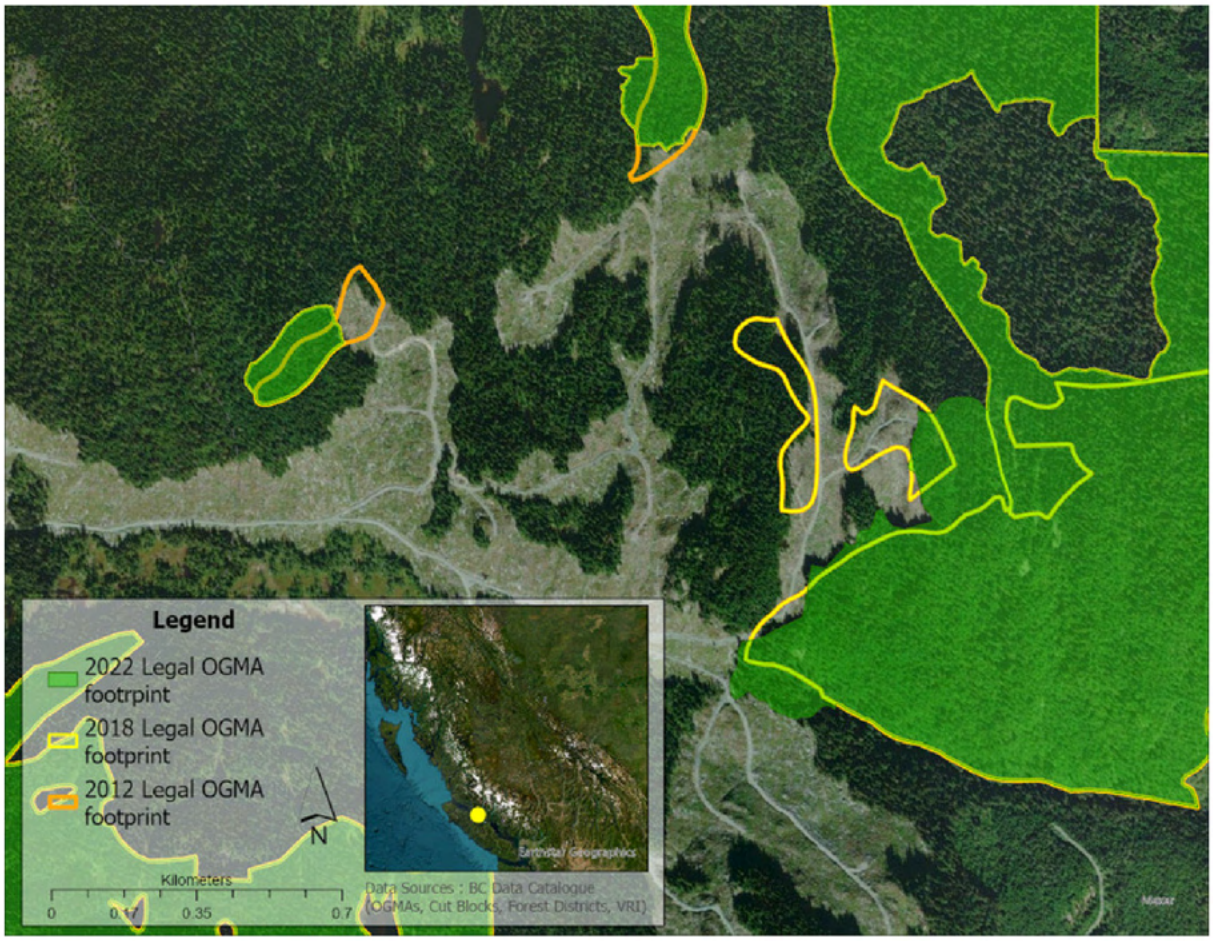
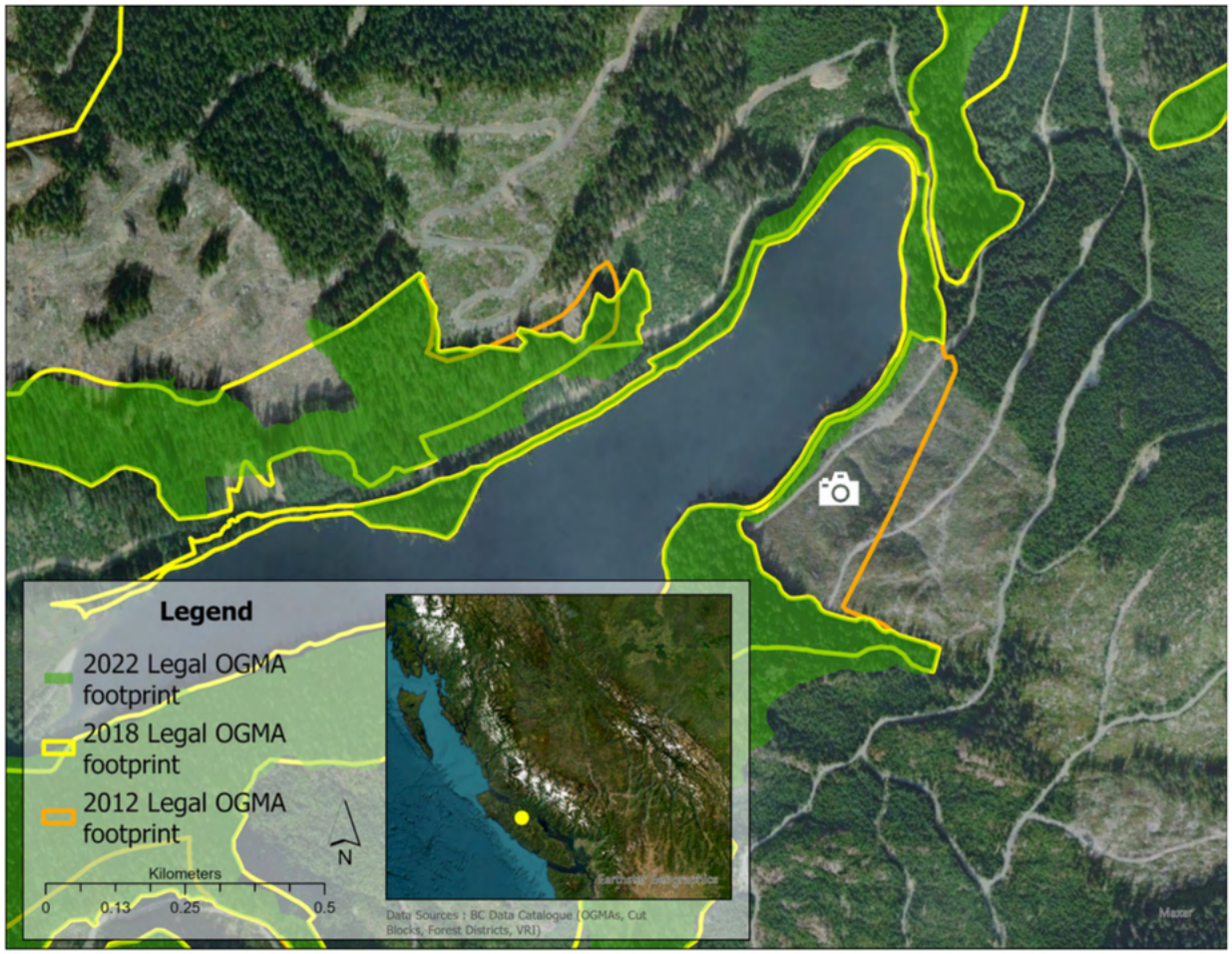


Figure 4(c)

Figure 4(d)



A moved and logged OGMA located on the southeast side of Stewart Lake on Vancouver Island as seen in the 2012 legal OGMA layer (orange) in the map above (Figure 4d).

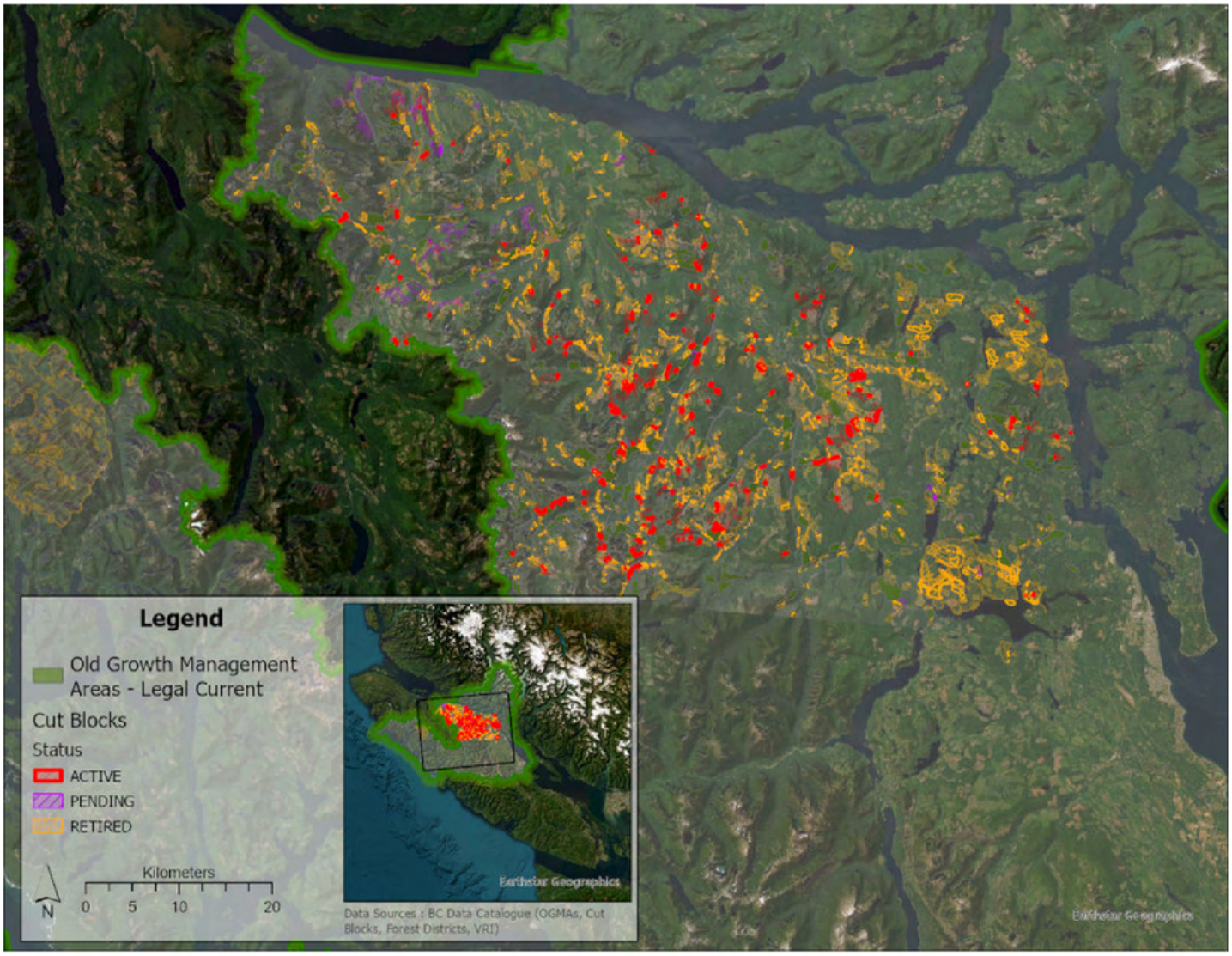


Figure 5: OGMAs with overlapping cutblocks in the Campbell River resource district.

Forest inside legal OGMAs in the DCR are at risk of being logged (Figures 5-11). There are active cutblocks overlapping about 284 hectares of OGMAs, or the equivalent of almost 250 Canadian football fields (Figure 5). There are a further 2,937 hectares of the OGMAs that overlap with retired cutblocks, with harvest dates no older than 40 years old (Figure 5).

There are several examples of OGMAs in the DCR that have active and/or retired cutblocks overlapping them (Figures 6-11). Most of these OGMAs show heavily logged areas surrounding them, and the ability of these OGMAs to conserve biodiversity, a criteria for OECMs, is uncertain. Much of the forest in these OGMA examples with active cutblocks is old, tall tree stands in highly productive ecosystems (Figures 6, 9-11), which represent the most valuable and biodiverse old growth forests in BC, as well as the most endangered.[6] The OGMA designations do not appear to be protecting these important forests from logging, and continued harvesting is resulting in small fragmented patches of tree stands.

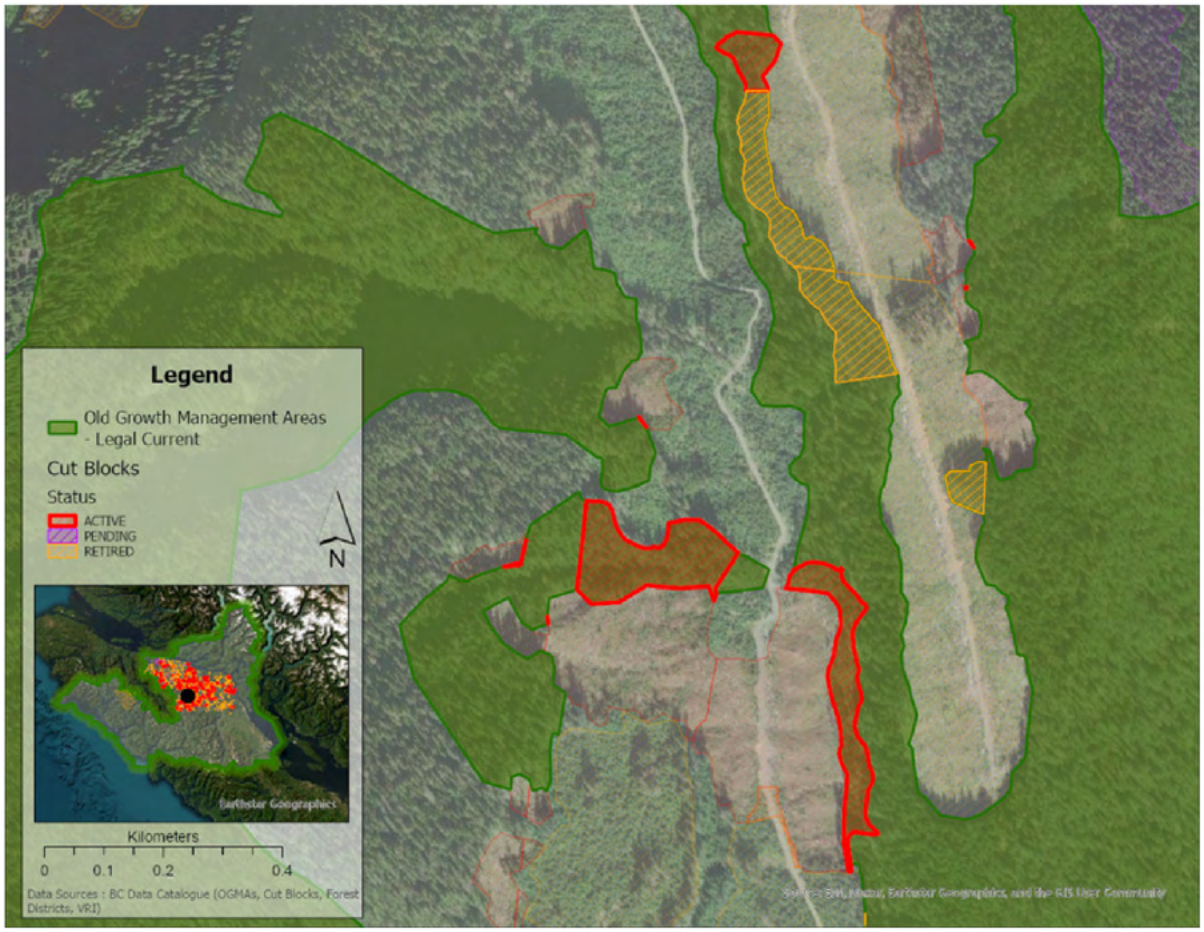


Figure 6: DCR OGMAs with active and retired cutblock overlaps in the CWH BEC zone. The OGMA on the far right has a large U-shape carved out of it for a road and/or cutblock. The trees in the active cutblocks are 250 years old and 28.5-46.4 meters tall.

Big treed old growth is naturally rare, and what remains has been identified as at extremely high risk of loss in the near term and irreplaceable.[10] Harvesting occurring inside OGMAs and/or OGMAs being moved to harvest the old growth leaves the few remaining large old trees vulnerable to logging. Research by Price et al. (2021) found that 80% of the remaining old growth forests in BC only supports small trees.[6] The smaller, old trees remaining are representative of natural old growth forests that don't grow large trees, and are too small or inaccessible to be profitable to harvest.[6]

10. Old Growth Technical Advisory Panel. (2021). *Priority Deferrals: An ecological approach*. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and industry/forestry/stewardship/old-growth-forests/summary_for_g2g_package.pdf

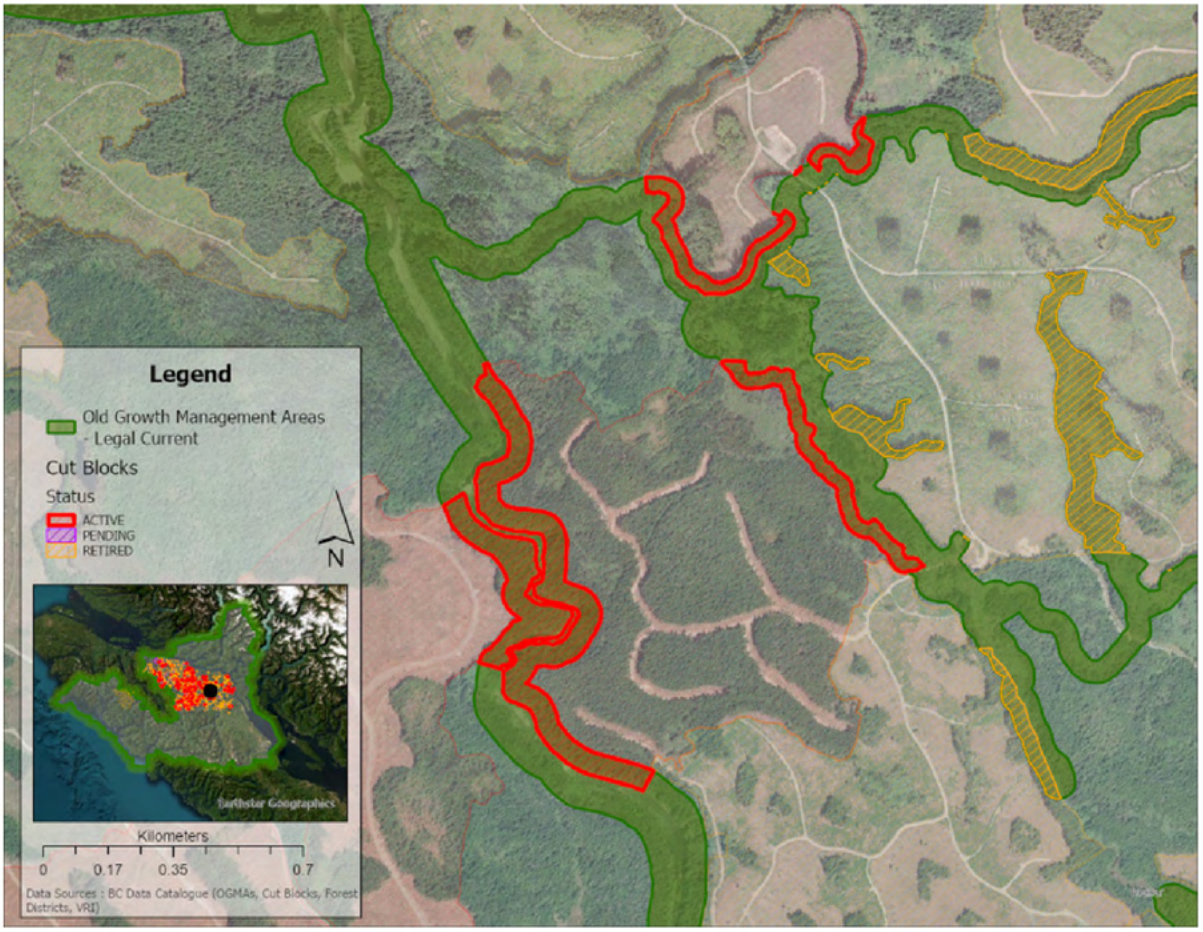


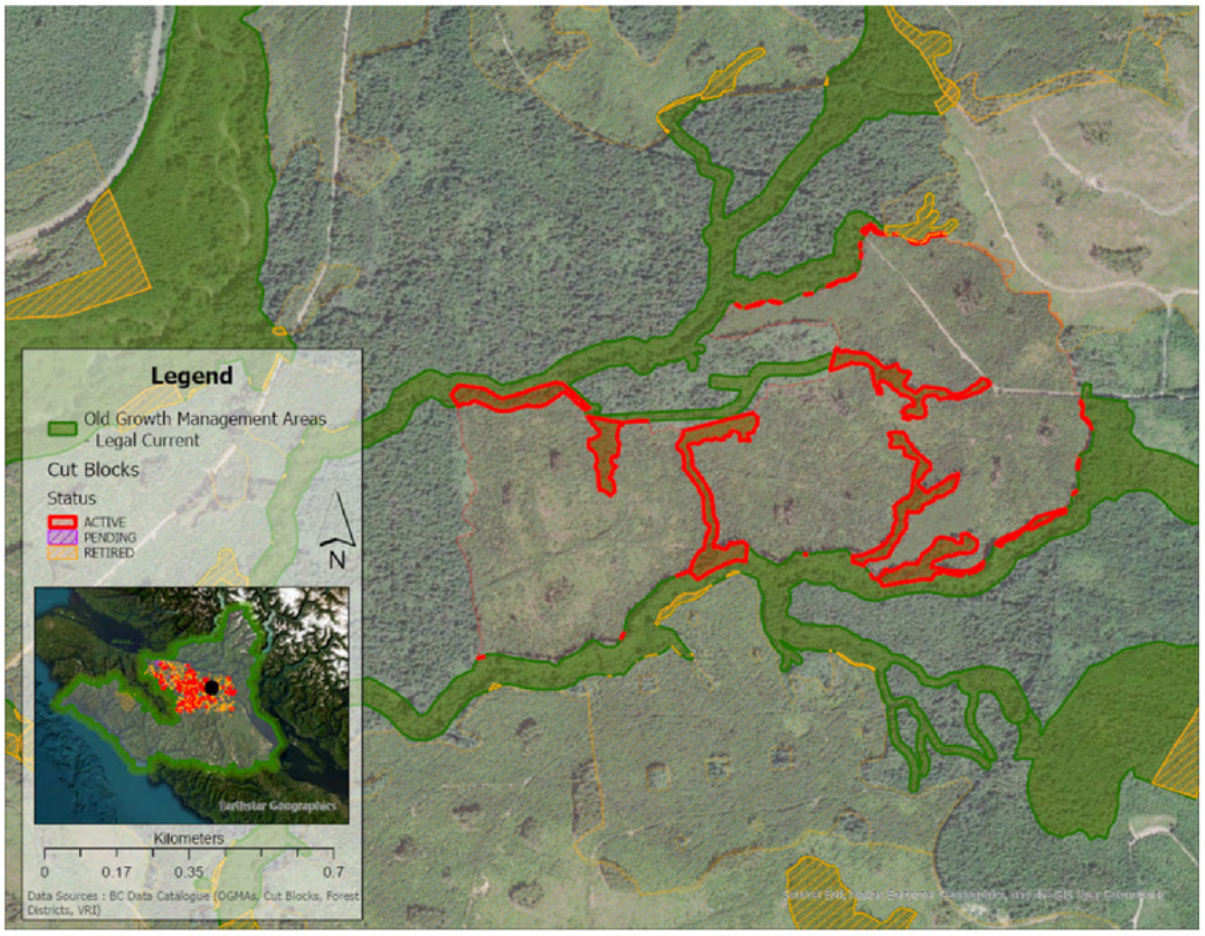
Figure 7: Narrow OGMAs with active and retired cutblock overlaps in the DCR. The OGMA closest to the legend runs alongside the steep banks of the Salmon river, where it is likely challenging to log. The trees in this OGMA, in the CWH BEC zone are between 61-100 years old and mostly range from 28.5-46.4 meters tall, with a smaller amount of trees 19.5-28.4 meters tall.

Some of the OGMAs are small and/or extremely narrow (Figures 6-8), which increases risks of edge effects in the fragmented forest.[4] Fragmented habitat like this negatively impacts wildlife in many ways, such as reducing the amount of cover and protection, nesting areas, and travel corridors, as well as reducing prey availability, and increasing competition. For example, the Northern Goshawk, *laingi* subspecies, which is red listed in BC and Schedule 1 under the *Species at Risk Act*, is facing imminent threats from logging that create fragmented nesting and foraging habitats on Vancouver Island.[11,12]

Loss of old growth may be more pervasive than this analysis shows as recent satellite imagery shows clearcut areas that are still classified as old growth in the dataset (eg. adjacent to the OGMA in Figure 11). Ongoing logging, severe wildfires, continued insect disturbance, and other factors affecting old growth quantification as identified by the Technical Advisory Panel, suggests that our calculation of remaining old growth is an overestimation.

11. British Columbia Ministry of Forests, Lands, Natural Resource Operations and Rural Development. (2018). *Implementation plan for Northern Goshawk, laingi subspecies in British Columbia.* https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/species-ecosystems-at-risk/recovery-planning/implementation_plan_for_the_recovery_of_northern_goshawk.pdf
12. Horn, H.L., Arcese, P., Brunt, K., Burger, A., Davis, H., Doyle, F., Dunsworth, K., Friele, P., Gordon, S., Hamilton, T., MacHutchon, G., Mahon, T., McClaren, E., Michelfelder, V., Pollard, B., Sutherland, G., Taylor, S., & Waterhouse, L. (2009). *Part 3: Knowledge Base for Focal Species and their Habitats in Coastal B.C.* EBM Working Group, Integrated Land Management Bureau. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/land-water-use/crown-land/land-use-plans-and-objectives/westcoast-region/great-bear-rainforest/ei02c_report_3_kb_focal_species_habitat.pdf

Figure 8: Narrow OGMAs in the DCR and CWH BEC zone with active cutblocks over most of the 'arms'. The age of trees in these OGMA areas are classified as 61-81 years old, and the height class ranges from 0.1-46.4 meters, indicating that what trees are in these OGMAs are second growth and not primary forest.



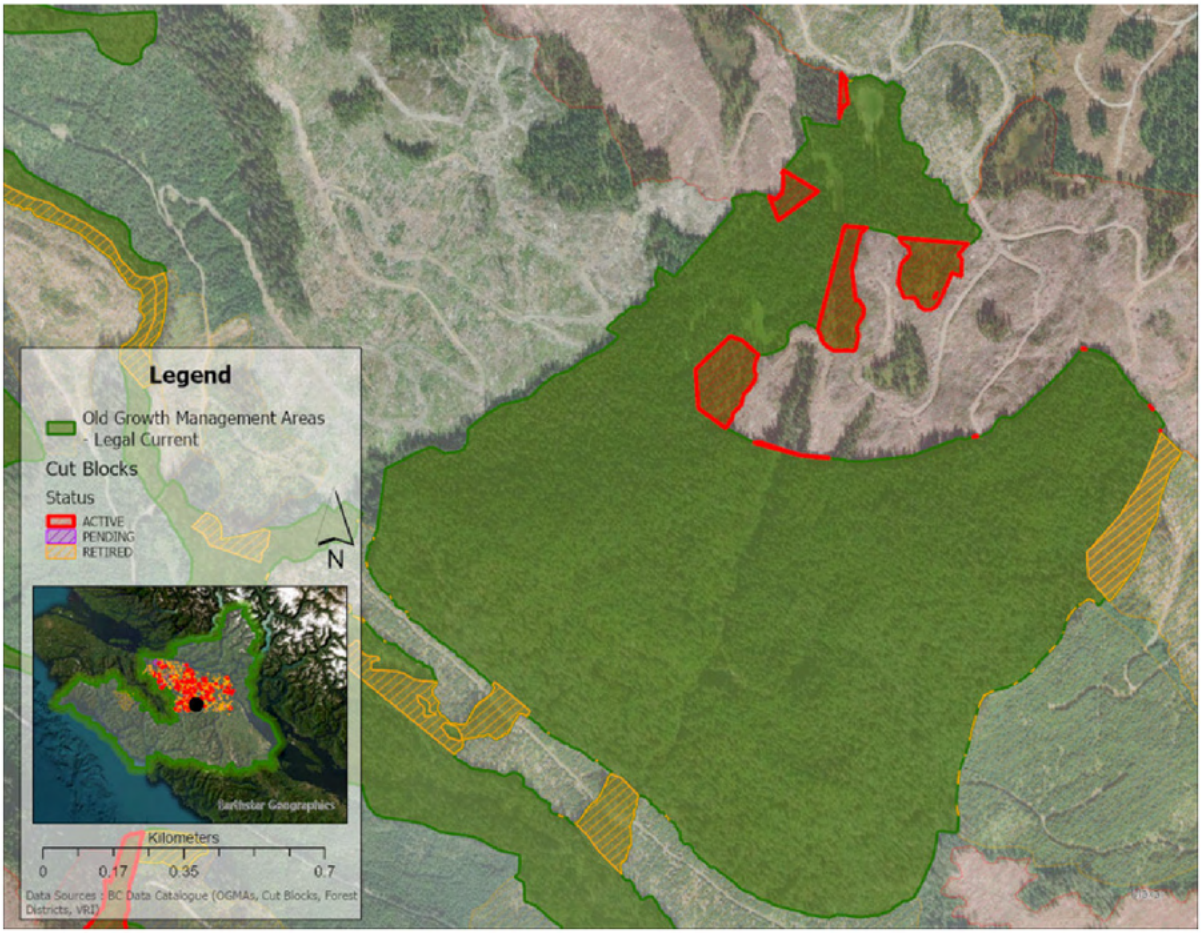
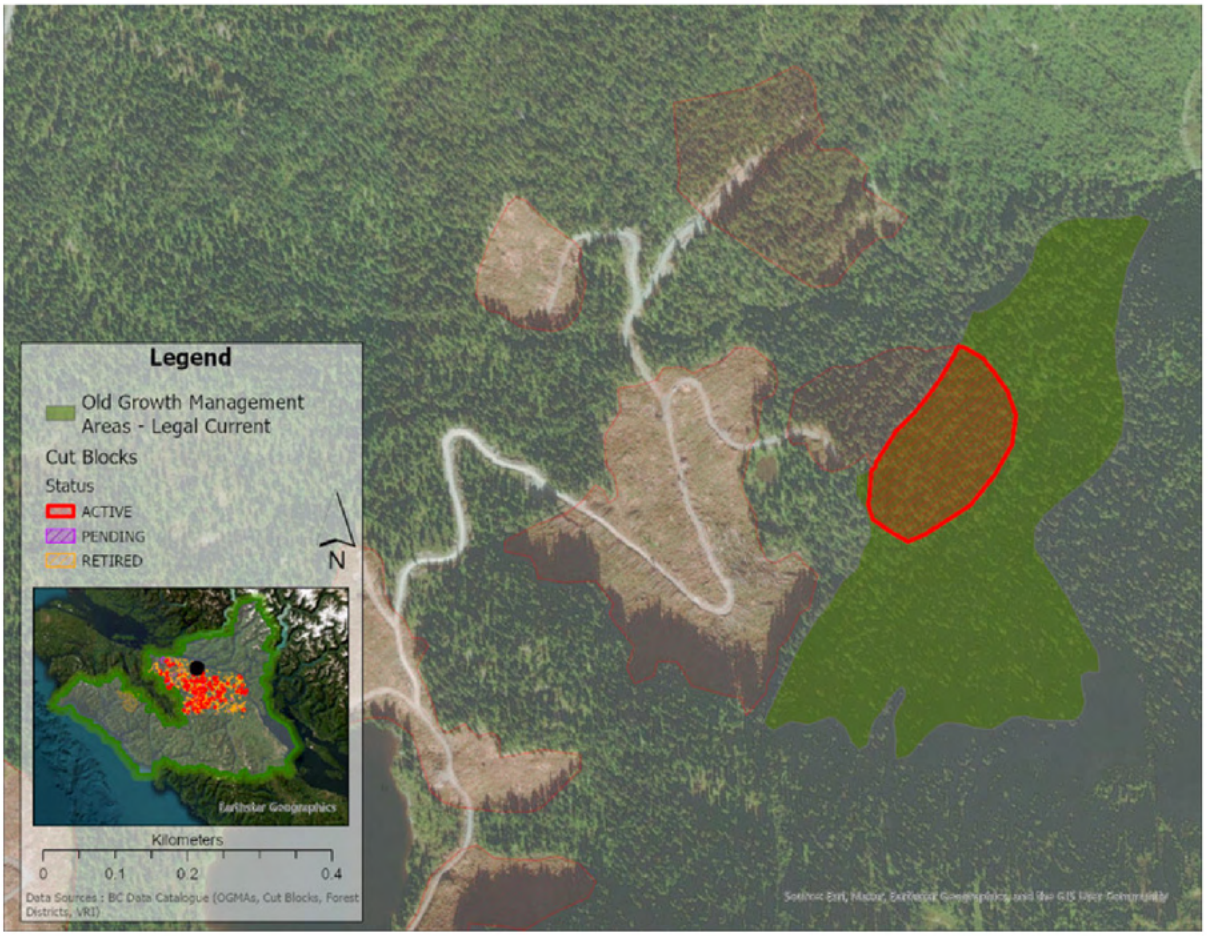


Figure 9: OGMAs in the DCR with active and retired cutblock overlaps. The three largest active cutblock overlaps appear to have small water bodies with thin vegetation cover around them. The trees selected to be harvested in this CWH BEC zone, are 250 years old and 28.5-46.4 meters tall.

Figure 10: An OGMA in the MH BEC zone with a large active cutblock overlap in the DCR. The trees in the cutblock are over 250 years old, and 28.5-46.4 meters tall.



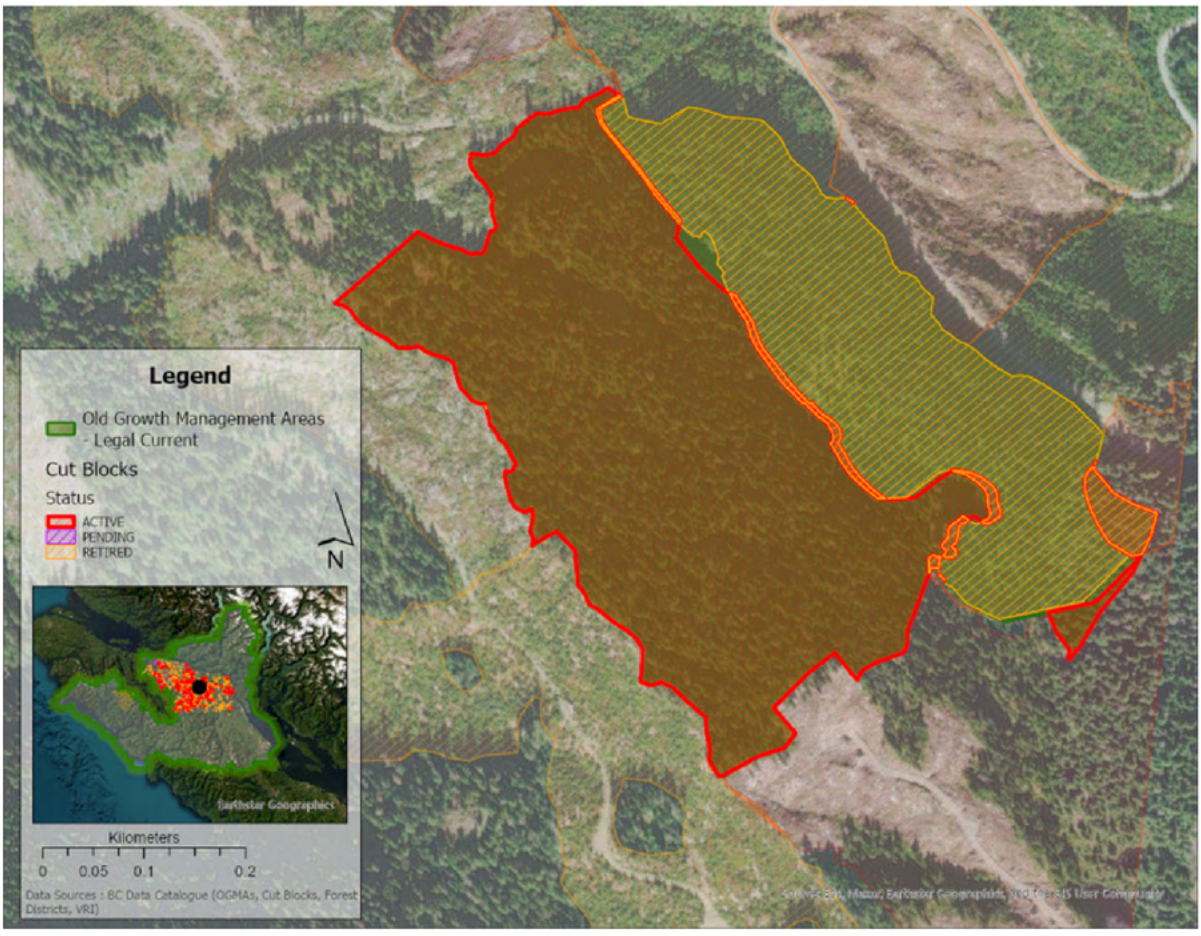


Figure 11: Large, intact treed OGMA in the DCR totalling 27 hectares in size, but with a large active cutblock. These trees are in the CWH BEC zone and are old forest: 250 years old and 28.5-46.4 meters tall. The intact patch of old forest shown here to the southwest of the OGMA has since been harvested based on observations of the area in Google Earth.

Insights

SUMMARY OF FINDINGS

At the provincial level, the majority of area in OGMAs does not classify as old growth, clearly demonstrating OGMAs ineffectiveness as a tool to retain old forest attributes. This is more evident from the fact that 37% of the approximately 22,000 legal OGMAS in BC do not have any old forest, and that 54,500 hectares in OGMAs are retired/harvested cutblocks. The small proportion of old growth captured in OGMAs, as well as OGMAs capturing not forested areas minimizes their effectiveness, both in facilitating biodiversity conservation and protecting old growth. Active cutblocks overlapping 27,300 hectares, shows a failure of OGMAs to provide long term protection and prohibit activities that threaten biodiversity.

Results at the district level echo these findings with active and retired cutblocks in OGMAs. Additionally, many of the OGMA examples show moved boundaries and small and/or extremely narrow areas, resulting in fragmented patches that fail to foster biodiversity. Due to the lack of permanent boundaries and protection offered to the biodiversity values within OGMAs, it is clear they do not meet the minimum standards of protection outlined in the Canadian and international criteria for OECMs (Table 1).

Table 1.Results of the Legal OGMA Analysis Against Canadian OECM Criteria

Criteria[2]	Standard[2]	OGMA Analysis Results
Timing	year-round protection	No observed seasonal changes to protection
Long-Term	permanently protected and not easily reversed	OGMA boundaries change
Effective Means	prohibition of activities that threaten biodiversity	Active and harvested cutblocks overlap OGMAs
Geographic Space	facilitates biodiversity conservation in-situ	Large proportion young forest, as well as not-forested land in OGMAs; fragmented habitat

OECM criteria require long term protection, prohibition of activities that threaten biodiversity, and the facilitation of biodiversity in place (Table 1). The large proportion of young trees inside OGMAs, combined with boundary changes, active cutblocks and logging of endangered old growth forests, and small, fragmented patches that OGMAs represent violate these criteria (Table 1). The findings of this OECM analysis of OGMAs demonstrate that not only do OGMAs not meet the criteria for an OECM based on the Canadian Decision Support Tool, they are at risk of degradation and destruction from logging.

RECOMMENDATIONS

We recommend not counting OGMAs towards protected area targets unless legal OGMAs are improved to ensure they meet OECM criteria. Immediate action is required to protect old growth, due to ongoing logging occurring in OGMAs as documented here, as well as the imminent risks of loss for the rarest and most important types of old growth forest.[5,6] Actions required include:

- **Amending OGMA guidelines to ensure effective protection of old growth** forests and biodiversity. OGMAs must be predominantly old forest, and represent large, unfragmented areas without clearcuts or roads. Boundary changes for resource extraction must not be permitted.
- **Conducting a provincial review of OGMAs:** assess OGMA management and immediately rectify where targets for retention of old forests are not being met, in alignment with Recommendation 7 of the Old Growth Strategic Review.[4] Identify current legal OGMAs and new sites that offer large, unfragmented and intact, old growth forest with high biodiversity value to meet the retention targets and achieve biodiversity protection with OGMAs.
- **Reforming laws and regulations to ensure protection from further boundary changes and industrial activity**, such as logging and road building, to prevent ongoing fragmentation of OGMAs. Put in place proper monitoring to track any future, unlawful changes and incursions. This compliments Recommendation 10 of the Old Growth Strategic Review[4] to standardize OGMA guidelines.

If BC cannot improve OGMAs to functionally protect old growth and meet Canada-wide standards for OECMs that they helped develop, these OGMAs should be removed as an OECM and not counted towards BC and Canada's protected area totals for 30x30. Further, if OGMA protection standards cannot be improved to functionally protect old growth, OGMAs with intact stands of old growth should be converted to conservation designations with stronger protections, such as Indigenous Protected and Conserved Areas, ecological reserves, conservancies or provincial parks.

A former OGMA near Hadikin Lake on Vancouver Island that was clearcut. The OGMA was relocated and split into two different areas so the original OGMA could be logged.

CONCLUSION

Old Growth Management Areas are evidently falling short as a tool to foster biodiversity in BC forests and protect at risk old growth. Old forests representing highly productive and the most at risk ecosystems inside these management areas are being logged, and the vast majority of BC's old growth remains vulnerable to logging. Once old growth forests are logged, they are lost. BC is failing to protect what is left of this valuable and endangered ecosystem. OGMAs must be improved to effectively protect old growth and meet standards to count towards biodiversity targets.

The continued false, inflated accounting of BC's OECMs undermines the integrity of and progress towards provincial and national biodiversity conservation targets. These targets aim to halt and reverse the rapid decline of species, which cannot be accomplished by creative accounting.