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An Old Growth Protection Act for British  
Columbia

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# An Old Growth Protection Act for British Columbia

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## Preamble

British Columbia's old-growth forests are an iconic part of the province's identity. In some areas, in particular the coastal and inland temperate rainforest zones, trees can grow to such incredible heights and girths that they are exceeded only by the redwood and sequoia forests of California for grandeur. The old-growth forests of British Columbia have also been at the centre of large-scale social and political conflicts for over the past 30 years, where conservationists have often been at odds with timber extraction interests.

British Columbia's old-growth forests are important for a number of reasons:

- They support much wildlife, including species at risk such as the spotted owl and marbled murrelet on the coast and mountain caribou in BC's interior. These "old-growth obligate" species cannot flourish in younger forests.
- They are an important pillar for recreation and the tourism industry.
- They store significantly greater quantities of carbon per hectare than the second-growth tree plantations that they are being replaced with.
- They provide clean water for many human communities and for wild salmon and ecosystems.
- They are important parts of many First Nations cultures, which evolved over millennia to use the large trees and multitudes of resources provided by old-growth forests.

More than a century of industrial logging has reduced old-growth forests in many areas of British Columbia to a fraction of their former extent. This is true particularly for productive old-growth forests – the "ancient" forests, with the largest trees. These high-value stands tend to occur in valley bottoms and at lower elevations, and the vast majority have been logged. They contain the classic monumental trees of great height and girth, as well as the greatest levels of biodiversity, but are becoming rare outside of protected areas. Most remaining old-growth forests in the province are found on low-productivity sites at higher elevations, or on rocky mountainsides and in bogs.

According to a 2011 report prepared by the Sierra Club of Canada, in coastal British Columbia only about 17 percent of high productivity old-growth forests remain. On Vancouver Island, over half of the "high-risk" ecosystems have less than 10 per cent old forest remaining, such as the Coastal Douglas Fir ecosystem where only 1.2% of the old-growth forests remain.<sup>1</sup>

The impacts of old-growth depletion have led to a dramatic decline in old-growth dependent species over the past century:

- British Columbia's spotted owl population consisted of an estimated 500 breeding pairs prior to European settlement. By 2007, the species had declined to 19 individuals, and the Committee on the Status of Endangered Wildlife in Canada expected that it would disappear from British Columbia by 2012. Currently, it is believed there are less than a dozen spotted owls still surviving in BC's wilds<sup>2</sup>

- According to the BC Conservation Data Centre, marbled murrelets have undergone a “substantial to moderate decline”, in large part due to elimination of their nesting habitat.<sup>3</sup>
- Mountain caribou have undergone a sharp decline, from 2,500 individuals in 1995 to 1,900 individuals by 2006, and the most recent government estimate being 1,533.<sup>4</sup>

Although British Columbia has protected old-growth forests, current protection levels have failed to halt or slow the decline of these species, or to protect other wildlife and the fisheries values that depend on old and undisturbed forest ecosystems. In British Columbia, scientific risk assessments prepared to support land-use planning on the Central and North Coast<sup>5</sup> have shown that levels of old-growth retention required to ensure “low risk” to biodiversity and ecological integrity are likely far greater than current old-growth retention targets set by government policy.

Second-growth stands now constitute the vast majority of the British Columbia's productive forestlands. As the forest industry transitions towards greater utilization of these stands, it is time to put an end to old-growth logging in regions where little of the original old growth remains. This would entail immediate bans in some regions to protect the most endangered forest types. In areas where ancient forests are more abundant, there is more time and more options to plan for old-growth retention, so phasing out of old-growth logging over several years would allow the timber industry to retool and adjust to maturing second-growth stands. In regions without adequate remaining old-growth, mature forest stands will have to be recruited from advanced second growth to minimize further biodiversity losses.

Many of these changes can be addressed through the existing legal mechanisms in the *Forest Act*, *Land Act*, *Forest and Range Practices Act*, and *Oil and Gas Activities Act*. However, some of these legal tools have been in place for over 15 years and government will to use them has waxed and waned over time. In addition, new areas of resource development (private power, oil and gas development, etc.) have complicated the regulation of old growth forests because our regulatory regimes tend to be industry specific. To ensure that the needed steps are taken in a scientifically sound and meaningful time frame, we are recommending a stand alone *Old Growth Protection Act*, that applies across resource industries and improves upon the existing legal framework for old growth protection.

## **Current Old Growth Protection in British Columbia**

About 15% of the land base of British Columbia is protected either federally or provincially.<sup>6</sup> However, not all ecosystems are equally represented in protected areas, so for any given forest type, far less than 15% may be protected by a park-like designation.<sup>7</sup> At the same time, just over 50% (48 million hectares) of British Columbia are part of the forest managed land base – forest lands that are not included in protected areas, and for which government determines an allowable annual cut (AAC). Timber harvest was considered acceptable and economically feasible in just under half of this forest managed land base in 2008.<sup>8</sup>

Given the large portion of the province that is part of the forest managed land base, biodiversity planning for forestry must be a key component of British Columbia's overall biodiversity strategy. The *Forest Practices Code of British Columbia Act* (the *Code*)<sup>9</sup> was the first legislated attempt to provide for old-growth retention to achieve landscape biodiversity objectives.<sup>10</sup> The associated *Biodiversity Guidebook*<sup>11</sup> (*Guidebook*) divided British Columbia ecosystems into five natural disturbance types and gave recommendations for the amount of forest in different seral stages to be retained for each of these types. Building on these recommendations, the *Landscape-Unit Planning Guide* provided procedures for the identification and mapping of old-growth management areas (OGMAs). However, a stated directive of government at the time was to ensure that landscape-unit biodiversity objectives would not impact timber supply by more than about 4%.<sup>12</sup>

Provincial agencies eventually implemented the *Landscape-Unit Planning Guide* through the landscape unit planning process, which assigned a biodiversity emphasis option (high, medium or low) to each landscape unit. The biodiversity emphasis options were introduced as a means of regulating the AAC impact: for example, planning rules limited the amount of forest that could be managed for “high biodiversity emphasis” to 10%. The result is that significant portions of the forestland base are being managed for low levels of old growth forest retention and higher levels of risk to biodiversity.

## **Current framework for old growth protection**

Under the *Code*, old growth objectives from land use plans were made legally binding as higher-level plan orders.<sup>13</sup> When the *Code* was replaced with the *Forest and Range Practices Act (FRPA)*,<sup>14</sup> existing orders that included targets for old growth retention were continued under the *Land Act*, and the Minister responsible for the *Land Act* was given authority to establish new objectives for Crown land for *FRPA* purposes.<sup>15</sup> At the present time, however, such orders are binding on forest tenure holders only.<sup>16</sup>

Legally, government objectives for old growth contained in both *Code*-era or *Land Act* orders become enforceable through a two-step process under *FRPA*:

1. Forest tenure holders and timber sales managers<sup>17</sup> are required to submit a forest stewardship plan.<sup>18</sup> A forest stewardship plan must specify results or strategies that are consistent with objectives set by government, which includes objectives for old-growth retention contained in *Code*-era or *Land Act* orders.<sup>19</sup>
2. Commitments made in forest stewardship plans are legally binding on holders of such plans.<sup>20</sup>

## **Old Growth Orders and Old Growth Management Areas (OGMAs)**

In a recent review the Forest Practices Board found that as of August 1, 2011 old-growth retention requirements were in place for all forest licensees in British Columbia that held a forest

stewardship plan.<sup>21</sup> Specific requirements, however, vary depending on the type of order (or orders) in place in a given area. While some orders (“spatial orders”) delineate specific tracts of land as old-growth management areas (OGMAs), others (“non-spatial orders”) merely specify an overall percentage of old growth that has to be retained. Moreover, even where OGMAs have been identified, they are often not “legalized” by order.<sup>22</sup> This means there are currently four permutations for how old growth may be addressed in a given area:<sup>23</sup>

1. OGMAs have been mapped and legalized by order (legal OGMAs)

Where this is the case, OGMAs have to be included in licensees' forest stewardship plans, and are protected as detailed in the order.

2. OGMAs have been mapped, but have not been legalized by order (non-legal OGMAs)

At the time of the Forest Practices Board report, this was the case for 70% of all OGMAs, which made up about 50% of the total mapped OGMA area.<sup>24</sup> In the areas affected, non-spatial old-growth objectives are in place. Whether or not the OGMA themselves are protected depends on whether they are included in the licensee's forest stewardship plan:

a) Non-legal OGMAs are included in a licensee's forest stewardship plan

Because commitments made in a forest stewardship plan are binding, non-legal OGMAs that are included in a forest stewardship plan are protected for the duration of the plan.<sup>25</sup>

b) Non-legal OGMAs are not included in the licensee's forest stewardship plan

Where this is the case, licensees may use these OGMAs to meet the requirements of the applicable non-spatial old-growth order, but there is no binding commitment to preserve them.

3. OGMAs have not been mapped.

In areas where OGMAs have not been mapped, old-growth status is tracked and modelled across the landscape to meet the requirements of the applicable non-spatial old-growth order.<sup>26</sup>

## **Problems with the current system**

There are a number of problems with the current system for old-growth protection in British Columbia. In most areas, existing old-growth retention targets are too low and fail to distinguish between productive and unproductive forest types. Moreover, measures in place to ensure these targets are met are inconsistent between regions, and protection even for “legal” OGMAs is insufficient.

### **A. Existing old growth retention targets are insufficient**

As mentioned above, in most areas<sup>27</sup> existing old-growth targets are based on the

*Biodiversity Guidebook* and *Landscape Unit Planning Guide*. These targets were a policy choice heavily influenced by a desire to limit impacts on timber supply, rather than what is needed to conserve biological diversity and representative forest ecosystems. Further, a decision was made to define targets at the level of biogeoclimatic variant only,<sup>28</sup> which fails to distinguish between forest productivity classes within each variant. Agencies had the capacity to carry out more refined planning by identifying the “site series” associated with each BEC variant, but protecting representative site series would have likely increased AAC impacts to the logging industry.<sup>29</sup> The current old growth protection measures have never undergone scientific evaluation of their adequacy in delivering biodiversity conservation and ecological integrity objectives, and there are many reasons why a scientific assessment is needed:

1. Failure to distinguish between productive and unproductive forest types

In most regions of British Columbia, existing old growth targets fail to distinguish between low, moderate, and high productivity forest types. This allows for preferential protection of low productivity sites that are of little interest to the logging industry, but that can also have lower conservation value. By making the more productive sites more available for logging, these targets likely magnify the biodiversity impacts of old growth loss compared to measures that would protect high productivity forests in relative proportion to their occurrence on the landscape.

2. Lack of a sound scientific underpinning

Targets contained in the *Guidebook* and *Landscape Unit Planning Guide* were limited by policy constraints, and some of the underlying assumptions require re-examination.

a) *Pre-mandated limits on impact to timber supply.*

During the planning process, it was stated government policy that impacts of landscape-unit biodiversity objectives on timber supply should be kept below 4.3 percent.<sup>30</sup> This affected the procedures used in landscape-unit planning.<sup>31</sup>

b) *Assumptions about forest area protected in parks*

The *Guidebook* old growth targets incorrectly assumed that 12% of representative forest types were already protected in parks or other protected areas.<sup>32</sup>

c) *Natural disturbance intervals and the relationship between old-growth loss and risk to biodiversity*

Old-growth objectives were introduced as part of a “coarse filter” approach to manage for landscape-scale biodiversity. This involved general assumptions about the relationship between old-growth cover and risk of species loss.<sup>33</sup> Moreover, estimates of natural disturbance intervals that were used in setting targets were based on large areas over long periods of time.<sup>34</sup> These assumptions and estimates should be updated to reflect current knowledge.

There are some exceptions to this in areas such as the Central and North Coast LRMP areas

(the Great Bear Rainforest), Haida Gwaii and Clayoquot Sound, where advanced old-growth planning that exceeds these generic standards is already underway and has been informed by scientific analysis.

## **B. Regulatory protection of old growth is “soft” and inconsistent**

While old growth located in federal or provincial parks is strongly protected, the regulatory protections used in the forest-managed land base are less stringent and potentially more easily eroded.

### **1. Regulatory protections are “soft” and inconsistent between regions**

Given the current mix of spatial and non-spatial objectives, and of “legal” and “non-legal” OGMAs, systems in use for old-growth tracking and protection differ between regions.

#### *a) Old growth tracking under non-spatial orders*

Where non-spatial old growth orders are in effect and OGMAs have not been mapped, old growth cover is tracked using spatial datasets such as forest inventories. This information is often dated, and reliance on older inventory data increases the risk that old-growth retention requirements are not being met.<sup>35</sup> In simple terms, this approach relies unduly on computer spreadsheets rather than actual old-growth forests in known locations, and has been criticized as protecting “phantom forests.”

#### *b) Monitoring and protection of non-legal OGMAs*

In areas where OGMAs have been mapped but not legally implemented, licensees may be able to harvest in OGMAs without seeking approval.<sup>36</sup> Moreover, the Forest Practices Board has noted inconsistencies in information management for non-legal OGMAs, and in OGMA recruitment planning.<sup>37</sup>

#### *c) Protection for legal OGMAs*

Even in regions where OGMAs have been mapped and legalized, rules regarding boundary adjustment and permissible incursions differ between land-use orders. The same is true for activities such as salvage logging, forest harvest, or road constructions in OGMAs.<sup>38</sup> In its recent review the Forest Practices Board concluded that under the current system there is a risk of OGMAs becoming heavily fragmented, and weaknesses in existing orders may lead to “a higher frequency of harvesting in OGMAs and a longer term reduction in OGMA area than originally intended”.<sup>39</sup>

### **2. Old-growth targets are not binding on non-forest tenure holders**

Old-growth requirements are only binding on forest tenure holders who have to submit a forest stewardship plan. The Crown land base, however, is used for many activities,<sup>40</sup> and



impacts by activities other than forestry can be locally significant. Where OGMA's have not been mapped, old-growth retention is hard to make mandatory for non-forestry land users.<sup>41</sup> There is some ability to do so under amendments to the *Land Act*, but these are not yet in effect though passed many years ago.

## Proposal for Legislation

British Columbia needs an *Old Growth Forest Protection Act* ("Act") that accomplishes three main objectives:

- A. Enacts targets for old growth forest retention that are based on the best available science.
- B. Stops or phases out logging of old growth depending on risk.
- C. Establishes a system of spatially mapped old-growth reserves that are selected using science-based criteria, and that are strongly and legally protected.

### A. Enact targets for old growth retention that are based on the best available science

Current targets for old growth retention need to be updated based on accepted principles of conservation biology and landscape ecology. This work should be carried out by a science panel comprised of appropriate experts at arms length to government.

#### 1. Appoint an independent Science Panel

Panels of independent experts have been used several times in British Columbia's history to support forest-related planning.<sup>42</sup> The Act should require government to appoint an independent science panel modelled on these examples. Panel members should be recognized experts in fields such as ecosystem mapping, forest ecology and traditional ecological knowledge. The Act should require that the panel begin its work within two months of the legislation being enacted.

#### 2. Direct the Science Panel to develop a framework for old-growth protection

The Act should mandate that at least four tasks to be given to the expert panel:

##### a) *Map the extent of old growth forest by productivity class and BEC variant*

The Panel should map the current extent of old-growth forest for each biogeoclimatic variant ("BEC variant") in British Columbia. Within each variant, this information should be broken down into high-, moderate- and low-productivity old-growth forest ("productivity classes").

b) *Determine the relationship between old-growth cover and risk*<sup>43</sup>

For each productivity class/BEC variant combination, the Panel should identify:

- i. the natural seral stage distribution and extent of old-growth cover in the absence of human disturbance (the “Baseline”).
- ii. the relationship between departure from this Baseline and risk to ecological integrity.<sup>44</sup> This should include identification of the following thresholds:

- A “critically endangered” threshold

This corresponds to the amount of old growth loss relative to the Baseline at which significant loss of ecological values and function is likely to be imminent.

- A “high risk” threshold

This corresponds to the amount of old-growth loss relative to the Baseline beyond which significant losses of ecological values and function are likely to occur.<sup>45</sup>

The Panel will likely want to define additional risk thresholds (e.g. medium, low), but the first two should be addressed as priorities in the legislation because forests that are “critically endangered” and facing “high risk” of loss of ecological value and functions will trigger a need for protective action in the near term.

c) *Determine current (actual) risk*

The Panel should combine its risk classification with information on existing old-growth cover to determine the current risk status of high- moderate- and low-productivity old growth forest in each BEC variant.

d) *Recommend science-based targets and identify time lines*

The panel should identify and recommend minimum landscape-level old-growth protection “targets” for each productivity class and BEC variant. These targets should correspond to the amount of old-growth cover relative to the baseline that is needed to maintain ecological integrity in the long term.

Where current old-growth cover is below target, the panel should identify the earliest time by when the target could be reached based on natural rates of forest regeneration.

The Act should require the panel to report on the results of this work within one year of being appointed. The report should be made available to the public concurrently with delivery to government.

**3. Require government to establish legally-binding old-growth targets and timelines**

It is probably not politically feasible to have the Science Panel determine with finality and on its own the level of old-growth protection in BC due to the impacts this could have on the forest industry, workers, First Nations, and many other affected parties. The tradition in BC for decisions on this nature is that there be some level of political and democratic accountability through decision-making by elected members of government. However, the primary purpose of this proposed legislation is that old-growth decisions be made on a scientifically-informed basis within a defined time frame before protection options are further lost – because the status quo favours continued liquidation of old-growth forests and ongoing losses to ecosystem integrity and biological diversity through the forest tenure and licensing system.

We propose therefore that the Act should require the government (i.e. the relevant minister(s) or Cabinet committee) to establish old-growth targets and timelines for each productivity class / BEC variant combination within a specified, reasonable time of receiving the Panel's recommendations, allowing for First Nations consultations, impact analysis and community/stakeholder input. Any departure from the Panel's recommendation or identified time lines should require written justification, similar to the requirements of the federal Minister of Environment when deciding upon a recommendation of the Council on the Status of Endangered Wildlife in Canada (COSEWIC) that a species be listed as threatened or endangered.<sup>46</sup> The targets and timelines should be incorporated into a ministerial order or Order-in-Council that has legal effect – an Old Growth Forest Protection Order.

## **B. Stop or phase out logging according to risk**

In some regions of southern British Columbia, only a small proportion of the original productive old growth forest remains. Through the landscape unit planning process, government already knows that some forest types are critically endangered and there is no need to delay protection until the Science Panel has reported out and government has established targets. These remnant forests need to be protected immediately. In areas that are not critically endangered, actions may follow the Science Panel report and subsequent decision-making as discussed below.

1. Halt old growth logging immediately for productivity class / BEC variant combinations that are already known to be critically endangered:

For productivity class / BEC variant combinations that are known to have only a very small proportion of the original old growth left,<sup>47</sup> interim protection measures need to be implemented immediately:

- i. Prohibit the issuance of new cutting permits and licenses that would grant the right to harvest old growth likely to be critically endangered.
- ii. In some cases it may be necessary to cancel existing cutting permits or timber sale

licences that include a right to harvest critically endangered old growth forests.<sup>48</sup>

These measures could be achieved by designating relevant areas under Part 13 of the *Forest Act*. Part 13 designations are a temporary measure, and the permanent fate of these areas could be decided after the Science Panel produces its report.

2. Once the Science Panel completes its assessment, halt or phase out old growth logging at a rate that reflects the identified risk:

**a) *For old growth identified as “critically endangered,” halt logging immediately***

For any productivity class / BEC variant combination identified as critically endangered that was not already protected under (1) above, the Act should mandate that old growth logging be halted immediately. This could again be done by designation under Part 13 of the *Forest Act*. These areas should be prioritized for designation as old growth reserves (see below).

**b) *For old growth identified as “high risk,” phase out logging over 6 years (by 2020)***

For any productivity class / BEC variant combination identified as “high risk”, the Act should mandate that old growth logging be phased out over six years. Given that the Science Panel will take one year to complete its risk assessment, an additional six years of implementation and phase out would see logging in high risk old growth forests by the year 2020, if the *Old Growth Protection Act* is passed in 2013.

- i. Reduce the amount of old growth that can be harvested by sequencing “partitions” of the allowable annual cut (AAC).<sup>49</sup>

Utilizing existing *Forest Act* provisions, the *Old Growth Protection Act* would direct the Chief Forester to partition the AAC in relation to high risk old growth forests immediately following the Old Growth Forest Protection Order. These partitions should gradually reduce the old-growth cut from current levels to zero over six years.

- ii. Prevent the issuance of new *Forest Act* tenures for “high risk” old growth forests.

This measure would primarily target short-term licences such as those administered by BC Timber Sales. Where such licences expire, any new rights granted should exclude the right to cut old growth.

While some old-growth logging would continue during this phase-out, no productivity class / BEC variant combination should be logged to the “critically endangered” threshold under any circumstances.

- c) *For old growth not currently “critically endangered” or “high-risk,” phase out logging as required to meet the old growth protection target:*

We expect that not all old growth productivity class / BEC variant combinations will have been logged to the “critically endangered” or “high-risk” thresholds. Some may have sufficient old-growth forest to meet the target set out in the Old Growth Forest Protection Order, and other areas may fall somewhere between the “high risk” classification and the protection target. The actions required will vary accordingly with two possible scenarios:

- i. Productivity class/BEC variant combinations that are not “high risk”, but do not have sufficient old growth to meet the target:  
For any productivity class/BEC variant combinations that fall into this category, logging will have to be phased out over time. Measures available are the same as under (b) above. The speed of the phase-out would depend on the time line for reaching the new target specified in the Old Growth Forest Protection Order.
- ii. Productivity class / BEC variant combinations where the amount of old-growth exceeds the target:  
For any productivity class / BEC variant combinations that fall into this category, logging of old-growth may continue, provided the new legal target for old-growth cover is maintained. Planning steps should be taken to identify where best to meet the targets.

## **C. Establish a system of old growth reserves that are spatially identified and strongly protected**

The *Old Growth Protection Act* should replace the current mix of spatial and non-spatial old-growth objectives, and of “legal” and “non-legal” OGMAs with a network of old-growth reserves that are fully mapped and protected. Reserves should be established based on science-based criteria, and should be identified through landscape-scale old-growth planning.

### **1. Create a new designation called an Old Growth Reserve**

The Act should create a new type of area called an “old growth reserve.” Old growth reserves would differ from the current mix of planning tools in a number of key features:

- a) *Fully mapped and legally designated*  
All old growth reserves should be spatially mapped and have recognized legal status.
- b) *Stronger protection than OGMAs*  
The Act should provide for the development of mandatory, science-based standards for the establishment and protection of old-growth reserves. Once

reserves are established boundary adjustments should strictly regulated and the reserves exempt from forest harvest and other activities that threaten their integrity. The Science Panel should develop standards that maintain the ecological integrity of old growth reserves.

c) *Binding on non-forest tenure holders*

The Act should ensure old growth reserves are protected not just from forestry, but also from other activities such as oil and gas development, mining, road building, power projects, and other construction. While some measures could be specified directly under the Act, this would likely require consequential amendment to other legislation.<sup>50</sup>

## **2. Require government to engage in old growth planning**

The Act should require the Minister of Forests, Lands and Natural Resource Operations to produce an initial old-growth status assessment for each landscape unit within two years of the legislation being enacted. After that, updates that report on old growth status and old-growth related measures should be produced every two years.

a) *Initial old-growth status assessment and plan*

This should contain, at a minimum, the following information for old growth of each productivity class / BEC variant combination represented in the landscape unit:

- i. Current extent
- ii. Current risk based on thresholds defined by the Expert Panel
- iii. Area that needs to be protected (the target)
- iv. Area currently contained in protected areas, old growth reserves, legal and non-legal OGMAs.
- v. A plan for how the target will be achieved, and how old-growth reserves will be established within the legally-mandated time lines

b) *Periodic plan updates*

Updated old-growth plans for each landscape unit should be produced every five years, and should report on the same parameters as the initial status assessment. They should outline progress made since the previous plan and report any relevant events or findings.

## **3. Establish rules and time lines for the identification of old growth reserves**

The Act should mandate that sufficient old growth of each productivity class / BEC variant combination be identified and set aside as old growth reserves to meet the new legal targets. Given the current mix of spatial and non-spatial old-growth objectives, and of “legal” and “non-legal” OGMAs, specific measures required will differ from region to

region, but the following considerations apply throughout:

a) *Select old growth reserves using science-based criteria*

The Act should mandate the Science Panel to develop science-based criteria for the selection of old growth reserves. This could include factors such as rarity, representativeness, size, shape, and landscape position. These criteria should be used even where existing OGMAs provide a “stock” of potential old growth reserves. Low-quality OGMAs should be screened out where better areas are available, and on-the ground verification may be required before reserves are formally established.

b) *Identify recruitment reserves where required*

Where existing old growth cover is insufficient to meet the new target, recruitment reserves should be identified. The Act should mandate the Science Panel to develop clear, science-based criteria for the selection and management of such reserves, and should make sure that they are not being designated in place of existing high-value old growth. Recruitment reserves should facilitate meeting the old growth targets as soon as possible (i.e. prefer older stands to young ones, etc.). The Science Panel might recommend management techniques (including selection logging) that facilitate the development of old growth attributes sooner rather than later.

c) *Work to mandatory time lines*

Old Growth Reserves should be designated according to clear, mandatory deadlines. These should include, at a minimum:

- i. Within two years of the legislation being enacted, establish an area of old growth reserves equivalent to the “critically endangered” threshold for each productivity class / BEC variant combination.
- ii. Within four years of the legislation being enacted, establish an area of old growth reserves equivalent to the “high risk” threshold for each productivity class / BEC variant combination.
- iii. For all other areas, establish an area of old growth reserves for each productivity class / BEC variant that is equivalent to the new old growth target by the date specified in the Old Growth Protection Order.

d) *Ground-based monitoring*

The Act should mandate the Science Panel to carry out ground-based monitoring to ensure that values associated with individual reserves be identified and tracked.<sup>51</sup> Without these measures, the integrity of newly established reserves and their effectiveness in achieving desired outcomes will be impossible to assess. The Science Panel should report publicly on its findings every five years.

## Conclusion

The proposed *Old Growth Protection Act* builds on existing legal and administrative structures, and on methods that are already being applied in some parts of British Columbia. Depending on implementation details and options, we believe that most of these suggestions can be implemented without a legal requirement for compensation. This may not be the case for emergency measures that interfere with existing permits. However, since these measures are aimed at saving British Columbia's most endangered old growth forests, we see them as a crucial part of the proposal. We see the Act as part of a broader program of forest sector reform, and as a vital and timely step to ensure that some of British Columbia's most iconic ecosystems are preserved for future generations to enjoy.

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- 1 See Sierra Club of BC, *Restoring the Balance for the Climate and Species* (January 2011). At: [http://www.sierraclub.bc.ca/publications/scbc-reports/coastal%20forest%20jan%202011%20final%20low%20res.pdf/at\\_download/file](http://www.sierraclub.bc.ca/publications/scbc-reports/coastal%20forest%20jan%202011%20final%20low%20res.pdf/at_download/file)
  - 2 Government of Canada, "Species Profile: Spotted Owl *caurina* subspecies," Species at Risk Public Registry: [http://www.sararegistry.gc.ca/species/speciesDetails\\_e.cfm?sid=33](http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=33). "Survival of spotted owl forces BC to kill cousin species," Vancouver Sun, January 27, 2013: <http://www.vancouversun.com/technology/Survival+endangered+spotted+owls+forces+kill+cousin+species/7879454/story.html>.
  - 3 B.C. Conservation Data Centre, "Conservation Status Report: *Brachyramphus marmoratus*": <http://a100.gov.bc.ca/pub/eswp/esr.do?id=14153>.
  - 4 British Columbia Ministry of Environment, "Mountain Caribou Recovery", Ministry of Environment: <http://www.env.gov.bc.ca/wld/speciesconservation/mc/>; Ian Hatter, *Mountain Caribou 2006 Survey Results, Subpopulation Trends and Extinction Risk* (June 2006): [http://www.env.gov.bc.ca/wld/speciesconservation/mc/files/MC\\_2006\\_Population\\_Survey.pdf/](http://www.env.gov.bc.ca/wld/speciesconservation/mc/files/MC_2006_Population_Survey.pdf/); Vancouver Sun, Feb.2, 2013: <http://www.vancouversun.com/technology/mountain+caribou+decline+requires+extreme+measures/7907470/story.html>.
  - 5 Coast Information Team, *The Scientific Basis of Ecosystem-Based Management* (March 2004) at 62-69: <http://www.citbc.org/c-ebm-scibas-fin-04May04.pdf> [*EBM Scientific Basis*].
  - 6 BC Parks, *BC Parks 2011/12 Annual Report* (2012) at 16: <http://www.env.gov.bc.ca/bcparks/bc-parks-annual-report-dec12.pdf>.
  - 7 See BC Ministry of Forests, Mines and Lands, *The State of British Columbia's Forests, Third Edition* (2010) at 45-46: [http://www.for.gov.bc.ca/hfp/sof/2010/SOF\\_2010\\_Web.pdf](http://www.for.gov.bc.ca/hfp/sof/2010/SOF_2010_Web.pdf) [*State of BC's Forests*].
  - 8 *State of BC's Forests*, note 7 above at 129-130.
  - 9 *Forest Practices Code of British Columbia Act*, RSBC 1996, c 159.
  - 10 See Mike Fenger, "Implementing biodiversity conservation through the British Columbia Forest Practices Code" (1996) 85 *Forest Ecology and Management* 67 at 76 [Fenger].
  - 11 Government of British Columbia, *Biodiversity Guidebook* (September 1995): <http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/biodiv/biotoc.htm>.



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- 12 Memorandum from Larry Pedersen, Chief Forester, Ministry of Forests (17 March 1999) (Re: Release and Implementation of the Landscape Unit Planning Guide) [Pedersen Memorandum]; British Columbia Ministry of Forests & Ministry of Environment, Lands & Parks, *Landscape Unit Planning Guide* (Victoria, 1999) [*LU Planning Guide*]. Both at: <http://archive.ilmb.gov.bc.ca/slrp/srmp/Background/docs/LUGuide.pdf>.
  - 13 See Forest Practices Board of British Columbia, *Conserving Old Growth Forests in BC* (June 2012). At: [http://www.fpb.gov.bc.ca/SIR36\\_Conserving\\_Old\\_Growth\\_Forests\\_in\\_BC.htm?terms=old+growth](http://www.fpb.gov.bc.ca/SIR36_Conserving_Old_Growth_Forests_in_BC.htm?terms=old+growth) [*FPB Old Growth Report*].
  - 14 *Forest and Range Practices Act*, SBC 2002 c 69 [*FRPA*].
  - 15 *Land Act*, RSBC 1996 c 245, s. 93.4, 93.8.
  - 16 *FPB Old Growth Report*, note 13 above at 28-29.
  - 17 For areas managed by BC Timber Sales.
  - 18 *FRPA* s. 3(1) and (3). Holders of woodlot licences submit a woodlot licence plan that is subject to slightly different requirements (see *FRPA* s. 12 and 13). Holders of first nations woodlot licences submit either a forest stewardship plan or a woodlot licence plan depending on the size of the tenure (see *FRPA* s. 2.1).
  - 19 *FRPA* s. 1(1) (definition of “objectives set by government”), s. 5.
  - 20 *FRPA* s. 21.
  - 21 *FPB Old Growth Report*, note 13 above at 9.
  - 22 *FPB Old Growth Report*, note 13 above at iii-iv, 9.
  - 23 *FPB Old Growth Report*, note 13 above at 12-15.
  - 24 *FPB Old Growth Report*, note 13 above at 8-9.
  - 25 The normal term of a FSP is five years, which may be extended by another 5 years under certain circumstances (*FRPA* s. 6; *Forest Planning and Practices Regulation* s. 28).
  - 26 At its most general, this is the *Order Establishing Provincial Non-Spatial Old Growth Objectives* (effective June 30, 2004):  
[http://archive.ilmb.gov.bc.ca/slrp/lrmp/policiesguidelinesandassessments/oldgrowth/pdf/Old\\_Growth\\_Order\\_May18th\\_FINAL.pdf](http://archive.ilmb.gov.bc.ca/slrp/lrmp/policiesguidelinesandassessments/oldgrowth/pdf/Old_Growth_Order_May18th_FINAL.pdf).
  - 27 Notable exceptions are the Ecosystem-based management regions of the Central / North Coast and Haida Gwaii. For further information, see note 29 below.
  - 28 *LU Planning Guide*, note 12 above at 2-3, 27; also see Memorandum from Larry Pedersen, Chief Forester (May 25, 1998) (Re: Chief Forester Direction on Landscape Unit Objectives), *LU Planning Guide* Appendix 1 at 79.
  - 29 In the Central and North Coast Region, objectives were set at the level of site series surrogates to ensure better representation of different forest types within each biogeoclimatic variant. See *Background and Intent Document for the South Central Coast and Central and North Coast Land Use Objectives Orders* (18 April 2008) at 36-37:  
<http://archive.ilmb.gov.bc.ca/slrp/lrmp/nanaimo/cenocoast/plan/objectives/LUO.pdf>. Generally, for information on land-use objectives in these regions, see <http://www.ilmb.gov.bc.ca/slrp/lrmp/nanaimo/cenocoast/plan/objectives/index.html>.
  - 30 Pedersen Memorandum, note 12 above.
  - 31 See *LU Planning Guide*, note 12 above at 13-34.
  - 32 See *Guidebook* Appendix 4: <http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/biodiv/app4.htm>.
  - 33 Fenger, note 10 above at 73. It was assumed that biodiversity conservation would likely occur as long as landscape units retained half the amount of old growth compared to what would be present in the absence of human disturbance. Final *Guidebook* recommendations, however, were below this

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- target; see *Guidebook* Appendix 4, note 33 above.
- 34 See *Guidebook* Appendix 4, note 32 above, “Estimation of natural seral stage distribution”. For a more detailed approach, see Craig DeLong, *Natural Disturbance Units in the Prince George Forest Region: Guidance for Sustainable Forest Management* (2002) at 1: <http://www.for.gov.bc.ca/hfd/library/documents/bib90746.pdf>.
- 35 This is true especially in areas that have recently been impacted by disturbance such as fire or mountain pine beetle. See *FPB Old Growth Report*, note 13 above at 25, 13.
- 36 *FPB Old Growth Report*, note 13 above at 16. Whether or not this is the case will depend on the content of the licensee's forest stewardship plan.
- 37 *FPB Old Growth Report*, note 13 above at 19, 26.
- 38 *FPB Old Growth Report*, note 13 above at 16-18, 31-32.
- 39 *FPB Old Growth Report*, note 13 above at 18.
- 40 Tenures and permits that may impact old growth are issued under enactments such as the *Land Act*, the *Mineral Tenure Act*, RSBC 1996, c 292 and the *Oil and Gas Activities Act*, SBC 2008, c 36.
- 41 See *FPB Old Growth Report*, note 13 above at 28-29.
- 42 The Clayoquot Sound Scientific Panel, established in 1993, reviewed forest practices in Clayoquot Sound and made recommendations for sustainable ecosystem management. Similarly, the Coast Information Team (CIT), established in 2001, provided a framework for ecosystem-based management as part of the Central / North Coast and Haida Gwaii land-use planning process. For more information, see Clayoquot Sound Scientific Panel, *Sustainable Ecosystem Management in Clayoquot Sound: Planning and Practices* (April 1995) at 1-2: <http://www.for.gov.bc.ca/hfd/library/documents/bib12571.pdf> ; Coast Information Team, “About CIT”: <http://www.citbc.org/abo.html>; Coast Information Team, “Publications and Data” at <http://www.citbc.org/pub.html>.
- 43 For an example and discussion of this type of analysis, see *EBM Scientific Basis*, note 5 above at 62-69; *Ecosystem-Based Management Planning Handbook* (March 2004) at 9-11: <http://www.citbc.org/c-ebm-hdbk-fin-22mar04.pdf> [*EBM Planning Handbook*].
- 44 The term “ecological integrity” includes but is somewhat broader than “biodiversity”. The *EBM Planning Handbook* defines ecological integrity as “A quality or state of an ecosystem in which it is considered complete or unimpaired, including the natural diversity of species and biological communities, ecosystem processes and functions, and both the ability to absorb disturbance (resistance) and to recover from disturbance (resilience)”; *EBM Planning Handbook*, note 43 above at 71.
- 45 This is based on the definition of “High risk thresholds” in the *EBM Planning Handbook*, note 43 above at 72.
- 46 See *Species at Risk Act*, SC 2002, c.29, s.25.
- 47 As an interim measure, this could be defined as productivity class / BEC variant combinations where less than 10% of the original old growth cover remains. Since this assessment would have to be made before the Expert Panel reports, it would have to be based on existing data such as records from prior land-use planning or other credible datasets.
- 48 Compensation may be necessary to cover sunk planning costs, unless the legislation addresses compensation directly.
- 49 An AAC partition allows the Chief Forester to specify a maximum allowable cut for specific timber types: *Forest Act*, s. 8(5); see also s. 75.01-75.07; *Allowable Annual Cut Partition Regulation*, BC Reg 32/2011; BC Ministry of Forests, Lands and Natural Resource Operations, Forest Tenures Branch,

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*Allowable Annual Cut Partitioning Guide, Version 2.1* (February 1, 2013):

<http://www.for.gov.bc.ca/ftp/HTH/external/!publish/web/timber-tenures/aac-partitioning/AAC-Partitioning-Guide-February-1-2013.pdf> .

- 50 Relevant legislation includes, for example, the *Oil and Gas Activities Act*, the *Land Act*, and the *Mineral Tenures Act*. Regulations under the *Oil and Gas Activities Act* already allow for designation of old-growth management areas: *Environmental Protection and Management Regulation*, BC Reg. 200/2010, s. 32.
- 51 See *FPB Old Growth Report*, note 13 above at 25-27.