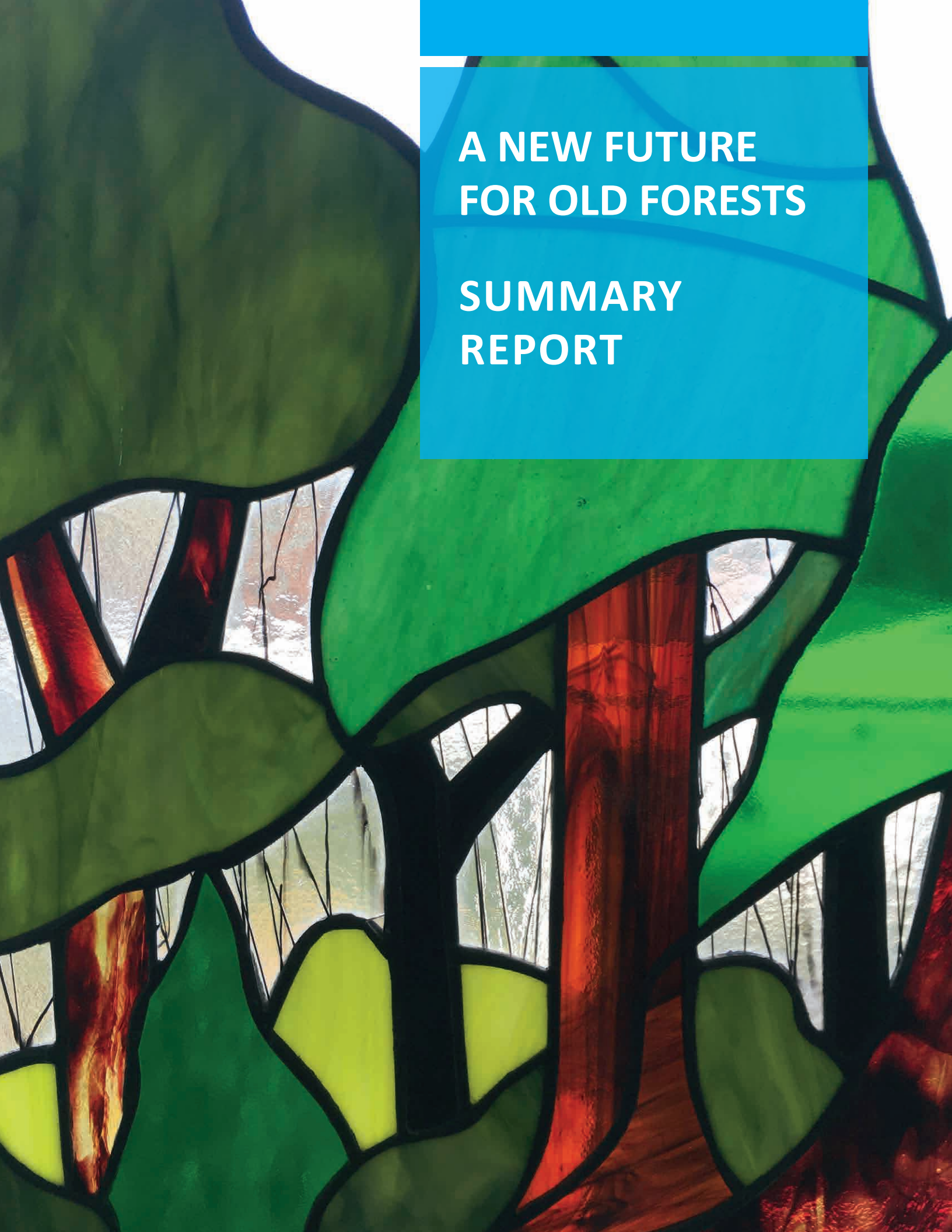


A NEW FUTURE FOR OLD FORESTS

SUMMARY REPORT

The photos below illustrate a few types of old forests in British Columbia.

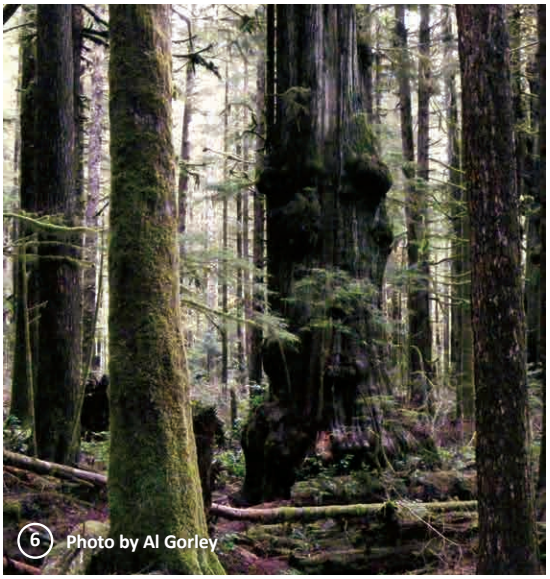
1 Photo courtesy BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development

2 Photo courtesy BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development

3 Photo courtesy Deb MacKillop

4 Photo by Garry Merkel

5 Photo courtesy BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development



6 Photo by Al Gorley

7 Photo courtesy BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development

1. Southern Interior Ponderosa Pine
2. Interior Lodgepole Pine
3. Mountain Hemlock
4. Southern Interior Cottonwood
5. Northern White Spruce bog
6. Coastal mixed age and species
7. Interior Engelman Spruce, Sub-Alpine Fir

April 30, 2020

Honourable Doug Donaldson
Minister of Forests, Lands,
Natural Resource Operations
and Rural Development
Room 248 Parliament Buildings
Victoria, BC V8V 1X4

Dear Minister,

We are pleased to submit this report detailing the results of our independent strategic review of old growth forest management in British Columbia. We have been honoured to co-chair this work, and to have had the opportunity to engage with and hear from British Columbians directly about how they value old forests, and how they believe they should be managed.

In addition to scientific studies and data, people shared their personal observations, perspectives, and ideas about what needs to be done. In many cases, their information and ideas were about broader land use policies, or sometimes they focused on how to manage a specific plot of land. We particularly appreciated the constructive approach taken by nearly every participant in the dialogue, and the common sentiment that we need to find better ways to manage old forests for a broad spectrum of benefits and reasons.

Our recommendations are shaped by a recognition that society is undergoing a paradigm shift in its relationship with the environment, and the way we manage our old forests needs to adapt accordingly. In the government's upcoming deliberations about how to implement our recommendations, we encourage you to engage with Indigenous leaders and organizations from the outset, and to involve local communities and stakeholders throughout the process.

We also encourage you to consider our recommendations as a whole. Had previous old forest strategies and recommendations been fully implemented, we would likely not be facing the challenges around old growth to the extent we are today, i.e., high risk to loss of biodiversity in many ecosystems, risk to potential economic benefits due to uncertainty and conflict, and widespread lack of confidence in the system of managing forests.

We would finally like to thank you and your government for putting your trust in us to carry out this review. We have done our best to capture the passion and many good suggestions that were provided in the hopes that the results of our deliberations will help you as your government determines the future of the management of old forests in British Columbia.

Al Gorley, RPF
Co-Chair

Garry Merkel, RPF
Co-Chair

FOREWORD

Nearly 30 years ago, more than one hundred people from various walks of life, including government, helped create *An Old Growth Strategy for British Columbia* (B.C. Ministry of Forests, May 1992), a comprehensive roadmap for the management of old forests, which observed:

> *"Members of the public, public interest groups, professional resource managers and representatives of industry have expressed increasing concern about management of old growth forests in British Columbia. Not only does the forest industry depend heavily on old growth for its current wood supply, but many new demands are being placed on the remaining old growth to satisfy a broad range of forest values.* ***In parts of the province, meanwhile, opportunities to reserve representative samples of old growth are dwindling rapidly.*** *These pressures are leading to increased instances of conflict among supporters of competing land uses."*

Unfortunately, many critical aspects of the strategy laid out in that report were either discarded or only partly implemented. Had that strategy been fully implemented, we likely would not be facing the challenges around old growth to the extent we are today, such as: high risk of biodiversity loss in many ecosystems; risk to existing and potential economic benefits; and widespread lack of confidence in the system of managing forests.

During the engagement process of our Old Growth Strategic Review, we heard from thousands of British Columbians who shared scientific studies and data with us, along with their observations and perspectives about what needs to be done to safeguard the future of old forest in BC. The topics they addressed ranged from specific plots of land and local economic issues, to broader land use policies and the impacts of climate change. The sentiments expressed ranged from fear and skepticism, to hope and cautious optimism. The greatest consensus was in the belief that we need to find better ways to manage old forests for a broad spectrum of benefits and reasons.

We'd like to thank every individual and organization that took the time to share their knowledge and opinions with us. BC's old forests are so much more than old or big trees. They are products of ancient and unique ecosystems, and their characteristics vary greatly across the province. They can only be effectively managed in the context of broader public priorities, including the interests of current and future generations.

Al Gorley and Garry Merkel

Photo by Sacha Chin

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Old coastal forest.

Photo courtesy BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development

TERMS OF REFERENCE AND PROCESS

In July 2019, the Government of British Columbia announced that an independent panel (Al Gorley and Garry Merkel) would carry out a province-wide Old Growth Strategic Review to inform the ongoing development of policies and strategies regarding old growth forests. Our approach included looking beyond the timber-based definition of the term "old growth" (over 250 years on the Coast and 140 years in the Interior) so we could adequately capture the many values, interests and circumstances surrounding the conservation and management of old forests.

In order to examine old forests from a variety of perspectives (employment, economic, social, cultural, environmental, climate change and more) and consider the interplay between them, we undertook a four-month engagement process to hear from as wide a spectrum of people and organizations as possible throughout BC. We did not characterize our outreach as consultation because that will be the job of government after it receives our recommendations. The variety and number of contributors exceeded our expectations. Engagement mechanisms, included:

- In-person, teleconference, and videoconference meetings: We participated in 200 meetings in 45 communities with close to 800 people.
- Written submissions: We received more than 300 submissions, along with more than 400 published articles, scientific papers, and reports.
- Survey responses and emails: More than 18,000 people participated in our online survey and 9,000 emails were sent to our electronic mailbox.
- Technical and scientific briefings: We participated in a technical briefing and follow-up briefings with government staff. We also commissioned a report from the Department of Forest Resources Management at the University of British Columbia to tell us how other jurisdictions manage old forests.

Our engagement process was substantially completed on January 31, 2020, and in April 2020, we presented a report on the Old Growth Strategic Review to the Minister of Forests, Lands, Natural Resource Operations and Rural Development. Our report's components includes:

- A New Window on Old Forests: a strategic review of how British Columbia manages for old forests within its ancient ecosystems (includes a situation overview and recommendations.)
- What We Heard (Includes a list of in-person meeting locations, a synopsis of written submissions, online survey results and the report commissioned from UBC.)
- A New Window on Old Forests: Summary Report

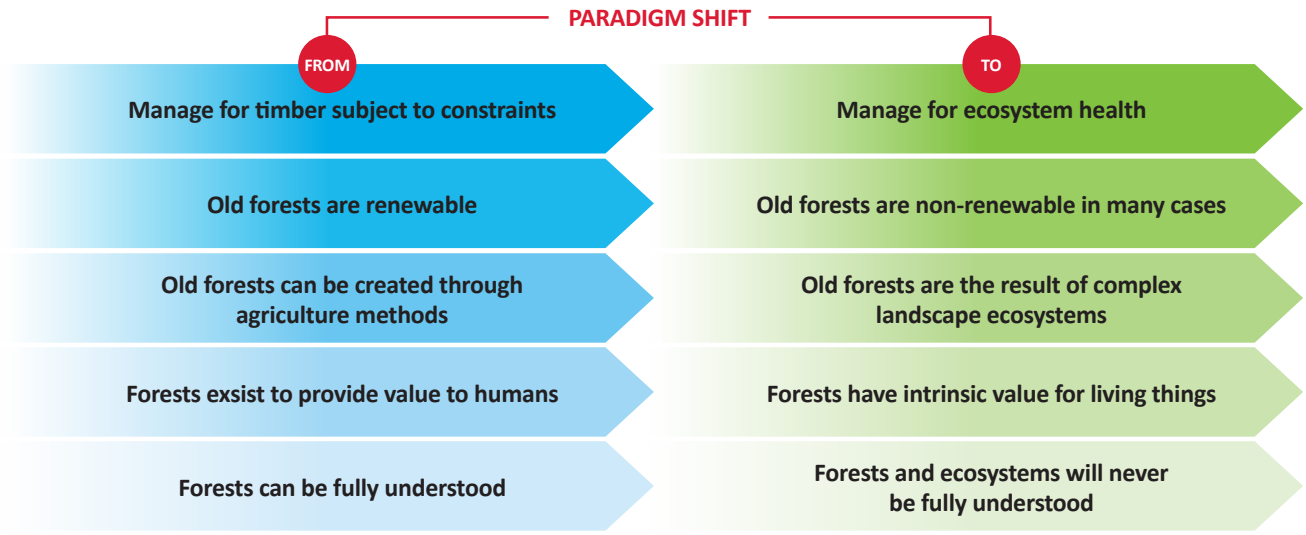
Each of these reports are available on the Province's Old Growth Strategic Review website.

INTRODUCTION

Old forests, especially those with very large trees, are the product of ancient ecosystems, icons of British Columbia's landscape, and a key aspect of the province's unique identity. In addition to their intrinsic value, the timber they provide is an economic mainstay and was once the province's main economic driver. These same forests anchor ecosystems that are critical to the wellbeing of many species of plants and animals, including people, now and in the future. We find ourselves in a position where our old forests have been logged to the point where we have diminishing available timber supplies, high risk of biodiversity loss in many ecosystems and a significant lack of public trust in the forest management system, thus the need for this review.

It is important to remember that the effective management of old forests can only be properly addressed in the context of their role within the larger ecosystem, and as one component of the larger management system. Therefore, our review also addressed broader forest management policy, while being mindful that there are other government initiatives in various stages of completion that touch on some of the same issues as our review.

The recommendations we've made have been shaped by our recognition that society is undergoing a paradigm shift in its relationship and interaction with the natural world, including old forests, and the way we manage our old forests needs to adapt accordingly. Our recommendations have been developed with these key points in mind:



1. BC's Indigenous communities need to be key players in the development and operation of our future forest management system.
2. Our management system for old forests will only be effective if we change many of the fundamental assumptions on which it is based. This shift in assumptions is already underway globally, largely due to public pressure. (See graphic above.)
3. There is no one-size-fits-all solution. The application of new standards will need to vary throughout the province depending on ecosystem type, existing and potential ecosystem impacts, local socio-economic conditions and other factors.
4. The full suite of proven scientific methods (e.g., reliable vetted information, targeted research, adaptive management, monitoring and effective technology transfer (research to practise), are essential foundational elements. Properly incorporated, these elements provide a known, reliable, and replicable foundations upon which to build.

MANAGEMENT OF OLD FORESTS IN BC

This section summarizes several of the major factors affecting management of old forests in British Columbia, as we have come to understand them. Neither this summary report, nor our more comprehensive key findings and recommendations report (New Future for Old Forests) can possibly reflect the full breadth and depth of the information provided to us, but we have attempted to capture the highlights. Additional detail can be found in our companion What We Heard document, and in the many written submissions and technical papers posted on the project website. We encourage individuals desiring a more complete understanding of the situation to access that material

Key points

1. Ecosystems with large, old trees are important to British Columbians for many different reasons.

- The term "old growth" has become a generic label for forests or trees that hold a variety of different values beyond the **definitions** used in timber management. OG means different things to many people and has a diverse array of sometimes conflicting values, all of which warrant consideration.
- Old forest **values and objectives** need to be clearly articulated, with less emphasis on the generic "Old Growth" label.

2. Retaining and managing forests of old trees is a key strategy for maintaining biological diversity and cannot be done in isolation.

- The ability of ecosystems to support species, including humans, and adapt to change is dependent upon their resilience, which comes largely from the natural diversity they harbour.
- Old forests are part of **complex multi-scaled, interdependent** ecosystems, and are also impacted by complex interdependent forest management policies.
- The total **amount of old forest** in the province is not as important as the distribution and ecosystem representativeness.
- There are many **impacts** to old forest arising from various activities in almost every resource sector.

3. The extent and condition of ecosystems with old trees, relative to natural condition, is highly variable across the province.

- The **risk to biodiversity** is extremely high in some ecosystems and there is a wide-spread call to protect them.
- The forests' ecological conditions, history of natural and human disturbances, and social, cultural, and economic importance are too variable to suggest a single sweeping approach, although there is strong support for a **common management framework**.
- In many areas, we are not meeting the intent of the biodiversity conservation strategy adopted **25 years ago**.
- The approaches to managing old forest have to be **adaptable** to the ecosystem and natural disturbance regimes.

4. The economy is heavily dependent on trees harvested from primary forests of old trees.

- The degree of **economic reliance** differs amongst regions and individual communities. For example, some have undergone a transition to greater reliance on tourism, or other sectors, while many others have not.
- In some areas, a **transition to second-growth** forests is well underway, while in most of the province that transition will require decades of forest growth.
- There is widespread support for **assisting workers and communities** negatively affected by reduced access to timber supplies, for whatever reason.

5. The current system for retaining old forest and managing their attributes has issues.

- The original intent of the **science-based guidance** has not been fully implemented.
- The approaches to **managing, tracking, and reporting** on old forest retention and management requirements are inconsistent and, in some cases, absent.
- **Old Growth Management Areas** (OGMAs) are applied inconsistently and sometimes ineffectively.
- The use of **clearcutting** silviculture systems limits the ability to manage for old forest attributes and conserve biological diversity, especially in ecosystems that don't naturally experience large stand-replacing disturbances.

6. Opportunities have been identified to provide greater economic certainty about the blend of benefits from old forest:

- **Formalizing designation of forest areas** outside reserves to be either managed primarily for commercial production (conversion) or managed for key ecosystem attributes with compatible forestry practices.
- Analysis and pursuit of a **blend of optimal public benefits** from a wide range of uses (timber, tourism, natural infrastructure, botanical forest products, recreation, etc.).
- Transition to **silviculture systems** that more closely emulate natural process on remaining unconverted forest.

7. Climate change will become an increasingly bigger factor in choices about forest management.

- The **role of old forests** in climate change is complex.
- Mitigating climate change through **carbon sequestration and storage** needs to be fully analyzed and integrated into forest management decision-making.

8. Information around the types, condition and current status of old forests is highly variable across the province.

- There is no regular, objective **public reporting** about forest condition and trends.
- **Classification** based on inventory criteria does not necessarily reflect other old forest values or stand level old forest attributes
- The existing inventory is **not well suited to stand-level identification** of many old forest attributes.

9. There is widespread support for the provincial government and Indigenous governments to collaboratively create updated strategies and policies for the management of old forestss that include:

- Transparent expressions of the public's long-term interests, priorities, and policies;
- Ongoing **public involvement** in planning and strategic decisions, supported by objective and comprehensive information regarding related issues, risks and opportunities;
- **Economic analysis** tools to inform public discussion and choices;
- Clear and **measurable objectives** at meaningful scales, supported by well-resourced enforcement and evaluation of long-term effectiveness;
- **Oversight** that ensures public interests are considered and incorporated in forest planning and practices, monitoring compliance and enforcement;
- Ongoing **research**, **innovation** and **information sharing** to foster continual learning and expand the province's collective forest management expertise;
- Adequate monitoring and **objective public reporting** of forest conditions and trends, including the cumulative effects on all values and transparent communication of risks and benefits; and
- The means and authority to address risks to **critical values**.

Spruce –Lady fern-Oak fern ecosystem.
Photo courtesy Deb MacKillop.

Key findings

There is a near-unanimous agreement that managing the health of old ecosystems, especially those with old trees provides many benefits. Unfortunately, the evidence suggests that our current management practices are not adequate to continue providing those benefits across the province in the long term.

The panel believes that the key fundamentals to success for our province's forest management system are ecosystem health, effective forest management and public support. Our review identified fundamental weaknesses in each of these areas. To adequately manage and protect BC's old forest biodiversity, attributes, values and benefits for future generations, the shortfalls will have to be addressed.

1. Ecosystem Health:

The priorities driving our current forest management system are backwards. We manage for timber with ecosystem health matters being a constraint, instead of making ecosystem health and resilience the first requirement, and then determining what social and economic benefits can be derived from the resultant healthy ecosystems.

2. Effective Management:

We are falling short on systematically monitoring the performance of policy implementation relative to clear and measurable objectives, then adapting accordingly. We are also not fully following the science-based methodologies available to manage and conserve old forests. While independent provincial oversight bodies (e.g., 2012 Forest Practices Board and 2013 Auditor General) have identified serious issues and made recommendations related to tracking, monitoring, enforcing, and evaluating implementation of old growth management areas, and managing biodiversity, little appears to have changed as a result of those reports.

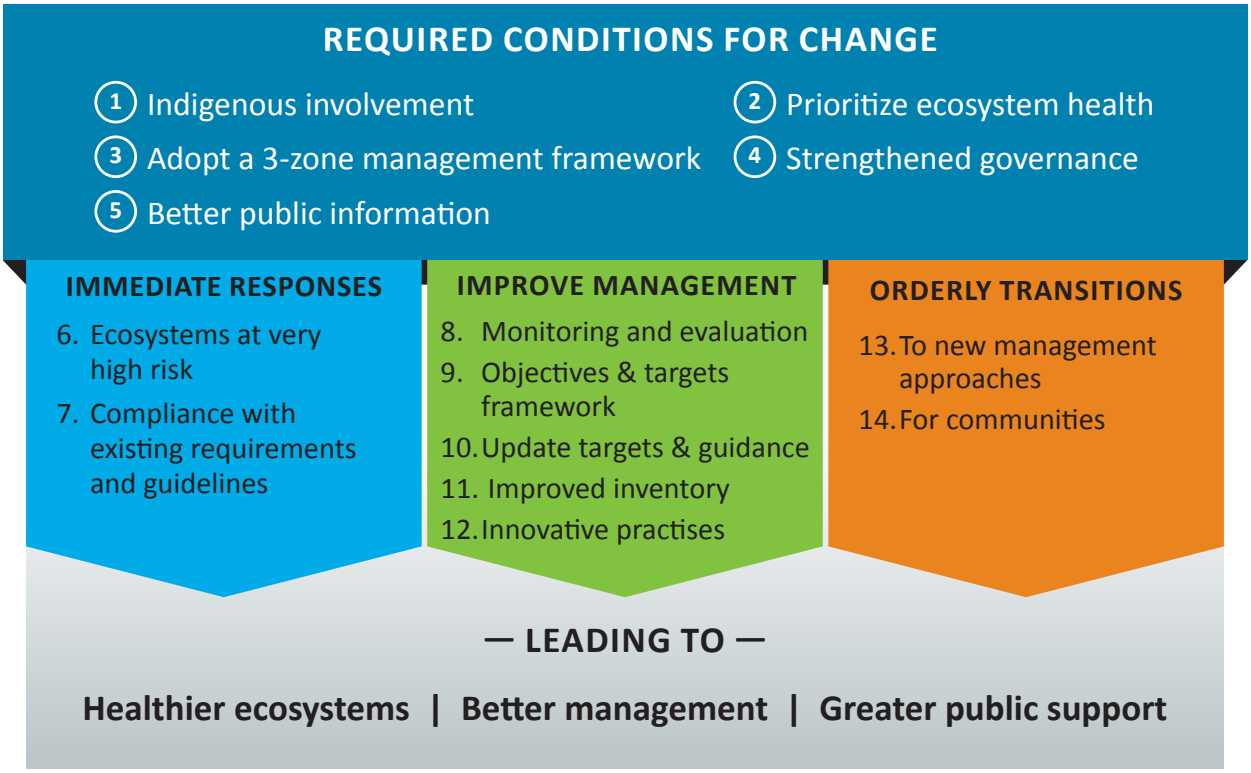
3. Public Support:

Much of the public is not well informed or engaged regarding old forests and forest management, which we believe contributes to a pervasive lack of support for the current system. Individuals, organizations and communities frequently told us that they have no reliable source of information about the conditions and trends in local forests, and little influence over decisions that directly affect them. As the direct ongoing involvement of communities in forest management has declined over the past several years, so has confidence in the system due to a lack of clear long-term priorities, inconsistent policies for land users, and a lack of provincial government oversight. One community advocate told the panel, "Why do I have to assume the oversight responsibility in my area — I have many other things that I need to do. That is government's job, but they are not doing it."

RECOMMENDATIONS

As old forests are part of complex ecosystems that can only be effectively managed in the context of broader public priorities, our recommendations address several relevant aspects of the broader forest management system.

As illustrated in the adjacent figure, our recommendations begin with those that we believe are necessary to create the proper conditions for effective management of old forests and will help ensure subsequent recommendations achieve their intended long-term results. The remaining recommendations focus on immediately acting to curb high risk of biodiversity loss, improving the management system, and transition requirements to ensure change happens.



The implementation advice supporting each recommendation is offered as a starting point for government to consider, with the understanding that other approaches will likely emerge through dialogue with Indigenous leaders, input from stakeholders, and analysis by government staff.

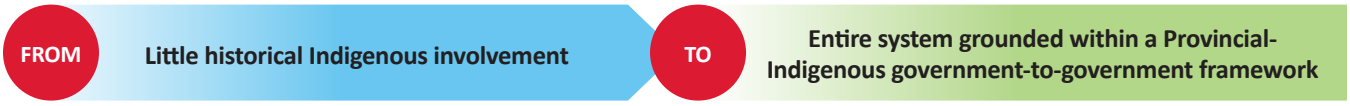
We invite readers to view our larger report, A New Window on Old Forests: A strategic review of how British Columbia manages for old forests within its ancient ecosystems, which provides additional rationale, context and supporting research behind our recommendations and implementation advice.

While we understand that they may be revised through provincial processes, we believe that following these recommendations will lead to healthier ecosystems, better long-term land management and greater public support for forest management.

Required conditions for change

Recommendation 1: Indigenous Involvement

Engage the full involvement of Indigenous leaders and organizations to review this report and any subsequent policy or strategy development and implementation.



Rationale:

Indigenous involvement is essential to the successful and a sustainable implementation of the short and long-term recommendations we've proposed.

- BC has legal **consultation and accommodation** obligations with respect to Indigenous rights, which are even more strongly affirmed with the Province's passing of the *Declaration on the Rights of Indigenous Peoples Act*.
- **Support for Indigenous involvement** in forest management was expressed from every sector and the majority of those who provided input to the panel.
- The Province has committed to a **New Relationship** where Indigenous people have the same opportunity to achieve their economic, environmental and social societal goals as the rest of the province's population.
- Recognizing the Indigenous commitment to **environmental stewardship**, which extends for millennia, many are looking to Indigenous communities for guidance on how to establish a land management regime that achieves a higher standard of land care.
- The lack of Indigenous involvement in the creation of most **existing forest management plans** and orders is a significant source of frustration among Indigenous communities and could mean most of these plans do not conform to the Province's current legal consultation and accommodation requirements or DRIPA legislation.
- Many Indigenous communities continue to depend on the natural resources of their traditional territories for a significant portion of their **sustenance and livelihood**.
- Indigenous communities are becoming more active in most economic and management aspects of the forest sector and are leading many interesting and **potentially valuable on-the-ground approaches** to land stewardship and old growth management.
- Many Indigenous communities need support to develop their **internal readiness** to accept a leadership position in forest management and the Province also needs to help build its internal readiness to support new government-to-government relationships.

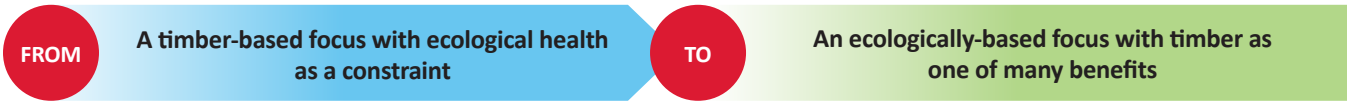
Implementation advice:

- As soon as practicable, **engage provincial Indigenous governments** in developing a policy response to these recommendations and an approach for involving stakeholders.

- In collaboration with Indigenous leadership, establish and develop:
  a. **Provincial guidelines** for implementation;
  b. **Criteria for planning relationships**;
  c. **Planning units** that conform to local Indigenous group's territories, while still adhering to ecologically and administratively practical planning units; and
  d. Mechanisms for local Indigenous groups to meet **provincial targets and standards** for biodiversity protection, ecosystem representation, etc.
- Establish **support programs** for Indigenous groups to build their land/forest management expertise and capacity.
- **Focused training** for government staff to support government to government relationships and meet provincial responsibilities under these relationships.

Recommendation 2: Prioritizing Ecosystem Health and Resilience

Declare the conservation and management of ecosystem health and biodiversity of British Columbia's forests as an overarching priority and enact legislation that legally establishes this priority for all sectors.



Rationale:

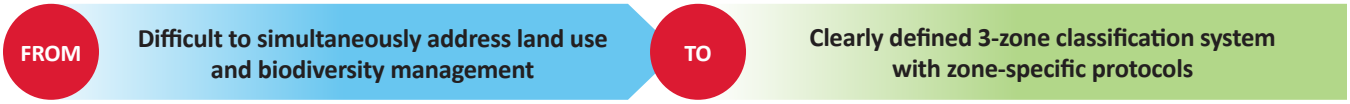
- Conserving and managing old forests are cornerstones of the Province's **biodiversity conservation strategy**, but that strategy has underperformed in several areas due to competing pressures.
- BC's **biodiversity conservation strategy has been constrained** by requirements to not unduly reduce the supply of timber. Current practices do not address issues such as seral stage distribution, site series representation, landscape connectivity, and adaptive management as envisioned in the original guidelines.
- Scientists project that under our current management approach, much of the province, especially the areas covered with productive forest, will be in a **high biodiversity risk situation** in the near future.

Implementation advice:

- The Province should declare that managing for ecosystem health and minimizing biodiversity risk are key priorities of its provincial land management framework and create, **overarching legislation** that applies to every sector.
- The **principles** guiding this legislation would include: an Indigenous government-to-government foundation; science-based; monitoring, evaluation and regular updates; planning and oversight involving a range of interests; and accountability, particularly to the public.

Recommendation 3: A Formalized Three-Zone Forest Management Framework

Adopt a three-zone forest management framework to guide forest planning and decision-making.



Rationale:

- Our **current system lacks clarity** about which forests should be managed for which goals and entrenches the idea that we should either completely protect or allow use of an area. This all-or-nothing perception over-simplifies management and leads to distracting **"us versus them"** conflict and ultimately narrows our focus as land stewards.
- **Across BC**, we have forests that are second growth and managed intensively for timber, but we still try to manage them as part of an ecosystem to reduce biodiversity risk. We have forests that are protected for ecosystem biodiversity reasons, but are experiencing landscape ecosystem health problems because of our no-touch policy.
- **To better focus its management efforts**, the Province should **partition the forest** into three distinct and overarching management zones, with specific goals and guidelines for each partition. The concept is already partially used (e.g., where we apply biodiversity emphasis zones for setting old forest targets) but needs to be formalized and communicated.
- Having well defined categories with clear goals will help **eliminate confusion**, provide greater **certainty to industry**, and **increase transparency** for the public.

Concept description: We suggest the following categories. (The names can change but the substance should remain relatively the same.)

1. **Protected:** These are forests (such as those currently in parks) that will be largely left alone, although there may be some management activities within them to maintain ecosystem health and manage risk from fire, disease or insects depending on their designation and associated jurisdiction (e.g., fire-maintained forests, where fire regularly cleans the understory while maintaining the overstory.)

2. **Converted:** Converted forests are those that we have already changed or intend to change from their natural state to intensive management areas as industrial timberlands. Although these lands do not have all the same attributes as old and ancient primary forests, they can still provide a number of important ecosystem services in addition to timber, such as water, recreation, carbon sequestration, wildlife, tourism, etc.), especially since many are close to communities. Conversion areas may have multiple objectives compatible with industrial timber production.

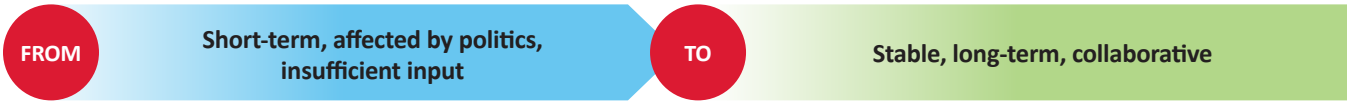
3. **Consistent:** These are areas that are managed for ecosystem health and biodiversity, while also supporting economic activity, including timber harvesting, by using planning and practises that result in forest landscapes that are reasonably consistent with the attributes of the original forests and forest landscapes.

Implementation advice:

- The designation of these areas should be through a **collaborative process** under the umbrella of a Provincial-Indigenous government-to-government framework.
- The zones should be formally recognized through **legislation**, with mandatory transition plans to implement changes on a scheduled basis, specific to the management unit(s) involved.
- The framework would have **clear rules** about if and when partitions can contribute to another partition's goals (e.g., protected areas contributing to ecosystem health) or when an area can move from one partition to another

Recommendation 4: A More Inclusive and Stabilizing Approach to Governance

Adopt a more inclusive and stable governance model that gives local communities and stakeholders a greater role in forest management decisions that affect them.



Rationale:

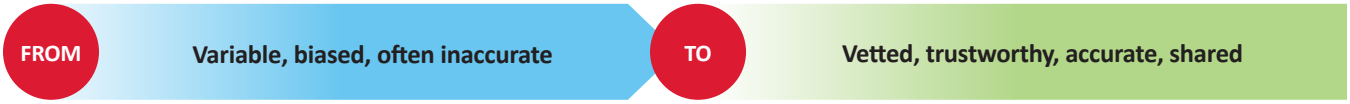
- BC is managing ecosystems that often take thousands of years to form with policies that can change based on **election outcomes**. Having governance grounded in long-term stable model that is bound by province-wide targets helps overcome these politically driven cycles.
- British Columbia needs a **new forest management governance system** that is: more collaborative; more committed to long-term approaches that respect ecosystem timeframes; more grounded in the long-term vision of local communities and Indigenous Nations; and better harnesses the collective forest management experience and expertise available throughout the province.
- Managing forests to achieve a spectrum of community and provincial interests requires an understanding that benefits from **local knowledge**, continuity, and accumulated wisdom. Involving more people in the process of informing and making decisions increases the opportunity to retain and pass on knowledge
- Such a **framework** will help stabilize policy and ensure local and provincial impacts of change are thoroughly considered and understood before decisions are made.

Implementation advice:

- The transition to a more inclusive and stable governance structure should include a **redefinition of planning areas** considering existing administrative boundaries, Indigenous territories, ecosystem boundaries and administrative practicality.
- The new governance system should also include the establishment (through legislation) of appropriately supported **local forest boards** for each planning area that include a range of groups, including (potentially), scientific experts, land planners, general public, resource professionals (foresters, biologists, ecologists, hydrologists), and others. Responsibilities of local boards may include supporting forest management goal setting, implementation, monitoring and public reporting related to their planning area.

Recommendation 5: Public Information

Provide the public with timely and objective information about forest conditions and trends.



Rationale:

Many local governments, organizations, and individuals we heard from said they do not **trust** information regarding the condition of BC's forests and feel it is biased, regardless of its source.

- People want to be better informed about old forests but are not sure where to go for accurate and **objective information** that is free from political influence.
- The **polarization** of views regarding how best to manage BC's forests are often based on misleading and biased information. Although those views may never be fully reconciled, the level of conflict can likely be reduced, and the quality of dialogue increased, with an objective presentation and better understanding of the facts.
- Having a more informed public can foster increased and more **meaningful public engagement** and bring more wisdom and **stability** to the forest management process.

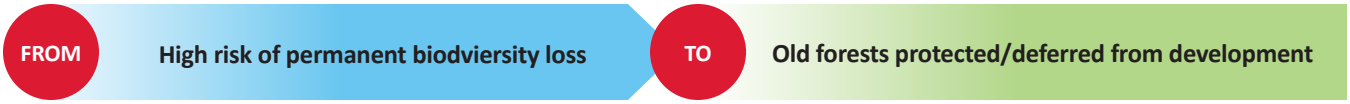
Implementation advice:

- Consider information **collection and reporting structures** such as:
    a. Expanding the role of the Forest Practices Board;
    b. An ombudsperson-type role;
    c. Independent scientific panel; or
    d. A new office dedicated to public reporting.
- **Information sharing formats** could include:
    a. Local and regional scale or value-themed reports (e.g., biodiversity);
    b. Periodic provincial forest condition reports.

Immediate responses

Recommendation 6: Immediate Response to Ecosystems at Very High Risk

Until a new strategy is implemented, defer development in old forests where ecosystems are at very high and near-term risk of irreversible biodiversity loss.



Rationale:

- There are areas of the province where failure to act now could lead to the **permanent loss** of rare or unique ecosystem components contained in old and ancient forests.
- Many of these areas are iconic stands, that have numerous economic, ecosystem services and intrinsic **values** that are important to a wide range of the general public.
- A system of new, more sustainable, and **effective approaches** to managing biodiversity and other old-forest values will take some time to fully develop and implement.

Implementation advice:

- Government should lead a process to identify each of these areas as soon as practicable.
- Areas to consider for **short-term deferrals** include: any BEC variant with less than 10% old forest remaining today; any BEC-Landscape Unit combination that has less than 10% old forest today; ancient forests (e.g., forests >500 years on the coast and wet ICH, forests > 330 years in ecosystems with higher disturbance intervals); and areas with a >20m site index.
- Implement a strategy to address these deferred areas and **report back to the public** within a short time, e.g., one year after this report is submitted.

Recommendation 7: Compliance with Existing Requirements

Bring management of old forests into compliance with existing provincial targets and guidelines for maintaining biological diversity.

FROM		TO	
	Inconsistent and largely unknown		Clear tracking and compliance with existing guidelines

Rationale:

- Although the Province has guidelines, legal orders and targets for protection of old forest, these targets are **minimums** and many of the existing targets already reflect a negotiated compromise where a high risk to biodiversity was accepted in favour of economic benefits.
- There are regions of the province that are **below existing targets** and are at higher biodiversity risk than current policy allows. Failure to meet minimum targets increases the risk of moving into high biodiversity risk situations and likely **irreversible losses**.
- The Province's **reputation as a forest land steward** is at risk if it has failed to comply with or enforce its own legal orders and targets, even if this is largely because it didn't implement an adequate system of tracking compliance with existing requirements.
- An **accurate assessment** of where we are at with respect to our targets and how we are managing OGMAs now is essential to future decision-making.

Implementation advice:

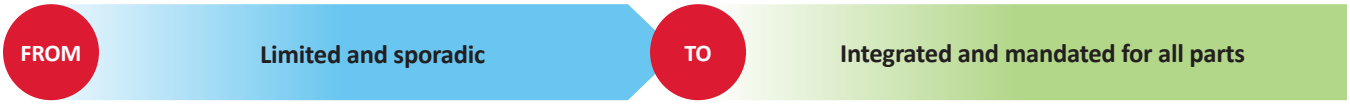
- **Complete an evaluation** for all priority regions by the end of 2020 and the entire province by the end of 2021; and where the evaluation shows non-compliance, take the necessary steps to bring the area into compliance as soon as practicable.

Recently planted woodlot near Port Hardy

Improve management

Recommendation 8: Monitoring and Evaluation

Establish and fund a more robust monitoring and evaluation system for updating management of old forests.



Rationale:

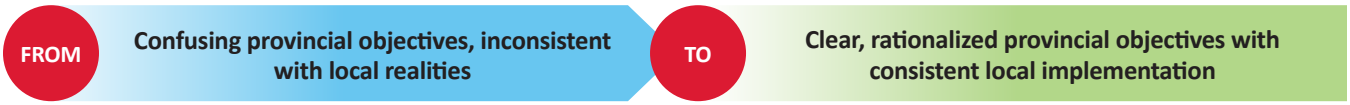
- There is little value in setting **objectives and targets** if they are not monitored. Not only can we not know if they are being complied with, we can't know if they are effective.
- We heard from nearly every region of the province that there has been **no formal monitoring plan** for old growth management, even though the guidelines have been in place for more than two decades.
- Evidence shows that we are very likely **out of compliance** in some areas and may have already exceeded originally intended risk thresholds in many more.
- **Sound, science-based management** requires monitoring and evaluation of results. It also establishes the basis for adapting to what is learned, and to changing circumstances – especially important in view of the current pace of environmental change.

Implementation advice:

- Adopt a **formal management discipline**, such as adaptive management or continuous improvement, as the underpinning to monitoring, evaluation and updates;
- Ensure this system includes **dedicated research, dedicated monitoring**, a link to operations, regular updates, and objectivity;
- Establish a **dedicated organization**, possibly building on the existing FREP program by expanding its mandate and resources;
- Update the management system for old forests based on the **latest research** and conduct effectiveness **audits** on a periodic basis;
- Integrate government and **external experts** into this system to support information gathering and analysis, evaluation, and ongoing system improvements; and
- Use monitoring and evaluation information to enhance **public reporting**.

Recommendation 9: Setting and Managing Objectives and Targets

Establish a standardized system and guidance that integrates provincial goals and priorities to local objectives and targets.



Rationale:

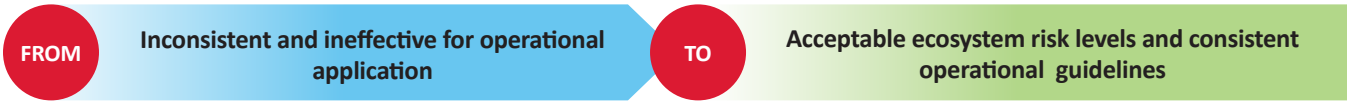
- The **current management system** for old forests is applied inconsistently and often ineffectively across the province and is not achieving its original intent. Many areas have different methodologies and are subject to system rules that do not work in their local situation.
- The original guidance for for the management of old forest set out in the **Biodiversity Guidebook** (1995) and the **Landscape Unit Planning Guide** (1999) were not fully and consistently implemented, and since they were published, some ecosystems have been heavily disturbed, circumstances have changed due to climate change, and risk to biodiversity has increased. Determine whether to **update or replace** these guidebooks and decide whether the focus will be on biological diversity (in which case that value should be addressed for the whole landscape, including seral stage distribution and grasslands), old forest (in which case the focus would be on categories of old, ancient, and rare forests and the various values and objectives assigned to them) or both.
- Many managers feel the **OGMA approach** is not working and that many OGMAs are ineffective and sometimes managed inconsistently with natural forest processes.

Implementation advice:

- Create **consistent reporting, planning and operational processes and requirements** across the province, such as:
    a. A **scientific and technical panel** to provide oversight and advice;
    b. Regularly scheduled **guidance reviews and updates**; and
    c. Ongoing **professional development** for practitioners, managers, and decision makers.

Recommendation 10: Update Biodiversity Targets and Guidance

Update the targets for retention and management of old and ancient forest.



Rationale:

Implementing the previous recommendations will ensure we are meeting current targets, establishing a more inclusive and informed governance process and providing updated guidance to managers. Once we have taken the necessary step to first get into compliance with existing guidelines, we can then further entrench our overarching commitment to ecosystem health by updating our retention targets and improving our guidance for retention and management of old forests with the following considerations in mind:

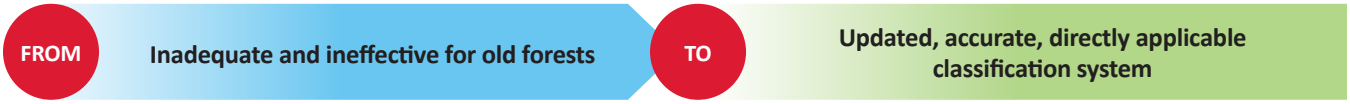
- Scientific research provided to the panel projects that, under the current old forest policies and practices, almost all of the province's most productive forest ecosystems are, or very shortly will be, in a **high biodiversity risk** scenario, with the rest of the ecosystems also moving in that direction. This will result in lower ecosystem resilience, further loss of species and compromised ecosystem services in many areas.
- Our current management **guidelines are 25 years old** and do not reflect today's reality. Targets must be revised to incorporate the latest research and practises and recognize the impacts to old forests that have occurred in the intervening time.
- In setting new targets, we need to consider conservation and management of **very old and ancient primary forests** that have not experienced significant stand-replacing events are repositories of biota and process we may not be aware of understand. This makes them extremely important buffers against species extinction, climate change, and lost future opportunities. Some of these irreplaceable forests are in the THLB and are subject to harvesting, which means their inherent value and future options could also be lost.

Implementation advice:

- **Re-evaluate biodiversity risk assessments** and **identify priority areas** to reflect revised commitments to ecosystem health and managing biodiversity risk.
- Develop **new classifications and management targets** and guidelines that recognize the importance of very old or ancient forests.
- Address **connectivity** and **multiple scale objectives**.
- Where there isn't enough old forest necessary to meet updated targets, incorporate a formal **recruitment strategy**.
- Conduct short- and long-term **analysis of socio-economic benefits and costs** related to proposed changes.
- **Involve local communities** in decisions/choosing options.
- Adopt a standard set of provincial **guidelines for OGMAs** in each OGMA category under the new classification system.

Recommendation 11: Inventory and Old Forest Classification

Improve the mapping and classification of old forests to recognize multiple values.



Rationale:

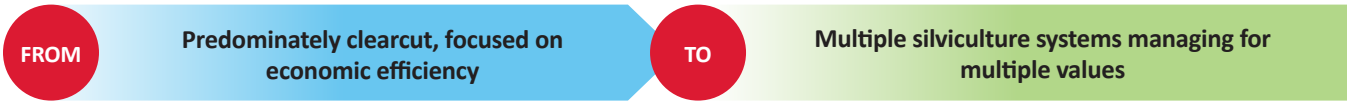
- The current system of **old forest classification**, which is based on age class (>140 years in the Interior and >250 years on the coast), must be refined because it does not recognize the inherent complexity in old forests or the range of values they contain and how they should be managed to protect specific values.
- The **mature and over-mature age classes**, which were created from a timber perspective, are too broad and therefore inadequate for managing for genetic or biological diversity. (E.g., In terms of genetic, scientific, ecological, ecosystem function and intrinsic values, a 250-year-old second-growth Douglas Fir stand will be completely different than a 250-year-old Douglas Fir stand in a 3,000-year-old undisturbed ecosystem.)
- Our current system does not effectively allow us to classify forests according to the specific **values** that we may want to protect. (E.g., Recreation, vs critical habitat vs biodiversity or all.)
- Forest and BEC **mapping** in BC ranges from very good, to poor or even non-existent. Although mapping technology has improved over time, most OGMAs and strategies for the management of old forests rely on much poorer quality mapping from 25 years ago that includes numerous errors. Some areas have undergone adjustments, but many areas haven't updated their old forest strategies to reflect the new information.

Implementation advice:

- Work with inventory and habitat mapping **specialists** and experts in the management of old forests and classification to develop a new classification system for old forests.
- Create additional, more narrowly defined **Natural Disturbance Types** (NDTs);
- Refine **OGMA names** to reflect objectives (e.g., biodiversity, iconic, ancient, recreation, spiritual, etc.)
- Create additional **new age classes** (e.g., 250-500, 500-1,000 and 1,000 plus (to be confirmed with old forest experts);
- Work with **industry** to acquire inventory information for public use;
- Refine mapping of all old forest (100+ years for the interior, 140+ years for the coast), using **the new classification system, LIDAR**, **ground-truthing** and other means.

Recommendation 12: Innovative Silviculture Systems

Create a silviculture innovation program aimed at developing harvesting alternatives to clearcutting that maintain old forest values.



Rationale:

- The **clearcut silviculture system** (including clearcut with reserves) is the mainstay of the BC forest industry because it is the most cost-effective. However, it is also the most contentious system because it often significantly compromises many other values on the land (e.g., biodiversity, tourism, Indigenous sustenance use, etc.) and many ecosystem services.
- Most of the community governments, local organizations and citizens we interviewed from across the province expressed **frustration** that their landscapes were being cleared and their local values compromised (particularly water supply) with little or no local return or compensation. Areas that used **gentler silviculture systems** to mimic NDT patterns or enhance ecosystem services (e.g., water retention, visual, and habitat), were generally deemed more acceptable.
- Managing for **ecosystem health** and low biodiversity risk requires maintaining a percentage of the ecosystem in as close to its original state as possible, but very few of BC's NDT stands look or function like clear-cut systems. Managing for attributes that mimic the NDT type can support ecosystem health at a stand and a landscape level and preserve the integrity of many ecosystem services.
- Using gentler systems that **manage for multiple values** builds public trust with these systems, so the public should generally become more amendable to timber harvesting thus increasing access to the forest land base.
- Previous local attempts at creating silviculture systems that manage for multiple values did not generate the support they needed or get adopted on a wider scale due to a variety of challenges. By designing, operationally testing, measuring, and reporting on silviculture systems aimed at optimizing a suite of ecological and socio-economic objectives at an operational level a provincial **silviculture innovation program** would increase the options available to forest managers.
- Alternate silviculture systems tend to preserve more of the inherent ecosystem services and options for other forest businesses which can provide **more overall net returns** from those areas than if they were clearcut.

Implementation advice:

- **Collaboration** of industry, operations practitioners and scientists to develop cost-effective alternative silviculture systems.
- **Partnerships** with existing research organizations (e.g., FP Innovations, universities, non-profits); forest licensees; other governments (e.g., Forestry Canada and Indigenous); BC Timber Sales program; local governments and water purveyors; wildlife management programs; BC Climate Action Secretariat; and other potential public and private sector collaborators.
- Test and demonstrate silviculture systems and encourage **new practises**.

- Make proven silviculture systems the **default requirement for each NDT** and/or ecosystem type and provide clear guidance on variations if required due to local constraints; and
- Provide **operational support** such as knowledge-sharing, local involvement and stumpage system offsets to cover extra costs.

Orderly transition

Recommendation 13: Transition Planning at the Provincial and Local Levels

Once developed, implement the new policies and strategies for the management of old forest through mandatory provincial and local transition plans that define, schedule and monitor the process.

Rationale:

- **Past attempts** at changing the management system for old forests have fallen short because they lacked, comprehensive implementation, appropriate resourcing and effective public accountability mechanisms.
- There is significant concern that without **comprehensive implementation plans**, we could a fall back to old habits, further compromise ecosystem health, continue to impact other forest values and create more negative socio-economic impacts.
- Each area's **transition requirements vary** depending on how much primary forest currently exists, economic conditions (expansion or contraction of the THLB) and land-use decisions.

Implementation advice:

- Develop and formally approve a comprehensive implementation plan as **part of the overall provincial old forest policy and strategy** that will result from this review's recommendations.
- Immediately engage **Indigenous leadership** at the appropriate provincial and local level in each of these transitions. Also engage various government, scientific, operational and planning experts.
- Recognize the unique ecological, social, economic, and timber supply circumstances of each management unit and develop **customized local plans** collaboratively with the most directly affected communities.
- Provide for local transition plans in **legislation**, including as a **consideration in AAC** determinations.
- Conduct a realistic **assessment of local economic diversification opportunities**, options and related timelines.
- Review the **stumpage system** to evaluate the true direct and indirect costs and effects of silviculture systems that are carried out its effect on our ability to meet biodiversity targets and other established old forest objectives.
- Explore a **land acquisition fund** to enable the purchase of land or covenants to retain or recruit old forest in ecosystems at high biodiversity risk, or otherwise of high public interest.

Recommendation 14: Transition Support for Communities

Support forest sector workers and communities as they adapt to changes resulting from a new forest management system.

Rationale:

- Areas in BC are already facing significant economic restructuring because they are at or near the point of diminished timber supply. It is much better to be **proactive** and manage this transition now while we still have **options**, rather than wait to react to a crisis such as a mill shutdown.
- The importance of the **forest sector** to the economy and social well-being of the province as a whole is diminishing but still important. This broader picture belies the fact that there are still a significant number of **local areas** that are highly dependent on this sector and any transition away from a timber-based economy will drive deep into the core and possibly even the survival of those communities as we know them.
- Forest-dependent communities that will bear the brunt of broader societal decisions that affect the sector and their livelihood will need **substantive support** to meaningfully mitigate the effects of those consequences and develop other options while they still have choices.
- Through **innovation**, many areas can continue to benefit from timber sector opportunities, and perhaps expand them in the future. Areas will also have non-timber forest-based economic options that can be realized, which, while not always as profitable as the timber sector in the short-term, will add to sustainability in the long-term.

Implementation advice:

- **Socio-economic planning**, and **funding** to support economic diversification research, bridge financing for businesses, workforce transition, conservation funding (e.g., carbon, biodiversity), and more.
- Develop and implement policies and programs aimed directly at:
    a. promoting **local manufacture**, especially for value-added specialty and high-value products; and
    b. generating sustainable economic benefits from **forest-focused tourism** (e.g., improved access, facilities and interpretation for visiting big trees and unique ecosystems – similar to Cathedral Grove) and other non-timber forest businesses.

IN CLOSING…

Our strategic review of the management of old forests led us to conclude that despite the good intentions and efforts of many people, including government personnel associated with forest management development and implementation, the overall system of forest management has not supported effective implementation or achievement of the stated public objectives for old forests. This has not come about because of any one group or decision, but by a pattern of many choices made over several decades, within an outdated paradigm.

Our current system of forest management emerged in the middle of the of the 20th century, when the provincial policy was focused on generating economic wealth and "building the province" by monetizing the vast natural supplies of timber and converting them to tree farms. Only later, especially through the 1990s, did conservation and management for ecological values across the landscape receive serious attention. Since that time, a great deal of effort has gone into creating protected areas, planning for multiple uses of forest lands, and designing systems to manage forest practices to respect a range of values, including biological diversity. This left the province with a forest management system oriented toward a sustained yield of timber but now somewhat constrained by new policies and practices.

Our ever-expanding understanding of forest behavior and management, as well as the effects of climate change, have made it clear that we can no longer continue to harvest timber and manage forests using the approaches we have in the past while also conserving the forest values we cherish. We therefore have to be honest with ourselves and collectively and transparently make the difficult choices necessary to ensure future generations of British Columbians can enjoy and benefit from our magnificent forests, as we have.

Grizzly Den Trail — High-elevation forest east of Prince George

Photo by Al Gorley

Old dry pine forest in the Interior.
Photo by Al Gorley