

EBMWG Project Close-Out Report

Project #: EI 01b

Project Title: Second Old Growth Workshop

Steering Committee Members: Audrey Roburn, Sally Leigh-Spencer, Alex Grzybowski, and Larianna Brown, with input from Dan Cardinall

1.0 FUNDING

The estimated total cost of the project is approximately \$40 000. Final billings are outstanding and the project will be completed under budget.

2.0 EXTENT TO WHICH PROJECT OBJECTIVES WERE ACHIEVED

Objective	Description	Evaluation (Text)	Summary*
1	Provide ecological recommendations on outstanding questions from the first Old Growth Workshop related to implementing old growth representation targets. Potential topic areas include:	The primary objective of the project re implementing old growth representation targets was substantially resolved based on expert documentation and review of the best available science.	
a.	Old growth definition: How should old growth be defined for the purpose of representation?	Recommendations delivered through preparation of a background paper, collaborative discussion at second Old Growth Workshop, and drafting of final summary paper with final recommendations by a panel of ecologists.	Fully Met
b.	Ecosystem conversion: How should changes in species composition created through partial cutting be addressed in old growth representation accounting?		Fully Met
c.	Stand-level contribution to old growth representation: When should stand level retention “count” towards landscape old growth targets; and what attributes must it have to meet old growth criteria?	Preparation of a background paper, collaborative discussion at Second Old Growth Workshop, and drafting of final summary paper with final recommendations by an expert panel of ecologists. ¹	Substantially Met
d.	Deciduous-leading ecosystems: Should there be a representation target for any leading deciduous ecosystems?	Recommendations delivered through preparation of data-based summary paper with recommendations.	Fully Met

e.	Site series and site series surrogates: Will applying old growth representation targets using site series surrogates (SSS) capture TEM site series representation as intended?	Recommendations delivered through preparation of data-based summary paper with recommendations.	Fully Met
f.	Meeting old growth representation targets given ongoing natural disturbance: How can targets set as a proportion of natural old forest (based on natural disturbance rates) be achieved and implemented while natural disturbance continues on the landscape?	Recommendations delivered through preparation of a teleconference summary attended by an expert panel. Discussion at a second teleconference resulted in clarification and changes to the final RONV summary report	Fully Met
2	In answering the above questions, the project will provide advice on priorities for filling TEM inventory gaps (formerly EBMWG project EI-05).	Substantially met through recommendations provided in summary papers on deciduous-leading ecosystems and TEM versus site series surrogates.	Substantially Met

* Use: Fully met (100%), Substantially met (>75%), Partially met (25-75%), Marginally met (0-25%), Not met (0%)

3.0 MAJOR TASKS COMPLETED

Task	Description ²	Date
1	Hold initial meeting with provincial ecologists (where available) and expert contractors to confirm list of topics, identify pertinent products to be presented at the 2nd Old Growth workshop, and assign responsibilities and timelines to develop these products	February 27, 2008
2	Complete draft products/deliverables	June 24, 2008
3	Confirm 2nd Old Growth workshop date and invitee list	May 30, 2008
4	Circulate products/deliverables to workshop invitees	July 5, 2008
5	Hold 2nd Old Growth workshop: discuss circulated products to provide feedback to the authors.	July 18, 2008
6	Ensure some of the consultants providing services for this project attend the EBM WG Briefing Session and reported on their findings	September 11, 2008
7	Refine deliverables to incorporate results from the 2nd Old Growth Workshop and comments received after the Workshop	October 24, 2008
8	EBMWG close-out reporting	November 26, 2008

² These tasks are drawn directly from the detailed project description submitted to the EBMWG March 13 2008 and from the amended project approval to fund, submitted to the EBM WG Co-Chairs August 29, 2008.

4.0 KEY PRODUCTS³

Item #	Description	Completion date	Contributors	Location
1	Teleconference meeting notes to undertake a project workplan	March 3, 2008	Dave Huggard, Laurie Kremsater, Glen Dunsworth, Karen Price, Dave Leverage, Larianna Brown, Audrey Roburn	To be posted on the EBM WG ftp site
2	Verbatim notes documenting the 2 nd Old Growth Workshop		Panel: Rachel Holt, Karen Price, Laurie Kremsater, Andy McKinnon, and Ken Lertzman Other attendees: Rina Gemeinhardt, Bill Beese, Audrey Roburn, Wally Eamer, Sally-Leigh Spencer, Glen Dunsworth, Alex Grzybowski	Held by EBMWG Director
3	Final expert panel summary paper and recommendations addressing old growth definition	September 15, 2008	Authors: Rachel Holt, Karen Price, Laurie Kremsater, Andy McKinnon, and Ken Lertzman Comments: 2 nd Old Growth Workshop attendees and PSC	To be posted on the EBM WG website
4.	Final expert panel summary paper and recommendations addressing stand level contribution to old growth representation	October 29, 2008	Authors: Rachel Holt, Karen Price, Laurie Kremsater, Andy McKinnon, and Ken Lertzman Comments: 2 nd Old Growth Workshop attendees and PSC	To be posted on the EBM WG website
5	Final data-based summary paper and recommendations addressing deciduous-leading ecosystems	October 29, 2008	Authors: Karen Price Comments: Rachel Holt, Laurie Kremsater, and PSC	To be posted on the EBM WG website

³ In developing the products, operational planning requirements and issues, implementation costs and socio-economic considerations were not explicitly considered or addressed by the ecological experts.

6	Final data-based summary paper and recommendations addressing the relationship between site series and site series surrogates.	October 2, 2008	Authors: Karen Price Comments: Rachel Holt, Laurie Kremsater, and PSC	To be posted on the EBM WG website
7	1) Updated teleconference summary notes addressing old growth representation targets given ongoing natural disturbance,	November 13, 2008	Experts: Pam Dykstra, Laurie Kremsater, Paul Alaback, Rachel Holt, Karen Price Other attendees: Marty Locker, Richard Jeo, Melissa Todd, Audrey Roburn, Carolyn Whittaker	To be posted on the EBM WG website

5.0 PEER REVIEW

All deliverables generated under this project were developed through collaboration of academic and professional ecologists and landscape biologists with acknowledged expertise in their field, hence peer review was integrated throughout the project. Contributors also received input and comments from other professional ecologists and resource planners involved in, or associated with, the EBM Working Group.

Controversial topics such as defining old growth and stand level contributions to old growth representation received more extensive scrutiny. Karen Price, Laurie Kremsater, and Rachel Holt co-authored the two draft summary papers on these topics. The draft papers were circulated prior to the workshop, then discussed at the workshop by all present. Price, Kremsater and Holt subsequently worked with Andy McKinnon and Ken Lertzman to finish the papers, considering comments and input received during and after the workshop. The final papers represent a consensus of the five authors.

Topics not discussed at the workshop included the role that deciduous leading ecosystems play in old forest representation and the relationship between site series and site series surrogates. Karen Price authored literature reviews related to these topics. These drafts were reviewed by Laurie Kremsater and Rachel Holt prior to being submitted to the EBM Working Group for review. Comments from the EBM Working Group were incorporated into the documents to complete the review process and finalize the papers.

The question regarding how to address the effects of ongoing natural disturbance when managing to RONV based old forest objectives was dealt with by a similar group of academics and professionals. One expert (Alan Banner) and one workshop organizer (Bill Beese) provided comments by email but did not attend the call. The comments were discussed on the call, but not addressed to the satisfaction of the expert who provided the comments. Banner and Beese provided further written input describing a proposed approach to implementation of the 30% representation targets⁴. A subsequent call involving Bill Beese, Allen Banner, Price, Kremsater

⁴ The further written input was not peer reviewed.

and Holt revealed differences of expert opinion regarding the practicality of the conclusions, given the underlying inventory and data uncertainties.

6.0 MAJOR FINDINGS/CONCLUSIONS

The various panel groups of experts agreed on the following (for exact wording and specifics see reports, workshop proceedings and call summaries)

Key Conclusions:

- Maintenance and management of landscape biodiversity involves assessment and management of the full forest age-class structure.
- Adopting a simple rule of 180 years or 250 years as old fails to consider and support management of the full age range and structural complexity of older forests.
- Failure to manage the age class distribution of younger forests will also have consequences for landscape biodiversity, particularly when old forest representation is not a precautionary levels.
- The range of 15-70% stand retention outlined by the EBM Handbook is sound guidance. provided that the average level would not fall close to the low end of this range .
- It is unlikely that “stand level” old forest retention ever fulfills the goals of “landscape level retention” as effectively as real landscape old forest retention.
- The circumstances where stand level retention can be considered equivalent to landscape level old forest retention are very limited.
- Reserve old forest rather than maintain or restore old forest structures in young stands.
- Forest cover and BEC site series data are developed for different purposes. Harvest and conservation planning which of necessity relies solely on surrogate data derived using forest cover may not achieve old forest representation objectives in each site series.
- Establishing representation targets for cottonwood site series of 120 years and older may be appropriate.
- Best available ecosystem information (i.e. TEM) should be developed and used ASAP.

Key Management Recommendations

1. At the landscape unit level, management should seek to maintain a minimum of 30% of the total area each site series as old forest, not 30% of the RONV of old forest.
2. If precautionary levels of old forest representation are not achieved for all site series:
 - a) identify and reserve the oldest of the ‘old’ forests; and

- b) consider implementing objectives to manage younger age-classes in a manner that prevents over-representation of younger age-classes and facilitates old forest recruitment.
- 3. To mitigate potential adverse effects in landscapes where old forest retention levels are low, management should achieve higher levels of effective in-stand retention.
- 4. Use the following criteria to guide old forest maintenance and recruitment:
 - a) reserve/recruit older and more structurally developed forest first;
 - b) reserve/recruit the most productive sites first; and
 - c) use conservation planning principles to maximize contribution to landscape function.
- 5. Stand management practices should provide a mix of stand retention, with an overall average level well above the low end of the 15-70% range.
- 6. Stand retention can be considered to count towards landscape old forest retention objectives when:
 - a) the surrounding landscape unit contains high levels of old forest representation (e.g. >70% RONV); and
 - b) the stand retention patches are larger than 7 ha and contain significant old-forest attributes and are within or directly adjacent to the cutblock;
- 7. With respect to counting stand retention toward landscape old forest retention objectives:
 - a) count stand level retention only towards the lowest age-class of old forest;
 - b) count stand level retention between 30% and 80% at half or quarter value (i.e., 2 ha of 50% retention = 0.5 ha of old forest); and
 - c) count stand level retention between 80 and 100% as proportional value (i.e., 1 ha of 80% retention = 0.8 ha of old forest).
 - d) Do not double-count retention
 - e) To be counted, the retention should be representative of the pre-harvest stand, be mapped and permanent, and be within or directly adjacent to the cutblock.
- 8. Establish a old forest management objective for cottonwood stands over 120 years.
- 9. Establish management objectives to reserve 100% of red-listed cottonwood site series and 70% of blue-listed cottonwood site series, regardless of their age.
- 10. For other cottonwood site series, establish management objectives to reserve 70% of the old forest RONV.
- 11. Develop implementation guidance regarding use of best available inventory (TEM, PEM or interim surrogate) for operational planning.
- 12. Stand retention practices should avoid facilitating shifts in stand species composition.

Key Inventory Recommendations

1. Update forest cover data and other inventory data to distinguish between “original” old mosaic forest and older forest that is of known stand age (i.e. managed stands and homogenous stands resulting from large natural disturbance).
2. Monitor both “original” old mosaic forest and older forest that is of known stand age (i.e. managed stands and homogenous stands resulting from large natural disturbance).
3. Known issues with forest cover data should be corrected in the baseline forest cover database, while avoiding creation of ‘holes’ in the age-class distribution (see Holt and Rumsey 2008 for detailed discussion / recommendations)
4. Update forest cover and other inventory data to include deciduous dominated site series, focusing on cottonwood site series.

Key Research/Analysis Recommendations

1. Prepare a report summarizing the available stand structure data for site series in the Central and North Coast.
2. Ensure all RONV targets are calculated correctly, based on predicted return interval and age of old appropriate for the site series (or interim surrogate).
3. As a first step in developing an old forest stand structural index, prepare a report summarizing the available stand structure data available for site series in the Central and North Coast.
4. Conduct a study of the age and structural characteristics of stands in the >250 year forest cover age class.
5. Conduct research to assess the effect that various combinations of landscape and stand level retention have on sensitive indicator species.

7.0 STEERING COMMITTEE RECOMMENDATIONS

With respect to the key management recommendations, the steering committee recommends the following actions to the EBMWG and LRF:

1. Prepare a glossary that clarifies and defines terms used throughout the reports and other project reports by the same authors.
2. Assess the potential timber supply and operational economic impacts as well as other human wellbeing impacts that may result from implementation of the expert panel findings and recommendations
3. Convene a workshop involving practitioners with expertise in strategic and operational forestry planning and engineering to discuss implementation of the recommendations, identify issues, and recommend best approaches for resolving identified planning and implementation issues.

4. Implementation of current land use objectives should be monitored to assess to what degree current land use objectives and management practices are achieving the recommendations.
5. Effectiveness monitoring should be performed, and AM projects pursued, to assess the effects of management practices on ecological indicators that are sensitive to changes in landscape level old forest representation and stand level retention.
6. In addition to the above, the Province and First Nations should consider the following actions:
 - If current management regulations and policies do not deliver outcomes consistent with the recommendations, or if monitoring otherwise reveals adverse effects on sensitive ecological indicators, implement management strategies that are more likely to achieve outcomes consistent with the recommendations.
 - Develop and implement management objectives and strategies that provide greater likelihood of achieving outcomes consistent with the recommendations (e.g., a combination of management objectives and policy and economic incentives that will achieve maintenance of a minimum 30% of total old forest area in each site series).
 - Establish practice requirements that are consistent with the expert recommendations (e.g., set the minimum old forest retention requirement to 30% of total site series area).

With respect to the key inventory recommendations, the steering committee recommends the following actions to the EBMWG and LRF:

1. Convene an inventory workshop to discuss and develop recommendations for:
 - a) Updating forest cover data and other inventory data to distinguish between “original” old mosaic forest and older forest that is relatively homogenous and of known stand age;
 - b) Updating forest cover and other inventory data to include cottonwood site series;
 - c) Monitoring protocols to ensure tracking of “original” old mosaic forest and older forest that is of known stand age; and
 - d) Protocols for utilizing site plan standards units mapping to update and refine site series inventory data.
2. Convene a workshop to develop recommendations to address known issues with forest cover data and developing a standardized database to guide EBM implementation (e.g. a standard list of SSS).

With respect to the key inventory research recommendations, the steering committee recommends the following actions to the EBMWG and LRF:

1. Prepare a report summarizing the available stand structure data for site series in the Central and North Coast.

2. Implement a project to review and update RONV targets for site series and interim surrogates.
3. Implement a project to assess the effect that various combinations of landscape and stand level retention have on sensitive species

8.0 RELEVANCE/SIGNIFICANCE FOR EBM IMPLEMENTATION

The primary objectives of the summary papers, workshops and teleconferences has been to address outstanding issues raised at the First Old Growth Workshop, held in February of 2007, and provide further ecological advice regarding maintenance of coarse filter biodiversity on the North and Central Coast.

Professional and academic ecologists and landscape biologists reviewed current literature and participated in collaborative discussions with the goal of providing consensus-based expert recommendations using the best available ecological information. Operational planning requirements and issues, implementation costs and socio-economic considerations were not explicitly considered or addressed by the ecological experts.

The information provided by the workshops, call summaries and summary papers can inform Provincial and First Nation discussions and decisions regarding implementation of objectives and strategies to maintain landscape biodiversity within landscape units and across the Central and North Coast. Recommendations resulting from this project may inform G2G discussions on amendments to Provincial and First Nation management objectives.