



Stakeholder Needs Assessment

10 YEAR SCIENCE AND PROGRAM REVIEW

Stakeholder Needs Assessment Workshop

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Evergreen Room, Lister Centre, University of Alberta



CW 405
Biological Sciences Building
University of Alberta,
Edmonton, Alberta
Canada T6G 2E9

 @ABbiodiversity
 Alberta Biodiversity
Monitoring Institute
www.abmi.ca
blog.abmi.ca
naturelynx.ca

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1.0 Background

In 2017, the Alberta Biodiversity Monitoring Institute entered its 10th year of formal operations. Over the past decade, the ABMI has developed valuable baseline data on biodiversity and land cover to support natural resource management in Alberta. Initial decisions about the ABMI's scope and direction were based on stakeholder feedback gathered between 2002 and 2006—a time when Alberta lacked a comprehensive biodiversity monitoring program. Ten years later, as part of the ABMI 10-year Science and Program Review, a series of stakeholder needs assessment workshops are being run again to collect feedback on the performance of the Institute to date and gather input on a range of emerging initiatives. This stakeholder input will inform decision-making on ABMI operations going forward.

2.0 Introduction

To formally engage its stakeholders across a range of sectors, this past spring the ABMI launched a 10-year Science and Program Review. The Review has two components: 1) a Science Review to evaluate the Institute's scientific framework and the extent to which it has delivered on its initial scientific objectives; and 2) a Stakeholder Needs Assessment to evaluate the range of products and services provided by the ABMI and how they meet stakeholder needs. The Stakeholder Needs Assessment primarily comprises a series of facilitated workshops, with a survey administered before each.

The Science Review and Stakeholder Needs Assessment receive strategic oversight from the Science Expert Committee and Stakeholder Advisory Group, respectively. Each committee is responsible for assessing the results of their respective review processes and developing a final report, which is then submitted to the Steering Committee overseeing the whole process. The Steering Committee will submit recommendations to the Board of Directors by March 31, 2018. The Board of Directors will then assess and prioritize those recommendations to guide future operations.



Figure 1 ABMI 10-year Science and Program Review process visualization

3.0 Pre-Workshop Survey

3.1 Summary

In the past ten years, most ABMI operations have focused on monitoring and reporting on the status and trend of Alberta's species, habitats, and human footprint across the province. The key output of this activity is the largest publicly available collection of environmental monitoring data in Alberta. We currently provide province-wide information on human footprint and land cover, and a range of data products, such as species abundance, on hundreds of Alberta's plants and animals. The pre-workshop survey was designed to assess the value and uptake by stakeholders of these particular data products.

The pre-workshop survey was distributed to six of nine stakeholder and partner groups engaged during the evaluation process prior to their workshops to support the workshop design process. The questions in the survey focused on the following ABMI products:

- Access to raw data
- ABMI Human Footprint Inventory (HFI)
- ABMI Land Cover Inventory (LCI)
- ABMI Biodiversity Intactness Index (BII)
- ABMI Species' Profiles

The questions were designed to first assess the general level of interest and/or need for the five product areas for work activities, regardless of where this information is accessed. The questions then tried to glean the level awareness of ABMI products, whether respondents utilize ABMI products to meet work activity needs, and why or why not.

The survey was completed by sixty-four individuals across six groupings arranged by the date of their workshop. Average time spent on the survey across sectors was sixteen minutes, and there was an average completion rate of 79%. The survey was only distributed to workshop invitees and, as a result, findings do not reflect the broad cross-sectoral needs of each group. These results will not be submitted to the 10-Year Review Steering Committee to use during their final evaluation and prioritization exercise.

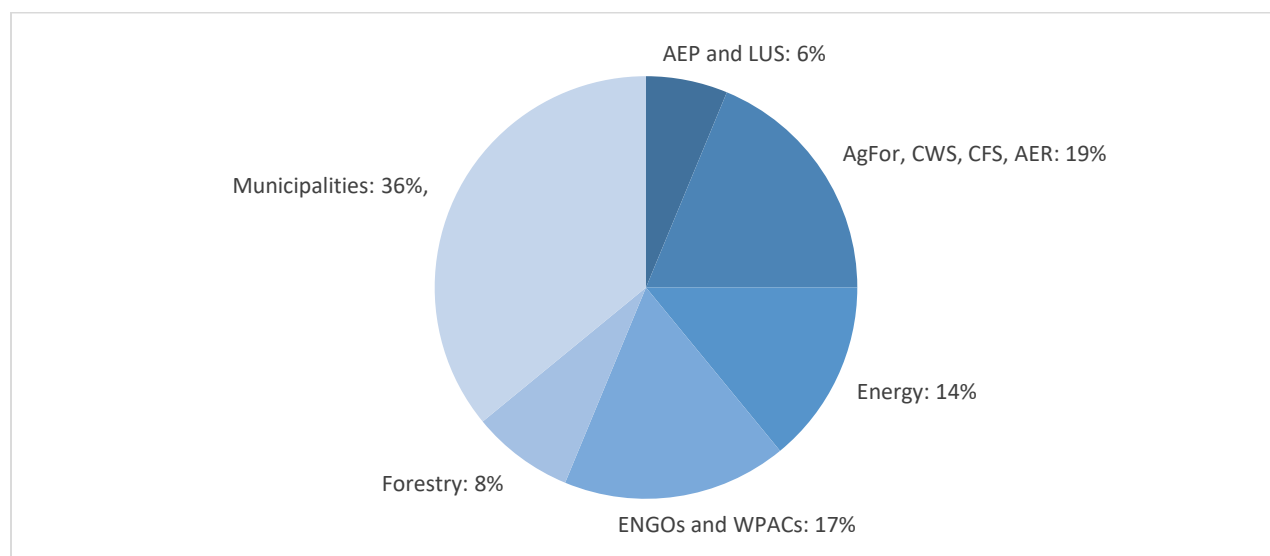


Figure 2 Percentage representation of which sectors responded to the pre-workshop survey out of a total of 64 respondents

3.2 Results

Twelve individuals in this group completed 83% of the survey in 18 minutes. Feedback suggested general information about human footprint, species abundance and species-specific information to be between “moderately important” and “very important,” and information about land cover “very important” to work activities. Despite this, only 50% of respondents currently use ABMI HFI in their work activities (Figure 3), 36 % access raw data, 33% use ABMI LCI (Figure 4), and 11% use ABMI BII (Figure 5).

AgFor, CFS, CWS and AER Respondents

What is the general value of human footprint information to your work activities?

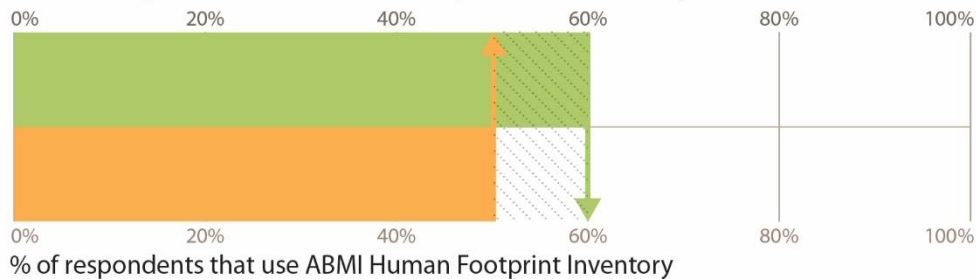


Figure 3. Value of general human footprint information compared to the % of respondents that use ABMI Human Footprint Inventory

AgFor, CFS, CWS and AER Respondents

What is the general value of land cover information to your work activities?

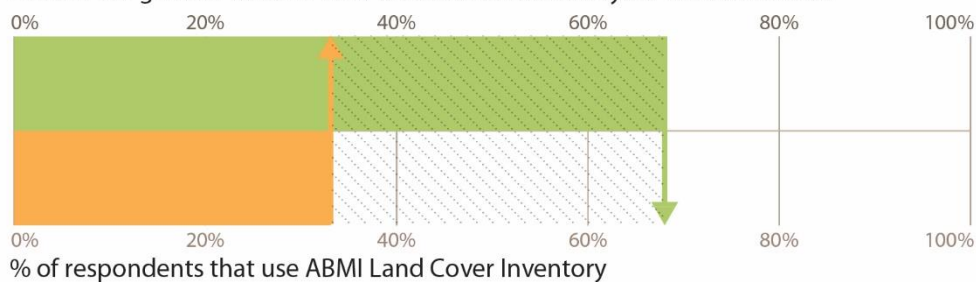


Figure 4. Value of general land cover information compared to the % of respondents that use ABMI Land Cover Inventory

AgFor, CFS, CWS Respondents

% of respondents who don't use ABMI Biodiversity Intactness Index who were aware of its existence

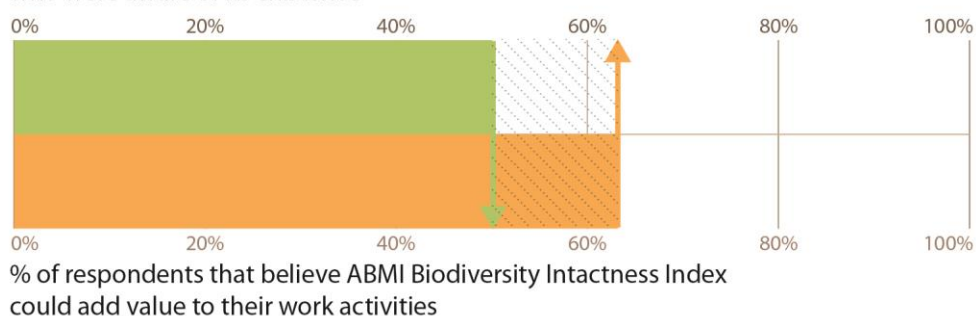


Figure 5. Value of general species abundance information compared to the % of respondents that use ABMI Biodiversity Intactness Index

Of the individuals that do not use ABMI HFI, LCI, or BII, there was varying levels of awareness of the products. Only 40% of respondents were aware of the HFI, 33% were aware of the LCI, and 11% were aware of the BII. Respondents were also asked to indicate whether or not, based on the brief information provided by the products in the survey, they now believed the product would add value to their future work activities. 80% of respondents believed the HFI would add value (Figure 6), 67% the LCI would add value (Figure 7), and 63% the BII would add value (Figure 8).

AgFor, CFS, CWS and AER Respondents

% of respondents who don't use ABMI Human Footprint Inventory who were aware of its existence

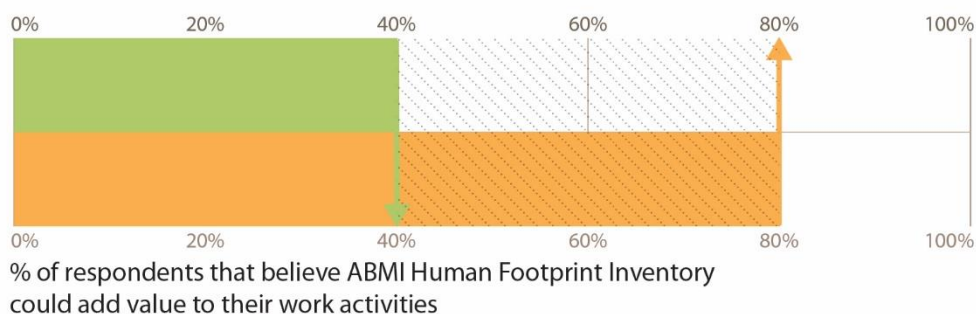


Figure 6. % of respondents not using ABMI Human Footprint Inventory compared to the % of respondents who believe it could add value to their work activities

AgFor, CFS, CWS and AER Respondents

% of respondents who don't use ABMI Land Cover Inventory who were aware of its existence

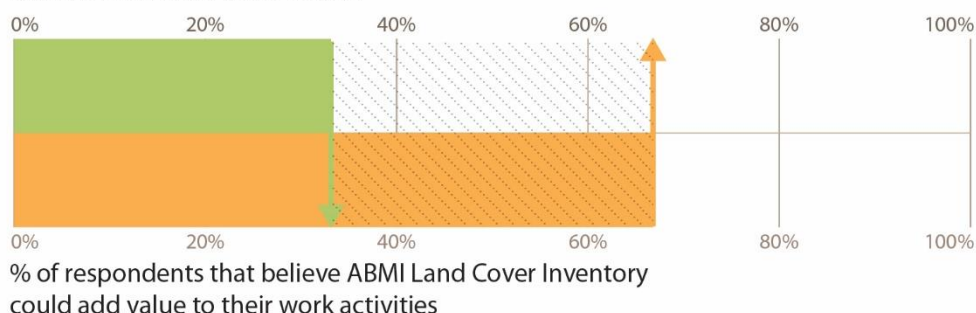


Figure 7. % of respondents not using ABMI Human Land Cover Inventory compared to the % of respondents who believe it could add value to their work activities

AgFor, CFS, CWS Respondents

Importance of species abundance information for work activities

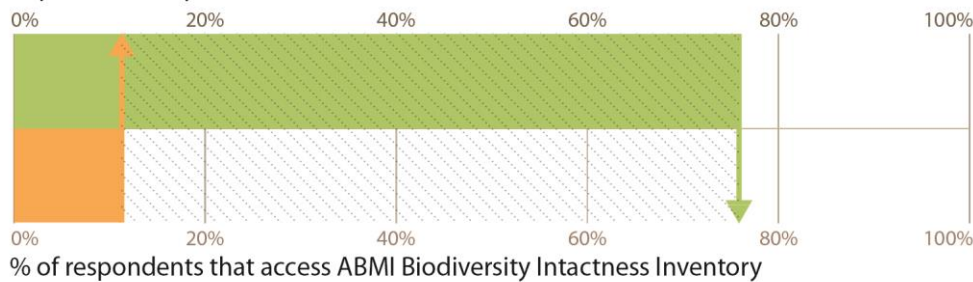


Figure 8. % of respondents not using ABMI Human Biodiversity Intactness Index compared to the % of respondents who believe it could add value to their work activities

4.0 Stakeholder Needs Assessment Workshops

As a first step in developing the stakeholder needs assessment workshops, the ABMI identified various stakeholder groups to engage. These include groups with a historical relationship with the ABMI, as well as additional groups that would likely be interested in using ABMI data to meet their own strategic priorities. Representatives of each of these stakeholder groups were invited to join the Stakeholder Advisory Group (SAG) that oversees the Stakeholder Needs Assessment process. In turn, the SAG membership nominated specific individuals to participate in the workshop process. In total, 10 facilitated workshops were scheduled over the fall of 2017.

4.1 Workshop objectives

The objectives for the nine facilitated workshops were to:

- assess the ABMI's range of products and services, and the extent to which they meet stakeholder needs;
- understand stakeholders' current and emerging biodiversity information needs; and
- solicit feedback on the ABMI's products under development and how they address stakeholders' needs.

The workshops were designed to assess the value and limitations of the ABMI's core monitoring program, as well as emerging ABMI products and services, and the extent to which they fulfill stakeholder biodiversity information needs now and into the future. The objectives were also partially achieved by distributing a pre-workshop survey with specific questions designed to assess the value and uptake by stakeholders of the ABMI's core status and trend monitoring products (province-wide information on human footprint and land cover, and a range of data products, such as species abundance, species responses to human footprint, species habitat associations, and more, on hundreds of Alberta's plants and animals).

5.0 Workshop Methods

The workshop incorporated a combination of presentations and engaging activities to achieve the objectives:

- Part 1 – Background presentations
- Part 2 – Pre-workshop survey results review followed by question and answer period

- Part 3 – Needs and challenges roundtable discussion
- Part 4 – ABMI innovation presentations
- Part 5 - World Café: questions and comments on ABMI innovation products

5.1 Who was there?

ABMI Stakeholder Needs Assessment workshops were targeted, sector-specific sessions. One of the goals of the workshops was to engage with as broad a cross-section of the sector as possible. The October 12 session's participants comprised 11 representatives from the Canadian Wildlife Service, the Canadian Forest Service, the Ministry of Agriculture and Forestry, the Alberta Energy Regulator, and one representative from the Prairie Conservation Forum. Participants remained until the end of the workshop.

5.2 What did the different sessions look like?

a) Background presentations

There were four presentations delivered by three ABMI staff:

- *Welcome and introduction to the review process* – Tara Narwani
- *ABMI structure, governance and evolution* – Tara Narwani
- *Species monitoring and outcomes* – Jim Schieck
- *Land surface monitoring and outcomes* – Jahan Kariyeva

The presentations were designed to provide a background and rationale for the ABMI's 10-Year Science and Program Review, in addition to providing a synopsis of the ABMI's core monitoring and science activities to date.

b) Survey results review followed by question and answer period

Prior to the workshop, participants were asked to fill out a survey administered online through SurveyMonkey. The survey was designed to assess the value and uptake of the ABMI's core status and trend monitoring products. The survey was divided into sections with specific questions about ABMI raw data, Human Footprint Inventory, Land Cover Inventory, and Species Profiles.

Key results from the survey suggested:

- Low awareness of ABMI products, although many could provide value to the majority of respondents;
- Very few respondents reported that a particular data type is "Very Important" or "Extremely Important";
- Some concern about data quality and/or defensibility.

Following a presentation of these key results, participants were invited to contribute to a question and answer session. The ABMI posed the following questions to workshop participants in response to the survey results:

- How can we increase the awareness of ABMI data and information products?
- What data are extremely important to your work activities?
- What kind of documentation would reduce concerns about product defensibility?

The discussion lasted approximately 40 minutes, during which facilitators encouraged feedback from a broad range of participants. Facilitators recorded feedback throughout to ensure no feedback was missed.

c) Needs and challenges roundtable discussion

Participants were divided into two groups, based on pre-assigned coloured dots on their nametags. Once arriving in their breakout groups, they were invited to discuss:

- current and future biodiversity information needs;
- current and future barriers/challenges to accessing the required biodiversity information.

Each group was provided four sheets of paper (one each for current needs, future needs, current challenges, and future challenges), and self-appointed a scribe to record feedback on each. Discussions lasted about 30 minutes.

Following their discussions, each group shared their comments with all participants for the final 20 minutes of this segment, and facilitators took notes.

d) ABMI innovation presentations

Following the Round Table discussions, participants were asked to gather for a series of presentations regarding emerging ABMI products and services. The five ten-minute presentations were:

- *Science for caribou recovery* – Melanie Dickie
- *Ecosystem services assessments* – Tom Habib
- *Knowledge translation* – Tara Narwani
- *Enhancing regional monitoring: WildTrax* – Corrina Copp
- *Creating a biodiversity network: from citizens to institutions* – Joelle Chille-Cale

e) World Café - questions and comments on the ABMI's innovation products

After the presentations, participants were invited to visit stations associated with each presentation, set up in the foyer outside the room. Each station was marked by a poster reminding participants of the products introduced in each presentation. A knowledgeable ABMI staff member was present at each station to answer questions. Workshop participants were invited to provide feedback on the specific questions posed at each station by recording information on a sheet of paper. The objective of the World Café session was to gather feedback from participants on each emerging ABMI product through the following questions:

- Is this tool useful to you and your work activities? (i.e., will it address the needs and challenges mentioned in the previous activity?)
- How could we tweak/modify this product/tool to better meet your biodiversity information needs?
- What do you see as the primary barrier to using this product/tool?

Feedback was recorded by participants on sheets of coloured paper, with a different colour representing each different station. The World Café session lasted about 50 minutes, and facilitators gathered the papers at the end of the session to ensure no responses were lost.

f) Closing

For the final moments of the workshop, ABMI staff thanked participants for their engaged attendance. Facilitators announced that pre-workshop survey results and a workshop summary would be shared as soon as completed.

6.0 Workshop Summary

Feedback from each of the participant activities was synthesized and evaluated to draw out common themes under the banners of “Needs” and “Challenges.”

In addition, feedback on new and emerging ABMI products was tabulated (see below).

6.1 Needs

The needs that were identified during the workshop fell into four themes, derived from the responses captured throughout the day:

- Alignment between organizations
- Knowledge and information sharing
- GIS and monitoring information
- Transparency

The data that makes up these themes has been provided in brief in Table 1 – Summary of Needs. An asterisk (*) has been included for statements that appeared repeatedly.

Alignment between organizations

Alignment between organizations was discussed at several points throughout the workshop. Alignment would ensure standardized data collection protocols, limit overlap between different organizations’ products and encourage collaboration and data sharing.

Knowledge and information sharing

Workshop attendees repeatedly mentioned a need for increased knowledge sharing efforts by the ABMI (factsheets, blogs, etc.). Participants noted a need for increased efforts by the ABMI to share information about new products, and product updates and changes. Participants also requested testimonials from organizations who have successfully used ABMI data.

GIS and monitoring information

Participants identified a series of specific GIS information layers and other biodiversity information that would be useful to them in their daily work activities. This included expanded taxa for data collection, various geospatial layers, and higher resolution of available products.

Transparency

Participants expressed a need for the ABMI to share information about how its data is externally audited, in addition to explicitly stating the limitations of its available data and products in non-technical terms.

6.2 Challenges

Based on participant responses, challenges to meeting biodiversity data needs fell into three broad themes. These themes are:

- Incomplete data
- Data use and limitations
- Unclear requirements

The data that makes up these themes has been provided in brief in Table 2 – Summary of Challenges. An asterisk (*) has been included for statements that appeared repeatedly.

Incomplete data

Participants indicated several instances preventing them from using ABMI data in their work activities, including limited coverage of ABMI data and retraction of information.

Data use and limitations

Methodological concern and errors were mentioned at several points during the day as barriers to using ABMI products, particularly derived data products.

Unclear requirements

Unclear reporting requirements from legislation and regulation were of concern to workshop attendees. This led to uncertainty about their biodiversity information needs as related to regulation requirements.

6.3 ABMI emerging products - Innovation

The participants provided feedback on 6 new and emerging products in the World Café. Participants were presented with 3 questions to provide a guideline for feedback.

Questions Posed

- Is this product/tool useful to your work activities?
- How could we tweak/modify this product so that it can be more useful to your work activities?
- What barriers/challenges do you anticipate to using this product/tool?

Below, we have categorized these for each product:

1. Enhancing Regional Monitoring

Only 1 participant provided feedback on WildTrax during this session. The participant indicated that the tool could be useful to engage more people in rural areas, but that it may be too complex for public engagement.

2. From Citizens to Institutions: Building a Biodiversity Network

Two attendees indicated that this could be a useful product for tracking invasive species and range expansion or shifts. The need to integrate this product with other citizen science tools was indicated, in addition to growing concern of opportunistic observations.

3. Geospatial Innovations

All feedback at this station indicated that participants are using the ABMI's geospatial products. Respondents requested cross-compatibility of products with other classifications, and an expansion of collaborative conversations to ensure standardization and limit overlap, in addition to a few specific data addition requests (recorded in workshop notes). The main barrier to use for these products is limited expertise/knowledge about how to extract and use the data.

4. Knowledge Translation

Only 1 participant left feedback at this station. The product is used for prioritizing areas for conservation, and they suggested tweaking the tool with the addition of a virtual re-class pixel tool.

5. Science for Caribou Recovery

A range of answers regarding the value of this product to work activities were provided. Generally participants were positive about its applicability, particularly if a robust validation of model is actioned.

6. Ecosystem Services Assessment

Respondents indicated this model will assist with their work activities, by providing a visual depiction that can be used in discussions with their clients, decision makers and stakeholders. A need for clearly articulated model limitations, in addition to enhanced descriptions of model attributes was noted.

7.0 Moving Forward

Throughout the session, our conversations highlighted areas where the ABMI can invest effort to continue to meet the needs of municipalities in Alberta. Results of the workshop will be incorporated into the Stakeholder Needs Assessment Report, and used by the 10-year Review Steering Committee to develop a series of recommendations for the ABMI Board of Directors. The Board of Directors will use these recommendations to make decisions about ABMI operations going forward. Your feedback is invaluable in helping to shape the ABMI's next ten years of operations. Thank you.

Theme	Data
Alignment Between Organizations	<p>Standardized data;</p> <p>Comparability and compatibility of data sets;</p> <p>Collaboration between organizations (i.e., COSEWIC and IUCN);</p> <p>Ecosite classification.</p>
Knowledge and Information Sharing	<p>Products responsive to all users;</p> <p>Integration of Indigenous values</p> <p>Continuous engagement to stakeholders (i.e. workshops, blogs, factsheets, infographics, testimonials);</p> <p>Citizen scientist engagement;</p> <p>Provision of background and context for product development;</p> <p>Lifecycle of data products;</p> <p>Careful colour selection on maps (red=bad);</p> <p>Biodiversity vs. management actions.</p>
GIS and Monitoring Information	<p>Higher spatial resolution;</p> <p>Regional and local scale data and information;</p> <p>Species at Risk;</p> <p>Footprint attribution;</p> <p>S-rankings;</p> <p>Expanded invertebrate taxa;</p> <p>Forest growth and mortality trends;</p> <p>Better coverage outside of OSM;</p> <p>Use of standardized vocabulary;</p> <p>GPS coordinates for site locations;</p> <p>Adaptive management;</p> <p>Legislation driven decisions guiding data collection;</p> <p>Biodiversity Intactness Index spectrum;</p> <p>Climate change data and information inclusion;</p> <p>Distribution and abundance.</p>
Transparency	<p>Share methodology;</p> <p>Share error of products;</p> <p>Provide metadata in a less technical format;</p> <p>Develop blogs, infographics, workshops to share information;</p> <p>Communicate defensibility of products;</p> <p>Increase efforts for collaboration;</p> <p>Provide statements regarding limitations of products;</p> <p>Expand the Board of Directors for a more thorough review.</p>

Table 1 Summary of needs

Theme	Data
Data Use and Limitations	Error in products not clearly communicated; Unclear methodologies; Derived products lose impartiality; Derived products; Language choice: harvest areas vs. cutblocks.
Unclear Requirements	Within legislation and regulation; Uncertainty about upcoming BMFs; Unknown needs; Putting the cart before the horse by creating products if needs are unclear.
Incomplete Data	Limited data coverage outside of OSM; Retraction of data; Some groups are underrepresented; Monitoring effort is based on funding and needs aren't addressed in areas with low funding; Incomplete data is influencing decision making processes (i.e., land arthropods);

Table 2 Summary of challenges

Appendix 1 – Workshop attendees

Appendix 2 – Workshop notes

Appendix 3 – Workshop evaluation forms

Appendix 4 – Pre-workshop survey results

Appendix 5 – Workshop presentations

Appendix 6 – Workshop information package