Stakeholder Needs Assessment

10 YEAR SCIENCE AND PROGRAM REVIEW

Stakeholder Needs Assessment Workshop Summary

Municipalities

November 8th, 2017

Aurora Room, Lister Centre, University of Alberta

Alberta Biodiversity Monitoring Institute

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.

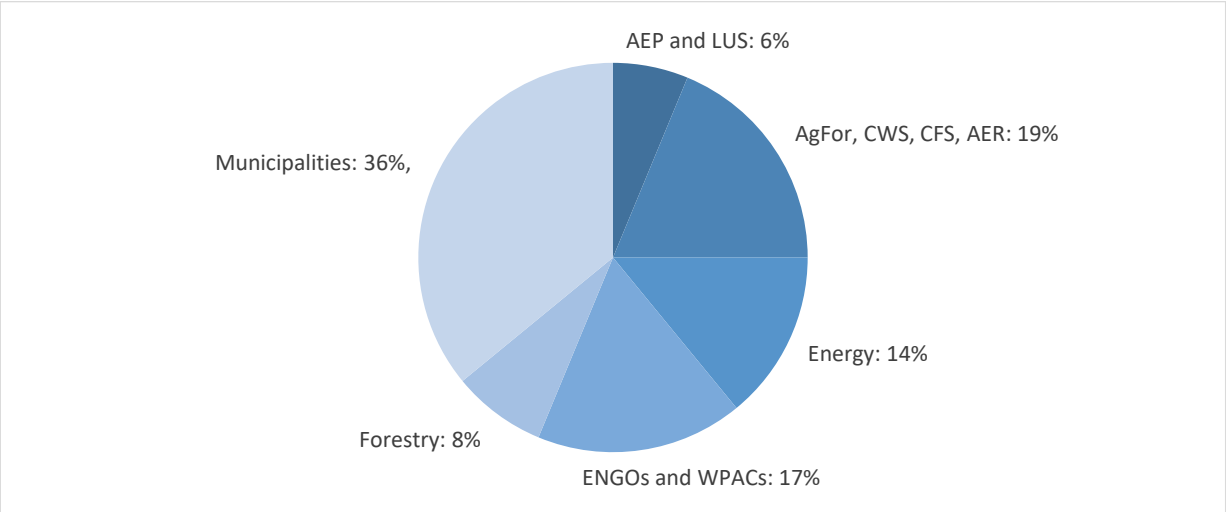

Figure 2 Percentage representation of which sectors responded to the pre-workshop survey out of a total of 64 respondents

3.2 Results

Twenty-three municipal representatives completed 65% of the survey in 8 minutes. Feedback suggested general information about human footprint, land cover, species abundance and species-specific information to be “moderately important” to work activities. Despite this, only 6% of respondents currently use ABMI HFI in their work activities (Figure 28), 10 % access raw data, 25 % use ABMI LCI (Figure 29), and 6% use ABMI BII (Figure 30).

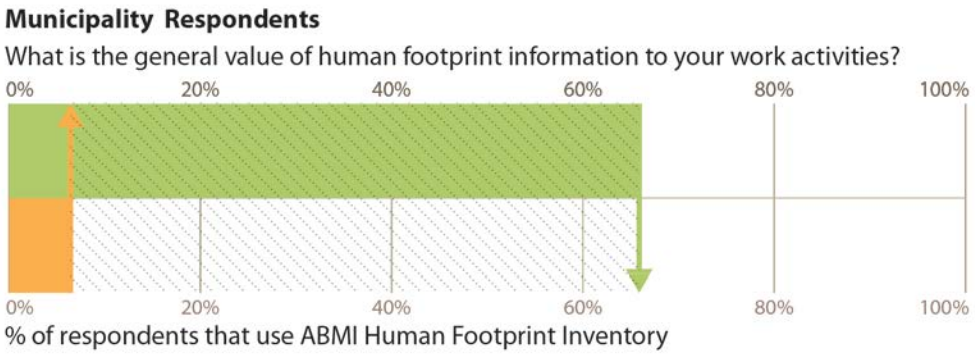

Figure 2. Value of general human footprint information compared to the % of respondents that use ABMI Human Footprint Inventory

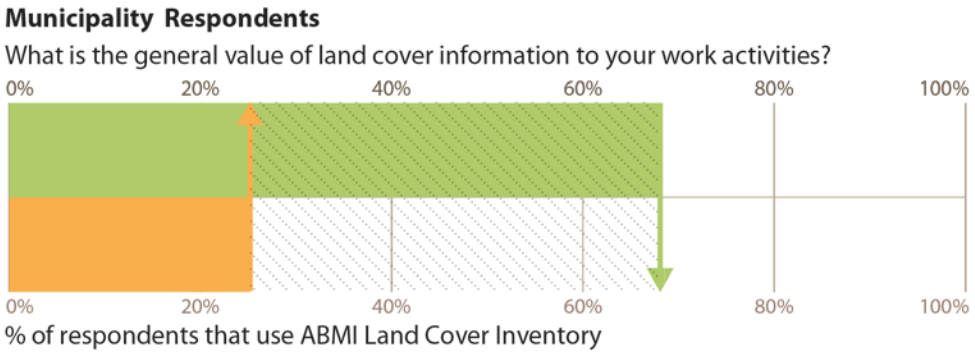

Figure 3. Value of general land cover information compared to the % of respondents that use ABMI Land Cover Inventory

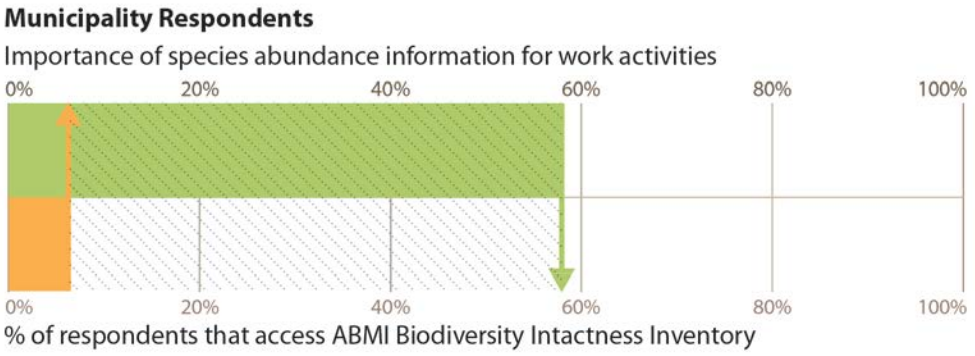

Figure 4. Value of general species abundance information compared to the % of respondents that use ABMI Biodiversity Intactness Index

Of the individuals that do not use ABMI HFI, LCI, or BII, there was varying levels of awareness of the products. 33% of respondents were aware of the HFI, 8% were aware of the LCI, and 20% 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. 67% of respondents believed the HFI would add value (Figure 31), 75% the LCI would add value (Figure 32), and 73% the BII would add value (Figure 33).

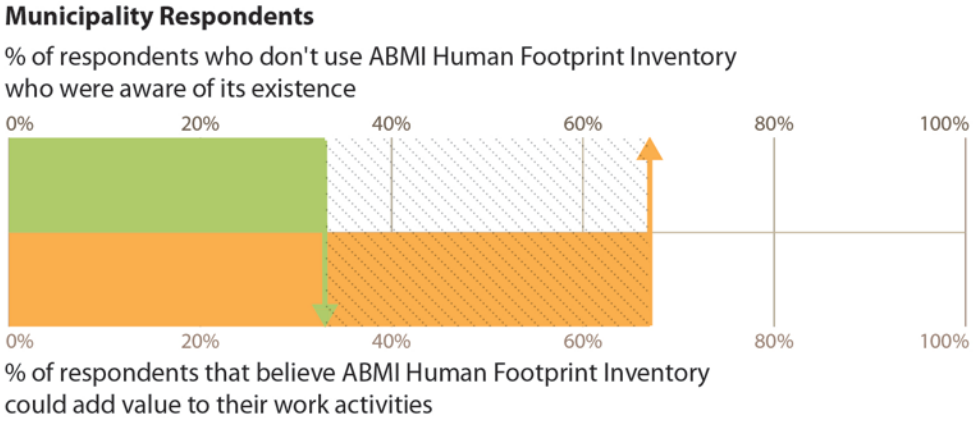

Figure 5. % of respondents not using ABMI Human Footprint Inventory compared to the % of respondents who believe it could add value to their work activities

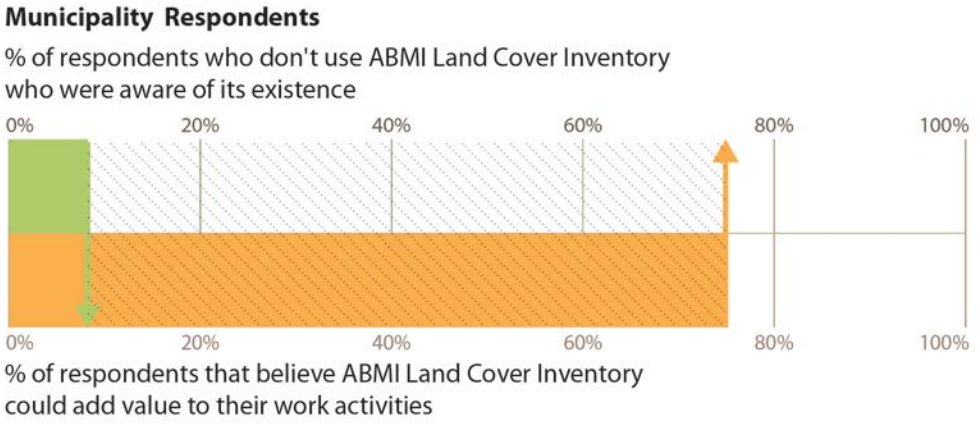

Figure 6. % of respondents not using ABMI Human Land Cover Inventory compared to the % of respondents who believe it could add value to their work activities

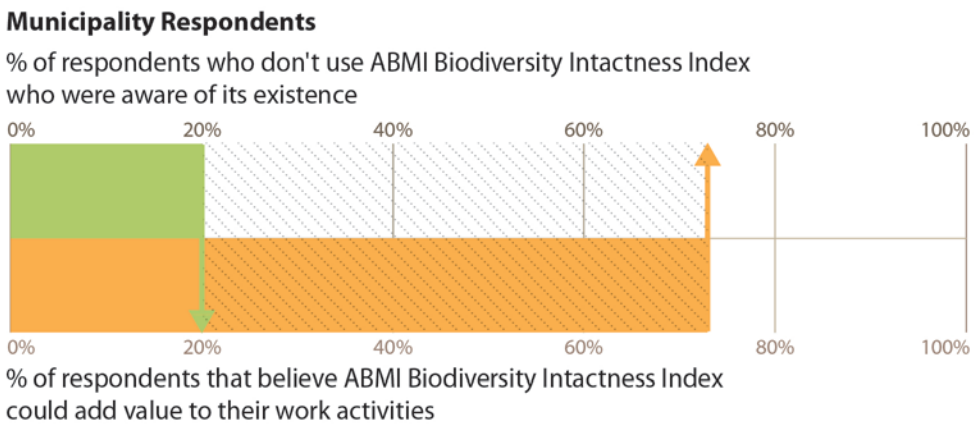

Figure 7. % of respondents not using ABMI Human Biodiversity Intactness Index compared to the % of respondents who believe it could add value to their work activities

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 held over the fall of 2017.

4.1 Workshop objectives

The objectives for the 9 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 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 facilitated 5.5-hour session included:

- Part 1 – Background presentation: ABMI 101
- Part 2 – Roundtable discussion: municipal decision making processes
- Part 3 – Background presentations: ABMI species monitoring and land surface monitoring
- Part 4 – Roundtable discussion: incorporating ABMI core status and trend products into municipal decision making
- Part 5 – ABMI innovation presentations
- Part 6 – World Café: questions and comments on ABMI innovation products
- Part 7 – Roundtable discussion: incorporating ABMI innovation products and services into municipal decision making

5.1 Who was there?

ABMI Stakeholder Needs Assessment workshops are targeted, sector-specific sessions. One of the goals of the workshops is to engage with as broad a cross-section of the sector as possible. This session's participants comprised 8 representatives from municipalities across the province, and one representative from the Alternative Land Use Services Program. Most participants remained for the duration of the session.

5.2 What did the different sessions look like?

A) Background presentation

Tara Narwani, Director of the ABMI's Information Centre, provided a brief overview of the following topics:

- *Welcome and introduction to the review process*
- *ABMI structure, governance and evolution*
- *Key pre-workshop survey results*

The presentation was designed to provide a background and rationale for 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) Roundtable discussion: municipal decision making processes and biodiversity needs

This session served two objectives:

1) For the ABMI to understand the biodiversity needs and challenges of local governments in Alberta and solicit information about municipal decision making processes;
2) To engage participants in thinking about their needs and challenges.

To achieve the objectives, the participants were encouraged to discuss the following questions:

- How do you incorporate biodiversity information into your land management decision making processes?
- What data/biodiversity information is extremely important to your work activities?
- How can we increase the awareness of ABMI data and information products?

The discussion lasted approximately one hour, during which facilitators encouraged discussions from a broad range of participants. Facilitators recorded the comments throughout to ensure no data was missed.

C) Background presentations on ABMI core products

The second set of background presentations were delivered by two ABMI staff:

- *Land surface monitoring and outcomes*: Jahan Kariyeva
- *Species monitoring and outcomes*: Jim Schieck

These presentations were designed to provide a more detailed synopsis of the ABMI's core monitoring and science activities to date.

D) Round table discussion: incorporating ABMI products into municipal decision making

For the next 35 minutes, participants were invited to provide feedback on the ways they believe ABMI core status and trend monitoring products could be incorporated into the municipal decision making process. Facilitators categorized the participants' needs and comments from Session B and wrote them on the wall. This allowed everyone to provide feedback on the ABMI's products with reference to their needs and challenges, and enabled the facilitators to guide the conversation into more detailed discussions.

Once again, facilitators recorded feedback throughout to ensure no responses were missed.

E) 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 four ten-minute presentations were:

- *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

F) World Café – Feedback and questions on ABMI innovation products

After the presentations, participants were invited to visit stations associated with each presentation set up around the room. Each station was marked by a poster reminding participants of products introduced in the presentations. A knowledgeable ABMI staff member was present at each station to answer questions. Workshop participants were invited to provide feedback on the 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 emerging ABMI products 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 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.

G) Roundtable discussion: incorporating ABMI innovation products and services into municipal decision making

For the final 20 minutes, participants were invited to provide feedback on the ways they believe ABMI innovations products could be incorporated into the municipal decision-making process. Once again, facilitators recorded feedback throughout to ensure no responses were missed.

H) 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 “Decision making,” “Needs,” “Challenges,” and “Opportunities.”

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

6.1 Decision Making

To determine the ABMI products that can best support municipalities, a greater understanding of municipal decision-making processes was needed. The facilitators asked municipal representatives to share some of the key decision-making processes with at least a possibility for including biodiversity information. The main processes identified were:

- Developing plans and policies to support conservation work
- Area Structure Plans (ASPs)
- Strategic planning processes
- Municipal Development Plans (MDPs)
- Neighbourhood plans
- Development applications review
- Land-use bylaws
- Growth management and strategy development
- Possibilities for collaborative work:
    - Provincial Land Use Frameworks
    - Intermunicipality Collaboration Framework
    - Intermunicipality Development Plans
    - Watershed management groups

6.2 Needs

The “Needs” identified during the workshop fell into three broad themes:

- Data
- Visualization tools
- Ecosystem services valuation

The data that makes up these themes has been provided in brief in Table 1 – Summary of Needs.

Data

Participants indicated a need for high resolution data with frequent updates. This was, in part, indicated as a need to support drawing connections between local scale and regional environmental conservation efforts.

Visualization tools

The power of effective knowledge translation and visualization tools, to mobilize both citizens and elected officials, was discussed. Participants suggested that such tools might support community members in influencing their elected officials to consider environmental conservation strategies.

Ecosystem services valuation

The benefits of ecosystem services valuation were brought up during each opportunity for discussion. Participants discussed how such a capability can be used to demonstrate effectively to elected officials the benefits of conservation practices to the entire community, and to demonstrate to citizens how their private actions can provide significant benefits regionally.

6.3 Challenges

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

- Capacity
- Development pressures
- Political will

The data that makes up these themes has been provided in brief in Table 2 – Summary of Challenges.

Capacity

Despite significant variations across municipalities, all shared similar challenges with regard to incorporating biodiversity information into municipal planning. Financial limitations, both for acquiring new technology to support monitoring efforts and for acquiring lands to designate as Municipal Reserves or Conservation Reserves, were a common theme throughout. Participants also noted staffing limitations and expertise with regard to understanding and using complex data sets, and subsequent capability to draw connections from local to regional scales, as shared challenges.

Development pressures

Urban municipalities indicated the challenge of keeping to the tight timelines demanded by development applicants trying to accommodate significant population increases over short periods of time. They are sometimes forced into surveying lands for development in times of year when environmental indicators would not be present (i.e., a survey or rare plants completed in the winter), or are sometimes unable to access land to survey because of private property rights of developers.

Participants also indicated the challenge of balancing development needs and conservation priorities as councils are often excited for the prospect of development but are not aware of the benefits of conservation policies to the community as a whole.

Political will

All municipal representatives in the room suggested there is often a lack of political will to go beyond minimum requirements for environmental conservation. Currently, minimum requirements do not support comprehensive environmental conservation efforts. At least one representative suggested that without regional plans in place to set targets, it is difficult to convince their councils of the importance of setting aside areas for conservation, particularly if trying to argue the regional benefits as compared to a perceived tax benefit by a proposed development.

6.4 Opportunities

Based on participant responses, opportunities to expand conservation efforts using biodiversity information fell into three broad themes:

- Regional planning
- Access to high quality data and information
- Citizen engagement

The data that makes up these themes has been provided in brief in Table 3 – Summary of Challenges. An asterisk (*) has been included for statements that appeared repeatedly in the data.

Regional planning

The introduction of the Intermunicipal Collaboration Framework in the Modernized Municipal Government Act offers an opportunity for municipalities to begin considering conservation regionally instead of at a more local level. Municipalities also noted the opportunity to work with watershed management groups to identify key areas for conservation at a regional level.

Higher quality data and information

Access to higher quality data will enable local governments' administrations to present stronger cases for conserving lands within their boundaries to their respective councils, the development community and the general public. In addition, several participants noted the benefit of ecosystem services assessments in demonstrating the true value of land conservation to elected officials. With access to higher resolution spatial data, the ability to mobilize citizens to contribute to science, and accurate valuation of ecosystem services, participants felt their tool kit to encourage higher levels of conservation within their boundaries would be much more powerful.

Citizen Engagement

Of particular interest to participants was the possibility of 'mobilizing citizens to influence politics' by engaging them in citizen science activities (i.e., through NatureLynx).

6.5 ABMI emerging products - innovation

The participants provided feedback on 6 new and emerging products in the World Café. Below, we have categorized these for each product:

1. **Enhancing regional monitoring: WildTrax**

Participants indicated a strong interest in this tool to enhance monitoring activities within their municipal boundaries. They are looking for more guidance for technology implementation to support their activities. Capacity is seen as the main barrier to using WildTrax, both in terms of staff time and possibly prohibitive costs of purchasing technology.

“I think this tool could be really useful in our monitoring activities.”

2. **From citizens to institutions: building a biodiversity network**

Municipalities are seeking ways into incorporate citizen science-based monitoring into a range of programs to increase stewardship, from municipality strategic plans to incentive-based conservation strategies with private land-owners. To increase the functionality of the tool, responses indicated that the ability to filter within municipal boundaries, remind users to upload images via notifications, and allow municipalities to access detailed coordinates of observations, would all be beneficial additions.

Barriers to using this program noted by participants included users simply forgetting to upload data, data sharing limitations, the perception of citizen science, and long term support for the application.

“Directly relates to education principle in the City of Calgary’s Biodiversity Strategic Plan. [NatureLynx] can be used to engage citizens in citizen science.”

3. **Geospatial innovations**

Responses recorded by participants suggest a strong interest in high resolution landscape layers that provide details on wetlands and predict habitat suitability. Participants suggested possible improvements such as increasing the resolution of products and effectively communicating the datasets’ details and attributes to municipalities. Participants were unsure of the limitations of these products without first using them.

“Delineating catchment area for important wetlands in high density areas (industrial) as well as impacts of land use in that catchment would be helpful in creating ASPs.”

4. **Knowledge translation**

All responses from this station indicated participants believe the Mapping Portal will add value to their work activities in a variety of ways; ranging from internal to external use requirements. Participants are seeking a higher level of granularity in available data, clipping capabilities, and insights into how it could potentially influence regional level planning (i.e. Intermunicipality Collaborative Frameworks).

A possible lack of geospatial and technical expertise was the only possible barrier to use recorded in the responses.

“Data downloads and mapping portal can be used by consultants for ecological reports at ASP and Outline Plan stages.”

5. **Ecosystem services assessment**

No comments were left at this station despite the topic coming up several times during the roundtable discussions.

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
Data	Access to credible data; Higher spatial resolution; Local-regional connectivity; Standardized data; Detailed wetland data (geospatial); Easily accessible data.
Visualization Tools	Important to use to educate the public and elected officials, and to open discussion channels; Knowledge translation is powerful.
Ecosystem Services Valuation	Ecological services valuation to make the case for conservation; Evaluation of impacts of development to entire community.

Table 1 Summary of needs

Theme	Data
Capacity	Lack of staff capacity; Lack of funding to acquire Conservation Reserves; Lack of resources to acquire new technology.
Political Will	Lack of political will to go beyond minimum requirements; Lack of regional planning to set targets; Lack of policy to support conservation.
Development Pressures	Competition between development and conservation land; Pressure on speed of decision making and development process; Council jumps on development opportunities in large rural municipalities; Consultants unable to access land to survey for rare or endangered species, other features of interest, before development; Speed pressure sometimes leads to surveying for rare plants and animals in the wrong seasons (i.e., rare plants in winter).

Table 2 Summary of challenges

Theme	Data
Regional Planning	Intermunicipal Collaboration Framework; Intermunicipality Development Plans; Watershed management groups; Provincial regional plans to set targets.
Citizen Engagement	Mobilize citizens to influence political will; ABMI sites important for educating public; NatureLynx and WildTrax; Visualization tools.
Higher Quality Data and Information	Higher resolution data; Ecosystem services assessments; Easy to use tools; Site-specific information; Collaborate on data sharing; Connectivity information.

Table 3 Summary of opportunities

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