

→ **Biodiversity Atlas**  
User Needs Assessment Report  
November 4, 2008



## Snapshot

The Biodiversity Atlas team has embarked on a second phase of the Atlas. As a first step, the team conducted a User Needs Assessment to discover and evaluate user requirements in order to develop solutions to meet the identified needs.

### Sample Size

- 293 surveys sent, 93 partial completions, 81 completions
- 5 interviews conducted

### Observations

- Most respondents worked in government
- Almost 85% of respondents were familiar with Internet Mapping tools
- Though respondents used Internet Mapping Tools in many ways, the most popular activity was to download PDF/hardcopies of maps
- A majority indicated that they would like to see *Rare and endangered species and habitats of the entire Columbia Basin* in the next iteration of the Atlas
- In terms of functionality, ‘downloading data’ was a priority
- Metadata is important to most users of these tools
- There was no clear consensus as to the best next steps for the Atlas
- 29 individuals expressed an interest in partnering, 42 in sharing data
- 79 people asked to be sent updates on the Atlas

### Inferences

- People are interested in, and supportive of, the Biodiversity Atlas.
- Little education is needed regarding the existence of Internet mapping tools.
- It’s not necessary to accommodate dial-up technology.
- There appears to be a general consensus among respondents on what layers should be included in the next iteration of the Atlas.
- The Biodiversity Atlas team is on track with what it perceives to be the desired content and functionality.
- Though 84% of people were familiar with IMTs, almost half of that number uses them infrequently.
- There is an opportunity to increase usage amongst people who are aware of IMTs but don’t use them often.
- The popularity of the HELP function indicates that people want to know how to use the tools better.
- More people may be familiar with the Biodiversity Atlas than originally thought.
- High quality data (and associated metadata) is a “must have” for the success of this project.
- The Atlas should be well-funded and enough people should be empowered to make it happen.

(For a list of recommendations, please refer to page 14)

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## Overview

The Biodiversity Atlas is an initiative of the Fish and Wildlife Compensation Program (FWCP) with the objective of improving conservation planning and decision-making by providing science-based information. A first iteration of the Atlas was developed as a pilot and focussed on the East Kootenay. After partnering with the Selkirk College Geospatial Research Centre (SGRC), the expanded team is in the process of developing the Atlas to include more layers and increasing the area featured to encompass the entire Canadian portion of the Columbia Basin. Recently, Columbia Basin Trust and The Nature Trust of BC have also signed on as funding partners.

This report is the culmination of months of team work and input from people throughout the Columbia Basin. Wherever possible, documents and guidelines from Geoconnections were used as they have established best practices and may be a source of support in the future.

## UNA Project Objective

To discover and assess the needs of biodiversityatlas.org users regarding content and functionality to ensure that the next iteration of the Atlas answers these needs and contributes to collaboration and an increased number of satisfied users.

## Methodology and Participation

The Biodiversity Atlas UNA was comprised of two main components: an online survey and individual interviews with a small group representing a cross section of Atlas user (current and potential).

Other sources of information were considered, albeit to a lesser extent, and they were:

- The Columbia Basin Biodiversity Atlas Project Phase One Final Report from 2001
- Usage Statistics for biodiversityatlas.org, 29-July 2007-08
- Survey Results & Analysis for Biodiversity Atlas Planning & Development Workshop Comment Form, November, 2007

The target list for the survey was developed by FWCP and SGRC, and includes individuals belonging to Government, Education, the Private Sector, and NGOs/Conservationist. Of 293 invitations sent out, 38 bounced back. The 13% bounce rate is not unusual and could be improved with a close look at the list and email addresses.

**Survey** ~ For the survey component, questions were developed in collaboration with the Biodiversity Atlas Steering Committee. Committee members are:

Meeri Durand, Planner, Regional District of Central Kootenay

Lynne Betts, Communications Coordinator, Fish & Wildlife Compensation Program

John Krebs, Crew Lead, Fish & Wildlife Compensation Program

Nancy Newhouse, Program Manager, East Kootenay Conservation Program

Ian Parfitt, Researcher and Instructor, Selkirk College Geospatial Research Centre

Leanna Warman, Ecosystem Specialist, Nature Trust of BC

Amy Waterhouse, GIS specialist, Fish & Wildlife Compensation Program

The survey, which served as the qualitative component of the UNA, was comprised of 20 questions, with an approximate 20/80 split between open-ended and multiple choice or ranking questions. The questions were based on four main subject areas: 1) User Profile, 2) Current Use of Internet Mapping Tools, 3) Atlas Content and Functionality Input, and 4) Outreach and Final Comments.

The survey was sent out to a group of 293 potential respondents, 93 of whom responded (81 completing the survey in its entirety, 12 completing it partially). The survey was open and available for a period of three weeks from Monday, early-afternoon, September 12, 2008 through until Friday, October 11, 2008 at midnight. One reminder email invitation was sent to individuals, who hadn't yet responded, half-way through the survey period.

**Interviews** ~ From the initial list of 6 interview candidates provided by the UNA Steering Committee, 5 individuals were interviewed. They were:

1. Albert Chirico, Resource Information Specialist with the BC Ministry of Environment
2. Pat Field, Wildlife Biologist with the Nature Conservancy of Canada
3. Marlene Machmer, Independent Wildlife Biologist
4. Derek Marcoux, Instructor with The Selkirk College School of Renewable Resources
5. Kari Stuart-Smith, Forest Scientist with Tembec

The interviews brought the qualitative component to the UNA, allowed for more in-depth probing of specific subject areas, and were helpful in better understanding our users' needs and wants.

## Observations

I have included data that I found noteworthy. A summary of the survey findings is attached to this document as an addendum. To understand all the nuances and read the comments, read the report findings in their entirety. All of the survey responses are available in an electronic format if requested.

### Survey

Before we even look at the actual input from respondents, it is important to look at our response rate of 32%. This rate is considerably higher than the 1-20% rate often experienced in surveys sent to the general public. This tells us that there is a very supportive group of people who made the time to provide input for the Biodiversity Atlas project.

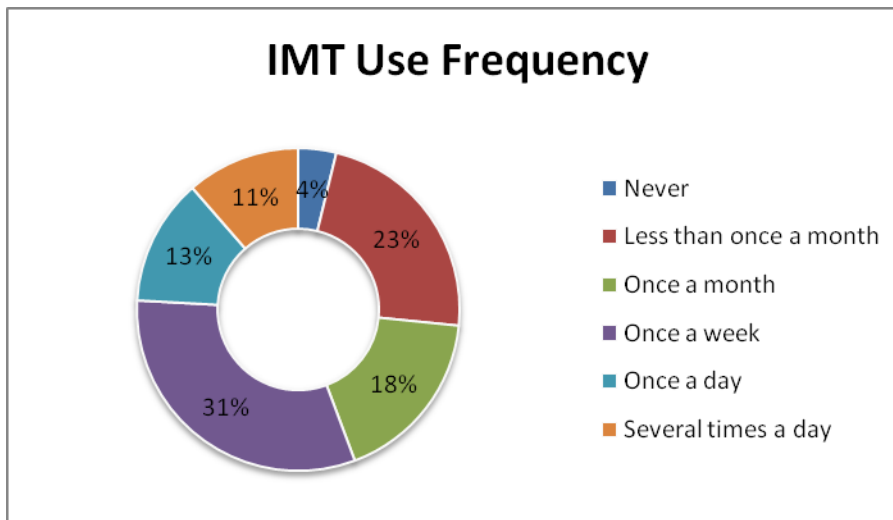
### Profiles

Almost 50% of respondents indicated that they worked with government. This was higher than we had anticipated when creating our target list. Of those responding, 97% have a high-speed Internet connection and 84% are already familiar with Internet mapping tools (IMTs). This is good news and means that, amongst respondents, there isn't a need for much education regarding the existence of Internet mapping tools and that, in further developing the Atlas, accommodating dial-up technology isn't necessary.

### Current Use

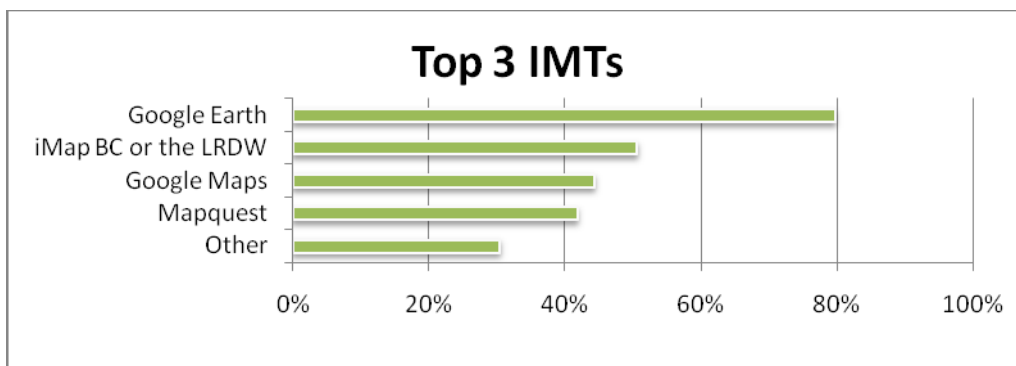
In terms of frequency of use, respondents were split between using IMTs often (>1/day, 1/day, 1/wk), or not often (1/mo, <1/mos). Though 84% of people were familiar with IMTs, almost half of that number uses them infrequently. If we jump to the "why not" in question #6, we see that, from this delta, there is an opportunity to educate people as to: 1) where to find IMTs, 2) how to use them and 3) how the tools can help people with decision making in their jobs. Another explanation for this gap between users and people non-users familiar with the tools may be that respondents had other people (GIS consultants or analysts) do the work for them. The

involvement of GIS experts depends on the size of the organization or the size of the project being worked on.

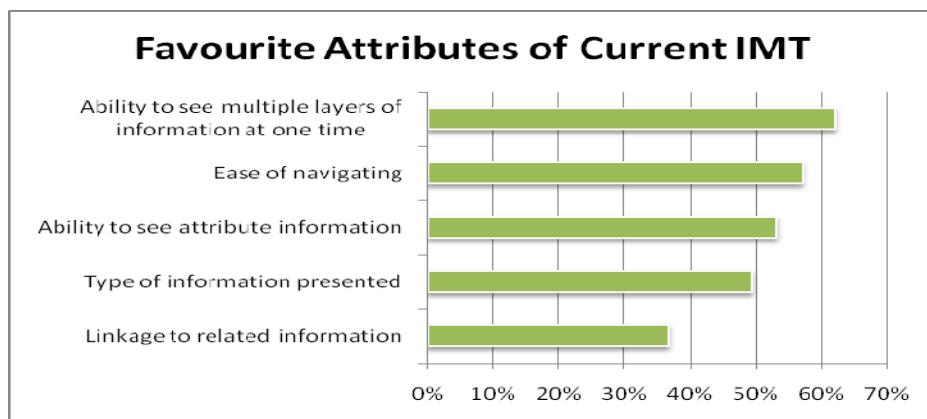


There was no “prevailing” way people used IMTs in their job, with five of 12 stated uses indicated by approximately half of respondents. A little more than half of respondents had visited the Biodiversity Atlas *before* taking the survey. This reinforces the positive overall response rate. More people may be familiar with the Biodiversity Atlas than originally thought. Of the respondents who were familiar with the Biodiversity Atlas, or other IMTs, most indicated a “positive” experience (a combination of “somewhat” and “very” positive). More people indicated having a “neutral” experience than a “very positive” experience.

Regarding the most visited IMTs, respondents echoed a sentiment expressed in the UNA interviews. Google Earth and Google Maps are very popular. Ease of use, speed and type of information presented were all listed as key attributes. Usage of other IMTs is spread out, with the iMapBC or the LRDW being the second most popular listed.



Finally, within the Current Use section, there were no big surprises in what respondents stated they liked most about their favourite IMTs. “Ability to see multiple layers of information at one time” was the most popular but this doesn’t tell us much because it is a common feature of all IMTs. “Ease of navigation” is listed second and “information presented” as well as “attribute information” follow closely. This may be predictable but tells us that people want an IMT that is user friendly and features the data they are looking for to help them in their decision making processes.

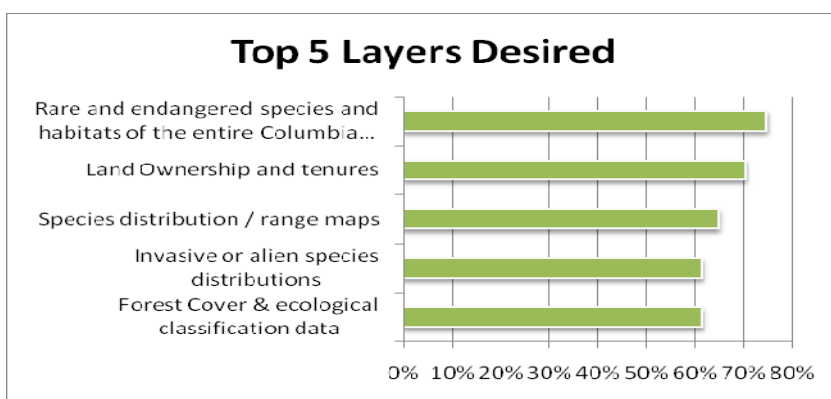


### Content and Functionality Input

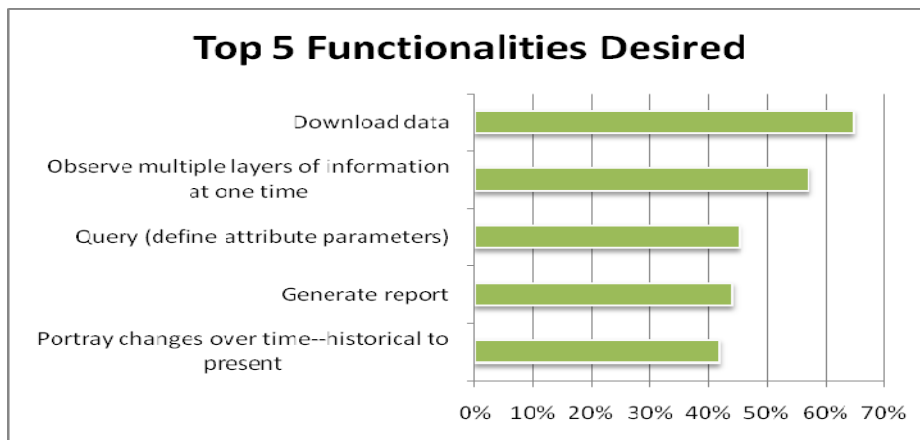
In this section, because of the many-answer, multiple-choice questions, I encourage readers to look to the survey summary attached to the report to understand the nuances. Though few respondents answered with “Other”, there are many interesting comments which deserved a closer examination. An overall note on the graphics below: a “Top 5” is presented to highlight what options were the most popular.

Because of the ability to present considerably more than five layers, many options *not* in the top 5 should still be included.

In terms of what content respondents wanted to see, the listing of options provided by the Atlas Steering Committee was generally agreed upon. In other words, there appears to be a general consensus on what layers should be included in the next iteration of the Atlas. “Rare and endangered species and habitats of the entire Columbia Basin” was the most preferred but not by a significant margin.



When asked about what functionality they desired, respondents were again in agreement with the options offered; very few people wanted functionalities other than what was mentioned. In other words, the Biodiversity Atlas team is on track with what it perceives to be the desired functionality—as well as content.



Concerning the desire and need for Help within the Atlas, respondents were generally in agreement that it was an important aspect. The majority of responses were positive about the prospects of Online Tutorials and a near-majority wanted easy access to supporting documentation. Having good HELP resources is a key part of the user-friendliness and ease of use which respondents indicated as a priority earlier in the survey.

Metadata, and the quality of the data associated, is important to more than 75% of respondents. People wanted to see detailed metadata for each layer featured. High quality data is a “must have” for the success of this project.

### **Final Comments**

When asked what were the most important next steps for the success of the Biodiversity Atlas, respondents ranked “Expand the range of Atlas Partners and funders” the most as the #1 step. Importantly though, responses related to maintaining data, continuous improvement and sufficient resources had significantly higher total 1-4 rankings. One respondent commented that there was an overlap in many of these proposed next steps. What I pull out of the data is that people believe the Atlas should be well-funded, enough people should be empowered to make it happen and the data quality must be excellent.

Other than one individual who recommended the Biodiversity Atlas team conduct a UNA, respondents “other comments” about the Atlas mirrored what had been said earlier in the survey. Some recommendations require Subject Matter Expertise and I suggest that Steering Committee members read through these comments in their entirety as they are better equipped to evaluate.

Results from the last few survey questions reinforce the fact that respondents were happy to be engaged in the Biodiversity Atlas Project. 29 individuals said they would like to be contacted to discuss opportunities for partnership, 42 said they would like to

be contacted regarding data sharing, and 79 people said they would like to be kept abreast of developments with the project. These numbers are extraordinary and, because partnerships and participation are so key, they bode well for the success of the project.

## Inferences

- People are interested in, and supportive of, the Biodiversity Atlas.
- Little education is needed regarding the existence of Internet mapping tools.
- It's not necessary to accommodate dial-up technology.
- There appears to be a general consensus among respondents on what layers should be included in the next iteration of the Atlas.
- The Biodiversity Atlas team is on track with what it perceives to be the desired content and functionality.
- Though 84% of people were familiar with IMTs, almost half of that number uses them infrequently.
- There is an opportunity to increase usage amongst people who are aware of IMTs but don't use them often.
- The popularity of the HELP function indicates that people want to know how to use the tools better.
- More people may be familiar with the Biodiversity Atlas than originally thought.
- High quality data (and associated metadata) is a "must have" for the success of this project.
- The Atlas should be well-funded and enough people should be empowered to make it happen.

## Interviews

The interviewees came from diverse backgrounds and were very helpful in providing detailed input for the UNA. Most were supportive of the Biodiversity Atlas and those who weren't had excellent input that will be considered in the recommendations section later in this document. Some had little or no experience with the Biodiversity Atlas, most were familiar in general with the tools, though three of the individuals hired subcontractors to do most of their GIS work. Four out of five were biologists from the South Kootenay. The sixth interviewee identified was from Revelstoke and, unfortunately, she was not available for an interview.

A number of consistent themes emerged in the interviews that serve well as a basis for my observations.

## Data

The importance of data was mentioned by all interviewees without prompting. Good data is the backbone of any successful, popular and helpful Internet Mapping decision tool. Interviewees shared that data is often out of date, hard to verify, hard to access and is withheld by certain individuals or organization. The critical role of data custodians and the need for constant maintenance of data was also raised. Though some standards exist for the gathering, updating and reporting of data, different standards (and different enforcement of these standards) compound the challenge.

*"How do you keep data, which is not your own, up to date?"*

*"Good data is good. Bad data is really bad."*

*"Without the metadata, I am hesitant to use it. I have seen my data used in the strangest ways"*

### One Stop Shop.

The issue (and opportunity) of multiple data sources—GIS and otherwise—was an unprompted topic of conversation with all interviewees. Habitat Wizard, Fish Wizard, CDC, Ecocat, GeoBC, LRDW, iMapBC, E-flora, Community Mapping Network, BiodiversityBC, HectaresBC and Kamloops Atlas are just a few BC-based Internet Mapping Tools. Most interviewees expressed an interest in having all the data they needed on Biodiversity in the Columbia Basin available from one source. As it is now, people have to hunt around between many sources to get the information they need. This wastes time and, because of all the issues with data mentioned above, makes it difficult to depend on the data or make decisions with projects dependent on this kind of information.

*“Until the Biodiversity Atlas broadens the scope of the area, and packages it more comprehensively so it’s more of a one-stop shop, its utility is limited”*

### Local Focus.

Interviewees were unanimous in their appreciation of the local nature of the Atlas. The Columbia Basin is defined by mountains, watershed and, some would say, a unique culture. The more relevant and focused on the Basin the Atlas can be, the higher are its chances for success. Interviewees reiterated the fact that there are many Internet Mapping Tools available to them. In order to be a useful resource, the Atlas must play on what makes it unique—its focus on the Basin.

*“The more relevant the Atlas is to people from the Basin-or those studying the area-the more successful it will be”*

### The Google™ Factor

Everybody knows about Google's Internet Mapping Tools and everyone likes them. Google Earth, Google Earth Pro, Google Maps and Google Sky have set the standard for Internet Mapping Tools and, with the BC provincial Government deal providing Google Earth with their ortho images, Google is becoming more and more popular with local users. Ease of use, speed, visual impact and universality were just a few of the benefits mentioned. Google Earth featuring all the Biodiversity information for the Columbia Basin was given as an example of a near-perfect IMT.

*“After Google made the deal with the provincial government to provide their orthos, there's a major 'wow' factor”*

### Partnerships. Partnerships. Partnerships.

Interviewees were again unanimous in their expression of the importance of partnerships. The potential to partner with various funders, acknowledged sources of reliable data, technology providers, First Nations groups, Government, educational institutions and conservationist groups was seen as an opportunity, and a necessity, in developing an optimal Biodiversity Atlas for the Columbia Basin.

*“Try and develop a long term relationship with GeoBC; that's where it's all going”*

## Recommendations

The recommendations I have are more global in nature than suggesting specific functionalities or content to be included in the Atlas. To learn what people want to see, and how, please consult the survey summary. This type of information is relatively straightforward. Making it happen is where most of the thinking and effort will be required. In developing my recommendations, I have aggregated all the input I have received from subject matter experts on the Biodiversity Atlas Steering Committee, the survey responses and several interviews.

Though we already have a vision statement for the Atlas, I will provide something more specific in terms of: 1) what people have expressed they want to see in the next version of the Atlas and 2) what I, as an objective observer, think the ideal Atlas would look like.

The current Vision Statement for the Biodiversity Atlas is:

*To positively influence decision making regarding Biodiversity in the Columbia Basin by providing integrated geospatial information.*

With the new knowledge and understanding following the UNA, I suggest we can drill it down further to:

*To positively influence decision making regarding Biodiversity in the Columbia Basin by providing **relevant** integrated geospatial information that is **comprehensive, easy to access and of the highest quality**.*

I realise that the shorter vision statement was probably edited for brevity's sake. I provide the longer version as a means to articulate further what needs to happen.

I have a number of recommendations which I believe will help the Atlas achieve this expanded vision:

- 1) Acknowledge that stopping the project is an option.
  - Be certain that you can develop an exceptional Biodiversity Atlas within a reasonable time frame or consider pulling the plug
  - There are already enough mediocre IMTs
- 2) Focus on the region.
  - There are many Atlases; there are some that focus on biodiversity, only the Biodiversity Atlas focuses on biodiversity in the Columbia Basin
  - To be successful, the Atlas must become the de facto source of local information
- 3) Focus on Biodiversity
  - Develop a clear definition of biodiversity – what it means and what it includes
  - This, with the regional focus, will define the scope of the Atlas, give it direction and make it unique
- 4) Continue to build partnerships.
  - Other organizations have and maintain the data, partner with them and let *them* act as data custodians.
  - Also continue to build partnerships with funders and technology providers.
- 5) Complete this project within as tight a timeframe as possible
  - In order to maintain critical mass and stay technologically current, this iteration needs to be produced ASAP
  - This UNA can act as an excellent springboard for further development
- 6) No more beta.
  - Release this version only when it's ready and meets the standards and objectives established
  - It's time to “wow” the audience rather than show them something in its early stages

- This is not to imply that the atlas should be stagnant; rather, it should be dynamic and always growing and improving with input

7) Further identify the target audience and get to know the user for User Centered Design

- The UNA showed us that, though the many people interviewed and surveyed are familiar with Internet Mapping Tools, they may not be the ones actually using them
- Decide whether you want to convert non-users, go after existing users or do both

8) Take the lead.

- Working with partners around the Basin, stay true to the vision and develop something that is truly unique, meaningful and of the highest calibre
- As Columbia Basin residents and experts in biodiversity and GIS, there is an opportunity for the team to bring together a unique combination of information and resources

9) Consider a name change.

- One of the few differentiators for the Atlas is its focus on the Columbia Basin region
- The name as it stands is somewhat generic—being geographically specific in the name would serve to highlight what is special about the Atlas

10) Be inclusive.



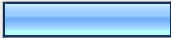


- Continue to include people from across (and up and down) the Basin in this process
- Consider more input from First Nations. Their more active participation would add valuable information and could open up funding opportunities.

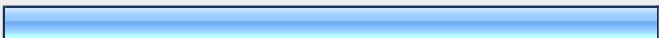



## Housekeeping



Many people indicated that they would like to be contacted to explore data sharing and partnership opportunities with the Biodiversity Atlas Team. Because these people may be instrumental in helping with development of the Atlas, they should be contacted as soon as possible.


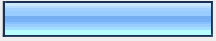

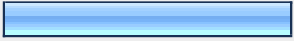

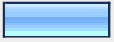
All the data from the online survey will be provided in an electronic format to the Biodiversity Atlas Team for further examination. The Summary Survey Report attached here as an addendum provides some detail but doesn't provide the actual responses to open ended questions.

# User Needs Assessment Survey

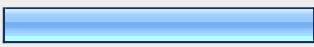
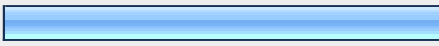
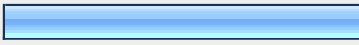
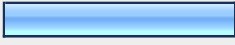
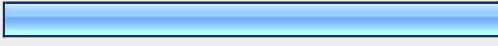
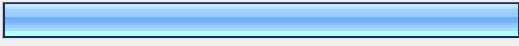
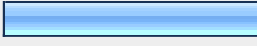
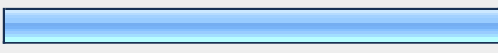
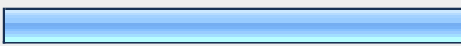
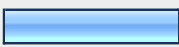

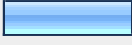
1. In order for us to better understand your perspective, please indicate which group below best describes you:			
		Response Percent	Response Count
Government		47.3%	44
Education		5.4%	5
Private Sector		18.3%	17
Non-government organization/conservationist		17.2%	16
Other (please specify)		11.8%	11
		<i>answered question</i>	<b>93</b>
		<i>skipped question</i>	<b>0</b>

2. How do you usually access the Internet?			
		Response Percent	Response Count
From the office with a high-speed Internet connection		72.0%	67
From home with a high-speed Internet connection		24.7%	23
From a dial-up connection with slow connectivity and low bandwidth		2.2%	2
Through a mobile wireless device (or PDA)		0.0%	0
Other (please specify)		1.1%	1
		<i>answered question</i>	<b>93</b>
		<i>skipped question</i>	<b>0</b>

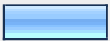
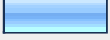
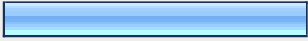
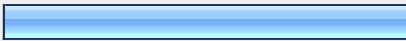
3. Are you at all familiar with Internet mapping tools?				
			Response Percent	Response Count
Yes			83.9%	78
No			16.1%	15
			<b>answered question</b>	<b>93</b>
			<b>skipped question</b>	<b>0</b>

4. Approximately how often do you use these tools?				
			Response Percent	Response Count
Never			3.8%	3
Less than once a month			22.8%	18
Once a month			17.7%	14
<b>Once a week</b>			<b>31.6%</b>	25
Once a day			12.7%	10
Several times a day			11.4%	9
			<b>answered question</b>	<b>79</b>
			<b>skipped question</b>	<b>14</b>



5. If you use online mapping tools in your current work, please indicate below all of the ways in which you use them.

		Response Percent	Response Count
Determining the spatial relationship between two different atlas layers		34.2%	27
Determining where/how a layer is distributed spatially		48.1%	38
Identifying how my project will overlap with a featured layer		39.2%	31
Identifying what other projects are underway in the same area		25.3%	20
Gathering /querying environmental data for a specific area		54.4%	43
<b>Producing PDF or hardcopy maps</b>		<b>57.0%</b>	45
Finding all features that meet a certain condition (e.g. how many hectares of cottonwood forest)		27.8%	22
Reconnaissance-level exploration of landscape features		54.4%	43
Exploring and interacting with 3D visualizations (for instance, Google Earth)		50.6%	40
Confirming the spelling of place names		19.0%	15
I don't use Internet mapping tools in my work		6.3%	5
Other (please specify)		13.9%	11
		<b>answered question</b>	<b>79</b>
		<b>skipped question</b>	<b>14</b>


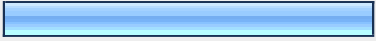
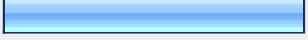

6. If you don't use Internet mapping tools, why don't you? Please indicate all your reasons below (if you use this type of tool, please skip this question).

		Response Percent	Response Count
Don't know where to find them		11.1%	1
Too complicated		0.0%	0
Don't know how		11.1%	1
They can't help me in my job		33.3%	3
<b>Other (please specify)</b>		<b>44.4%</b>	<b>4</b>
		<b><i>answered question</i></b>	<b>9</b>
		<b><i>skipped question</i></b>	<b>84</b>


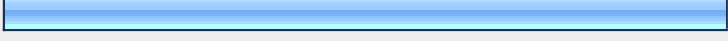


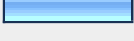
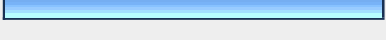
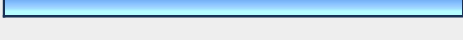


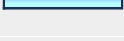
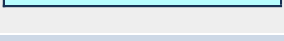
7. Before today, had you ever visited the Biodiversity Atlas at [www.biodiversityatlas.org](http://www.biodiversityatlas.org)?

		Response Percent	Response Count
Yes		50.6%	40
No		49.4%	39
		<b><i>answered question</i></b>	<b>79</b>
		<b><i>skipped question</i></b>	<b>14</b>

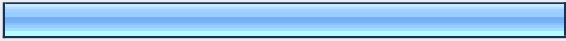
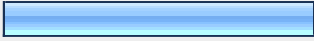
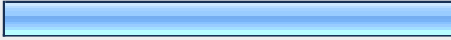
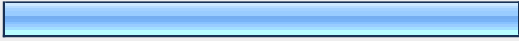
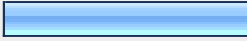
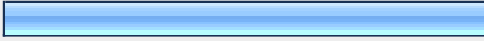
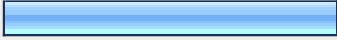
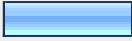
**8. If you are familiar with the Biodiversity Atlas, and/or other Internet mapping tools, how would you rate your overall experience?**

		Response Percent	Response Count
Very positive		20.3%	16
<b>Somewhat positive</b>		<b>40.5%</b>	32
Neutral		32.9%	26
Somewhat negative		6.3%	5
Very negative		0.0%	0
		<b>answered question</b>	<b>79</b>
		<b>skipped question</b>	<b>14</b>

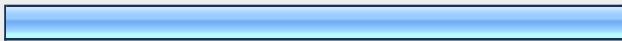
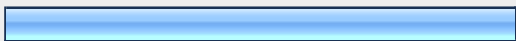
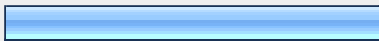
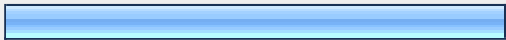
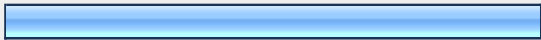
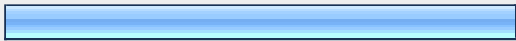


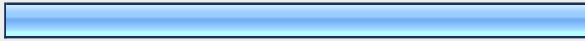
**9. From the list below, please indicate which three Internet mapping tools you visit most often in gathering information on the Columbia Basin.**


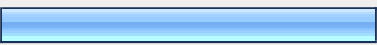


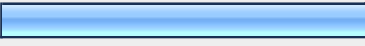
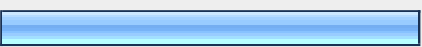

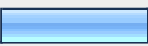
		Response Percent	Response Count
Google Maps		44.3%	35
<b>Google Earth</b>		<b>79.7%</b>	63
Microsoft Virtual Earth		1.3%	1
Yahoo Maps		2.5%	2
Biodiversityatlas.org		13.9%	11
Mapquest		41.8%	33
iMap BC or the LRDW		50.6%	40
Community Mapping Network		8.9%	7
Geoconnections		2.5%	2
I use fewer than three mapping tools		12.7%	10
Other (please specify)		30.4%	24
		<b>answered question</b>	<b>79</b>
		<b>skipped question</b>	<b>14</b>

**10. What do you like most about the Internet mapping application you now use? Please indicate as many answers as you like.**

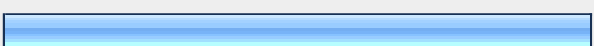
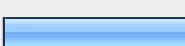
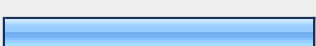

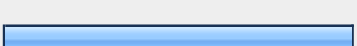
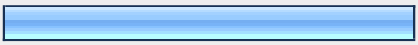
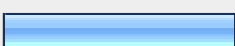
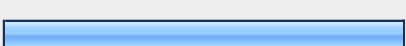
		Response Percent	Response Count
Ability to see multiple layers of information at one time		62.0%	49
Overall layout		34.2%	27
Type of information presented		49.4%	39
Ease of navigating		57.0%	45
Depth of the data presented		26.6%	21
Ability to see attribute information		53.2%	42
Linkage to related information		36.7%	29
Other (please specify)		13.9%	11
		<i>answered question</i>	<b>79</b>
		<i>skipped question</i>	<b>14</b>

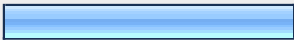
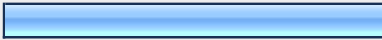


**11. In order for the Biodiversity Atlas to assist with decision-making in your job, what information (data and other resources) would you like to see featured? Please indicate all your choices.**




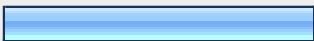
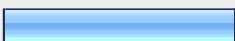


		Response Percent	Response Count
Rare and endangered species and habitats of the entire Columbia Basin		74.7%	68
Forest Cover & ecological classification data		61.5%	56
Biodiversity		45.1%	41
Species occurrence/status/abundance/movements		60.4%	55
Species distribution / range maps		64.8%	59
Invasive or alien species distributions		61.5%	56
Ecosystem integrity/health		39.6%	36
Traditional knowledge on ecosystem components		42.9%	39
Land Ownership and tenures		70.3%	64

Active Research Projects in the Columbia Basin		56.0%	51
Links to existing atlas projects in the Columbia Basin		45.1%	41
Links to related information – reports, imagery etc.		57.1%	52
Watercourse classification data		50.5%	46
Threats to biodiversity		44.0%	40
Scale of data, e.g.: entire Columbia Basin, watershed level, 1:5000 municipal level		50.5%	46
There is no new content I'd like to see featured		3.3%	3
Other (please specify)		17.6%	16
	<b>answered question</b>		<b>91</b>
	<b>skipped question</b>		<b>2</b>

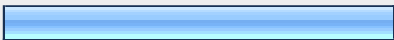




**12. Is there any functionality that you would like to see included in the upcoming version of the Biodiversity Atlas? Please indicate all your choices.**

		Response Percent	Response Count
<b>Download data</b>		<b>64.8%</b>	59
Simplify or generalize content to reduce the number of polygons/attributes		19.8%	18
Overlay/combine from different sources or applications		34.1%	31
Observe multiple layers of information at one time		57.1%	52
Transfer biodiversity layers to other Internet mapping viewers		38.5%	35
Query (define attribute parameters)		45.1%	41
Buffer (establish distance from feature of interest)		25.3%	23
Generate report		44.0%	40

Allow any Atlas user to report species at risk (SAR) sightings		31.9%	29
Portray changes over time--historical to present		41.8%	38
No, there is no new functionality I'd like to see		6.6%	6
Other (please specify)		11.0%	10
<b>answered question</b>			<b>91</b>
<b>skipped question</b>			<b>2</b>

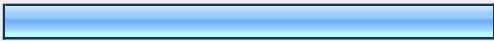
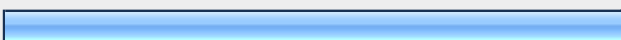

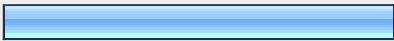

<b>13. Please indicate below all of the HELP functions you would like to see featured on the Biodiversity Atlas.</b>			
		<b>Response Percent</b>	<b>Response Count</b>
<b>Online tutorial demonstration</b>		<b>62.6%</b>	<b>57</b>
Workshop opportunities		38.5%	35
Easy access to supporting documentation		47.3%	43
Top-level, prominent HELP display		34.1%	31
Integrated site or WWW search		25.3%	23
There is no specific HELP function I'd like to see featured		8.8%	8
Other (please specify)		3.3%	3
<b>answered question</b>			<b>91</b>
<b>skipped question</b>			<b>2</b>

**14. How important is metadata to you?**

		Response Percent	Response Count
Very Important		42.9%	39
Somewhat important		34.1%	31
I am indifferent		17.6%	16
Somewhat unimportant		2.2%	2
Unimportant		3.3%	3
		<b>answered question</b>	<b>91</b>
		<b>skipped question</b>	<b>2</b>

**15. What assurances would you need in order to have confidence in the data displayed spatially on the Biodiversity Atlas?**

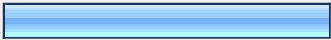

Please indicate all of your choices:

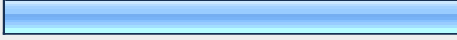
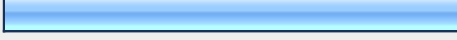
		Response Percent	Response Count
Maps and spatial data are linked to material documenting the research process, such as journal articles or project reports		53.8%	49
<b>Metadata exists for each layer describing data quality and any relevant data standards</b>		68.1%	62
List of organizations that use the data		25.3%	23
Credentials of data provider		42.9%	39
Other (please specify)		4.4%	4
		<b>answered question</b>	<b>91</b>
		<b>skipped question</b>	<b>2</b>

**16. In terms of managing the development of the Biodiversity Atlas and expanding the content so the Atlas can achieve its vision, what do you think are the most important next steps? Please indicate the top four with a number 1-4, where 1 is the most important and 4 is the least important. You may expand on any of these in question #16.**

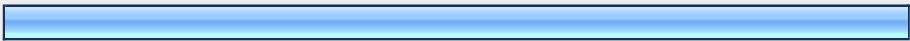
		Response Average	Response Total	Response Count
Promote the Atlas to potential users		2.29	80	35
Ensure the Atlas is adequately resourced		2.17	102	47
Select a Manager to oversee development of the Atlas		2.29	55	24
Expand content		2.59	70	27
Improve functionality		2.73	82	30
Improve usability		2.77	83	30
<b>Expand the range of Atlas partners and funders</b>		<b>3.63</b>	<b>29</b>	<b>8</b>
Establish a multi-sector steering committee to oversee future development of the Atlas		2.56	41	16
Engage and continue dialogue with Atlas users		3.00	51	17
Maintain up to date data layers and associated information		2.23	125	56
Continuously improve the Atlas so it meets the needs of users		2.58	116	45
Don't know		3.00	6	2
	<b><i>answered question</i></b>			<b>84</b>
	<b><i>skipped question</i></b>			<b>9</b>

17. Are there any other comments you would like to share regarding your views on information mapping systems such as the Biodiversity Atlas?		
		Response Count
		24
		<i>answered question</i>
		<i>skipped question</i>
		24
		69

18. Would you like to be contacted to explore partnership opportunities with the Biodiversity Atlas team?			
		Response Percent	Response Count
Yes, please contact me.		35.8%	29
No thank-you.		64.2%	52
		<i>answered question</i>	<b>81</b>
		<i>skipped question</i>	<b>12</b>

19. Would you like to be contacted to discuss data your organization could include in the Biodiversity Atlas?			
		Response Percent	Response Count
Yes, please contact me.		50.0%	42
No thank-you.		50.0%	42
		<i>answered question</i>	<b>84</b>
		<i>skipped question</i>	<b>9</b>

20. From time-to-time, we'd like to share updates and information with you about the Biodiversity Atlas. If you would not like to receive updates, please indicate so below:

		Response Percent	Response Count
Thanks, but I'd rather not receive any updates on the Biodiversity Atlas		100.0%	14
		<i>answered question</i>	14
		<i>skipped question</i>	79