



OBBN-Implementation Survey

Release Date: 19 September 2005

Dear OBBN partner:

We designed this survey to gather information for a performance evaluation of the OBBN. We need your feedback to know which aspects of the OBBN are working well and which aspects need to be improved.

Sincerely,



Chris Jones
Ontario Ministry of Environment
Benthic Biomonitoring Scientist

Instructions For Completing the Survey

As long as you have some familiarity with the OBBN or some involvement in it, you are welcome to complete this survey. If you know someone else who has some knowledge about the OBBN or has in some way participated in or been associated with the network, please pass this questionnaire on to that person as well.

Please carefully read and make sure you understand each question before answering. For multiple-choice questions, select only the most appropriate answer, unless otherwise instructed.

Extra space is available throughout the questionnaire to accommodate and encourage comments related to survey questions or any other OBBN-related topic. Extra sheets can be inserted at the end of the questionnaire if you need more space.

Instructions For Submitting Responses

We prefer that respondents fill-out the survey digitally (e.g., in Microsoft Word) and submit it electronically. When filling out the questionnaire digitally, open-ended text or numeric answers can be typed directly into spaces provided. Where multiple-choice selection boxes are provided, type over the most appropriate box with an *X* as shown in the example below, in which *None* was selected. Turning on the *insert* keyboard function will allow you to type over selection boxes and lines reserved for text answers without affecting the page layout.

Example: *None* is selected.

| | | | | |
|------|--------------------------|--------------------------|--------------------------|--------------------------|
| None | 1-3 | 3-5 | 5-10 | >10 |
| X | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

The questionnaire can also be printed, filled out with a pen or pencil, and returned by mail.

Please e-mail completed survey to Michelle Bowman (michelle.bowman@ene.gov.on.ca) or mail to the following address: Ontario Ministry of Environment, Dorset Environmental Science Centre, 1026 Bellwood Acres Road, Box 39, Dorset, Ontario, Canada, P0A 1E0. Attention: Michelle Bowman

Deadline

Deadline for submission of completed questionnaires is 11 October 2005.

Completed questionnaires must be received by this date if the information is to be in the summary presented at the EMAN National Science Meeting. Data from surveys submitted after this date are still useful, and will be summarized in the final paper, which will be submitted to a journal for publication and made available to OBBN partners.

Anonymity

Submitted surveys will be compiled by Michelle Bowman and forwarded to study managers with no information identifying the respondent.

Please e-mail completed survey to Michelle Bowman (michelle.bowman@ene.gov.on.ca)
 or mail to the following address:
 Ontario Ministry of Environment, Dorset Environmental Science Centre,
 1026 Bellwood Acres Road, Box 39, Dorset, Ontario, Canada, P0A 1E0
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OBBN-Implementation Survey

Reasons for OBBN Participation

1. Indicate how important a motivation for your participation in, or association with, the OBBN each of the below reasons is; select *N/A* if you have no opinion.

| | <u>N/A</u> | <u>Not Important</u> | <u>Somewhat Important</u> | <u>Very Important</u> |
|--|--------------------------|--------------------------|---------------------------|--------------------------|
| Training or education | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Assessing or managing ecological condition or "health" | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Assessing or managing biodiversity | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Guiding enforcement activities | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Guiding rehabilitation or restoration | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Evaluating performance of programs or projects | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Meeting others who share your interests | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Collaborative research | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

2. Are there any other outcomes of your participation in, or association with, the OBBN that are important to you but are not listed in question 1 (above)?

OBBN Implementation Model

3. Rate the level of control or influence you have over each of the following items; Use a scale of 1 to 5, where 1 = no control and 5 = full control. Select *N/A* if you are not sure or have no opinion.

| | N/A | No Control 1 | 2 | 3 | 4 | Full Control 5 |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Choice of sites where you sample benthos | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Choice of which sites' data you share through the OBBN | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Development and refinement of OBBN methods | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Analysis and interpretation of data that you contribute to the OBBN | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Follow-up action that is taken following analysis and interpretation of data that you contribute to the OBBN | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Questions 4 and 5 refer to Table 1 (below), which categorizes types of government-participant relationships in monitoring programs based on the amount of control or influence the participant has over the relationship (modified from Savan, B., C. Gore, and A.J. Morgan. 2004. Shifts in environmental governance in Canada: how are citizen environment groups to respond? *Environment and Planning: Government and Policy* (22): 605-619). *Control* denotes that the participant has prevailing influence over most elements of the relationship. At the other extreme, in *Co-optation*, government has prevailing influence over most elements of the relationship. *Partnership* and *Collaboration* describe relationships in which influence is distributed more evenly.

Table 1: Types of government-participant relationships in monitoring programs

| | Relationship Type (based on degree of participant control) | | | |
|---|--|-------------------------------|----------------------|--------------------|
| | <u>Control</u> | <u>Partnership</u> | <u>Collaboration</u> | <u>Co-optation</u> |
| Who determines monitoring protocol? | Participants | Shared | Shared | Government |
| Who selects sites to be monitored? | Participants | Participants | Shared | Government |
| Who determines analytical methods, interpretation, and data distribution? | Participants | Participants | Shared | Government |
| Who determines follow-up action? | Participants | Participants, then government | Shared | Government |

4. Based on the explanation of relationship types given in Table 1 (above), indicate which category you think best describes the relationship between OBBN participants and the Network's founding government agencies (Ontario Ministry of Environment and Environment Canada's EMAN Coordinating Office). If you're not sure, select *Don't Know*.

Control Partnership Collaboration Co-optation Don't know

5. Which category best describes the balance between your investment in and your return from the OBBN? If you're not sure, select *Don't Know*.

| | | | | | |
|--------------------------|-----------------------------------|-----------------------------|-----------------------------------|--------------------------|--------------------------|
| | Return Greatly Exceeds Investment | Return and Investment Equal | Investment Greatly Exceeds Return | | |
| Don't Know | 1 | 2 | 3 | 4 | 5 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

6. How do you expect your balance between OBBN investment and return to change once the network is fully implemented? If you're not sure, select *Don't Know*.

| | | | | | |
|--------------------------|------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Shift Toward More Investment | No Change | Shift Toward More Return | | |
| Don't Know | 1 | 2 | 3 | 4 | 5 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

7. On a scale of 1 to 5, how would you rate the distribution of founding-government partners' and participants' contributions (e.g., time, money, data, and information) to the OBBN. If you aren't sure, select *Don't Know*?

| | | | | | |
|--------------------------|---|--------------------------|---|--------------------------|--------------------------|
| | Government/founding partners contribute much more than participants | Equal contributions | Participants contribute much more than government/founding partners | | |
| Don't Know | 1 | 2 | 3 | 4 | 5 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

8. Is the distribution of government/founding partners' and participants' contributions to the OBBN acceptable? Yes No Don't Know

If you selected *No* to question 8, go to question 9, otherwise skip to question 10.

9. Which group should **increase its investment** in the OBBN to make the distribution of contributions more acceptable?

Government/Founding Partners Participants Other specify: _____

10. Please insert any further comments you have on the distribution of control or investment between OBBN partners:

11. Indicate how strongly you agree or disagree with each of the following statements; if you have no opinion, select N/A.

| | <u>N/A</u> | <u>Agree Strongly</u> | <u>Agree Somewhat</u> | <u>Neutral</u> | <u>Disagree Somewhat</u> | <u>Disagree Strongly</u> |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| OBBN participants are instruments of government agencies that do not have the resources to monitor the environment themselves. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| OBBN participants are engaged in benthos monitoring that supports their own mandates (e.g., water management, education, or primary research). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The OBBN is transparent (i.e., has open decision-making and communication procedures). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | <u>N/A</u> | <u>Agree Strongly</u> | <u>Agree Somewhat</u> | <u>Neutral</u> | <u>Disagree Somewhat</u> | <u>Disagree Strongly</u> |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| OBBN partner roles are well defined. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The OBBN is inclusive (i.e., invites representation of multiple interests). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The OBBN is legitimate (i.e., lawful, admissible, and justified). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The OBBN is relevant. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The OBBN is credible. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

12. Several factors or issues that might be relevant to the OBBN are listed below; indicate how important you think **managing each factor or issue** is to the Network. Select *Don't Know* if you aren't sure or have no opinion.

| | <u>Don't Know</u> | <u>Not Important</u> | <u>Somewhat Important</u> | <u>Very Important</u> |
|---|--------------------------|--------------------------|---------------------------|--------------------------|
| Resistance to reporting on biological condition | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Following-up on bioassessment results that suggest impairment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Data quality assurance | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Manpower and money for developing network components | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Proportional representation of different groups (e.g., citizen scientist volunteers, non-governmental groups, government, academic, private sector) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Integration with other programs in Ontario | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Integration with a national biomonitoring program | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Integration with international biomonitoring programs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | <u>Don't Know</u> | <u>Not Important</u> | <u>Somewhat Important</u> | <u>Very Important</u> |
|---|--------------------------|--------------------------|---------------------------|--------------------------|
| Stability of membership | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Recruitment of new participants | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Stability of funding | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Clarity of the OBBN's role in Ontario's water management system | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

13. Can you suggest any issues that are important for the OBBN to manage but are not listed in question 10 (above)?

14. Can you suggest any ways to improve OBBN implementation?

OBBN and Benthos Biomonitoring Knowledge

15. Indicate whether each of the following statements is *true* or *false*. Please use your present knowledge (i.e., don't look answers up); if you aren't sure, select *Don't Know*.

| | <u>True</u> | <u>False</u> | <u>Don't Know</u> |
|--|--------------------------|--------------------------|--------------------------|
| Benthos are used as indicators of aquatic ecosystem condition because they are only found in minimally-impacted waterbodies. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Biomonitoring complements water-chemistry monitoring. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Part of the OBBN mandate is to ensure proliferation of new sampling methods. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Each of the following are OBBN deliverables: a protocol manual, a training program, a database, automated analytical software, and a program of collaborative research. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| A Technical Advisory Committee is responsible for picking OBBN test sites. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Benthic community composition may be influenced by habitat type (e.g., stream riffle, stream pool, or lake) and exposure to impacts like pollution. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| One reason for using the Reference Condition Approach is that biocriteria (i.e., impairment thresholds or regulatory standards for indices that summarize biological composition) are generally not available. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The OBBN Protocol Manual recommends using multiple indices in bioassessments. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| OBBN protocol recommends random sub-sampling to obtain 100-count benthos samples. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| OBBN protocol standardizes mesh size for sampling nets but is flexible on the detail of test-site benthos identifications. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| When using the Transect Kick in streams, pool and riffle sub-samples are placed in the same bucket. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| OBBN analytical software will calculate summary-indices and give a probability that a test site is within the "normal range". | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Mayflies have two tarsal claws on each leg; stoneflies have one. True False Don't Know

A diagnostic character of the group Coleoptera is hardened forewings (called elytra) that cover all or most of the abdomen. True False Don't Know

Larval dipterans are called blackflies, and have three pairs of jointed legs. True False Don't Know

16. Which category best characterizes your knowledge about the OBBN? If you're not sure, select *Don't Know*.

Facts-acquisition Don't Know

Limited application through some context-specific experience

Analysis and synthesis supported by significant experience

Expert

17. On a scale of 1 to 5, where 1 indicates no increase and 5 indicates a dramatic increase, how would you rate the increase in your knowledge about the OBBN and biomonitoring that has resulted from your involvement in, or association with, the Ontario Benthos Biomonitoring Network? If you're not sure, select *Don't Know*.

No Increase 1 2 3 4 5 Dramatic Increase Don't Know

18. Do you have any additional comments about the impact of OBBN involvement on your understanding of benthos biomonitoring, or water issues in general?

Empowerment and Action

19. What effect has your involvement in, or association with, the OBBN had on your participation in environmental activities; enter *Don't know* if you aren't sure?

No change More participation Less participation Don't know

If you answered *More participation* for question 19 (above) proceed to question 20, otherwise skip to question 21.

20. This question concerns which outcomes of your involvement in, or association with, the OBBN contributed to your increased participation in environmental activities; **indicate how important a driver each of the below outcomes was for your increased participation.** Select N/A if you have no opinion.

| | N/A | <u>Not</u> <u>Important</u> | <u>Somewhat</u> <u>Important</u> | <u>Very</u> <u>Important</u> |
|---|--------------------------|--------------------------------|-------------------------------------|---------------------------------|
| Increased knowledge | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| A change in how you value the environment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Larger network of peers or colleagues | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| More trust in peers or colleagues | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Better access to information | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Reciprocity among Network participants | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Solidarity among Network participants | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

21. How has the **effectiveness of your participation** in environmental activities changed since becoming involved in, or associated with, the OBBN?

No change More effective Less effective Don't know

If you answered *More effective* for question 21 (above) proceed to question 22, otherwise skip to question 23.

22. This question concerns which outcomes of your involvement in, or association with, the OBBN contributed to the increased effectiveness of your participation in environmental activities; **indicate how important a driver each of the below outcomes was for your increased effectiveness.** Select N/A if you have no opinion.

| | N/A | <u>Not</u> <u>Important</u> | <u>Somewhat</u> <u>Important</u> | <u>Very</u> <u>Important</u> |
|---|--------------------------|--------------------------------|-------------------------------------|---------------------------------|
| Increased knowledge | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| A change in how you value the environment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Larger network of peers or colleagues | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| More trust in peers or colleagues | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Better access to information | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Reciprocity among Network participants | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Solidarity among Network participants | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

23. On average, what number of hours per week do you spend on un-paid community service or civic participation (e.g., writing letters to politicians, participating in public meetings, volunteering with a community group, etc.)

- 0 hours 1-3 hours 3-5 hours 5-7 hours >7 hours Don't know

Social Capital: Bonding

The questions in this and the next section evaluate any impact the OBBN has had on its members' social networks. We define *social network* as a map of relationships between individuals who are connected through various social familiarities ranging from casual acquaintance to professional association to close familial bonds (e.g., Barnes, J. A. 1954. Class and committees in a Norwegian island parish. Human Relations (7): 39–58).

24. This question concerns whether, and in what ways, your involvement in, or association with, the OBBN has affected **your personal social network** (i.e., your personal network of connections with others). Indicate what affect your OBBN involvement, or association, has had on each of the items listed below; select N/A if you have no opinion.

| | <u>N/A</u> | <u>Large Decrease</u> | <u>Small Decrease</u> | <u>No Change</u> | <u>Small Increase</u> | <u>Large Increase</u> |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Size of your personal social network | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Your trust in colleagues | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Your access to information | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Reciprocity demonstrated to you in your social network | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Your sense of solidarity with others in your social network | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Cooperation with members of your social network | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

25. This question concerns whether, and in what ways, the OBBN has affected the **collective social network of OBBN participants** (i.e., the collective personal network of all OBBN partners combined). Indicate what effect you believe the OBBN has had on each of the items listed below; select N/A if you have no opinion.

| | <u>N/A</u> | <u>Large Decrease</u> | <u>Small Decrease</u> | <u>No Change</u> | <u>Small Increase</u> | <u>Large Increase</u> |
|--------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Collective knowledge of OBBN members | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Trust among OBBN members | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | N/A | <u>Large Decrease</u> | <u>Small Decrease</u> | <u>No Change</u> | <u>Small Increase</u> | <u>Large Increase</u> |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| OBBN members' access to information | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Reciprocity among OBBN members | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Solidarity of OBBN members | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Cooperation among OBBN members | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Social Capital: Bridging

26. This question concerns whether, and in what ways, your involvement in, or association with, the OBBN has affected **your personal social network**. Indicate what affect your OBBN involvement, or association, has had on each of the items listed below; select N/A if you have no opinion.

| | N/A | <u>Large Decrease</u> | <u>Small Decrease</u> | <u>No Change</u> | <u>Small Increase</u> | <u>Large Increase</u> |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| The strength of your connections to others in your social network | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Your frequency of communicating with others in your social network | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Your ability to communicate using common terminology | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Unity within your personal social network | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The influence (or impact) of your personal social network | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

27. This question concerns whether, and in what ways, the OBBN has affected the **collective social network of OBBN participants**. Indicate what effect you believe the OBBN has had on each of the items listed below; select N/A if you have no opinion.

| | N/A | <u>Large Decrease</u> | <u>Small Decrease</u> | <u>No Change</u> | <u>Small Increase</u> | <u>Large Increase</u> |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strength of connections among OBBN participants and associates | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | N/A | <u>Large Decrease</u> | <u>Small Decrease</u> | <u>No Change</u> | <u>Small Increase</u> | <u>Large Increase</u> |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Size of the collective biomonitoring-related social network in Ontario | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Frequency of communication among OBBN participants and associates | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Ability to communicate using a common language | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Clarity of biomonitoring issues | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Clarity of biomonitoring priorities | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Unity | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Influence (or impact) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

28. Indicate how much value your involvement in, or association with, the OBBN has **added to your personal social network?**

Added No Value Added a Minor Amount of Value Added a Major Amount of Value

Don't Know

29. Indicate how much value you believe that the OBBN has added to **Ontario's collective social network related to biomonitoring?**

Added No Value Added a Minor Amount of Value Added a Major Amount of Value

Don't Know

Satisfaction With the OBBN

30. Indicate how strongly you agree or disagree with each of the statements below

| | <u>N/A</u> | <u>Agree Strongly</u> | <u>Agree Somewhat</u> | <u>Neutral</u> | <u>Disagree Somewhat</u> | <u>Disagree Strongly</u> |
|--|--------------------------|---------------------------|---------------------------|--------------------------|------------------------------|------------------------------|
| There is a high possibility of OBBN participants losing control of interpretation and application of data they contribute. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The OBBN is cost-effective. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| OBBN methods have struck a reasonable balance between standardization and flexibility. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The OBBN has improved the efficiency of benthos biomonitoring. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The OBBN has improved the effectiveness of benthos biomonitoring. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The OBBN has removed inequities in organization size, money, and expertise as barriers to participation. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

31. Indicate how satisfied you are with **the procedures used to develop and implement** each of the OBBN products listed below; select N/A if you have no opinion.

| | <u>N/A</u> | <u>Not Satisfied</u> | <u>Somewhat Satisfied</u> | <u>Very Satisfied</u> |
|-----------------|--------------------------|--------------------------|-------------------------------|---------------------------|
| Protocol Manual | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Training | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Certification | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Database | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

OBBN Experience and Involvement

35. For what number of months have you known about the OBBN? _____ months

36. For what number of months have you been involved in or associated with the OBBN?

_____ months N/A

37. Which of the following statements describe your involvement in the OBBN? (Check all that apply)

Not involved

Reader (have read some OBBN information or attended a presentation)

Correspondent (have corresponded with at least one OBBN participant regarding the network)

Uncertified participant

Certified Participant
(to be certified you must have participated in a formal training course in 2003 or 2004; passed and obtained a certificate from a course in 2005; or be a member of the OBBN Technical Advisory Committee)

Reference-site sampler

Test-site sampler

Research collaborator

Certified trainer

Technical Advisory Committee member

Data user (I or my agency uses OBBN data to support our own activities or mandate)

Other (specify): _____

38. For what number of months have you been a certified OBBN participant? _____ months N/A

39. How many OBBN events have you attended (including meetings, teleconferences, courses, and presentations)?

None 1-3 3-5 5-10 >10

40. How many sites have you sampled using OBBN methods?

None 1-3 4-10 11-20 20-50 >50

41. For how many additional years do you expect to participate in, or be associated with, the OBBN?

N/A <1 1-3 3-5 5-10 >10

Socioeconomic Information

Questions in this section are important for classifying the demographics of the OBBN. A *No Answer* option is included for all questions; if you are not comfortable answering a question, please select this option.

42. Indicate your gender. Male Female No Answer

43. What is your age? _____ No Answer

44. What is your marital status? _____ No Answer

45. Specify the highest level of education you have achieved?

Did not complete Highschool Highschool Diploma College Diploma

University Undergraduate Degree University Graduate Degree No Answer

46. Which category best describes your employment status?

Unemployed Retired Part-time Full-time

Other (specify): _____ No Answer

47. What is your vocational sector? Select all categories that apply.

Private Sector (for profit) Government Conservation Authority Academic

Non-profit Education Environmental Non-governmental Organization

Other (specify): _____ No Answer

48. For what number of years have you been in your current job?

<3 years 3-5 years 6-10 years 11-20 years > 20 years

N/A No Answer

49. For what number of years have you resided in your present community?

<3 years 3-5 years 6-10 years 11-20 years > 20 years

N/A No Answer

50. Which category best describes your household's annual income, in Canadian dollars?

< \$25,000 \$25,000 - \$40,000 \$40,001 - \$70,000 \$70,001-100,000

> \$100,001 No Answer