Indicators of Stewardship Progress in Ontario
Expert Panel, April 15, 2011
Workshop Report

Prepared by Lul Hassan and Suzanne Barrett
for MNR and Stewardship Network of Ontario, May 28, 2011

1. Welcome and Introductions

Ala Boyd, Manager of Biodiversity Policy Section, MNR welcomed the Expert Panel participants and thanked them for contributing their time and expertise to the workshop.

Alan Dextrase, Biodiversity Conservation Policy Advisor, MNR noted the broad expertise in the room (see Appendix A for list of participants) and provided some background to the workshop. He explained that the *State of Ontario's Biodiversity 2010* report (SOBR) included six indicators to measure stewardship progress:

- Protected Areas and Conservation Lands in Ontario by Ecozone
- Sustainable Forest Management and Certification (area of certified forest)
- Participation in Environmentally Sustainable Agriculture Program (number of participants in Ontario's EFP program)
- Area with Stewardship Activities
- Number of Individuals Volunteering to Conserve Biodiversity
- Participation in Provincial Tax Incentive Program (CLTIP and MFTIP)

How do we define stewardship?

The definition of stewardship used in the *Stewardship Strategy of Ontario, 2007* is:

Stewardship is an ethic by which citizens care for our air, land, water and biodiversity as parts of a natural life-support system and collectively act to sustain and enhance it for generations to come.

This definition implies action by citizens, generally but not exclusively on private lands, and on a voluntary basis. It does not include actions taken by governments on public lands, nor regulatory controls on land or resources.

Although these are useful indicators, they focus on "what we're doing" rather than "how well we're doing". In order to understand where we're heading with stewardship, we need to understand the impacts of our investments on the ground. At last year's Stewardship Forum (June 8th2010), Alan and Brian Ilnicki (Land Stewardship Centre of Canada) led a session on Stewardship Indicators to highlight the challenges and explore opportunities to develop more meaningful indicators.

In October 2010, a special session on a national Ecological Recovery Plan was held at the Latornell Conservation Symposium. It also highlighted the lack of indicators to measure the effectiveness of stewardship activities.

2. Workshop Format

Suzanne Barrett, Chair of the Stewardship Network of Ontario (SNO) outlined the purpose and format of the workshop (see agenda in Appendix B). The proposed activities were to:

1. Discuss stewardship **outcomes** from draft 2011 Ontario Biodiversity Strategy (OBS)
2. Discuss **targets** for the outcomes in the draft 2011 OBS
3. Identify **audiences** for communication
4. Brainstorm a **long list** of potential indicators that would show whether targets are being met
5. Discuss evaluation **criteria**
6. Begin to evaluate the long list to create a **short list** of indicators
7. Discuss **implementation** opportunities
8. Discuss **next steps**

Suzanne introduced the Discussion Paper that she had prepared, with input from the Expert Panel, to provide a basis for today's workshop. She also summarized some of the terminology that can be used to describe indicators:

- Program indicators (e.g. dollars invested, number of participants, number of trees planted)
- Direct environmental indicators (e.g. increase in forest cover)
- Social indicators (e.g. growth in stewardship ethic)
- Economic indicators (e.g. value of ecosystem services provided)
- Proxy or sentinel indicators (e.g. number of rare species as an indicator of biodiversity)
- Lag indicators (report on past activities)
- Lead indicators (project what may happen in future)

3. Stewardship Outcomes and Targets

It is crucial to have clear outcomes and targets before one can identify indicators to measure progress towards them. The draft 2011 Ontario Biodiversity Strategy lists a number of outcomes and targets under three categories: engage people, reduce threats and enhance resilience. The selected outcomes in the box below were chosen for discussion at the workshop because they are the ones that relate most directly to stewardship.

SELECTED OUTCOMES FROM DRAFT 2011 ONTARIO BIODIVERSITY STRATEGY

Engage People:

- The capacity of the public and voluntary sector to contribute to biodiversity conservation through stewardship is enhanced
- People, individually and collaboratively, are investing and actively participating in biodiversity conservation and stewardship

Reduce Threats:

- The loss and degradation of natural habitats in Ontario is decreased
- Use of Ontario's natural resources is managed sustainably and ensures the conservation of biodiversity

Enhance Resilience:

- The functional connectivity of fragmented landscapes in Ontario is increased and currently intact landscapes are maintained
- Ecosystem services have been restored or enhanced in previously degraded landscapes
- The status of species and ecosystems of concern in Ontario is improved
- A proactive approach focused on keeping common species and ecosystems is adopted

Participants began by considering the scope of the Biodiversity Strategy, recognizing that it covers all of Ontario – northern and southern, urban and rural. They noted that stewardship activities generally focus on settled landscapes, not Crown lands. The question of scale was raised and participants agreed that it is important to select indicators that can be scaled up or down, depending on the geographic scope being considered.

The long timeframe required to effect change was discussed, and participants suggested that outcomes should be phased, with short, medium and long-term targets. Two examples of the lengthy time periods required to achieve results were cited - the anti-smoking and recycling campaigns.

Participants discussed the nature of stewardship, recognizing that it must begin with education, awareness and understanding, before people actually take action on the ground. They also noted that another challenge is to measure the outcomes of voluntary stewardship activities in contrast to actions taken in response to legislation and regulations.

Expert Panel members discussed the outcome "The capacity of the public and voluntary sector to contribute to biodiversity conservation through stewardship is enhanced" and the proposed targets associated with it. Their specific comments are in Table 1.

Table 1. Feedback on Selected Outcome and Targets in Draft 2011 Ontario Biodiversity Strategy

Engage and Empower People	
Outcome	**Target**
"Capacity of the public and voluntary sector to contribute to biodiversity conservation is enhanced" • Need to remove barriers (personal, institutional, policy) e.g. Endangered Species Act and landowner concerns • Emphasize that stewardship provides tangible benefits to landowners, including economic ones • Consider new as well as traditional participants (e.g. not only rural landowners but also new Ontarians and urbanites) • Outcomes and approaches will be different for urban vs. rural communities • Rural landowners have the greatest opportunity to affect the landscape • Urbanites also impact the landscape through consumption patterns as well as influence on government policy • Urbanites are generally disconnected from nature • Information on "how-to" will help shape engagement of people • Important to link this social outcome to the vision for Ontario's environment and biodiversity • What do we want the environment to look like? What does a healthy environment mean? From a variety of perspectives (e.g. water, wildlife, ecosystem, etc.) • The actions taken by the people closest to the land will make the most difference for the future so stewardship organizations need to invest in this sector	*"By 2015, 50% of Ontarians understand and value biodiversity and its role in maintaining their health and well-being"* • Well-being includes economic opportunities • What are the benchmarks for this target? What are other jurisdictions doing? (Benchmark in European cities is for understanding and valuing biodiversity is 36% of the population) • Environment Canada's *Value of Nature to Canadians* study should provide useful information about this measure • What is the baseline? To set a target, need to understand where you're coming from • What are the milestones to reach this target? 2015 is not realistic: 20-25 years would be better • Need different targets for urban vs rural etc. • Incorporate ecological footprint assessment • This target requires education more than stewardship action *"By 2015, number of Ontarians who participate in biodiversity conservation is increased by 25%"* • This target is more stewardship-based • Need a baseline • Volunteerism is critical to success • A more specific target could be: number of rural landowners that set aside a percentage of their land base for biodiversity and natural cover

Following this discussion, Suzanne asked the group whether the process she had outlined for the workshop was going to achieve the desired results for the day. There was consensus that there wasn't enough time during the workshop to refine all the outcomes and targets related to stewardship that are presented in the draft 2011 OBS. Participants agreed that they would prefer to focus on the primary objective of the workshop – to brainstorm an improved list of indicators.

4. Indicators

Suzanne asked participants to brainstorm indicators that could be used to address the question "what do we really want to know?" that was posed in the Discussion Paper. Some of the general comments made during this brainstorming are summarized below. Detailed comments are in Table 2 (page 8).

Probably the greatest challenge in developing meaningful indicators for the effectiveness of stewardship is that we don't have information about the relationships between stewardship actions and the results of those actions in terms of environmental quality and biodiversity. This is complicated by the fact that two or more conservation tools, for example stewardship *and* policy, may be combined to bring about habitat improvements. This makes it difficult to isolate the specific contribution of stewardship.

Participants acknowledged that ecosystem degradation has many causes. Stewardship organizations must focus on their accomplishments, take credit for what they have done, and not take blame for negative impacts on the landscape.

Several measures were suggested for Environmental Farm Plans (EFPs):

- Number of participants at workshops
- Number of peer-reviewed EFPs
- % of farmers participating
- Number of stewardship-related projects (under Farm Stewardship Program and related programs like Species at Risk Farm Incentive Program)
- Investment in on-farm environmental projects (e.g. total investment of >$250 million in Ontario 2005-2010, including from farmers)
- % of projects or expenditures for biodiversity

Sources of information for EFPs include implementation surveys, agricultural census and Statscan's farm environmental management survey. Additional performance measures are being investigated including level of EFP implementation and the effects of best management practices (BMPs) and EFP implementation on environmental quality. Efficacy of BMPs is well-documented in the scientific literature. Often the environmental effect of BMPs is modeled using data from scientific literature and numbers of BMPs implemented (e.g. US Natural Resources Conservation Service).

Passive management (such as setting aside areas for natural regeneration) can be just as important as active management (such as planting trees). Where appropriate, both should be reported.

Many people are good stewards, but are not "counted" in stewardship reporting because they are not participating in government programs (e.g. tax incentives) or NGO programs (e.g. accessing technical assistance or extension services).

It is important to develop indicators that are efficient, easy to acquire and can be effectively documented (see criteria in Table 3 of the Discussion Paper). It was noted that the Ontario Biodiversity Strategy has a 5 year reporting cycle, but many data sets are not updated every 5 years.

It is easy to double-count projects, because most of them are funded and/or supported by more than one organization. Consistent methods of tracking and reporting stewardship projects could help to reduce this problem.

Collection of consistent information would be easier if grant-making organizations had some standardized requirements for reporting by grantees. A core set of requirements should focus on results. This would also help funders to evaluate the effectiveness of their investments. A follow-up requirement could be added, in order to provide information about the results of stewardship activities over time. NRCAN is developing a national-level framework for consistent reporting.

Watershed plans and stewardship action plans generally have a timeframe to ensure that they are reviewed and updated as needed. This provides an opportunity to evaluate the effectiveness of stewardship activities.

Natural heritage system plans may be a source of information about the amount of natural cover that is in private ownership. Active farming is being abandoned in some regions, such as parts of Eastern Ontario, resulting in increases in natural cover.

We need "defence" as well as "offence" indicators. While offence indicators are direct measures (such as the number of jobs created), defence indicators would help to justify the importance and value of investing in stewardship programs. For example they could show how doing "x" would mean *not* having to do "y" in future because of the ecosystem services provided and the money and resources that could be saved.

Several modeling and planning initiatives that have been undertaken over the last decade may help to set priorities and enable us to better target stewardship actions on the landscape. One example is the MARXAN model, a decision-making tool that is currently being used by *ReLeaf Hamilton* to support natural heritage system planning. The targets set through this process can be used to track and assess progress over time. While not discussed at the workshop, other recent modeling/planning initiatives include:

- The Great Lakes Conservation Blueprint for Aquatic and Terrestrial Biodiversity
- Carolinian Canada Big Picture Project
- Great Lakes Biodiversity Conservation Plans/Strategies (e.g., Lake Huron, Lake Ontario)
- Great Lakes Islands Biodiversity project

On a county scale, the Elgin Landscape Strategy was developed through landowner engagement to address three questions: What do we have? What we need? and How do we get there? It uses Environment Canada's habitat targets (*How Much Habitat is Enough?)* to prioritize the potential to restore natural cover across the landscape. The Elgin Stewardship Council is now measuring progress towards these targets.

Table 2 presents specific results of the brainstorming to identify potential new indicators, organized in three sections:

1. What are the social & cultural results of stewardship?
2. What are the environmental & biodiversity results of stewardship?
3. What are the economic results of stewardship?

Table 2. Brainstorming Results: Suggested Indicators of Stewardship Progress

What we want to know	Suggested indicators
1. What are the social & cultural results?	
• Do participants have a new stewardship ethic (understanding, attitudes and behaviours)? • Is stewardship benefiting individuals' physical and mental health? • Has involvement in stewardship activities increased?	• Percent of people volunteering to conserve biodiversity (using % addresses increasing population; but it is difficult to acquire accurate reporting of the numbers of volunteers so there is a tendency to under-report) • Number of participants in "friends groups" (e.g. volunteers in provincial parks) • Number and location of farm stewardship projects (using GIS) • Implementation surveys (e.g. participation data in voluntary activities from census, Statscan) ***Challenge:*** *Existing data are not comprehensive nor reliable*
2. What are the environmental & biodiversity results?	
• Is habitat improving? • Is the water clean? • Is biodiversity better protected and/or conserved? • Is watershed health improving? • Has a landscape level target been achieved?	• Percent natural cover, forest cover, and agricultural land • Percent impervious cover • Acreage and percent of restoration (both active and passive restoration efforts) • Percent increase in area of certified forest on private lands • Number of trees planted by acreage • Number of tree planting projects that receive follow up maintenance • Number of acres affected by projects (e.g. planting trees) • MFTIP/CLTIP: Percentage of eligible properties/participants that participate; Number of acres involved • Area of land secured through donation (e.g. gifts of property; conservation easements) • Area of land secured through purchase • Water quality improvements (using data from watershed report cards) ***Challenge:*** *Difficult to show "cause and effect" link between stewardship actions and environmental/biodiversity results*
3. What are the economic results?	
• How many volunteer hours are contributed? • How many people are employed in the stewardship sector? • Other benefits to the local economy? • What is the economic value of conserving biodiversity? (value of ecosystem services) • What is the tourism/recreational value of biodiversity?	• Hours of volunteerism and estimated dollar value (what is an hour worth?) • Expenditure on services provided by contractors • Private investment in stewardship • Grant money invested • Total cost of projects • Leveraging of funds • Value of ecosystem services created/sustained by stewardship actions (need consistent and defensible method) • Avoidance costs (e.g. avoiding clean up, treatment or infrastructure repair costs by undertaking stream rehabilitation) • Contribution to GDP ***Challenge:*** *May require new research/data collection and therefore resources*

5. Audiences

Suzanne presented a diagram from *An Ecological Recovery Plan for Canada* that shows the relationships among five broad categories of audience for stewardship indicators:

- Politicians
- Institutions (corporations, funding organizations, NGOs, government)
- Media
- Stewardship community
- Public (landowners, farmers, First Nations, urban and rural communities)

Expert Panel members agreed that this is a useful way to break down the different audiences for communications about stewardship. They recommended adding "new Canadians" to the public category.

We need to identify what stories we want to tell to each audience. For example, many politicians today are interested in jobs, infrastructure and economic opportunities. We should be able to create a 90 second sound bite for Ministers that focuses on these outcomes. If the stewardship community doesn't learn to talk the "language of economics" it will continue to be marginalized.

The conservation community is viewed by many as being fragmented and competing. It is important to speak with a single voice. This is the focus of the *Ecological Recovery Plan*.

6. Conclusions

Five key conclusions can be drawn from the Expert Panel workshop:

1. Outcomes and targets
The outcomes provided by the draft 2011 Ontario Biodiversity Strategy provide a broad and valuable framework at the Provincial level. The corresponding targets in the Strategy are less useful for developing stewardship indicators. It is probably more appropriate to develop specific stewardship targets at a regional or watershed level.

2. Relationship between stewardship and direct environmental measures
Stewardship is all about empowering *people* to care for the land, air, water and biodiversity. It is difficult to measure the direct environmental results of stewardship separately from the results of other actions such as government policies and regulations. The *State of Ontario's Biodiversity 2010* report provides a comprehensive picture of the state of environmental quality and biodiversity. It may be most effective for the stewardship community to focus on measuring the social and economic benefits of stewardship actions where the information is available to do this.

In addition, the Expert Panel suggested taking a case study approach to research that would attempt to link stewardship actions to changes in environmental quality and biodiversity. This would help to provide a better understanding of the effectiveness of stewardship activities that could then be extrapolated to other situations.

3. Building on existing indicators

The indicators in the *State of Ontario's Biodiversity 2010* report (SOBR) resulted from a process that had to work with existing information available from groups and agencies across Ontario. They represent a reality check to compare "what we would like to know" with "what information is actually available". It will be worthwhile to assess these indicators to determine:

- What are their limitations?
- How can data reliability be improved?
- What additional information can be collected to make the indicators more meaningful?

4. Standardized reporting

It would be invaluable to develop a core set of reporting requirements among organizations that fund stewardship programs. This could be designed to reduce "double-counting" and provide meaningful information about the social, environmental and economic benefits of stewardship activities.

5. Rationale for stewardship

It is often difficult for NGOs and agencies to allocate sufficient time for comprehensive and effective reporting on their activities. But it is important to remember that meaningful indicators, especially those that focus on economic benefits of stewardship, are essential to justify investments and help stewardship organizations to survive and thrive in a highly competitive environment.

7. Next Steps

Alan and Suzanne summarized the next steps following this Expert Panel Workshop:

1. Prepare and distribute the workshop report.
2. Design a short workshop (1.25 hours) for the Stewardship Forum on June 7th with the goal of seeking feedback and buy-in for development of an improved suite of stewardship indicators.
3. Depending on the outcome of the Forum, host sessions with other groups, such as the data providers, funders and industry. This could include discussion of the need to improve data reliability and develop consistent reporting requirements.
4. Explore opportunities for case study research to link stewardship action with measurable environmental quality and biodiversity outcomes.

APPENDIX A: EXPERT PANEL WORKSHOP PARTICIPANTS

Mitch Baldwin, MNR
Suzanne Barrett, SNO
Tim Bellhouse, MNR
Alan Dextrase, MNR
Mark Emery, Ontario Stewardship
Theresa Fancy, MNR
Darryl Finnigan, OMAFRA
Lul Hassan, MNR
Terese McIntosh, MNR
Mike McMurtry, NHIC
Jaime Overy, Hamilton Conservation Authority
Ryan Petrauskas, Ontario Stewardship
Peter Roberts, OMAFRA
Clay Rubec, Centre for Environmental Stewardship and Conservation
Jo-Anne Rzadki, Conservation Ontario
Paul Smith, OMAFRA
Mari Veliz, Ausable Bayfield Conservation Authority
Chris Wilkinson, Conservation Ontario
Doug Wolthausen, Centre for Environmental Stewardship and Conservation
Rebecca Zeran, MNR

APPENDIX B: Workshop Agenda

INDICATORS OF STEWARDSHIP PROGRESS IN ONTARIO

Hosted by Stewardship Network of Ontario
and
Biodiversity Policy Section, MNR

Ballroom C, MNR Building, 300 Water Street, Peterborough
9:30 am – 4:00 pm, April 15th 2011

Workshop Agenda

9:30 am	Welcome and introductions – Alan Dextrase, Biodiversity Conservation Policy Advisor, MNR
9:50 am	Presentation on proposed approach – Suzanne Barrett, Chair, Stewardship Network of Ontario
10:00 am	Questions and comments
10:10 am	Discuss stewardship outcomes and targets
11:00 am	**Break**
11:15 am	Discuss audiences
11:30 pm	Brainstorm long list of indicators
12:30 pm	**Lunch**
1:15 pm	Continue brainstorming
2:00 pm	Discuss evaluation criteria
2:30 pm	Begin to evaluate indicators to create short list
3:30 pm	Discuss implementation opportunities
3:50 pm	Next steps and workshop feedback
4:00 pm	**Adjourn**