

# A Strategy for Conserving Canada's Natural Capital

Canada's natural capital is essential to our environmental and economic well-being. However, we continue to lose our natural capital because existing markets, policies and programs don't effectively encourage the retention of these assets. Ducks Unlimited Canada (DUC) has created a new series of fact sheets entitled A Strategy for Conserving Canada's Natural Capital that highlight DUC's recommendations for advancing the conservation of Canada's natural capital. This new series builds upon the previous fact sheet series, Natural Values: Linking the Environment to the Economy, which focused on the economic and environmental benefits of natural capital. Both series are available at [www.ducks.ca/conserve/wetland\\_values/conserve.html](http://www.ducks.ca/conserve/wetland_values/conserve.html)

## 3 The Importance of Science and Adaptive Management in Conserving Canada's Natural Capital



**T**hrough investment in wetlands and associated habitats, DUC has been providing Canadians with ecological goods and services (EGS), such as water quality and carbon sequestration, for 70 years.

Government and other organizations have also made strides in conserving natural capital in Canada. However, much work remains to be done. As a science-based organization, DUC uses sound science to plan their conservation programs and continually improves these programs through Adaptive Management (AM). DUC believes science and AM have a significant role to play in advancing the EGS agenda in Canada.

Strategies for dealing with EGS are emerging quickly around the globe, and other countries are already implementing new EGS policies and programs. Since this concept is just gaining momentum in Canada, some critical steps must be taken now to ensure that our EGS strategies are successful. The relative values of EGS to society need to be determined and communicated to the public to gain their

support and trust. Credibility must also be established early in planning by setting clearly defined EGS outcome targets, which are tied to practices and standards that are measurable. By doing this, monitoring can be built into EGS programs to optimize their delivery and demonstrate progress towards outcome targets.

Many organizations are already using science to take these first critical steps. For example, the Government of Canada's [Advancing Canadian Agriculture and Agri-Food \(ACAAF\)](#) program funded eight [EGS pilot projects](#) across Canada. These pilots solidified the linkages between land management practices and real environmental benefits, and tested various EGS tools and instruments to determine the most effective EGS program options. Pilot project results were presented at an EGS Technical Meeting in Ottawa in April 2009. This event was jointly sponsored by the Prairie Habitat Joint Venture, the Eastern Habitat Joint Venture and Agriculture and Agri-Food Canada, and included discussions of future directions for EGS in Canada.

*"Adaptive Management is highly advantageous when policy makers face uncertainty."*

— Kai N. Lee<sup>1</sup>



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**I**n addition to enhancing our understanding of EGS in Canada, science has helped to establish baselines and benchmarks for EGS outcome targets. Science also provides a means to measure, monitor and evaluate progress towards these targets, which will be of critical importance for EGS programs. It will be a challenge to implement EGS programs in Canada, not only because the concepts are novel but because EGS are derived from complex natural systems that are constantly changing. Moving forward, we must accept these sources of uncertainty without being hindered by them. We can do this by implementing programs based on the best available information *now* and adapting our approach as we learn. This can be accomplished using an AM framework.

In basic terms, AM is the science of improving programs. In an EGS context, AM represents a departure from the traditional approach to conservation where researchers generate knowledge then pass it to policy makers and managers for implementation. This linear learn-*then*-do approach can perpetuate ineffective programs because it often lacks evaluation of whether programs are having desired affects. To remedy this, AM is a disciplined learn-*while*-doing strategy. It incorporates research into management action, through iterative cycles of planning, implementation, monitoring and evaluation. By applying principles of experimental design, active AM tests different management approaches to identify the actions that will have the greatest impact. By engaging both scientists and managers in this process, AM also promotes informed and productive collaboration.

Until we move forward with an EGS strategy, we continue to lose valuable natural capital in Canada. Science and AM will enable us to act with greater confidence, while recognizing the need for EGS programs to evolve as we learn. Pilot projects are a great first step, because they are a cost effective way of identifying the most promising program options. By initiating EGS programs now and using AM to guide subsequent steps, we will optimize the realization of our EGS goals and will improve our return on investment. DUC has realized the value of taking this approach and we strongly urge other EGS leaders to do the same.

## Endnotes

1. Lee, K. 1993. *Compass and gyroscope: Integrating science and politics for the environment*. Washington D.C.: Island Press.
2. The Biodiversity Support Program 2001. An Introduction to Adaptive Management. Accessed April 2009 at [www.worldwildlife.org/bsp/publications/aam/112/Intro.pdf](http://www.worldwildlife.org/bsp/publications/aam/112/Intro.pdf)

*“The current economic climate lends itself to innovations that may transform our economic structure. In this case, governments may want to accelerate EGS policy and program development but they need strong evaluation to ensure they are improving upon current approaches. This is why Adaptive Management, and the incorporation of new experience and knowledge, is critical to the long term success of EGS policies and programs.”*

– Mike Kennedy, Senior Resource Economist with the Pembina Institute

The ACAAF EGS pilot project led by DUC used integrated economic-hydrologic models to estimate economic costs and water quality benefits of restoring and retaining wetlands. This project also estimated producers’ willingness to restore and retain wetlands, and estimated the value of wetland EGS to society. DUC has also contributed to EGS pilot projects led by other non-government organizations, such as the [Assiniboine Watershed Stewardship Association \(AWSA\)](#). In Saskatchewan, AWSA launched a [reverse auction pilot project](#) where landowners act as sellers and place bids on what they feel wetland restoration on their land is worth to them. Through these and other projects, DUC has gathered enough information about wetland EGS to support the implementation of an EGS program. We are ready to move forward.

## Important Links

- [DUC’s fact sheet series](#)
- [Advancing Canadian Agriculture and Agri-Food \(ACAAF\) program](#)
- [Assiniboine Watershed Stewardship Association](#)
- [Institute for Agriculture, Forestry and the Environment](#)
- [Pembina Institute: Natural Capital](#)
- [2009 Ecological Goods & Services Symposium: Saskatchewan’s Natural Capital](#)

### What’s Next?

**Fact Sheet 4: Success Stories from Other Countries**



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