



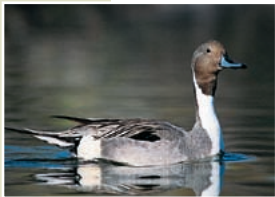
NATURAL VALUES:

Linking the Environment to the Economy

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AGRICULTURE & THE ENVIRONMENT

Natural Values: Linking the Environment to the Economy was developed by Ducks Unlimited Canada (DUC) to improve the environmental and economic understanding of natural systems. In Canada, policy, legislation and regulation efforts must accelerate to protect our important resources. To view other instalments in this series, visit www.ducks.ca/conserves/wetland_values/conserves.html



AGRICULTURAL LANDS PRODUCE MORE THAN FOOD.

When managed appropriately, agricultural lands provide Canadians with a safe and reliable source of food and a number of other ecological goods and services such as clean water, carbon sequestration and wildlife habitat. Pressures to compete internationally, large capital costs, high levels of debt and uncertain crop prices make it difficult for producers to focus on long-term sustainability. In spite of the conservation ethic shared by much of the agriculture industry, these pressures have often resulted in negative environmental impacts such as soil erosion, cultivation of marginally-productive lands and wetland drainage. The disincentive to conserve natural areas is compounded by the fact that producers are not typically rewarded for the ecological goods and services generated by their lands. There is also poor understanding of how changes in farm management that provide benefits to the farm business influence the production of ecological goods and services.

Agriculture and Agri-Food Canada (AAFC) has taken important steps to further address on-farm sustainability through the development of the Agricultural Policy Framework, an integrated strategy for agricultural prosperity. In partnership with provincial and territorial governments, AAFC has developed a national environmental farm planning initiative that helps producers assess the environmental impacts of their operations.

Once impacts are identified, producers can access funding to employ beneficial management practices that either increase the environmental benefits they're already providing or lessen negative impacts. Programs that offer appropriate compensation to landowners who provide ecological goods and services results in increased economic and environmental value for the Canadian public. An excellent example of this is the inclusion of wetland restoration within the list of activities that are eligible for funding under AAFC's national environmental farm planning initiative; this will provide an incentive to producers to restore lost or degraded wetland areas on their property, thus increasing natural capital for the benefit of producers and the public.

"Sustainable agriculture protects the natural resource base, prevents the degradation of soil, water and air quality, and conserves biodiversity; contributes to the economic and social well-being of all Canadians; ensures a safe and high-quality supply of agricultural products; and safeguards the livelihood and well-being of agricultural and agri-food workers and their families."

— Agriculture and Agri-Food Canada, 2001 ¹

When incorporated in agricultural landscapes, wetlands help reduce overland flooding and soil erosion, maintain and enhance water quality, filter unintentional nutrient and pesticide runoff, recharge groundwater supplies, remove and store greenhouse gases from the atmosphere, provide habitat for wildlife and reduce the risk of water shortages.



Environmental Values

Well-managed agricultural lands can:

- 1 Provide Canadians with a safe and reliable supply of food
- 2 Improve water quality
- 3 Remove and store greenhouse gas emissions that contribute to global warming
- 4 Reduce soil erosion
- 5 Provide habitat for numerous plants and animals
- 6 Provide Canadians with scenic views and recreational opportunities

Economic Values

When natural areas are lost to cultivation and marginal areas are farmed there is a financial cost incurred by society to replace the lost ecological goods and services through:

- 1 Increased water treatment costs
- 2 Decreased quality of drinking water and food
- 3 Increased costs for fertility in agricultural production
- 4 Increased government support payments
- 5 Increased illness and health care costs due to decreased water and air quality
- 6 Decreased revenues from tourism activities associated with healthy ecosystems

The Value of Sustainable Agriculture in Canada

Soil erosion reduces the annual profits of agricultural producers by \$12 per cropped hectare. Each year, soil erosion on the Prairies decreases the profits of crop production by an additional \$6 million.²

The value of carbon sequestered by grassland soils in the Upper Assiniboine River Delta of Manitoba and Saskatchewan has been estimated at \$19.60/ha/year.³

Hunting in the Upper Assiniboine River Delta has been estimated to generate revenue of \$10.71/ha/year.³

The value of improved water quality provided by the grasslands of the Upper Assiniboine River Delta is estimated at \$4.62/ha/year.³

Expenditures related to wildlife viewing in the Upper Assiniboine River Delta are estimated to generate revenue of \$4.61/ha/year.³

DUC Recommends That:

- *All Canadians* educate themselves on the economic and environmental importance of sustainable agricultural production practices.
- *Agricultural producers* participate in Agriculture and Agri-Food Canada's national environmental farm planning initiative.
- *Educators* incorporate the value of sustainable agriculture into science, social studies, geography and economics courses.
- *Non-governmental organizations* recognize the benefits of and support sustainable agricultural practices.
- *Governments* fund research focused on increasing the understanding of the environmental and economic value of sustainable agriculture and use the results to implement science-based policies and legislation that enhance support for sustainable agriculture.

Important Links

- www.ducks.ca/conserve/wetland_values/conserve.html
- www.ducks.ca/aboutduc/news/archives/2004/041115.html
- www.agr.gc.ca/env/efp-pfa/index_e.php

Endnotes

- 1 Agriculture and Agri-Food Canada. 2001. *Agriculture in Harmony with Nature II: Agriculture and Agri-Food Canada's Sustainable Development Strategy 2001-2004*. Accessed September 2006 at: http://www.agr.gc.ca/policy/environment/pdfs/sds/SDSII_en.pdf.
- 2 Agriculture and Agri-Food Canada. 2003. *Prairie Soils: The Case for Conservation*. Accessed December 2005 at: http://www.agr.gc.ca/pfra/pub/prairiesoils_e.htm.
- 3 Olewiler, N. 2004. *The Value of Natural Capital in Settled Areas of Canada*. Published by Ducks Unlimited Canada and the Nature Conservancy of Canada. 36 pp.



What's Next? Fact Sheet 12: Forestry and the Environment