



Prince Edward Island Ecological Goods and Services Pilot Project Year One Report



COORDINATOR'S MESSAGE

March 31, 2008 marked the end of year one of the Prince Edward Island Ecological Goods and Services (EG&S) Pilot Project. Thus far, the project has been a tremendous success, and has helped usher in a new era of environmental stewardship on Prince Edward Island. It has been a year of learning and experimentation, but we firmly believe we have found a formula that allows farmers to implement beneficial management practices (BMPs) while working in a harsh economic landscape. As we look forward to another productive year, it is helpful to reflect on the accomplishments of the project's first year.

Our first task was determining producer interest in a project such as this. The reality of the current economic situation is that farmers must maximize crop yield to earn even a modest profit. Running any business can be difficult, but farming is particularly stressful because it relies on market factors beyond its control. However, most producers realise that farming practices can be damaging to the environment, and as such, seek to grow a viable crop in the most ecologically responsible way. In both the Souris and Founds River watersheds, producer interest in the EG&S Project was exceptional.

With producers on board, establishing fair compensation rates for BMPs became the next priority. Cost of implementation and loss of crop yield were factors which had to be considered. After much consultation with farmers, economist Dr. Van Lantz of

the University of New Brunswick was able to establish payment rates that fairly reflected the efforts of the producers. Tasked with developing an inventory of existing BMPs for which farmers could be financially compensated, our diligent agrology specialists Erica MacIsaac, Sally Bernard, and Ramona Doyle began the time consuming task of walking fields and measuring acreages. Payment rates and total rewarded practices are presented in



tables later in this document. In February 2008, the participating producers received their first annual payment for their environmentally responsible efforts. This marked the culmination of months of hard work by everyone involved in the EG&S Project. With this benchmark came the realization, both for producers and project administrators, that EG&S is a feasible initiative that produces tangible benefits to the environment. We look forward to similar successes in year two!

Fred Cheverie
EG&S Project Coordinator

WHO IS INVOLVED: PROJECT CO-HOSTS

The Prince Edward Island EG&S Pilot Project is being delivered in two watersheds: the Souris River and Founds River. These areas are managed by two community groups with rich histories in environmental enhancement.

Souris and Area Branch of the PEI Wildlife Federation

The Souris & Area Branch (SAB) was formed in 1954, as a chapter of the Prince Edward Island Wildlife Federation, formed in 1906. The goals of the SAB include protection and enhancement of fish and wildlife habitats, watershed protection and restoration, education of the general public on wildlife and wildlife habitat, and the promotion of outdoor recreational sports. The SAB has been involved with the establishment of wildlife sanctuaries, wildlife habitat enhancement projects, erosion reduction



and control projects, fish habitat enhancement projects, and watershed planning.

The SAB has been recognized provincially by receiving a 2006 Provincial Environmental Award. This group has also been recognized as the first environmental organization on PEI to develop a watershed plan endorsed by the community.

Trout River Environmental Committee

The Trout River Environmental Committee (TREC) is a volunteer, non-profit, non-partisan, community-based watershed improvement group that was originally formed in 1993. Six watersheds consisting of 30,559 acres (12,367 ha) of land and more than 150 kilometres of fresh water tributaries are managed by TREC. Surface water quality and fish habitat restoration have always been priorities for TREC and will continue to be the focus of future work. TREC works closely with farmers, fishers, home and cottage owners, tourist



operators, and federal and provincial government departments to reduce the input of various contaminants including sediment, bacteria, nutrients and pesticides, and to restore natural flushing action of streams and estuaries. TREC was the first watershed group to initiate the development of a community led and endorsed watershed plan on PEI.

EG&S: THE MANDATE

Agriculture continues to have a profound influence on both the economy and culture of Prince Edward Island. Unfortunately, agricultural practices necessary to compete in today's competitive marketplace can also have potentially dramatic effects on the environment as well. Costs of implementing environmentally responsible practices often cannot be recouped in the market, and financial restrictions often mean good practices cannot be implemented. EG&S provides participating farmers with financial compensation to offset the costs of

implementing such practices, with the goal of encouraging agricultural operations to be sound, environmentally and economically.

For example, pressures to maximize yield may have forced producers into farming sloped land with high run-off potential. Receiving compensation from EG&S makes it possible for the farmer to take this land out of production without incurring a financial loss. Initiatives such as this demonstrate the commitment of farmers to limit their impacts on the environment.

Who is involved: project partners

The PEI EG&S Pilot Project has several key partners from both the public and private sectors. These organizations and departments provide funding and services that assist the functioning of the program in several capacities



PAYMENT RATES FOR YEAR ONE



Activity	Payment Rate
1. Land utilized by erosion control structures <ul style="list-style-type: none"> • Diversion terraces • Grassed waterways • Farmable berms 	\$100/acre/yr \$105/acre/yr \$90/acre/yr
2. Land utilized by permanent grassed headlands	\$65/acre/yr
3. Land utilized by hedgerows: <ul style="list-style-type: none"> • in crop fields • in pasture field with one-sided electric fence • in pasture field with one-sided barb wire fence • in pasture field with two-sided electric fence • in pasture field with two-sided barb wire fence • in pasture field without fence 	\$95/acre/yr \$95/acre/yr + \$0.012/ft/yr \$90/acre/yr + 0.027/ft/yr \$90/acre/yr + 0.024/ft/yr \$90/acre/yr + 0.055/ft/yr \$95/acre/yr
4. Sensitive high sloped land retirement from annual production	\$40/acre/yr
5. Sensitive land retirement adjoining legislated buffers	\$75/acre/yr
6. Pesticide risk reduction	\$20.34/acre/yr for land achieving required risk reduction
7. Eliminating red land over winter before and after a year of potato production: <ul style="list-style-type: none"> • spring plow and winter cover (broadcast-seeded prior to Oct. 7) • spring plow and winter cover (mulching) 	\$20/acre \$30/acre
8. Maintaining fences adjoining watercourses/wetlands: <p>Fence with stream crossing and alternate water source:</p> <ul style="list-style-type: none"> • electric fence • barb wire fence <p>Fence with stream crossing or alternate water source:</p> <ul style="list-style-type: none"> • electric fence • barb wire fence <p>Fence without stream crossing or alternate water source:</p> <ul style="list-style-type: none"> • electric fence • barb wire fence 	\$135/yr + \$0.059/ft \$135/yr + \$0.124/ft \$70/yr + \$0.059/ft \$70/yr + \$0.124/ft \$0.059/ft \$0.124/ft

Other components of the comprehensive land management program include:

- (i) An insurance-based nutrient management program
- (ii) Property tax incentives
- (iii) Elimination of environmentally sensitive land from allowable land holding limits

YEAR ONE UPTAKE

EG&S Practice	Total Area
Terraces	26.03 acres
Grassed waterways	48.83 acres
Berms	1.78 acres
Headlands	25.21
Hedgerows	52.94 acres
Watercourse fencing	14421.35 feet
Retired sensitive land	72.59 acres
Enhanced buffers	25.66 acres
Spring plough	68.5 acres
Winter cover (crop or mulch)	430.45 acres
Winter cover (crop or mulch) + spring plowing	215.6 acres
Nutrient management *	32 acres
Pesticide risk management **	786.33 acres

* Nutrient management is a very important part of the EG&S project. It involves matching nutrient inputs to crop requirements. Not only should synthetic fertilizers be recognized as a source of nutrients, but also organic sources such as manure or legume plough downs. Under the EG&S project, field trials comparing conventional fertility to nutrient management fertility were conducted. Soil samples were taken at three different depths throughout the growing season and three sets of tissue samples were taken for plant analysis. Sample results were used to compare nutrients in both the crop and soil under the two fertility management regimes. In 2007, there were no statistically significant differences in the return per acre in the trials, which is the determining factor for payment to producers.

** The pesticide risk reduction component of EG&S uses a risk-based model to determine pesticide risk on a on a per-field



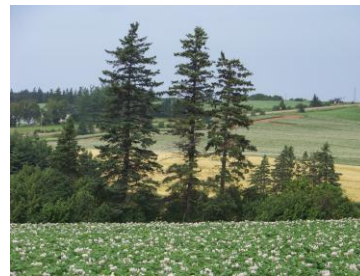
basis. There are a number of factors that determine pesticide risk, but the type of product used and the application rate plays a huge role and are the sole factors used in the project to determine pesticide risk. Each field receives a number for both risk to human health and risk to the environment. These two numbers are averaged for each field, and the fields that achieve a pesticide risk rate that is less than the mean pesticide risk for all fields received a payment.

EG&S COMMITTEE STRUCTURE

The activities of the PEI EG&S Pilot Project are guided by several committees. These committees feature members with extensive experience and expertise in the fields of agriculture and environmental management.

<p style="text-align: center;">Management Committee</p> <p>The committee oversees the operation of the PEI EG&S Pilot Project and authorizes implementation, monitoring and evaluation activities</p>	<p style="text-align: center;"><i>Technical Advisory Committee</i></p> <p><i>This committee directs the technical aspects of the project and provides input to the economist to assist in the development of payment levels.</i></p>
<p style="text-align: center;"><i>Monitoring and Evaluation Committee</i></p> <p><i>This committee completes the economic and social evaluation of the pilot from several perspectives, including producer uptake, the public's willingness to pay, the administration and delivery of the project, as well as the implications of such a program being offered on a broader basis.</i></p>	<p style="text-align: center;"><i>Watershed Agricultural Committee</i></p> <p><i>This committee delivers the EG&S Pilot Project to each watershed.</i></p>

A major component of the PEI EG&S Pilot Project consists of monitoring changes in environmental conditions resulting from the implementation of responsible management practices. Other than a large-scale shift in attitude among producers, protecting the environment is the primary goal of the EG&S Project. Rigorous monitoring produces reliable and accurate data which will enable the project partners to identify notable trends and ultimately evaluate the success of the project. Environmental monitoring in the EG&S Pilot Project is conducted using modern equipment and skilled technicians. In the Nutrient Management plots, lysimeters have been installed which track nitrate levels on a regular basis. Groundwater test wells have been set-up at various locations in both watersheds. Devices combining modern sensors with audio telemetry



provide real-time measurements of water tables. In the Souris Watershed, a recently

installed HydroLab enables specialists to monitor in-stream water quality parameters without having to leave the office. Likewise, estuarine water quality is rigorously tested in both watersheds, as are sea lettuce (*Ulva* spp.) densities, an indicator of nutrient load in the estuaries. Environmental monitoring will continue for the duration of the project, as it will require at least two years to identify potential changes. At the culmination of the project, a full report of the monitoring results will be prepared, and will be included as part of the Year Two Final Report.

SOCIO-ECONOMIC SURVEY

The issue of environmental protection is growing in both exposure and importance in Canadian society. The public recognizes that a healthy environment is critical to ensuring a high quality of life for residents, and environmental issues are now central to most political agendas. On Prince Edward Island, for example, a number of serious concerns have been raised by the public with regards to the state of the environment. In particular, water quality degradation and damage to wildlife habitat have arisen as focal points in environmental discussions, as these issues have plagued many Island communities. In the Souris Watershed, residents realize the need for these issues to be addressed, and have thus contributed to the development and ratification of a comprehensive Watershed Management Plan.

While recognition of the problems is essential, it remains to be seen if the public is willing to financially support programs which strive to protect or enhance environmental quality. To determine the level of taxpayer support and evaluate the prospect of future programs, a public survey has been developed by economist Dr. Van Lantz of the University of New Brunswick. This survey is designed to gauge both the importance of environmental protection and public interest in devoting tax dollars to compensate producers for implementing environmentally responsible practices. Much time and effort went into developing a survey that conveys the

principles of EG&S without swaying the participant's responses. Thus, this survey constituted one of the most significant activities of Year One. The survey has been distributed to approximately 4,000 residents in the vicinity of the Souris and Founds River watersheds, and the results will be processed by Dr. Van Lantz in Year Two. These results are considered paramount as input in the development of a national policy and the PEI EG&S Pilot Project partners look forward to conveying this input in future releases

Survey of your views on the Souris River watershed

The Souris River watershed is located in Eastern Kings County, PEI. The watershed is comprised of the Souris River and the streams which flow into the river. The Souris River empties into Colville Bay at the Town of Souris. The management plan completed for the watershed identified water quality as the major environmental quality issue.

This survey has been prepared by a research team working with the Souris & Area Branch of the PEI Wildlife Federation and the Trout River Environmental Committee Inc. The purpose of this survey is to gather information on the views of the public about the management of this watershed.

This is not a test and your responses will be most helpful if answered as truthfully as possible. Please complete the entire survey in order. Because initial impressions are very important, please do not go back and change your answers. The entire survey should be completed by one member of your household over the age of 18.

Your responses will be kept strictly confidential. We do not ask for your name in this survey.