

Nova Scotia Federation of Agriculture EG&S Project

Ecological Goods & Services Technical Meeting

The Lord Elgin Hotel, Ottawa

April 29-30, 2009

Presented by

Bruce Roberts, Ph.D., P.Ag.

Kelco Consulting Ltd.

**Identification and Assessment of
the Provision of Environmental
Goods and Services by the Primary
Agricultural Sector
and
Determining Societal Expectations
of the Farm Community**

Study Components

- Component 1: Identification and Assessment of Environmental Goods and Services
- Component 2: Development of a Pilot Program for the St. Andrews Watershed

Component 1

Objective

Determine the impact of changes in environmental regulations and expectations on the Nova Scotia primary agricultural industry

Methodology

- Review of Agdex papers, environmental regulations, guidelines, etc.
- Survey of NS Federation of Agriculture members
- Workshops with farmers
- Case studies

Key Survey Highlights (1)

- Update of 2005 survey
- 2,350 surveys sent
- 407 responses (95% confidence level)
- Farms grouped by revenue class reflected census
- 56% had completed Environmental Farm Plans
- 45% had completed Nutrient Management Plans
- 48% of those without EFPs were on a waiting list

Key Survey Highlights (2)

- Steps taken to preserve environment:
 - ✓ Restrict manure and fertilizer application - time of year and weather
 - ✓ Fuel storage upgrades
 - ✓ Increased setbacks from watercourses
 - ✓ 19% - no particular changes

Key Survey Highlights (3)

- Changes made because of environmental concerns or changing government regulations
 - ✓ 44% - no changes made
 - ✓ 37% made capital investment
 - ✓ 31% paid more for certain activities
 - ✓ 10% changed area of production (setbacks)

Key Survey Highlights (4)

- Who benefits from changes (score out of a maximum of 5)?
 - ✓ Nova Scotia residents (3.6)
 - ✓ Consumers (3.3)
 - ✓ Agricultural industry (3.2)
 - ✓ Farmers themselves (3.1)

Key Survey Highlights (5)

- Who is driving environmental concerns (score out of a maximum of 5)?
 - ✓ Government (3.3)
 - ✓ Urban residents (3.1)
 - ✓ Farmers themselves (2.7)

Key Survey Highlights (6)

- Why are farmers being asked to make changes (score out of a maximum of 5)?
 - ✓ To meet public expectations (3.7)
 - ✓ To meet government targets (3.4)
 - ✓ To meet market expectations (3.3)

Testing Survey Results through Workshops and Case Studies

- Focused on:
 - ✓ Capital investments to conform to changes in environmental issues
 - ✓ Increased operating costs
 - ✓ Decreased revenue
 - ✓ Increased management

Capital Investment

- Farmers make capital investments based on business decisions
- Farmers take environmental issues into account when they plan those investments
- Environmental investments - fencing waterways and waterway crossings

Increased Operating Costs

- Cost of maintaining stream crossings and fencing
- Maintaining increased setback zone (also control of weeds and pests)
- Changes to timing and frequency of manure spreading and spraying (benefit too?)

Decreased Revenue

- Reduction of land being farmed due to:
 - ✓ Increased setbacks
 - ✓ Removal of sloped land from rotation

Management Changes

- Reduced tillage practices
- More intense pasture management
- Cropping methods (GPS)
- More frequent and targeted use of manure, fertilizers and sprays
- General increase in management of chemicals
- Move to organic or non chemical production

Component 1 Conclusions (1)

- Farmers recognize the value of protecting the environment - they live there too
- Farmers make management and investment decisions that reflect environmental attitudes
- Farmers accept these actions as necessary

Component 1 Conclusions (2)

- Actions reflect good business decisions and environment is factored into the decision-making process
- Farmers try to conduct their businesses to the benefit of the environment
- Many of their actions have been “INTERNALIZED”

Component 2

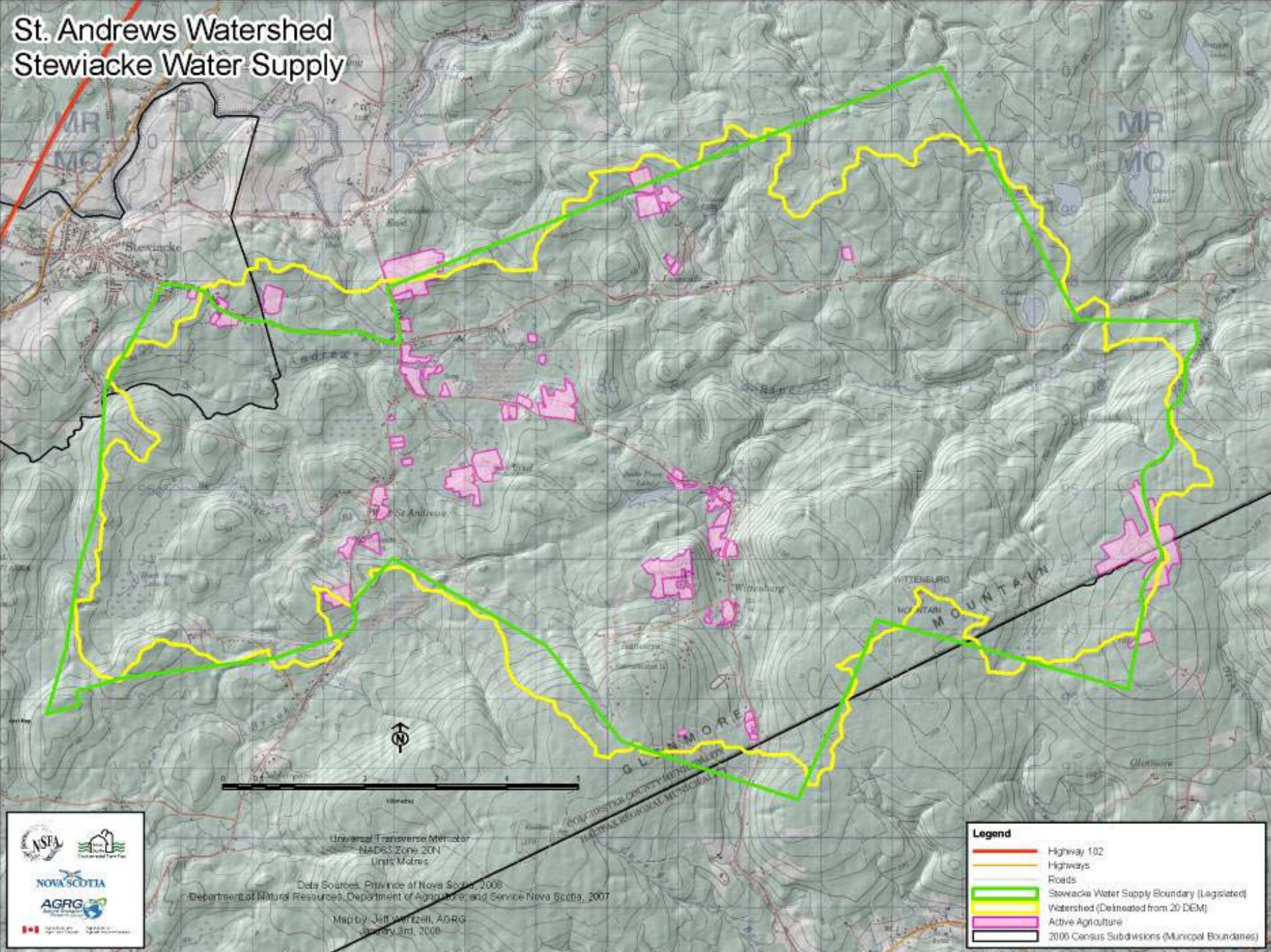
Objective

To deliver a pilot project to enhance the designated Watershed through delivery of EG&S by farm units within the Watershed.

St. Andrews Watershed Characteristics

- Small - 9,580 hectares
- Water source for Town of Stewiacke, NS
- Within 45 minutes of Halifax
- Mix of forestry, residential, rural business, agriculture
- 41 agricultural landowners - many lifestyle farmers
- Mostly livestock (horses, beef) and blueberry

St. Andrews Watershed Stewiacke Water Supply



Universal Transverse Mercator
NAD83 Zone 20N
Units: Metres

Data Sources: Province of Nova Scotia, 2008
Department of Natural Resources, Department of Agriculture, and Service Nova Scotia, 2007

Map by: Jeff Wenzel, ARG
January 3rd, 2008

Legend	
	Highway 102
	Highways
	Roads
	Stewiacke Water Supply Boundary (Registered)
	Watershed (Delineated from 20' DEM)
	Active Agriculture
	2006 Census Subdivisions (Municipal Boundaries)

Agricultural Concerns

- Small farms that do not qualify for programs
- Lifestyle farms that are not identified as agriculture
- Potential for environmental impacts that can reflect on agricultural industry

Methodology

- Formed subcommittee - farmers, watershed committee, municipal authorities, community
- Developed communications - mail-outs, press releases and other media events, public meetings, kitchen meetings
- Personal contact with all agricultural landowners by EFP Coordinator
- Program development and delivery
- Evaluation

Program Features

- Reflected existing provincial and federal programs
- Categories - riparian areas, water, waste management, wildlife habitat, biodiversity
- Funding from 50% to 100% of identified projects (max. project cap)
- Allowed multiple projects per farm
- Followed all regulations and approval processes

Program Delivery

- EFP Coordinator worked closely with landowners
- Completed EFP for each applicant
- Ensured compliance with CEAA
- Projects inspected by NS Dept. of Ag. Inspectors upon completion
- Payments made upon approval

Program Delivery

- Six farms took part (15%)
- Total of 15 projects
- Funding = \$40,766
- Projects included:
 - ✓ Fencing livestock waterways
 - ✓ Stream crossings
 - ✓ Alternative livestock water sources
 - ✓ Improved manure storage
 - ✓ Water well management
 - ✓ Septic system maintenance

Program Evaluation

- Survey of agricultural landowners
 - ✓ 8 responses - 3 took part in project
- Workshop/survey of subcommittee members
- EFP Coordinator report

Lessons Learned (1)

- Project timelines need to be minimum of 3 years
- Allow time to do demonstration sites
- Effective communications is difficult
- Small farms that are not active in agricultural industry do not understand programs

Lessons Learned (2)

- Many lifestyle farms do not think they are in the agricultural sector
- Time demands on human resources are large because of farmer characteristics
- Identify issues in the Watershed before you start - understand the dynamics

Nova Scotia Federation of Agriculture EG&S Project

Ecological Goods & Services Technical Meeting

The Lord Elgin Hotel, Ottawa

April 29-30, 2009

Presented by

Bruce Roberts, Ph.D., P.Ag.

Kelco Consulting Ltd.