



Through the Canadian Agricultural Partnership (CAP), the Department of Agriculture and Land (DAL) and Agriculture and Agri-Food Canada (AAFC) are working to support environmental sustainability and climate change mitigation and adaptation. Environmental sustainability, climate change mitigation and adaptation activities utilize systems that support environmental protection and the sustainable use of natural resources.^{1,2} CAP Environmental Sustainability and Climate Change Programs facilitate clean growth, technological advances and improvements in the agriculture sector to reduce environmental risks, address climate change and enhance soil, water, air and biodiversity resources.^{3,4,5,6}

THE ENVIRONMENTAL SUSTAINABILITY AND CLIMATE CHANGE PRIORITY AREA FOR THE DEPARTMENT INCLUDE THE FOLLOWING PROGRAMS:

1. Alternative Land Use Services

Provides financial incentives to establish or maintain beneficial management practices (BMPs) on agricultural land and/or for the removal of targeted environmentally sensitive land from agricultural production.

2. Perennial Crop Development

Facilitates the strategic development and successful commercialization of perennial cropping systems.

3. Agriculture Stewardship

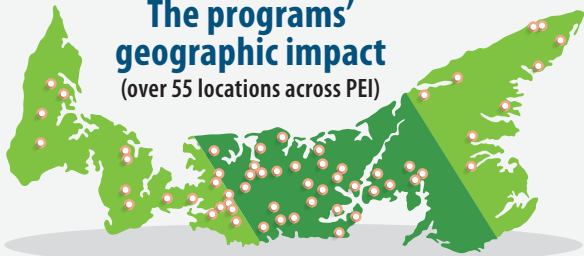
Provides environmental farm planning, promotion and development of integrated pest management practices, nutrient management activities and offers technical and financial support to encourage producers to voluntarily implement BMPs.

**A TOTAL OF
80 PROJECTS
INCLUDED
DEVELOPING OR
UPDATING
ENVIRONMENTAL
RISK ASSESSMENTS.**

THIS INCLUDED THE FOLLOWING INDUSTRY TYPES:

- 22 Vegetable farming (including potatoes)
- 21 Dairy cattle and milk production
- 11 Beef cattle ranching and farming
- 9 Fruit and tree nut farming
- 5 Oilseed and grain farming
- 5 Multiple industries
- 4 Hog and pig farming
- 1 Other crop farming
- 1 Support activities for animal production
- 1 Poultry and egg farming

The programs' geographic impact (over 55 locations across PEI)



SOME OF THE PROJECTS THAT INVESTED IN PLANTING ENVIRONMENTALLY SUSTAINABLE PERENNIAL CROPS INCLUDED:

- New Hopyard Establishment
- Commercialization of Hazelnut Production
- Expansion of Experimental Haskap Farm
- U-Pick Apple Expansion
- New Apple Orchard

OVER \$2 MILLION INVESTED IN PROJECTS that promoted environmental sustainability and climate change in PEI's agriculture sector.

EXTERNAL INDUSTRY CONSULTATIONS REGARDING the Canadian Agricultural Partnership indicated a need for support which encourages environmentally friendly practices.⁷

ENVIRONMENTAL SUSTAINABILITY AND CLIMATE CHANGE IMPACTS.

The projects completed resulted in 209 ACTIVITIES⁸ that contributed to two outcomes⁹. This included:

- 129 activities that resulted in the ADOPTION OF PRACTICES AND TECHNOLOGIES to improve environmental performance, adapt to climate change and reduce greenhouse gas emissions; and
- 80 activities that resulted in INCREASING AWARENESS AND KNOWLEDGE of beneficial environmental practices and climate change.

129 PROJECTS had a direct impact on improving PEI's agriculture sector by reducing environmental risks.



This included projects related to the following types of Beneficial Management Practices:

- 34 Wintering site management
- 30 Riparian and buffer establishment
- 22 Improved pest management/ pesticide application
- 16 Conservation tillage/ nutrient placement
- 7 Farmyard runoff control/runoff drainage control and management
- 7 Creative environmental solutions
- 4 Regional irrigation water supply management
- 3 Manure storage and handling
- 3 Agriculture water use efficiency (non irrigation)
- 1 Protection of existing on-farm water supplies
- 1 On-farm water supply and retention
- 1 On-farm Energy Efficiency

ENDNOTES

1. Lantz, V., Anderson, T. & Johnston, L. (2012). A survey of farmer perspectives on the PEI ALUS program. Report prepared for the Linking Environment and Agriculture Research Network, University of Alberta, Edmonton, AB. 2. Lantz, V., Cheverie, F., DeHaan, R., Crane, C., Thompson, B., Jiang, Y., Rudd, M., Trenholm, R., Mellish, S., Gregory, G., Hill, S. & Raymond, B. (2009). PEI ecological goods and services pilot project: final report. Research Report prepared for the Souris and Area Branch of the PEI Wildlife Federation, Souris, PEI. 3. France, R. & Campbell, J. (2015). Payment for agro-ecosystem services: Developmental case-history descriptions of Canada's Grassroots "ALUS" programs. Research Journal of Agriculture and Environmental Management, 4(9), 405-431. 4. Kitchen, A. (2012). Social, economic and environmental evaluation of agri-environmental beneficial management practices. Project No: 540. School of Resources and Environmental Management, Faculty of Environment, Simon Fraser University, Burnaby, British Columbia. 134 p. 5. Zhang, Y., Li, Y., Jiang, L., Tian, C., Li, J. & Xiao, Z. (2011). Potential of perennial crop on environmental sustainability and agriculture. Procedia Environmental Sciences, 10 (Part B), 1141-1147. 6. Atwell, R., Schulte, L. & Westphal, L. (2010). How to build multifunctional agricultural landscapes in the U.S. corn belt: Add perennials and partnerships. Land Use Policy, 27(4), 1082-1090. 7. Department of Agriculture and Fisheries (DAF). (2017). The Next Policy Framework for Agriculture (2018-2023). What We've Heard Consultations Report. 13 p. 8. Activities are "operations or work processes... that produces outputs (e.g., training, research, construction, negotiation, investigation)" (Government of Canada, (2010, September). Supporting Effective Evaluations: A Guide to Developing Performance Measurement Strategies. Retrieved October 21, 2020 from <https://tinyurl.com/y43dhlrj>. 9. Outcomes can be understood to be short- and medium-term program effects, e.g., changes in what others do, as influenced by project's outputs (Bamberger, M., Rugh, J., & Mabry, L. (2006). RealWorld evaluation: Working under budget, time, data, and political constraints. SAGE Publications, Incorporated).

Note: Data is based on information submitted to the Department as per the Funding Agreement. Prepared by the Strategic Policy and Evaluation Division at the PEI Department of Agriculture and Land. January 2022/File 2465-15-13-02.



Through the Canadian Agricultural Partnership (CAP), the Department of Agriculture and Land (DAL) is working to support environmental sustainability and climate change mitigation and adaptation. Environmental sustainability, climate change mitigation and adaptation activities utilize systems that support environmental protection and the sustainable use of natural resources.^{1,2} The Department's Environmental Sustainability and Climate Change Programs facilitate clean growth, technological advances and improvements in the agriculture sector to reduce environmental risks, address climate change and enhance soil, water, air and biodiversity resources.^{3,4,5,6}

THE ENVIRONMENTAL SUSTAINABILITY AND CLIMATE CHANGE PRIORITIES FOR THE DEPARTMENT INCLUDE THE FOLLOWING PROGRAMS:

1. Alternative Land Use Services

Provides financial incentives to establish or maintain beneficial management practices on agricultural land and/or for the removal of targeted environmentally sensitive land from agricultural production.

2. Perennial Crop Development

Facilitates the strategic development and successful commercialization of perennial cropping systems.

3. Agriculture Stewardship

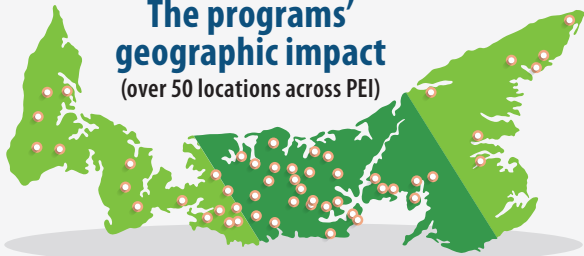
Provides environmental farm planning, promotion and development of integrated pest management practices, nutrient management activities and offers technical and financial support to encourage producers to voluntarily implement beneficial management practices.

**A TOTAL OF
80 PROJECTS
INCLUDED
DEVELOPING OR
UPDATING
ENVIRONMENTAL
RISK ASSESSMENTS.**

THIS INCLUDED THE FOLLOWING INDUSTRY TYPES:

- 21 Vegetable farming (including potatoes);
- 15 Beef cattle ranching and farming (including feedlots);
- 15 Dairy cattle and milk production;
- 8 Oilseed and grain farming; • 8 Multiple industries;
- 5 Fruit and tree nut farming; • 3 Sheep and goat farming;
- 2 Other animal production; • 1 Poultry and egg production;
- 1 Greenhouse, nursery and floriculture; and
- 1 Support activities for animal production.

The programs' geographic impact (over 50 locations across PEI)



SOME OF THE PROJECTS THAT INVESTED IN PLANTING ENVIRONMENTALLY SUSTAINABLE PERENNIAL CROPS INCLUDED:

- Peach Production Expansion;
- Cider Apple Planting and Trellis;
- U-Pick Orchard Planting;
- Vineyard Expansion; and
- Haskap Expansion and Research.

OVER \$2.25 MILLION INVESTED IN PROJECTS that promoted environmental sustainability and climate change in PEI's agriculture sector.

EXTERNAL INDUSTRY CONSULTATIONS REGARDING the Canadian Agricultural Partnership indicated a need for support which encourages environmentally friendly practices.⁷

ENVIRONMENTAL SUSTAINABILITY AND CLIMATE CHANGE IMPACTS.

The projects completed resulted in 254 ACTIVITIES⁸ that contributed to two outcomes⁹. This included:

- 161 activities that resulted in the ADOPTION OF PRACTICES AND TECHNOLOGIES to improve environmental performance, adapt to climate change and reduce greenhouse gas emissions; and
- 93 activities that resulted in INCREASING AWARENESS AND KNOWLEDGE of beneficial environmental practices and climate change.

161 PROJECTS had a direct impact on improving PEI's agriculture sector by reducing environmental risks.



This included projects related to the following types of Beneficial Management Practices:

- 88 Soil health and management;
- 23 Additional on-farm resource planning services/consultation services;
- 10 Riparian and buffer establishment;
- 9 Farmyard runoff control/drainage management;
- 7 On-farm water supply and retention;
- 6 Protection of existing on-farm water supplies;
- 5 Agriculture water use efficiency (non irrigation);
- 4 Improved pest management/pesticide application;
- 4 Precision nutrient management;
- 3 Manure storage handling; and
- 2 Sustainable irrigation management.

ENDNOTES

1. Lantz, V., Anderson, T. & Johnston, L. (2012). A survey of farmer perspectives on the PEI ALUS program. Report prepared for the Linking Environment and Agriculture Research Network, University of Alberta, Edmonton, AB. 2. Lantz, V., Cheverie, F., DeHaan, R., Crane, C., Thompson, B., Jiang, Y., Rudd, M., Trenholm, R., Mellish, S., Gregory, G., Hill, S. & Raymond, B. (2009). PEI ecological goods and services pilot project: final report. Research Report prepared for the Souris and Area Branch of the PEI Wildlife Federation, Souris, PEI. 3. France, R. & Campbell, J. (2015). Payment for agro-ecosystem services: Developmental case-history descriptions of Canada's Grassroots "ALUS" programs. Research Journal of Agriculture and Environmental Management, 4(9), 405-431. 4. Kitchen, A. (2012). Social, economic and environmental evaluation of agri-environmental beneficial management practices. Project No: 540. School of Resources and Environmental Management, Faculty of Environment, Simon Fraser University, Burnaby, British Columbia. 134 p. 5. Zhang, Y., Li, Y., Jiang, L., Tian, C., Li, J. & Xiao, Z. (2011). Potential of perennial crop on environmental sustainability and agriculture. Procedia Environmental Sciences, 10 (Part B), 1141-1147. 6. Atwell, R., Schulte, L. & Westphal, L. (2010). How to build multifunctional agricultural landscapes in the U.S. corn belt: Add perennials and partnerships. Land Use Policy, 27(4), 1082-1090. 7. Department of Agriculture and Fisheries (DAF). (2017). The Next Policy Framework for Agriculture (2018-2023). What We've Heard Consultations Report. 13 p. 8. Activities are "operations or work processes... that produces outputs (e.g., training, research, construction, negotiation, investigation)" (Government of Canada, (2010, September). Supporting Effective Evaluations: A Guide to Developing Performance Measurement Strategies. Retrieved October 21, 2020 from <https://tinyurl.com/y43dhlrj>. 9. Outcomes can be understood to be short- and medium-term program effects, e.g., changes in what others do, as influenced by project's outputs (Bamberger, M., Rugh, J., & Mabry, L. (2006). RealWorld evaluation: Working under budget, time, data, and political constraints. SAGE Publications, Incorporated).

Note: Data is based on information submitted to the Department as per the Funding Agreement. Prepared by the Strategic Policy and Evaluation Division at the PEI Department of Agriculture and Land. October 2020/File 2465-15-12-02.

RESULTS AND IMPACT

of Environmental Sustainability and Climate Change Programs (2018-2019)



Through the Canadian Agricultural Partnership (CAP), the Department of Agriculture and Land (DAL) is working to support environmental sustainability and climate change mitigation. Environmental sustainability, climate change mitigation and adaptation activities utilize systems that support environmental protection and the sustainable use of natural resources.^{1,2} The Department's Environmental Sustainability and Climate Change Programs facilitate clean growth, technological advances and improvements in the agriculture sector to reduce environmental risks, address climate change and enhance soil, water, air and biodiversity resources.^{3,4,5,6}

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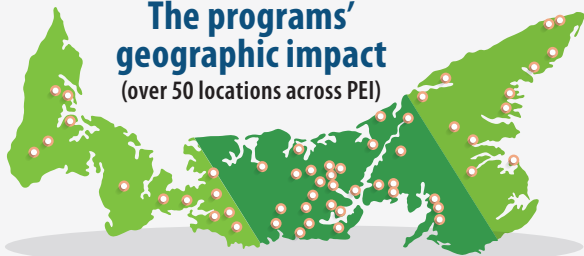
Provides environmental farm planning, promotion and development of integrated pest management practices, nutrient management activities and offers technical and financial support to encourage producers to voluntarily implement beneficial management practices.

**A TOTAL OF
50 PROJECTS
INCLUDED
DEVELOPING OR
UPDATING
ENVIRONMENTAL
RISK ASSESSMENTS.**

THIS INCLUDED THE FOLLOWING INDUSTRY TYPES:

- 19 Vegetable farming;
- 11 Dairy cattle and milk production;
- 9 Beef cattle farming, including feedlots;
- 5 Fruit and tree nut farming;
- 3 Hog and pig farming;
- 2 Oilseed and grain farming; and
- 1 Sheep and goat farming.

The programs' geographic impact (over 50 locations across PEI)



SOME OF THE PROJECTS THAT INVESTED IN PLANTING ENVIRONMENTALLY SUSTAINABLE PERENNIAL CROPS INCLUDED:

- High density apple orchard planting;
- New strawberry and asparagus crops;
- Testing full orchard haskap commercial netting; and
- Establishment of a new highbush blueberry operation.

OVER \$1.6 MILLION INVESTED IN PROJECTS that promoted environmental sustainability and climate change in PEI's agriculture sector.

EXTERNAL INDUSTRY CONSULTATIONS REGARDING the Canadian Agricultural Partnership indicated a need for support which encourages environmentally friendly practices.⁷

ENVIRONMENTAL SUSTAINABILITY AND CLIMATE CHANGE IMPACTS.

The projects completed resulted in 203 OUTCOMES including:

- 119 undertakings which resulted in **ADOPTING PRACTICES AND TECHNOLOGIES** to improve environmental performance, adapt to climate change and reduce greenhouse gas emissions; and
- 61 activities that **INCREASED AWARENESS AND KNOWLEDGE** of beneficial environmental practices in relation to climate change mitigation.

100 PROJECTS

had a direct impact on improving PEI's agriculture sector by reducing environmental risks.



This included projects related to the following types of Beneficial Management Practices:

- 32 in soil conservation (erosion control structures);
- 29 in integrated pest management (data-based decisions, alternative crop/beneficial crop, on-farm research/trials);
- 24 in soil health (winter cover crop, spring tillage, nutrient management planning);
- 12 in storages (silage storage, manure storage, covered feedlot);
- 10 in water systems/crossings (alternate watering systems, fencing and livestock stream crossings, stream crossings for farm machinery);
- 10 in water efficiency (well water management, irrigation efficiency, sustainable agriculture water supply, on-farm water use efficiency); and
- 2 in energy efficiency upgrades (machinery and equipment upgrades).

ENDNOTES

¹Lantz, V., Anderson, T. & Johnston, L. (2012). A survey of farmer perspectives on the PEI ALUS program. Report prepared for the Linking Environment and Agriculture Research Network, University of Alberta, Edmonton, AB.

²Lantz, V., Cheverie, F., DeHaan, R., Crane, C., Thompson, B., Jiang, Y., Rudd, M., Trenholm, R., Mellish, S., Gregory, G., Hill, S. & Raymond, B. (2009). PEI ecological goods and services pilot project: final report. Research Report prepared for the Souris and Area Branch of the PEI Wildlife Federation, Souris, PEI.

³France, R. & Campbell, J. (2015). Payment for agro-ecosystem services: Developmental case-history descriptions of Canada's Grassroots "ALUS" programs. Research Journal of Agriculture and Environmental Management, 4(9), 405-431.

⁴Kitchen, A. (2012). Social, economic and environmental evaluation of agri-environmental beneficial management practices. Project No: 540. School of Resources and Environmental Management, Faculty of Environment, Simon Fraser University, Burnaby, British Columbia. 134 p.

⁵Zhang, Y., Li, Y., Jiang, L., Tian, C., Li, J. & Xiao, Z. (2011). Potential of perennial crop on environmental sustainability and agriculture. Procedia Environmental Sciences, 10 (Part B), 1141-1147.

⁶Atwell, R., Schulte, L. & Westphal, L. (2010). How to build multifunctional agricultural landscapes in the U.S. corn belt: Add perennials and partnerships. Land Use Policy, 27(4), 1082-1090.

⁷Department of Agriculture and Fisheries (DAF). (2017). The Next Policy Framework for Agriculture (2018-2023). What We've Heard Consultations Report. 13 p.

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