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Improving Wetland Stewardship in Alberta's Agricultural Landscapes

REPORT OF THE AGRICULTURE AND WETLAND
STEWARDSHIP WORKING GROUP TO THE ALBERTA
NAWMP PARTNERSHIP



ABOUT THE ALBERTA NAWMP PARTNERSHIP

The *North American Waterfowl Management Plan* (NAWMP) was established to protect wetland habitat and associated wildlife species across North America. Since 1986, the Alberta NAWMP Partnership has worked to conserve Alberta's wetlands and associated upland habitat to help achieve the goals of the plan.

The [Alberta NAWMP Partnership](http://www.abnawmp.ca/) is a collaboration of federal, provincial and municipal governments, non-governmental organizations, private companies and individuals; all working towards achieving better wetland habitat for the benefit of waterfowl, wildlife and people. Core partners include:

- Alberta Agriculture and Forestry
- Alberta Environment and Parks
- Ducks Unlimited Canada
- Environment and Climate Change Canada
- The Nature Conservancy of Canada

For more information about the Alberta NAWMP Partnership, see <http://www.abnawmp.ca/>.



The following report is a compilation of ideas discussed over the course of the Agriculture and Wetland Stewardship Working Group meetings attended by independent partner organizations. As such, the report does not necessarily reflect the opinion of the Alberta NAWMP Partnership or its member agencies.

EXECUTIVE SUMMARY

After identifying the need to more effectively engage the agricultural sector in implementation of the Alberta Wetland Policy, the Alberta NAWMP Partnership invited a number of stakeholders from government, agriculture and conservation agencies to participate in the NAWMP Agriculture and Wetland Stewardship Working Group. The group was tasked with exploring the issues with implementing the wetland policy on the agricultural landscape as well as recommending solutions to these issues.

The Working Group met five times, heard a number of presentations, shared resources, and worked together to identify several issues. Broadly speaking, these were lumped into the following categories:

1. Limited communications;
2. Lack of information and/or awareness;
3. Lack of economic rationale for retaining wetlands on the agricultural landscape;
4. Lack of, or limited, capacity for policy implementation;
5. Lack of recognition of producer on-farm practices and constraints; and
6. Financial and administrative challenges.

After considering the issues, the Working Group identified a number of solutions. Again, broadly speaking, these were lumped into the following categories of recommendations for further work:

1. Build stronger relationships through improved two-way communication;
2. Improve awareness and understanding through targeted education;
3. Develop an economic rationale for wetland retention;
4. Build capacity for wetland policy implementation;
5. Align wetland stewardship with on-farm water management practices; and
6. Ensure financial and administrative efficiency.

The Working Group documented its discussion and findings in this report, which was reviewed and approved by participants before being provided to the Alberta NAWMP Partnership Board of Directors for their consideration.

ACKNOWLEDGEMENTS

The NAWMP Agriculture and Wetland Stewardship Working Group would like to thank the Alberta NAWMP Partnership for sponsoring their work. They also acknowledge their own agencies, including government departments, producer groups, and conservation organizations, for supporting their participation on this initiative. Finally, the Working Group acknowledges those agencies that provided meeting space including Alberta Agriculture and Forestry, Agriculture Financial Services Corporation and the Alberta Association of Municipal Districts and Counties.

ACRONYMS

AAF	Alberta Agriculture and Forestry
AAMDC	Alberta Association Municipal Districts and Counties
AEP	Alberta Environment and Parks
AEPA	Agri-Environmental Partnership of Alberta
ALUS Canada	Alternative Land Use Services Canada
AUMA	Alberta Urban Municipalities Association
BMP	Best or Beneficial Management Practices
CSWG	Crop Sector Working Group
DUC	Ducks Unlimited Canada
EGS	Ecological Goods and Services
GIS	Geographic Information Systems
GOA	Government of Alberta
GOC	Government of Canada
GPS	Global Positioning System
NAWMP	North American Waterfowl Management Plan
NGO	Non-Government Organization
WPAC	Watershed Planning and Advisory Council

1. INTRODUCTION

BACKGROUND

Although wetland stewardship is not new to the agricultural areas of the province, given the release of the [Alberta Wetland Policy](#) (hereafter, 'wetland policy'), many sectors are examining how this new direction will affect their work and how they can support its implementation. Released in September 2013 and coming into effect for the 'White Area' or settled portion of Alberta (replacing *Wetland Management in the Settled Area of Alberta: An interim Policy; 1993*) on June 1, 2015, implications of the wetland policy for agriculture are a pertinent and timely topic for renewed discussion.

In March 2014, the Alberta NAWMP Partnership hosted a forum entitled *Collaboration in Wetland Stewardship*. Attendees representing provincial and municipal governments, non-government organizations (NGO) and academia agreed on the need to work on wetland stewardship in a more coordinated fashion. A second smaller workshop on February 6, 2015 asked participants "*How can we work together on voluntary stewardship of Alberta's wetlands?*" Answers were consolidated into project ideas. One need identified as essential to successful wetland stewardship was greater agricultural engagement and empowerment. While the agricultural community has long demonstrated their role as stewards of the land, willing to support the achievement of wetland policy goals, challenges exist in implementing the policy on-the-ground.

Throughout this document, we use the term '*wetland stewardship*' broadly to include a number of wetland activities including retention, mitigation (avoid, minimize, replace), restoration and enhancement.

To address this need for greater agricultural engagement in implementing the wetland policy, in 2016, the Alberta NAWMP Partnership invited several producers and producer groups, Government of Alberta departments, conservation agencies and other stakeholders to participate in the *Agriculture and Wetland Stewardship Working Group*. (For a list of Working Group Members, see Appendix 1.)

From their Terms of Reference (see Appendix 2), the purpose of the Working Group is *to support the integration of the Alberta Wetland Policy in Agriculture*. To achieve this, the Working Group was tasked with:

- i) examining the current state of wetland stewardship on the agricultural landscape in Alberta, from policy to practice;
- ii) collectively identifying where we want to be in the future (i.e., what is the 'gold standard' of wetland stewardship on the agricultural landscape)
- iii) identifying what is standing in our way of achieving the gold standard (i.e., identifying and investigating the issues and/or challenges); and

- iv) providing guidance (identifying opportunities and making recommendations) to the Alberta NAWMP Partnership on how to improve and support wetland stewardship, and hence wetland policy implementation, on the agricultural landscape.

These tasks are discussed in more detail in the following sections.

METHODOLOGY

The Working Group met five times from October 2016 through February 2017. After sharing information and perspectives on wetlands and wetland management, they identified a number of issues pertinent to wetland policy implementation on the agricultural landscape. Clarification on the wetland policy, related regulations, incentive programs, research, etc. was sought through a number of guest speaker presentations. Finally, the Working Group made a number of recommendations to the Alberta NAWMP Partnership for further work to address these issues.

While they endeavored to work in a multi-sector, consensus-seeking manner, the Working Group was limited by the short amount of time provided to undertake their tasks. Thus, while this report provides a summary of what was learned and discussed, as well as a number of recommendations for further work, it by no means implies broad sector approval. Further sector engagement and consultation on wetland policy implementation will be necessary as implementation moves forward.

2. WHERE ARE WE AT? THE CURRENT STATE OF WETLAND STEWARDSHIP IN AGRICULTURE

The following section provides a brief overview of who is currently involved in wetland stewardship in Alberta's agricultural sector and what activities they are undertaking. As this is a fairly large community, this overview is by no means comprehensive or complete.

AGRICULTURAL PRODUCERS

Since this province was first settled in the late 1800s - early 1900s, homesteaders have been stewarding the land including wetlands and other water bodies. In the past, wetlands may have been enjoyed for their aesthetic values, and perhaps as favorite waterfowl hunting sites. Wetlands could also be important sources of water for both domestic and livestock use, particularly in times of drought.



Over the past several decades, landowners have worked with conservation agencies like Ducks Unlimited Canada to protect wetlands.¹ However, wetlands were also drained in large numbers by early landowners. As the province (and society in general) valued a burgeoning agricultural industry (and the goods it provided), provincial and municipal programs promoting and undertaking drainage projects were common, in order to increase Alberta's land under production.² Today, Alberta's White (Settled) Area is believed to have lost about 65% of the number of slough/marsh wetlands that were on the prairie/parkland landscape pre-settlement.³

While thousands of individual decisions were made to retain or drain local wetlands, until recently, there were no mechanisms to look at how these activities collectively affected the broader landscape. Today, our experiences with drought, flood, sustainable water supply, water quality, climate change and other components of a *watershed approach* have led us to the realization that in some areas of the province, we have been too effective at converting wetlands to agricultural lands – and now we, as a society, need to halt, or in some areas even reverse, our actions. This need was partly met by *Wetland Management in the Settled Area of Alberta: An Interim Policy (1993)*. However, desire for a new, province-wide wetland policy was voiced by Albertans during consultation for the *Water for Life* strategy

¹ To read about an example of landowners working with DUC, read [The Sister Act: the Roper Project](#).

² Some areas were even organized into Drainage Districts as per *Alberta's Drainage District Act*.

³ For a good overview of wetland loss statistics in Alberta, see [The Alberta GPI Accounts: Wetlands and Peatlands](#). Additional references on wetland loss include Turner, B.C.; Hochbaum, G.S.; Caswell, F.D.; Nieman, D.J. 1987, *Agricultural Impacts on Wetland Habitats on the Canadian Prairies 1981-85*. North American Wildlife and Natural Resources Conference, 52:206-215 and Watmough, M, D. Ingstrup, D. Duncan, and H. Schinke. 2002. *Prairie Habitat Joint Venture Habitat Monitoring Program Phase 1: Recent habitat trends in NAWMP targeted landscapes*. Canadian Wildlife Service, Environment Canada, Technical Report Series No. 391. Edmonton. 94 p.

released in 2003. The GOA responded by releasing the new *Alberta Wetland Policy* in 2013. Note however, the policy is ‘go forward’ in that it is not retroactive to previous drainage activities. It is also ‘place-based’ in that it recognizes that wetland objectives may be different in different areas of the province.

Agricultural producers live on the land they work, making them unique and unlike other sectors. Today, to survive in a competitive world market, they are using sophisticated tools such as GPS and computer software to optimize every square foot of land, the inputs they will add, and the time and money it will take to produce their products. Water is one of these key inputs, and on-farm water management is a key part of decision-making. Wetlands, and the ecological goods and services they provide, are a part of this discussion. However, at the moment, it is unclear if producers have access to, or clarity on the information, support tools, and capacity they need to include this component of water management in their decision-making processes. While implementation of the 2013 wetland policy is a work in progress and will take time to fully achieve, it is important to identify challenges to implementation sooner, rather than later.

Throughout this document, we use the term ‘*agricultural producer*’ broadly to include farmers, ranchers, livestock producers, the cropping sector, and others engaged in the agriculture sector.

PRODUCER GROUPS

To represent the agricultural industry, a number of producer groups exist in the province. This includes a variety of livestock (e.g., Alberta Beef Producers), crop (e.g. Alberta Canola Growers Commission) and other commodity groups. (Refer to Appendix 3 for a more comprehensive list of agencies relevant to wetlands in the agricultural sector in Alberta)

While each producer group has their own mandate, the role of these groups in general, is to advocate for their constituents, making known the challenges faced by this sector. This includes connecting government policy-makers with the agriculture sector. That is, these groups often provide the agricultural perspective and interests, and in turn are engaged in consultation processes for developing government policy and legislation. They also play an important role in informing and educating their members, particularly as it relates to how government policies, legislation, and programs will affect their operations. Hence, engaging such groups is key to the successful implementation of the wetland policy.

In turn, producer groups may also represent agriculture in other collaborations such as the [Agri-Environmental Partnership of Alberta](#), a provincial policy forum for addressing environmental issues in the agricultural sector. The [Canadian Round Table for Sustainable Crops](#) and the [Canadian Round Table for Sustainable Beef](#) are also examples of collaborations for sustainable agriculture. Note that all 11 of [Alberta’s Watershed Planning and Advisory Councils](#), partnerships mandated by the Government of Alberta (GOA) to implement aspects of the [Water for Life](#) strategy on a regional watershed level, have agricultural sector representatives at the board and project level. Finally, the Agriculture Sector (i.e., the

Crop Sector Working Group and Intensive Livestock Working Group) also provides input to the GOA on provincial wetland and water issues via its membership on the [Alberta Water Council](#).

Agricultural Representation on Alberta's WPACs

Agriculture is represented on all 11 of Alberta's Watershed Planning and Advisory Councils.

WPAC	Seat
Mighty Peace Watershed Alliance	Agriculture Sector
Athabasca Watershed Council	Agricultural Producer
Lesser Slave Watershed Council	Agriculture
Beaver River Basin Council	Agriculture
North Saskatchewan Watershed Alliance	Agriculture
Battle River Basin Council	Agriculture
Red Deer River Watershed Alliance	Agriculture
Bow River Basin Council	Commercial and Industrial Members; Licensees (Water Act)
Oldman Watershed Council	Agricultural Producer; Irrigator
South East Alberta Watershed Alliance	Licensees - Irrigators
Milk River Watershed Council Canada	Agriculture Farmer; Agriculture Rancher

All 11 WPACs are in various stages of their mandate; most have completed or are completing state of the watershed reports. These reports often include a section on wetlands including inventories, health assessments and data gaps. Having completed state of reports, most of the 11 WPACs have moved into watershed management planning processes. These plans tend to focus on surface and ground water quality and quantity. However, most also include land cover/land use/disturbance and aquatic ecosystem health components that may include objectives for wetlands, or alternatively, for limits on disturbance in areas highly impacted.

Ideally, WPACs are completing watershed management plans in collaboration with the agricultural community, thus better aligning goals and collaboratively implementing management actions to achieve shared objectives. It is perhaps too early to tell how well this is occurring across the province. However, there is some anecdotal evidence of collaboration occurring at the sub-watershed level by groups such as the Vermilion River Watershed Alliance (e.g. Vermilion Watershed Management Plan).

Water Stewardship and the Crop Sector Working Group

(Reproduced from Sharon McKinnon Blog, CSWORKING GROUP website)

Water is a big deal for farmers. Not enough and crops wither. Too much and seeding or harvest is delayed and crops suffer. Way too much and we have flooding. Water quality, along with quantity, is important for farmers for drinking, livestock, irrigation and food production (beer). Water is also a big deal for everyone else. The public is becoming increasingly concerned with how their food is produced and with the impact that “Big Agriculture” has on the environment. Also on the public radar is runoff from fields, which can carry nutrients and pesticides into nearby rivers and lakes. “Social license” is a term originally coined in the mining industry to reflect the public’s willingness to accept how the industry operates. We are hearing it more in the agriculture industry as consumers pay more attention to where their food is coming from. According to Terry Fleck with the U.S.-based Center for Food Integrity, social license is “the privilege of operating with minimal formalized restrictions based upon maintaining the public’s trust to do what is right. That means that your practices align with the values and expectations of consumers, a community or a group of stakeholders.” Social license in agriculture is closely tied to stewardship—what farmers are doing to take care of the land, water and soil and to produce healthy food. With today’s increasingly skeptical consuming public, agriculture needs to take the lead in defining what good stewardship means and to demonstrate what farmers are doing right.

Barley farmers in Alberta participate in environmental stewardship initiatives every day in their farming operations, but also jointly through industry organizations. The joint Alberta Barley and Alberta Wheat Commission Environment Committee identify environmental issues of concern and look for innovative solutions. One of the committee’s primary concerns is water. Alberta Barley is a founding member of the Crop Sector Working Group (CSWORKING GROUP), a partnership of Alberta crop industry commissions and associations that addresses environmental issues as they affect the crop sector. The CSWORKING GROUP, in turn, is a member of the Alberta Water Council, which helps to monitor and steward implementation of Alberta’s *Water for Life* strategy, whose goals include safe drinking water, healthy aquatic ecosystems and sustainable economic development through effective management of Alberta’s water resources. The CSWORKING GROUP ensures that cropping sector issues and concerns are considered in the Alberta Water Council’s recommendations, and that the cropping sector is part of the solution to issues of concern.

Alberta Barley is also part of the Agri-Environmental Partnership of Alberta (AEPA), a multi-stakeholder partnership representing crop and livestock groups, government and environmental non-government organizations that works to address agri-environmental policy issues that affect the agriculture industry in Alberta. The AEPA has a Water Advisory Team that looks at water policy issues like the new Alberta Wetland Policy. The AEPA was invited to join the Alberta Environment and Sustainable Resource Development team developing a wetland policy for all of Alberta, and it remains involved in the implementation process.

Wetlands on agricultural land are important from both an ecological and a policy perspective. Most of the loss of wetlands has been on agricultural land and around towns and cities, and wetlands continue to be drained with and without licences. For farmers, wetlands can be a major obstacle to efficient operations. It is critical that agriculture, cropping and barley producer perspectives continue to be represented on water policy and other environmental policy initiatives. The good news is that farming has a mostly positive social license, but the challenge will be to maintain and improve it. There are many farming practices that are good for business and for the environment. Alberta Agriculture has an extensive guide, *Beneficial Management Practices: Environmental Manual for Crop Producers in Alberta*. The manual is “aimed at producers who are striving for excellence in environmental stewardship,” and provides a broad range of management actions from storage, handling and disposal of agriculture inputs, to energy efficiency, to wildlife habitat enhancement.

A sustainable agriculture industry includes environmental, economic and social dimensions: good environmental stewardship, economic opportunities and a positive social license. It all boils down to beer—without barley and clean water, there’s no beer!

CONSERVATION AGENCIES

Conservation agencies and land trusts, such as Ducks Unlimited Canada, Alberta Conservation Association, and The Nature Conservancy of Canada, have been working with landowners in Alberta for decades. These agencies provide technical support and financial incentives to landowners looking to restore or enhance wetlands on their properties. They also provide a variety of legal tools, such as conservation easements, to protect wetlands into perpetuity. Finally, these and other new agencies, such as [Alternative Land Use Services \(ALUS\)](#) Canada and the [Alberta Land Institute](#) are looking at how market tools and ecosystem service payments can be used to promote agricultural wetland stewardship.

RURAL MUNICIPALITIES

Rural municipalities make up about 85% of Alberta's landscape and have a long history of supporting agriculture. Many (approximately 70) communities support a local [Agricultural Services Board](#). In turn, these boards oversee education and outreach through [Agricultural Fieldmen](#), extension programs, and other resources. Many municipalities also support regional agricultural research associations, such as the [Smoky Applied Research and Demonstration Association](#). Hence rural municipalities can be key players in implementing the Alberta Wetland Policy on the agricultural landscape. Municipal Associations, including the [Alberta Association of Municipal Districts and Counties](#), are supporting municipalities in this role.

In addition, rural municipalities are mandated to plan and oversee land management and development (through their planning and development departments) within their jurisdiction. In many cases, municipalities are developing wetland policies, or wetland objectives within existing municipal development plans and land use bylaws, to support the implementation of the provincial wetland policy. Municipalities are also often the first point of contact for landowners with questions about wetlands on their properties. Hence, if they have the capacity, they can be a bridge between landowners and regulatory and other agencies supporting policy implementation.

GOVERNMENT OF ALBERTA

Since the Alberta Wetland Policy (setting overarching policy direction) was approved by Cabinet and released in 2013, the GOA has endeavored to develop a broad range of tools and information to support policy implementation. To date, tools such as the Wetland Mitigation Directive have largely focused on the regulatory aspects of the policy. However, other tools that support knowledge building (e.g. wetland inventories) and stewardship (e.g. [Wetland Stewardship Grant](#)) are also a part of this work.

Alberta Wetland Policy Goal: *to conserve, restore, protect, and manage Alberta's wetlands to sustain the benefits they provide to the environment, society, and the economy*

Policy Outcomes:

1. *Wetlands of the highest value are protected for the long-term benefit of all Albertans*
2. *Wetlands and their benefits are conserved and restored in areas where losses have been high*
3. *Wetlands are managed by avoiding and minimizing negative impacts, and, where necessary, replacing lost wetland value*
4. *Wetland management considers regional context*

Note that while the Alberta Wetland Policy (2013) is new, legislation supporting it is not. The *Water Act* (1999) requires approval for any impacts or alteration of waterbodies. Similarly, the *Public Lands Act* continues to guide the management of permanent and natural occurring water bodies. Both before and after the wetland policy was approved in 2013, any alteration of a Crown water body required approval under both acts.

On behalf of the GOA, Alberta Environment and Parks (AEP) is responsible for implementing the wetland policy.⁴ For agricultural lands, they are in turn guided by the Wetland Policy Agricultural Engagement Team, tasked with facilitating wetland policy implementation on agricultural lands. Alberta Agriculture and Forestry (AAF) is also a member of this team.

AAF has traditionally played a strong role in providing on-farm water management support by offering technical advice, grant programs, and other education and outreach (See Appendix 4 for a list of agricultural resources for wetland stewardship). AAF also conducts research into agriculture-related issues such as the costs and benefits of beneficial management practices for nutrient management.

Note that the GOA also has a number of outcomes for flood and drought management, sustaining biodiversity, climate change, etc., that align with the goal of the wetland policy. Program funding via the [Watershed Restoration and Resiliency Program](#) and the [Agricultural Watershed Enhancement Program](#) reflect the integration of these outcomes as well as the priority given to this work.

AEP's [Business Plan 2016-19](#) Outcomes:

1. Environment and ecosystem health and integrity
2. Sustainable economic diversification
3. Social well-being
4. Protected public health and safety from environmental conditions and events

AAF's [Business Plan 2016-19](#) Outcomes:

1. Alberta's agriculture and forest industries are positioned for increased growth
2. Alberta has effective assurance systems that inspire confidence

⁴ [For information on policy implementation, see the GOA Wetland Policy Implementation webpage.](#)

3. Alberta's agriculture and forest industries are environmentally responsible and sustainable
4. Alberta has thriving rural communities

GOVERNMENT OF CANADA

The Government of Canada (GOC) supports sustainable agriculture through Agriculture and Agri-Food Canada's [Growing Forward 2](#) program. This five-year funding program will end in 2018 but is likely to be renewed. The GOC also developed wetland goals and objectives in its 1991 [Federal Policy on Wetland Conservation](#). Other federal programs for waterfowl monitoring, habitat conservation, [green infrastructure](#), etc. promote the integration of wetlands into other sustainable resource management objectives.

3. WHERE ARE WE TRYING TO GO? A VISION OF AGRICULTURAL WETLAND STEWARDSHIP

Having a good understanding of who is doing what and the current state of wetland stewardship on the agricultural landscape, the Working Group discussed what agricultural wetland stewardship could look like, with concerted collaborative effort, in the near future. This vision of a *gold standard* of agricultural wetland stewardship includes the following:

At the landscape level, the Alberta Wetland Policy is being successfully implemented, as an integrated part of an economically and environmentally sustainable agriculture sector. At the local level, producers have the knowledge, tools and capacity to incorporate wetland stewardship into their day-to-day operations.

The Working Group also discussed which values associated with wetlands are important to the agriculture sector. These include, but are not limited to, the following:

- contribution to local soil moisture regimes; soil and salinity management
- source for livestock watering
- drought risk mitigation
- flood attenuation
- local groundwater recharge/discharge
- water filtration/purification
- food, water, habitat and shelter for wildlife and plants / species at risk / biodiversity

The Working Group also recognized that there are broader ecosystem and societal values associated with wetlands including:

- aesthetic and recreational values
- social licence /public trust / part of stewardship marketing and branding

As the wetland policy moves forward, it is important to recognize what makes wetlands important to producers at the local level, as well as to society as ecosystem goods and services at the watershed level. Programs and practices designed to achieve policy goals should seek to optimize the attainment of both producer and societal values.

4. WHAT IS STANDING IN OUR WAY? THE ISSUES

To achieve the vision above, the Working Group discussed a number of issues currently hindering wetland stewardship on the agricultural landscape. Although by no means exhaustive, the following broad categories were identified:

Issue #1. Limited communications

- Frustration with communications not reaching all / not feeling heard
- Lack of strong relationships, mutual trust and communications throughout all stages of policy implementation

Issue #2. Lack of Information and/or Awareness

- Lack of awareness and clarity about the wetland policy, how it will be implemented and how relevant legislation (*Water Act, Public Lands Act*) applies to producers;
- Lack of agricultural producer and landowner awareness of the ownership of *Crown* water and permanent waterbodies
- Lack of knowledge and clarity about what can be done and what can't be done without an approval in regards to on-farm water and wetland management
- Lack of understanding by policy-implementers about producer challenges in managing on-farm water, as well as technological advances and stewardship initiatives already being utilized
- Lack of awareness about stewardship tools and incentive programs already available to producers for managing wetlands
- Lack of knowledge and ability to identify and delineate the different types of wetlands, water bodies and related landscapes (e.g., uplands, riparian areas, ephemeral waterbodies, temporary wetlands, seasonal, semi-permanent, permanent wetlands, etc.)

Issue #3. Lack of Full Cost Accounting and Economic Rationale for Retaining Wetlands on the Agricultural Landscape

- While there are a number of economic valuation studies showing the value to society of the ecological goods and services (EGS) provided by wetlands, there is currently limited evidence that clearly demonstrates that retaining wetlands is revenue positive, or even revenue neutral, to a producer's bottom line. It is also important to note the differences between different types of producers. What works for farmers and cropping may not be the same as what works for cattle ranchers.

- Both incentives (e.g., EGS payments, tax credits, BMP grants, etc.) and disincentives (e.g., regulatory compliance and enforcement, administrative fees and complexity, etc.) have a role to play in balancing the economics of retaining wetlands on the landscape. Currently, however, it is unclear where and how different incentives and disincentives are being used, and for what purposes. There has also been limited work on looking at how effective these and other tools are in achieving the goals of the wetland policy.
- ‘Social licence’ and/or public trust may also have a role to play in justifying the economics of wetland stewardship. However, in the absence of any program linking wetland stewardship and product premium pricing (similar to forest stewardship or organic food programs), producers (particularly cropping) do not associate any direct tangible benefits with this concept.

Issue #4. Lack of, or Limited, Capacity

- For ensuring compliance, compliance consistency and education about compliance issues
- For engaging in two-way communication and information-sharing (GOA, NGOs and producers) that leads to better dialogue and solutions to issues from policy to practice
- To carry out research on topics such as economics, wetland stewardship incentives and other tools, tool effectiveness, etc.
- For continuous improvement, adaptation/flexibility to improve implementation as we learn and go forward

Issue #5. Lack of Recognition of Producer On-farm Practices and Constraints such as (but not limited to):

- A short growing season/ very short seeding window that does not always fit with the timing required for *Water Act* approvals where drainage is required (may take up to 3 months for application review). Difficult to predict climatic conditions and water management decisions sooner.
- The need to manage the risk of Crown waterbodies flooding onto adjacent croplands
- The need to manage the risk of drought, large precipitation events, floods, as well as for day-to-day water-soil-salinity balance, water saturation/ water table, surface water run-off (at field edge and downstream), run-on water from upstream, etc.
- The promotion of precision ‘straight line’ (tilling, seeding) farming for better soil, crop, input management to be competitive in a tight market
- Significant time and money already put into planning, risk management, administration, etc.
- Limited capacity for competing priorities between immediate management concerns
- Limited capacity and mechanisms for working beyond the farm on joint water/wetland management initiatives (similar to the Drainage District model of landowners working together to resolve community water issues; occurring in some areas, such as the Vermilion sub-watershed, through municipal partnerships, watershed stewardship groups, ALUS Canada program, etc. but inconsistent province-wide)

Issue # 6. Financial and Administrative Challenges of Complying with the Regulatory Process

- Currently, the wetland identification, delineation, assessment and mitigation process may be cost prohibitive for some producers to comply with existing regulations. While this may act as an incentive to some to retain their wetlands (and alternatively, a disincentive to drain wetlands), it may also lead to greater non-compliance and / or need for enforcement.
- Although it will improve over time, the wetland mitigation process is currently administratively complex for the average producer.
- While other sectors can pass on the cost of hiring consultants to carry out wetland mitigation on to the consumer, producers do not feel they have the ability to pass on this cost through their products.

Finally, the Working Group also noted that wetland issues are different in different parts of the province (prairies versus parkland), in different years (drought versus flood), and even different parts of the farm (e.g. wetlands that occur in the middle of the farm or field are different than those adjacent to a neighbor or county road).

5. HOW WILL WE GET THERE? ACHIEVING OUR VISION

The work of the Agriculture and Wetland Stewardship Working Group came to an end on March 7, 2017. For the most part, and in the time allotted, the Working Group met its goals and objectives as indicated in its terms of reference. However, there is more work to be done. To achieve their vision, and to see the *Alberta Wetland Policy* successfully implemented on the agricultural landscape, the Working Group makes the following recommendations to the Alberta NAWMP Partnership for further work:

Recommendation #1. Build Stronger Relationships through Improved Two-way Communication

Policy implementers need to recognize that the agriculture sector is multi-faceted and somewhat different than other sectors. Hence it requires a different approach to wetland policy implementation. They also need to recognize that policy implementation will not be successful in the White Area without the buy-in and support of producers. Both the GOA and the agriculture sector need to continue to work together to find preferred mechanisms for improved communication and collaborations between policy-makers and producers.

Additionally, communication needs to be proactive (so everyone knows what is coming down the pipes), consistent (between Ministers, their departments, regulators, producer groups, etc.) and two-way. That is, just as producers need to understand the wetland policy intent, it is equally important that policy-makers understand the challenges faced by the agricultural sector. Wetland policy implementation must be framed in the context of both economically and environmentally sustainable and socially responsible agriculture.

In turn, producers and producer groups also have an important role to play in enabling wetland stewardship by acknowledging the role and benefit of wetlands, representing and speaking on behalf of their sector, and ensuring communications are reaching all of their constituents.

Recommendation #2. Improve Awareness and Understanding through Targeted Education

For the last several decades, there have been a variety of public and institutional educational initiatives to drive home the message that wetlands are important for water management, as much as for waterfowl and other biodiversity. While most producers value wetlands and appreciate that they are an integral ecological component of the watershed, many are not aware of the wetland policy, or of

legislation pertaining to Crown ownership of water, as well as the bed and shore of permanent and naturally-occurring waterbodies.

Hence, educational efforts today should focus more on how water, wetlands and other waterbodies are managed in Alberta, and what this means for producers and other landowners. In particular, educational efforts should be targeted to help the producer integrate wetland stewardship into on-farm practices and decision-making. This includes knowing how to distinguish ephemeral waterbodies from wetlands; determining permanence for Crown wetlands; learning which on-farm water management activities trigger legislation; knowing how to navigate the regulatory process where required, and how to find help when needed.

There are currently a number of educational initiatives that could be expanded on to improve awareness and understanding about wetland policy implementation including (but not limited to) the following:

- Providing articles, fact sheets and case studies to existing Producer Group communication materials such as newsletters and magazines. Content should focus on enhancing agricultural producers' knowledge on how to classify and delineate wetlands and waterbodies and the regulatory requirements when working around either.
- Providing policy speakers and displays at agricultural conferences and trade-shows
- Including a separate unit on wetland management in the next iteration of the Environmental Farm Plan program
- Building on the [Cows and Fish](#) model and other extension programs to increase capacity for one-on-one and peer-to-peer engagement with landowners
- Engaging landowners in larger landscape level planning initiatives using the Drainage Districts' model, municipal partnerships, watershed stewardship sub-basin initiatives, programs like ALUS Canada, etc.
- Recognizing wetland stewardship, innovation and other good works through expanded recognition / award programs

Table 1. Education programs need to identify which legislation should be consulted when activities affecting a waterbody or a wetland are being considered.

	<i>Public Lands Act</i>	<i>Water Act</i>	Wetland Mitigation
Ephemeral waterbody		√	
Permanent (Crown) Wetland	√	√	√
Non-permanent Wetland		√	√

*For more on this, see the [Wetland Regulatory Requirements Guide and the Alberta Wetland Classification System](#).

Recommendation #3. Develop an Economic Rationale for Wetland Retention

“If your outflow exceeds your income, your upkeep will be your downfall.”

The agricultural community feels strongly that there is a cost to retaining and farming (particularly cropping) around wetlands. Also, this cost is fully born by the producer, and not society, even though the benefits of wetland retention accrue to society. To encourage producers, the GOA should work with producer groups, researchers and economists to quantify the costs and benefits (both tangible and intangible) of retaining wetlands, both to the producer and to society (i.e., full cost accounting).

Additionally, they should identify the stewardship tools or programs (e.g., incentives such as EGS payments and disincentives like fees) if any, needed to make wetland retention revenue positive, or at a minimum, revenue neutral. While this work is beyond their scope, the Working Group discussed some of the line items that would be considered in a cost and benefits analysis, as per the table below. They also noted that different wetlands have different values, and that values can be different depending on what part of the province you are in.

Table 2. Some Benefits and Costs of Wetland Retention that could be Quantified in an Economic Business Case

Benefits of Wetland Retention (tangible \$\$):
<i>Market Access Requirement or Product Price Premiums:</i> Seen for some practices for some products (e.g. organic foods, McCain potatoes, direct sales to restaurants, brand recognition programs, etc.) however nothing right now that ties wetland retention to market access or product pricing. Such programs can be administratively burdensome. Need to investigate if there is a market willing to pay a premium.
<i>Payments for Best management practices that produce ecological goods and services:</i> Need a menu to make producers aware of what is available. Currently, payments to farmers and ranchers tend to focus on wetland restoration or enhancement, but not for retention. Programs like ALUS Canada are trying to address this. In some jurisdictions, access to any program payments is tied to no drainage.
<i>Property Tax reductions</i> for Crown waterbodies and wetlands. Landowners generally do not have to pay taxes for Crown lands; however, not all counties have been proactive in identifying and removing these lands from rate-payer assessments.
<i>Savings</i> realized by using wetland water for domestic or livestock uses (if less than 1250 cubic meters annually)
<i>Savings</i> (application fees, penalties, legal fees, wetland mitigation cost, etc.) realized by not engaging in the regulatory process or being non-compliant (disincentives).
Benefits (intangible):
Landowner aesthetic enjoyment and enjoyment of wetland biodiversity
Ecological goods and services that accrue to the local landowners such as water storage/security, groundwater recharge-discharge, water table maintenance/water infiltration to soil/ soil moisture / salinity management
Landowner contribution to societal goals for sustainability, climate change mitigation, etc. Note: it is also a societal goal to feed people. How do we manage the landscape to achieve both: how do we discuss trade-offs?
Costs (tangible):
Reduced acreage in production (lost yield/lower GDP/fewer jobs/less taxes for infrastructure, social programs, etc.)
Labour: additional time and cost if have to move machinery around; additional time and cost of programming precision tools to go around wetlands
Machinery (maintenance, fuel, insurance, etc.): additional cost if have to move machinery around or re-cross land already covered.
Inputs (fertilizer, pesticides, seed, water, etc.): costs should be lower if retain wetland but have to include cost of preventing over-application near water, duplicating coverage when re-crossing land already covered, etc.
Cost of wetland management if have to install exclusion fencing, do weed/ invasive species control, manage wildlife depredation, etc.
Regulatory cost of watering livestock (time and \$\$ to make application to divert if greater than 1250 cm)
Cost of managing water risk in a wet year/ wetland can overflow onto adjoining crop lands
Costs (intangible):
Loss of EGS that occurs from conversion of wetlands to crop lands (productive soil, increase production, carbon

sequestration, etc.) Some valuation work being done on this. Also, tile drainage has societal and landowner benefits – control water outlet (managing risk, nutrient management, erosion/soil mgmt.) In some areas, as important as irrigation for managing water.
Net:
Economically and environmentally sustainable farms
Land value (does retaining wetlands increase or decrease future land prices?)
Quality of life

Recommendation #4. Build Capacity for Wetland Policy Implementation

The Working Group recognized that limited capacity for implementing the wetland policy (including implementing the recommendations in this report) will always be an issue, for all parties involved. However, they also recognized that there are some pockets of resources and some opportunities to strengthen collaborations in support of this work. Some of these include (but are not limited to) the following:

- Greater awareness of wetland restoration incentive programs such as Ducks Unlimited Canada's Wetland Restoration Lease and Revolving Land Purchase Programs
- Greater collaboration with producer groups who have some staffing capacity and resources for wetland communications, education and events
- Greater collaboration with municipalities (including Ag Service Boards and Ag Fieldmen), many who have environmental staff, GIS capability, education and outreach programming, etc.
- Greater collaboration with partnerships including water and sustainable agriculture partnerships such as AEPA, AWC, WPACs, etc.
- Exploration of the wetland mitigation fund (non-restorative portion) to fund compliance education, economic research, etc.
- Federal funding programs for municipal sustainability, green infrastructure (an approach to water management that protects, restores, or mimics the natural water cycle), innovation, etc.

Recommendation #5. Align Wetland Stewardship with On-farm Water Management Practices

Producers have a lot of competing issues on their plate. Hence, the more wetland retention is integrated into everyday business (as opposed to an additional consideration), the greater the chance the wetland policy has of being successfully implemented on the agricultural landscape. That is, we need to ensure that policy can be put into practice while still maintaining both economic and environmental sustainability of the farm. To move in this direction, there first has to be greater understanding and clarity around the connection points between on-farm practices (e.g., landscaping, ditching, tile-drainage, precision farming, grazing/haying/watering livestock, etc.) and where there are opportunities to incorporate wetland stewardship into farm activities. Some of this may be achieved through education, or via environmental farm planning. Note however, the conversation needs to go beyond wetlands and water, weighing other management consideration such as soils, salinity, biodiversity, crop yields, etc.

Recommendation #6. Ensure Financial and Administrative Efficiency

To be clear, the financial and administrative burden of complying with legislation associated with the wetland policy, by design, can be an incentive to retain wetlands. However, when a producer still deems

wetland loss (with replacement elsewhere) is necessary, the financial and administrative cost of compliance should not outweigh the cost of non-compliance. The Working Group discussed several ways to reduce financial and administrative costs associated with the regulatory process including (but not limited to) the following:

- Ensuring producers clearly understand the regulatory process, the time required to review an application, and the potential costs involved.
- Providing decision-making clarity and consistency among regulators.
- Making clear the intent to enforce regulations and the potential costs of being non-compliant.
- Exploring other affordable and accessible delivery mechanisms for the regulatory process that could be used to achieve wetland policy goals such as self-assessments, decision-support software with a suite of options (retain, enhance, create, etc.) and clear, cost effective steps to achieve, risk-based permitting systems, area-based regulations, trade-able wetland credits, standards, technical assistance, etc.

CONCLUSION

If the above recommendations are carried out, it could lead to greater support and assistance for agricultural producers as they continue the successful implementation of the *Alberta Wetland Policy*. This in turn will lead to more informed and empowered producers that can make decisions leading to improved wetland conservation and stewardship across the province.

GLOSSARY OF WETLAND TERMS

Bank	The line where the bed and shore of the body of water ceases: a change in vegetation, terrain, soils that shows where the water stops and the land begins. Can change over time. Not the ecological boundary of the wetland. Section 17(2) of the <i>Surveys Act</i>
Bed and Shore	Land covered so long by water as to wrest it from vegetation or as to mark a distinct character on the vegetation where it extends into the water or on the soil itself. Section 17 (3) of the <i>Surveys Act</i>
Body of Water	No formal definition and no common-law definition. Different from 'Water Body' as defined under the <i>Water Act</i> . Working definition is "A body of water is an expanse of surface water that is substantially at rest." On the surface, open water can blow in the wind but is not perceptibly flowing (i.e., a water course).
Ephemeral waterbody	A shallow water body that temporarily contains water after spring snowmelt or a heavy rainfall and typically dries up within a matter of days to weeks" Alberta Wetland Policy Implementation Fact Sheet Agriculture
Mitigation	Management activities taken to avoid and minimize negative impacts on wetlands, and to replace lost wetlands, where necessary. Alberta Wetland Policy
Naturally- occurring	Not created by human activities.
Permanence	Holds water more often than not – rather than perpetual flooding. Measured across the historical record rather than a short time period. See the Guide for Assessing Permanence of Wetland Basins
Water body	Any location where water flows or is present, whether or not the flow or the presence of water is continuous, intermittent or occurs only during a flood, and includes but is not limited to wetlands and aquifers but does not include a "water body" that is part of an irrigation works if the irrigation works is subject to a licence and the irrigation works is owned by the licensee, unless the regulations specify that the location is included in the definition of water body; <i>Water Act</i>
Wetland	Land saturated with water long enough to promote formation of water altered soils, growth of water tolerant vegetation, and various kinds of biological activity that are adapted to the wet environment. Source Alberta Wetland Policy

APPENDIX 1 – TEAM MEMBERS

Name	Surname	Job Title	Affiliation
Michael	Barr	Alberta NAWMP Coordinator	Alberta NAWMP Partnership
Diana	Bingham	On-Farm Stewardship Coordinator	Alberta Agriculture and Forestry
Howie	Bjorge	Agrologist	Alternative Land Use Services (ALUS) Canada
Tasha	Blumenthal	Policy Analyst	Alberta Association of Municipal Districts and Counties
Janna	Casson	Ag-Environmental Stewardship Specialist	Alberta Agriculture and Forestry
Al	Corbett	Director	Drainage Districts & Council
Angela	Fulton	Water Team lead, Regional Approvals	Alberta Environment and Parks
Fred	Hays	Policy Analyst	Alberta Beef Producers
Zahidul	Islam	Hydrologist and Water Policy Specialist, Team Lead, Wetland Policy Agricultural Engagement Team	Alberta Environment and Parks
Lorrie	Jesperon	Member	Alberta Milk
Paul	Jungnitsch	Greenhouse Gas Offset Agrologist, Environmental Stewardship Division	Alberta Agriculture and Forestry / Representing Agri-environmental Partnership of Alberta
Brandon	Leask	On-Farm Water Management Advisor	Alberta Agriculture and Forestry
Jason	Lenz	Vice-Chairman	Alberta Barley
Stephen	Majek	County of Wetaskiwin	Association of Alberta Agricultural Fieldmen
Ron	McMullin	Executive Director	Alberta Irrigation Projects Association
Susan	Meilleur	Project Manager, Wetland Policy	Alberta Environment and Parks
Tracy	Scott	Head – Industry and Government Relations - Alberta	Ducks Unlimited Canada
Kevin	Serfas	Member	Alberta Canola Producers Commission
Craig	Shaw	Chairman	Alberta Farm Water Management Association
Don	Shepert	Member	Alberta Pulse Growers
CC's and Alternates			
Amanda	Cooper	Water Technologist	Alberta Environment and Parks
Janet	Dietrich	General Manager	Agri-Environmental Partnership of Alberta
Thorsten	Hebben	Director, Surface Water Policy	Alberta Environment and Parks
Petra	Rowell	Facilitator	Petra Rowell Consulting
Shannon	Sereda	Manager of Market Development & Policy	Alberta Barley
Terra	Simieritsch	Wetland Education Network Coordinator	Lilium Consulting

Terms of Reference - Wetland Stewardship and Agriculture Working Group June 2016

Prepared by: M Barr, J Dietrich, D Bingham, P Jungnitsch, K Lorenz, T Hebben

Need: Assistance is needed to better understand, engage, and make the Wetland Policy feasible for agricultural producers and the agriculture industry. Ultimately this would enable implementation of the Alberta Wetland Policy and its tools and regulatory mechanisms, guided by the provincial *Water Act* and *Public Lands Act*. Additionally, there is a need to identify and make accessible wetland-related opportunities for agricultural producers and the agriculture industry.

Purpose of this Initiative: to support integration of the Alberta Wetland Policy in Agriculture focusing on improved understanding of i) roles, responsibilities, challenges and opportunities for producers to engage in wetland management; ii) roles, responsibilities, and opportunities for wetland management among government and agriculture industry to enable successful implementation of the Alberta Wetland Policy; and iii) wetlands as components of economic and sustainable surface water management systems,

Note: this Working Group will coordinate discussion and issue identification with the Alberta Wetland Policy Implementation Cross-Ministry group. This will be accomplished by including some representatives common to both groups.

Description: The Alberta Wetland Policy introduces additional considerations and costs to the accepted concept of practicing environmentally sustainable agriculture. Launched in June 2015 in the ‘white zone’ or agricultural portion of Alberta, implications for agriculture of the new Alberta Wetland policy are being assessed with some concerns raised.

Alberta NAWMP proposes to facilitate a broad stakeholder Working Group to support the Government of Alberta in improved understanding, and ultimately enabling, Wetland Policy implementation, focusing on the following:

- **What and Why?** *The outcome we are seeking is the Wetland Policy will be part of an economically and environmentally sustainable surface water management system.*
This will require defining and describing what implementation of the Wetland Policy means to agriculture, and how to make this implementation sustainable in an agricultural context. This may include a review of existing (or additional) science to understand how proposed wetland-based rules may impact the agriculture community.
- **Who and How: Government and Ag-industry?** *The outcome we are seeking is roles, responsibilities, and opportunities for wetland management are understood among government ministries, Ag-industry and other stakeholders to enable successful implementation of the Alberta Wetland Policy.*
- **Who and How: Producers?** *The outcome we are seeking is that producer roles, responsibilities, challenges and opportunities to engage in wetland management activities and understood, accessible, and that producers are voluntarily compliant with legislation and regulation.*

Membership: Working Group membership would include a range of agricultural organizations, sectors, associations, individual producers, Government of Alberta (E&P, A&F, AAMDC) AEP (Policy, Programs, Planning?) and other stakeholders. Suggest:

- AEP (Policy, Approvals)
- AAF (3)
- AIPA (Irrigation)
- Ag Fieldmen Association
- ABP
- Crop Sector (possibly multiple reps)
- Ag sector – Peace Region
- AB Farm Water Management Association
- Drainage Districts
- Producers
- Rural Municipal policy (AAMDC)
- NGOs (ALUS Canada, DUC, ACA)

Term: Working Group would form and complete draft guide in 6 months: formative July 1 through August 30, 2016, and active September 1 2016 through March 31, 2017. An estimated 6 meetings are required to complete this work in this term.

Leadership: AB NAWMP would fund coordinator/facilitation costs. Assumption is member representation is voluntary and at own cost. Meeting space also assumed voluntarily and provided on a rotating basis.

Deliverables:

#1: Sensitive Issue identification and investigation (link to Cross-Ministry committee)

#2: *A Guide to Supporting Wetland Stewardship and Agriculture*

APPENDIX 3 – AGRICULTURAL AGENCIES RELEVANT TO WETLAND STEWARDSHIP

Name	Audience	Description	Website
Agriculture and Agri-Food Canada	producers	Growing Forward II programs promote BMPs through EFPs; technical support	http://www.agr.gc.ca/eng/home/?id=1395690825741
Agri-environmental Partnership of Alberta	Producers, policy-makers	Promote environmental stewardship through policy development	http://www.agpartners.ca/
Alberta Agriculture and Forestry	Agricultural Producers, processors and Associations	promote ag BMPs	http://www.agric.gov.ab.ca/
Alberta Association of Municipal Districts and Counties	Rural counties	Support Ag Services Boards and Ag Fieldmen	http://www.aamdc.com/
Alberta Barley Commission	producers	Advocate for this commodity group	http://www.albertabarley.com/
Alberta Beef Producers	producers	Advocate for this commodity group	http://albertabeef.org/
Alberta Cattle Feeders' Association	producers	Advocate for this commodity group	http://www.cattlefeeders.ca/
Alberta Canola Producers Commission	producers	Advocate for this commodity group	http://www.canola.ab.ca/
Alberta Chicken Producers	producers	Advocate for this commodity group	http://www.chicken.ab.ca/
Alberta Conservation Association	Hunters, fishers, recreation, land owners	conservation lands program	http://www.ab-conservation.com/
Alberta Goat Breeders Association	producers	Advocate for this commodity group	http://www.albertagoatbreeders.ca/
Alberta Elk Commission	producers	Advocate for this commodity group	http://www.albertaelk.com/
Alberta Environment and Parks	producers, public	<i>Water Act</i> , Wetland Policy, <i>ALSA</i> , <i>Public Lands Act</i>	http://aep.alberta.ca
Alberta Forage Industry Network	producers	Advocate for this commodity group	http://www.albertaforages.ca/
Alberta Irrigation Projects Association	Irrigators, policy-makers	Provide water support to 80,000 acres of wetlands	http://aipa.ca/
Alberta Lamb Producers	producers	Advocate for this commodity group	http://www.ablamb.ca/
Alberta Land Institute (University of Alberta)	Researchers, landowners, policy-makers	working with County of Rockyview on reverse auctions for wetland restoration	http://www.albertalandinstitute.ca/research/research-projects/project/wetlands
Alberta Hatching Egg Producers	producers	Advocate for this commodity group	http://albertahatchingeggs.ca/

Name	Audience	Description	Website
Alberta Milk	producers	Advocate for this commodity group	http://www.albertamilk.com/
Alberta NAWMP Partnership	Policy-makers, stakeholders	Advocate for the North American Waterfowl Management Plan	http://www.abnawmp.ca/
Alberta Pork	producers	Advocate for this commodity group	http://www.albertapork.com/
Alberta Pulse Growers Commission	producers	Advocate for this commodity group	http://www.pulse.ab.ca/
Alberta Research and Extension Council of Alberta	Producers	to enhance and improve operations through access to field research and new technology	http://www.areca.ab.ca/
Alberta Stewardship Network	Stewardship groups	Provides support including grant funds for stewardship groups.	http://www.landstewardship.org/ASN/
Alberta Reindeer Association	producers	Advocate for this commodity group	http://www.albertareindeer.com/
Alberta Turkey Producers	producers	Advocate for this commodity group	http://www.albertaturkey.com/
Alberta Water Council	Stakeholders, policy-makers	Develops water policy advice	http://www.albertawatercouncil.ca/
Alberta Wheat Commission	producers	Advocate for this commodity group	http://www.albertawheat.com/
Alberta Whitetail and Mule Deer Association	producers	Advocate for this commodity group	http://www.albertadeer.com/
Alternative Land Use Services (ALUS) Canada	Farmers and Ranchers	National program supporting ecosystem services on farms and ranches.	http://alus.ca/
Association of Alberta Agricultural Fieldmen	Ag Fieldmen, Ag Service Boards	Professional organization	http://aaaf.ab.ca/
Bison Producers of Alberta	producers	Advocate for this commodity group	http://www.bisoncentre.com/
Cows and Fish	Producers, landowners	Riparian management support	http://cowsandfish.org/
Ducks Unlimited Canada (Alberta)	policy-makers, decision-makers, landowners, etc.	mandate to conserve wetlands; incentive programs for landowners	http://www.ducks.ca/your-province/alberta/
Egg Farmers of Alberta	producers	Advocate for this commodity group	http://eggs.ab.ca/
Environment Canada	Federal land managers	National Policy on Wetland Conservation	https://www.ec.gc.ca/eau-water/default.asp?lang=En&n=27147C37-1
Horse Industry Association of Alberta	Horse breeders and owners	Advocate for this group	http://www.albertahorseindustry.ca/

Name	Audience	Description	Website
Intensive Livestock Working Group	producers	Advocate for this commodity group	http://www.agpartners.ca/aepa/Portals/0/ILWG%20Background%20April%207%202013.pdf
Land Stewardship Centre	Land and water stewards	Wetland grant program; Green Acreages Guide	http://www.landstewardship.org/
Ostrich Association of Alberta	producers	Advocate for this commodity group	http://www.ostrich.ca/
Potato Growers of Alberta	producers	Advocate for this commodity group	http://www.albertapotatoes.ca/
Strathcona County	County residents	<i>Wetland Conservation Policy</i>	http://www.strathcona.ca/files/files/attachment-11s-mph-ser-009-036-wetland-conservation.pdf
The Nature Conservancy of Canada	landowners	Land trust	http://www.natureconservancy.ca/
Watershed Planning & Advisory Councils	Basin water stakeholders	Assess the state of and develop watershed management plans	http://albertawater.com/work/alberta-water-community/wpacs
Watershed Stewardship Groups	Stewards, communities	Community, volunteer-based partnerships actively engaged in environmental stewardship of their watershed.	http://aep.alberta.ca/water/programs-and-services/water-for-life/partnerships/watershed-stewardship-groups/default.aspx

APPENDIX 4 – RESOURCES FOR AGRICULTURAL WETLAND STEWARDSHIP

Program	Description	Link
Agricultural Fieldmen (Municipalities)	Counties providing services to their landowners for the care of wetlands. Ranges from technical advice to cash payments from various sources. Can come from many different areas and programs including industrial environmental accounts.	http://www.aaaf.ab.ca/uploads/pdf/2015_AAAF_Directory_as_of_October_1_2015.pdf
Agricultural Watershed Enhancement Program (AAF)	Landowners or groups can apply for GF2 funds to support wetland and riparian area BMP implementation for the benefit of surface water quality.	http://www.growingforward.alberta.ca/Programs/index.htm?contentId=AGRI_WTRSHED_PRG&useSecondary=true
Agroforestry and Woodlot Extension Society (AWES)	Technical help with riparian area repair and establishment.	http://www.awes-ab.ca/
Alberta's Wetlands: A Law and Policy guide (Arlene Kwasniak)	Describes the laws and policies affecting wetlands in Alberta.	http://www.cirl.ca/files/cirl/wetlandsbrochure.pdf
Alternative Land Use Services (ALUS) Canada	Designed as a way to protect wetlands and the environment by rewarding ecosystem services. Producer driven program delivered in partnership with Rural Municipalities, with local committees deciding on the projects done. Establishment costs are shared, then an annual payment until contract expires or the landowner opts out. Payment rates per acre are similar to current land rental rates. Contract length varies by community, from a year to 10 years.	http://www.alus.ca/
Conservation Auctions (Alberta Land Institute)	A pilot study in Rocky View County where producers get paid for restoring wetlands on their property. Bids are submitted and the amount paid varies depending on the results of a reverse auction.	http://restoreourwetlands.ca/
Cows and Fish (Alberta Habitat Management Society)	Assists producers with technical support for managing wetlands and riparian areas.	http://cowsandfish.org/
FarmTech	A conference organized by and for producers.	http://farmtechconference.com/
Forage Program (DUC)	Subsidizes forage seed costs, in return for keeping land in perennial cover for 10 years and not draining wetlands. DUC pays up to \$150.00 per 50 lb. bag of forage seed, on varieties purchased from Crop Production Services.	http://www.ducks.ca/news/provincial/alberta/duc-cps-announce-forage-incentive-program-for-producers
Miistakis Institute	Carry out a number of projects and research to support land and water stewardship.	http://www.rockies.ca/
Municipal Water Policy on Wetlands 2013 (AUMA)	Policy considerations developed by AUMA members prior to wetland policy. Also adopted	https://auma.ca/advocacy-services/resolutions/resolutions-

Program	Description	Link
	by AAMDC.	index/municipal-water-policy-wetlands
New Acre Program (ALUS Canada)	Farmers and ranchers manage selected areas of marginal farmland for the production of ecosystem services, with significant benefits for the environment, the local community and society as a whole.	http://alus.ca/newacreproject/
On-Farm Stewardship Program (AAF)	GF2 funding for projects that help livestock and crop producers implement on-farm management practices in five areas that positively impact water quality.	http://www1.agric.gov.ab.ca/general/progserv.nsf/all/pgmsrv417
On-Farm Water Management Program (AAF)	GF2 funding relating to enhancements of a producer's on-farm water supply arising from a Long-Term Water Management Plan (LTWMP). Cost sharing is offered through Standard and Special Incentive projects.	http://www1.agric.gov.ab.ca/general/progserv.nsf/all/pgmsrv380
Revolving Land Purchase Program (DUC)	Eligible lands with wetland restoration potential purchased by DUC at fair market value. Wetlands and upland cover are restored, a conservation easement retaining those features with no haying or grazing restrictions is placed on the land, and it is resold (typically at a discount) for agricultural use.	http://www.ducks.ca/resources/landowners/revolving-land-conservation-program/
Ropin' the Web (AAF website)	Information on wetland stewardship, stewardship incentive programs, beneficial management practices, etc.	http://www.agric.gov.ab.ca/app21/rtw/index.jsp
Ten-year Wetland Restoration Lease Program (DUC)	Wetland Restoration incentive program. Provides payment for restoration of wetland Ecosystem Services. Landowner retains control of land management. Value based on current fair market value of land with 50% up-front payment followed by 10 annual payments for remainder. All associated restoration costs covered by DUC.	http://www.ducks.ca/resources/landowners/ten-year-lease-program/
Vermilion River Watershed Restoration and Enhancement Project (Vermilion River Watershed Alliance)	Local grant program for restoration and enhancement of wetlands.	http://vrwa.ca/
Watershed Resiliency and Restoration Program (AEP)	Grants available to non-government organizations, stewardship groups, and municipalities in high priority areas for flood mitigation or drought prevention.	http://aep.alberta.ca/water/programs-and-services/watershed-resiliency-and-restoration-program/watershed-resiliency-and-restoration-program-faqs.aspx
Wetland Mitigation Directive (AEP)	Outlines how the mitigation hierarchy (avoid, minimize, replace) is to be applied.	http://aep.alberta.ca/water/programs-and-services/wetlands/documents/AI

Program	Description	Link
		bertaWetlandMitigationDirective-Jul2016.pdf
Wetlands Offset Program Description (AEP)	Describes the wetland offset program under the Alberta Wetland Policy.	http://aep.alberta.ca/water/programs-and-services/wetlands/documents/WetlandOffsetProgramDescription-Sep2015.pdf
Wetland Restoration Agent Pilot Project (County of Vermilion with ALUS Canada)	A pilot project by the County of Vermilion to be the first rural Municipal Wetland Mitigation Agent.	http://www.vermilion-river.com/departments/agriculture_environment/environment.html
Wetland Restoration Directive (AEP)	Provides a protocol for wetland restoration.	http://aep.alberta.ca/water/programs-and-services/wetlands/documents/WetlandRestorationDirective-Nov2016.pdf