What is important to know before working in and around wetlands on your farm or ranch





Acknowledgments

We also thank the following organizations and their representatives for their feedback on the draft guide: Alberta Beef Producers, Team Alberta (Crop Sector Working Group), and the Agri-Environmental Partnership of Alberta. We thank Fuse Consulting Ltd. for facilitating the producer consultation process.

Thanks also to Kristyn Mayner, Ashley Lewis and Karli Reimer of Ducks Unlimited Canada for providing access to images.



Writing/Coordination: Carolyn King

Design: Metrographics

Alberta NAWMP Partnership. 2022. Landowner Guide to the Alberta Wetland Policy. Ducks Unlimited Canada, Edmonton, AB. Copyright © 2022 Alberta NAWMP Partnership Printed in Canada

This guide can be downloaded from abnawmp.ca and wetlandsalberta.ca. Contact the Alberta NAWMP Partnership Coordinator to request hard copies.

Contents

Purpose of this guide	4
Part 1. Alberta Wetland Policy basics	4
Does the Wetland Policy apply to your situation?	5
Do you have a wetland?	6
Wetland Indicators Tool	6
Your rights and responsibilities when working in	
and around wetlands	8
Water Act and Wetland Policy	8
You don't need a Water Act approval to	9
You do need a Water Act approval to	9
If you are considering draining, ditching, infilling or	
consolidating a wetland	10
Assess your project's expected costs and benefits	10
Water Act application process	12
Part 2. Wetland stewardship	13
Why wetlands matter to you	13
Wetland conservation and restoration	15
If you want to conserve and improve wetland health	15
If you want to restore or construct a wetland	17
Take-home messages	18
Appendix	
Examples of information sources	19

Purpose of this guide

The Alberta Wetland Policy relates to activities in and around Alberta wetlands. It aims to allow continued growth and economic development while minimizing wetland loss and degradation. Wetlands can sometimes be a challenge for landowners, especially crop growers, but wetlands can also provide multiple benefits to your farm or ranch and your community.

Part 1 of this guide helps you as an Alberta landowner to understand your rights and responsibilities under the Wetland Policy and related legislation. It also outlines the regulatory process if you are planning to drain or otherwise alter a wetland.

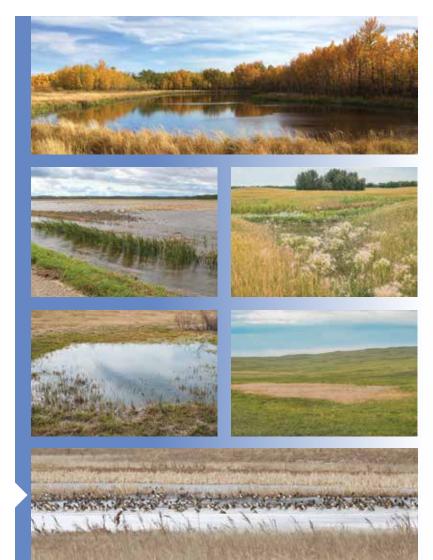
Part 2 summarizes how wetlands benefit ranchers and farmers, and looks at practices and programs for producers who are interested in wetland stewardship and restoration.

Part 1

Alberta Wetland Policy basics

The Alberta Wetland Policy is implemented via the approval process under Alberta's Water Act.

- The Water Act applies to water bodies whether or not the flow or the presence of water is continuous, intermittent or occurs only during a flood. That means the Water Act applies even to really short-lived water bodies that last for less than two weeks, which are known as 'ephemeral water bodies.'
- A Water Act authorization is required for draining, filling, or otherwise altering a wetland or an ephemeral water body.
- The Wetland Policy has mitigation requirements for replacing wetland losses resulting from activities such as drainage or infilling. However, these replacement requirements do not apply to ephemeral water bodies.



These are all considered wetlands under the policy.

An example of how a wetland can change over time.

Does the Wetland Policy apply to your situation?

If you use the term slough, hay slough, swamp, swampy area, muskeg or marsh to describe an area on your land, then you have a wetland, and the Wetland Policy's mitigation requirements probably apply. Those are the easy wetlands to identify. But the mitigation requirements can also apply to wetlands that may be less obvious.

This section of the guide includes a simple tool to help you figure out if an area on your land is considered a wetland under the policy.

Wetlands naturally come in many shapes and sizes. Their appearance can also change dramatically from spring snowmelt to dry days in late summer.

Many wetlands also go through longer term fluctuations in response to wet and dry cycles. For example, a wetland basin may be filled with water all spring and summer for many years in a row, followed by several years with no water or water only in the spring. Then a few years later, after the dry years end, the wetland basin fills up again.



The toughest part about wetland identification is that many wetlands have surface water for only part of the year.

Do you have a wetland?

You can use the Wetland Indicators Tool below to help you determine whether or not a particular area on your land is likely considered a wetland under the Wetland Policy.

This tool is a simplified way to identify an area that remains wet long enough for the water to influence plant and soil characteristics. An area that does not remain wet long enough to have these water-influenced characteristics is considered an ephemeral water body, and the Wetland Policy's requirement to replace wetland losses does not apply to ephemeral water bodies.

However, distinguishing between an ephemeral water body and a wetland can sometimes be complicated. This tool does not take the place of a detailed wetland assessment by a wetland professional.

After using this tool, if you still have any uncertainty about whether you have a wetland or an ephemeral water body, then it is highly recommended you obtain professional advice from a wetland professional.

Wetland Indicators Tool

Step 1.

- IF the area typically contains water most or all of the time, THEN it is a wetland.
- IF the area sometimes, usually or always dries up, THEN go to Step 2.

Step 2. Using the Wetlands Indicators Checklist on the next page:

- IF the area has any wetland plant indicators AND
 - IF the area has any water-altered soil indicators, AND
 - IF the area has at least one primary water indicator or at least two secondary water indicators, THEN it is a wetland.
- IF you cannot use the plant indicators (for example, because the area is cropped), AND/OR you cannot use the soil indicators (for example, because someone has placed debris in the area), THEN go to Step 3.

Step 3.

IF the area has at least two primary water indicators or all four secondary water indicators, THEN it is a wetland.







Wetland Indicators Checklist

a) Wetland plant indicators	
☐ The area has some water-loving or water-tolerating plants such as foxtail, willows, cattails, rushes, sedges, reed canary grass, sloughgrass, fowl bluegrass, waterparsnip, wild mint, marsh cinquefoil o aquatic species such as pondweeds.	r
b) Water-altered soil indicators	
To assess the soils in the area, dig a small soil pit, 20 inches (50 cm) deep, and see if: ☐ the soil smells like sulphur (rotten eggs). ☐ the soil feels greasy, mushy or wet if you squeeze it. ☐ the pit fills with water or has water glistening on the exposed soil. ☐ the soil has a layer that is a gray, gray-blue or gray-green colour. ☐ the soil has a layer with rusty, red, orange or yellow streaks, spots or blotches. ☐ the soil has a surface layer of muskeg or peat (partially decomposed plant material).	
c) Primary water indicators	
 □ The area typically contains water for more than two weeks in spring. □ The area has a ditch or drain. □ The area has a spring or seep. □ The ground is soft or soggy underfoot. □ In cropped land, you often delay seeding by more than two weeks because the area is too wet. □ In cropped land, you can't seed the area at all in some years because it is too wet. □ In cropped land, equipment ruts in the area are larger than 4 inches (10 cm). □ In hayland, you often delay haying the area by more than two weeks because it is too wet. □ In grazed land, livestock cause pugging and compaction in the area for more than two weeks. □ The area has salt crusts or alkaline soils. □ The area has bare soil with surface cracks after the water recedes. □ The area has rust-coloured stains on the ground surface or in the water. □ The area has crusts or mats of algae after the water recedes. □ Snail or crustacean shells are left on the surface of the area after the water recedes. 	
d) Secondary water indicators	
 □ You delay seeding or haying the area at least once in five years because it is too wet. □ If your farming equipment has ever been stuck or created ruts in the area. □ You avoid driving through the area for fear of getting stuck. □ If cropped, the crop stand in the area shows signs of waterlogging stress, like stunting and poor growth 	h.

If you would like more information on wetland classification or help in identifying any of the plant, soil or water indicators in the Wetland Indicators Checklist, go to the <u>Alberta Wetland Classification System Field Guide</u>.

Your rights and responsibilities when working in and around wetlands

As a landowner, it is your responsibility to ensure that all municipal, provincial and federal regulatory requirements are met prior to commencing work in or near a wetland.

Water Act and Wetland Policy

Two of the key pieces of Alberta legislation and policy that govern your rights and responsibilities when working in and around wetlands on your land are the *Water Act* and the Wetland Policy.

Water Act: Under the *Water Act*, regulatory approval is required for drainage or any other impact to any type of water body, including wetlands and ephemeral water bodies. An ephemeral water body is an area that can be saturated or hold water for less than two weeks, but not long enough to promote the formation of water-altered soils within 12 inches (30 cm) of the ground surface. Although ephemeral water bodies may have some water-tolerant vegetation, upland vegetation dominates.

Alberta Wetland Policy: This policy is implemented under the Water Act's approval process. Any proposed project that requires a Water Act authorization and may impact a wetland has to follow the Wetland Policy's avoid/minimize/replace mitigation system:

- This system emphasizes avoiding wetland impacts.
- If avoidance is not possible, the project must minimize impacts.
- As a last resort, where avoidance and minimization efforts are not feasible or prove ineffective, the project's proponents (the people proposing the project) must pay a wetland replacement fee or undertake a wetland replacement project to replace the lost wetland value and area.

If you have a wetland based on the criteria in the Wetland Indicators Tool, then this avoidance, minimization and replacement approach applies. There are no formal Wetland Policy requirements for ephemeral water bodies but avoidance and minimization are still encouraged.

There are no formal Wetland Policy requirements for grazing, haying, or driving through a wetland area when it is dry enough that soils will not be damaged.

For questions about the Wetland Policy, contact <u>AEP.Wetlands@gov.ab.ca</u>.

Draining, filling or otherwise altering a wetland or ephemeral water body requires a Water Act approval.

Avoid

Minimize

Replace





Other legislation

This guide focuses on the Wetland Policy and the *Water Act*, but other provincial, federal and local legal requirements may also apply to wetlands on your land, such as:

- **Public Lands Act**: In Alberta, the bed and shore of permanent, naturally occurring bodies of water are owned by the Crown under this act, with certain exceptions. In other words, if you have a body of water that has surface water all year round in most years, the Crown may own the land underneath it, and you do not have the right to perform any activity within it unless you have both *Public Lands Act* and *Water Act* authorization. For more information, contact <u>AEP.WaterBoundaries@gov.ab.ca</u>.
- **Municipal Government Act:** In Alberta, wetlands may also be protected locally when designated as environmental reserve lands through <u>this act</u>. Contact your municipality for information about local environmental reserves.

You don't need a Water Act approval to

- Fence in or around a wetland.
- Remove a beaver dam or debris from a wetland if the person doing the removal owns or occupies the land, and if it will not impact the wetland soil or vegetation.
- Divert water from a wetland for household use up to a maximum of 1250 cubic metres per year for human consumption, sanitation, fire prevention, and watering animals, gardens, lawns or trees. (1250 cubic metres is the average amount of water used by a family of four plus about 40 cows in a year.)

You do need a Water Act approval to

- Perform any other activity within a wetland that changes the flow or level of water, changes the location or direction of flow, disturbs the ground or vegetation, causes siltation or erosion, or causes an effect on living organisms and their habitat or on organic or inorganic matter. For example, you need a Water Act approval to:
 - construct or maintain a drainage ditch in a wetland,
 - install tile drainage to drain a wetland,
 - put soil, debris or other material in a wetland, or
 - construct a dugout within a wetland.
- You also need permission from affected parties, such as downstream landowners, to ditch or drain a wetland off your property. If you wish to connect a ditch to an existing ditch, you will need permission from the ditch's owner, which could be a municipality, drainage district or irrigation district.





If you are considering draining, ditching, infilling or consolidating a wetland

Wetland drainage, ditching, infilling and consolidation are regulated in Alberta because wetland loss can have serious impacts for landowners, municipalities and others. These impacts can include increased risks of downstream flooding and erosion, increased drought risk, reduced water quality, and wildlife habitat loss.

If you are planning to drain, ditch, infill or consolidate a wetland, you will have to obtain a *Water Act* approval before starting work on the project. Obtaining this authorization will ensure you have met all the regulatory requirements and will protect you from potential consequences, such as the risk of damage to someone else's property.

Assess your project's expected costs and benefits

As you develop the plans and budget for your project, you will need to consider not only the project's construction costs, such as labour, equipment, fuel, surveying, and so on, but also the costs involved in the *Water Act* application process. These include wetland mitigation costs and professional fees.

Mitigation costs: Under the Wetland Policy's mitigation system, you will need to replace the lost wetland value resulting from your project. Two options are available for wetland replacement:

- Pay a wetland replacement fee; or
- Undertake a wetland replacement project to restore a previously drained wetland or construct a new wetland. Replacement costs depend on the value of the wetland as determined by a professional wetland assessment.

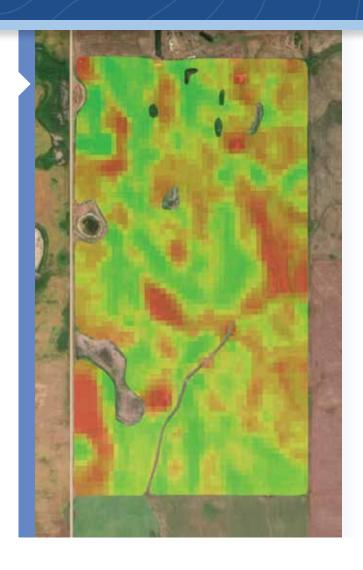
Professional fees: For at least some of the work to prepare your *Water Act* application, you will need to hire a professional with wetland expertise, referred to as an 'authenticating professional.' In particular, this professional must sign off on the wetland assessment required for your project. Most authenticating professionals involved in wetland assessment on agricultural land are professional biologists or agrologists. Many environmental consulting firms have professionals who do this type of work.



Would your drained wetland have a higher risk of poorer yields?

To figure out whether your proposed project would make economic sense for your farm or ranch, you will need to develop a realistic estimate of your project's costs and probable economic benefits, which can sometimes be challenging. For example, your own experience may tell you that the economics of growing crops in drained wetlands really varies. Sometimes drained areas tend to remain wetter than the rest of the field, resulting in a higher risk of poorer yields. In some cases, you might have higher net profits simply by retaining the wetlands and farming only the field's more productive parts and either reducing your inputs or redistributing those inputs to the areas with a higher yield potential.

You may also want to consider the available financial incentives that could make retaining wetlands more viable for your farm. For example, a popular Ducks Unlimited Canada program provides financial incentives to convert cultivated land to hay or pasture. Other incentives are outlined in part 2 of this guide.



Other impacts of your project might be harder to evaluate in economic terms. For instance, maybe you are planning to drain wetlands that are currently boosting your hay or pasture yields in dry years. Or maybe those wetlands are currently replenishing groundwater resources or reducing flood peaks.



Water Act application process

All applications for *Water Act* authorizations need to be submitted through the Government of Alberta's <u>Digital Regulatory Assurance System (DRAS)</u>.

As part of the application process, you will need to fulfil several requirements relating to the Wetland Policy, which are outlined in the chart below. The exact steps in the process will depend on the specifics of your proposed project.

Water Act applications are reviewed for such factors as: hydraulic, hydrological and hydrogeological effects; effects on the aquatic environment; effects on nearby Water Act approval and licence holders including household and other water uses; third-party impacts; and other relevant considerations.

For instance, the application process includes a requirement for public notice of your proposed project. This step identifies parties that could potentially be affected by the project. Ditching or otherwise altering your wetlands may cause environmental and economic damage to someone else's property, which can have serious consequences. Therefore, you will need to obtain permissions from downstream neighbours. And, as noted earlier, if you wish to connect a ditch to an existing ditch, you must get permission from the ditch's owner.

Wetland Policy Requirements for Proponents

Source: Government of Alberta

Have you planned your activity in consideration of potential wetland impacts and Alberta Wetland Policy assessment and mitigation requirements? Do you know the ownership of all lands, including bed and shore of permanent and naturally occurring bodies of water, and have permission from them?

Have you retained an authenticating professional to complete and sign off on a wetland assessment?

If there is a reclamation requirement, will you commit to reclaim the temporary wetland impacts, or will you reclaim wetland habitat within a borrow activity or aggregate pit reclamation plan?

If not, how can potential wetland impacts be minimized?

Can potential wetland impacts be avoided by relocating the activity?

Have you applied for all provincial regulatory authorizations, including *Water Act* approval? If wetland impacts cannot be avoided, minimized or reclaimed, are you proposing to

- Undertake permitee-responsible construction or restoration, or
- Pay a Wetland Replacement Fee to the Government of Alberta?

Have you obtained all authorizations from all jurisdictions and are ready to begin activity or development?

Part 2

Wetland stewardship

Why wetlands matter to you

Wetlands are brimming with benefits, although these benefits may not always be obvious or may be taken for granted. The benefits to you can range from reducing flood impacts on your farm or ranch, to providing a source of water for your livestock, to providing wildlife habitat for your family to enjoy – along with the potential to earn extra income for providing these types of natural benefits, or 'ecosystem services,' to society.

Reduced flood and drought impacts:

Wetlands are like nature's sponges. They catch, store and slowly release water. This helps to: reduce soil erosion; decrease flood damage to crops, buildings, culverts and roads; stabilize flow in streams and rivers; and make rural water supplies more secure.

Water for livestock and groundwater recharge:

Wetlands can boost the growth of hay and pasture in dry years. They can store water for livestock. And they help replenish the groundwater.

Improved water quality:

As nature's kidneys, wetlands filter out excessive nutrients, eroded soil particles and other impurities from runoff, improving downstream water quality. Some plants in wetlands are able to break down contaminants into harmless byproducts through natural processes.

Even smaller wetlands help with flood control. They tend to absorb surface water faster than uplands or large water bodies. And if they dry up by mid-summer, they can soak up more runoff from summer storms.







Wildlife habitat and biodiversity:

Virtually all Prairie wildlife species rely on wetland habitat for at least some stage of their life cycle.

Mitigating climate change:

Wetland plants absorb and store carbon in wetland soils.

Possible income opportunities from ecosystem services:

- A large wetland can be a year-round hub of activities like nature photography, skating and hunting for your family and for tourists if your farm has an agricultural tourism business.
- Conservation groups, companies and governments have programs to pay landowners to increase the ecosystem services generated from their lands. These include some wetland programs:
 - Ducks Unlimited Canada's Wetland
 Restoration Lease Program provides financial
 compensation to the landowner for voluntary
 wetland restoration. The compensation
 funding comes from wetland replacement
 fees paid under the Wetland Policy through
 Alberta's Wetland Replacement Program.
 - Some municipalities are working with landowners under the Wetland Replacement Program.
 - ALUS Canada partners with some municipalities on ecosystem services projects for farmers and ranchers, such as fencing wetlands to control livestock access.
- New opportunities are emerging to reward landowners for carbon storage. Carbon stored in wetland soils could potentially be part of that.

More wetlands, more benefits

Whether wetlands are large or small, temporary or permanent, they all make a positive difference. And many wetlands working together on the landscape are more effective at reducing flood peaks, trapping eroded soil particles, filtering nutrients, and providing habitat connectivity.

A landscape with a diversity of small, medium and large wetlands is more resilient to environmental stresses than a landscape with one large wetland.







Wetland conservation and restoration

Wetland conservation or restoration may make sense for you as a landowner for many reasons. For example, you may value the vital services that wetlands perform for your farm or ranch like reducing flood peaks, improving water quality, and storing water for livestock use. Perhaps wetlands are part of your business plan to market your agricultural products as environmentally sustainable. Perhaps some of the financial incentives available for wetland stewardship/restoration may make sense for your operation.



If you want to conserve and improve wetland health

Wetland stewardship beneficial management practices (BMPs) can help sustain and improve the practical benefits that wetlands provide to your farm or ranch. You may also have some additional objectives for your wetland stewardship activities, like providing habitat for pollinators or other wildlife.

Tips for wetland stewardship on crop lands

Wetland conservation practices in cropped lands are part of a larger set of environmental BMPs for sustainable crop production and a healthy landscape, providing a vibrant legacy for the next generation on your farm.

A few examples of BMPs:

- Drive around rather than through wetlands to prevent soil compaction and rutting.
- Limit annual crop production to areas that dry up in time for spring seeding in most years.
- Use reduced or zero tillage to decrease soil erosion and minimize the movement of soil particles and nutrients into wetlands.
- Maintain vegetative buffer strips around longer lasting wetlands to filter out nutrients, soil and contaminants from the runoff before the runoff enters the wetland.
 - If a natural buffer of riparian (waterside) plants encircles a wetland, leave the buffer intact. If a natural buffer is not present, then consider planting a buffer strip of perennial forage or native riparian plants.
- Consider planting native fruit-bearing shrubs around your wetland to provide food and cover for wildlife, and nectar-rich native flowers for pollinators.

Tips for wetland stewardship on grazed lands

Sound management of your grazing lands, including your riparian pastures, will increase the sustainability of your grazing operation, improve the health of your livestock and pastures, and improve the functioning of your wetlands.

A few examples of BMPs:

- Set up an off-site watering system so livestock do not need to enter the water body to drink.
 - That provides better water quality for your livestock, improves weight gains, reduces leg and hoof issues, and prevents the animals from getting stuck in the mud.



- Fence wetlands and riparian pastures to manage livestock access. Carefully managing access can
 prevent damage to riparian vegetation and soils, and help prevent manure from entering the water
 body.
- Use portable windbreaks and shelters to encourage livestock to use areas away from wetlands and riparian areas.
- Keep livestock out of riparian pastures when the soil is saturated with moisture.
- Allow only short-duration, light-intensity grazing of riparian pastures, and give these pastures plenty of rest after grazing.
- Locate feeding, bedding and wintering sites and manure storage sites so wastes from these sites will not be carried by runoff into water bodies.

For more information

Some examples of wetland stewardship programs available in Alberta:

- Ducks Unlimited Canada: Farm solutions made in Alberta
- ALUS Canada: Become a Participant
- Cows and Fish
- Your municipality may have wetland-related conservation programs. Contact your local Agricultural Service Board for information.

Some examples of information sources about environmental BMPs:

- <u>Alberta Environmental Farm (EFP) Plan</u>: This is a free, voluntary, whole-farm, self-assessment tool that helps producers identify their environmental risks and develop plans to mitigate identified risks.
- Beneficial management practices: environmental manual for crop producers in Alberta
- Beneficial management practices: environmental manual for Alberta cow/calf producers
- Cows and Fish: Grazing management
- Cattle Wintering Sites: Managing for Good Stewardship
- Wintering Site Assessment and Design Tool

If you want to restore or construct a wetland

Several options are available if you want to voluntarily restore or add a wetland on your land.

Alberta's Wetland Replacement Program is working with municipalities, Ducks Unlimited Canada (DUC) and other non-profits to identify potential replacement projects in regions where wetland losses have been high. The program provides funding and technical support for approved projects.



Participating is really simple for landowners. For instance, with DUC's <u>Wetland Restoration Lease Program</u>, you and the DUC specialist work together to develop a project plan that works for both you and DUC.

- DUC provides all resources necessary to complete the restoration project such as: project design, surveying, fulfilling regulatory requirements including *Water Act* authorizations, third-party agreements, and construction.
- Plus, DUC financially compensates you for the area covered by the restored wetland. The funding for the compensation payments comes from wetland replacement fees paid by project proponents under the Wetland Policy through the Wetland Replacement Program.

For more information

- Contact <u>AEP.WetlandReplacement@gov.ab.ca</u>.
- Your municipality may have a wetland replacement program; for a few examples, see <u>Wetland</u>
 <u>Replacement Program restores nearly 160 hectares of wetland in Alberta</u>. Contact your local Agricultural
 Service Board for information.
- Ducks Unlimited Canada: FAQs about DUCs Wetland Restoration Lease Program



Take-home messages

- Wetlands provide a host of benefits for your farm or ranch and your community, such as providing a source of water for your cattle, improving water quality, and reducing flood impacts on culverts and bridges.
- The Alberta Wetland Policy aims to conserve such benefits while allowing continued economic development.
- The Wetland Policy is implemented via the Water Act's approval process.



- If you are planning to drain or otherwise alter a wetland or ephemeral water body, you have to obtain a Water Act approval before starting work on the project.
- The Wetland Policy has mitigation requirements for replacing wetland losses due to activities such as drainage, ditching, infilling or consolidation.
 - These replacement requirements do not apply to <u>ephemeral water bodies</u>.
- You can use the Wetland Indicators Tool in this guide to help determine whether or not a particular area on your land is a wetland versus an ephemeral water body.
 - If you are still not sure whether you have a wetland or an ephemeral water body after using this tool, then contact a wetland professional.
- Wetland stewardship or restoration can help sustain and improve the many practical benefits that wetlands provide to your operation and your community.
- Financial incentives are available for wetland stewardship and restoration.



Appendix:

Examples of information sources

Wetland classification information

• Alberta Wetland Classification System Field Guide

Legislation, policy and regulatory information

- Digital Regulatory Assurance System (DRAS)
- Water Act
- Alberta Wetland Policy
- Public Lands Act
- <u>Municipal Government Act</u>

BMPs for wetland stewardship

- Alberta Environmental Farm Plan program
- Beneficial management practices: environmental manual for crop producers in Alberta
- Beneficial management practices: environmental manual for Alberta cow/calf producers
- Cows and Fish: Grazing management
- Cattle Wintering Sites: Managing for Good Stewardship
- Wintering Site Assessment and Design Tool

Wetland stewardship programs

- Wetland Replacement Program
- ALUS Canada: Become a Participant
- Cows and Fish
- <u>Ducks Unlimited Canada: Farm solutions made in Alberta</u>
- <u>Ducks Unlimited Canada: FAQs about DUCs Wetland Restoration Lease Program</u>
- Your municipality may have wetland stewardship programs

Publication and distribution of this guide made possible by the Alberta NAWMP Partnership and its Partners:





Environment and Climate Change Canada Environnement et Changement climatique Canada







Conserving Canada's **Wetlands**

Additional funding support provided by:



