

# Managing Your Shoreline: Information for Acreage Owners in the Athabasca Watershed



## PURPOSE

The purpose of this package is to provide information and resources to acreage owners with land near the shoreline (riparian area) of a waterbody in the Athabasca watershed. Because riparian areas play an important role in overall watershed health, the Athabasca Watershed Council (AWC) is raising awareness about the resources and tools available to acreage owners for the conservation, and if needed, restoration of riparian areas in the Athabasca watershed.

## WHO IS THE ATHABASCA WATERSHED COUNCIL?

The Athabasca Watershed Council (AWC) is a registered charity and one of eleven designated Watershed Planning and Advisory Councils working in partnership with the Government of Alberta (GOA) towards achieving the goals of the *Water for Life Strategy*<sup>1</sup>:

- Safe, secure drinking water supplies
- Healthy aquatic ecosystems
- Reliable, quality water supplies for a sustainable economy



The Athabasca watershed stretches across northern Alberta.

---

<sup>1</sup> Water for Life Strategy: <https://www.alberta.ca/water-for-life-strategy#:~:text=The%20Water%20for%20Life%20strategy,since%20its%20release%20in%202003.>

## **WHAT IS A RIPARIAN AREA?**

So, what is a riparian area (also sometimes referred to as a riparian zone or riparian lands)? It is the transition area between the land and the water, what most of us think of as the shoreline of a waterbody. Within the Athabasca watershed, riparian areas are often characterized by diverse vegetation growing in the rich and moist soil along the edges of our lakes, rivers, streams, and wetlands. It can include a variety of trees, shrubs, and grasses that are well adapted to wet conditions. It is often the most productive and valuable landscape found in an area and is essential for maintaining the health of aquatic ecosystems and the surrounding environment.

## **WHY ARE RIPARIAN AREAS IMPORTANT?**

A healthy shoreline, or riparian area, can be beneficial to us, providing several essential services for the land. Riparian areas can be important to acreage owners for the following functions:

- Improving water quality by creating a buffer between the water and land; this buffer filters out pollutants and excess nutrients and keeps them from reaching the water. A buffer with deep rooted vegetation also helps to prevent erosion and sedimentation of our waterbodies
- Recycling, absorbing and releasing nutrients as needed by the land
- Acting as a sponge to soak up and hold excess water which can reduce the risk of flood damage and retain moisture during droughts
- Providing habitat and food sources to a variety of wildlife, including pollinators and species who can help manage pests

## **ASSESSING RIPARIAN HEALTH**

Although riparian zones play a large role in watershed health, they can become degraded over time due to natural weather events, erosion, and land development. It's important to be aware of what a healthy riparian area looks like and to understand when to take proactive action to protect the function of shoreline areas. Riparian health assessments use visual observation of both vegetative and physical parameters to better determine the state of riparian areas.

Acreage and other landowners can undertake their own riparian health assessments, using resources and help from organizations like Cows and Fish<sup>2</sup> or the Riparian Web Portal<sup>3</sup> or they can engage conservation groups like the AWC<sup>4</sup> or Highway2Conservation to undertake an assessment for them. Having an idea of where your riparian area is vulnerable can help you address problems and better protect the benefits you gain from a healthy shoreline.

---





<sup>2</sup> Cows and Fish Health Assessment: <https://cowsandfish.org/riparian-health/>

<sup>3</sup> Riparian Web Portal Measuring Health: <https://www.riparianresourcesab.info/measuring-health>

<sup>4</sup> Athabasca Watershed Council: <https://awc-wpac.ca/>

## SUGGESTIONS FOR CONSERVATION

After assessing your shoreline’s health, you may discover that your riparian area is healthy and functioning properly. Congratulations! But you also want to ensure you continue to maintain that health. By continuing to monitor the riparian zone on your property, you can better observe the needs of the shoreline and act before extensive restoration is needed. Steps to take in conserving the shoreline include:

-  Reducing the use of chemical products (i.e., pesticides, fertilizers) near water to reduce runoff
-  Allowing natural debris such as fallen branches to remain on the shoreline
-  Avoiding unnecessary removal of native vegetation
-  Creating a no-mow zone and planting native grasses

Protecting your riparian area to allow it to continue providing you services also means maintaining the different structures of your property. Any septic tanks should be regularly inspected and pumped out to ensure the best performance and minimize the risk of seepage into the surrounding soil. Having a regular maintenance plan can also increase the lifetime of your septic systems, which will be less expensive than replacing a damaged system. The Alberta Onsite Waste Management Association<sup>5</sup> has developed a webpage dedicated to providing information and resources made for homeowners and includes information on septic maintenance.

Implementing low-impact development techniques can also help reduce the strain on your riparian areas and can include rain barrels, rain gardens and permeable pavements. The Alberta Low Impact Development Partnership<sup>6</sup> provides resources on different tools that can be implemented and how they can benefit your property.

Also, watch out for invasive plant species trying to take over your riparian area. These species can take away space and nutrients from native species and they won’t support the ecosystem as much as native species. Invasive species are often not the preferred food source or habitat for existing native organisms and have a reduced capacity to manage the nutrient balance. The Alberta Invasive Species Council<sup>7</sup> is a helpful resource to consult as it provides factsheets and information about different invasive species commonly found in Alberta.

### Invasive Species

- Common Tansy
- Canadian Thistle
- Ox-eye Daisy
- Kentucky blue grass
- Dandelions
- Foxtail barley
- Scentless chamomile

<sup>5</sup> Alberta Onsite Waste Management Association: <https://aowma.com/home-owners/>

<sup>6</sup> Alberta Low Impact Development Partnership: <https://www.alidp.org/resources/the-lid-toolbox/tools-for-achieving-lower-impact>

<sup>7</sup> Alberta Invasive Species Council: <https://abinvasives.ca/>

You can also observe the usage of the shoreline by different animal species to get a better sense of the services your shoreline is currently providing. This can allow you to better manage how you interact with the area and help with decision-making if needed. Tools such as the eBird<sup>8</sup> and iNaturalist<sup>9</sup> websites can be used to keep track of species you or others identify in the area.

Responsible recreation can also help conserve your riparian area. By avoiding the use of vehicles and heavy equipment along the shoreline, it can prevent damaging riparian plants and reduce the impact on shoreline soil. *Keep Wheels Out of Water*<sup>10</sup> is an initiative promoted by the GOA with the aim of informing the public that driving in bodies of water or on their shorelines is illegal and may cause environmental damage.

### **METHODS OF RESTORING SHORELINES**

If you determine your riparian area is unhealthy, there are different methods to restore the health and function of your shoreline to ensure it continues to provide ecosystem services to your acreage. The restoration method used will depend on the health of your shoreline and the issues you may be looking to fix.

Passive restoration involves letting the vegetative area regenerate by itself. This is the ideal method of restoration since it reduces the impact and allows the environment to recover with limited human interference. This lets the ecosystem prioritize its needs and is a low-cost method of restoration. Common methods include fencing off areas as they are restored to reduce damage caused by human and animal activity and letting the shoreline recover by limiting human or livestock access to the water to a single point.

The other method of restoration is more active and it's important to consider the timeline that any restoration would take place. It's best to keep restoration efforts to times when wildlife are not dependent on the area for nesting or spawning to reduce the impact on their activities. Also, any activity that involves altering the shoreline (below the high-water mark) may require approval from the GOA<sup>11</sup> or other authorities, so it's important to consider the necessity of taking more direct action and how it will affect the area.

One recommended method for active restoration is to plant diverse native species that will help with issues currently affecting your water body. Having a healthy vegetative diversity will allow for better tolerance of the restored area to environmental changes and create a productive environment for various animal species. A good indication of types of species to plant is to identify native species in adjacent healthy riparian areas. The Alberta Native Plant Council<sup>12</sup> (ANPC) offers resources like a plant database and field guides that can be consulted for identification tips as well as sources for purchasing native vegetation seeds and plants. Sources

---

<sup>8</sup> eBird Website: <https://ebird.org/home>

<sup>9</sup> iNaturalist Website: <https://www.inaturalist.org/>

<sup>10</sup> Keep Wheels Out of Water: <https://www.alberta.ca/assets/documents/ep-recreation-wheels-out-of-water-poster.pdf>

<sup>11</sup> Public Lands Act and Water Act: Shoreline/Water Body Modifications Facts at Your Fingertips: <https://open.alberta.ca/dataset/b2db6532-b7a1-4334-a18c-394991aa45e8/resource/39b5a687-0108-4f7b-863a-a6c1eeacb1b0/download/shorelinewaterbodymodifications-jun2017.pdf>

<sup>12</sup> Alberta Native Plant Council: <https://anpc.ab.ca/>

of native plant material can also be found under the Growing Native Plants<sup>13</sup> page of the ANPC for landowners to consult. Some examples they provide for the Athabasca Watershed are listed to the right.

The plant species you plant will depend on the moisture level, soil type and amount of light in the area you plan to plant. Some considerations are:

- If there are issues with soluble nutrients and pesticides, the growth of different species of grasses and trees will contribute to better filtration.
- Types of grasses will also be helpful in cases of excess sediment-bound particles and pesticides, which can have negative impacts on aquatic life.
- For concerns of erosion and flooding and how water can impact your property land, consider growing trees and shrubs with deep roots that can stabilize the shoreline.

#### Native Species to Plant

- Dogwood
- Saskatoon
- Willows
- Balsam poplar
- Sedges
- Common cattail
- Small-fruited bulrush
- River alder

Growing native riparian vegetation is essential for maintaining biodiversity. Native species will provide resistance to pests and will be better adapted to the ecosystem's conditions and needs. By supporting this growth, we can protect and restore beautiful landscapes to the benefit of both wildlife and landowners.

## COMMON QUESTIONS

### How do I know if my shoreline is healthy or not?

A healthy shoreline will have a wide variety of lush vegetation in various stages of life. Having different trees, shrubs and grasses that create good cover and an abundance of habitat is a sign the ecosystem appears to be in good health. Organizations such as Cows & Fish<sup>14</sup> have guides on assessing the health of riparian areas.

### How wide of a buffer does my shoreline need?

The size of your buffer area will depend on the size of the waterbody and the other activities happening on the land. The issues that you want to address will also affect the width needed. A wider buffer may be needed if the slope is steeper, if erosion or flooding is a concern, or if the activities on the land involve high management. The GOA guideline is that a buffer zone should be at least 30 meters wide to provide essential filtering and wildlife services. If a wider buffer is unable to be implemented, pairing it with a grass filter strip of at least 5 meters can help to separate activities in the upland areas from the riparian buffer.

<sup>13</sup> Growing Native Plants (ANPC): [https://anpc.ab.ca/?page\\_id=2003](https://anpc.ab.ca/?page_id=2003)

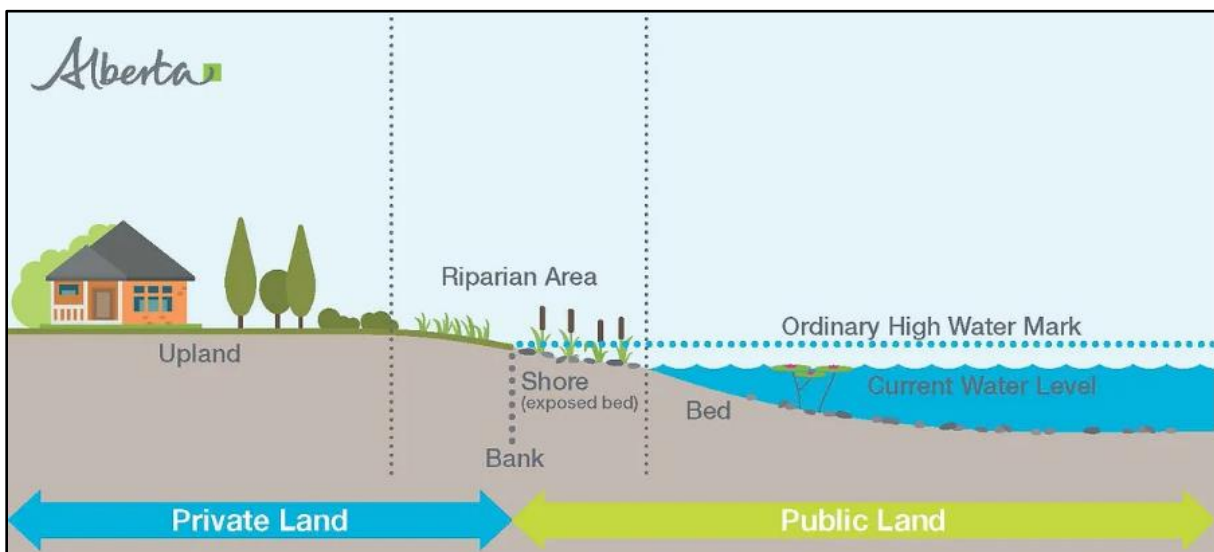
<sup>14</sup> Cows & Fish: <https://cowsandfish.org/>



Unhealthy riparian area with bare ground (left) versus a well vegetated healthy riparian area (right).

Where does my property end?

In most cases, your property extends only to the “Ordinary High-Water Mark” or OHWM where the water typically meets the land during normal water levels and therefore does not include the edge of the water or the water body itself. The water and the shoreline up to the OHWM are considered Crown land and are owned by the GOA and authorization is needed before making any changes. There may be exceptions to this rule such as if your property is connected to an Environmental Reserve. It’s best to contact the local county office or the GOA to determine exactly where your specific property ends, as well as consult the property land title or survey map for more detailed information.



### Can I add rocks to stop erosion of the shoreline?

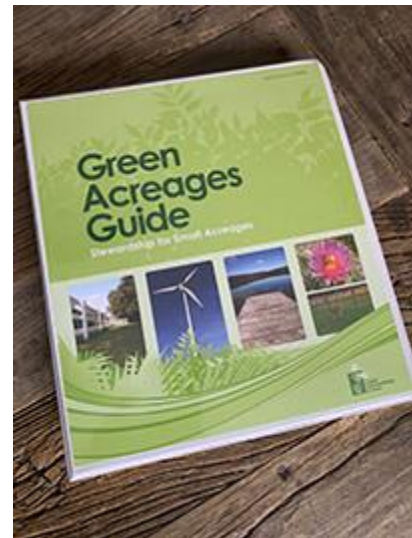
It's recommended that only natural vegetation be used on the shoreline. Natural species are best adapted to the area and will provide the best protection against erosion. Any changes to the shoreline below the OHWM require permission from Alberta Public Lands<sup>15</sup> and possibly from the Department of Fisheries and Oceans (if fish habitat is affected) before they can be carried out. Fisheries and Oceans Canada<sup>16</sup> can help review and determine any authorizations needed for projects near the shoreline and their website also provides links for those applying for authorization.

### How do I know whether I need permission for my restoration or conservation activities?

A useful resource to consult is the GOA's *Shoreline/Water Body Modifications Facts at Your Fingertips Factsheet*<sup>17</sup>. This factsheet provides links and information about approvals for shoreline modifications and includes an overview of the application requirements. The Shoreline webpage<sup>18</sup> on the Government of Alberta website also provides an overview of different activities and their approval requirements.

### What funding programs are available?

Organizations and governmental bodies may provide programs that could support your restoration/conservation projects. The *Green Acreages Program*<sup>19</sup> is managed by the Land Stewardship Centre and can provide funding to acreage owners for projects such as riparian restoration, the creation of rain gardens, and the installation of shoreline fencing. Other organizations that may have funding programs available can include local stewardship groups and municipalities in your area.



### I heard someone mention "conservation easements". What does that mean?

A conservation easement<sup>20</sup> is an agreement a landowner can make with a land trust that creates legal protection for an area of natural or cultural value and protects land resources. These agreements are negotiated between the landowner and the land trust to figure out what restrictions will be put on the land to protect it from development while allowing the landowner to continue activities such as grazing. The land itself remains entirely in the ownership of the landowner, but the easement area would be protected in perpetuity and would transfer to any new owners if the land is sold. Through Canada's Ecological Gifts

<sup>15</sup> Shoreland Approvals, Alberta Public Lands: <https://www.alberta.ca/shorelands-approvals-and-regulatory-requirements>

<sup>16</sup> Fisheries and Oceans Canada Project Review: <https://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/request-review-demande-d-examen-001-eng.html>

<sup>17</sup> Shoreline/Water Body Modifications Facts at Your Fingertips Factsheet: <https://d3n8a8pro7vhmx.cloudfront.net/lswc/pages/21/attachments/original/1487194699/ShorelineWaterBodyModifications-Oct2015.pdf?1487194699>

<sup>18</sup> Shorelands, Government of Alberta: <https://www.alberta.ca/shorelands.aspx>

<sup>19</sup> Green Acreages Program: <https://www.landstewardship.org/enable/programs/green-acreages>

<sup>20</sup> Conservation Easements in Alberta: <https://www.ce-alberta.ca/>



program<sup>21</sup>, the donor of the land area may be eligible for income, estate and/or tax benefits if the easement has a recognizable public benefit like protecting rare species, water supplies or heritage sites.

*Why should I bother if no one else is going to restore their shoreline as well?*

Any action to restore the riparian areas in the watershed can help improve the health of the ecosystem and the benefits it brings to you and your property. So, even doing a small project can help the condition of your shoreline, as well as downstream users. But collective action is even better, so talk to your neighbours and organizations in and around your community. Consider joining a local stewardship group to help open discussion in your community and foster collective action. Creating a bigger project with multiple acreage owners can improve the effectiveness of your action and could gain more funding to help support it. We can all work together to protect and restore our local riparian areas, which in turn, benefits us all!

**FOR MORE INFORMATION**

For easier access to digital links in this document, please know that an online version of this factsheet is available at <https://awc-wpac.ca/athabasca-watershed-shorelines-initiative/>.

If you would like to talk to someone about your riparian area, or a potential project your thinking of undertaking, please feel free to contact us at:

Athabasca Watershed Council  
Healthy Shoreline Initiative Project Coordinator  
[science@awc-wpac.ca](mailto:science@awc-wpac.ca)  
780-213-4550

---

<sup>21</sup> Ecological Gifts Program: [https://publications.gc.ca/collections/collection\\_2021/eccc/cw66/CW66-157-2021-eng.pdf](https://publications.gc.ca/collections/collection_2021/eccc/cw66/CW66-157-2021-eng.pdf)



**ADDITIONAL RIPARIAN RESOURCES:**

Topic/Source	Title	Link
Government of Alberta Legislation	Riparian Rights and Shoreline Modifications - Facts at Your Fingertips	<a href="https://open.alberta.ca/publications/riparian-rights-and-shoreline-modifications">https://open.alberta.ca/publications/riparian-rights-and-shoreline-modifications</a>
	Public Lands Act and Water Act: Shoreline/Water Body Modifications	<a href="https://open.alberta.ca/publications/public-lands-act-and-water-act-shoreline-water-body-modifications-facts-at-your-fingertips">https://open.alberta.ca/publications/public-lands-act-and-water-act-shoreline-water-body-modifications-facts-at-your-fingertips</a>
	Shorelands Approvals and Regulatory Requirements	<a href="https://www.alberta.ca/shorelands-approvals-and-regulatory-requirements.aspx">https://www.alberta.ca/shorelands-approvals-and-regulatory-requirements.aspx</a>
	Water Legislation and Guidelines	<a href="https://www.alberta.ca/water-legislation-and-guidelines.aspx">https://www.alberta.ca/water-legislation-and-guidelines.aspx</a>
Cows and Fish	Riparian Health Assessment for Lakes and Wetlands Field Workbook	<a href="https://cowsandfish.org/wp-content/uploads/2022/05/LakesandWetlandsRHAWorkbook2020-1.pdf">https://cowsandfish.org/wp-content/uploads/2022/05/LakesandWetlandsRHAWorkbook2020-1.pdf</a>
	Caring for The Green Zone: A User's Guide to Health	<a href="https://cowsandfish.org/wp-content/uploads/ugfull.pdf">https://cowsandfish.org/wp-content/uploads/ugfull.pdf</a>
	Riparian Health Assessment	<a href="https://cowsandfish.org/riparian-health/">https://cowsandfish.org/riparian-health/</a>
Riparian Web Portal	Acreege Owners	<a href="https://www.riparianresourcesab.info/acreege-owners">https://www.riparianresourcesab.info/acreege-owners</a>
	Measuring Health	<a href="https://www.riparianresourcesab.info/measuring-health">https://www.riparianresourcesab.info/measuring-health</a>
Alberta Conservation Association	Riparian Conservation	<a href="https://www.ab-conservation.com/featured-projects/land/riparian-conservation/">https://www.ab-conservation.com/featured-projects/land/riparian-conservation/</a>
Alberta Onsite Waste Management Association	Homeowners Resources	<a href="https://aowma.com/home-owners/">https://aowma.com/home-owners/</a>
Responsible Recreation	Wheels Out of Water	<a href="https://www.alberta.ca/assets/documents/ep-recreation-wheels-out-of-water-poster.pdf">https://www.alberta.ca/assets/documents/ep-recreation-wheels-out-of-water-poster.pdf</a>
Alberta Species	Alberta Invasive Species Council	<a href="https://abinvasives.ca/">https://abinvasives.ca/</a>
	Alberta Native Plant Council	<a href="https://anpc.ab.ca/">https://anpc.ab.ca/</a>
Alberta Low Impact Development Partnership	Tools for Achieving Lower Impact	<a href="https://www.alidp.org/resources/the-lid-toolbox/tools-for-achieving-lower-impact">https://www.alidp.org/resources/the-lid-toolbox/tools-for-achieving-lower-impact</a>
Land Stewardship Centre	Green Acreages Primer	<a href="https://www.landstewardship.org/public/download/files/201554">https://www.landstewardship.org/public/download/files/201554</a>

Topic/Source	Title	Link
Funding & Conservation Easements	Green Acreages Program	<a href="https://www.landstewardship.org/enable/programs/green-acreages">https://www.landstewardship.org/enable/programs/green-acreages</a>
	Ecological Gifts Program	<a href="https://publications.gc.ca/collections/collection_2021/eccc/cw66/CW66-157-2021-eng.pdf">https://publications.gc.ca/collections/collection_2021/eccc/cw66/CW66-157-2021-eng.pdf</a>
	Conservation Easements in Alberta	<a href="https://www.ce-alberta.ca/">https://www.ce-alberta.ca/</a>