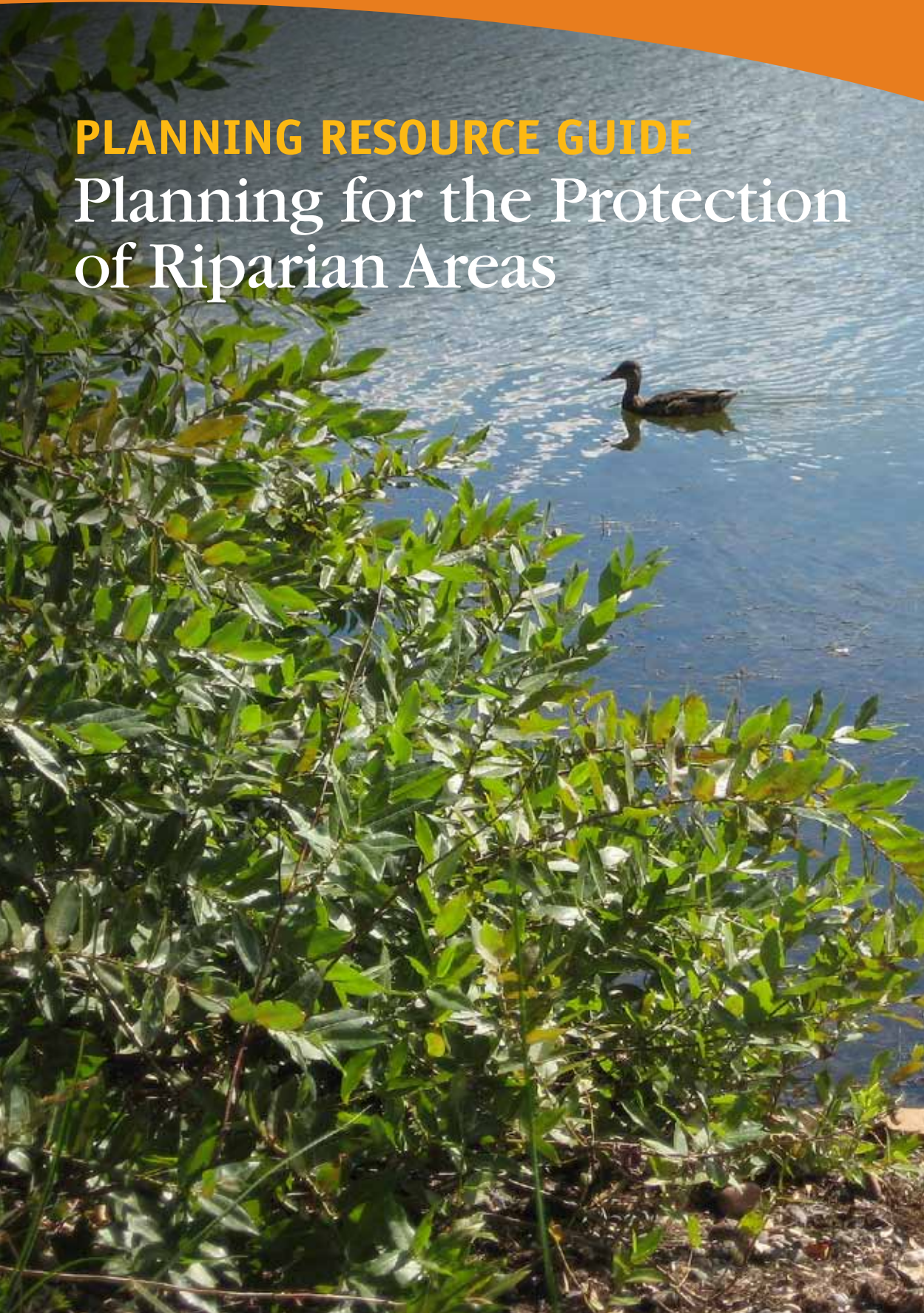




## PLANNING RESOURCE GUIDE

# Planning for the Protection of Riparian Areas





Manitoba's Provincial Planning Regulation promotes sound land use planning and expresses the government's interest in the sustainable development of land, resources and infrastructure. Registered June 20, 2011, it promotes several new ideas and includes provisions significantly different from the regulation it replaces.

The Manitoba government is developing various resources and tools, including a series of planning resource guides that will provide additional information and direction to support understanding and local application of the new ideas and provisions.

Technical in nature, the planning resource guides are aimed at audiences such as planning staff from municipalities or planning districts, consultants and provincial staff involved with land use planning.

The guides support planning, rather than dictate how to do it. While a guide may discuss or promote an approach, the appropriate approach to use will be site specific and depend on the context. The guides are supplementary resources that help explain ideas in the Provincial Planning Regulation.

For more information on planning resource guides and other resources available to support local planning, see the Provincial Planning Regulation website at [www.manitoba.ca/ia/plups](http://www.manitoba.ca/ia/plups).



## INTRODUCTION TO WATER RESOURCE GUIDES

Land development can have an impact on water quality and quantity. Because water is critical for all types of land development, a holistic and integrated approach to land use planning that considers land and water simultaneously is necessary to ensure that water is protected.

This guide is one of a series of water related guides that supports and further explains the content and policies of the Provincial Planning Regulation. The focus is on the protection of water quality and quantity where land use planning and riparian areas intersect. Other aspects of water protection, including sustainable drinking water and wastewater management, are covered in other resource guides.



## INTRODUCTION TO RIPARIAN AREA PROTECTION UNDER THE PROVINCIAL PLANNING REGULATION

Protecting and maintaining the quantity and quality of water and aquatic ecosystems is a critical part of the health and sustainability of Manitoba communities. The Provincial Planning Regulation takes an integrated approach to water protection by promoting land use planning that considers the entire watershed, including the protection of riparian areas. Riparian area policies are contained in Policy Area 5: Water. These policies require that riparian areas are identified and protected from the risks associated with development.

This guide is a resource for planning authorities (municipalities and planning districts) that explains how to implement the riparian policies of the Provincial Planning Regulation locally to ensure riparian areas are maintained and protected, on both municipal and private lands. The guide is divided into four sections that address the following questions for planning authorities:

1. What is a riparian area?
2. Why maintain and protect riparian areas?
3. How can riparian area protection be planned?
4. How can riparian area protection policies be applied?

The focus of this planning resource guide is riparian areas. However, since water protection requires an integrated approach, this guide should be considered in conjunction with the policies, regulations and legislation concerning water and the environment, including but not limited to the *Water Protection Act*, *Environment Act*, *Water Rights Act*, *Water Resources Administration Act* and the *Crown Lands Act*.

## 1. WHAT IS A RIPARIAN AREA?

A riparian area is defined in the Provincial Planning Regulation as an area of land on the banks of or near a water body that, due to the influence of water, is capable of naturally supporting an ecosystem that is distinct from the ecosystem of the adjacent upland areas. Riparian areas are present alongside all water bodies, whether they contain flowing or standing water, and whether water is present continuously, intermittently, or solely during flood events. These include lakes, rivers, creeks, streams, sloughs, marshes, swamps, and wetlands.

Riparian areas are often referred to as transition zones, or vegetated buffer areas. They are made up of aquatic and terrestrial plants including cattails, grasses, shrubs and trees. Fallen logs, leaves, and rocks are also integral to riparian areas. These areas can function as important animal habitat.

Riparian areas can help to maintain property values! They prevent land loss and erosion, improve water quality, and may help to protect the buildings and trees on a piece of property from damage that may occur during storm events or heavy winds.

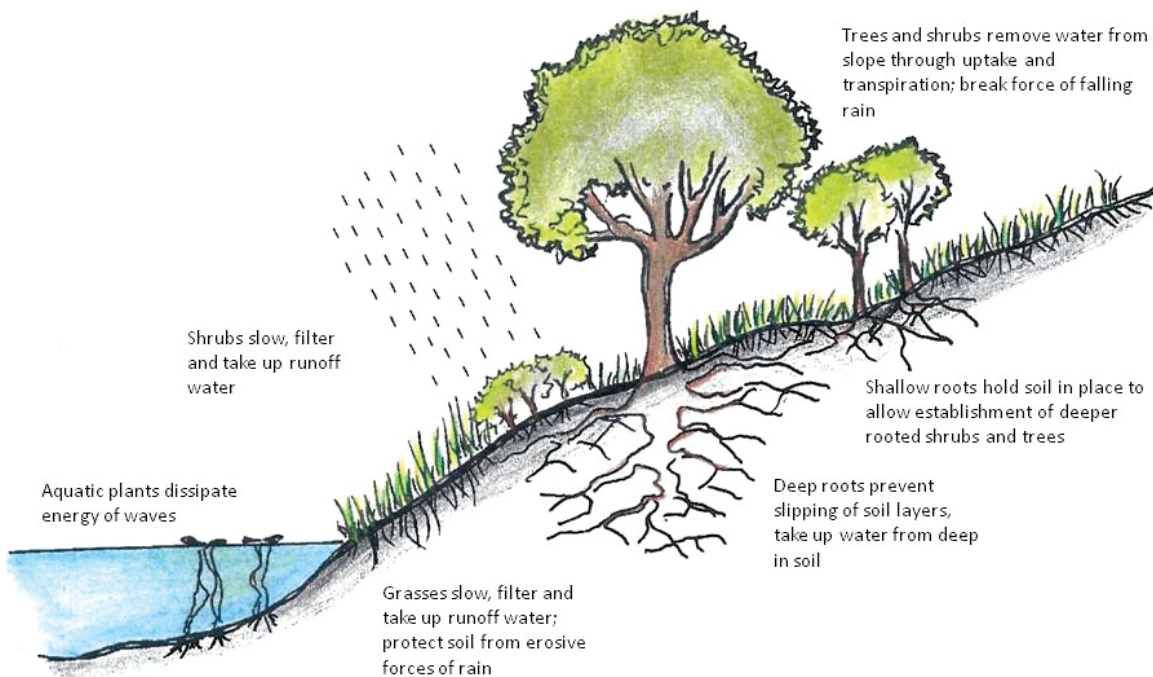


Figure 1: Components of a riparian area

## 2. WHY MAINTAIN AND PROTECT RIPARIAN AREAS?

Healthy riparian areas can serve extremely important ecological roles. In many cases in Manitoba, riparian areas have been modified or cleared by previous land activity. Although the riparian area still exists, the natural vegetation has been removed and replaced by manicured lawns, vegetation is continuously grazed by livestock, or the undergrowth has been replaced by materials that do not serve an ecological function. Unprotected riparian areas can lead to a variety of detrimental effects over time, including the following:

- **Land loss:** Loss of land through erosion can occur quickly from storm events, or slowly over seasons and years. Landowners can find themselves losing a significant amount of land, sometimes with shorelines encroaching dangerously close to buildings and homes.
- **Nutrient loading:** Loss of soil to water bodies contributes to nutrient loading. Nutrient loading, or eutrophication, changes water quality and can result in unsightly vegetation and algae blooms.
- **Harm to plant and animal life:** Silt that enters surface water from runoff and erosion can have negative impacts on aquatic creatures and plant habitat by blocking sunlight. Also, chemicals found in pesticides and fertilizers applied to land are harmful to wildlife and fish, and the nutrients in fertilizers can contribute to algae blooms.
- **Increased costs:** Water treatment costs are directly related to source water quality. The poorer the water quality, the higher the cost to treat it.





Policy 5.1.3 of the Provincial Planning Regulation requires development to be set back at least 15 metres upslope from the normal high water mark of lower order drains and retention ponds, and at least 30 metres from the normal high water mark for natural water bodies. These riparian area setbacks are best left in their natural state, undisturbed, and can provide a host of benefits, including the following:

- **Water filtration:** Nutrients and pollutants are filtered from water by riparian vegetation both mechanically and biologically as the water runs off the land and enters waterways. This improves water quality.
- **Slowed water runoff:** Water is slowed by natural vegetation as it moves through streams during large rainfall and flooding events. This results in a longer runoff event, with smaller peak levels downstream. Slowing down the rate at which surface water enters streams allows this water to seep into the soil and replenish groundwater supplies.
- **Enhanced biodiversity and preservation of natural vegetation:** Biodiversity is enhanced because a natural shoreline may contain vegetation of different ages and species mixed together, with fallen trees and debris providing shelter and support for new saplings to grow. Additionally, riparian areas can serve as repositories for unique vegetation. As riparian areas are among the few places in municipal Manitoba where natural vegetation exists, a healthy riparian area enhances biodiversity.
- **Habitat:** Riparian areas provide habitat and food supply for many terrestrial and aquatic species.
- **Shoreline stability:** The deep and complex root systems of riparian vegetation bind soils and other materials in place, and protect banks against the erosive effects of water. This complex system acts like a skeleton, providing the framework to hold the shorelines together.

Planning authorities can apply the existing tools in Manitoba's planning framework to develop, implement and enforce policies that help to protect riparian areas and rehabilitate those that have been disturbed.



### 3. HOW CAN RIPARIAN AREA PROTECTION BE PLANNED?

#### Guiding documents

Riparian area protection begins with the planning area's guiding documents: the development plan, secondary plan, and integrated watershed management plan.

**Development plan:** The development plan is the land-use planning policy document that guides development in the planning area. High-level policies in the development plan will form the basis of managing development on or near riparian areas, ensuring they are protected into the future. All municipalities must have a development plan that is generally consistent with the policies in the Provincial Planning Regulation.

**Secondary plan:** Secondary plans concern development issues at a smaller scale by focusing on a particular part of a municipality or a topic area. It can deal with development matters, such as subdivision design and road patterns as well as economic development or the enhancement or protection of heritage resources or sensitive lands. For example, a municipality could prepare a secondary plan for an area of shoreland that contains ecologically sensitive areas. Municipalities may have more than one secondary plan. All must be consistent with the development plan.

**Integrated Watershed Management Plan (IWMP):** The IWMP is a document developed cooperatively by government and stakeholders to manage land, water and related resources on a watershed basis. Many planning authorities will have one or more IWMPs that cover the region. Because the IWMP is prepared at the watershed level, its scope and boundary may differ from the development plan and secondary plans. The IWMP will include critical water-related information and should always be consulted when preparing development plans or secondary plans to ensure consistency.

#### Identifying riparian areas and defining policies for their protection

Part 3, Policy 5.1.1 of the Provincial Planning Regulation requires riparian areas and water bodies to be identified in a development plan, including ephemeral streams, first and second order drains, and artificially created retention ponds. To the extent possible, an effort should be made to illustrate these on a map. The development plan should include the map, or a reference to such a map in another, related document.

#### Sources of information for identifying riparian areas include:

- Data from provincial departments, particularly Manitoba Conservation and Water Stewardship
- Conservation Districts
- Manitoba Land Initiative (MLI)
- Canada Land Inventory and Manitoba Soil Survey Reports: These can be used to determine the optimum type and allowable degree of land use over broad areas. Findings of such a study will support and strengthen policies in the development plan.



Once identified, the planning authority can then apply specific policies in the development plan for the protection, retention and, where possible, rehabilitation of those riparian areas. Policy Area 5 of the Provincial Planning Regulation contains specific requirements for riparian area protection and should be consulted. The following are examples of how to incorporate riparian area policies from the Provincial Planning Regulation into the development plan and/or secondary plan.

- Policy 5.1.1 concerns development in or near riparian areas that pose pollution risks. The policy requires that riparian areas be identified and protected from risks associated with development, particularly high pollution risks. To put this into policy, the development plan or secondary plan should indicate that certain land uses that pose a risk of pollution will be restricted within the areas identified for riparian protection. Sample policies may include:
  - Wastewater treatment facilities, fuel tanks and fertilizer storage are prohibited in riparian areas due to the possible contribution of nutrient or deleterious chemicals directly into the riparian area.
  - Such facilities that may already exist in riparian areas will be managed so as to phase their relocation to more suitable areas over time.
- Policy 5.1.3 requires development setbacks along water bodies, including drains, retention ponds and ephemeral streams, to ensure protection, retention or rehabilitation of riparian areas. Within these setbacks, the natural vegetative cover must be retained or rehabilitated. To comply with these requirements, the development plan and secondary plans should do the following:
  - Identify the water bodies on a map
  - Establish setback distances from water bodies and show the setback lines on a map, depending on the requirement (15 or 30m) and identify these as 'riparian areas'
  - Adopt general statements about maintaining and enhancing shoreline vegetation
  - Define what constitutes 'natural vegetative cover' that is appropriate for that area (this may vary depending on the water body and according to slope, water level fluctuation, etc.)
  - Indicate what cover will be applied to where
  - Adopt a policy restricting development in hazard lands and sensitive areas
  - Establish a policy of dedicating public reserves as part of subdivision process
  - Indicate types of uses to be restricted and uses to be considered adjacent to the riparian area provided beneficial management practices are implemented (ex: management of storm drainage)



## 4. HOW CAN RIPARIAN AREA PROTECTION POLICIES BE APPLIED?

For policies to be effective, they must be applied. Tools such as zoning by-laws, subdivision approvals, design guidelines, public reserves and conservation agreements enable the implementation of riparian area protection policy.

### Zoning

The zoning by-law is one means of implementing the policy direction of the development plan and any secondary plans. In general, land adjacent to riparian areas should be zoned for non-intensive uses that will minimize disturbance or pollution to the riparian area. The following are appropriate uses of land adjacent to riparian areas:

- Floodplain
- Natural environment
- Park and open space
- Commercial recreation
- Residential
- Managed livestock grazing

Identifying these zones on a map in the zoning bylaw will help to guide the implementation of development plan and secondary plan policies and clearly indicate where those policies apply. This minimizes confusion for landowners and developers.

Zoning by-laws should also enable Councils to prohibit or restrict development for a use permitted in that zone if the area has been identified by Council or other agencies as being subject to certain conditions. These include: flooding, erosion, bank instability, landslides, subsidence, is marshy or unstable, or otherwise hazardous or unsuitable for the proposed development and use by virtue of its location, soil or topography.

The policies of the development plan and IWMP should be mutually supportive. For example, Priority 4 of the **Willow Creek IWMP** is soils and shoreline management. One of the recommendations under this priority is to adopt policies in the DP for a minimum setback distance of 100 metres for new development along the shoreline of Lake Winnipeg, as well as policies to protect natural vegetation along shorelines. New DPs being prepared and adopted within this watershed may consider these policies.

The **Seine River IWMP** has a section on Land use planning that makes reference to the development plans of the areas, encourages water planning authorities to work with planning authorities on a common vision, and sates the Conservation District's involvement in evaluating applications for land use activities (ex: expanding livestock facilities, subdivision).

Objective 5B of the **Little Saskatchewan River IWMP** is to conserve and improve wetlands, woodlands, and native prairie in the watershed. One of the actions under this objective is to restore natural riparian buffer zones on watercourses and lakes. Once these buffer zones are established and mapped, a policy in the DP of one of the member municipalities or planning districts that would support this IWMP objective could be to permit limited development in these zones, such as docks, pathways or boathouses.

## Subdivision Review

The subdivision review process enables the municipal council to carefully review and consider the potential impacts of new development before it occurs. A subdivision must be consistent with the zoning by-law and development plan, but may also be required to meet certain conditions, as outlined in *The Planning Act* and Subdivision Regulation.

Council may place conditions on approval of a proposed subdivision that will minimize potentially detrimental effects of development in a riparian area. The following are examples of conditions which a council may require before a subdivision application is approved:

- That the applicant dedicate land for public reserve purposes along the shoreline of the property to protect sensitive areas while at the same time enabling public access and maintaining continuity of the shore (see p. 10 for details).
- That a development agreement between the municipality and the applicant is entered into, where the applicant agrees to conditions that limit, regulate or prohibit any use, activity or development on the lands within a specified distance of the shoreland or riparian area. Note that development agreements are not subject to third party verification and can also be cancelled or changed with the approval of the parties involved.
- That the proponent maintains the existing vegetation and, in circumstances where native vegetation is limited or absent, that vegetation is re-established. This applies in particular to proposed subdivisions for agricultural land, existing farmyards, or residual parcels of agricultural lands containing a water body or waterway.

Note that some conditions would require on-site evaluation for specific development sites.

The zoning by-law and IWMP should be linked. **La Salle River IWMP** has a goal to improve the health of the rivers and riparian areas. One of the recommended actions is to develop zoning bylaws that would restrict certain development activities in riparian areas.

Section 135(3) of *The Planning Act* now provides a legal mechanism to approve a subdivision while at the same time protecting significant riparian areas. It includes restrictions on the use of land and any existing or proposed building as items that may form part of a development agreement. The development agreement is entered into between the applicant and the municipality, planning district, and Province as required. This will help to protect areas of significant interest to the Province and/or municipalities, including sensitive riparian areas.

## Design Guidelines

Another opportunity to implement development plan policies to protect riparian areas at the subdivision stage is to ensure all subdivision proposals meet a minimum design standard. This can be achieved by adopting subdivision design guidelines for the planning area and enforced through zoning or development agreements.

Cumulatively, linear development that surrounds a water body, such as a lake, may have detrimental long-term effects on riparian areas, such as those listed on p. 3. Therefore, when designing development near riparian areas, it can be beneficial to cluster some development away from riparian areas, as shown on the right in Figure 2.



Figure 2: Common (left) vs. recommended (right) subdivision design

The following are examples of content that may be contained in a set of design guidelines for riparian area protection:

- Minimize detrimental effects of vehicular traffic on riparian areas such as direct runoff pollution from roads by locating residential development between the main access road and water body.
- Guide some development away from the lakeshore and have few lots with access directly from main roads. For example, arrange lots in clusters with road access from culs de sac. This will lower the intensity by which the shoreline is developed, thus reducing the harmful effects of development directly on riparian areas, such as runoff pollution, riverbank erosion and instability.



- Carefully locate and design roads and buildings to respond to natural vegetation and land forms, so as to create minimal disturbance.
- Ensure there is no net loss of drainage capacity as a result of development, so that water is retained and runoff is slowed following a rainfall. Require retention ponds or wetlands as a part of every development proposal.
- Access trails to the shoreline should have a minimal impact on riparian areas. Design public pathways and trails to be narrow and made of porous material such as gravel instead of solid surfaces.
- Encourage launching and docking facilities to be clustered in a central location rather than strung along the waterfront, to reduce shoreline disturbance from development. Note that federal and provincial regulations do exist for such facilities and must be consulted and followed.

## Public Reserves and Conservation Agreements

A **public reserve** where title is in the name of the municipality is under the administration and control of the municipal authority. Reserves are held for the purposes of public use, including a public park, recreation area, natural area, or planted buffer strip separating incompatible land uses. Councils can require that the subdivision applicant dedicate up to 10% of the land area being subdivided for public reserve or shoreland reserve purposes at no cost to the municipality.



For the purposes of riparian area protection, a public reserve can be useful because the municipality can set its own parameters around the use of the land and the nature of development in or along it. If these public reserves are kept as natural areas, the land and associated ecosystems and wildlife can be protected, and public access to the water body can be facilitated.

**A Crown reserve is land over which the Province of Manitoba has administration and control.**

Particularly in cottage regions, pressure on riparian areas can be intense and public access to shorelands can be limited and in high demand. It is important for a municipality to keep any riparian areas that are currently under local jurisdictions and continue to expand them along shorelines as new areas are proposed to be subdivided.

A municipality is responsible for maintaining the public reserve, but in the case of riparian areas, where most of the land is left in its natural state, the maintenance costs are low.

A **conservation agreement** is another tool that municipalities can use to implement riparian area protection policies in a development plan. A conservation agreement is typically held between a landowner and a government agency or qualified conservation organization (the agreement holder), such as Ducks Unlimited, Manitoba Habitat Heritage Corporation, or a Conservation District. Municipalities also can hold conservation agreements themselves. The agreement restricts development and certain other activities on a property to a mutually agreed-upon level, for conservation purposes. These restrictions are tied to the land, even when there is a change of ownership.

Land under a conservation agreement remains the private property of the landowner. Protection is achieved primarily by separating the right to further develop on identified land parcels from other rights of ownership. The landowner who voluntarily surrenders these development rights continues to privately own and manage the land and retains the right to sell it at market value.

The benefits of a conservation agreement are that the landowner maintains the right to access the shoreline while, for the municipality, protection is ensured without the responsibility of maintenance. It is up to the landowner to comply with the terms of the agreement.

The drawback of a conservation agreement for the authority is that the agreement holder, and not the landowner, is responsible for monitoring future uses of the land to ensure compliance with the terms of the agreement and to enforce the terms if a violation occurs.

To better ensure compliance, a planning authority may recommend that the owner check whether an agreement or caveat exists on a property prior to land purchase, development, or other activity. If the owner chooses not to check, then any liability would rest with the owner. Additionally, a planning authority could implement a policy of asking landowners to check for any agreements when a subdivision is proposed for land adjacent to water bodies or waterways.

## CONCLUSION

When it comes to protecting and maintaining riparian areas, the simplest rule is to leave what occurs naturally, and disturb the landscape as little as possible. This is made possible in part by careful land use planning. Manitoba's planning framework offers tools for municipalities and planning districts to plan for and guide future development in ways that rehabilitate, maintain and protect riparian areas. The process begins with identifying and mapping important shoreline areas and adopting development plan policies to protect and maintain riparian areas, consistent with the Provincial Planning Regulation. Adopting supportive zoning by-laws and development agreements will also help to protect riparian areas, bringing the planning authority closer to sustainable planning and development.

## ADDITIONAL RESOURCES

**Forest Management Guidelines for Protection of Riparian Management Areas:** [http://www.gov.mb.ca/conservation/forestry/pdf/practices/riparian\\_mgmt\\_final\\_sept2009\\_.pdf](http://www.gov.mb.ca/conservation/forestry/pdf/practices/riparian_mgmt_final_sept2009_.pdf)

**Manitoba's Water Protection Handbook:** [http://www.gov.mb.ca/waterstewardship/reports/water\\_protection\\_handbook.pdf](http://www.gov.mb.ca/waterstewardship/reports/water_protection_handbook.pdf)



### **Beneficial Management**

#### **Practice (BMP):** A BMP

is an action or behaviour that addresses a potential environmental risk on the landscape. Examples of BMPs for riparian areas include allowing natural vegetation to regenerate at the edge of a water body and managing livestock grazing along water bodies.

### **The Riparian Conservation**

#### **Agreements Program**

is a partnership between Manitoba Conservation & Water Stewardship and the Manitoba Habitat Heritage Corporation. Started in 2005 and funded by the Province of Manitoba, the program is one of several ongoing initiatives to improve the health of Lake Winnipeg. It works by ensuring that healthy riparian areas continue to function as filters for nutrient-rich runoff water.