



# Municipal Tools to Manage Urban Lakes and Wetlands

presented by

**Judy Stewart, LL.M.**

*Urban Lakes and Wetlands*

Alberta Lake Management Society 18<sup>th</sup> Annual Conference

Chestermere, Alberta

September 30, 2011



# Overview

- **What are riparian lands and urban water bodies?**
- **What are environmental reserves and environmental reserve easements?**
- **What are building development setbacks and “natural area land use zones”?**
- **Which municipal “tools” work best to protect water bodies and riparian lands from the impacts of human activities?**
- **Section 96 of *Water Act* as a provincial tool, and activities that are not regulated by municipalities under MGA?**

A photograph of a riverbank. In the foreground, there is a dense patch of tall, green grasses with some small purple flowers. A single, tall, thin stem with several bright yellow flowers stands out prominently. Behind the grass, a river flows, its surface slightly rippled. The far bank of the river is covered in thick green vegetation, including shrubs and a dense forest of tall trees in the background. The overall scene is a natural, riparian landscape.

**What are riparian lands?**



# What are Riparian Lands?

The Town of Cochrane *Land Use Bylaw* defines riparian lands, as follows:

“riparian lands” means the lands adjacent to streams, rivers, wetlands, lakes, and other water bodies, where the vegetation and soils show evidence of being influenced by the presence of water. Riparian areas are the green zones around lakes, rivers, and wetlands. They are the transitional zone between surface water and the drier uplands and play a vital role in the healthy functioning of both.”<sup>[1]</sup>

<sup>[1]</sup> Town of Cochrane, Bylaw 01/2004, *Land Use Bylaw*, 8 August, 2005 [Cochrane’s LUB] defines “riparian lands”.

# Riparian Land defined

“Riparian land is any land that adjoins or directly influences a water body and includes floodplains and land that directly influences alluvial aquifers.”

Alberta water Council project team in process of defining “riparian lands.”

# Extent of riparian lands

*Major components of a stream or water body riparian area—Riparian areas can be symmetrical or asymmetrical in shape. The topography and hydrogeology determine the plant and animal communities associated with the width or meandering riparian area configurations.*

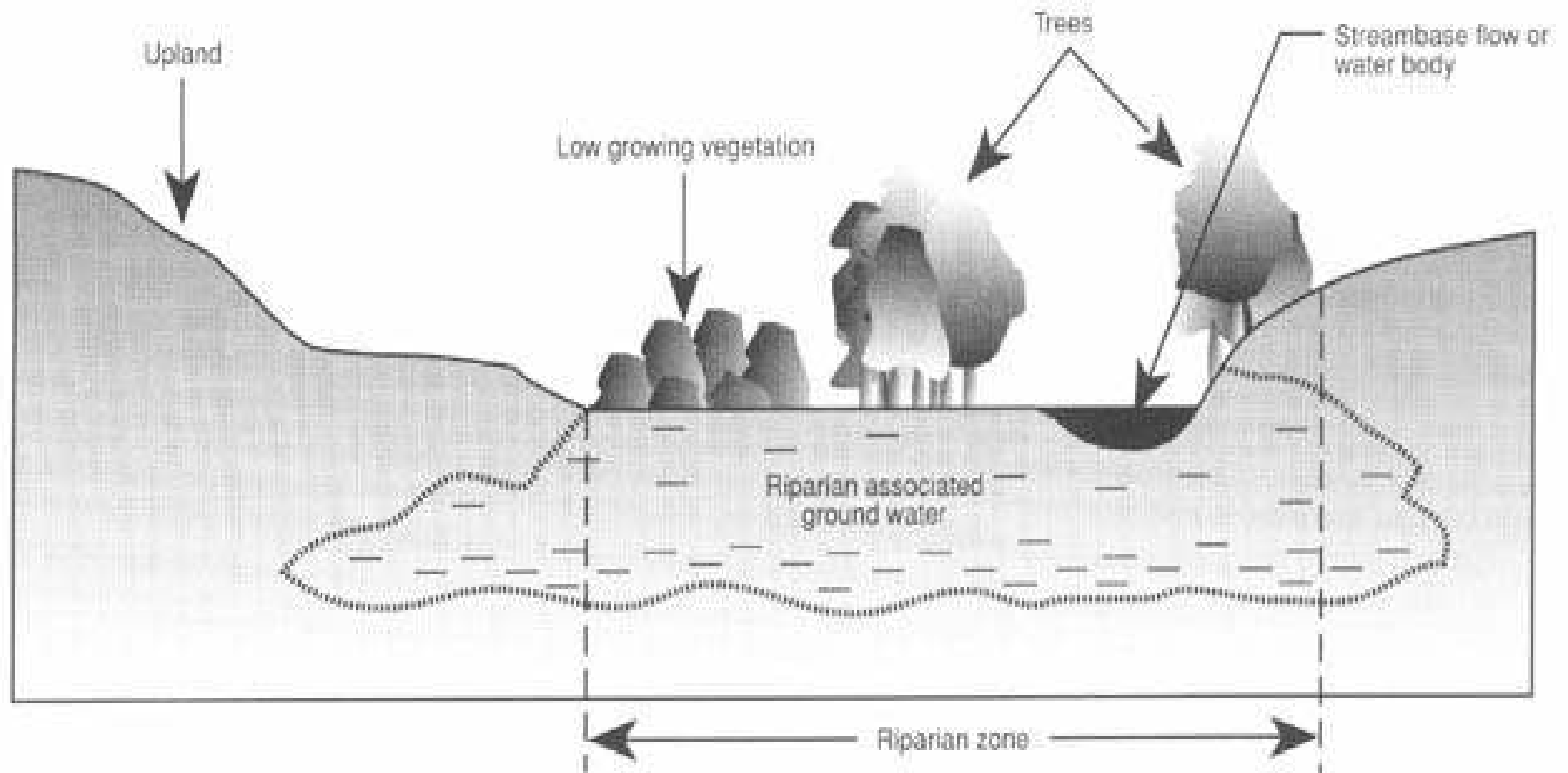


Diagram taken from "Riparian Zones," online: USDA Natural Resources Conservation Service, <<http://www.nrcs.usda.gov>>.

# What are water bodies?

“water body” is broadly defined in the *Water Act*, [\[1\]](#) and means:

“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.” (Emphasis added.)

[\[1\]](#) *Water Act*, definition of “water body.” The definition does not reference “beds and shores”. The definition can be used to interpret section 3 of the *Public Lands Act*, R.S.A. 2000, c.P-40.

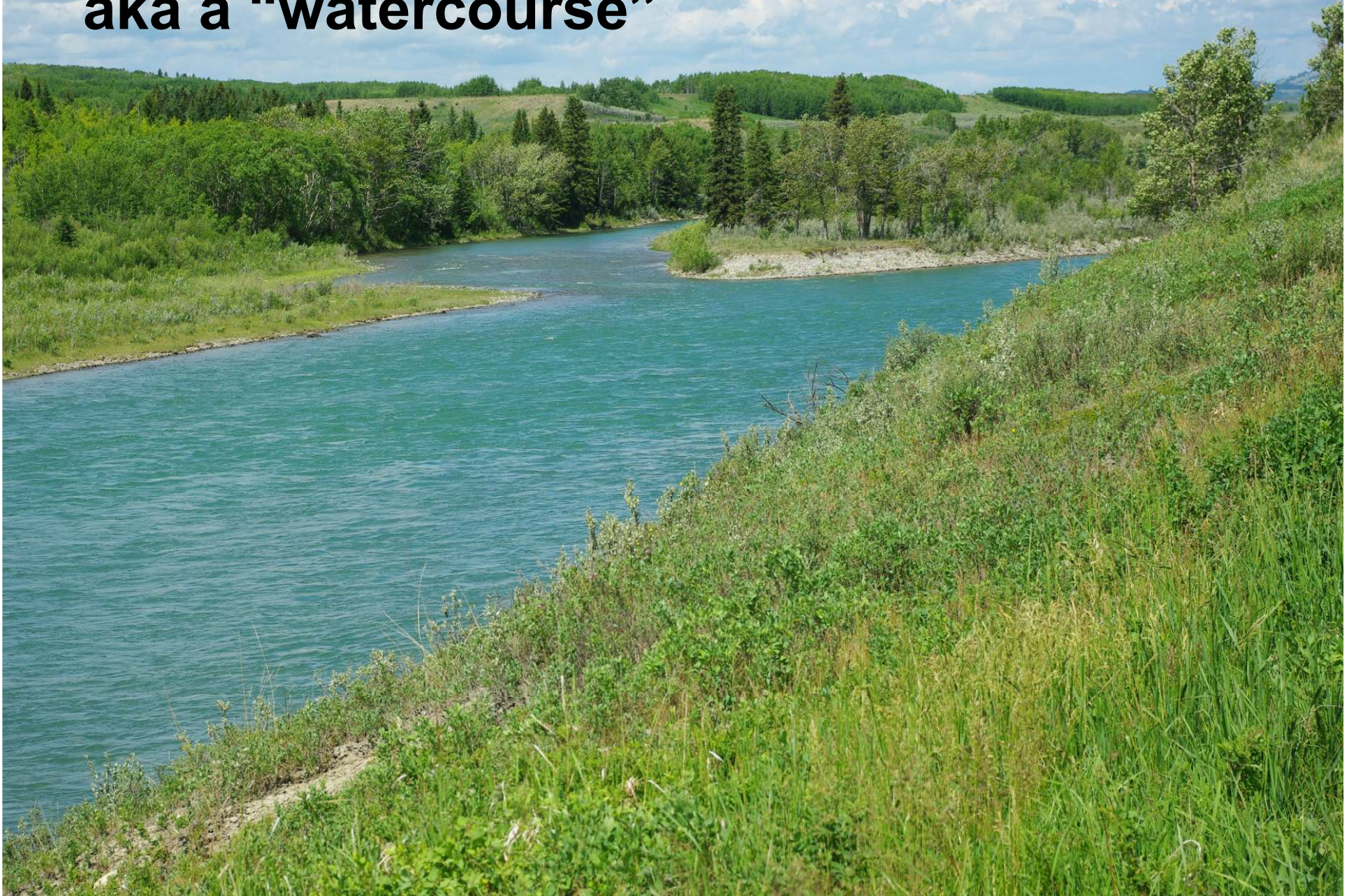
# **Chestermere Lake is an Urban Water Body**

While there are many existing and emerging “Municipal Tools” that can be used to mitigate the cumulative impacts of human activities on or in riparian lands adjacent to Chestermere Lake, I focus on

- **Environmental reserves;**
- **Environmental reserve easements;**
- **Building development setbacks; and**
- **Natural area land use districts.**



**The Bow River is an urban water body  
aka a “watercourse”**



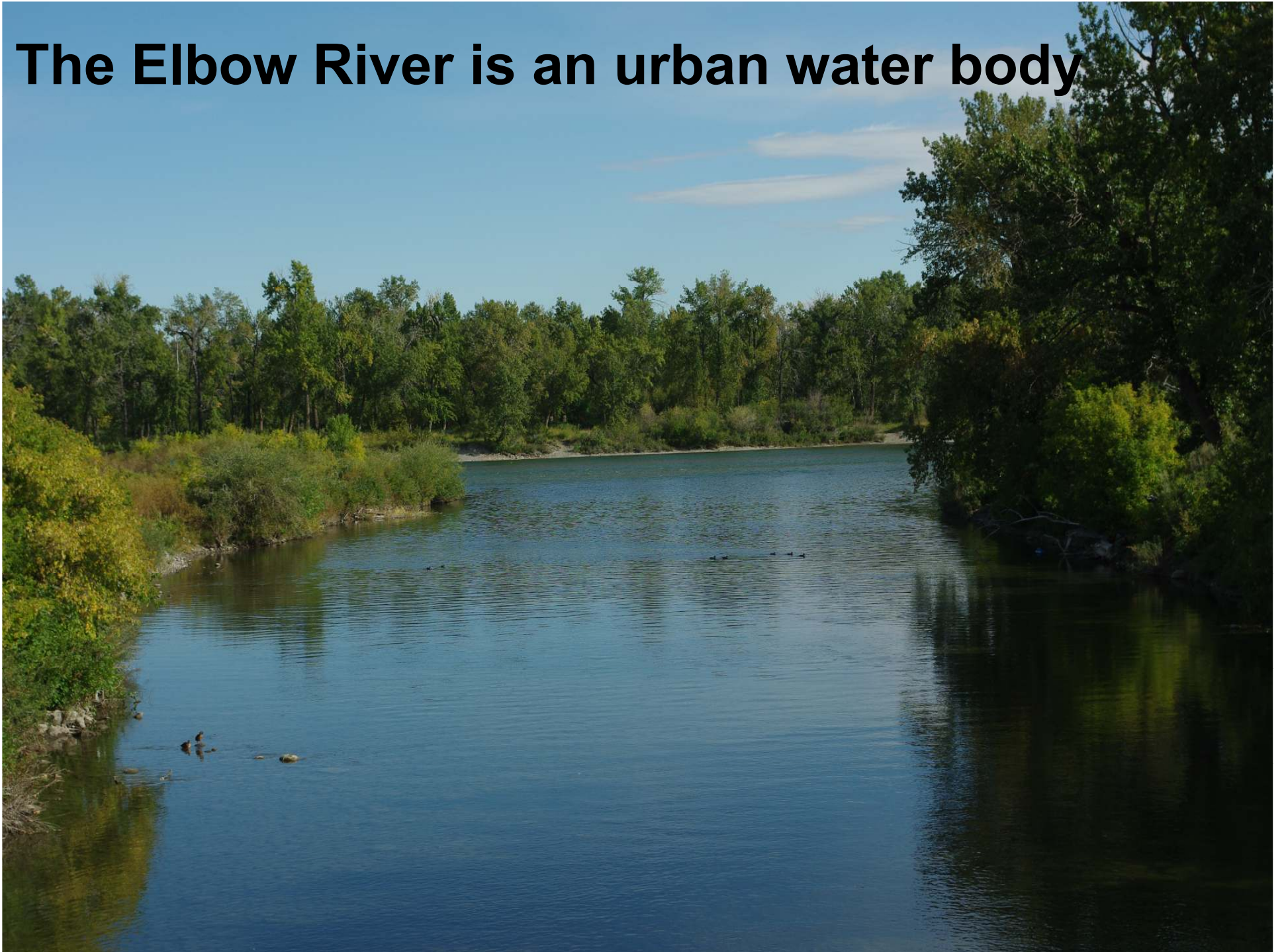


**This “wetland” in Cochrane is an urban water body**





**The Elbow River is an urban water body**





# What are environmental reserves?

At the time of subdivision of private lands, a subdivision authority may require that the landowner provide these landscapes (usually associated with watercourses, water bodies or natural drainage courses) (development hazards) to the municipality as dedicated environmental reserves.

ER are creations of the Alberta Legislature incorporated into planning legislation.

# ***Municipal Government Act***

## **Section 664**

### Section 664

Subject to section 663, a subdivision authority may require the owner of a parcel of land that is the subject of a proposed subdivision to provide part of that parcel of land as environmental reserve if it consists of:

- a) **a swamp, gully, ravine, coulee or natural drainage course;**
- b) **land that is subject to flooding**, or is in the opinion of the subdivision authority, unstable; or
- c) a strip of land, not less than 6 metres in width, abutting the bed and shore of any lake, river, stream or other body of water for the purpose of
  - (i) preventing pollution, or
  - (ii) providing public access to the bed and shore.

# Section 663

A subdivision authority **may not** require the owner of a parcel of land that is subject to a proposed subdivision to provide reserve land or money in place of reserve land if

- a) **one lot** is to be created from a quarter section of land;
- b) land is to be subdivided into lots of 16.0 hectares or more and is to be **used only for agricultural purposes**;
- c) the land to be subdivided is **0.8 hectares or less**; or
- d) **reserve land, environmental reserve easement or money in place of it was provided** in respect of the land that is the subject of the proposed subdivision under this part or the former Act.



# What are environmental reserve easements?

**664(2)** If the owner of a parcel of land that is the subject of a proposed subdivision and the municipality agree that any or all of the land that is to be taken as environmental reserve is instead to be the subject of an environmental reserve easement for the protection and enhancement of the environment, an easement may be registered against the land in favour of the municipality at a land titles office.

# Affect of registration of an ERE

- Lands remain private property on title
- Landowner controls public access
- Land use is necessarily “protection of the natural environment”
- Development is limited to natural state, because cannot be a “public park”
- Municipality enforces “easement”
- Easement runs with the land
- Easement does not lapse if municipality fails to enforce it



**Is this good  
stewardship?**





# What are building development setbacks?

The MGA enables building development setback land use bylaw provisions to prohibit, or regulate and control:

“the development of buildings  
(i) on land subject to flooding or subsidence or that is low lying, marshy or unstable; or  
(ii) on land adjacent to or within a specified distance of the bed and shore of any lake, river, stream or other body of water.”[\[1\]](#)

[\[1\]](#) MGA, s.640(4)(I).

# Building and development defined

**“Building”** includes anything constructed or placed on, in, over or under land, but does not include a highway or road or a bridge that forms part or a highway or road.”[\[1\]](#)

**“Development”** means

- (i) an excavation or stockpile and the creation of either of them,
- (ii) a building or an addition to or replacement or repair of a building and the construction or placing of any of them on, in over or under land,
- (iii) a change of use or a building or an act done in relation to land or a building that results in or is likely to result in a change in the use of land or building, or
- (iv) a change in the intensity of use of land or a building or an act done in relation to land or a building that results in or is likely to result in the intensity of use of the land or building. [\[2\]](#)

[\[1\]](#) MGA, s.616(a.1).

[\[2\]](#) MGA, s.616(b).

# **Scientific determination of building development setbacks**

The mapping of building development setbacks is done after scientific study to determine setback distances required to protect the water bodies.

Studies would be based on hydrology and conducted by a Qualified Water and Aquatic Environment Specialist –the “QWAES”.



# What are “natural area land use districts”?

A “land use district” in the land use bylaw used to establish an area of land that will have as its primary purpose the conservation and management of natural landscape features

A set of regulations and controls superimposed on a certain area of land-like a residential or commercial district

A set of permitted and discretionary land uses within the “district” are provided-existing land uses are “grandfathered”

Some land uses are not permitted, nor can they be accommodated through discretion-therefore those uses are not allowed if application is made to change or intensify use

# **Which tools work better to protect riparian lands and water bodies?**

Building development setbacks work better than environmental reserves in terms of:

- Ownership and control of public access;
- Application to all land uses in all or part of a community; and
- Flexibility of the tool.

# Ownership and control of public access

Ownership and control of public access to lands within building development setbacks remains with landowners, but **development of buildings within the mapped setback area is restricted**. Private landowners continue to control access to their lands, and members of the public who use the lands without invitation are trespassers.

By comparison, after subdivision of private lands, environmental reserve parcels become municipal lands, unless subject to an environmental reserve easement. The municipality is required to maintain, and control public access and use of the land. In some municipalities like Cochrane, the public have *de facto* open access to environmental reserves.

# Application

All lands in all land use districts located within building development setback overlays are affected by building development setback regulations. Building development setbacks apply from the moment the setback area is identified and mapped, and regulations included in the land use bylaw.

Environmental reserves are only created during the subdivision process, and become municipal property. Municipalities may use environmental reserves for parks and other public purposes, many of which may impact sensitive landscapes within the environmental reserves.

**In contrast**, within building development setback areas municipal lands are affected by prohibitions or regulations and controls to the same extent as private lands.



# Flexibility of the tool

Environmental reserve provisions in the MGA prescribe certain natural environment features such as swamps and ravines, and 6 metre strips of land from the bed and shore of certain water bodies that may be required to be dedicated to the municipality at the time of subdivision pursuant to section 664.

Building development setback distances, and the width of riparian land strips adjacent to water bodies that can be regulated and controlled through building development setbacks, are not prescribed by subsection 640(4). Building development setbacks can be used to prohibit development of certain buildings, and to regulate and control other buildings within mapped areas to achieve certain planning purposes.

**At the time of subdivision, environmental reserves can be required to be dedicated from within any existing building development setbacks areas.**

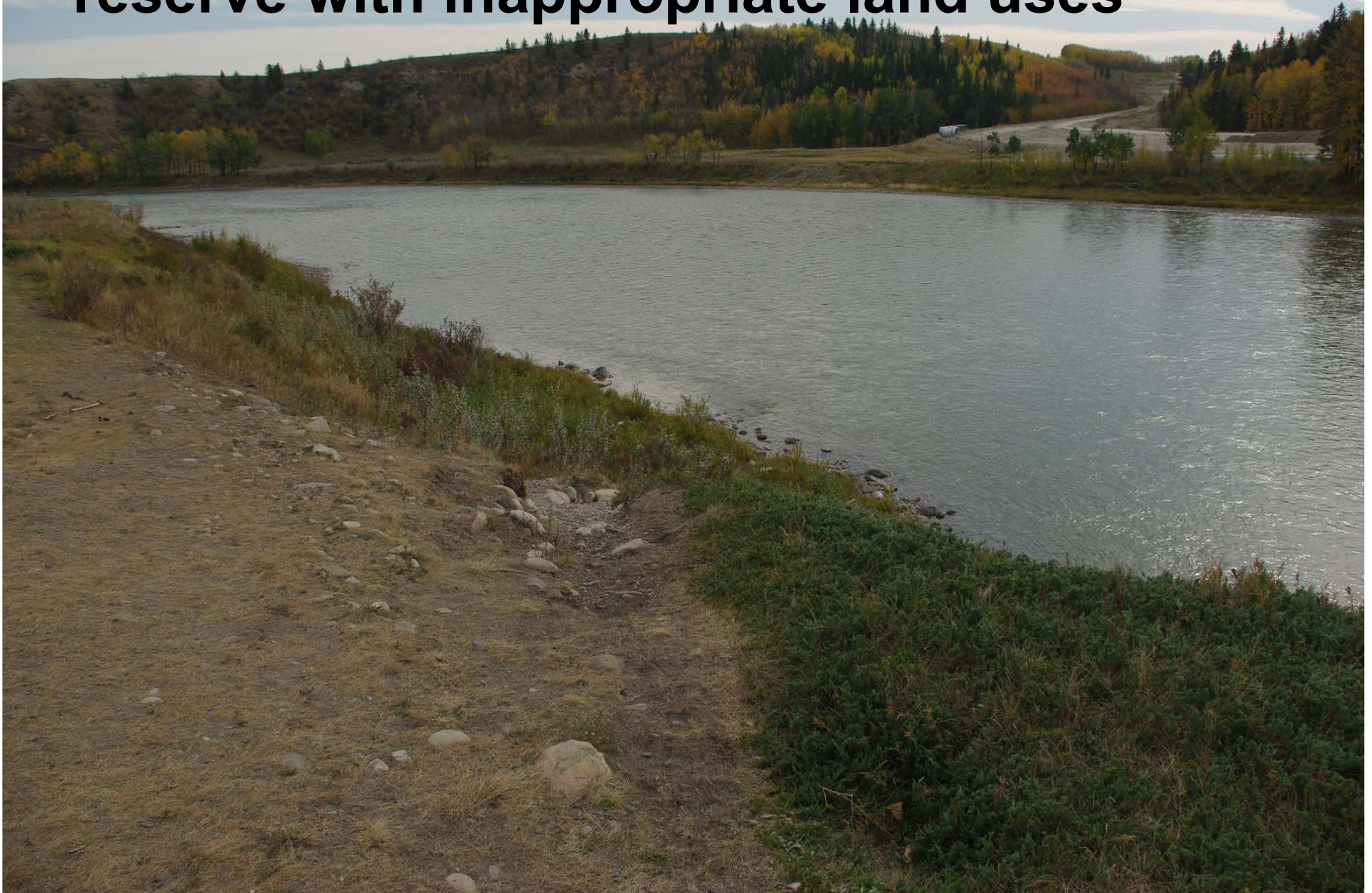
# Why BDS work to protect water bodies and riparian lands



This wet meadow and the associated riparian land could be located in a building development setback area and all buildings associated with permitted and discretionary land uses would be setback according to scientifically determined distances.



# Typical minimum six metre environmental reserve with inappropriate land uses



# Three reasons why environmental reserves don't protect water bodies and riparian lands?

## **1. Must provide public access**

The municipality becomes the owner of strips of land adjacent to water bodies, and although municipalities could control public access, they rarely do. They create pathways and parks close to the shoreline and this leads to degradation and pollution of the riparian strips and the water bodies.



## 2. Devaluation of precious resources

The municipality requires private landowners to give up more land for “public policy purposes” with no requirement to pay compensation for those lands. **They pay nothing for the lands and treat them as worthless.**

Valueless property is treated like a dump for human waste or a perfect location for municipal storage facilities or water treatment facilities—even in floodplains

### 3. Municipal owners do not necessarily protect these lands from development

Municipalities might use environmental reserve strips adjacent to water bodies for public purposes such as water and wastewater treatment facilities, and park infrastructure. As a result, municipal owners may create as much, **and often more**, pollution and damage to receiving water bodies and riparian lands as would a private developer.

**Is this good stewardship?**





**Remains of an urban wetland complex that  
was in the way of recent highway expansion**





# Remains of the public realm



# Other considerations-like roads

## Roads, utilities, etc.

**662(1)** A subdivision authority may require the owner of a parcel of land that is the subject of a proposed subdivision to provide part of that parcel of land for the purpose of roads, public utilities or both.

**(2)** The land to be provided under subsection (1) may not exceed 30% of the area of the parcel of land less the land taken as environmental reserve or as an environmental reserve easement.

**(3)** If the owner has provided sufficient land for the purposes referred to in subsection (1) but the land is less than the maximum amount authorized by subsection (2), the subdivision authority may not require the owner to provide any more land for those purposes.



# **Municipal reserve dedication for parks and recreation**

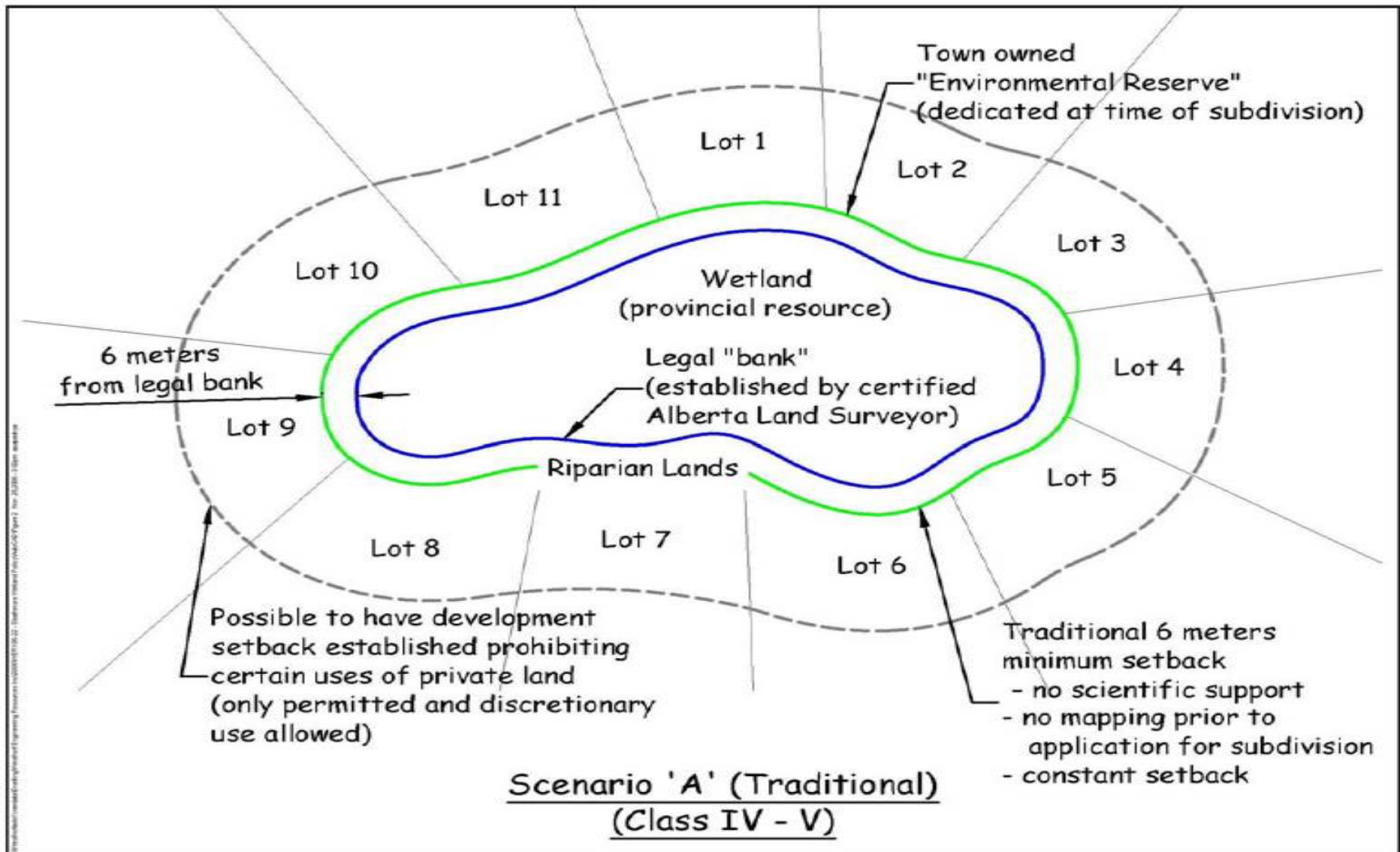
If a municipality takes excessive land as environmental reserves which are essentially “undevelopable lands,” then there is less “developable land” available to calculate the potential 10% requirement for municipal and school reserves. This is because environmental reserve are deducted from the total acreage in the subdivision proposal area before the 10% is calculated. In many municipalities, municipal reserves are already small and scattered parcels, insufficient for recreational facilities or schools.



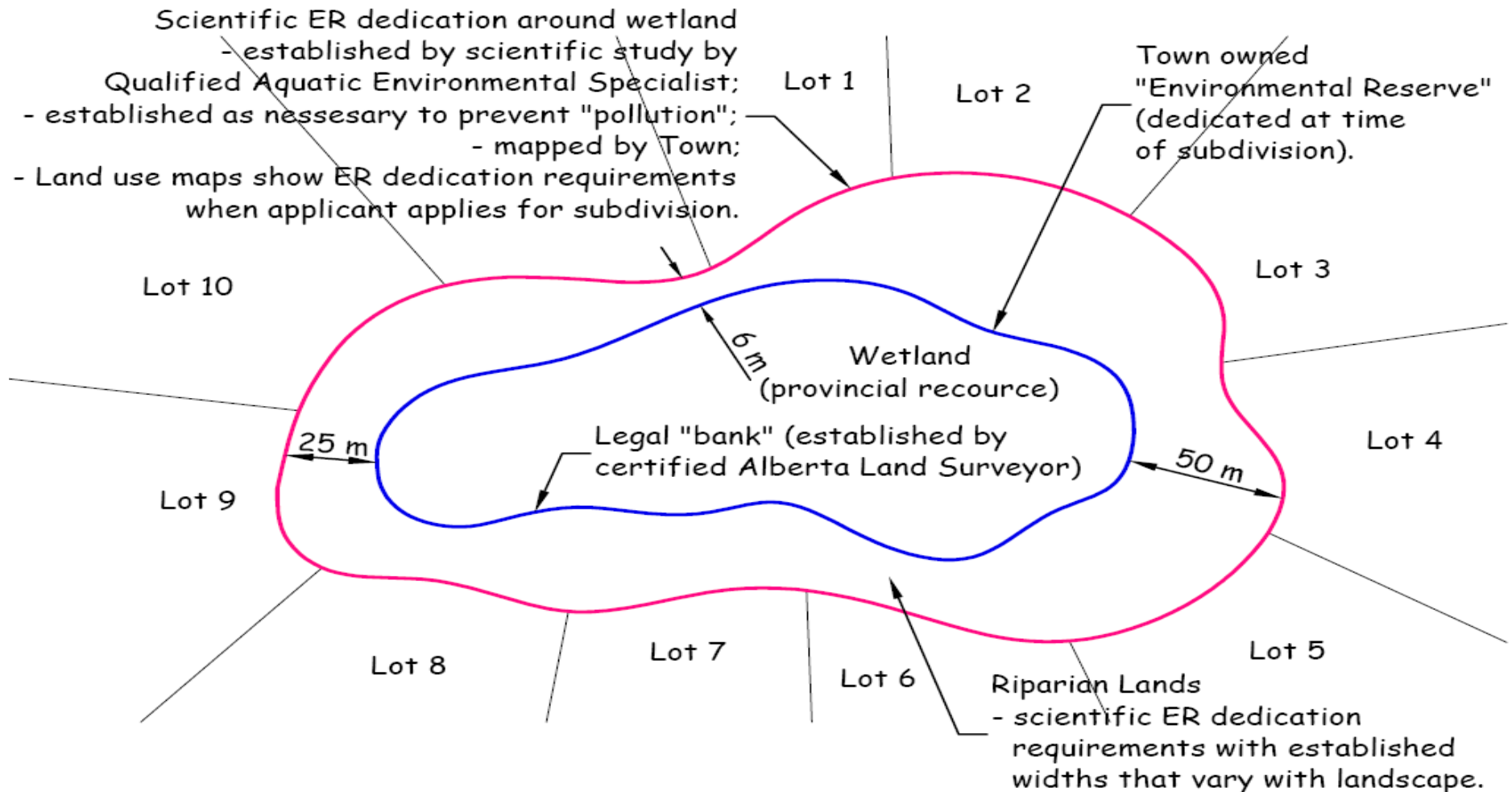
# Diagrams to show the differences

Many thanks to Bert van Duin for preparing the following 3 diagrams which appeared in a joint “background document” for wetland policy consideration prepared in consortium with Westhoff Engineering and Aquality Environment

# Traditional ER dedication



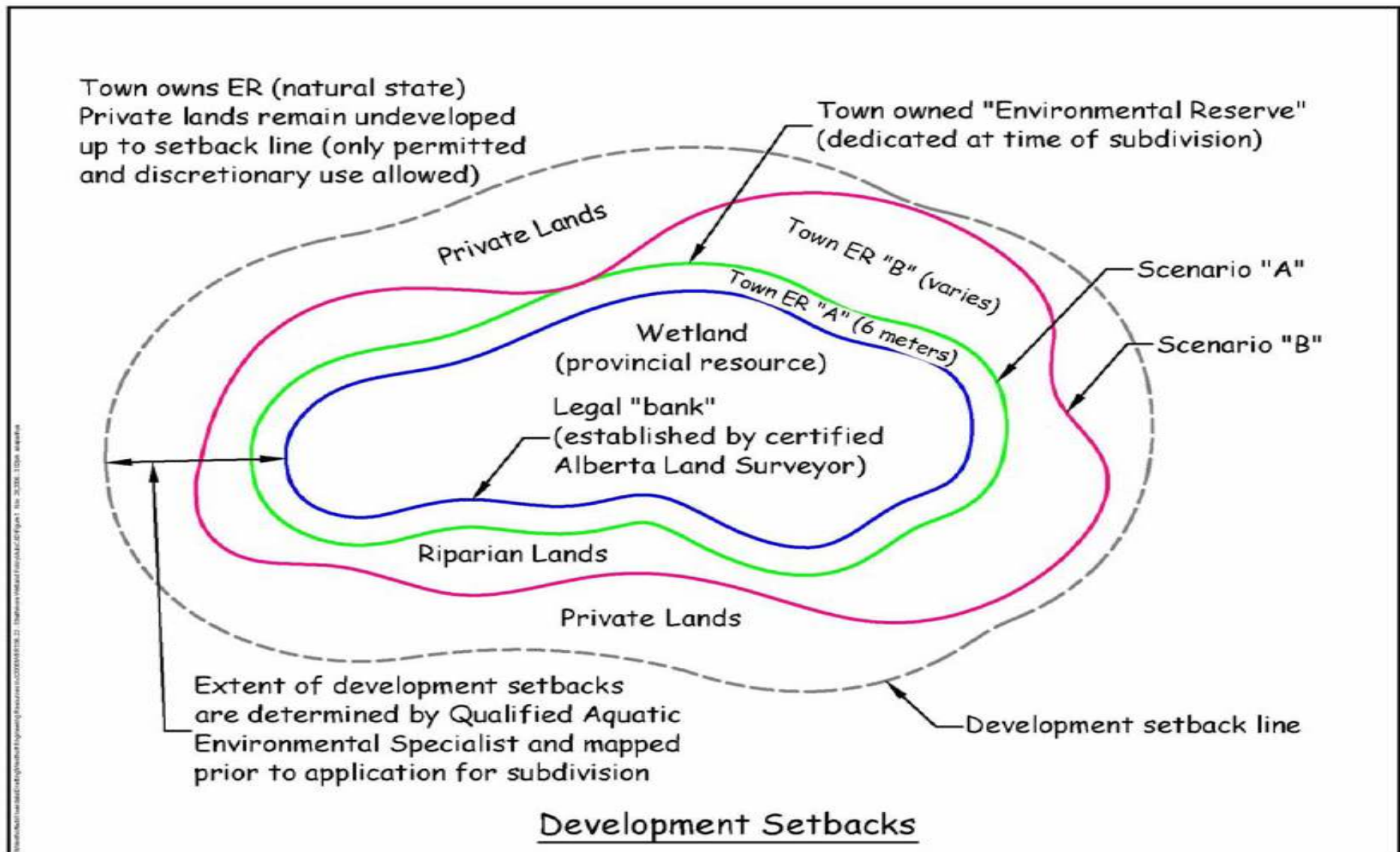
# Scientific determination of ER dedication required to “protect”



Scenario 'B' (Scientific)  
(Class IV - V)



# Building Development Setbacks



## **Section 96 of *Water Act* as a provincial tool**

### ***Water Act* -section 96- Flood Risk Areas**

**96(1)** If the Minister is of the opinion that there is or may be a risk to human life or property as a result of flooding, **the Minister may** designate, subject to the regulations,

- (a) any area of land in the Province as a flood risk area, either generally or on an interim basis, and
- (b) **specify any acceptable land uses**  
**with respect to the flood risk area.**

# **Land uses that are not regulated by municipalities under Part 17 of MGA**

## **Non-application Part 17**

**618(1) This Part and the regulations and bylaws under this Part do not apply when a development or a subdivision is effected only for the purpose of**

- (a) a highway or road,**
- (b) a well or battery within the meaning of the Oil and Gas Conservation Act, or**
- (c) a pipeline or an installation or structure incidental to the operation of a pipeline.**

**(2) This Part and the regulations and bylaws under this Part do not apply to**

- (a) the geographic area of a Metis settlement, or**
- (b) a designated area of Crown land in a municipal district or specialized municipality.**



# Exemption

**618.1** This Part and the regulations and bylaws under this Part respecting development permits do not apply to a confined feeding operation or manure storage facility within the meaning of the *Agricultural Operation Practices Act* if the confined feeding operation or manure storage facility is the subject of an approval, registration or authorization under Part 2 of the *Agricultural Operation Practices Act*.

## **NRCB, ERCB, AEUB or AUC authorizations**

**619(1)** A licence, permit, approval or other authorization granted by the NRCB, ERCB, AEUB or AUC **prevails**, in accordance with this section, over any statutory plan, land use bylaw, subdivision decision or development decision by a subdivision authority, development authority, subdivision and development appeal board, or the Municipal Government Board or any other authorization under this Part.

# Questions?

Contact Judy Stewart  
[stewart.jmm@gmail.com](mailto:stewart.jmm@gmail.com)

All the photos in this  
presentation  
belong to  
Judy Stewart  
exclusively!

