



Accretion

& LAKE SHORELINE CHANGES



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Principal researcher and founder of *Aquality* Environmental Consulting Ltd.

- Certified Alberta Professional Biologist (P.Biol) and Wetlands Authenticating Professional (AP)
- President of the Alberta Society of Professional Biologists (ASPB)
- Earned his M.Sc. degree from the University of Alberta, working with Ducks Unlimited Canada at Frank Lake, the largest wetland restoration project in Canada
- Research associate at the University of Alberta for three years as the Land-Aquatic Program Administrator for the Sustainable Forest Management Network
- Alberta Water Council representative for the Lake Environment Conservation Sector for the past 15 years, been involved with the Provincial Water Strategy (*Water for Life*) since its creation in 2003
- Involved with several non-profit groups such as the Alberta Lake Management Society, Bow River Basin Council, Emerald Foundation, Inside Education, Trout Unlimited Canada and others



Jay S. White

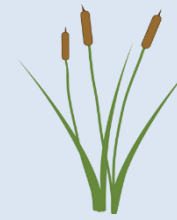
M.Sc., P.Biol, Authenticating Professional

➤ TODAY'S DISCUSSION

- Lake Accretion
- Bed and Shore Ownership
- Environmental Reserve Law and Policy
- Compliance and Enforcement
- Resolutions for Shoreline Misuse
- Dock Disturbance Standards in Alberta



Bed and Shore Ownership

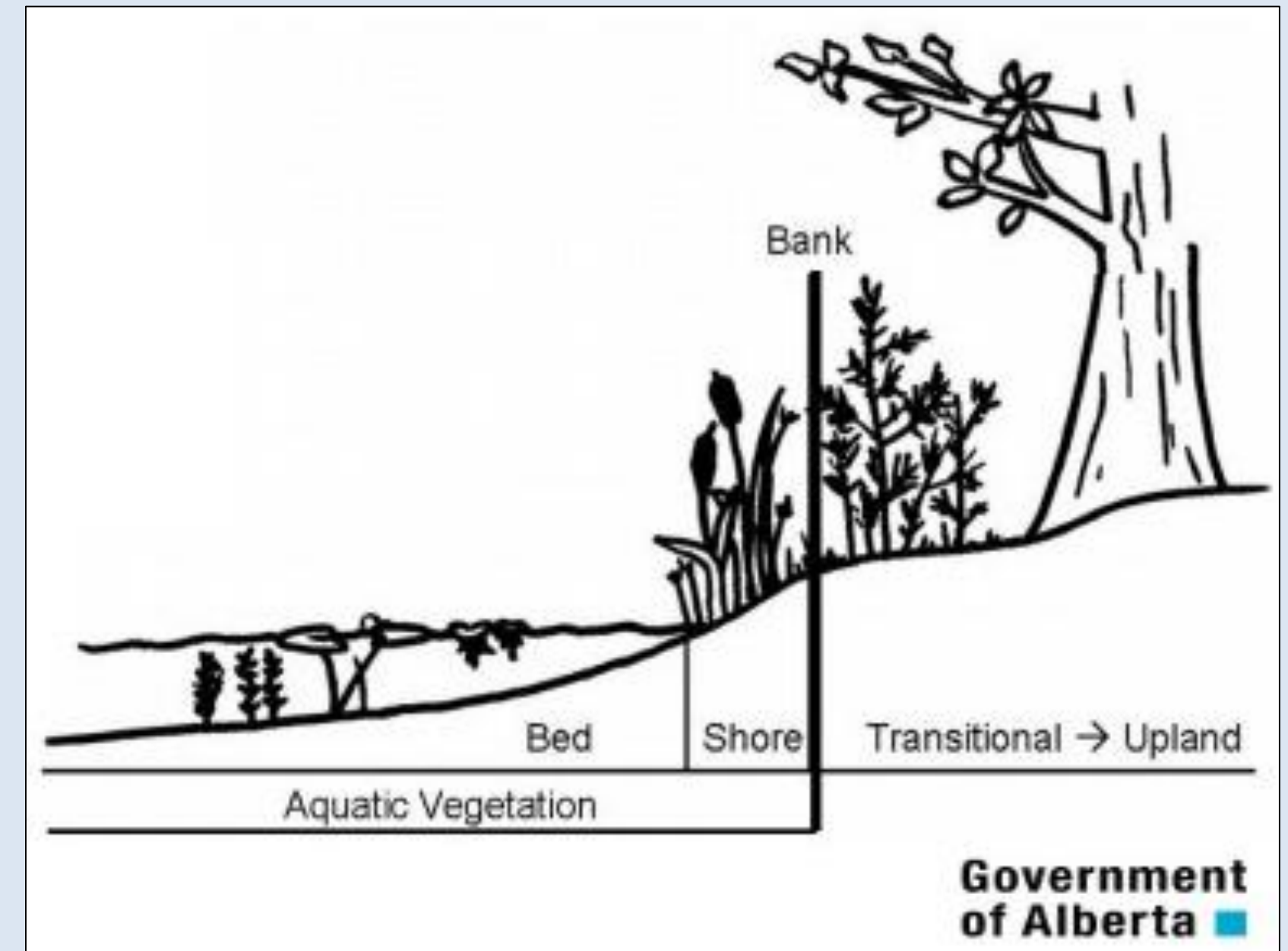


Who owns what?

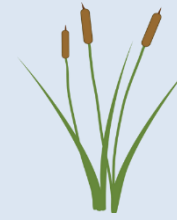
- The Crown owns the **beds and shores** of all permanent and naturally occurring bodies of water
- Water and its uses are under the *Water Act* jurisdiction

Bed vs. Shore

- **Bed:** land on which water sits
- **Shore:** part of the bed which is exposed when water levels are at their *lowest*

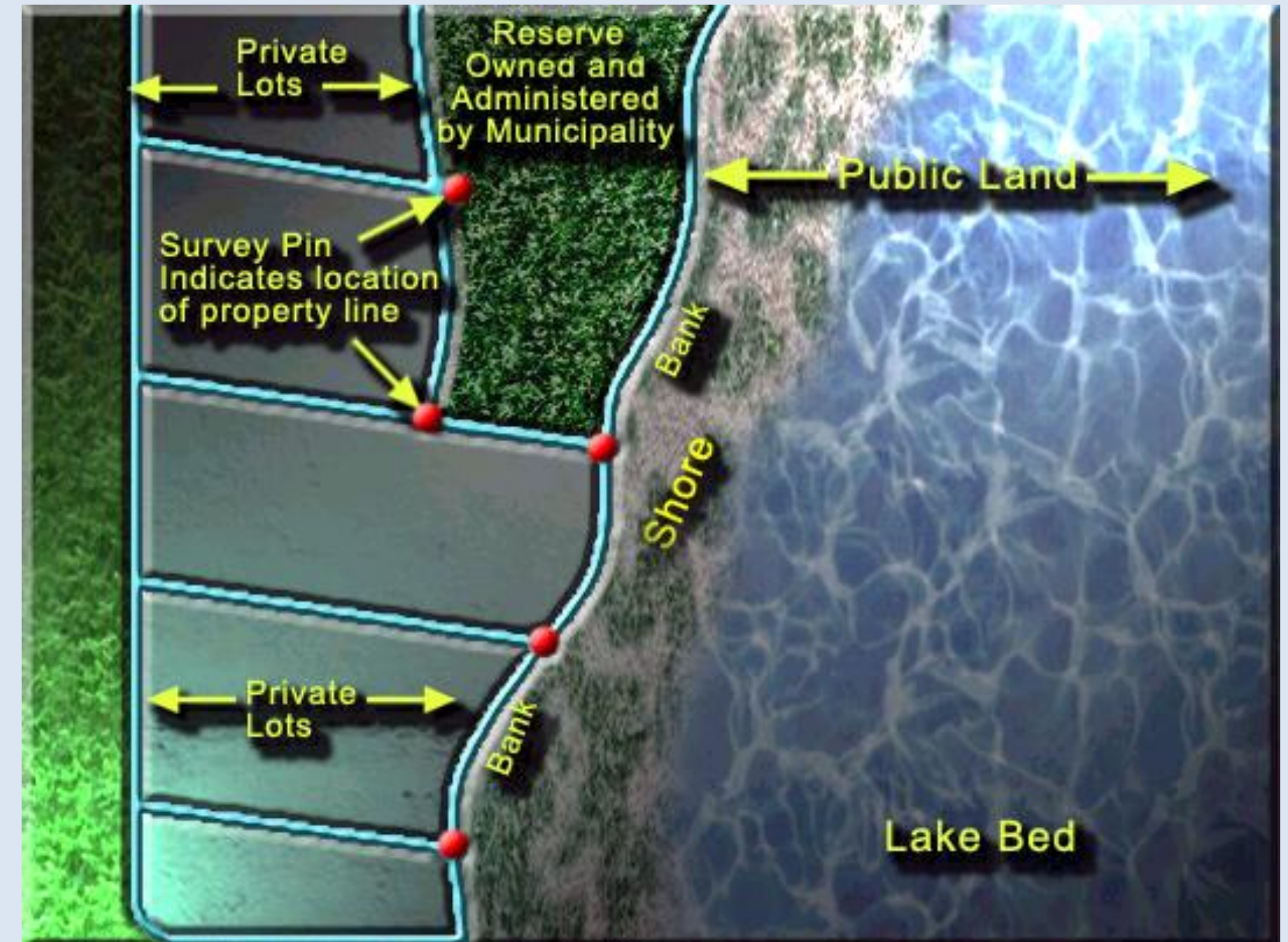


Bed and Shore Ownership



What's the extent of the province's ownership?

- Alberta owns the bed and shore
- Beyond the bank (upper limit of the bed and shore) is privately owned

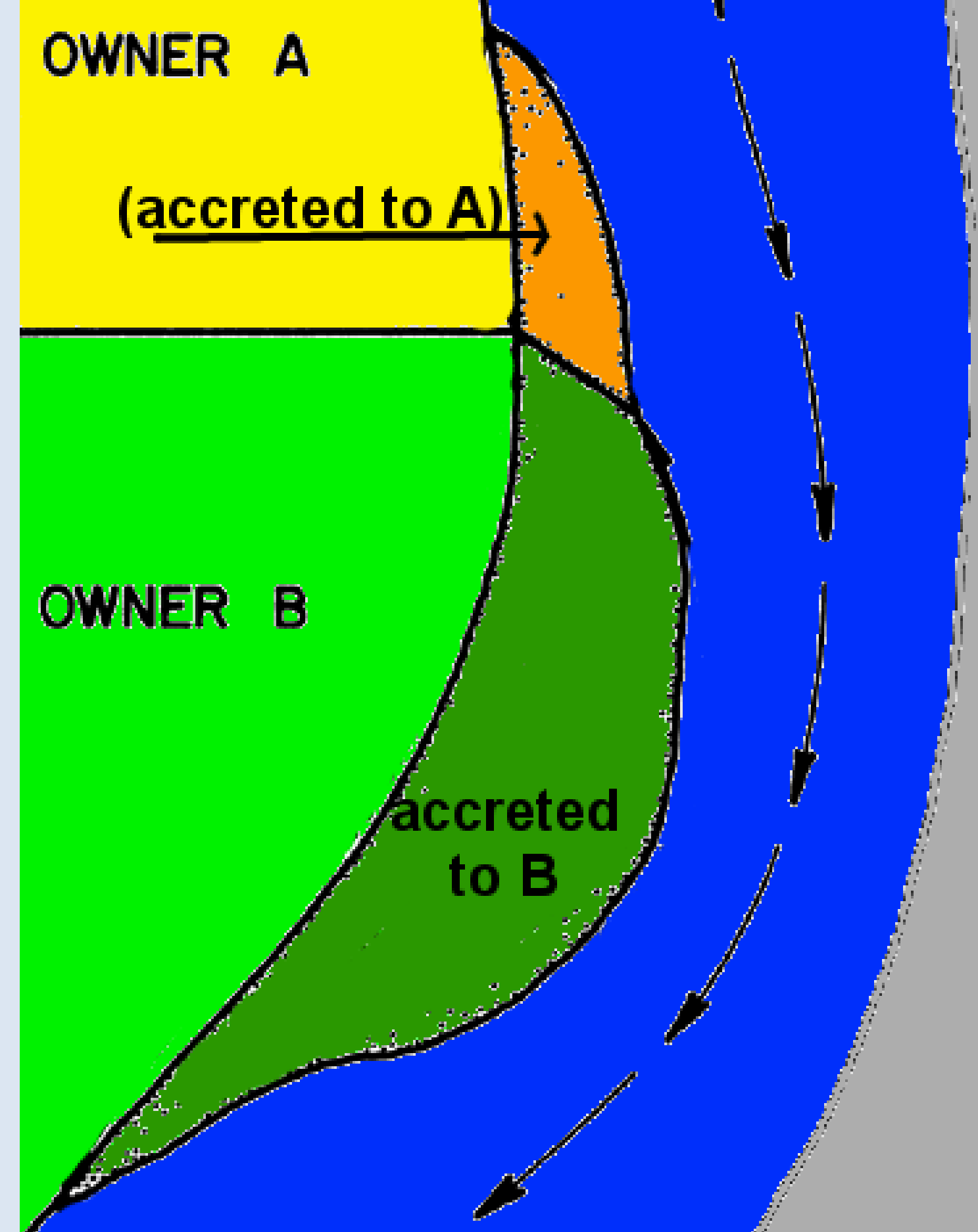


Lake Accretion Defined

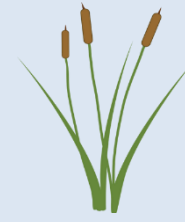
A gradual, imperceptible increase in the size of land that borders a body of water

Occurs by **two** processes:

1. Gradual recession of water
2. Gradual accumulation of sediment



Bed and Shore Ownership



Influence of Flooding on Ownership

- Banks can erode private property
- Landowners have right to protect land against flooding
- Reinforced with washed rock and cobbles

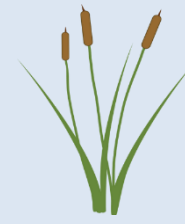
If flooding causes privately owned land to be lost:

- Landowners can rebuild land
- Must prove that the loss is due to flooding and reclamation doesn't need to occur beyond the pre-flood area



Elkhornslough.org

Bed and Shore Ownership

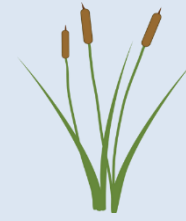


Influence of Drought on Ownership

- Permanent water body that is **occasionally** dry:
 - Crown still owns bed and shore
- Permanent water body that has the **bed exposed for long periods** and **upland vegetation** has established:
 - Adjacent landowner can request ownership



Compliance and Enforcement



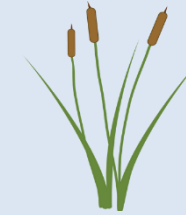
If landowners have **purposely** and **artificially** created an accretion, landowners are **NOT** entitled to accreted lands

Damage can result in:

- i. Fines
 - Up to \$50,000 for an individual
 - Up to \$500,000 for a company/organization
- ii. Land reclamation to restore lake shoreline stability



Environmental Reserve Law & Policy



Reserves on the edge of a lake are meant to:

- Act as a pollution buffer
- Provide public access to the bed and shore
- Safeguards that development does not occur on land sensitive to disturbances

Examples:

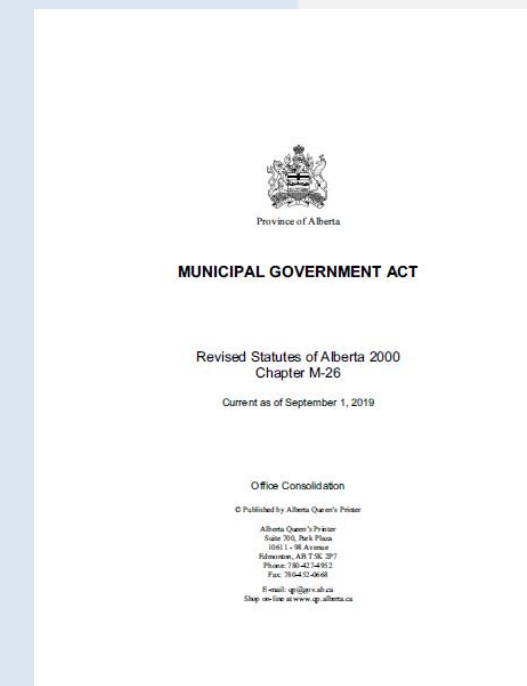
- i. Swamp, gully, ravine or natural drainage course
- ii. Land that is unstable or exposed to flooding
- iii. A strip of land $\leq 6\text{m}$ in width next to the bed and shore of any body of water

Section 671

“ [An] environmental reserve must be left in its natural state or be used as a public park.”

MUNICIPAL
GOVERNMENT ACT

2000

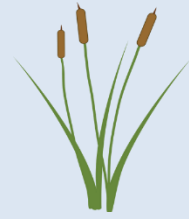


Environmental Reserve Law & Policy

Problems

- i. Landowners consider reserves to be part of their land
- ii. May clear vegetation, develop on the reserve, build fences to keep public out
- iii. Poorly enforced for several reasons
- iv. Difficult to manage

Shoreline Misuse



■ Unauthorized Development

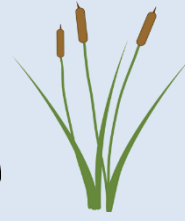
- Docks
- Stairs
- Lawns
- Decks

■ ATV near shorelines

■ Encroaching on environmental reserves



Resolutions for Misuse



Natural beaches: erosion control

Establishing who owns what

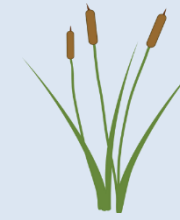
Careful planning for building docks

- building community docks

Environmental reserve awareness

- Stewardship
- Councils must be prepared to enforce bylaws
- Key aspect: **protect the vegetation**

Dock Disturbance Standard in Alberta



- Implemented May 2019
- Standard for docks that are for **temporary, seasonal use** for personal recreational purposes (2 weeks)
- The bed and shores of natural water bodies are public lands and are subject to the *Public Lands Act*
 - Applies to Crown land
 - Placement of docks on public land falls under the scope of the Act
 - No additional *Water Act* is needed as the dock is temporary

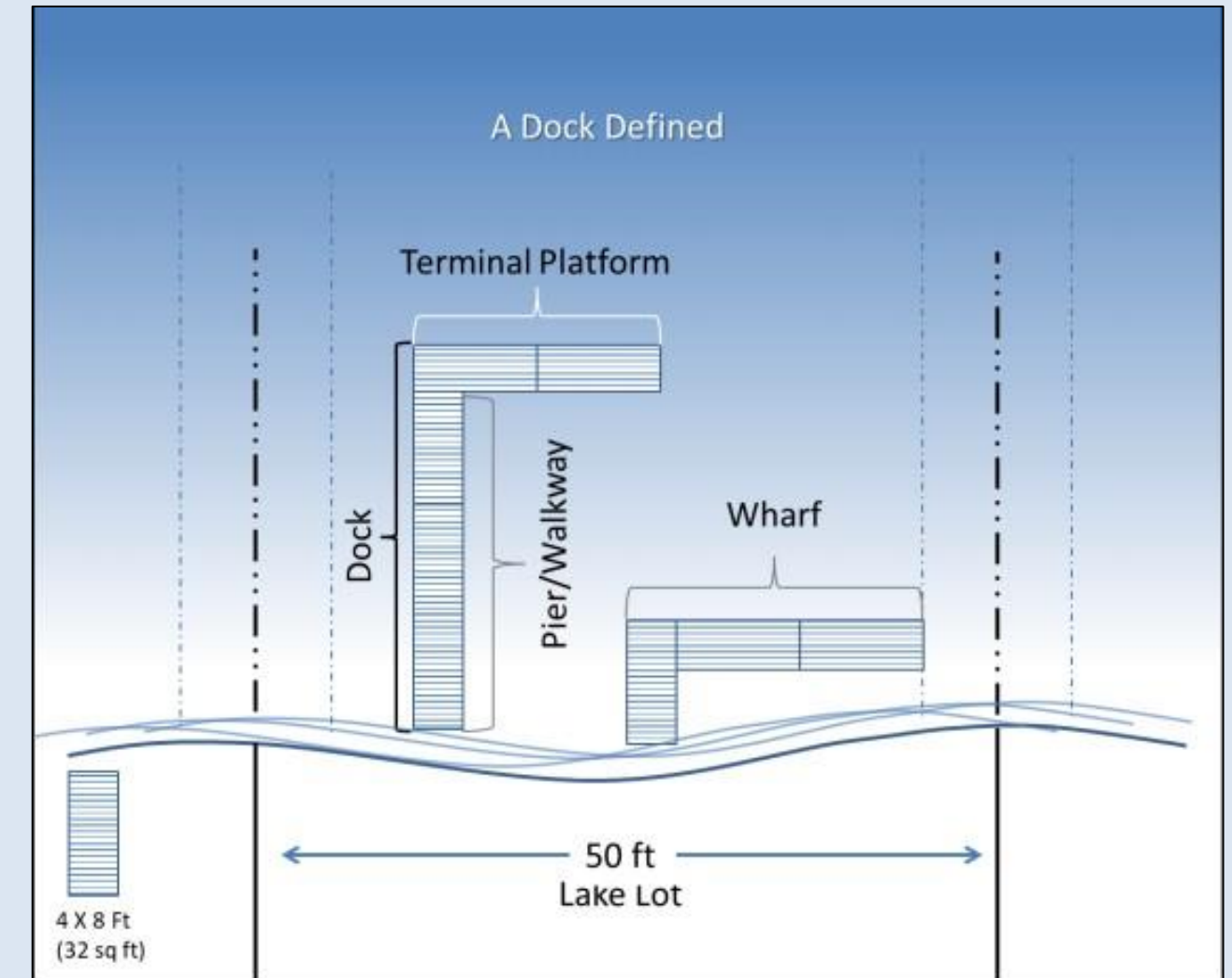


Figure 1. Docks defined in the Government of Alberta's "User Guide for Dock Permits", May 2019.



Questions?

