

Setbacks from Waterbodies  
5 July 2005, 5:00 - 8:00 pm  
Parks Foundation, Calgary  
225 13<sup>th</sup> Avenue, SW

*A preliminary discussion of development setbacks in southern Alberta:  
for the purposes of ensuring sustainable water quality & quantity,  
ecological functionality, and socio-economic amenity values.*

### Attendance

Name	Organization
Bernie Amell	River Valleys Committee
Yin Deong	City of Calgary Wastewater
Tim Dietzler	Nose Creek Watershed Partnership, MD of Rocky View
Dave Evans	Fisheries & Oceans Canada
Tim Giese	Bow River Basin Council, Branches & Banks
Kerrie Hale	River Valleys Committee
Mac Hickley	River Valleys Committee
Gary Kindrat	Ducks Unlimited Canada
Jon Lea	Federation of Calgary Communities
Sheena Majewski	Fisheries & Oceans Canada
Chris Manderson	City of Calgary Parks
Robin McLeod	River Valleys Committee, Stanley Park to Glenmore Dam (S2G) Society
Steve Meadows	Bow River Basin Council, River Valleys Committee
Bill Morrison	River Valleys Committee
Mike Murray	Bow River Basin Council
Nancy O'Brien	Golder Associates, Elbow River Watershed Partnership
Sandi Riemersma	Nose Creek Watershed Partnership, Palliser Environmental Services
Susan Ryan	River Valleys Committee
John Sealy	City of Calgary Wastewater
Nicole St. Arnaud	City of Calgary Land Use Bylaw Review Team
Sandy Stead	River Valleys Committee, Inglewood Community Association
Judy Stewart	Bow River Basin Council, Branches & Banks
Tracy Tarves	Parks Foundation Calgary, Western Sky Land Trust
Mary-Ellen Tyler	River Valleys Committee (Chair), University of Calgary
Bert van Duin	Westhoff Engineering Resources Inc
Gloria Wilkinson	Elbow River Watershed Partnership

### Acronyms

AENV	Alberta Environment
ASP	Area Structure Plan
DFO	Department of Fisheries & Oceans Canada
DUC	Ducks Unlimited Canada
ER	Environmental Reserve
MDP	Municipal Development Plan
MGA	Municipal Government Act
LUB	Land Use Bylaw
PLA	Public Lands Act
RVC	River Valleys Committee
S&K	Stewart & Kantrud (wetland classification system)
SPC	Standing Policy Committee (of Calgary City Council)
UDI	Urban Development Institute

## Setbacks from Waterbodies

### Introduction

- We currently have a golden opportunity to discuss issues related to land use adjacent to waterbodies.
- Calgary's recent flooding events have highlighted the need to bring different stakeholders together to discuss setback issues.
- Thanks to The City of Calgary's ongoing review of its Land Use Bylaw (2P80), we have at least one potential avenue of influence (cf. section 19.1).
  - Originally, the City did not intend to formally review section 19.1, but agreed to consider any recommendations the RVC brought forward.
- All three levels of government have jurisdiction over certain aspects related to waterbodies.
- Over the next 12-18 months, the RVC hopes to engage its members and other stakeholders in some of the technical and strategic issues concerning our city's rivers, valleys and water resources.

### City of Calgary Land Use Bylaw

- The Land Use Bylaw (LUB) is undergoing a comprehensive review process, section by section, in consultation with key stakeholders.
  - A new framework for each section (e.g., commercial, industrial, etc) is developed and approved by Council, before moving into the detailed bylaw-drafting stage.
  - Currently, the City is consulting with stakeholders re "special" districts (i.e., open space, recreation, schools, future urban development, etc).
- The LUB is a legislative tool; no new policy will be created through this process.
- The fully revised LUB is expected to go to City Council in 2006.
  
- The City's jurisdiction through section 19.1 ends at the high water line (where the Government of Alberta takes ownership).
- Section 19.1 suffers from a number of constraints, including local historical development patterns (e.g., houses in the floodway).
- The Province "owns" up to the high water mark; fish habitat belongs to DFO.

### Question: What's the definition of "high water mark"?

- The Alberta Surveys Act (section 17, Natural Boundaries) stipulates that this line is to be determined by a qualified surveyor at the average annual high water mark:
  - "... the bed and shore of a body of water shall be the land covered so long by water as to wrest it from vegetation or as to mark a distinct character on the vegetation where it extends into the water or on the soil itself" (17.3)
  - This line "is to be referred to as the bank of the body of water" (17.2).
  - By this definition, there is no protection from flooding impacts...

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- Section 60(1) of the Municipal Government Act (MGA) states:
  - “a municipality has the direction, control and management of the rivers, streams, watercourses, lakes and other natural bodies of water within the municipality...”
- The City’s legal dept has determined that section 60(1) of the MGA does not give The City sufficient authority to enforce (e.g., LUB 19.1).
- There is a need to focus more time/resources in case law on MGA 60(1).
  
- There is overlap between provincial and federal jurisdictions, within the Public Lands Act (PLA).
- Municipal regulations have still not been integrated with provincial and federal.
- Municipal regulations are more adaptable, easier to amend than prov or fed.

Question: With at least three jurisdictions (federal, provincial, municipal + First Nations), where can we find some authority to enforce?

Question: What exactly is under the Province’s jurisdiction?

- It’s been said that Alberta Environment (AENV) tries to encourage The City to move towards existing provincial (and federal) policies and guidelines, but AENV is apparently reluctant to become involved unless a specific issue needs to be resolved.

Question: How will The City’s LUB-Review process address enforcement issues?

- At the detailed drafting and administrative level.

### Legislative Context

- There are some inefficiencies in the MGA [section 664(1)] as it pertains to the protection of Environmental Reserve (ER) lands.
- Section 664(1) of the MGA defines ER as follows [emphasis added]:
  - “(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 and beside the bed and shore.”
- Historically, The City has interpreted “not less than 6m” as a maximum of 6m.
- There are some site-specific guidelines as well.
- If The City is obligated to repair damages (from flooding), then The City should protect their assets.

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- The City is currently undertaking a literature review of these issues, but only in reference to the clause “for the purpose of preventing pollution.”
- A consultant’s report is due this later month.
- A stakeholder review is planned for the fall, with direction is expected from Council (Standing Policy Committee [SPC] on Utilities & Environment) to consult with watershed groups.
- A progress report on this research is due at SPC later (in October?).
- One potential implication is the need for an amendment to The Calgary Plan.
  
- Under the PLA, both permanent and intermittent waterbodies are covered (e.g., wetlands, smaller streams) and may be claimed as Crown lands.
- There may be difficulties under the Fisheries Act, if a waterbody only functions as fish habitat for 1 month per year and is mule deer habitat for 11.
- This is good for streams that are connected to larger systems.
- Wetlands are tricky under federal legislation too - draining vs. non-draining...
- Approx. 200 of Calgary’s 8000 wetlands are permanent (for federal purposes).
- If a permanent wetland is classified as Stewart & Kantrud (S&K) Type 4 or 5, it is property of the Crown and The City takes a 6m buffer around it.
- If a wetland is S&K Type 3, The City claims it as ER plus a 6m buffer.

Question: What is the status of “forcibly accreted” lands (i.e., intentionally filled)?

- The Crown has authority to do whatever it wants with them.

Question: Why is The City not investigating the “public access” clause?

- The legal definition of public access refers to open space only.
- For example, a regional pathway would count, but would not (necessarily) be beneficial in terms of environmental protection.
- But the 6m rule was based on the space required to allow the necessary equipment to move around (servicing, maintenance, etc).
- This question should be returned to The City’s legal dept or to Alberta Municipal Affairs for further consideration.
- Any policy that includes “should” or “encourages” is essentially non-functional.
  
- The calculation of mitigation or compensation measures to address wetland disturbances is also difficult.
- The Province (or City) could end up with a huge single permanent wetland instead of numerous smaller ephemeral ones, trading off very different functions.
- One big wetland is not equivalent to several small ones, nor would it be an adequate compensation strategy (changes to biodiversity, etc).
  
- The City needs to consider the long-term costs and potential compromises when developing a setback definition and policy.

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- A 6m buffer is not sufficient for the preservation of wetland functions.
- Ducks Unlimited (DUC) promotes the restoration of disturbed wetlands rather than the embellishment of healthy ones.
- Municipalities are mainly concerned with the development of private lands.
- Ephemeral wetlands within the city have been rejected by the province.
- There are provincial Land Use Policies (LUP): “municipalities are required to ensure that their plans and bylaws are consistent with the *Land Use Policies*” [original emphasis].
- We have a hierarchy of planning legislation: LUP - MGA - MDP - ASP - etc, etc.
- Municipalities have the ability and authority to prepare policies for “significant water resources” and determine land-use guidelines for their edge conditions.
- The “meander belt” concept is difficult to define, may be tricky for issues relating to ownership.
- Rivers and streams are typically considered (at the time of subdivision) via a “snap-shot” approach, rather than as living creatures evolving and changing over time.

Question: Does LUB 19.1 limit the water bodies we can talk about?

- The Bow, Elbow and Nose Creek are the only water bodies with flood mapping.
- The City can't rely on LUB 19.1 to protect people (or itself) from flood damages (e.g., last month in Discovery Ridge).
- There are distinctions (in LUB 19.1) between the floodway and floodplain.
- City plans (and private property applications) constantly ignore the floodway mapping (e.g., urbanized reach of Elbow).
- Residents can simply hire a lawyer and The City will not dispute them.
- Some sections of LUB 19.1 are not enforceable by The City's legal dept.
- LUB 19.1 was rooted in a legal gap analysis, not a concerted policy dialogue.
- What is the intended scope of tonight's discussion - LUB feedback or something broader?
- We could restrict tonight's dialogue to LUB 19.1 and arrange a follow-up for larger scale issues...

**BREAK**

## LUB 19.1 Overview

- Specific definitions apply in 19.1.
    - E.g., floodway vs. floodplain, developed vs. undeveloped areas, et al.
    - E.g., a vacant lot in an existing neighbourhood is a “developed” area.
  - The floodway regulations stem from section 640(4) of the MGA:
    - “[A] land use bylaw may provide for one or more of the following matters...
    - “(l) the development of buildings
      - “(i) on land subject to flooding or subsidence or that is low lying, marshy or unstable,
      - “(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,” etc.
- Elements of the Alberta Flood Damage Reduction program (ca. 1992) were inserted into the LUB without full integration.
- The River Valleys Plan (1984) also recommended protecting the rivers, etc.
- Legislation and policy today are far more advanced than they were back then - we should be able to justify additions or revisions now.
- Public Utility Lots could be used for environmental protection (under the MGA).
- DFO could assist in developing site-specific criteria (e.g., biological indicators, water flow data, etc).
- There’s no point in discussing setbacks if The City won’t enforce them anyway.
- Replacement of a building due to normal aging and “wear and tear” is fine, but not due to damages from flooding, when building in the floodway/floodplain was ill-advised in the first place.
- Discussions of wildlife or biology are also pertinent here - Calgarians value biodiversity, wildlife corridors, etc.
- E.g., the weir is a death trap for geese that get caught at the zoo and Pearce Estate Park is a corral for deer with no exit, **because** the movement corridors have been closed.
- LUB 19.1 (3)(e) effectively nullifies the entire section, as it allows a great deal of discretion and does not explicitly reference aquatic or riparian environments [emphasis added]:
  - “...infill development or ... external alterations ... shall be allowed within 6 metres of the edge of the floodway, or up to the edge of the floodway **if the Approving Authority is satisfied** that the flow velocity of the flood will not result in **serious damage to the building.**”
  - E.g., some houses in Elbow Park will have to be torn down (but will be replaced) after last month’s floods.
- There is no reason that legislation (e.g., LUB) should **enable** the reconstruction of flood-damaged buildings.
- The retro-active nature of the LUB allows the same problems to proliferate.

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- “Serious damage” is too vague and can be interpreted in many ways - we need a strict definition of damage.
- Setbacks of 6m, 30m, 60m are all arbitrary - we need science-based criteria.
- LU 19.1 pertains to flowing water only (i.e., large flood-mapped rivers), not to standing water bodies (e.g., wetlands) or small streams.
- There is a wealth of new information, data, policy and legislation now that can be used to inform planning authorities and decision makers.
- The Bragg Creek ASP is coming up for review tomorrow and includes info on buffers for riparian protection.
- Rational, calculated setbacks are much better than arbitrary numbers.
- We need to assess the economic value of riparian functions.
- Significant archaeological sites are often concentrated in riparian areas, too.
- The Urban Development Institute (UDI) seems supportive of site-specific criteria, as well.

Question: The key definition of “flood” is centred on the 1:100 year storm event - is this a suitable yardstick from which to be measuring?

- There has been a great deal of climate research since the 1:100 benchmark was established; a 1:100 event is no longer considered to have a 1/100 chance of occurring (in any given year).
- Flood mapping involves subjective interpolations from (dated) scientific data.
- Soils and vegetation are critical factors for determining edge conditions.
- Urban settings are too disturbed to be valuable as guides.
- AENV has precise definitions of flood-way, -fringe, -plain.
- There are different issues in different contexts - we need science-based criteria and site-specific guidelines based on functions (aquatic, riparian, etc).
- There are precedents on the Elbow River in MD Rocky View that are already having and will have further profound effects downstream.
- Neither LUB 19.1 nor ER is designed to protect the environment.
- LUB 19.1 is fine for protecting property, but there are other important goals as well (from The City’s perspective).
- At least eight distinct goals/objectives have been identified for protecting riparian habitat.
- Research needs to be done on costs, functionality, conveyance...
- Proposals to “fill” floodplain areas will eliminate their flood storage capacity or turn areas into ad hoc reservoirs.
  - E.g., New Discovery, Lott Creek, etc.
- Developers should be obligated to **prove** that their proposals will **not impact** flood waters.

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- Due to the assumptions that go into the calculation of floodway lines, raising the floodplain on “fill” is not likely to result in significant impacts, since the floodplain is not expected to carry heavy flows during flood events.
- The MGA has a history of non-enforcement - the Public Utility Lot designation could be justified since rivers are highly managed within Calgary anyway and we need another mechanism for attenuating downstream flood impacts.
- We need to target The City’s policy writers (politicians only consider what is provided to them).
- Approaching politicians directly is not an appropriate strategy.
- Citizens “own” policy and legislation - we need to propose improvements to existing policy.
- We need a viable alternative to LUB 19.1.
- LUB 19.1 is very simplistic - we need it to do a lot more than it is currently capable of doing.

**Meeting adjourned.**