

Environment and Climate Review

As more and more of the world's population moves to urban areas, and with more than four out of five Canadians now living in urban centres, there is an increasing impact of this land use change. As urban areas grow in population and size, healthy natural spaces and agricultural land disappear or are degraded. In many cities, rapid urbanization continues to be a major contributing factor to the loss of biodiversity.¹ At the same time, cities depend on healthy natural environments to provide these benefits, also known as ecosystem services.^{2,3}

Benefits of urban green and blue spaces include:

- reducing net greenhouse gas emissions by protecting the natural carbon stores in, and continued carbon storage capacity of, soils and vegetation;
- mitigating the effects of flooding;
- mitigating urban heat island effects by providing shading and cooling⁴;
- supporting healthy and diverse ecosystems that are more resilient to environmental changes caused by, or accelerated by, climate change.

The North Saskatchewan River Valley and Ravine System is an important part of the City's heritage and plays a key role in the city's natural infrastructure. It plays a role in air quality, climate change mitigation and adaptation, biodiversity, ecosystem services, and the health of Edmontonians as outlined in various City plans, strategies, and policies including but not limited to:

- The City Plan
- ConnectEdmonton
- Breathe: Green Network Strategy
- Urban Forest Asset Management Plan
- Climate Resilient Edmonton: Adaptation and Strategy Action Plan
- Natural Connections Strategic Plan
- Urban Parks Management Plan
- Climate Resilience Policy C627
- Natural Areas Systems Policy C351

¹ ICLEI, Cities and Biodiversity Case Study Series: Canadian Best Practices in Local Biodiversity Management, 2010.

² [WWF-Canada](#)

³ [Zhao X, Li F, Yan Y, Zhang Q. Biodiversity in Urban Green Space: A Bibliometric Review on the Current Research Field and Its Prospects. Int J Environ Res Public Health. 2022 Oct 1;19\(19\):12544. doi: 10.3390/ijerph191912544. PMID: 36231864; PMCID: PMC9566254.](#)

⁴ World Health Organization. Regional Office for Europe. (2016). Urban green spaces and health. <https://iris.who.int/handle/10665/345751>

REPLACEMENT Attachment 7

The updated draft Ribbon of Green Strategic Plan and draft River Valley Area Redevelopment Plan recognize the strategic importance of the North Saskatchewan River Valley and Ravine System. Proposed policies and actions highlighted in the main body of the report support the protection, maintenance, and restoration of healthy green and blue spaces which are important for climate mitigation and adaptation, as well as biodiversity. These include development of a no net loss guideline and exploration of additional approaches to assessing and managing cumulative impacts in the River Valley.

In alignment with, or in addition to, the current direction proposed in the draft Ribbon of Green Strategic Plan, draft River Valley Area Redevelopment Plan, and draft River Valley Planning Modernization Action Plan, advancing the following actions would further support climate resilience and environmental protection and management in the River Valley and Ravine System.

1. Complete a valuation of natural assets in the River Valley and Ravine System, aligned with The City Plan direction 5.3.3.2 (Establish full cost accounting for natural assets as a part capital planning and budgeting). The objective would be to inform decision making related to River Valley and Ravine development, as well as raise awareness of the economic benefit of these natural assets. This may also increase appreciation of the ecosystem services provided by the City's natural assets.
2. Continue to develop approaches of assessing and managing cumulative impacts of use and development in the River Valley. This could include first understanding the system-wide baseline conditions and ecosystem-based targets, as well as a framework for ongoing monitoring and associated management actions.
3. Continue to assess impacts to climate mitigation and adaptation efforts and overall ecosystem resilience for any material future developments in the River Valley and Ravine System.
4. Consider whether traditional ecological knowledge could enhance the City's understanding of biodiversity and connectivity in the River Valley as part of the proposed Indigenous Partnerships implementation highlighted in the Climate Resilient Edmonton: Adaptation and Strategy Action Plan.