

WATERSHED MANAGEMENT UPDATE - NORTH SASKATCHEWAN RIVER REGIONAL PLAN STATUS UPDATE

RECOMMENDATION

That the November 4, 2022, Urban Planning and Economy report UPE00797, be received for information.

Requested Council Action	Information Only		
ConnectEdmonton's Guiding Principle	ConnectEdmonton Strategic Goals		
CONNECTED This unifies our work to achieve our strategic goals.	Climate Resilience and Healthy City		
City Plan Values	THRIVE		
City Plan Big City Move(s)	Greener as we Grow	Relationship to Council's Strategic Priorities	Climate Adaptation and Energy Transition
Corporate Business Plan	Transforming for the Future		
Council Policy, Program or Project Relationships	<ul style="list-style-type: none"> • City Plan Implementation • Climate Resilience Policy C627 • Climate Resilient Edmonton: Adaptation Strategy and Action Plan 		
Related Council Discussions	<ul style="list-style-type: none"> • UPE00424 Potential Impacts to City of Edmonton Headwaters (Utility Committee, August 27, 2021) 		

Previous Council/Committee Action

At the August 27, 2021 Utility Committee meeting, the following motion was made:

- That Administration, in consultation with EPCOR, undertake a review of existing water management initiatives and provide to Utility Committee in Q2 of 2022 a recommendation on the need for a formal watershed management plan that could include headwaters protection and integrated land use, climate change planning and water management within Edmonton boundaries.

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- That Administration provide an information report to Utility Committee, regarding the status of the North Saskatchewan River Regional Plan and the tools, policies and approaches that the regional plan is considering to protect the watershed's water quality and biodiversity.

Executive Summary

- Integrated land and water management planning at local, regional, provincial and national scales impacts the protection of water resources for drinking, recreational, and economic purposes, as well as aquatic health.
- There are multiple initiatives, plans and actions that have been developed and are underway related to watershed management, however, a preliminary review of these has identified some initial gaps.
- Climate change is causing cities to rethink how to effectively manage urban systems, including watersheds, in order to build resilience to changing climate impacts.
- Development of a watershed management framework is recommended to support The City Plan implementation and contribute to Council's climate-related goals, as a healthy watershed will help make Edmonton more resilient to a changing climate.
- As part of developing the framework, Administration will identify recommendations for City Council advocacy to the Government of Alberta related to watershed management, including completing development of the North Saskatchewan Regional Plan.

REPORT

A changing climate, combined with a growing city, will continue to put pressure on Edmonton's only source of drinking water. The North Saskatchewan River and its watershed are of vital importance to Edmonton, and a comprehensive, proactive approach to watershed management should be strengthened.

Healthy watersheds are important to the liveability of a city. ConnectEdmonton sets the direction for Edmonton's future and outlines where there are necessary changes today in order to realize the vision for Edmonton in 2050. This puts Edmontonians at the forefront of two important trends for the region - continuing to develop a healthy city while also paying attention to what will be one of the great challenges of the future: protecting and enhancing land, air, water and biodiversity. Climate Resilient Edmonton: Adaptation Strategy and Action Plan includes a goal that Edmonton's water supply is secure and safe for current and future Edmontonians, which requires long-term source water security and protection planning for both water quality and quantity. Additionally, the *Municipal Government Act* outlines that one of the purposes of a municipality is fostering the wellbeing of the environment.

Background

A watershed is a term that is used to describe the land and water (such as rivers, lakes, wetlands and groundwater) that are connected in how they collect, drain and move water. All three of these watershed elements (ecosystems, land and water) are impacted by a changing climate. Watershed management is the process of implementing land use and water management practices to protect and improve water and other natural resources by managing both land and

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water resources in a comprehensive and integrated way. Watershed management is a proactive approach to identify a watershed's resources, issues and concerns, and then develop and implement a plan to manage those identified considerations with environmentally, socially and economically sustainable solutions.

Edmonton is located in the North Saskatchewan River watershed. There are approximately 28,000 square kilometers (km²) of land upstream of Edmonton that drains into the North Saskatchewan River watershed. Edmonton is the largest community within the North Saskatchewan River watershed and has a significant role in protecting the watershed for Edmontonians as well as communities downstream that will be impacted by the activities within the city's municipal boundaries. The responsibility for watershed management is shared by federal, provincial and municipal governments, as well as land owners, utilities and industry.

In Alberta, Watershed Planning and Advisory Councils (WPACs) have been established for each of the major river basins. WPACs are designated by the Government of Alberta to report on the health of the watersheds, lead collaborative planning, and facilitate education and stewardship activities. Edmonton is situated in the North Saskatchewan Watershed Alliance (NSWA) WPAC. The NSWA released an Integrated Watershed Management Plan in 2012. This plan covers the extent of the North Saskatchewan watershed, and while it provides recommendations for municipalities for best management practices and urges active participation by municipalities in ongoing watershed planning activities, it does not direct municipal watershed management activities.

Status of the North Saskatchewan Regional Plan - Tools, Policies and Approaches

The Government of Alberta has a mechanism to advance integrated land use and water planning under the Land Use Framework and *Alberta Land Stewardship Act (ALSA)*. This Act identifies the need for regional plans to be developed and implemented at the watershed scale. The Government of Alberta began early work in 2014 to develop a North Saskatchewan Regional Plan (NSRP) for managing land and natural resources (including water). Currently, the focus of the provincial government has been on reviews and updates to the existing Lower Athabasca Regional Plan (LARP) and the South Saskatchewan Regional Plan (SSRP).

Though work has paused on developing the NSRP, there are supporting environmental planning frameworks that the provincial government have underway related to the NSRP, including the Surface Water Quality Management Framework for the North Saskatchewan River. In the future these tools will help protect water quality and biodiversity, however as the NSRP itself is not being actively developed at this time, there is not a current statutory integrated water and land management plan for Edmonton's watershed.

There is no information currently available on what might be included in the NSRP. The completed SSRP (which includes the City of Calgary) includes watershed protection approaches such as establishing surface water quality standards and various water management plans, requiring the development of drinking water safety plans, protecting key headwaters through establishment of conservation areas, as well as many other initiatives.

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The SSRP takes precedence over other statutory plans, such as municipal development plans. To align with the SSRP, the City of Calgary developed a Source Water Protection Plan and a Source Water Protection Council Policy to integrate and embed watershed protection into land use. The City of Calgary has also developed a Water Security Framework that aligns with Calgary's Climate Adaptation Action Plan and Resilient Calgary Strategy, to provide guidance for managing water security risks factoring in a changing climate and a growing population.

Administration will continue to monitor NSRP development, and will participate in engagement opportunities if and when they become available.

Existing Watershed Management Initiatives

Collaborative watershed management in the North Saskatchewan basin occurs through a variety of voluntary mechanisms under the provincial government's Water for Life Strategy and the North Saskatchewan Watershed Alliance. Both EPCOR and the City of Edmonton are actively involved in a variety of initiatives related to watershed management (Attachment 1).

As the municipal government, the City of Edmonton has the ability to use tools that both the NSWA and EPCOR do not have. Under the *Municipal Government Act* (MGA) fostering the well-being of the environment is one of the purposes of a municipality. The *Edmonton City Charter Regulation* states Edmonton can create bylaws for the creation, implementation and management of programs for environmental matters, such as climate change adaptation, environmental conservation and stewardship, and the protection of biodiversity and habitat. These bylaws would only apply within City of Edmonton boundaries, and if used, should be targeted to apply to discrete problems that can be solved through bylaws rather than another municipal tool. Additionally, the City of Edmonton can use tools related to being the land use regulator to better integrate land and water management in the city.

Changing Knowledge, Policy and Implementation Gaps

The City of Edmonton has a number of policy and strategic documents that provide direction related to water and watershed management. For example, The City Plan provides directional policy statements related to managing and protecting the watershed and Edmonton's water supply, including the identification of a Blue and Green network as one of the Planning and Design networks that come together to help shape the city. However, there is no single source that outlines the policy directions from various strategic documents or establishes watershed management targets and tactics related to land use. As well, an initial review of existing policy and initiatives has identified some initial gaps in integrating land, water, ecosystems and climate change actions (Attachment 2).

Need for a Formal Watershed Management Plan

Recommendations for a City of Edmonton Watershed Management Framework

Cities need to continually rethink how urban ecological systems and urban built systems interact with each other in order to build resilience of these systems to climate change impacts. The City of Edmonton has an opportunity to advance watershed management through addressing the identified gaps in municipal policy, in a way that integrates climate change, considers the City of

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Edmonton's Indigenous Framework, and takes a just and equitable approach to water sensitive urban design.

In support of The City Plan implementation, Administration will develop a City of Edmonton framework for watershed management that establishes approaches to help guide when and where the City of Edmonton should be activating municipal levers to address water security and urban watershed health. The framework will consist of integrating initiatives already underway and addressing identified policy gaps. A framework will not attempt to duplicate existing initiatives, but rather complement and supplement the existing work. In addition, any efforts by the City of Edmonton to develop a watershed management framework will be harmonized and aligned with the existing work. The framework will be developed based on a desktop study, i.e. compiling, reviewing and using existing information and identifying potential gaps. A detailed environmental field study will not be completed as part of this work, and given the nature of this work, broad public engagement will not be undertaken.

Having a City of Edmonton framework for watershed management will help to unify all the work underway and provide strategic direction, while also preparing the City of Edmonton to activate the North Saskatchewan Regional Plan's watershed related initiatives once that plan is released. This work will support ConnectEdmonton's goal of Climate Resilience, and support the implementation of Climate Resilient Edmonton: Adaptation Strategy and Action Plan. The Adaptation Strategy includes a strategic action to enhance long-term source water security and protection planning for water quantity and quality in partnership with EPCOR and other stakeholders. A healthy watershed will help make Edmonton more resilient to a changing climate. Once the framework is completed, Administration will provide an update to Council which will include how the framework will be implemented. As part of developing the framework, Administration will identify recommendations, as needed, for City Council advocacy to the Government of Alberta related to watershed management, including completing the development of the North Saskatchewan Regional Plan.

Budget/Financial Implications

There are no budget implications as this work will be conducted by allocating resources from within the Planning and Environment Services' operating budget. This resource allocation is possible given the scope of the work (i.e. a desktop study and not a detailed environmental field study). This initiative will be included in the development of the 2023-2026 work plan for Planning and Environment Services.

COMMUNITY INSIGHT

Administration met with the Environmental Advisory Committee (EAC) to seek input on the need for a City of Edmonton watershed plan. The EAC is an Advisory Committee to Administration, to advise on the City's environmental initiatives. This Committee is made up of experts in a variety of environmental disciplines, and includes representatives from post-secondary institutions, representatives from Alberta Environment and Parks and Alberta Health, and residents. Committee members indicated that there is a role for the City in watershed management, and that there could be practical and reputational value in having a plan and objectives for watershed

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management. Collaborative work is essential to continue to address complex environmental issues.

Watershed management is inherently collaborative in nature. It will be critical to the proposed formal watershed management plan that Administration continues to collaborate with partners and organizations working and living in the watershed. Broad public engagement will not be undertaken as part of the desktop framework development study. As Administration moves into implementation there may be future engagement opportunities on specific implementation pieces.

GBA+

- Low and fixed income people and families are disproportionately impacted by climate change because they lack the financial capacity to implement mitigation and adaptation measures in their homes and communities.
- Marginalized people and groups will experience the impacts of climate change more than non-marginalized people and groups.
- The safety and security of water sources contributes to human and ecosystem health throughout diverse communities. Reliance on unsafe water sources and decreased access to safe water sources can be a hardship faced by marginalized or racialized minorities, people with lower incomes and people who are unhoused.
- The expense to transition from unsafe water to a safe water system can be insurmountable for low and fixed income people and families.

To support equality of outcomes, if Council directs Administration to go forward with developing a framework for watershed management for the City of Edmonton, a full GBA+ analysis will be completed.

ATTACHMENTS

1. EPCOR and City of Edmonton Supported Watershed Management Initiatives in the NSR Watershed 2021
2. Current Policies, Initiatives and Gaps