Benefits of and Risks to Natural and Naturalized Areas

BENEFITS

Natural and naturalized areas provide multiple benefits, such as:

Economic: natural and naturalized areas provide millions of dollars annually in essential municipal services such as storm water management, drinking water provision, and carbon storage; attract tourism; create jobs (e.g., landscaping, construction, design); and reduce operational costs through lower maintenance and the use of fewer resources than conventional landscaping and infrastructure.

Social and cultural: create opportunities for recreation, physical activity, education, community and cultural activities, and ceremony.

Health and safety: support storm water management, flood protection, erosion control, shade/cooling, and food production, as well as mitigate community and infrastructure risks due to extreme climate events.

Environmental: provide wildlife habitat, support biodiversity, increase climate resiliency, sequester carbon, and enhance air, water and soil quality.

RISKS

While the benefits of the green network are substantial, there are multiple gaps in and risks to the green network, as well as threats to its integrity. These challenges compromise the ability of natural and naturalized areas to deliver services and benefits.

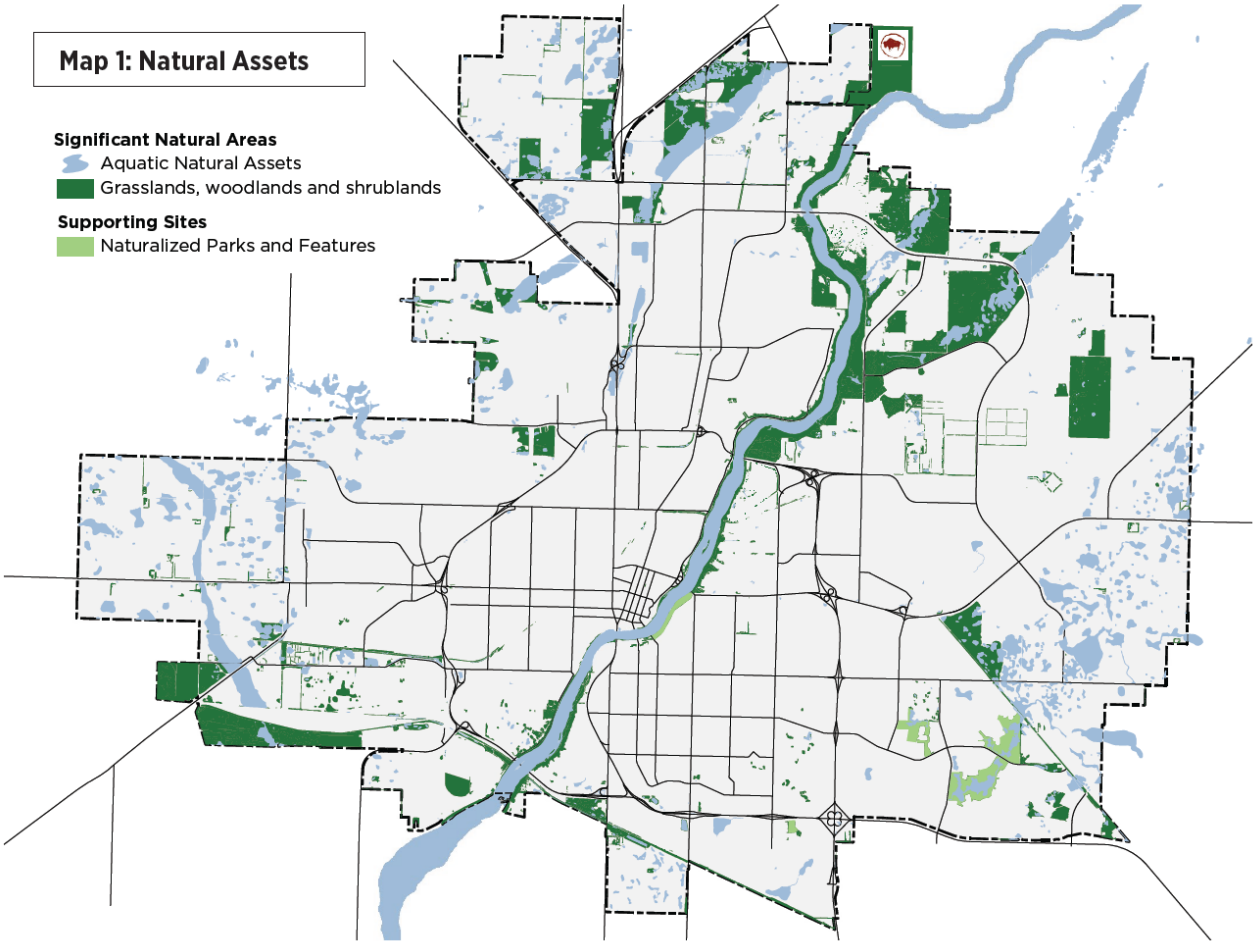
The risks and gaps described below are identified across a range of reports including the City's *Climate Projections and Possible Impacts,* Meewasin's *Valley-wide Resource Management Plan,* Municipal Natural Asset Initiative's report *Toward Natural Asset Management in the City of Saskatoon,* and various City asset management plans. Common threats are identified across these reports, several of which can interact, further compounding the issues.

Climate Change: Climate change is anticipated to lead to a warmer, wetter, and wilder weather in Saskatoon. Specific risks to natural and naturalized areas include:

- damage from storms, wind, drought, heat, fluctuating temperatures, and flooding;
- increased pests and diseases;
- invasive species and weeds; and
- biodiversity and species loss.

Equity and Accessibility Gaps: Natural and naturalized areas are not distributed evenly throughout Saskatoon, with limited access in some neighbourhoods.

Figure 1: Natural Assets Map: The Green Infrastructure Strategy



Limited access to nature and opportunities for Indigenous land stewardship have also been identified as barriers through conversations and gatherings with Indigenous communities.

Biodiversity Loss: Saskatoon is home to over 500 unique species, including 70 rare or endangered species. These species are predominantly found in natural and naturalized areas. Threats to biodiversity such as invasive species, urban development, fire suppression, and over-use of or incompatible uses in natural and naturalized areas are compounded by climate change.

Fragmentation: Forming an interconnected green network while balancing urban development is a significant design challenge. Fragmentation due to multiple land uses (e.g. roadways, buildings, and other infrastructure) can reduce the function and benefits of natural and naturalized areas.

Increased Use: As Saskatoon's population grows, more residents are accessing public green spaces and, in some cases, usage is higher than an area has capacity for. This risk was highlighted during COVID-19, which resulted in a 60% increase in trail use and natural area visits. In some cases, the distribution of green space throughout the city, or the availability of design elements such as trails, is insufficient for our population.

Degradation: The community continues to express interest in well-maintained green spaces; however, multiple natural and naturalized sites in Saskatoon are degraded, un- or under-managed, and/or are not maintained for optimal community or habitat benefits. Spaces in poor condition also often attract inappropriate site uses such as illegal dumping.

Overland Flooding: Saskatoon is part of the prairie pothole region, with over 1,200 hectares of wetlands identified within current City limits. Analysis of historic air photos indicates that many areas of the city prone to overland flooding were historically part of large wetland complexes that have since been removed or filled. This demonstrates that the loss of wetlands can have an adverse impact on local drainage patterns, and that conservation of natural assets can prevent costs or damage to other infrastructure.

Insufficient Establishment Periods: Restoration work in natural areas and installation of naturalized landscaping requires a longer establishment period than conventional landscaping. Landscaping contracts typically only require 1-2 years of site maintenance post-installation; however, it could take 5-10 years for native plants to successfully establish and for weed growth and spread to be reduced to levels that can be managed through regular maintenance.

Water Demands: Two thirds of the City's own water use is used outdoors in the summer, the majority for park irrigation. Parks has been exceeding its irrigation budget year-after-year; however, transitioning irrigated turf to unirrigated naturalized plantings can help address these operational risks.

Insufficient Funding: Well-established natural and naturalized areas can require fewer operational resources to maintain than convention landscaping. However, adequate resourcing is still required for conservation, restoration, and maintenance activities. Underfunded operational programs (Naturalized Park Program) and capital programs (Park Upgrades Program) have made it difficult to maintain and improve the assets the City already has, let alone expand upon the City's efforts through additional Naturalization Portfolio deliverables. Deliverables of the City's Natural Area Portfolio are also currently only resourced through limited capital funding. An additional risk is that, without funding in place, the City may not be eligible to apply for external funding.