

Regional Adaptation Priority Theme Summary: Natural Asset Management



The Rural Climate Adaptation Capacity Building Project, led by the Columbia Basin Rural Development Institute, at Selkirk College, works in partnership with nine local governments in the Columbia Basin-Boundary region to advance climate adaptation through regional-scale action and collaborative learning. This series of knowledge briefs summarizes key themes addressed in activities and training undertaken by the project's regional network of local government-based adaptation practitioners.

Natural asset management has been identified as a climate change adaptation priority for Columbia Basin-Boundary local governments. [State of Climate Adaptation Assessments](#) completed for each partner local government in the *Rural Climate Adaptation Capacity Building Project* confirm the influence of natural assets on each community's vulnerability to projected climate changes.

What is Natural Asset Management?

Nature can be, and should be, considered one of the most important assets supporting delivery of services by local governments. Harnessing nature's utility is imperative for a resilient infrastructure system in that healthy natural assets reduce dependence on costly built assets. Natural assets can be viewed as infrastructure that provides a local government service. A well-managed forest can provide a filtration system for potable water just as a water treatment plant can. Natural assets that support local government service delivery can be owned by the local government itself (urban forests, municipal parks, etc.), by either private interests (riparian areas, gardens, etc.) or by other levels of government (forests, aquifers, etc.).

Natural asset management identifies and places value on natural assets, recognizing them as viable infrastructure that is worthy of investment¹. Studies show that, by considering natural assets within asset management processes, local governments can access savings related to capital, operations, and maintenance, while also enhancing levels of service².

Why is Natural Asset Management Important for Climate Adaptation?

Local governments need to adopt modern asset management approaches in order to effectively adapt and become more resilient in the reality of a changing climate. This applies as much to the management of natural assets as it does built assets. Studies have shown that well-managed natural assets can be more adaptable and resilient to climate change than engineered infrastructure. Natural asset management also offers opportunities for low carbon resilience—an approach that simultaneously prioritizes climate change adaptation and greenhouse gas emissions reduction³. Investments in natural assets are strategic in that they support the multiple co-benefits that accompany a healthier environment, including better air quality, improved property values, and habitat creation⁴.

How does Natural Asset Management Work?

The Municipal Asset Management Initiative outlines three main phases for natural asset management¹:

Assessment Phase: includes a natural asset inventory which assesses the condition and value of the natural assets.

Planning Phase: includes gathering data on local climate change trends to predict how the natural assets will respond, planning appropriate monitoring and maintenance requirements, and determining ways to incorporate natural assets into long term plans.

Implementation Phase: includes determining the policies and bylaws that must be addressed for best management practices and understanding how the knowledge of natural assets can improve over time.

Depending on the size and complexity of the management area, a full natural asset management process can take anywhere from 8 to 16 months, with costs ranging from fifty thousand to hundreds of thousands of dollars. The process, however, can be implemented in stages as capacity and funding allow.

Natural Asset Management in the Columbia Basin-Boundary Region

In Sparwood, natural asset management was used as a tool to assess options for water quality improvement in the Elk River given anticipated climate changes. A natural pond at the outlet of a culvert was identified as a natural asset that helps manage stormwater flow and sediment transport. Managing for the existing pond, enhancing the pond, and building grey infrastructure were compared as options. The lifecycle costs associated with pond enhancement were over \$180,000 less than those associated with new grey infrastructure. Further, managing the pond as a natural asset would provide co-benefits such as improved water quality, stream health, and recreational opportunities.⁵

Participants in the *Rural Climate Adaptation Capacity Building Project* have advanced their own local government's readiness to engage in systematic natural asset management by attending

[training](#) through Royal Roads University and engaging with the Municipal Natural Assets Initiative to create preliminary community-specific natural asset inventories and plans.

Input from local government participants in these initiatives indicates that successful implementation of a natural assets program requires:

- community support and a clear mandate from council or the board of directors;
- a program champion that generates awareness of the importance of modernizing asset management in a changing climate; and
- assistance from external organizations with expertise in natural asset management and the alignment of climate adaptation with asset management approaches.

Further Reading

¹Municipal Natural Assets Initiative: [Primer on Natural Asset Management](#) (2017)

²Asset Management BC: [Integrating Natural Assets into Asset Management](#) (2019)

³SFU Adaptation to Climate Change Team: [Accounting for Natural Assets: A Low Carbon Resilience Approach](#) (2020)

⁴Federation of Canadian Municipalities: [Guide for Integrating Climate Change Considerations into Municipal Asset Management](#) (2020)

⁵Municipal Natural Assets Initiative: [Final Technical Report for Sparwood](#) (2020)