

Natural Asset Valuation of County Forests

What is a Natural Asset?

Natural assets refer to the natural resources and ecosystems that contribute to the well-being and sustainability of ecosystems, communities, and economies. These assets can include forests, wetlands, rivers, biodiversity, clean air, and fertile soil, among others.

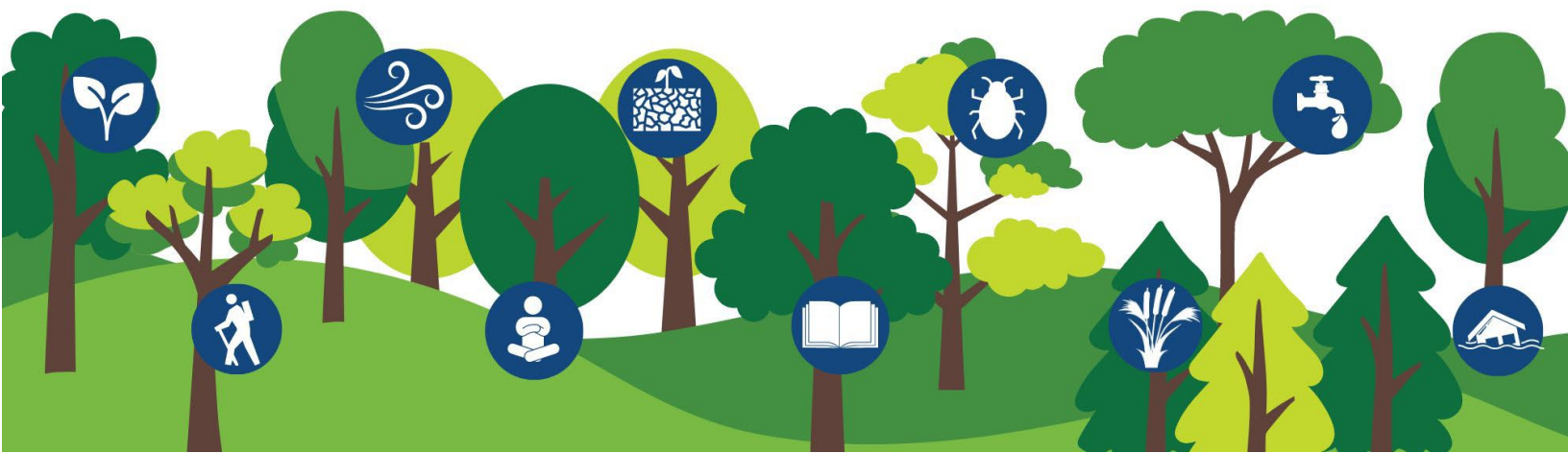
The county forests are a significant natural asset within Huron County. The 14 county forests are dispersed throughout the county and showcase a diverse range of land cover, ranging from dense forested areas to expansive meadows to wetlands, each offering distinct habitats, recreational opportunities and contributing to biodiversity.

Why are the county forests important?

Forests support communities by providing clean water, clean air, and carbon sequestration, as well as supporting agriculture, tourism, and contributing to livelihoods and economic prosperity. Natural assets also hold intrinsic value, cultural significance, and are essential for maintaining ecosystem resilience in the face of environmental challenges like climate change, invasive species, development pressure and habitat destruction. Emphasizing the benefits of the county forests is crucial to mitigating these pressures and ensuring they continue to flourish.

Why put an economic value on natural assets?

Natural asset evaluation is the process of assigning a dollar value to these natural spaces based on the benefits they provide to the community and environment. Emphasizing the benefits of natural assets in economic terms can build appreciation for these spaces, inform decision making and highlight the need for long-term protection and management of these natural spaces.



Recreational Opportunities



It is estimated that the county forests receive 20,000 annual visitors. These visitors participate in a variety of activities at all 14 forests such as walking, hiking, biking, birdwatching, picnicking, and cross-country skiing. Based on other studies, the economic value of recreation is based on how much an individual is willing to pay to take part in particular activities and the travel logistics to the natural area. Recreational opportunities provide physical health and wellbeing benefits to the community.

Mental Health Benefits



Research has found that spending time in nature is beneficial to an individual's overall health, but specifically can decrease depression, and increase self-esteem and their overall mood. The economic value of spending time in a forest can be comparable to a one-hour therapy session with a psychologist.

Education



The important role of environmental education is becoming more apparent as it can positively impact individuals. In Huron County, the At Last Forest Schools' programs in Goderich connect youth with natural spaces and other schools are looking into expanding learning to the outdoors.

Stored Carbon



The carbon stock of a forest represents the amount of carbon that has been removed from the atmosphere and stored in the forest ecosystem. Forest ecosystems effectively absorb more carbon than they release. This function is important in mitigating the impact of greenhouse gases, particularly carbon dioxide, on local and global climates. The average age of the trees in the county forests was used to determine the amount of carbon stored and the avoided damage from that carbon being released into the atmosphere.

Air Quality Regulation



Air quality is important for the health of communities. Air pollution poses health risks and navigating air quality issues is a significant part of addressing climate change and its impacts on global health. Huron County's current air quality is good, as it meets the global guidelines. The presence of trees improves air quality by temporarily removing pollution from the atmosphere, acting as an air purification system which can provide social, physical and environmental benefits to the community.

Biodiversity



Biodiversity is crucial for communities and provides numerous benefits such as ecosystem stability, essential resources like food and medicine, and contributes to cultural and recreational value. The county forests contain a variety of plant and animal species native to Huron County.

Water Filtration and Flow



Forests can help purify water, lower contamination levels, reduce the rate of stormwater runoff and the likelihood of flooding and severity of flood damage. Additionally, meadows within or adjacent to the county forests can reduce contaminants that flow into the County's water sources. The presence of the county forests reduces annual water treatment costs and reduces stormwater management costs, compared to if the forests were agricultural land. If the county forests were converted to agricultural land there would be an additional 294,090m³ of water per year that would need to be treated by municipal infrastructure.

Flood Prevention



Forests play a critical role in mitigating flooding by absorbing excess rainwater, slowing down runoff, and minimizing flood-related damage. Additionally, they contribute to resilience against extreme weather such as droughts by offering clean water sources and offsetting drought impacts. The effectiveness of water retention is dependent on forest coverage, vegetation growth, tree species, density, and vegetation layering.

Wetlands



Wetlands have many benefits including absorption of excess nutrients like nitrogen and phosphorous, climate regulation, providing habitat, water quality and quantity regulation, regulation of water levels and soil erosion prevention. The wetlands present within the county forests can provide these benefits to the community

Soil Erosion Prevention



Erosion occurs when environmental elements such as wind and water gradually wear down and transport solid materials consisting of minerals, rocks, and soils. While soil erosion is a naturally occurring process, human activities often accelerate it, leading to ecosystem degradation, water pollution, displacement of species, and hindering plant growth. The presence of forests benefits Huron County's agricultural land by enhancing erosion resistance and providing healthier soil and crop yields. When comparing agriculture fields to forest cover using the Universal Soil Loss Equation, it was found that the county forests prevent 17.7 tonnes of soil per hectare per year from being lost from the landscape.

Value of the County Forests

There is increasing recognition of the importance of natural assets for environmental sustainability and community wellbeing. A natural asset valuation was completed to gain a better understanding of the economic, environmental, and social benefits the county forests provide to prioritize sustainable resource management and conservation efforts in decision-making processes. When considering the ecosystem services they provide, the 14 County forests provide **millions of dollars** in benefits to the community each year. The size of the economic value of each benefit is represented by the size of its circle below. All benefits contribute to a healthy community in Huron County.

