

Backgrounder on Watershed Security



June 2024 - Watershed security exists when a watershed is healthy and resilient, supporting regional ecological integrity, social wellbeing, and economic vitality.

These conditions provide water for humans and other living things, sustain biodiversity, reduce impacts from drought & flooding, serve as the foundation of a stable society, and are best protected by a commitment to integrated land use and watershed planning, supported by sound stewardship practices.

These commitments secure a watershed's core ecological features and functions, including its natural heritage, surface & groundwater flow characteristics, and water quantity & quality, maintaining the ecological goods and services that in turn sustain us.

Where ecological features and functions deteriorate, such as through poor planning or land occupancy practices, invasive species, or climate change, our social and economic wellbeing will be challenged.

Negative watershed outcomes from current policies and practices include the loss of natural heritage & biodiversity, altered surface & ground-water flows, and impaired water quality for both nature and human uses such as drinking water and water for agriculture, industry and recreation.

Unfortunately, current reports on biodiversity, climate, and our watersheds indicate that watershed security is deteriorating across much of the province, and particularly in South-central Ontario. Given increasing development and escalating climate and biodiversity crises, it may get worse before it gets better.

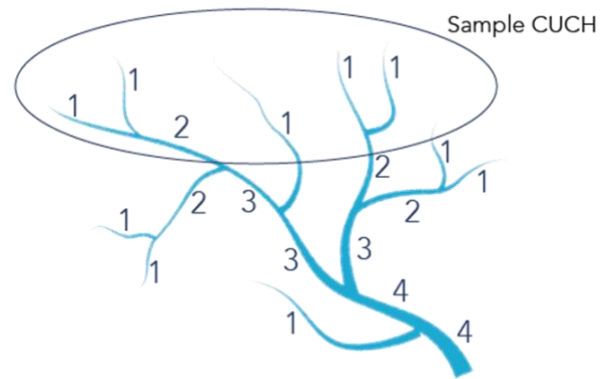
To prevent the worst projected outcomes, Ontario needs to pursue watershed security by revitalizing its approaches to watershed management, improving the integration of land use and watershed planning, and embracing a commitment to sustainable development.

Watersheds provide a practical scale for both land use planning and monitoring the impact of development, and land occupancy practices on regional ecological health.

On the former, the Provincial Policy Statement (the PPS), a key aspect of the Planning Act, states in part that "Planning authorities shall protect, improve or restore the quality and quantity of water by ...using the watershed as the ecologically meaningful scale for integrated and long-term planning, which can be a foundation for considering cumulative impacts of development."

Unfortunately, Ontario has not seriously required the implementation of this directive. As a result, the lower sections of many of our watersheds across South-central Ontario have become significantly degraded, leaving upland headwater catchments for agriculture and/or as natural reservoirs of regional forests, wetlands, niche habitats, and water quality & quantity.

Now, however, a growing population and increasing development threaten these upstream sanctuaries of natural heritage, especially where low-order catchments are close together in what we call Contiguous Upland Headwater Catchments, per the drawing. Headwater streams are streams with no tributaries (first-order), second-order streams where two first order streams converge, and sometimes third order streams.



The OHI believes that we will lose watershed security and the ecological goods and services that our watersheds provide across South-central Ontario if we don't significantly update our watershed management protocols and better integrate land use and watershed in our upstream headwater areas.

Ecological Goods & Service and Natural Capital

Ecological Goods & Services include:

Supporting Services: These consist of underlying natural processes, such as photosynthesis, nutrient cycling, the creation of soils, and the water cycle;

Regulating services: These moderate natural phenomena by providing benefits such as pollination, decomposition, water purification, erosion & flood control, carbon storage, and climate regulation;

Provisioning Services: This describes benefits to people that are extracted from nature, such as drinking water, food, timber, natural gas, oils, and plants that can be made into clothes and other materials; and,

Cultural Services: This includes both an individual and collective sense of well-being and creativity drawn from interactions with nature, including recreation.

Natural Capital estimates of the value of ecological goods and services, from carbon storage, flood attenuation, and health services to food, timber, and other goods grown in a defined area. Recent calculations of the annual value of natural capita are \$371M in the Credit watershed and \$6.2 B across the Greenbelt.

In summary, we believe that Ontario should adopt and implement a commitment to watershed security: maintaining healthy and resilient watersheds that support regional ecological integrity, social wellbeing, and economic vitality.

Key early actions would:

- ◆ Revitalize our approaches to watershed management;
- ◆ Improve the integration of land use and watershed planning; and,
- ◆ Embrace a commitment to sustainable development.

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