



Recent efforts on key ecological issues in Ontario have included:

**AGGREGATES:** See a report and webinar recording of the results of a University of Guelph Capstone project on the landscape impacts of aggregate extraction in the Credit watershed. Links can be found on our home page.

**WATERSHED MANAGEMENT IN SOUTH-CENTRAL ONTARIO:** View a fabulous drawing by students from the Geomatics Institute at Fleming College that depicts the multiple ways watersheds are managed in this area. A link can be found on our home page; and,

**COALITION OF ONTARIO WATERSHED GUARDIANS:** While the OHI promotes watershed security, the Coalition recruits individual and organizational Guardians to protect and improve watershed security through campaigns led by roundtables. See [www.COWG.ca](http://www.COWG.ca).



# Headwaters

The Ontario Headwaters Institute

The Ontario Headwaters Institute promotes watershed security in Ontario - water for people and for nature.

Watershed security exists when a watershed is healthy and resilient, supporting regional ecological integrity, social wellbeing, and economic vitality, and is best protected by integrated land use and watershed planning, supported by sound stewardship practices.

Securing a watershed's core ecological features and functions, such as its natural heritage, flow characteristics, and water quality, maintains the ecological goods and services that in turn sustain us.

We invite both individuals and organizations to become Watershed Guardians.

**Please visit our website for more information and to see how you can become a Watershed Guardian.**

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## What is Watershed Security?

Watershed security exists when a watershed is able to maintain the ecological goods and services that in turn sustain us, in a safe harbor for social interaction and economic development.

Unfortunately, current reports indicate that watershed security is deteriorating across much of the province, particularly in South-central Ontario. Given increasing population and development, as well as the 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.

## Watershed Security starts in our Headwaters

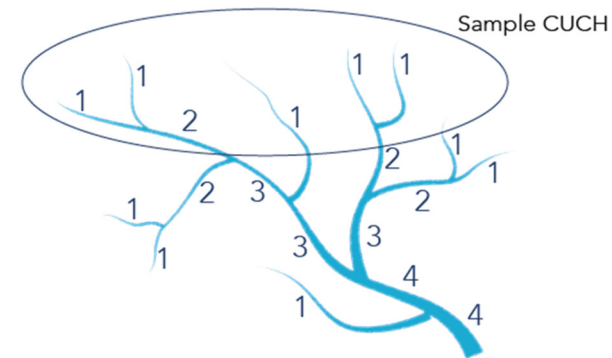
Headwater health is a key component of watershed security, as our headwaters and their catchment areas:

- Drain the majority of the surface area of a watershed;
- Comprise the majority of stream length in a watershed;
- Contribute the majority of flow to most watercourses;
- Help regulate the flow of surface and groundwater, with implications for downstream erosion, flooding, & water budgets;
- Furnish key habitat for many species. In fact, more species require headwaters at some point than any other type of habitat; and,
- Nurture downstream ecosystems by providing significant portions of a watershed's nutrients, organic material, and sediment, thereby providing the base of a watershed's biodiversity and resilience.

## What are Headwaters?

OHI defines headwaters as:

- Surface collection areas including ephemeral and intermittent streams, groundwater infiltration areas, and sub-surface flows;
- Areas of groundwater discharge and upwelling;
- Vernal ponds, spring-fed ponds, and wetlands; and,
- First, second, and sometimes third-order streams as shown below.



## The Need to Protect CUCHs: Contiguous Upland Headwater Catchments

Historically, across South-central Ontario, the lower sections of many of our watersheds have become significantly degraded, leaving upland headwater catchments for agriculture as well as natural reservoirs of regional forests, wetlands, niche habitats, and water quality & quantity.

Now, as upstream development continues to intensify, we need new approaches to better integrate land use and watershed planning, especially where low-order catchments are close together – what the OHI calls Contiguous Upland Headwater Catchments.