



In addition to crafting submissions and petitions on key ecological issues in Ontario, some recent OHI efforts have included:

**AGGREGATES:** Posting the results of a University of Guelph Capstone project on the landscape impacts of aggregate extraction in the Credit watershed, both on our website and on our YouTube channel. Contact us for the urls;

**WATERSHED HYDROLOGY AND LAND USE IN THE GREATER GOLDEN HORSESHOE:** Posting a set of drawings by students at the Geomatics Institute at Fleming College to help people visualize the implications of development on the natural resources of the GG. Contact us for the url; and,

**COWG:** Facilitating the creation of the Coalition of Ontario Watershed Guardians to develop and deliver campaigns supporting watershed security in the province. See [www.COWG.ca](http://www.COWG.ca).

# Headwaters

## The Ontario Headwaters Institute

The Ontario Headwaters Institute is an Ontario corporation with charitable status that works to protect watershed security – water for people and for nature.

From the undulating hues of the Oak Ridges Moraine, the bounty of forests and agricultural lands, and Ontario's rivers and lakes, our headwaters, their watersheds, and our receiving waters are the foundation of Ontario's ecological, social, and economic vitality.

The OHI works to protect this foundation through three main portfolios – Research, Education, and Public Engagement – as well as through efforts that support meaningful outcomes in biodiversity, climate change, and sustainable planning.

Please visit our website or contact us at your convenience for more information or to explore partnership opportunities.

[www.ontarioheadwaters.ca](http://www.ontarioheadwaters.ca)  
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## What is Watershed Security?

Watershed security exists when conditions support ecological integrity, economic vitality, and social wellbeing in a watershed, while it also provides resilience in the face of development or threats such as may be presented by the loss of biodiversity and the climate crisis.

Maintaining the core ecological features and functions in a watershed, such as its flow, water quality, and natural heritage, will help secure the ecological goods and services that in turn sustain us -- adequate water quality and quantity for uses such as drinking, agriculture, industry, and recreation - while reducing impacts from drought and flooding.

## Watershed Security starts in our Headwaters

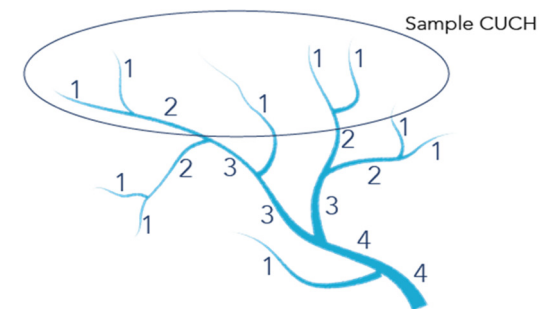
While we seek watershed security across Ontario, we have kept our name, and a special place in our heart, for headwaters, as they and their catchment areas:

- 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 that flow to both surface and groundwater through natural cover, soil type, and geology, with implications for flooding, erosion, and water budgets for downstream areas;
- Furnish key habitat types for the breeding, feeding, and sheltering of many species. In fact, more species require headwaters at some point in their lives 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;
- First, second, and third order streams. A first order stream is one with no tributaries, while a second order stream starts where two first order streams converge, and so on, as shown in the drawing.



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

In South-central Ontario, urban development historically clustered near large lakes, while upland areas were rural and/or well-suited to agriculture. As this downstream development often meant that the lower sections of many of our watersheds became significantly degraded, upland headwater catchments have been left as natural reservoirs of regional forests, wetlands, niche habitats, and water quality & quantity.

As development continues to intensify, the OHI believes we need new approaches to sustainable land use and watershed planning, especially where low-order catchments are close together: what we call Contiguous Upland Headwater Catchments. Protecting these areas protects regional watershed security, economic vitality, and social wellbeing.