



**Headwaters**  
The Ontario Headwaters Institute

Some of our efforts on watershed security in Ontario include:

**Municipal Charter for Watershed Security:** As Ontario municipalities deliver core services that impact watershed security, and as Ontario's population and development pressures are growing at a time when the climate and biodiversity crises require strategic direction, the OHI is proposing that municipalities develop a charter for watershed security to integrate land use and watershed planning. A link can be found on our home page;

**WATERSHED MANAGEMENT:** Home page hotlinks feature a map showing the multiple ways watersheds are managed in South-central Ontario, a 25-year old report on Watershed Management and Climate Change, and more; and,

**The COALITION OF ONTARIO WATERSHED GUARDIANS:** While the OHI develops core efforts in our Research & Education portfolios, much of our public engagement is delivered through the Coalition of Ontario Watershed Guardians. See [www.COWG.ca](http://www.COWG.ca).

**Water is Life.  
Let's act like it.**

The Ontario Headwaters Institute promotes watershed security in Ontario.

Watershed security, the sound protection of our aquatic resources, safeguards 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.

This extends from the undulating hues of our upland forests to our wetlands, meadows, lakes, rivers, agricultural lands, and receiving waters, and includes a watershed's natural heritage, flow characteristics, and water quality.

We invite individuals and organizations to subscribe to our e-mail newsletter, thereby becoming a Watershed Guardian.

Please visit our website for more information.

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## What is Watershed Security?

While Watershed security is the basis of regional ecological integrity, 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 – unless we take action.

Key actions include:

- Integrating land use and watershed planning at the municipal level;
- Revitalizing Ontario's approaches to watershed management, and;
- Embracing a commitment to sustainable development.

## Watershed Security starts in our Headwaters

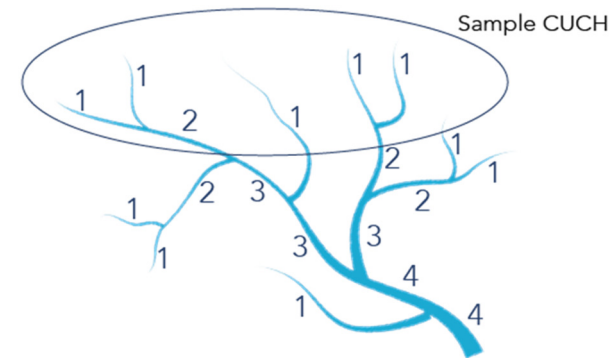
Headwater health is a key component of watershed security, as our headwaters and their catchment areas:

- 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.