



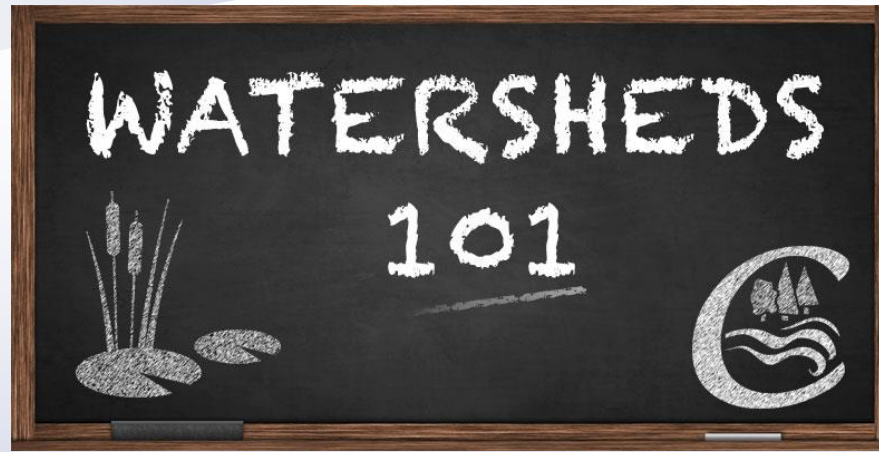
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*Natural Champions*

# Healthy Watersheds 101: Connecting the Drops

**Chitra Gowda**

**Source Water Protection Lead, Conservation Ontario**

***Muskoka Stewardship Conference 2019***

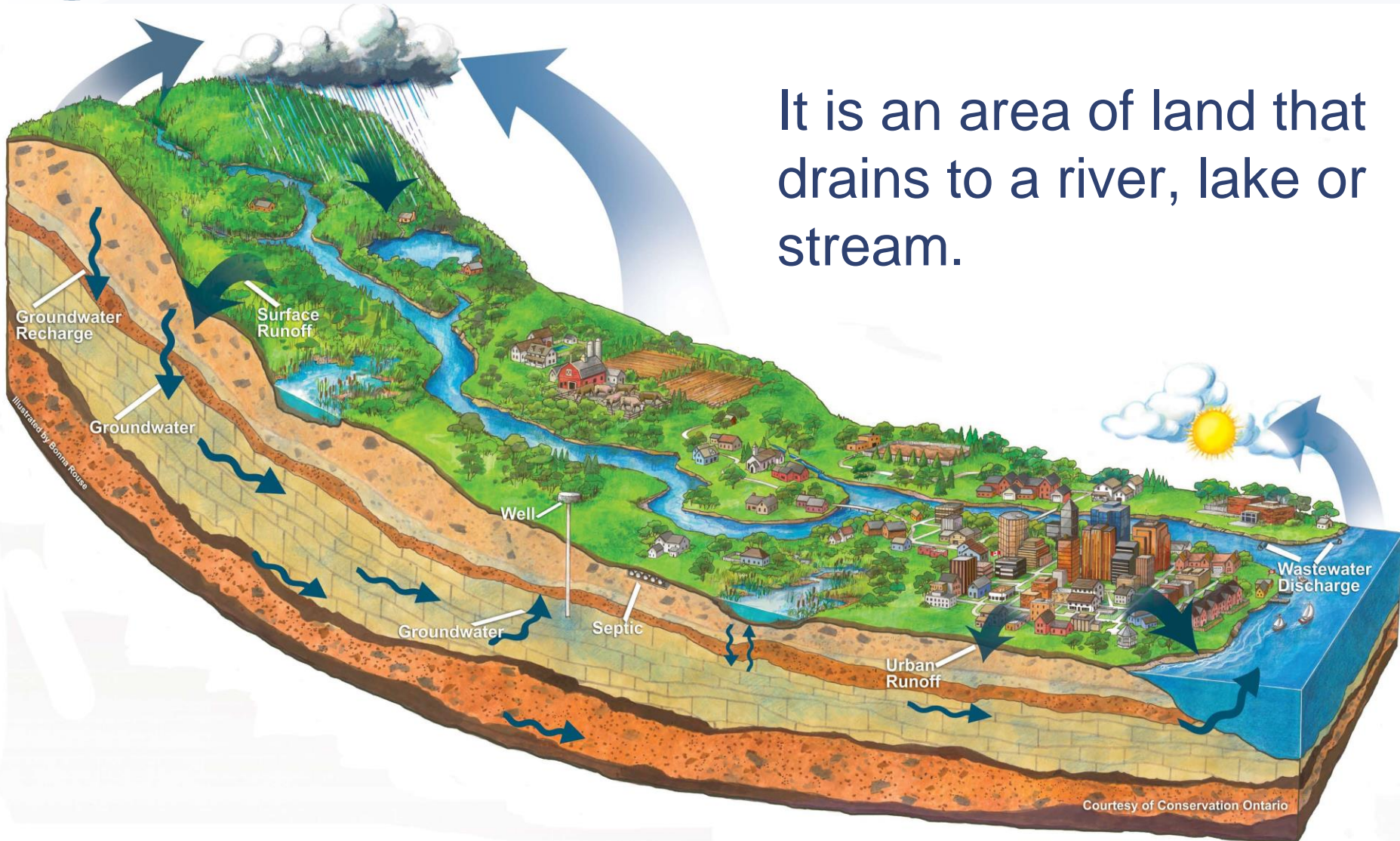


- **What is a Watershed?**
- **The Importance of Our Watersheds**
- **Healthy Watersheds: Our Actions Matter**



# What is a Watershed?

It is an area of land that drains to a river, lake or stream.







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# What is a Watershed?

- A watershed includes all the features within its drainage area, such as: land, water, air, wetlands, plants, animals.
- No matter where you stand on our planet, you are in a **watershed**!



Images: Credit Valley Conservation.

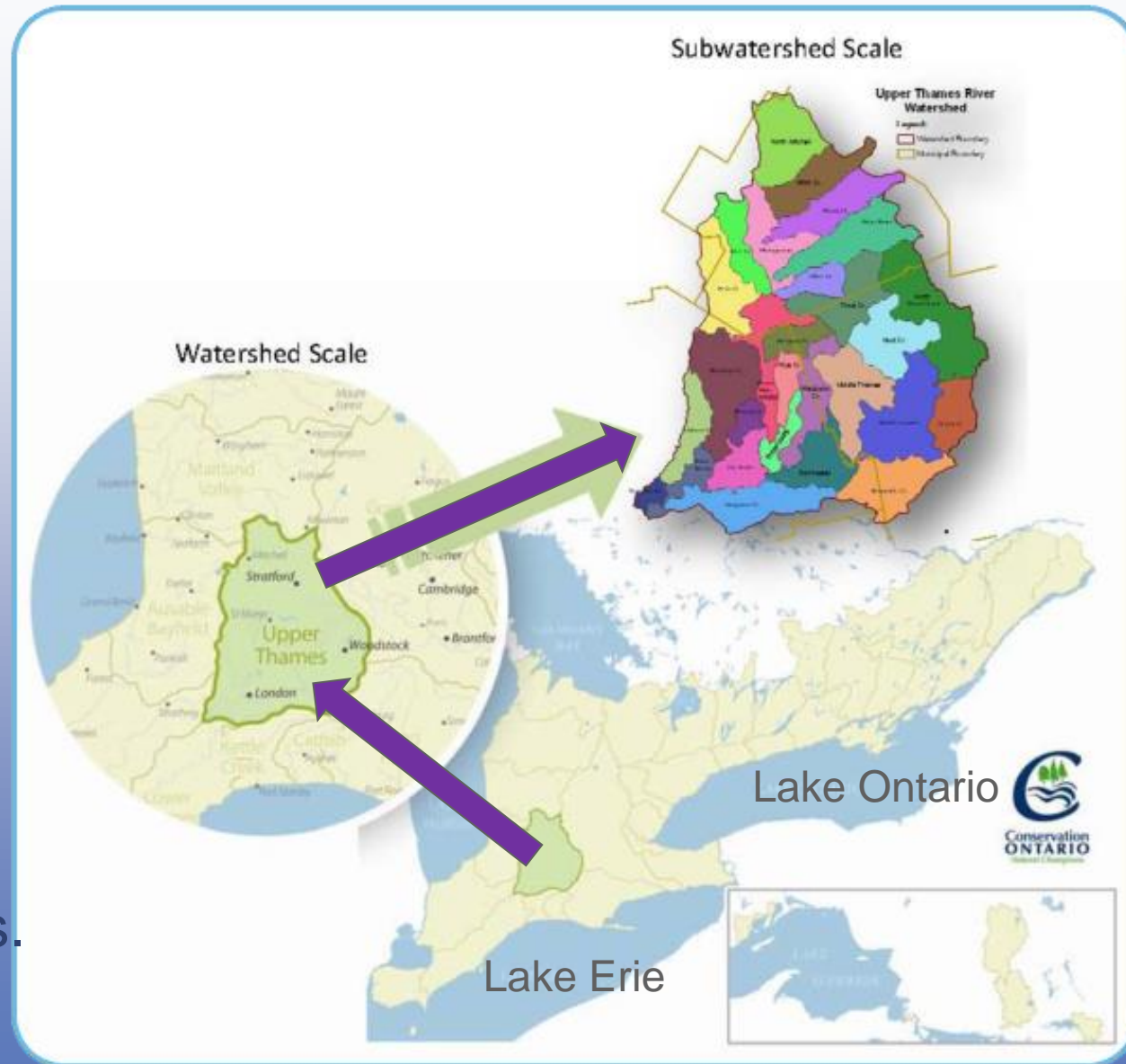


# What is a Watershed?

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**Watersheds have variety!** They can:

- come in all shapes and sizes
- span political boundaries
- be urban, rural, forested, etc.
- be further divided into sub-watersheds.



# Finding Huntsville, the Watershed Way



**Great Lakes  
Watershed**



**Lake Huron -  
Georgian Bay  
Watershed**



**Muskoka River Watershed  
and its Sub-Watersheds**



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# The Muskoka River Watershed



- 10 hydroelectric generating stations
- Tourism is the most prominent industry
- Forest products industry also important.

- Located on the eastern side of Georgian Bay, and around 466,000 hectares in size
- Situated on the Canadian Shield, on bedrock formations, with generally sandy soils
- Mainly forested, with mixed hardwood and coniferous species
- Home to a diversity of mammal, reptile, amphibian, bird species.





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# The Importance of Our Watersheds



Human  
Health



Economic  
Health



Ecological  
Health

Healthy watersheds sustain our health, economy and the environment.





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# The Importance of Our Watersheds: Human Health

## A healthy watershed:

- provides safe drinking water and food
- helps us adapt to climate change impacts by cooling the air and absorbing greenhouse gas emissions
- provides natural areas for people to enjoy and maintain a healthy and active lifestyle.



Images: Ausable Bayfield Conservation Authority (upper image), Credit Valley Conservation

# The Importance of Our Watersheds: **Economic Health**

## A healthy watershed:

- supplies water for agriculture, industry and households
- produces energy
- helps prevent or reduce costly climate change and flooding impacts, and manages drought
- contributes to tourism, fisheries, forestry, agriculture and other industries.





# The Importance of Our Watersheds: Ecological Health

## A healthy watershed:

- supports sustainable streams, rivers, lakes, and groundwater sources
- enables healthy soil for crops and livestock
- provides habitat for wildlife and plants.





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# Healthy Watersheds: Our Actions Matter

- Watersheds are sensitive to pollution and over-use.
- Water problems flow downstream, and everyone lives downstream!
- What we do on the land and in the water of our watersheds impacts our health, economy, and environment.
- Our actions matter.

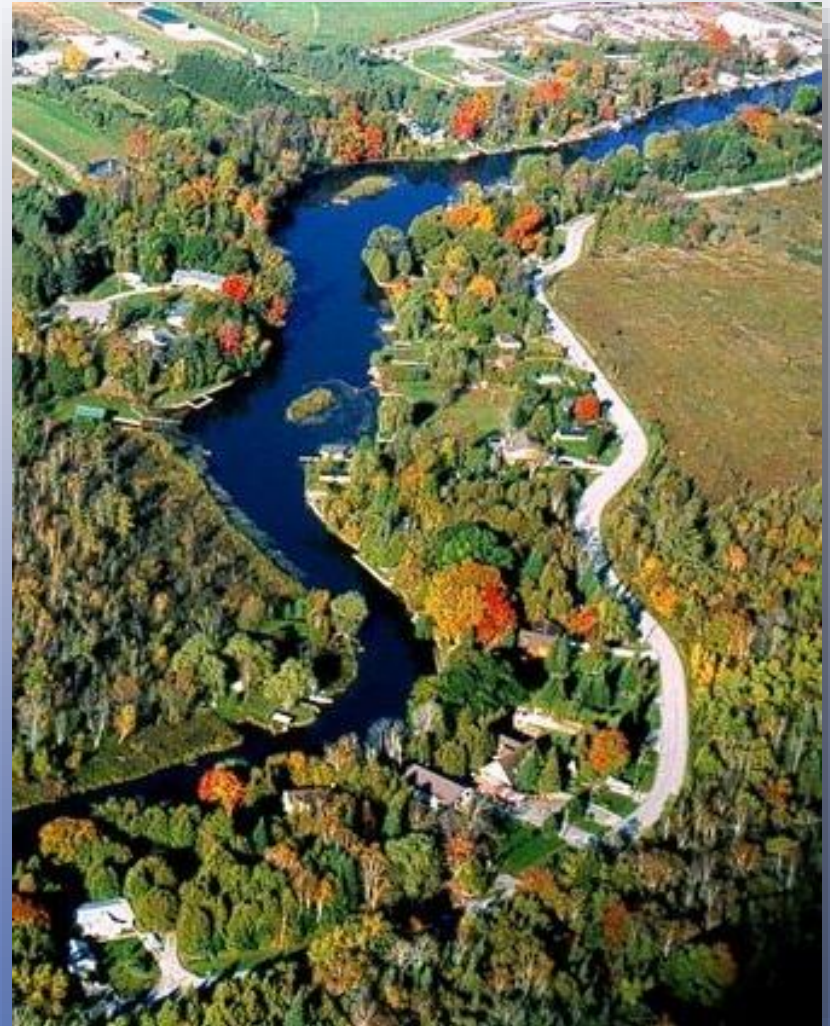


Image: Credit Valley Conservation

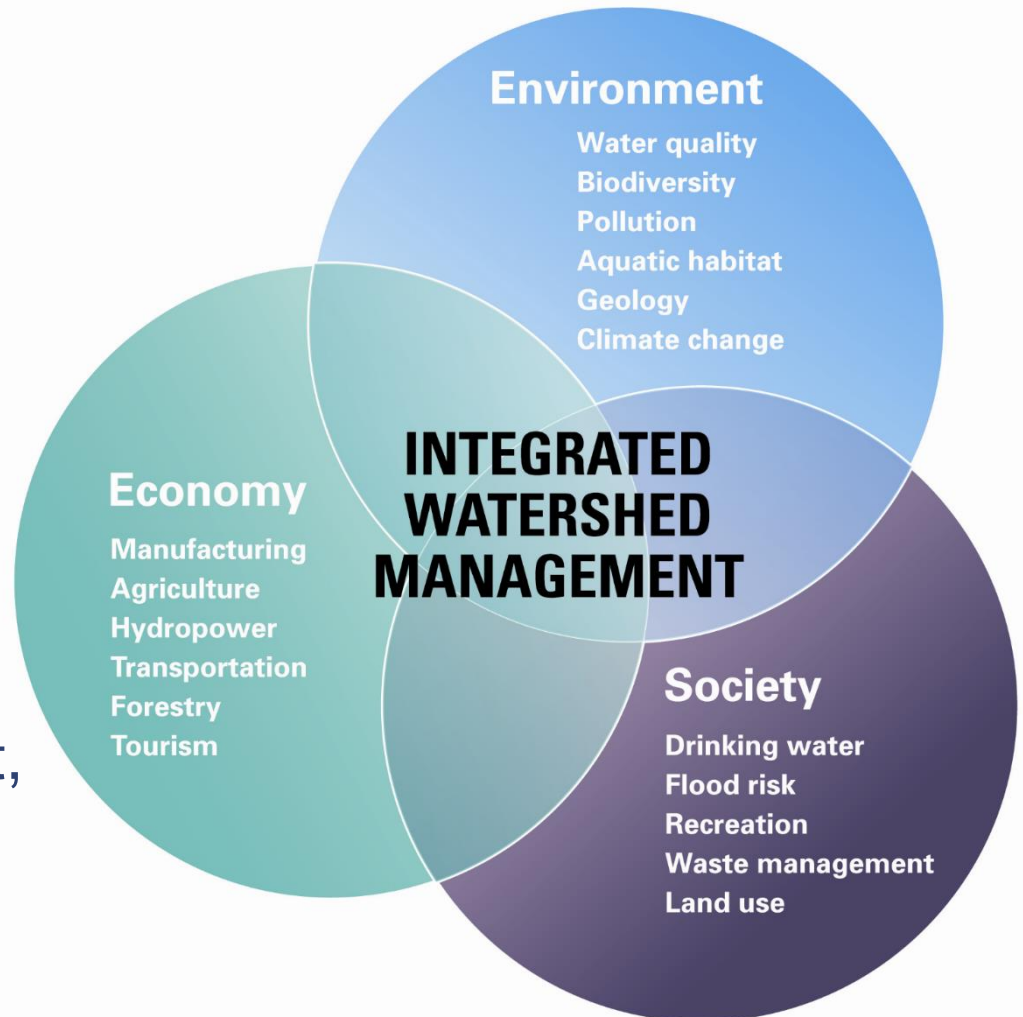




- **Watershed monitoring** help us understand the health of our watersheds, and determine actions to protect them.
- In Ontario, many watershed agencies monitor and develop **report cards** for each watershed.
- The 2018 Conservation Authorities watershed report cards: **C to C+ grade** for water quality and forest conditions.
- The 2018 Muskoka Watershed Council watershed report cards: some areas are **stressed** due to invasive species, fragmentation, and inadequate interior forest cover.

# Healthy Watersheds: Integrated Watershed Management

- Watershed-based
- Manages natural resources and human activities together
- Considers interests and needs of society, economy, environment
- Adaptive management including: plan, implement, monitor, improve.
- Collaborative decision making.

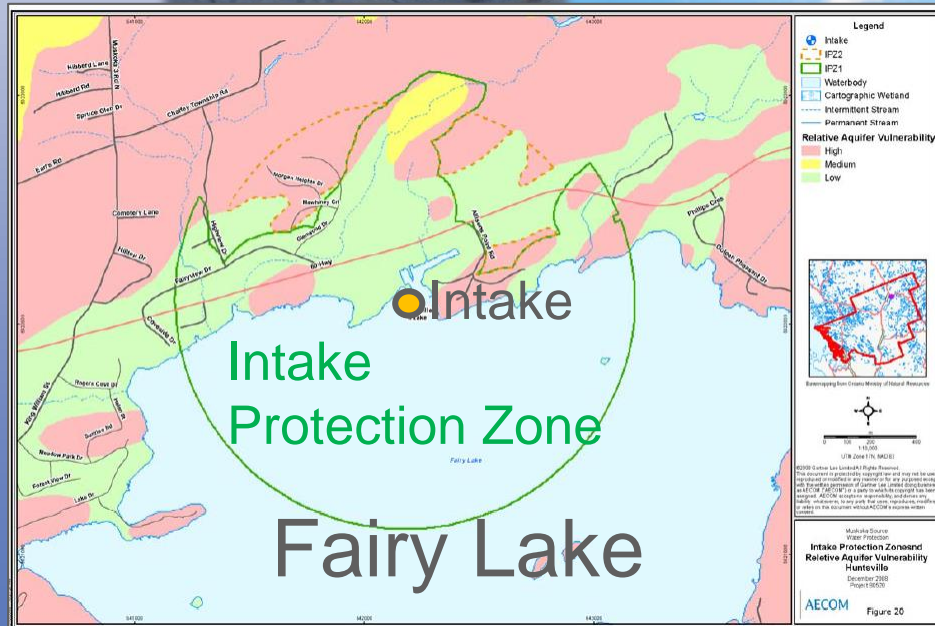




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# Healthy Watersheds: Drinking Water Source Protection

- Watershed-based
- Manages activities that pose a risk to drinking water sources
- Adaptive management: plan, implement, monitor, improve
- Collaborative decision making.





Help Protect and Conserve our Water

Properly dispose  
of **hazardous**  
**waste**

# Healthy Watersheds: Our Actions Matter

Help Protect and Conserve our Water

Apply **winter salt**  
only as needed



DRINKING WATER  
**SOURCE PROTECTION**  
Our Actions Matter

Help Protect and Conserve our Water

Select **non-toxic**  
**chemicals and**  
**cleaners**



DRI  
SOU

Help Protect and Conserve our Water

Reduce use of  
**pesticides**  
**and herbicides**  
at home



DRINKING WATER  
**SOURCE PROTECTION**  
Our Actions Matter

Keep fuel away  
from **storm**  
**drains**



DRINKING WATER  
**SOURCE PROTECTION**  
Our Actions Matter



# Healthy Watersheds: Flood Prevention and Mitigation

- Watershed-based planning
- Municipal plan input
- Floodplain mapping
- Flood forecasting & warning
- Stewardship: trees, wetlands, vegetative cover, riparian planting
- Regulation/permitting
- Stormwater management
- Flood protection structures



Flood  
Warning





# Healthy Watersheds: Our Actions Matter

Storm sewer signs:  
don't pour chemicals!

Rain gardens

Rain barrels

Stream  
restoration

Habitat  
restoration

Monitoring

Nutrient  
runoff  
management

Reduce  
carbon  
footprint



Invasive  
species  
removal



Tree planting





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**Thank you.**

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