



Quinte CONSERVATION



Bay of Quinte Monitoring



Habitat Restoration and Enhancement



Water Quality Monitoring

QuinteConservation.ca



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Environmental Sustainability

“The **responsible management** of natural resources to fulfill current needs **without compromising** the ability of **future generations** to meet theirs. It aims to **balance ecological, economic and social goals**, such as reducing carbon emissions, promoting renewable energy and ensuring equitable resource access.”

Southern New Hampshire University, 2024



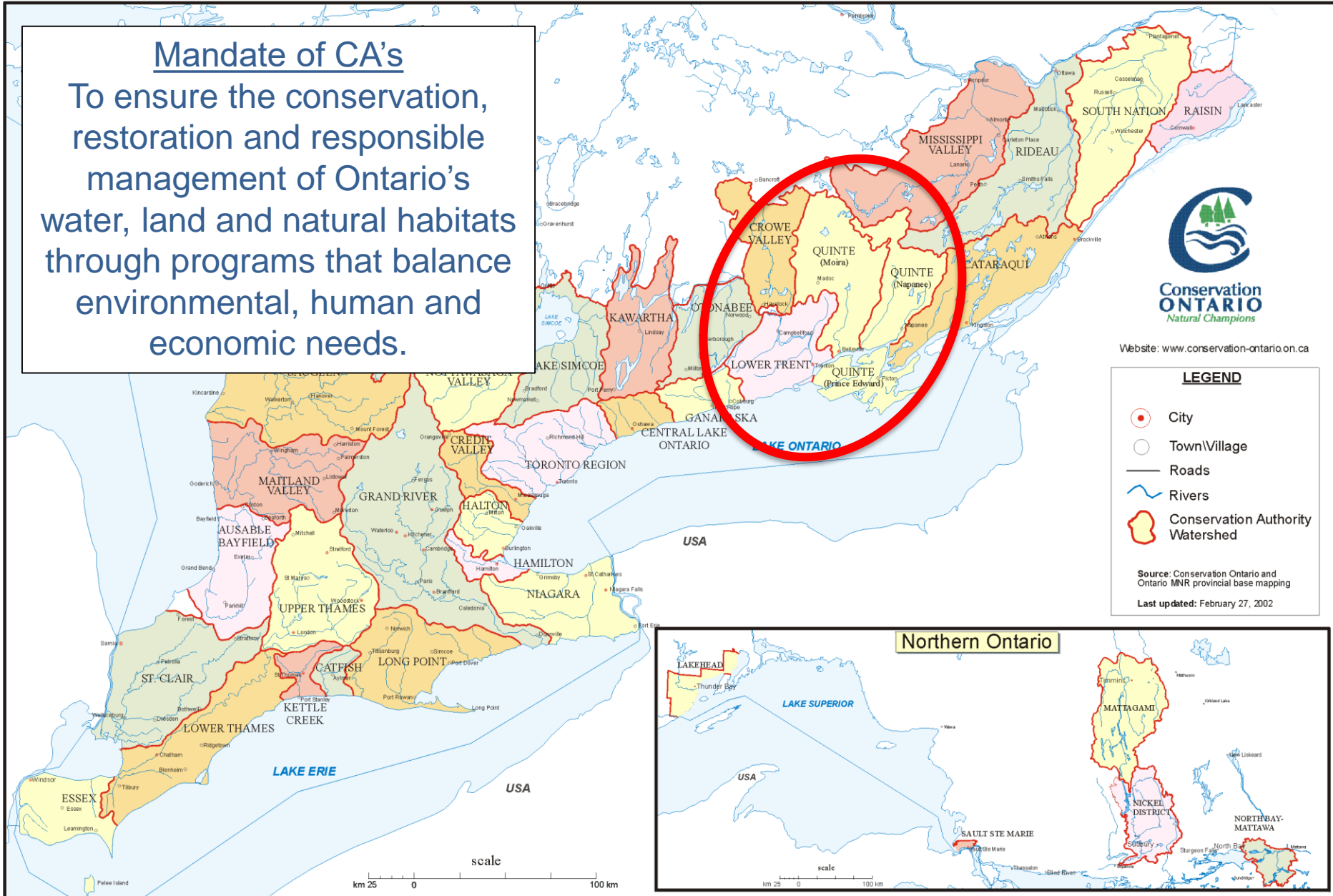
A photograph of a river flowing over rocks, surrounded by lush green foliage. The water is turbulent and white with foam as it cascades over the rocks. The surrounding vegetation is dense and green, with some leaves visible in the foreground. The overall scene is a natural, outdoor setting.

Conservation Authorities were formed with a core mission of demonstrating the wise use of natural resources.

Conservation Authorities of Ontario

Mandate of CA's

To ensure the conservation, restoration and responsible management of Ontario's water, land and natural habitats through programs that balance environmental, human and economic needs.

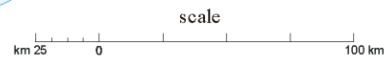


Website: www.conservation-ontario.on.ca

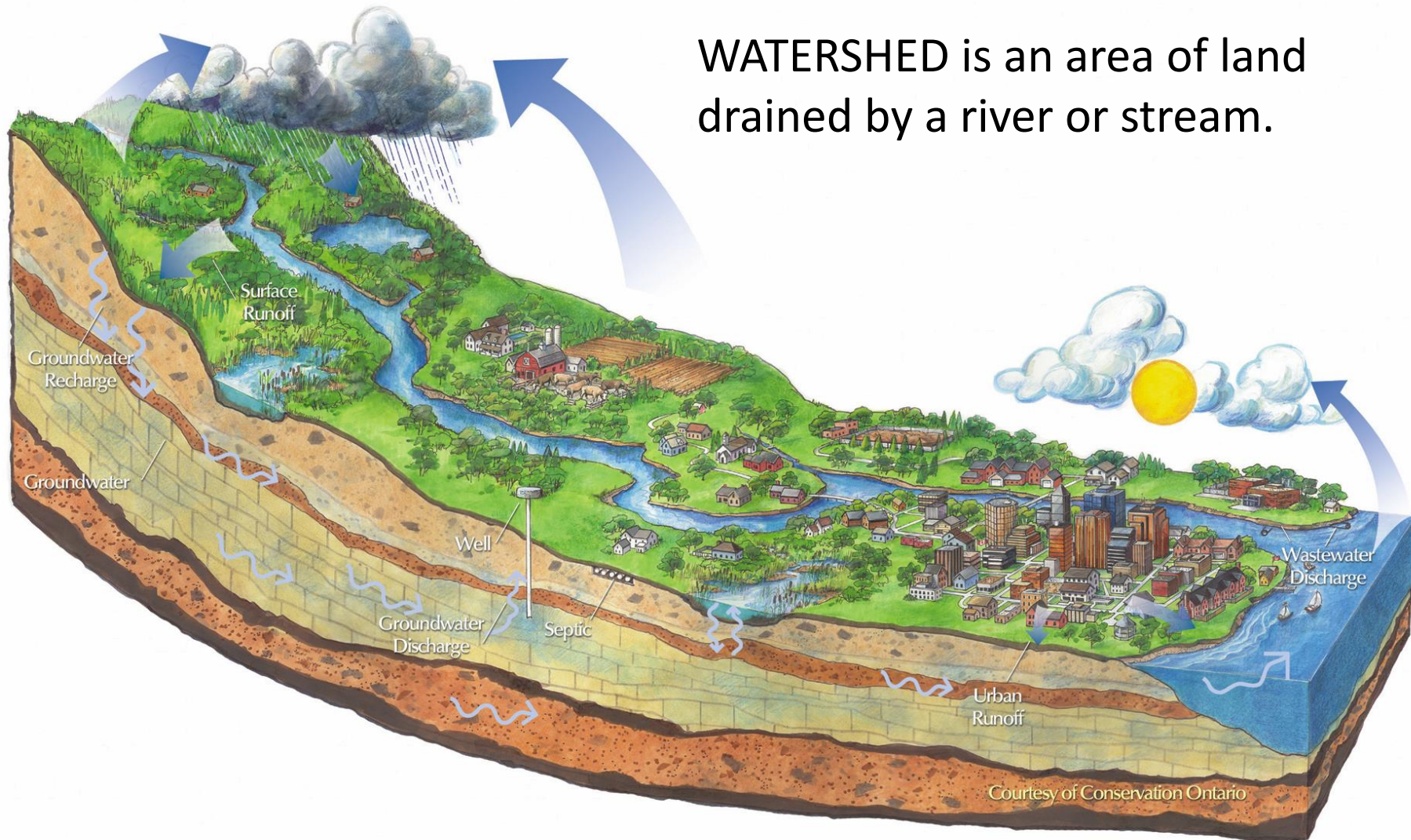
LEGEND

- City
- Town/Village
- Roads
- Rivers
- Conservation Authority Watershed

Source: Conservation Ontario and Ontario MNR provincial base mapping
Last updated: February 27, 2002



WATERSHED is an area of land drained by a river or stream.



...actions anywhere in the system affect downstream.

Quinte Conservation Watershed

1996: amalgamation of MRW, NRW and PEC

6,000 square kilometre area

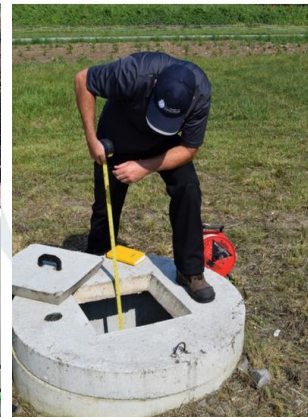
Home to over **167,000** people living in **18** municipalities.

Own over **30,000** acres of land

You are here



Quinte Conservation PROGRAMS AND SERVICES



Flood Protection



Quinte Conservation provides services to reduce the threat of loss of life and property damage

- Flood Warnings
- Flood Forecasting
- Operation and maintenance of flood control structures

Low Water Response



- Quinte Conservation coordinates the local Low Water Response Team that provides information, leadership and preparedness in the event of a drought

Drinking Water Source Protection



- Protecting sources of municipal drinking water from over-use and contamination
- Clean Water Act
- Ministry of the Environment funded and directed
- Conservation Authorities are facilitators in developing a Source Water Protection Plan
- quintesourcewater.ca for more information

Dam Operations



- 39 Water control structures
- 14 are for flood control
- Others provide seasonal recreation, low flow augmentation and local water supply

McLeod Dam Green Energy Project



- In 2007-2008 the McLeod Dam in Belleville was modified to generate electricity
- At peak performance it generates enough power for the equivalent of 400 homes
- This renewable energy reduces the equivalent of 5,000 tons of carbon dioxide each year from our air

Regulations & Planning



- Floodplains and Wetlands are not good places to build
- Quinte Conservation provides technical advice to municipalities, landowners, lawyers and developers
- We review development proposals in regulated areas

Stormwater protection



- Quinte Conservation is active in promoting proper stormwater management of both new and existing developments throughout the watershed
- Work with local government , developers, and organizations on development reviews for stormwater solutions
- Provide environmental assessments for retrofit stormwater projects
- Demonstrate and promote low impact development solutions for stormwater management

Water Quality Monitoring



- We sample in rivers and streams to better understand watershed health
- We participate in the Provincial Water Quality Monitoring Network and the Ontario Benthos Biomonitoring Network
- We collect water and quality and quantity data from 31 ground water monitoring wells
- We participate in the Provincial Groundwater Monitoring Network

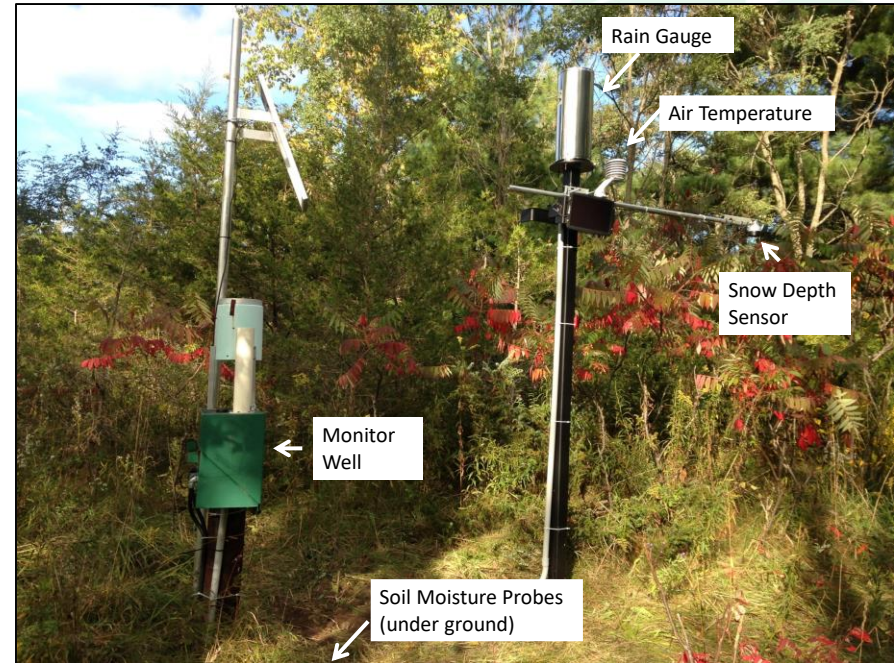
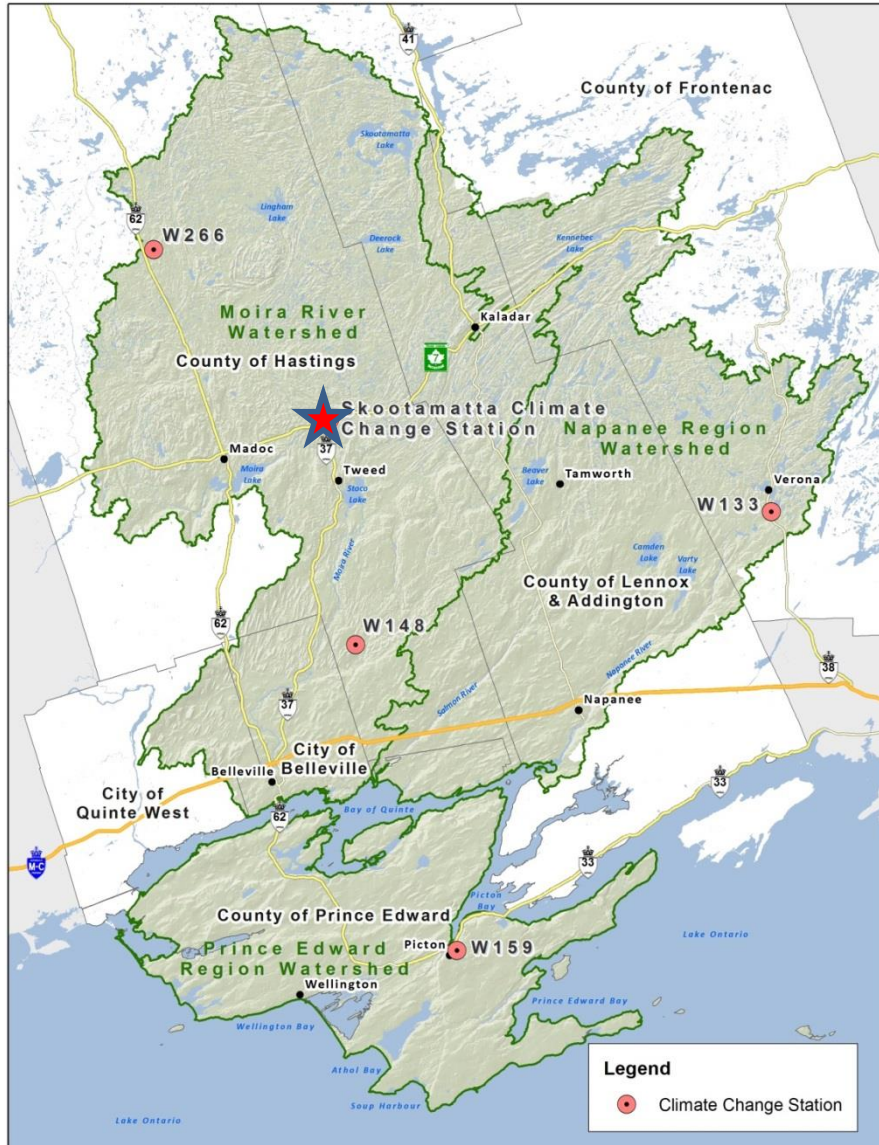
Bay of Quinte Remedial Action Plan



- We partner with Lower Trent Conservation and work with federal and provincial partners on the “Big Cleanup” for the Bay of Quinte Remedial Action Plan



Climate Change Monitoring



Restoration and Habitat Enhancement



We work with landowners, local municipalities and community partners to encourage practices that are good for the land and water.

- shoreline restoration program
- community trees program
- Tree planting projects
- livestock fencing grants (from water systems)
- agricultural watercourse buffer plantings
- urban rainwater garden grants, and more





- We provide technical environmental information services to municipalities, the public and the media
- Curriculum-connected educational programming in schools and at our Conservation Areas
- Educational talks and public events



Conservation Lands and Areas



- We own over 30,000 acres of land
- We have over 20 conservation areas open to the public daily dawn until dusk
- One conservation area doubles as a campground (Depot Lakes Campground)



- 8, 000 acres of managed forest plantation for long term ecological restoration (converting old fields into natural forest cover)
- 22,000 acres of sensitive lands set aside as conservation reserves (areas of natural scientific interest, wetlands, rock barrens, waterfront, and natural forest)

Quinte Conservation:

Quinte Conservation's sustainable management practices are further reflected through Forest Stewardship Council® (FSC®) certification for Community Forests





How can YOU be a good steward & support environmental sustainability?

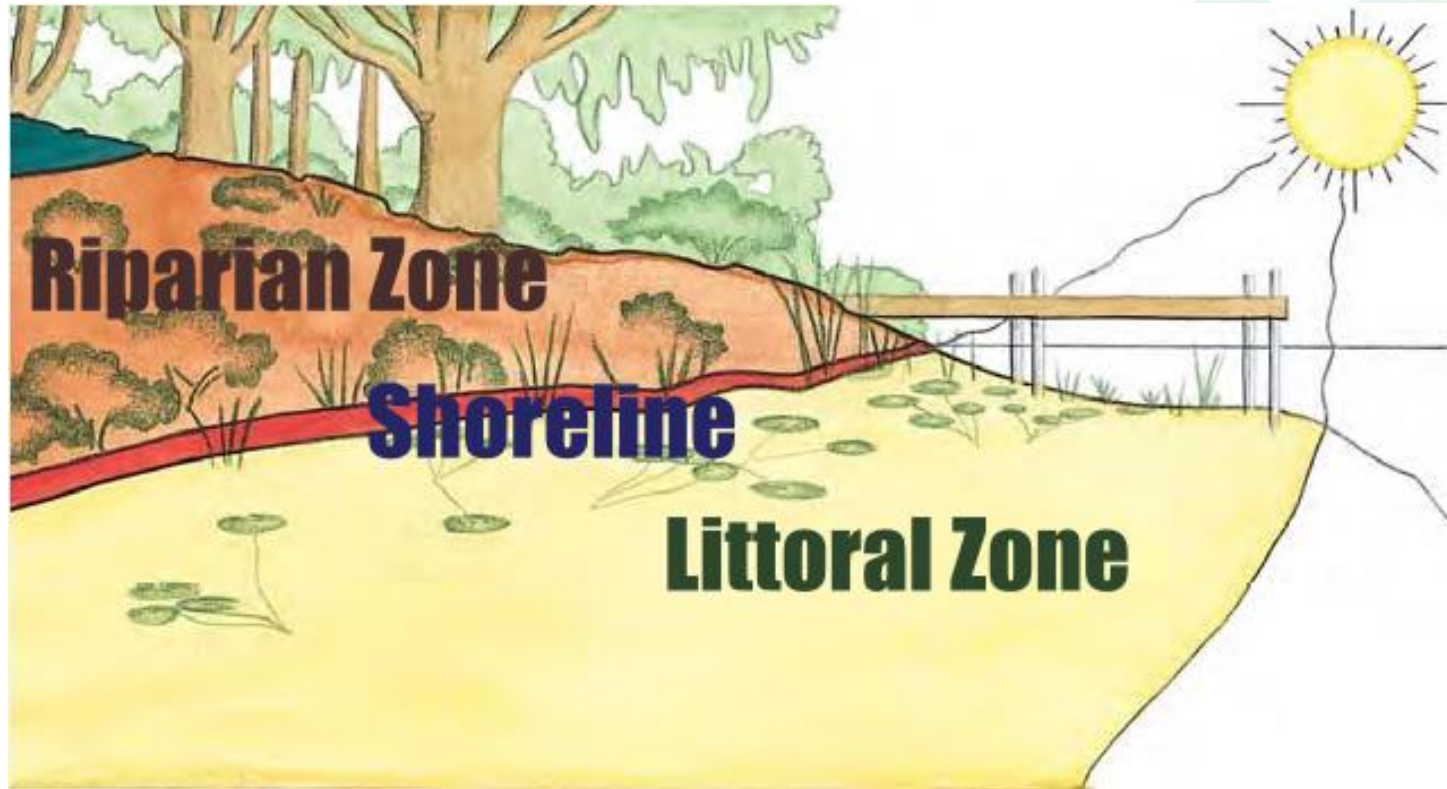


Protect the riparian zone



Riparian Zone

Riparian Zone = 30 metres wide zone from the shoreline toward upland



Healthy Shorelines = 50 % forested and;
only 25% or less than 15 metres unvegetated (whichever is less)

Riparian Zone



Important for maintaining:

- water temperature
- bank stability
- filtering excess nutrients
- connectivity between upland & water
- wildlife habitat

“Ribbon of Life”



90% of all living things in a lake or river are found along the shoreline...

Quinte Conservation encourages naturalized shorelines

NOT lawn mowed to water's edge



Shoreline Naturalization Project- Before & After

Mowed shorelines are highly susceptible to erosion & promote sediment transport



Mowed shorelines attract Canadian Geese



Unvegetated Shorelines = Nutrient Runoff

-Shoreline vegetation captures and utilizes excess nutrients, which would otherwise run into the lake

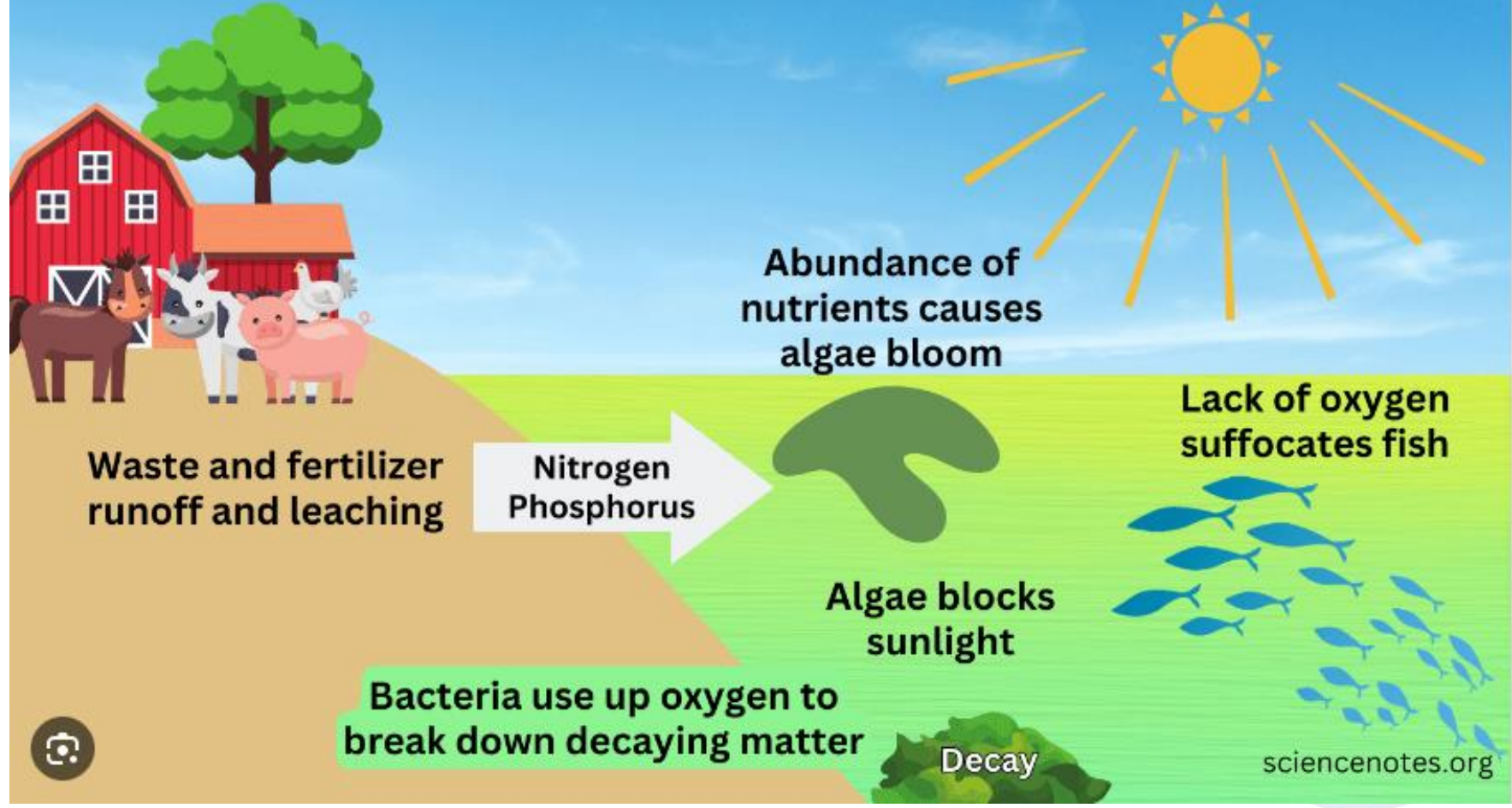
Nutrient runoff =

- Eutrophic conditions; overgrowth from influx of nutrients (phosphate/ nitrate) in the water**
- Anoxic conditions (lack of oxygen in water) due to decomposition of plant matter**
- This causes algae blooms, excessive aquatic vegetation growth & fish die off**



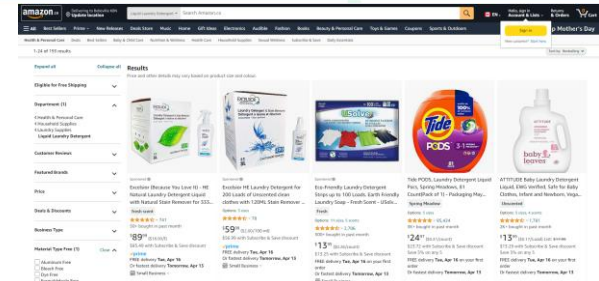
What Is Eutrophication?

Eutrophication is the excessive nutrient enrichment of water, leading to algal blooms and ecological imbalance.

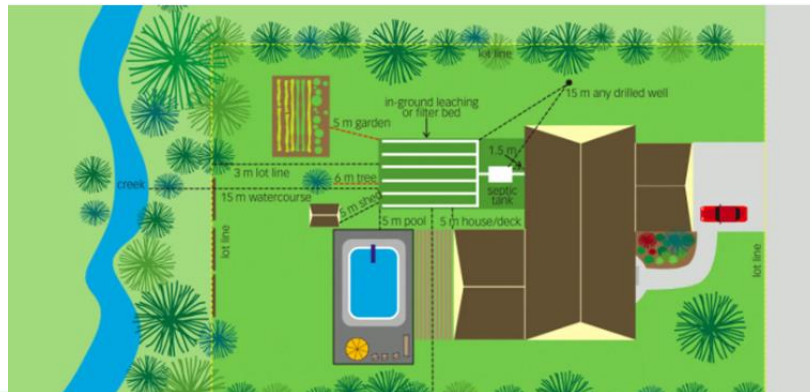


How can you keep nutrients out of the water?

- Keep leaf and yard waste out of the lake
- Pump and maintain your septic system/ tank
- Don't use fertilizers on your lawn/ garden
- Don't wash your car on your driveway with detergents/ soaps (Phosphate free soap!)
- Build a rain garden
- Minimize impervious surfaces & drain rainwater away from the lake/ sewers
- Minimize lawn & maximize dense native vegetation
- Don't allow runoff from livestock to enter the lake (fencing/ manure storage)

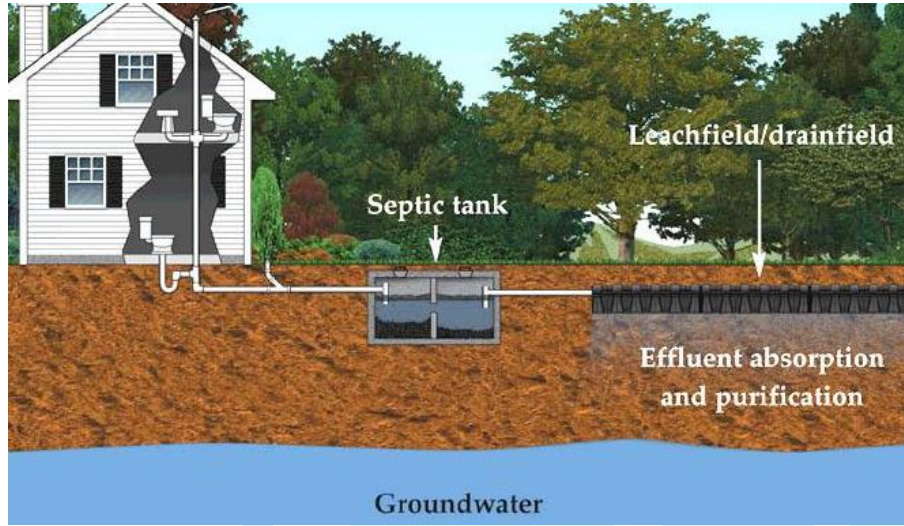
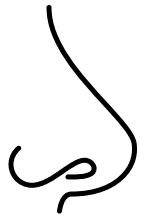


Plant native vegetation along the shoreline!



Septic system maintenance

Pump & inspect your septic system every 3 to 5 years



****Grant programs available for septic pump outs for Bay of Quinte residence**

Shoreline Naturalization Techniques

Create a 'no-mow' zone



.... Literally just
stop mowing

Its free!

Vegetated shorelines and wetlands are the 'kidneys' of the watershed



Effective natural
filters and buffer
zones

Polluted run-off trapped and absorbed by vegetation

Improved water quality

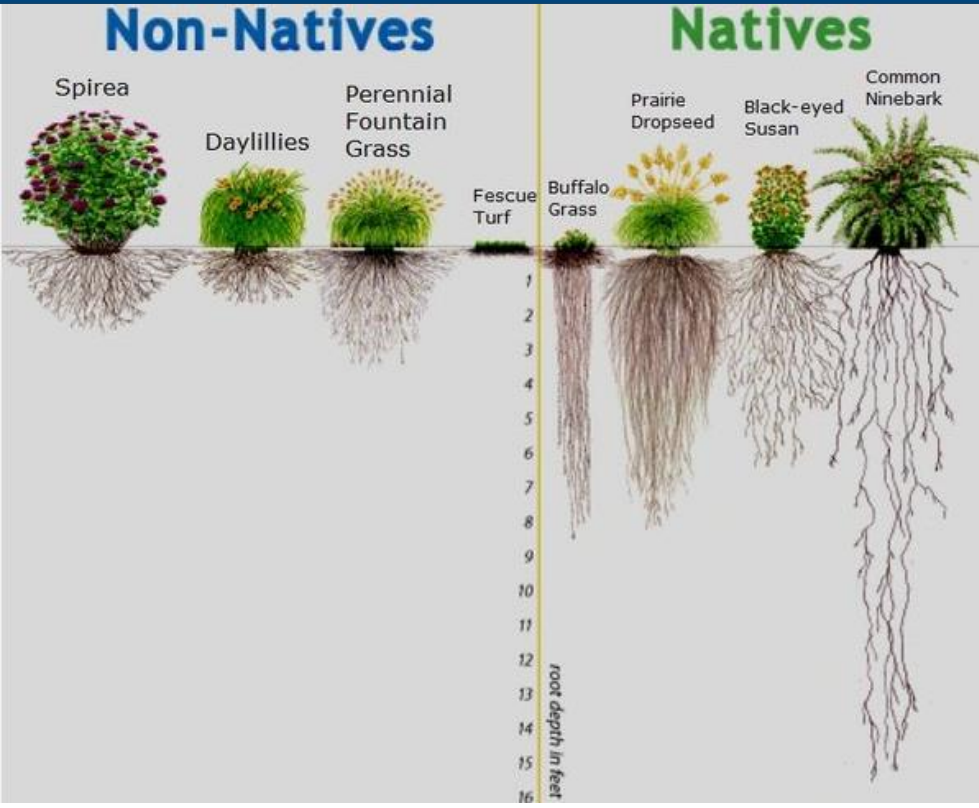


**Enhance with Ontario
wildflowers, sedges, and
grasses...**



**...and with shrubs and
trees.**

Plant Native Species



Extensive root systems from native vegetation 'knit' the soil together = erosion prevention

Erosion is a problem for shoreline landowners

Quinte Conservation says “YES”, to shoreline erosion control
.....but with conditions



Erosion is a problem for shoreline landowners

Quinte Conservation says “YES”, to shoreline erosion control
.....but with conditions



Quinte Conservation DOES recommend natural sloped rock if within the floodplain

Cannot block floodwater

Before



Straight walls not recommended



After

WHY??

-The **cumulative effect** of reduced flood storage can be **significant**

-New walls and gabions tend to have a **high failure rate**

-**Unnatural**

-Require **regular maintenance**



- Wall repairs are **costly**
- Walls **cut off sensitive shoreline riparian zone**, which provides an ecological connection between land and water



Sloped rock along the shoreline

- Sloped rock mimics shorelines found in nature
- Dissipates wave energy
- Easier to maintain & reduced failure rate
- Shoreline riparian zone



...Take it one step further!

Native Shoreline Planting



Combination of
hardscaping &
softscaping

****Handplanting not
subject to O.Reg 41/24**



Quinte Conservation Stewardship



Before

After



Planting into sloped rock



When selecting for plants..

NATIVE SPECIES!

Consider location and site conditions

- know your light, moisture, and soil type (this will help you to select your species)

Consider blooms times for continuous blooms - Spring to Fall

Consider height, colours, and textures



Native Species are Sustainable

- Adapted to the climate and conditions
- Enhance habitat for wildlife
- Stop the introduction of new non-native invasive species
- Our local pollinators know local flowers



Native plants support food webs

Maple



Willow



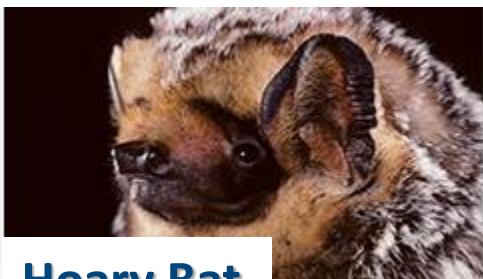
Birch



Cecropia Moth

Mourning Cloak

Luna Moth



Hoary Bat

Gray Treefrog

Eastern Bluebird

Select Native Flowering Species

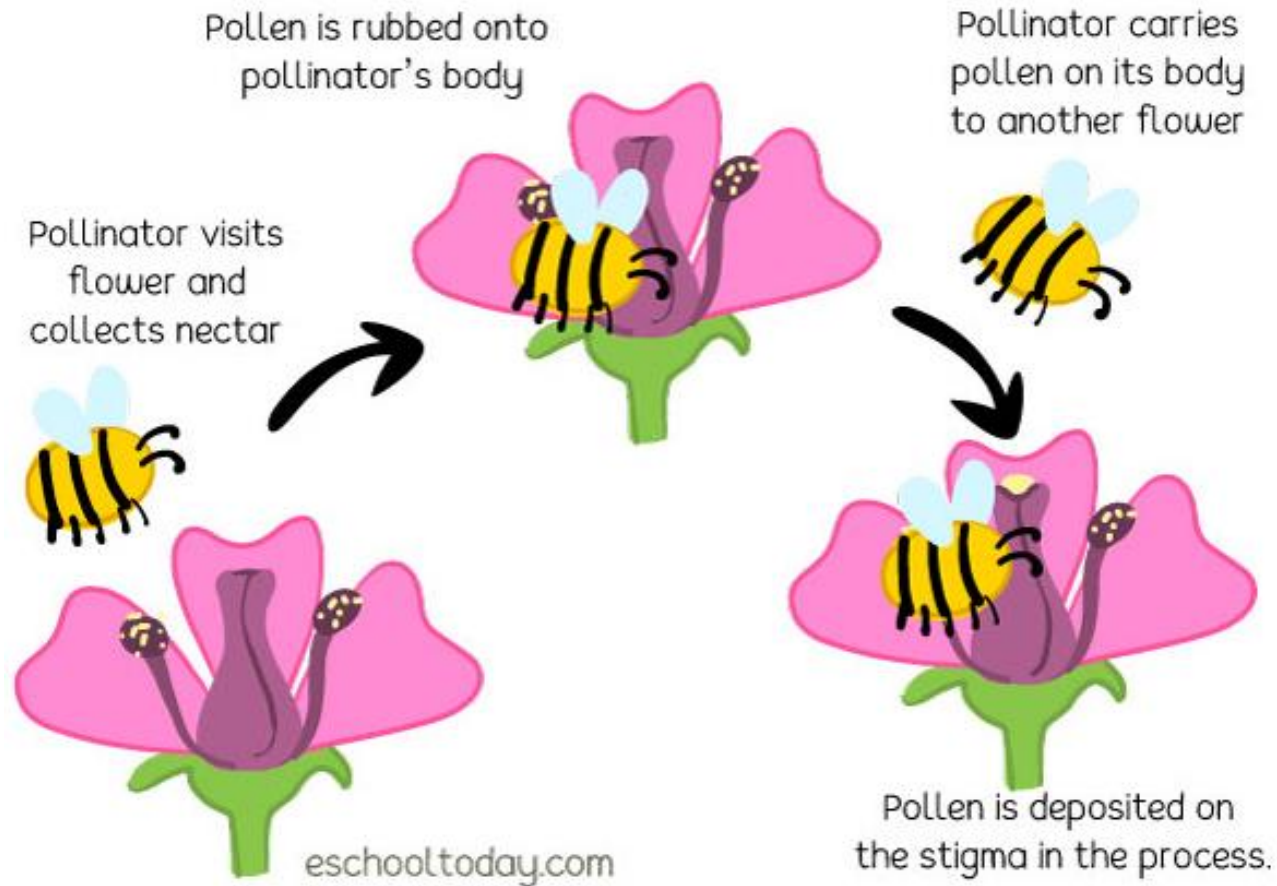
80% of flowering plants
rely on pollination by
organisms
(insects/mammals/birds)

1/3 of global **agriculture**
relies on pollinators.

A pollinator **deliberately** or
accidentally picks up pollen
on its body.

An effective pollinator will
deliver some of that pollen
to a receptive female flower
of the same plant species.

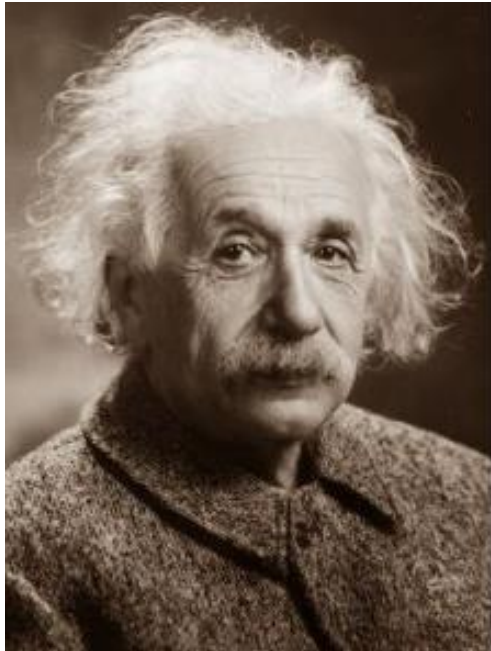
The pollinator must deliver
enough pollen to fertilize the
ovules in the flower.



Our Pollinators are disappearing!

Albert Einstein:

***"If the bee disappeared off the face of the Earth,
man would only have four years left to live."***



Swamp Milkweed

Keystone Species for the Monarch:
has an effect on the ecosystem that far
exceeds their abundance

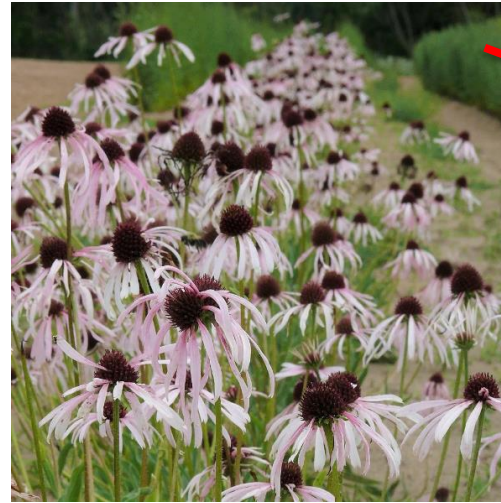


Support local
pollinators!

Monarch caterpillars
rely on milkweed
exclusively to survive

Flowering Keystone Species

Canada Goldenrod (*Solidago canadensis*)



Pale Purple Coneflower (*Echinacea pallida*)



Black-eyed Susan (*Rudbeckia hirta*)



Downy Serviceberry (*Amelanchier arborea*)

Red Osier Dogwood



Dogwood & Willow - Livestake

Native Species

Red-osier dogwood (Cornus serotina)

Gray dogwood (Cornus racemosa)

Silky dogwood (Cornus amomum)

Native willow (Salix sp.)

Benefits:

- Cheap/free & easy
- Great for stabilizing stream banks
- Can easily be found and cut

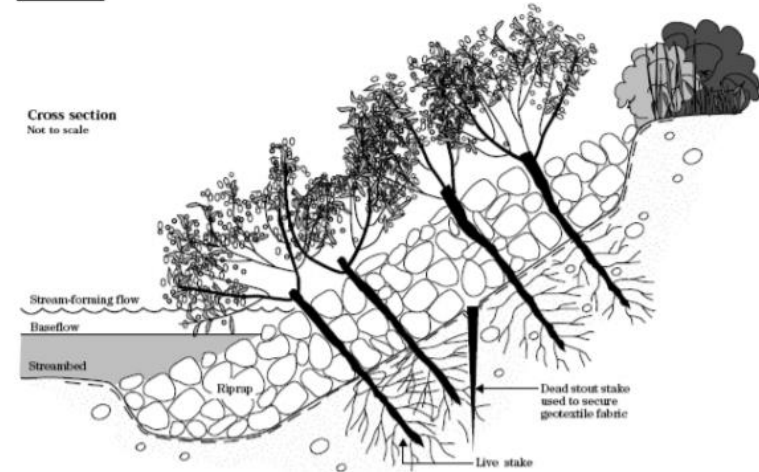
Planting Instructions:

- Plant dormant in April or November
- Plant a three foot stake 1 to 2 feet into the
- Cut branches with several buds and nodes
- Plant them as soon as possible

3. Insert the live stakes

They should be inserted perpendicular to the slope. The growing tips should face upward, protruding through and above the rocks. You can use a steel rod (re-bar) to puncture through the fabric and create a hole in the soil below. Use a dead blow hammer to drive the stakes into the soil. There should be two to four stakes per square yard.

Figure 16-16 Joint planting details



NRCS EFH Chapter-16

An installed joint planting system
(Robbin B. Sotir & Associates photo)



Courtesy of USDA

Quinte Conservation has resources to get you started...

Yard Naturalization Starter KIT

FREE SITE VISIT

CUSTOMIZED PLANTING PLAN

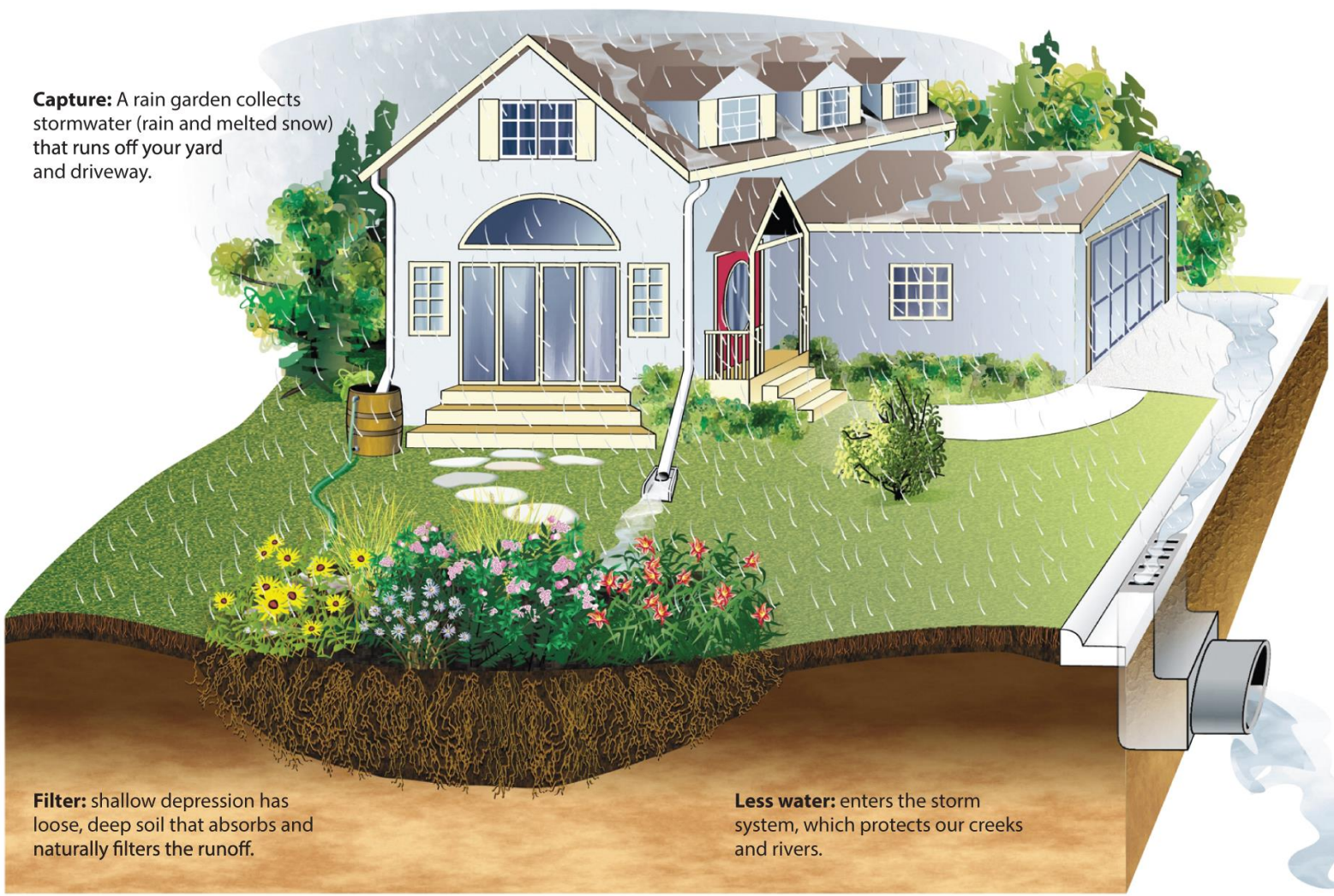
50 Potted trees, shrubs and wildflowers, mulch, tree protectors, & plant care guides.

Subsidized landowner cost of \$438.00



Not a shoreline landowner?

Consider a Rain Garden



Capture: A rain garden collects stormwater (rain and melted snow) that runs off your yard and driveway.

Filter: shallow depression has loose, deep soil that absorbs and naturally filters the runoff.

Less water: enters the storm system, which protects our creeks and rivers.

Consider a medium that is well draining

Capture rainwater runoff from impervious surfaces

Use native plants that are flood & drought tolerant;

Blue vervain, Canada anemone, Pasture rose, Western snowberry, Trumpet vine, etc....



Rain Gardens



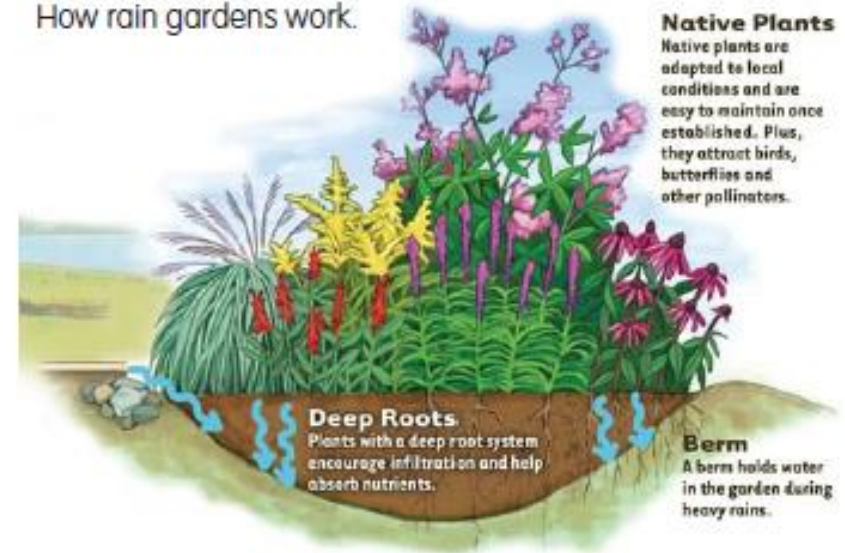
Grants

Rain Gardens

Grant Rate	Maximum Grant
100 %	up to \$750.

- Creating a shallow, sunken garden to collect rain water that runs off your driveway, patio, or roof.
- Eligible costs include: soil, mulch, compost, gravel, native plants, contractors, rental equipment
- Only native plants are funded and a plant list is provided by BQRAP
- Staff will help develop a planting plan

How rain gardens work.



Jason Jobin
BQRAP Environmental Technician
Lower Trent Conservation
P: (613) 394-3915 ext 242
E: jason.jobin@ltc.on.ca

or

Kaitlin Maurer
BQRAP Environmental Technician
Quinte Conservation
P: (613) 968-3434 ext 107
E: KMaurer@quinteconservation.ca



Bay of Quinte

Remedial Action Plan

Healthy Bay • Healthy Community

c/o Lower Trent Conservation
714 Murray St.
RR 1 Trenton, ON K8V 0N1

Before



Grants

Wetland Restoration Project

EROSION/WATER QUALITY IMPROVEMENT PROJECTS

Grant Rate	Maximum Grant
75%	up to \$7,500

By implementing stewardship projects farmers and rural landowners can take action and respond to the water quality/nutrient loss risks on their farms/properties, making a difference to their bottom line and the health of Bay of Quinte.

Projects must contribute to reducing erosion issues and/or improving water quality in the Bay of Quinte and its tributaries.

A variety of projects will be considered:

- stream bank stabilization
- barnyard runoff control
- manure storage improvements
- constructed wetlands
- erosion control structures
- storm water management



Bay of Quinte
Remedial Action Plan
Healthy Bay • Healthy Community

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Funding levels will be determined on a project by project basis.

Projects closer to the Bay of Quinte will be a priority.

Eligible costs may include:

- Site plans - only native plants are funded, a minimum 5 metre buffer zone is required for water course projects
- Contractors • Permits • Native plant material
- Erosion control material • Project materials



Ducks Unlimited



Before



Grants

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Ducks Unlimited



Composting

- Keep waste out of landfills
- Use nutrients from decomposition to build soil
- Replaces chemical fertilizers that would contribute to nutrient runoff
- Aid in soil water absorption
- Reduces carbon footprint & greenhouse gas emissions
- Less plastic garbage bags!



Consider an Electric Vehicle

- No greenhouse gas admissions
- Less carbon footprint
- Don't pay for gas!



Rural Stewardship Program

LIVESTOCK FENCING

- Install fencing to restrict livestock access to a waterway or wetland.

Grant rate - 75% - maximum up to \$7,500

ALTERNATE WATERING SYSTEMS

- To be eligible for funding, livestock must be fenced out of a waterway or wetland

Grant rate - 75% - maximum up to \$7,500

SHORELINE/WATERWAY PLANTING PROJECTS

- Native plants and materials to help with plant survival (mulch, plant guards, hemp mats) for an area along a shoreline/waterway or wetland

Grant rate - 75% - maximum up to \$1,000

EROSION/WATER QUALITY IMPROVEMENT PROJECTS

- stream bank stabilization • barnyard runoff control
- manure storage improvements • constructed wetlands
- erosion control structures • storm water management

Grant rate - 75% - maximum up to \$7,500

Free Soil Testing

Knowing what's going on with your soil is the first step in creating high yielding sustainable agriculture. Book your site visit, Today.

Jason Jobin

Bay of Quinte Remedial Action Plan
Lower Trent Conservation
P: 613-394-3915 ext 225
E: jason.jobin@ltc.on.ca

Cover Crops

We offer a cover crop seed grant of \$30.00 per acre - grant maximum up to \$2,500.

Kaitlin Maurer

Bay of Quinte Remedial Action Plan
Quinte Conservation
P: 613-968-3434 ext 107
E: KMaurer@quinteconservation.ca



Get Involved!



Citizen Science, Watershed Watch & Trail Steward Programs – check out Quinte Conservation’s website for more details (Summer 2024)

Upcoming Events....



COMMUNITY PLANTING EVENTS

SIGN UP!

Help us plant 6,000+ native wildflowers, shrubs and trees to renaturalize our local environment.



Monday, May 6 at 12 pm
Price Conservation Area

This planting event is sponsored by Eco Action, in partnership with Quinte Conservation and Watersheds Canada.



Friday, May 31 at 10:30 am
Riverside Park East, Belleville

This planting event is sponsored by Belleville Sens, Molson Coors and Domtar, in partnership with Quinte Conservation and Watersheds Canada.



Thursday, May 30 at 9:30 am
Riverside Park East, Belleville

This planting event is sponsored by Molson Coors, Belleville Sens and Domtar, in partnership with Quinte Conservation and Watersheds Canada.



Visit
calendar.quinteconservation.ca
for full event details and to fill out the volunteer sign-up form.



Questions? Email stewardship@quinteconservation.ca

Come plant trees with me!

May 6 – Tweed

May 30 – Belleville

May 31 - Belleville

Questions?



Quinte
CONSERVATION



Conservation
ONTARIO
Natural Champions

Draw for Quinte Conservation Prize; Red Oak Seedlings



Quinte
CONSERVATION



Conservation
ONTARIO
Natural Champions