An Evening on Wetland Conservation

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Environment Canada Environnement Canada

Ducks Unlimited Canada
Conserving Canada's Wetlands

Lake Simcoe Region conservation authority

Nottawasaga Valley Conservation Authority

Severn Sound Environmental Association

Lake Simcoe Georgian Bay Wetland Collaborative
WORKING TOGETHER TO CONSERVE WETLANDS

Workshop Overview

- Introduction to the Lake Simcoe Georgian Bay Wetland Collaborative
- Wetland Conservation
- Wetland restoration and creation techniques
- Healthy waters best management practices
- Pond policy & regulations
- Partner programs, available funding
- Question period
- More questions and networking

Lake Simcoe Georgian Bay Wetland Collaborative
WORKING TOGETHER TO CONSERVE WETLANDS

- Three year partnership initiative to reduce phosphorous and nutrient input through wetland conservation
- Project area includes the Lake Simcoe watershed, Nottawasaga Valley watershed, Severn Sound watershed and south-eastern Georgian Bay coastline
- Funding from Environment Canada
- Immediate partners: DUC, LSRCA, NVCA, SSEA

Lake Simcoe Georgian Bay Wetland Collaborative

WORKING TOGETHER TO CONSERVE WETLANDS

- Municipal Engagement
  - Official Plan review and comment
  - Education and outreach
- Geographic Information Systems and Research
  - Wetland conversion analysis
  - Wetland threat literature review and survey
- Landowner Outreach
  - Improve access to technical information
  - Provide financial incentive information

https://www.facebook.com/LSGBWetlandCollaborative

Lake Simcoe Georgian Bay Wetland Collaborative

Ducks Unlimited Canada

Wetland Restoration and Creation Techniques

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Who is Ducks Unlimited Canada

Ducks Unlimited Canada (DUC) is the leader in wetland conservation. A registered charity, we partner with government, industry, non-profit organizations and landowners to conserve wetlands that are critical to waterfowl, wildlife and the environment.

- DUC is a private non-profit company that has been conserving wetlands in Canada since 1938
- In Ontario, DUC has invested over $75 Million in over 1,400 wetland projects (> 1 Million acres)
- We work mainly with private landowners, agriculture and industry and offer a wide range of programs aimed at enhancing wetlands and surrounding uplands

What Are Wetlands?

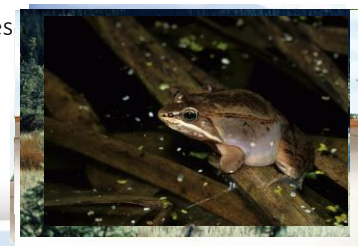
Wetlands are areas of land covered by water for all or part of the year or where the water table is at or near the surface.

Key wetland characteristics:

- Hydrology
- Soils
- Vegetation

Wetland Types

- Marsh
- Swamp
- Fen
- Bog
- Ephemeral wetland

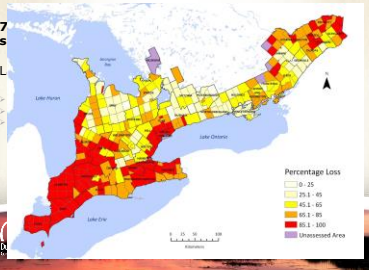


The Value of Wetlands

Wetlands are productive ecosystems that benefit the environment as well as the economy and communities

- Wildlife habitat/biodiversity
- Nutrient cycling
- Groundwater recharge
- Climate regulation
- Flood attenuation
- Place for recreation
- Place for education

Threats to Wetlands



What can we do for Wetlands?

LOW

CO$T

HIGH

- ☐ Protect what's left
- ☐ Enhance where possible
- ☐ Restore where degraded
- ☐ Create when not possible to restore

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Protect Wetlands

As an individual how can you play a role in the protection of wetlands?

- Volunteer with a conservation organization
- Monitor your wetland for breeding birds and amphibians as well as changes in hydrology and vegetation communities
- Report invasive species
- Be a voice for wetlands in your community
  - Participate in plan reviews
  - Talk to your local councilor

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Wetland Enhancement

What are some simple things you can do to make your wetland a more productive ecosystem?

- Establish vegetation buffers around the wetland
- Restrict livestock access to the wetland
- Remove invasive vegetation, plant native vegetation
- Lay out basking logs
- Install nest boxes

Wood Duck Nest Boxes

- Provide nesting opportunities for cavity nesting waterfowl
- Used by a variety of cavity nesting bird species
- Adds to the conservation value of your land
- Maintenance is the key!

Wetland Restoration/Creation Techniques

Characteristics of Wetland Projects

- Shallow with variable depths (0.3m to 1.2m)
- Irregular shoreline (maximize "edge")
- Wide buffers
- Secluded location or close to other natural areas
- Not in a healthy wetland

Wetland Project Considerations

- THINK ABOUT YOUR OBJECTIVES FOR THE WETLAND
- YOUR BUDGET (OTHER FUNDING PARTNERS)
- CREATE A DESIGN CONCEPT BASED ON YOUR OBJECTIVES
- SITE HISTORY
- SLOPE ACROSS THE SITE
- SIZE OF THE PROPOSED WETLAND-WATER DEPTH (PERMANENT VS NON-PERMANENT WETLAND I.E. SEASONAL)
- AMOUNT OF WATER FLOWING INTO WETLAND "CATCHMENT AREA"
- DRAW A ROUGH OVERHEAD SKETCH OF YOUR PROPOSED WETLAND

Site Selection

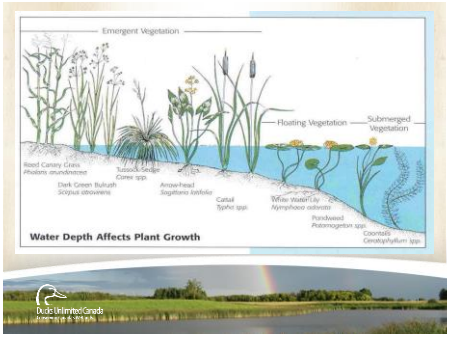
- Impermeable Soils (not sandy or gravelly)
- Observation of spring runoff will give you the best idea where water flows and lies on your property
- Avoid areas adjacent to roads or other human disturbance
- Create or restore the wetland near other wetlands or wildlife habitat features on your property
- Size doesn't matter – slope and budget will ultimately determine the size of your wetland

Water Depth and Wetland Plants

Water depth will determine type and quantity of vegetation growth in your wetland

Wetland plants form the base of the wetland food chain, provide habitat for wildlife and help keep your wetland healthy

- Emergent vegetation will grow in water depths of 1m or less
- It is advisable to design your wetland so that approx. 25% of the area is 1m or more in depth to ensure an ideal mixture of vegetation and open water

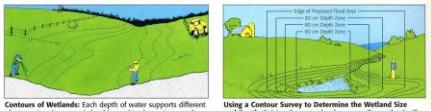


Project Design

Opportunities for Impoundment

- Sites with moderate slope are ideal for creating a berm to impound water
- Slope between 0.6 to 1.2 metres
- Fixed level berm is ideal for small wetlands < 2.5 acres
- Small berms are generally the most cost-effective means to create or restore a wetland

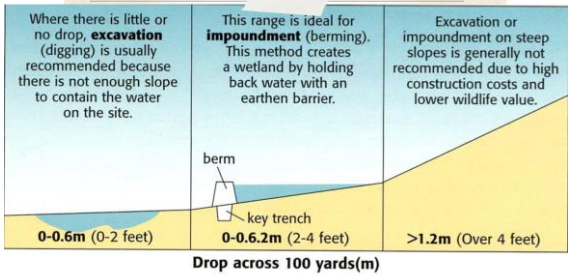
Topographic Survey



Contours of Wetlands: Each depth of water supports different plant species. A surveyor's level is used to determine exactly the water depths, and where the shoreline will be.

Using a Contour Survey to Determine the Wetland Size and Depth: Raising the water level on a smaller wetland will increase the area of the surface water and create zones of varying depths which will diversify plant species.

Excavation: For sites with little or no slope



Excavation Steps

- Stake out wetland edges – make the wetland irregular in shape to mimic a natural wetland
- Set aside organic soils to be placed at the bottom of wetland after excavation to provide a seed bank and growing substrate for native wetland plants
- Ensure the wetland has an undulating bottom to encourage various types of vegetation

How much will this cost?

- Estimating the cost for your wetland project depends on many factors including soil moisture, size, spoil placement
- Try to create your wetland pond during the drier summer periods of the year when the equipment can work more efficiently
- Look for 3 quotes from experienced contractors to undertake the work
- Ensure your contractor understands what you want to achieve

Getting Permission

No matter the method of construction or the size of your wetland project, you will have to consider what permits may be required from various agencies

- Permits for capturing water (MOE)
- Permits also ensure your project is not being built in an area susceptible to flooding or negatively impacting other types of fish and wildlife habitat (CA, MNR)
- Species at Risk considerations
- Permit process can take awhile (up to 90 days)

Overview of Funding

All projects require a conservation agreement with Ducks Unlimited Canada

Nest Boxes – Provided by DUC in exchange for conservation agreement
Livestock exclusion fencing – 50/50 cost share, DUC covers materials up to $5,000 ($11.50 per metre)
Wetland Restoration – up to 90% of costs
Wetland Creation – up to 25% of costs (max. $2,500)

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