



Twenty Years of Restoration at Kelso Quarry Park

Restoring Resilience: Big Impacts across Small Spaces
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Great Lakes Conservation Blueprint for Biodiversity

GRIMSBY ECODISTRICT 7E-3

2 0 2 4 6 8 10 km



Terrestrial Conservation Blueprint

- Parks and Protected Areas
- Additional Designated Natural Heritage Lands
- Other Priority Stewardship Lands

Other Information

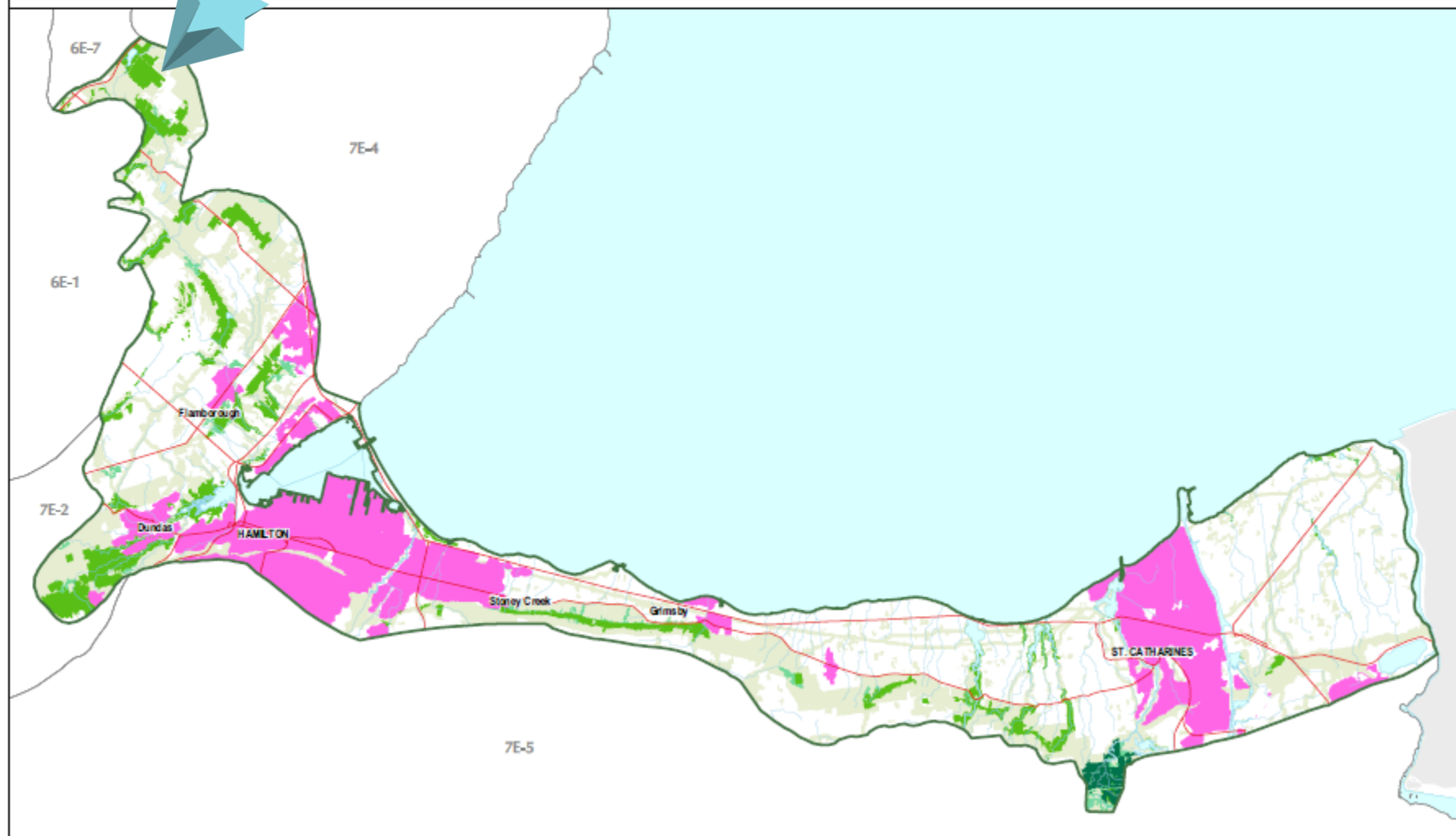
- Ecodistrict Boundary
- Main Road
- Urban Area
- Big Picture 2002 Areas Outside of the Conservation Blueprint

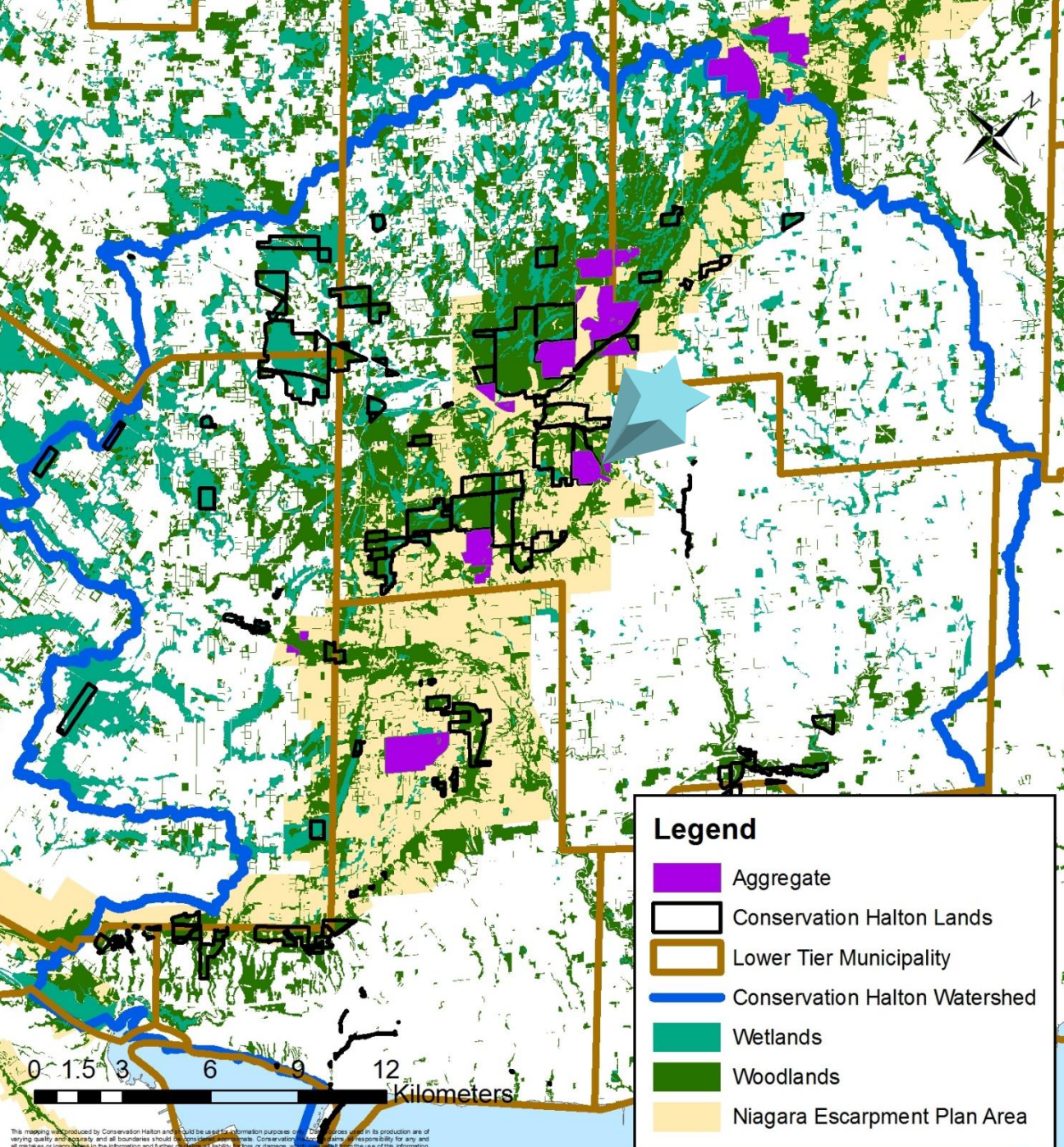


Our goal is to identify a network of sites on the landscape that, if conserved, would sustain a full range of terrestrial biodiversity in the Great Lakes region.

For further information contact the Nature Conservancy of Canada at 1-877-345-3532 or the Natural Heritage Information Centre at 1-705-755-2159.

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Projection: Lambert Conformal Conic (North American Datum 1983)





Conservation
Halton
Watershed:

Niagara
Escarpment
*Mineral Resource
Extraction Area*



Location Map

**Kelso Conservation Area
Figure 1**

- Kelso CA Boundary
- Conservation Halton Lands
- Town Of Milton Lands
- Country Heritage Agricultural Society Lands
- Parking
- Gatehouse
- Railway
- Remaine Road Alignment**
- Completed Work
- Planned Alignment & Interchange



0 350 700 M

Disclaimer: All boundaries on this mapping should be considered approximate. No responsibility or liability is assumed by Conservation Halton or The Regional Municipality of Halton for employees, officers, and agents or the data providers listed below for any errors, omissions or inaccuracies, whether due to negligence or otherwise. Some data on this map is used under license from the Ministry of Natural Resources. All rights reserved.
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NOT A PLAN OF SURVEY

Created By: R.B.
Reviewed By: R.P.
Date: 11/05/2016
File: 11050501-Kelso_Aerial_Map.mxd

The Milton Limestone Quarry (Barrick Gold Corp.)

Land Use Planning

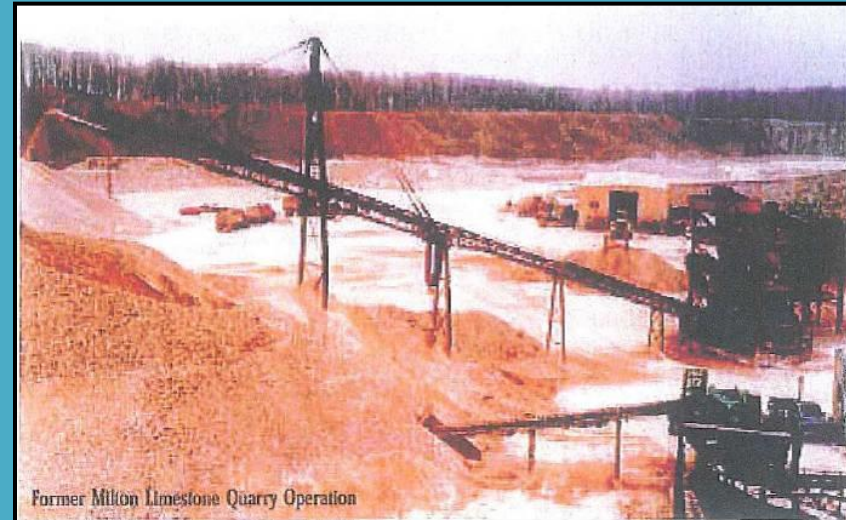
- Niagara Escarpment Plan Area
- Ontario's Greenbelt

Quarry – Est. 1958, 71 hectares

- Over 40 years of operation
- Construction material for the new provincial Highway 401
- 1 million tonnes of high quality aggregate

Rehabilitation

- 1995 - Conservation Halton partnership regarding future park lands and collaborative rehabilitation plans
- 2001 - Extraction complete
- 2006 – Rehabilitation conditions met
- 2006 - Donated to CH





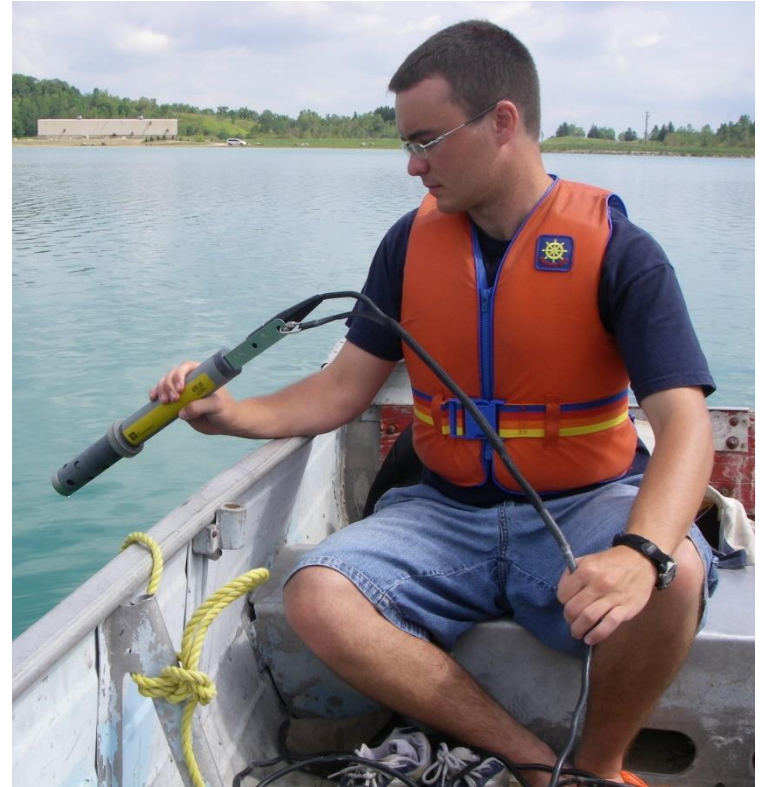
Kelso Quarry Lake – Phases of Ecological Restoration

Landscape Structure > Slope Reforestation > Fish Habitat

Fish Habitat: Developing a Restoration Objective

Biophysical Baseline Conditions

- **Water Clarity**
- **Soil**
- **Water Temperature**
 - Water Temperature: 22.7 °C average
- **Dissolved Oxygen**
 - The lake is supersaturated with oxygen
 - 9.0 milligrams per liter
 - Not be a limiting factor
- **Water Depth**
 - 3 - 5.5 m
- **pH**
 - 7.58 - 8.18
 - Max productivity for fish: 6.5 - 8.5



Fish Community

Existing Aquatic Community

- 426 Fathead Minnows
- 1 Brook Stickleback
- Large Mayfly hatch



Smallmouth Bass Habitat Requirements

- Temperature: 19.4 – 21.7 °C
- Depth at spawning: 0.6 – 6.1 m
- Spawning substrate: Sand, gravel & rock





Project Summary

Objective: Enhance fish habitat to help establish a future recreational fishery within Kelso Quarry Lake

- Funded by the Federal Department of Fisheries and Oceans
 - *Recreational Fisheries Conservation Partnership Program*
- 4,000 m³ of new spawning shoals constructed
- 7 large fish habitat structures
- 6 floating wildlife logs
- Planted vegetation
 - 3500 wetland plants
 - 1000 trees & 1200 shrubs
 - 6 kilograms of tree nuts and wetland seeds



Marsh Planting



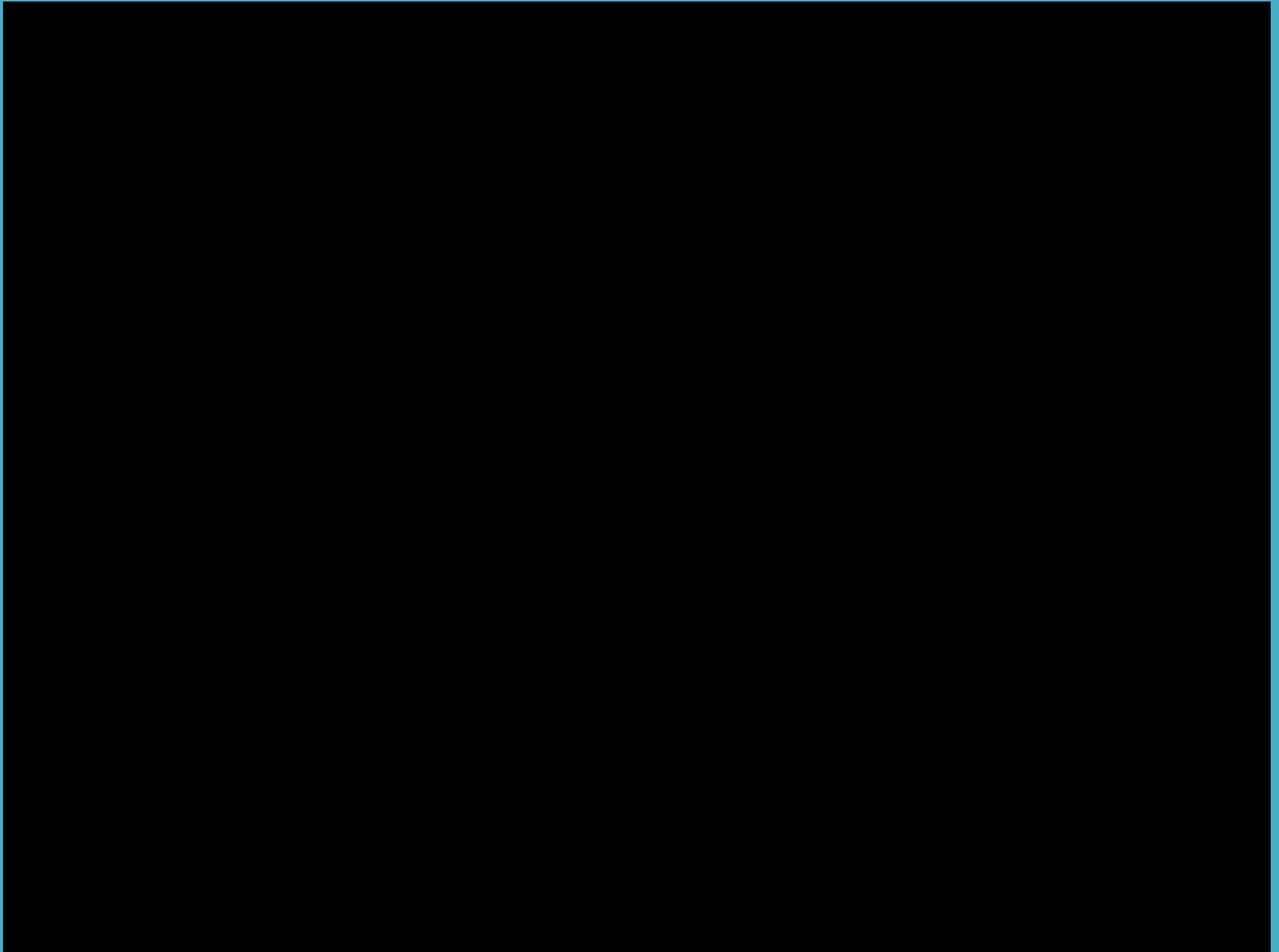
Wildlife Logs



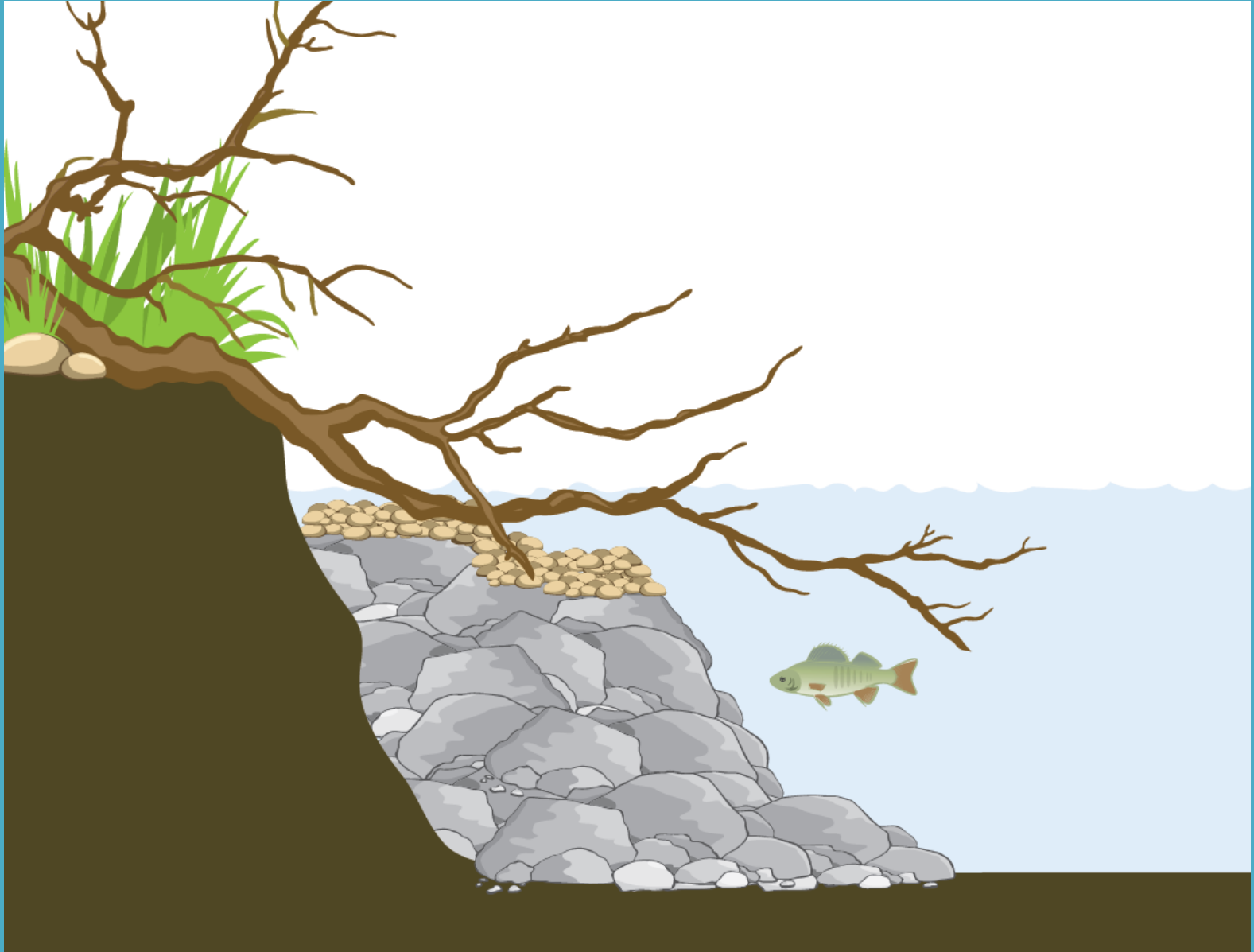
Fish Habitat Structures



Habitat Structure Installation Video



Shoal Installation



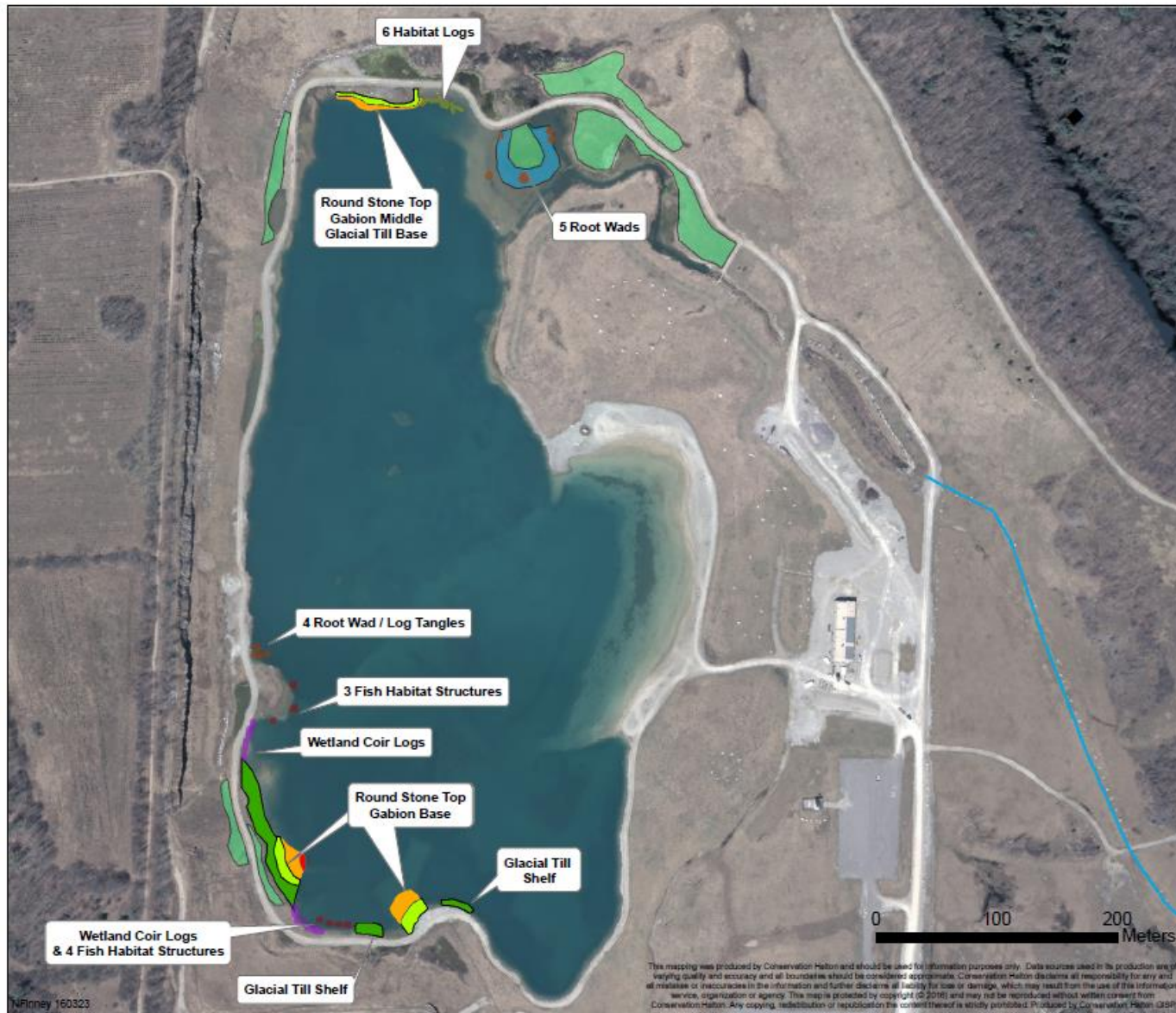
Shoal Installation



Kelso Conservation Area













Quarry Lake
Enhancement Project
2015/16

DFO Recreational
Fisheries Conservation
Partnership Program



Legend

Restoration Features Shoal Creation

	Riparian Forest		Depth in Feet
	Emergent Wetland		2
	Fish Habitat Structure		4
	Wetland Coir Logs		6
	Habitat Logs		8
	Root Wads		Watercourse

Next Steps

Fish Stocking

- 2016/18 – Trial

Shoal Enhancements

- Evaluation & refinement

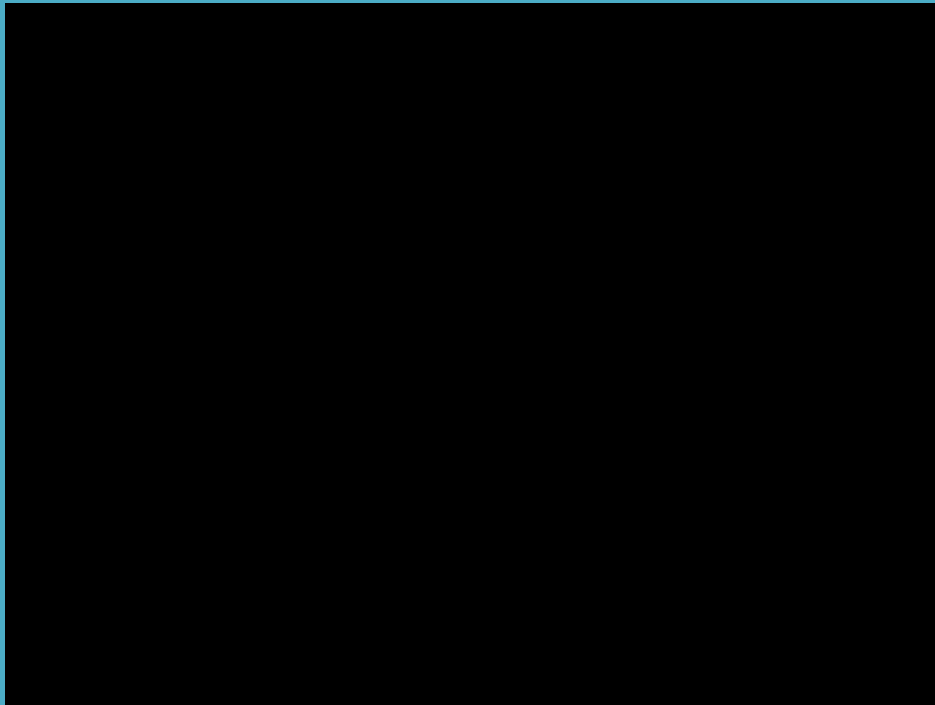
Invasive Species Management

- Common Phragmites

Park Master Plan

- Opening 202X





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