

Niagara Greenway Habitat Conservation Strategy

Phase II Year 1 Update



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December 2, 2013

Overview of Project

- Purpose: to deliver a strategic blueprint for conservation which supports, connects, and advances previous, ongoing and new conservation efforts within the Niagara River Greenway.
- 2 year timeline: targeted end date March 2015
- Total budget: \$370,000
- Contractors: Ecology and Environment, Buffalo State College

Overview of Main Tasks

- 1. Complete Development and Conservation Action Plan and Strategy Framework
- 2. Complete Baseline Field Data Gathering
 - Stream Visual Assessments
 - Fish Barrier Analysis
 - Mapping of Seeps in the Niagara River Gorge
- 3. Conduct Site Assessments for Up to 30 Best-Best Conservation Opportunities

Highlights of Year 1

- Stream Visual Assessments

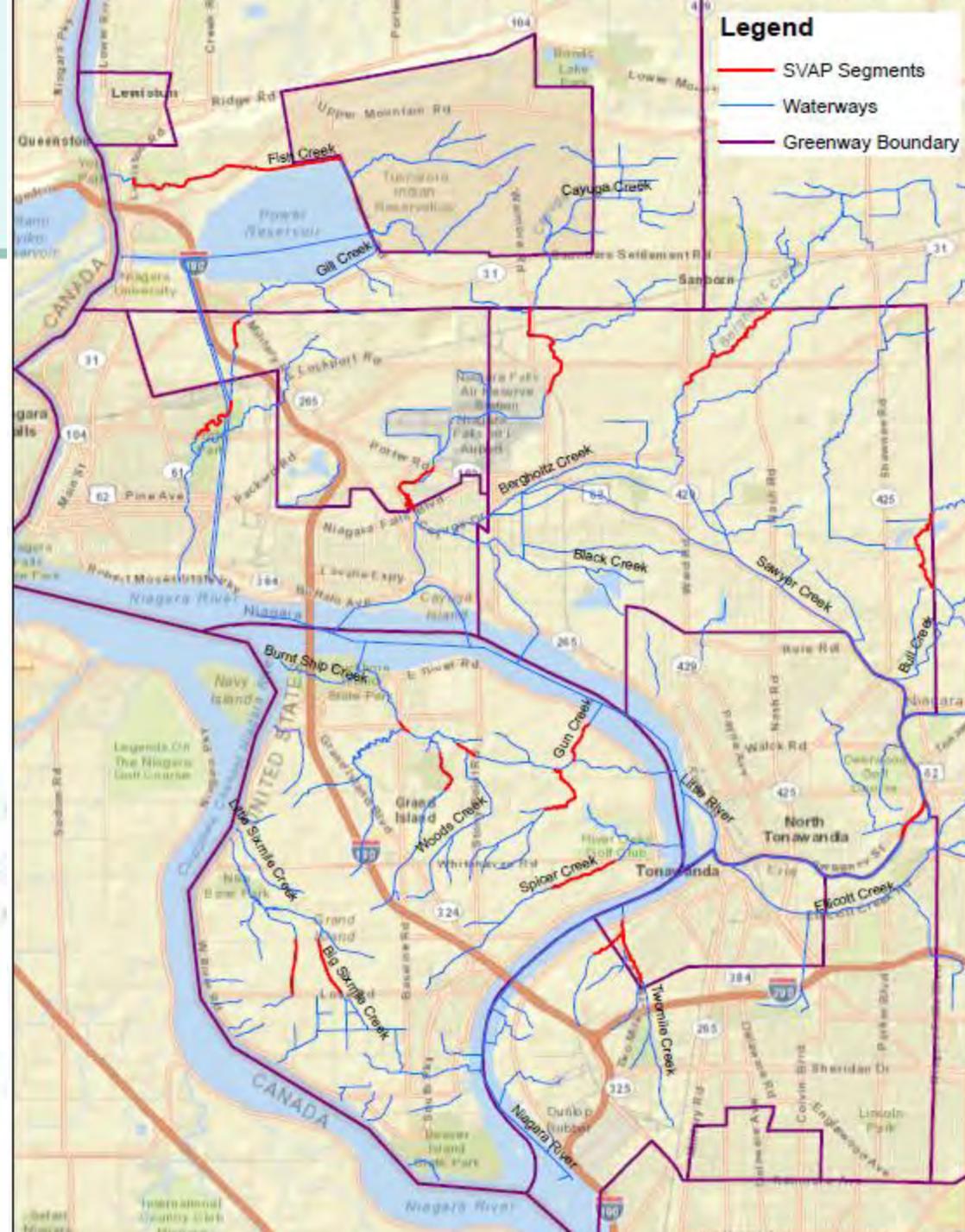


- Fish Barrier Analysis

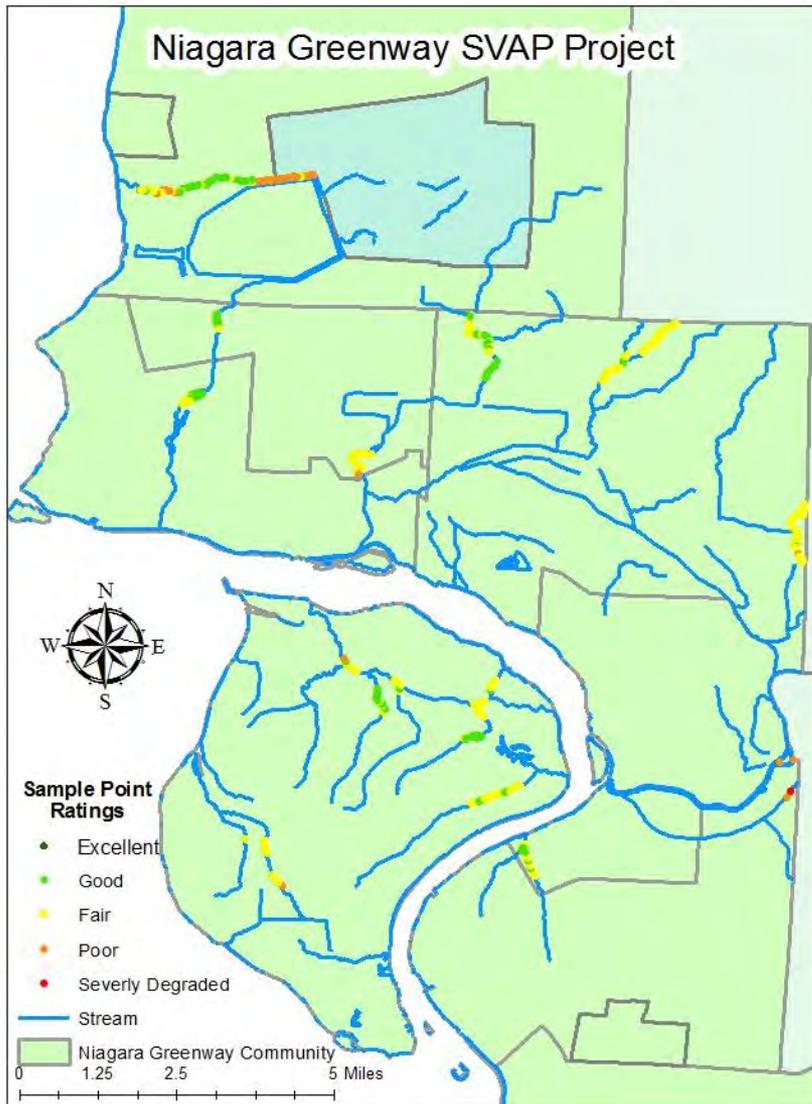


Stream Visual Assessment

- Completed by Buffalo State College
- 348 stream reaches assessed on 12 streams
- Collected 8 SVAP parameters
- Collected water quality data at each reach
- Completed QA/QC



Stream Visual Assessment



Creek	# of Reaches	Avg. Score	SVAP Rating
Niagara County			
Fish	72	6	Fair
Gill	26	6	Fair
Cayuga	56	6.6	Fair
Bergholtz (and trib.)	41	6	Fair
Bull	30	6	Fair
Erie County			
Tonawanda	2	3.3	Poor
Ellicott	2	3.1	Poor
Two Mile (and trib.)	10	6.9	Fair
Grand Island (Erie County)			
Woods (and trib.)	32	6.7	Fair
Gun	32	6.6	Fair
Big Six Mile (and trib.)	13	6	Fair
Spicer	23	6.5	Fair

SVAP Results: Overall Impressions

- High scores for Channel Condition, Riparian Zone, and Bank Condition
 - Natural channels, vegetation extending 1-2 bankfull channel width from the top of the channel, natural banks that are moderately stable to stable
- Low Water Appearance scores: silt/clay bed sediment
 - Water is slightly turbid to turbid much of the time
- Fairly high Nutrient Enrichment scores, especially for Niagara and Erie County streams
 - Clear water along the entire reach

SVAP Results: Overall Impressions

- In-stream Fish Cover scores around 4-5
 - 3-5 cover types available, including LWD, overhanging vegetation, undercut banks, dense macrophyte beds
- Pool scores varied, but at least shallow pools were present in most reaches
- Canopy Cover scores were correlated with Riparian Zone scores



Cayuga Creek (Walmore to Lockport Rd)

SVAP Results: Opportunities

Opportunities for conservation and restoration:

- Restoration
 - Major → reaches in Cayuga Creek, Fish Creek, Two Mile Creek
 - Minor → RZ restoration Gill Creek, Cayuga Creek, Bergholtz Creek
- Landowner education opportunities
- Invasive species management



SVAP Results: Problems

- Two Mile Creek upstream of Veteran's Memorial Park: stream piped underground and empty drums found along stream →



- Bergholtz Creek east of Ward Rd: chemicals discharged from residential pond ←



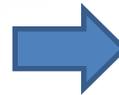
SVAP Results: Problems



- Cayuga Creek, Porter to Trailer Park: pipes discharging into creek and excessive amounts of debris, crew also stepped in possible oil plume



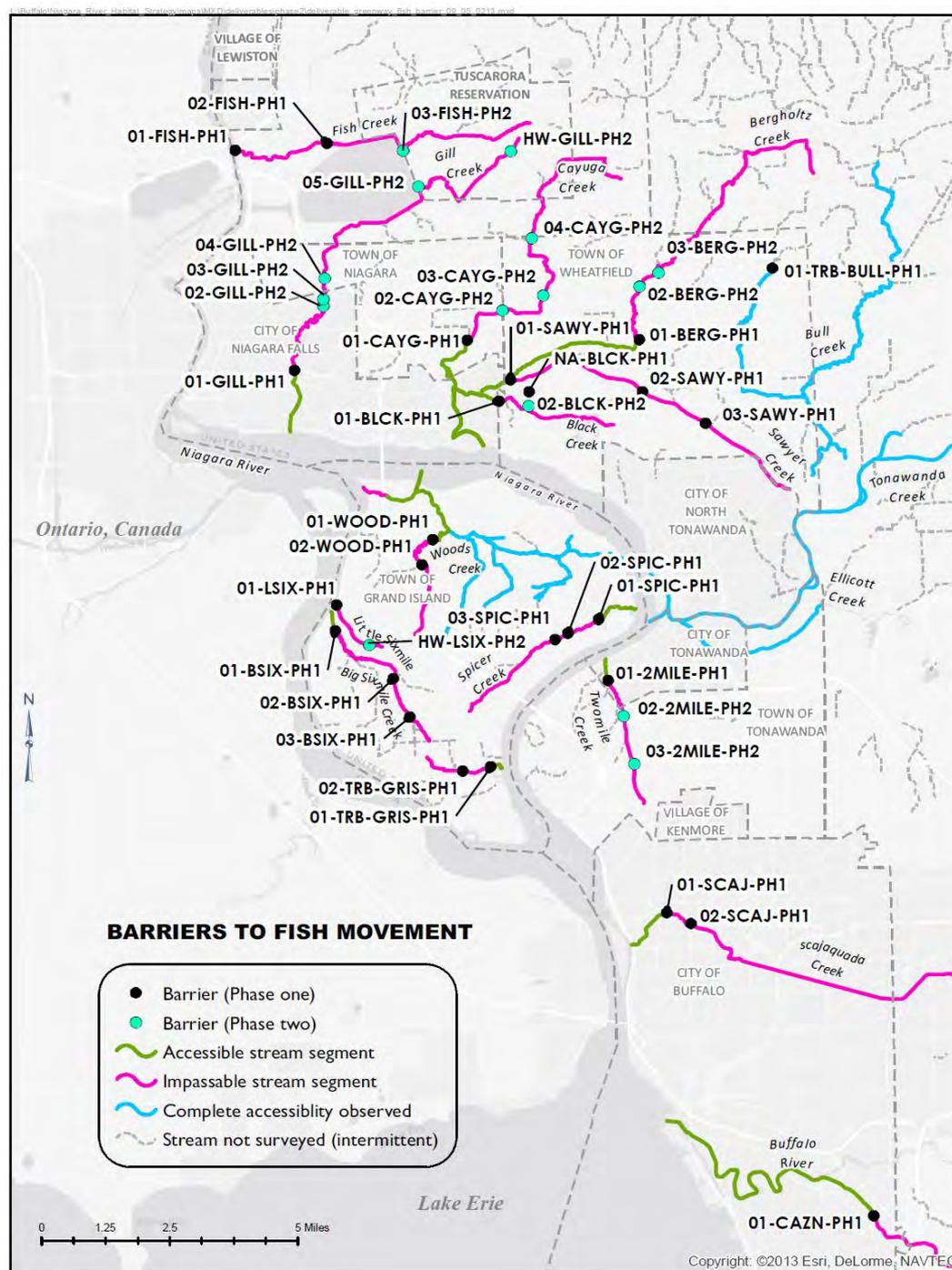
- Fish Creek, Military to Lewiston Rd: untreated sewage discharged to creek after large storm event



Fish Barrier Analysis

- Investigation took place along 14 perennially flowing tributaries in the Greenway (completed by E&E)
- Building off of work completed during Phase 1
 - Determined 2nd and 3rd barriers
- Recommend mitigation measures and priorities for implementation
- Outreach and possible implementation will be completed in Year 2

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Fish Barrier Analysis: Sample Opportunities

- Spicer Creek:

- Three barriers identified resulted from vegetation jams and low water depths
- Retrofits: creation of a defined low water channel and vegetation removal (depending on habitat/functional values)
- This would increase depth and velocity, thereby inhibiting vegetation growth and increasing sediment transport



Fish Barrier Analysis: Sample Opportunities

- Big Sixmile Creek:

- First barrier is a four-sided box culvert at Whitehaven Rd
- Retrofit: Baffle installation
 - Would provide roughness in culvert, resulting in reductions in velocities while creating resting cover for fish
- Second and third barriers are vegetation jams which could be remedied by creating a low water channel and veg. removal



Ongoing Tasks

- Working on completing the Conservation Action Planning process
 - Finalizing top threats and attributes/indicators
- Preliminary seep mapping within the Niagara Gorge, to be completed next field season
 - Working with Parks to confirm a proper classification system
- Continuing conversations with the DEC to determine ways to directly provide support for implementation of the Niagara River RAP

Year 2 Overview

- Finalize CAP process
- Develop screening process for site selection
- Prioritize sites for field assessments (up to 30)
- Complete field assessments
- Develop action plans for best-bet opportunities
- Complete Niagara Gorge seep mapping
- Continued stakeholder and municipal outreach

Questions?

