

Stream and Wetland Restoration Performance Assessment Project

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Chagrin River Watershed Partners
Ohio Stormwater Conference
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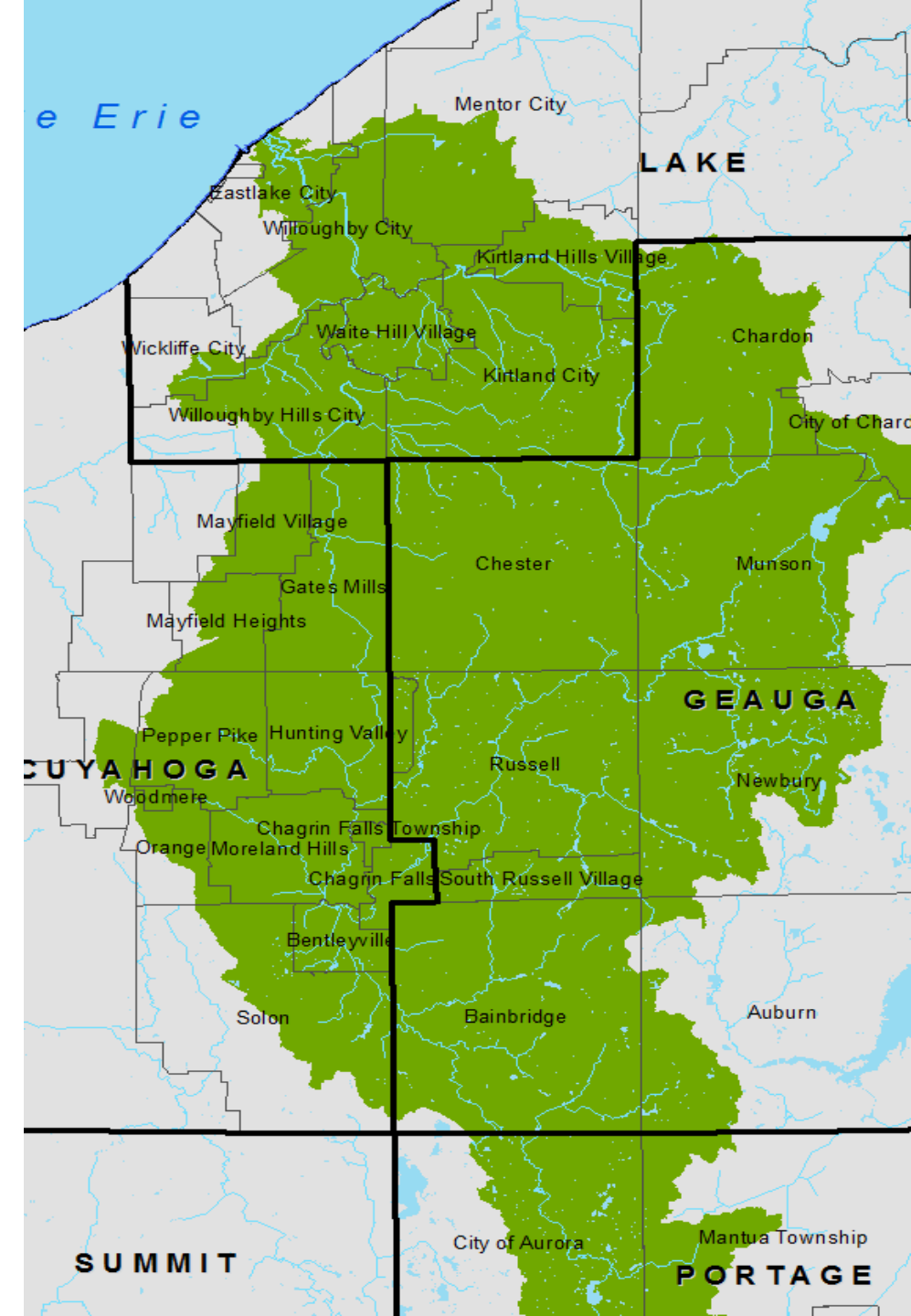


CHAGRIN
RIVER
WATERSHED
PARTNERS

2018 Members

Auburn Township
Aurora
Bainbridge Township
Bentleyville
Chagrin Falls Township
Chagrin Falls Village
Chardon
Chardon Township
Cleveland Metroparks
Eastlake
Gates Mills
Geauga Park District
Hunting Valley
Kirtland
Kirtland Hills
Lake County
Lake Metroparks

Mantua Township
Mayfield Heights
Mayfield Village
Mentor
Moreland Hills
Munson Township
Newbury Township
Orange Village
Pepper Pike
Russell Township
Solon
South Russell
Waite Hill
Wickliffe
Willoughby
Willoughby Hills
Woodmere



What Does CRWP Do?

- Model ordinances and adoption and implementation assistance
- Nature-based green infrastructure projects
- Stream and wetland restoration projects
- Comprehensive planning for balanced growth
- Direct landowner assistance
- Research and monitoring



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Stream and Wetland Restoration Performance Assessment Project

- Developed in response to a request for more information by member communities and project partners
 - What is the long term performance of restoration projects?
- Funded through the ODNR Coastal Management Assistance Grant Program



Research Questions

- Is project meeting long-term goals? Why or why not?
- If necessary, what are remedies, costs and funding sources to fix?
- What are some common themes and lessons learned that may be helpful for future implementers?



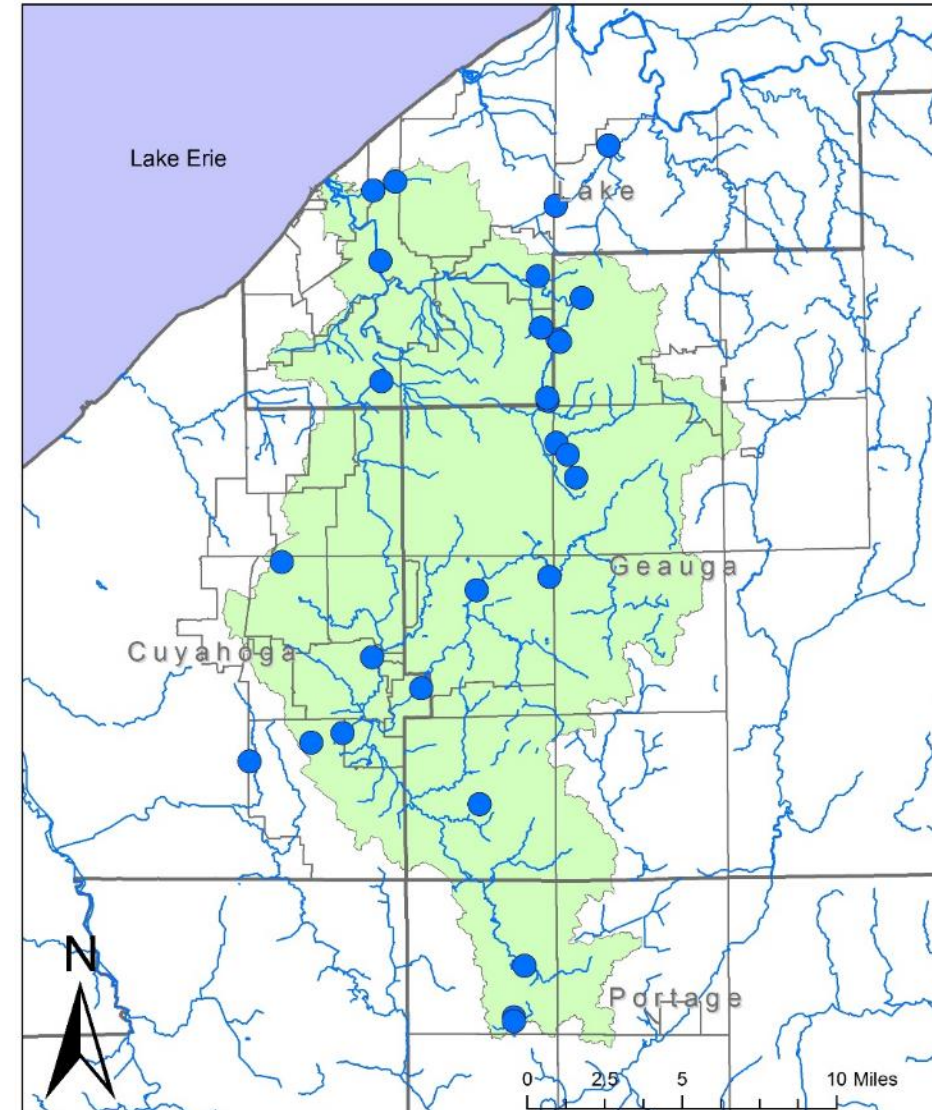
Methods



- Assess at least 15 past stream and wetland restoration sites
- Review original project goals and objectives
- Use appropriate standardized protocols to assess performance
 - Habitat assessments
 - Other customized assessment criteria based on project goals
- Develop model assessment checklist
- Share results with communities

Assessed Stream and Wetland Restoration Sites

| PROJECT | YEAR OF COMPLETION |
|--|--------------------|
| Silver Creek Stream Restoration (Geauga Park District, Russell Township) | 2003 |
| Shadybrook Run Stream Restoration (Holden Arboretum, Kirtland Hills) | 2009 |
| Kenston Lake Dam Modification and Stream Restoration (Bainbridge Township) | 2011 |
| Pleasant Valley Park Floodplain Restoration (Lake Metroparks, Willoughby Hills) | 2011 |
| Chagrin River Green Bank Stabilization (Hunting Valley) | 2011 |
| Ivex of Ohio, Lower Dam Modification and Stream Restoration (Chagrin Falls Village) | 2012 |
| Sulphur Springs Stream Restoration (Cleveland Metroparks, Solon) | 2012 |
| Harmon Homestead Stream and Wetland Restoration (Aurora) | 2013 |
| East Branch Chagrin River Stream Restoration Project at Riverwood (Holden Arboretum, Chardon Township) | 2013 |
| Chagrin River Bendway Weir Restoration Demonstration Project (Willoughby) | 2013 |
| Ward Creek Stream Restoration (Willoughby) | 2013 |
| Forest Ridge Preserve Headwater Stream Restoration (Moreland Hills) | 2013 |
| Pierson Creek Headwater Stream Restoration (Holden Arboretum, Kirtland) | 2014 |
| Wisner Road Headwater Stream Restoration (Chardon Township) | 2014 |
| Ursuline College Stream Restoration (Pepper Pike) | 2014 |
| Aurora Branch Chagrin River Restoration (Aurora) | 2015 |



Summary of Results



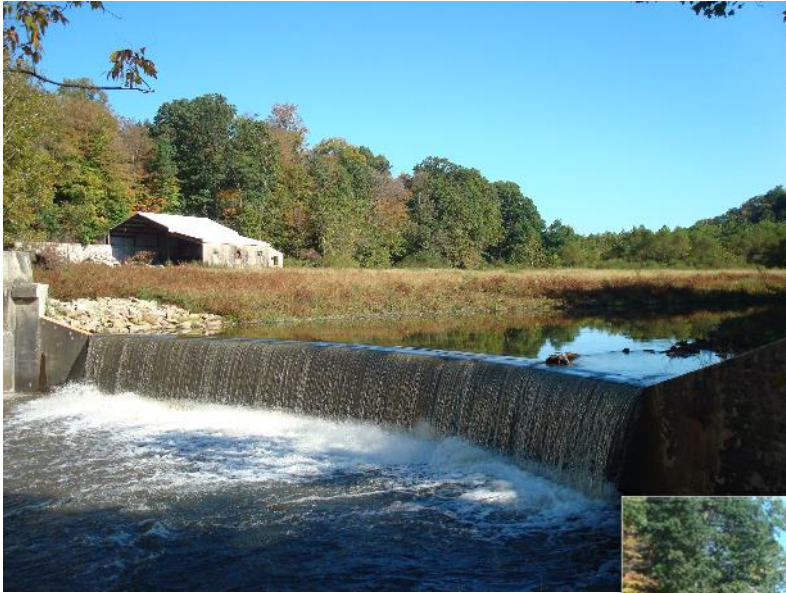
Shadybrook Run Stream Restoration at Holden Arboretum

- Projects generally very successful
- 91% of restored stream reaches assessed with QHEI indicated good/excellent scores
- 80% of restored wetlands assessed with ORAM indicated Category 2 or higher wetlands
- No significant erosion within or directly adjacent to project reach at 63% of sites
- 69% of sites with evidence of floodplain access
- Vegetative cover within restoration reach >95% for 100% of sites
- ~18% average invasive plant species cover
- No significant trash/dumping at 100% of sites



What Worked Well?

Improved Habitat Quality



Ivex of Ohio, Lower Dam Modification and Stream Restoration (Chagrin Falls Village)

Reconnection of Streams to Floodplains



Pleasant Valley Park Floodplain Restoration, Willoughby Hills (Lake Metroparks)

Facilitation of Native Species Establishment



East Branch Chagrin River Stream Restoration Project at Riverwood
(Holden Arboretum, Chardon Township)

Establishment of Stream Characteristics Conducive to Nutrient Assimilation



Aurora Branch Chagrin River Restoration (Aurora)

Lessons Learned



Some Initial Invasive Species Management May Be Necessary



Best Landscape Management Practices Are Important



Downstream Consequences of Hardening Streambanks



Other Lessons Learned

- Avoid assessing at high or very low flow
- Use at least two monitoring locations (especially for large sites)
- Set realistic expectations with landowners about natural aesthetics
- In general, projects very successful



Aurora Branch Chagrin River Restoration (Aurora)

Trainings to Present Findings and Offer Lessons Learned for Natural Resource Managers

Monday, May 21st
12:00 PM – 4:00 PM

North Chagrin Nature
Center Auditorium

3037 SOM Center Road
Willoughby Hills, Ohio

Tuesday, May 22nd
10:00 AM – 2:00 PM

Old Woman Creek NERR
Classroom

2514 Cleveland Road
East Huron, Ohio

Please RSVP to CRWP at 440-975-3870
or kbrewster@crwp.org



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Thank you! Questions?

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