

# Transforming the Rouge AOC from Mowed Down to Grown Up Great Lakes Restoration Initiative Grant Final Report

US EPA Grant GL 00E006-43

October, 2013



Valley Woods Wetland - Southfield



Lola Valley Grow Zone - Wayne County Parks



Venoy Park Grow Zone - Wayne County Parks



Inkster CSO Basin Grow Zone - Wayne County Parks



Eliza Howell Park Grow Zone - Detroit Parks



River Rouge Park Grow Zone - Detroit Parks

Additional restoration on 10 acres of existing grow zones on Wayne County Parks property within the Rouge River Area of Concern

## Project Partners:



Working together, restoring the river

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**Transforming the Rouge AOC from Mowed Down to Grown Up  
Great Lakes Restoration Initiative Grant Final Report  
US EPA US EPA Grant GL 00E006-43**

**US EPA Grant:** GL 00E006-43

**Grantee:** Alliance of Rouge Communities

**Award Amount:** \$648,750

**Project Location:** Rouge River Watershed  
Wayne County & Oakland County Michigan  
HUC: 04090004  
42.42N & -83.27W

**Stream:** Rouge River

**Property Owner:** City of Southfield, City of Detroit and Wayne County

**Report Prepared by:**



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**Attachments**

- A: Rouge Park and Eliza Howell Park Burn Plans
- B: Upper and Lower Rouge Parkway Bid plans and Seed Mixes and Plant List
- C: Invasive Species Management Plan for Burn Units at Detroit’s Eliza Howell Park and Rouge Park  
Wayne County Grow Zone Restoration 2012 Long Term Invasive species Management Strategy
- D: ARC Transforming the Rouge Fact Sheet
- E: ARC Public GLRI Fact Sheet
- F: Healing Our Waters Conference Display Board
- G: Transforming the Rouge Fact Sheet for Neighborhoods
- H: Controlled Burn Neighborhood Power Point Presentation
- I: Controlled Burn Newspaper Coverage
- J: Southfield City Council Power Point Presentation
- K: Southfield Press Releases
- L: Controlled Burn Media Coverage
- M: MWEA Powerpoint Presentation
- N: Lola Valley Park Public Fact Sheet
- O: Second Lola Valley Park Public Fact Sheet

## 1.0 INTRODUCTION

In 2010, the Alliance of Rouge Communities (ARC) received a grant from the Great Lakes Restoration Initiative/GLNPO to conduct *Transforming the Rouge AOC from Mowed Down to Grown Up* (Transforming the Rouge). The purpose of the grant activities was to restore riparian corridor, wetlands and upland habitat in the Rouge River Watershed to address the benthos Beneficial Use Impairment (BUI) with the ultimate goal of delisting the Fish and Wildlife Habitat and Population BUIs.

The Rouge River Watershed, located in southeast Michigan, is the most urban watershed in the state and a tributary to the Detroit River and eventually Lake Erie. The Rouge River has historically been identified as a significant source of pollution to the Great Lakes system along the border between the United States and Canada. The Rouge River was contaminated by combined sewer overflows, non-point source pollution and the river's wild ebbs and flows eroded its banks. Figure 1-1 shows the location of the Rouge River Watershed in Michigan. Three natural areas adjacent to the riparian corridor within two Detroit City Parks, Eliza Howell Park and Rouge River Park, have been restored thanks to Great Lakes Restoration Initiative (GLRI) funding to the Alliance of Rouge Communities (ARC).



**Figure 1-1: Rouge River Watershed Location**

Restoring the Rouge River has been the focus of efforts by 48 communities, three counties, stewardship groups and hundreds of citizens for nearly 30 years. Millions of federal dollars from the Rouge River National Wet Weather Demonstration Project have been spent to remove sewage from the river and address non-point pollution sources. Recent efforts have been focused on restoring or installing green infrastructure in the watershed to create habitat and promote a more natural environment.

The Rouge River and its tributaries are primarily warm water fisheries. Historically, the river was home to more than 60 species of fish, but the river and its tributaries have experienced significant declines as a result of poor water quality, changes in the flow regime, degraded in-stream and riparian habitat and habitat fragmentation. *De-listing Targets for Fish and Wildlife Habitat and Population Beneficial Use Impairments for the Rouge River Area of Concern (AOC document)* stated "local restoration plans also need to consider the impact associated with the degradation of benthos, the third habitat and pollution-related BUI in the Rouge River AOC."

The AOC report said the development of green corridors “would result in an overall planning and restoration approach between neighboring stakeholders that would seek to develop consistent priorities for restoration implementation.” The AOC identified removal of the Beneficial Use Impairment for Degradation of Benthos as the first step toward restoring the Fish and Wildlife Habitat and Population beneficial use (*AOC Document*). Figure 1- 2 shows the Rouge River Watershed Green Corridors.

The three project areas within *Transforming the Rouge* united the green corridors of the Rouge River, by improving, installing and enhancing riparian buffers, wetlands and upland habitat. Figure 1-3 shows the shows the riparian corridors and the project areas marked with circles.

The project activities sought to continue the measurable progress shown on the Rouge River as documented in an improvement in flooding statistics (decreased peak floods which occur less frequently) and an increase in benthos diversity. This project sought to unite past efforts with current efforts to reduce areas of mowed turf grass and install grow zones and prairie in local parks and restore a seven-acre wetland. Table 1-1 shows the *Transforming the Rouge* project activities which included:

- Restoring wetlands and the capacity of wetlands to store and retain storm water in the Rouge Main Branch.
- Converting managed turf grass to native vegetation grow zones in Wayne County parkland in the Rouge Upper, Middle and Lower Subwatersheds.
- Restoring mowed turf grass to native vegetation grow zones in the Rouge Main Branch.
- Restoring mowed turf grass and barren land to native vegetation grow zones in the Rouge Main Branch within the Detroit Parks in Wayne County.

**Table 1-1: *Transforming the Rouge* Project Activities**

Project location	Proposed Acres	Completed Acres (approximate)	Method
Lower Rouge & Upper Rouge Parkway	15.0	15.4	Grow zone
<i>Venoy Park, Wayne County</i>		4.0	
<i>Inkster CSO Basin, Wayne County</i>		2.6	
<i>Lola Valley, Wayne County</i>		8.8	
Valley Woods Wetland, Southfield	7.0	7.0	Restored wetland
Eliza Howell Park, Detroit	5.0	5.0	Grow zone
River Rouge Park, Detroit	5.0	5.0	Grow zone
Grant Amendment: Wayne County Parks Property within the Middle Rouge River	10.0	11.1	Restored grow zones through prescribed burn or herbicide
<b>TOTAL</b>	<b>42.0</b>	<b>43.5</b>	

These project areas represent some of the higher quality upland and riparian land in the Rouge River Watershed. Valley Woods is recognized for its state-significant plant community and has a floodplain plant community that is slightly better than average undeveloped land within the state. Many pre-settlement species and plant communities are present. Eliza Howell and Rouge parks in Detroit protect a floodplain and riparian corridor that is undisturbed except for streambanks that have been altered by excessive flows. Wayne County parkland along the Upper and Lower branches of the Rouge River also protects the riparian corridor.

Additional activities funded by this grant included benthos macroinvertebrate monitoring and public education activities.

Figure 1-2: Rouge River Watershed Green Corridors

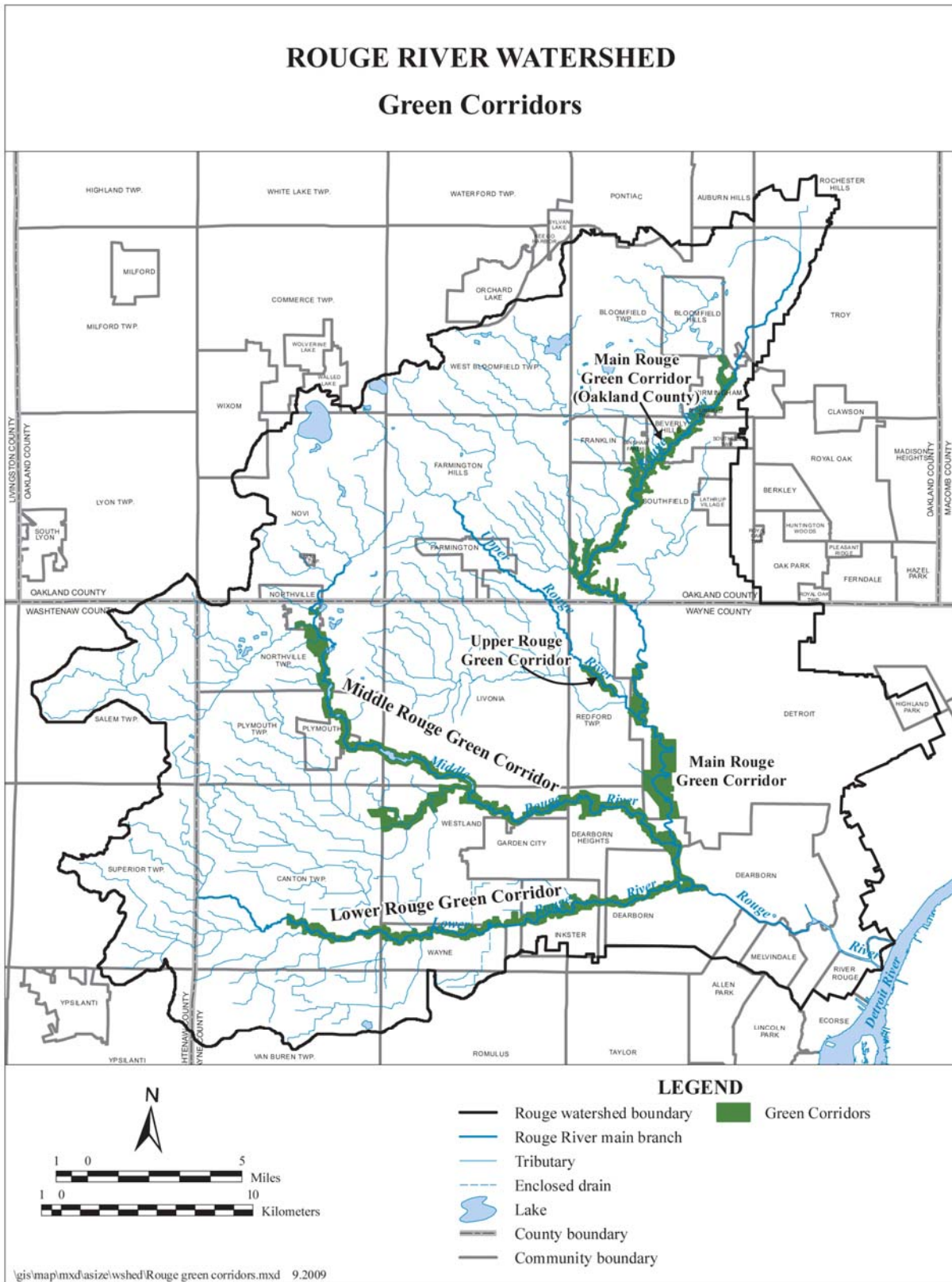
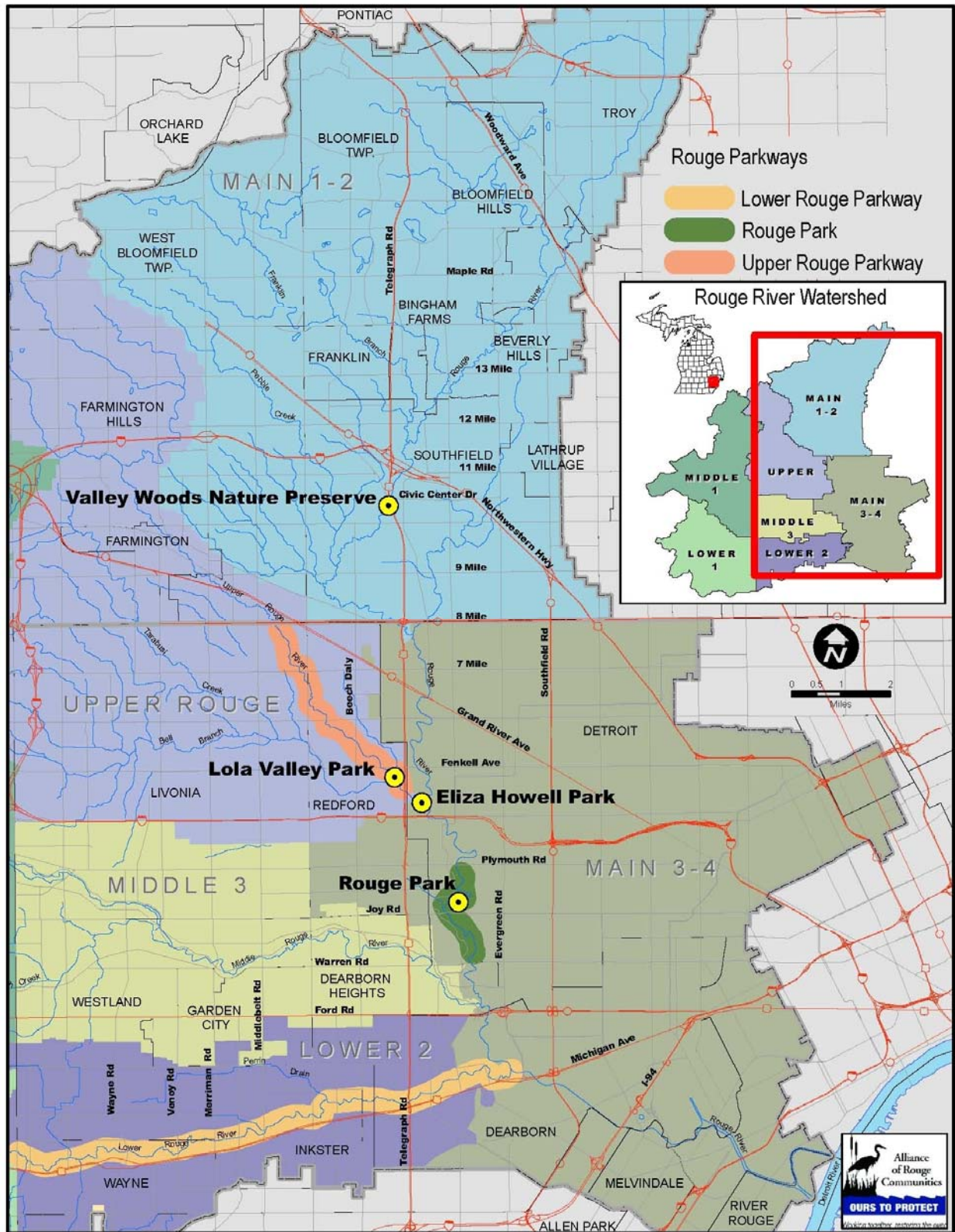




Figure 1-3: Rouge River Watershed Riparian Corridors and Project Areas



As the ARC continues to monitor and assess the success of these projects, the following ecological benefits are occurring in the AOC from the *Transforming the Rouge* habitat restoration projects. We believe these indicators can only improve in our efforts to continue to restore fish and wildlife habitat. The benefits in the Rouge River AOC, which are detailed in Chapter 6 of this report, include:

- Spring benthic monitoring scores appear to be improving in 3 of the 4 subwatersheds associated with the *Transforming the Rouge* project sites. This includes the Main 1-2, the Upper and the Main 3-4. The Main 1-2's positive trend is statistically significant. The fall benthic monitoring scores appear to be declining, but are not statistically significant; therefore, no true trend has been established yet. In the Middle 1 and Middle 3 subwatersheds, which have upland grow zones that were planted in 2006 and 2007, the benthic monitoring data trends are improving significantly in both spring and fall. It is anticipated that, like the Middle 1 and Middle 3 subwatersheds, the negative/declining trends in the other subwatersheds will turn positive as the *Transforming the Rouge* project sites mature.
- The project removed approximately 27,675 cubic feet of storm water volume from the Rouge River based on the fact that 450 cubic feet of storm water volume is removed for every acre of turf grass converted to grow zones (Schueler, 2005).
- Sensitive stoneflies were observed hatching in the channelized portion of the lower portion of the Rouge Main Branch, downstream of three of the Transforming the Rouge projects (Valley Woods Nature Preserve, Eliza Howell Park and Rouge Park).
- Increased focus on the benefits of native areas and habitat. A Detroit Public Schools program by a local stewardship group expanded from two classrooms to 10 classrooms in Detroit's Rouge Park since the prairie was restored in 2012. Students visit the restored prairie throughout the school year to document seasonal changes. At the annual Rouge Rescue watershed stewardship event on June 1, 2013, 70 schoolchildren participated in activities such as invasive species management and tree planting.
- Increased wildlife, butterflies and birds. Wildlife usage increases as the vegetation grows and matures in the created or restored areas which includes approximately 36.5 acres of grow zones and 7 acres of restored wetlands.