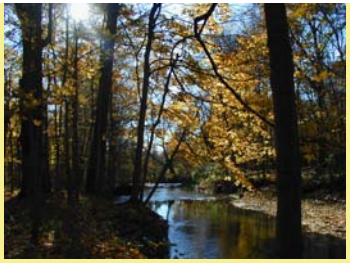
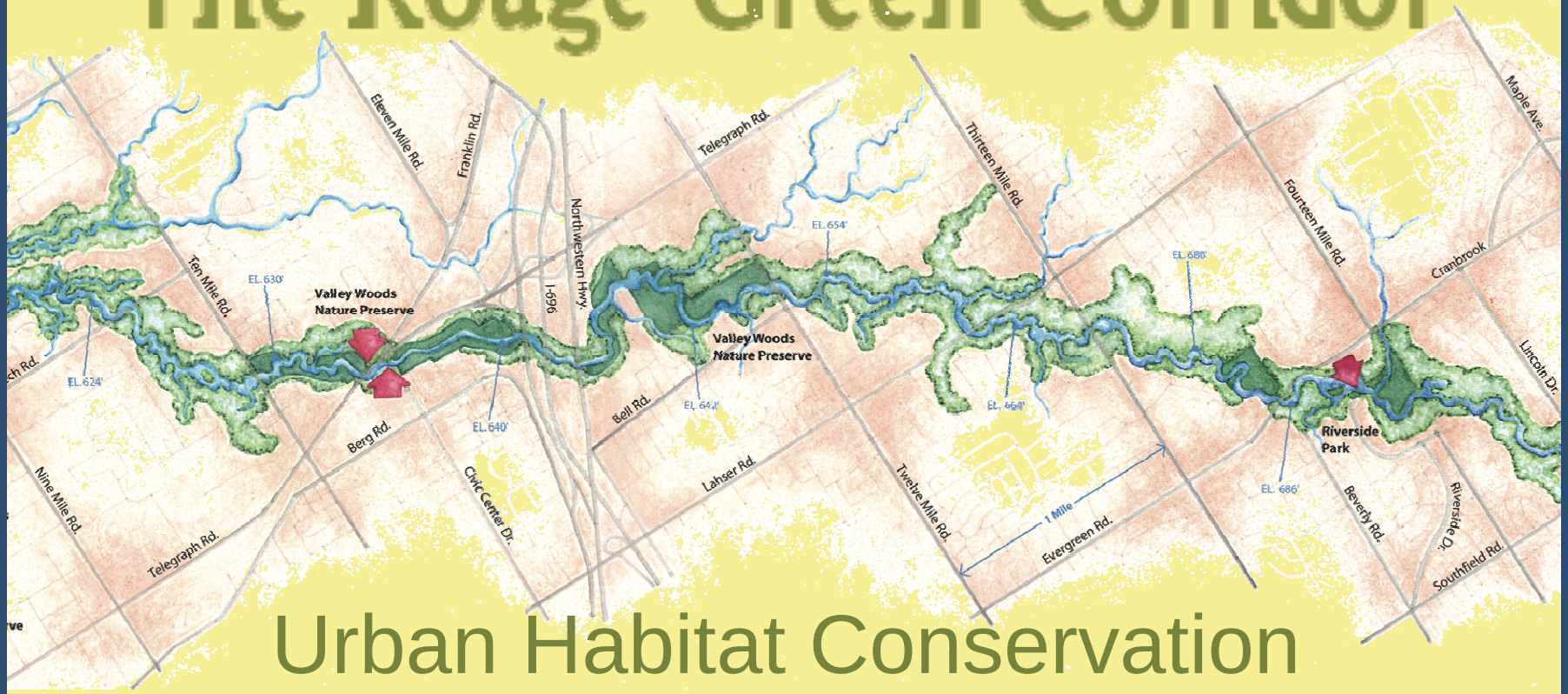



Discovering Your Community's Natural Asset

The Rouge Green Corridor

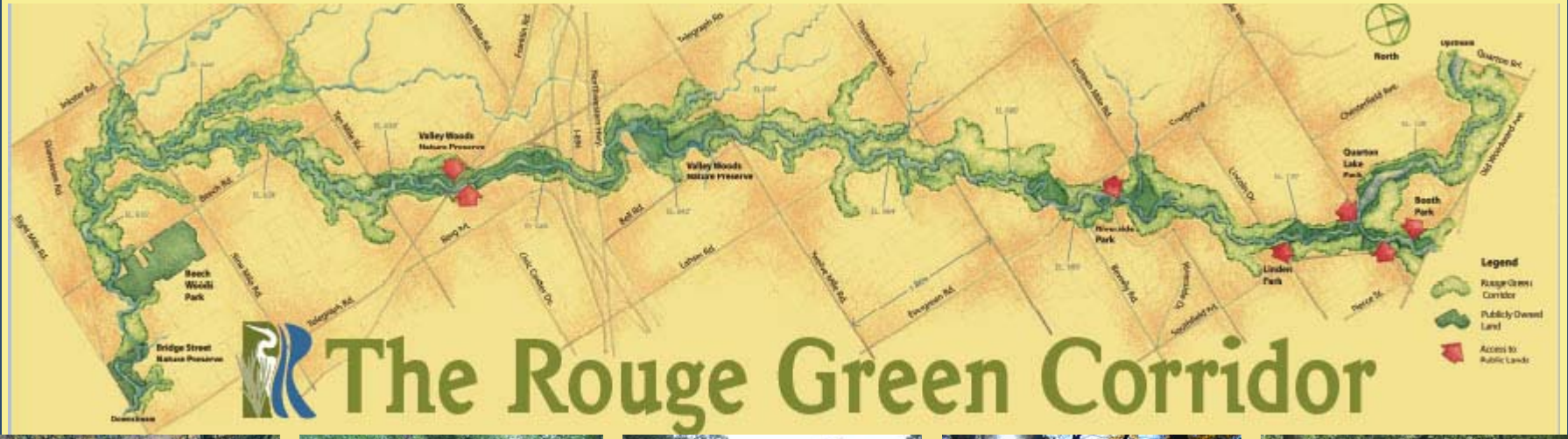


Urban Habitat Conservation & Stewardship Project

Introducing
The Rouge Green Corridor

The Rouge Green Corridor

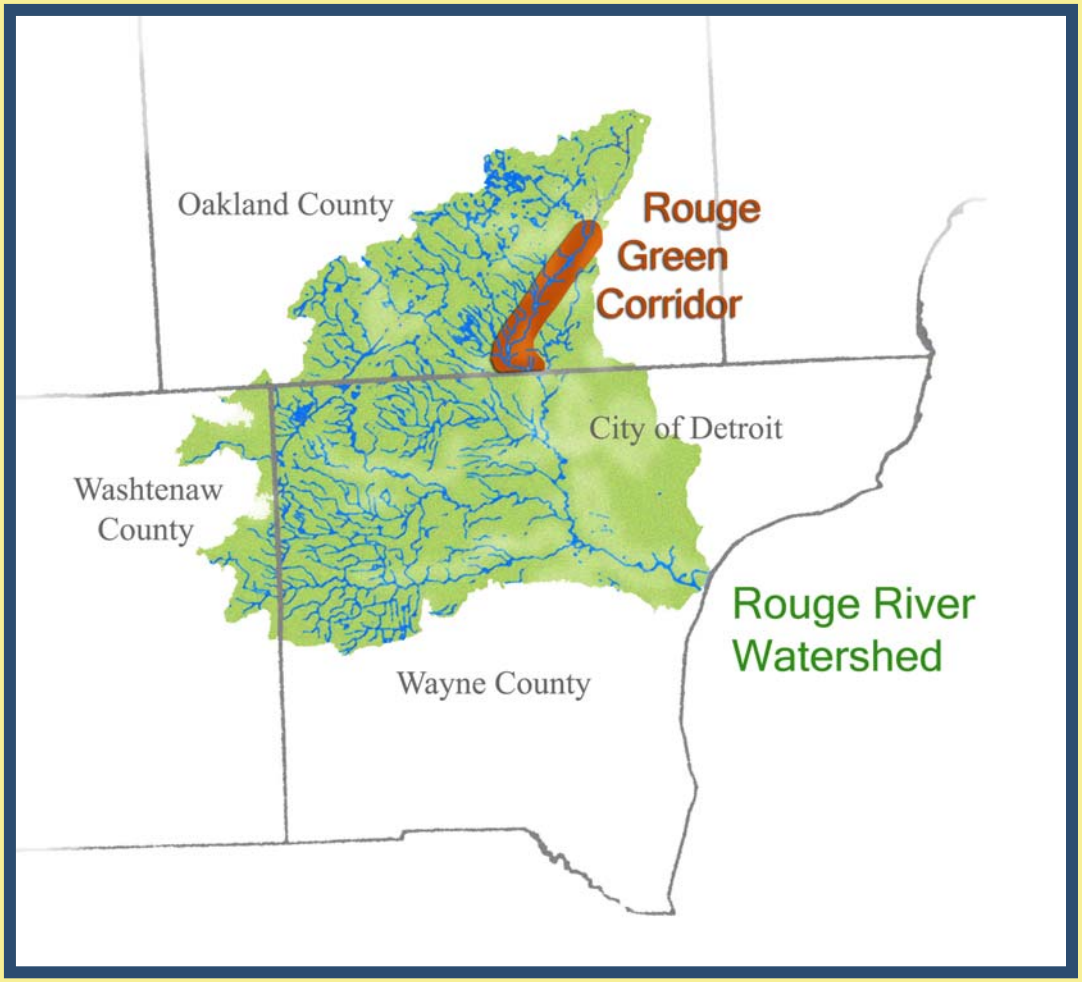
- The **Rouge Green Corridor** is an urban river flowing through Birmingham, Beverly Hills, and Southfield that provides a haven for wildlife and people to enjoy
  - Nature preserves and public lands to explore
  - Private residents that are stewarding the river
  - Businesses that are participating in good corporate citizenship practices







Introducing
The Rouge Green Corridor



Partners:

City of Birmingham
Village of Beverly Hills
City of Southfield

Southeast Oakland County Water Authority (SOCWA)

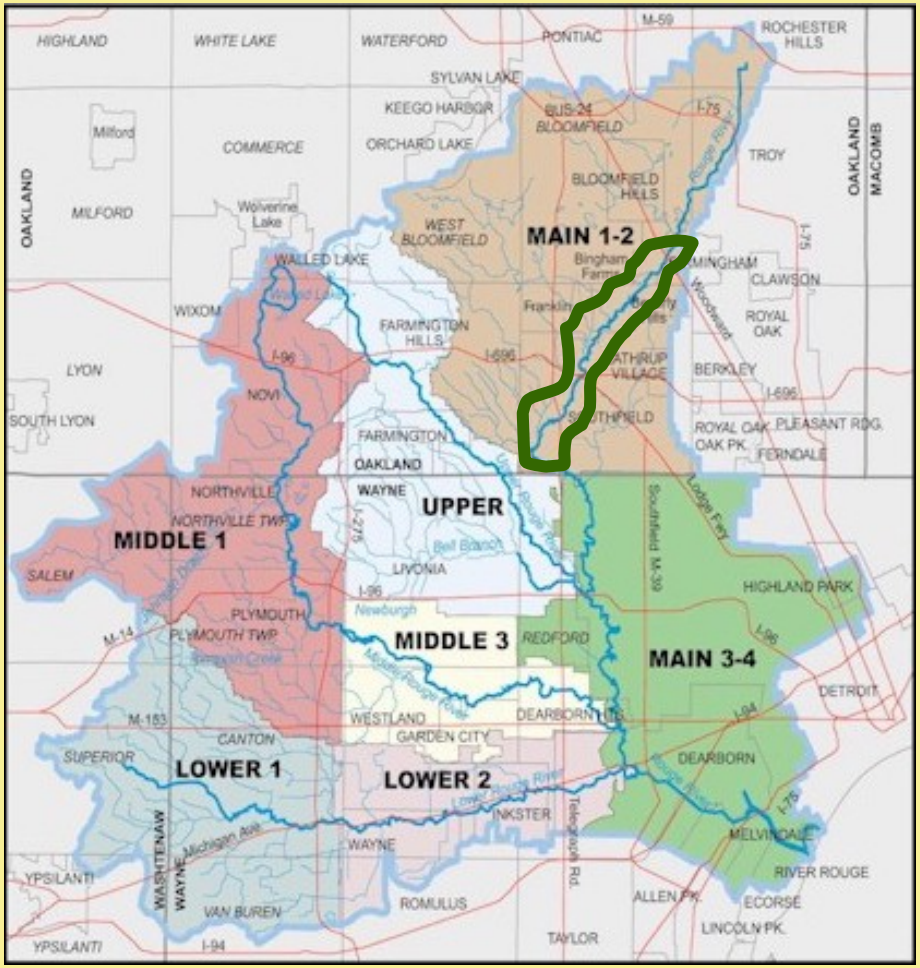
Friends of the Rouge

Six Rivers Land Conservancy

Oakland County Office of the Drain Commissioner

Oakland County Planning & Economic Development Services

Introducing
The Rouge Green Corridor



Main 1-2 Subwatershed Goal:

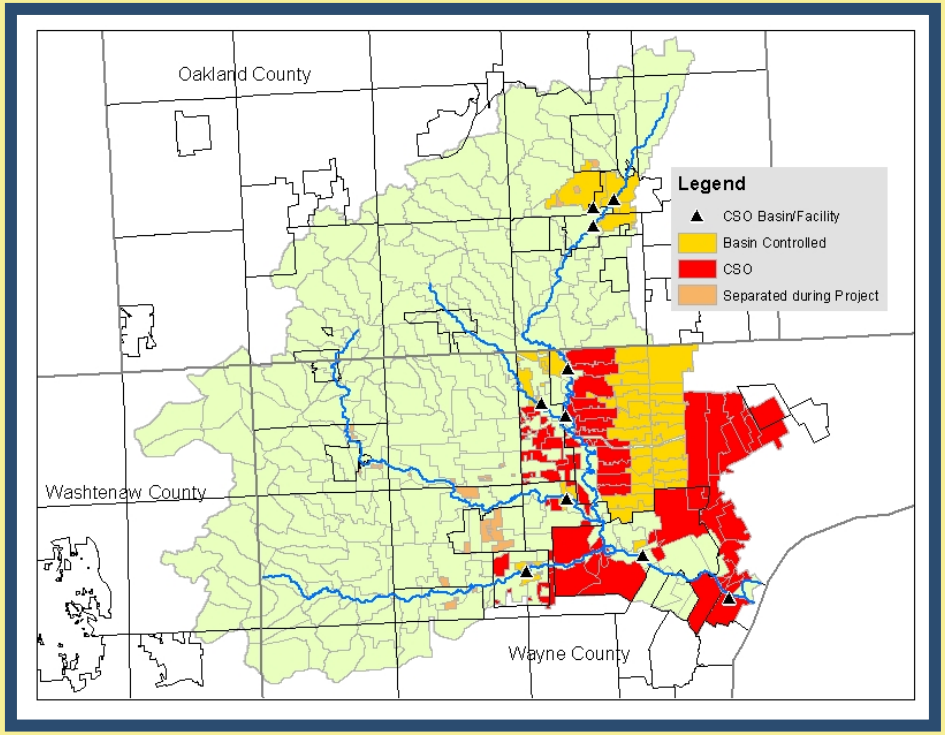
Maximize community assets related to the river

The Rouge Green Corridor
Why is it special?

- Intact riparian vegetation

The Rouge Green Corridor Why is it special?

- Improvements in water quality due to installation of CSO basins



Recent monitoring has shown:

- •Increased dissolved oxygen
- •Decreased bacteria levels
- •Highest diversity of fish species in the Rouge
- •Sensitive “River Bugs”-macro-invertebrates
- •Five kinds of turtles, two kinds of non-poisonous snakes, eight species of frogs, and seventeen species of mammals
- • Largest and most diverse population of freshwater mussels within the entire Rouge River watershed
- •Several natural areas of significant floristic quality (Douglas Evans, Valley Woods North)

RGC Identity Package

The Rouge Green Corridor
Identity Demonstration Project

Project Purpose:

To provide local communities with tools to identify, promote, protect, and enhance 'Riparian Green Corridors" in the Rouge River Watershed and throughout Southeast Michigan

The Rouge Green Corridor
Identity Demonstration Project

Project Products:

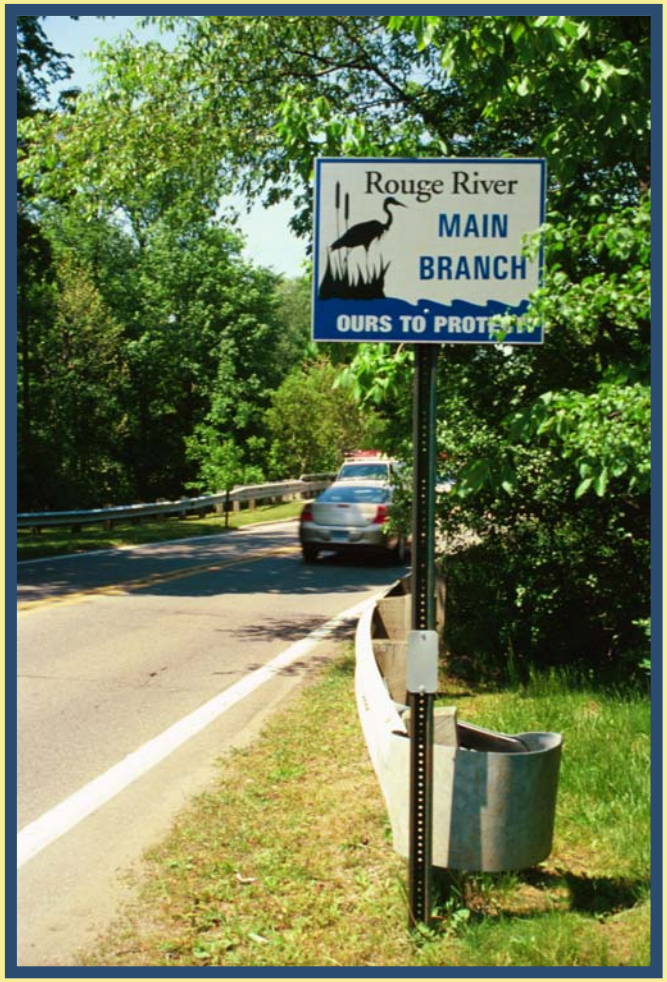
- **Rouge Green Corridor Identity and Branding Package**
- **Educational Poster & Map Guide**
- **Planning Guidelines for Riparian Corridors**
- **Technology transfer to other Rouge communities and Southeast Michigan watersheds**

The Rouge Green Corridor Identity and Branding Package

The Rouge Green Corridor

Identity and Branding Package: Road Sign

The Rouge Green Corridor
Branding Package: Road Sign



Rouge Green Corridor

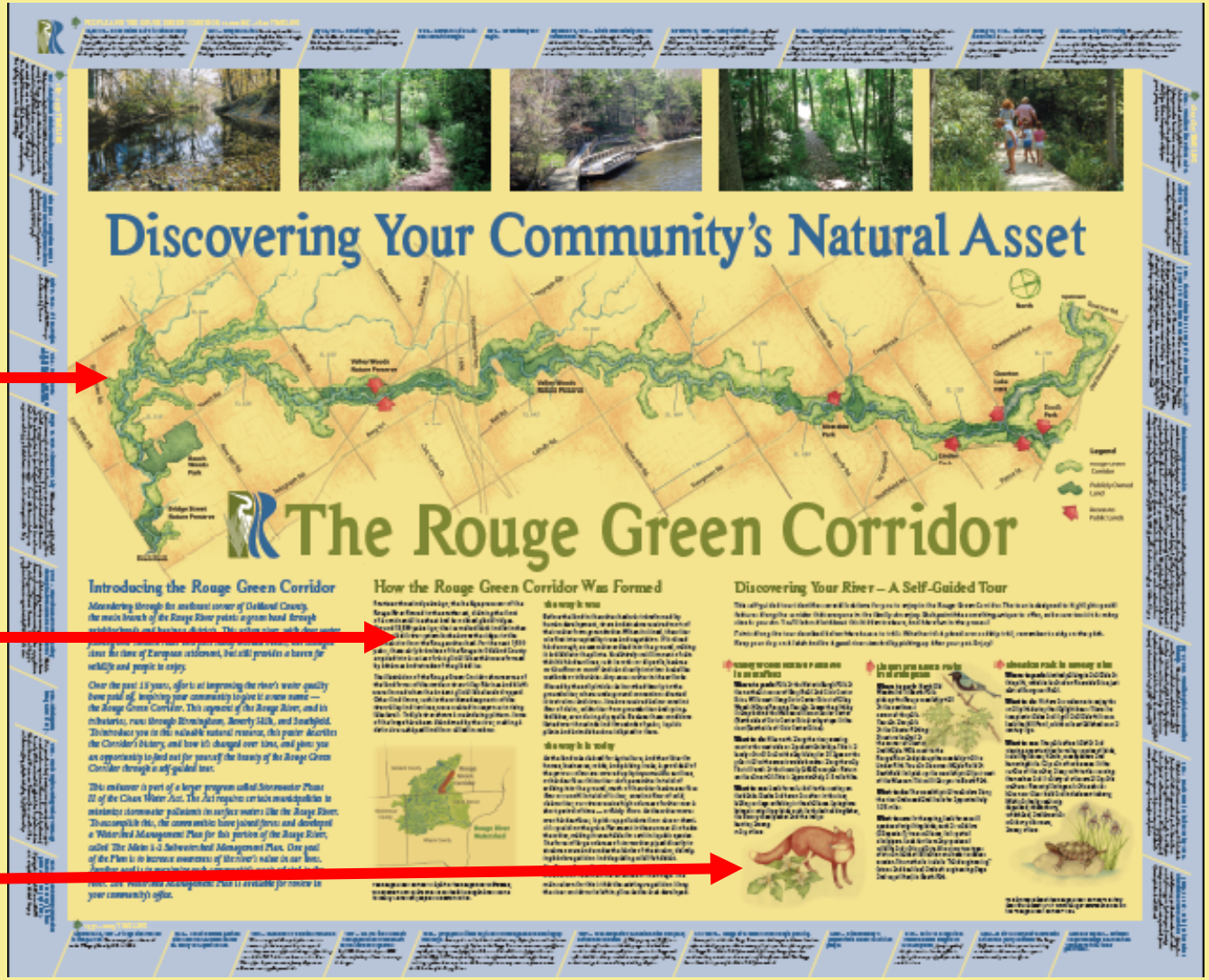
The Rouge Green Corridor
Educational Poster

Historical Timeline

Watercolor Map

Overview & History

Self-Guided Tour



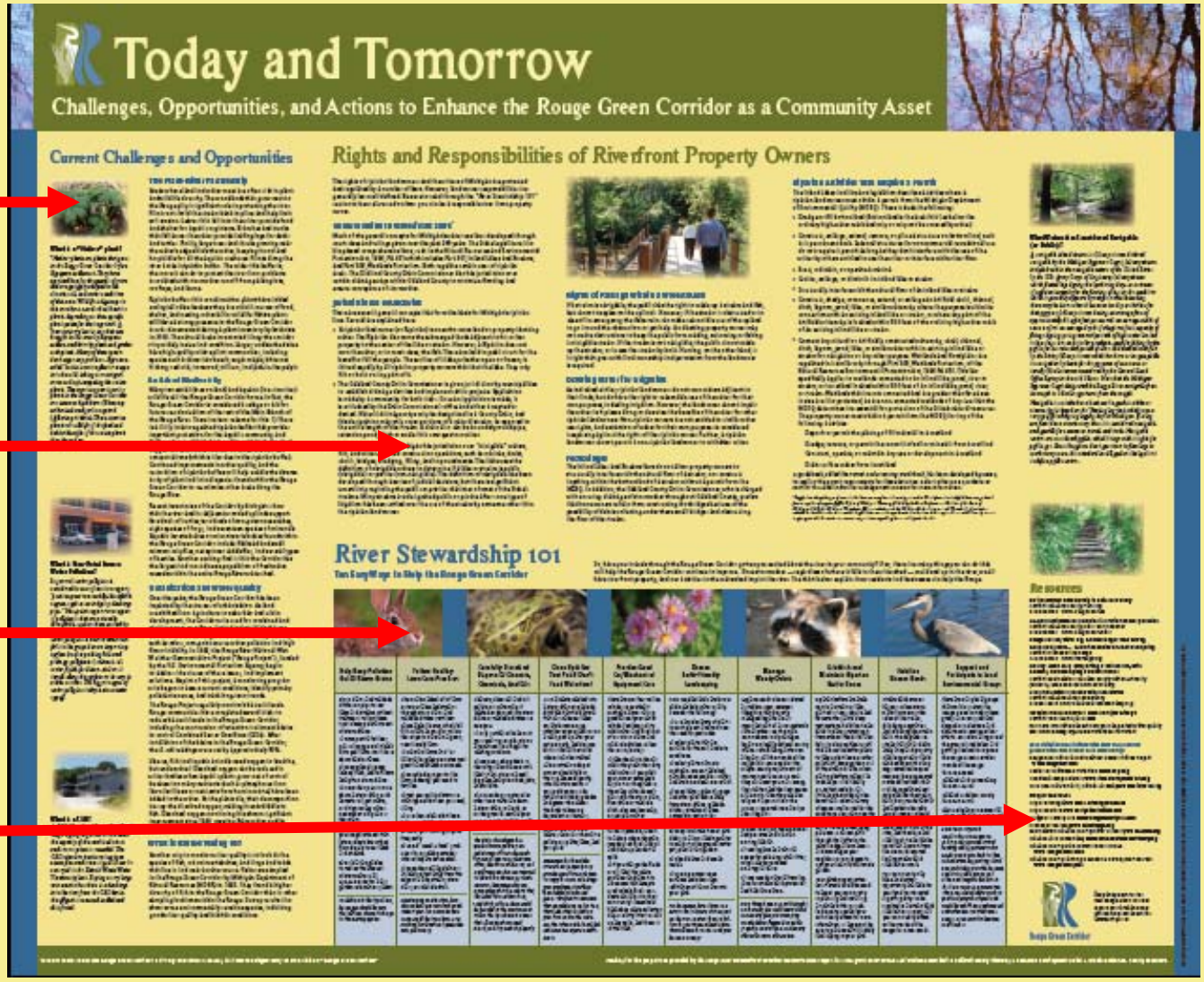
The Rouge Green Corridor
Educational Poster

Challenges & Opportunities

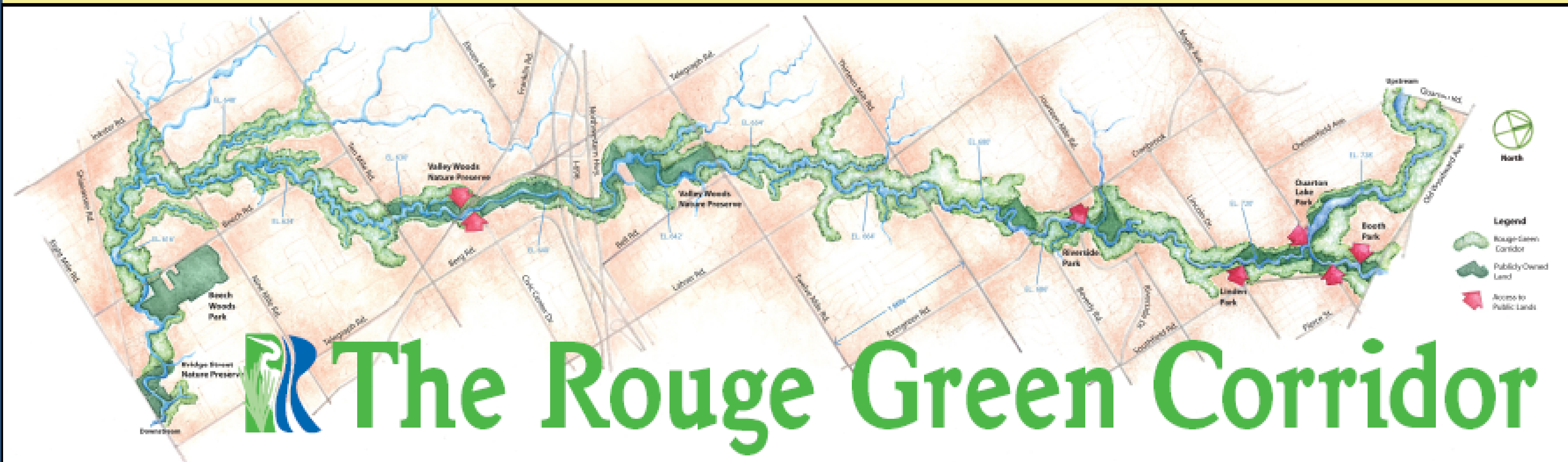
Riverfront Property Owner Guide

Stewardship Guide

More Resources



The Rouge Green Corridor
Self-Guided Tour Map



Discovering Your River – A Self-Guided Tour

This self-guided tour identifies several locations for you to enjoy in the Rouge Green Corridor. The tour is designed to highlight special features along the corridor that everyone in the family can enjoy. Each point has something unique to offer, so be sure to visit as many sites as you can. You'll learn a lot about this hidden treasure, and have fun in the process!

Points along the tour described below have access to trails. Whether it's a paved or woodchip trail, remember to stay on the path. Keep your dog on a leash and be a good river steward by picking up after your pet. Enjoy!

Valley Woods Nature Preserve in Southfield

Where to park: Park at the Historic Burgh Park at the northeast corner of Berg Road and Civic Center Drive. Walk west along Civic Center Drive to Valley Woods Nature Preserve. You can access the park by a ramp behind the McDonnell Tower Senior Center (North side of Civic Center Drive) or by steps at the river (South side of Civic Center Drive).

What to do: Hike north along the river, crossing over to the west side on a pedestrian bridge. This is a lovely natural area with easy hiking for all ages on the grass trail with some riverside benches along the way. The trail ends at the freeway (I-696) overpass. Return on the same trail. This is approximately a .5 mile hike.

What to see: Look for soft-shell turtles resting on the banks. Ducks and herons are often in the river, loafing on logs or fishing in the shallows. Springtime brings in migratory birds such as the belted kingfisher, the downy woodpecker and the indigo bunting among many others.

Linden and Booth Parks in Birmingham

Where to park: North Old Woodward at Booth Park: pick up the Rouge woodchip trail at the northwest corner of the park. You can also park at the Chester Parking Structure located at the corner of Chester and Maple. Walk west to the Rouge River and pick up the woodchip trail to Linden Park. You can also cross Maple Road at Southfield and pick up the woodchip trail just west of the Museum. This will take you to Booth Park.

What to do: The woodchip trail meanders along the river and woodland areas for approximately 1.25 miles.

What to see: In the spring, look for several species of migrating birds, such as warblers (22 species!), tree swallows, and spotted sandpipers. Look for the many species of wildlife and native plants. Also view two types of stream bank stabilization methods to reduce erosion. The methods include "hard engineering" (stones and boulders) and soft engineering (logs and vegetation) in Booth Park.

Riverside Park in Beverly Hills

Where to park: Limited parking is available at this park, which is located on Riverside Drive just east of Evergreen Road.

What to do: Visitors are welcome to enjoy the small park during the daylight hours. There are two picnic tables and a grill available that overlook the Mill Pond, which was established over a century ago.

What to see: The park offers habitat and viewing opportunities for many species of birds, including herons, hawks, woodpeckers and hummingbirds. Carp can often be seen at the surface of the water, along with turtles sunning themselves and a variety of other small aquatic creatures. Recent plantings of native shrubs have now taken hold and include serviceberry, Michigan holly, red-twig dogwood, chokecherry, witchhazel, and American cranberry viburnum, among others.

Introducing the Rouge Green Corridor

Meandering through the southeast corner of Oakland County, the main branch of the Rouge River paints a green band through neighborhoods and business districts. This urban river, with clear water flowing over smooth rocks and past shady wooded banks, has changed since the time of European settlement, but still provides a haven for wildlife and people to enjoy.

Over the past 15 years, efforts at improving the river's water quality have paid off, inspiring your community to give it a new name — the Rouge Green Corridor. This segment of the Rouge River, and its tributaries, runs through Birmingham, Beverly Hills, and Southfield. To introduce you to this valuable natural resource, this map guide gives you an opportunity to find out for yourself the beauty of the Rouge Green Corridor through a self-guided tour.

This endeavor is part of a larger program called Stormwater Phase II of the Clean Water Act. The Act requires certain municipalities to minimize stormwater pollutants in surface waters like the Rouge River. To accomplish this, the communities have joined forces and developed a Watershed Management Plan for this portion of the Rouge River, called The Main 1-2 Subwatershed Management Plan. One goal of the Plan is to increase awareness of the river's value in our lives. Another goal is to maximize each community's assets related to the river. The Watershed Management Plan is available for review in your community's office.

PROJECT PARTNERS
City of Birmingham www.ci.birmingham.mi.us
City of Southfield www.cityofsouthfield.com
Village of Beverly Hills www.villagebeverlyhills.com
Friends of The Rouge www.therouge.org
Southeastern Oakland County Water Authority www.socwa.org
Oakland Land Conservancy www.oaklandlandconservancy.org
Oakland County Drain Commissioner's Office www.oakgov.com/drain
Oakland County Planning & Economic Development Services www.oakgov.com/peds

To learn more about the Rouge Green Corridor's history and natural assets, visit www.oakgov.com/es and click on "Rouge Green Corridor"

Funding for this project was provided by the Rouge River National Wet Weather Demonstration Project (U.S. EPA grant #XP995743-01-0) and was awarded to Oakland County Planning & Economic Development under L. Brooks Patterson, County Executive.

Rouge Green Corridor

Urban Habitat Conservation & Stewardship Project

Urban Habitat Conservation & Stewardship Project

Purpose of the Project

- Protect and Improve the Habitat Health of the Rouge River by:
  - Developing a detailed habitat inventory/ assessment for the RGC
  - Developing a “Green Infrastructure” Vision Plan for the RGC
  - Developing a detailed habitat stewardship plan for the RGC

Funded through a grant from the National Fish & Wildlife Foundation

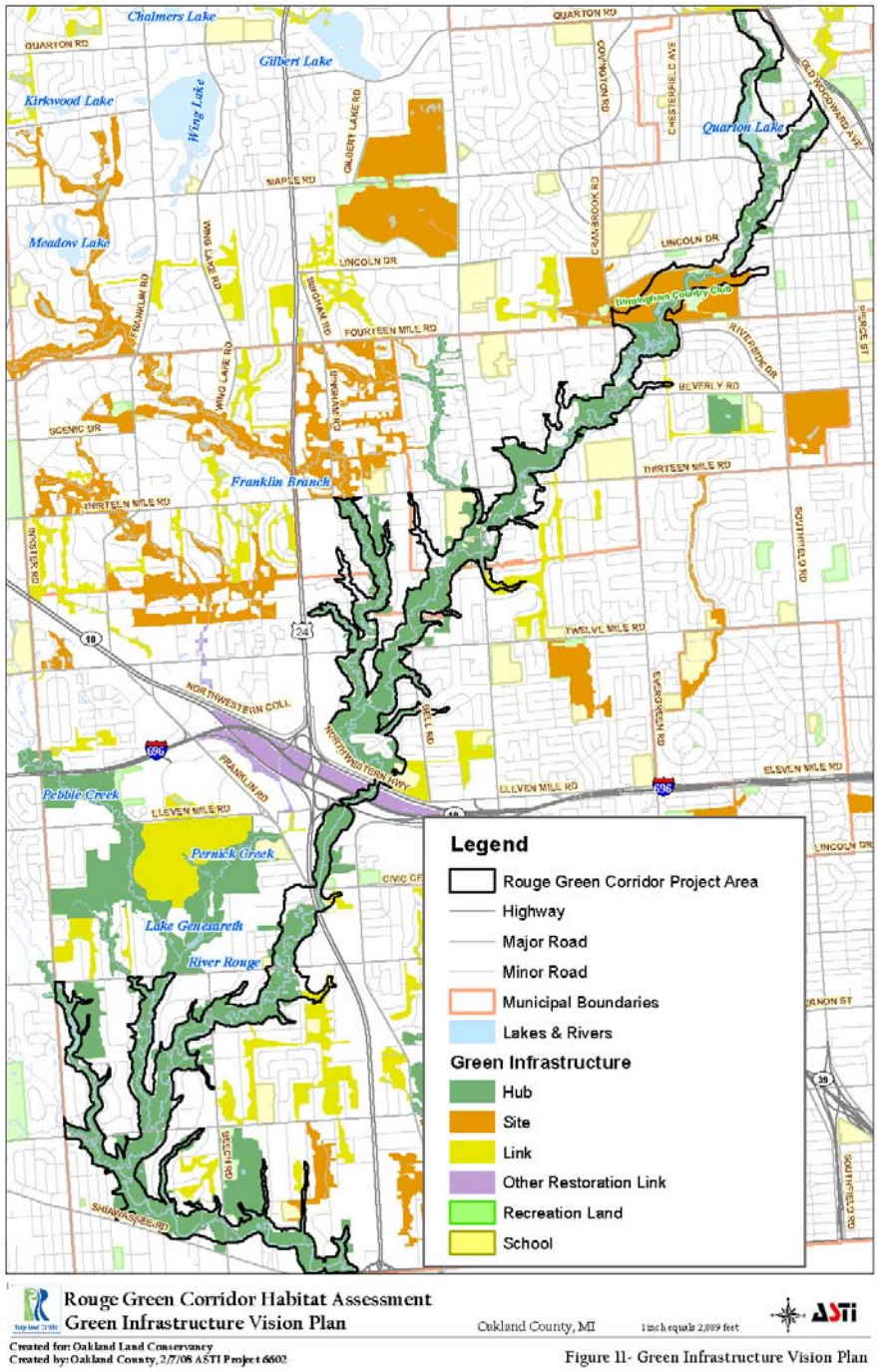
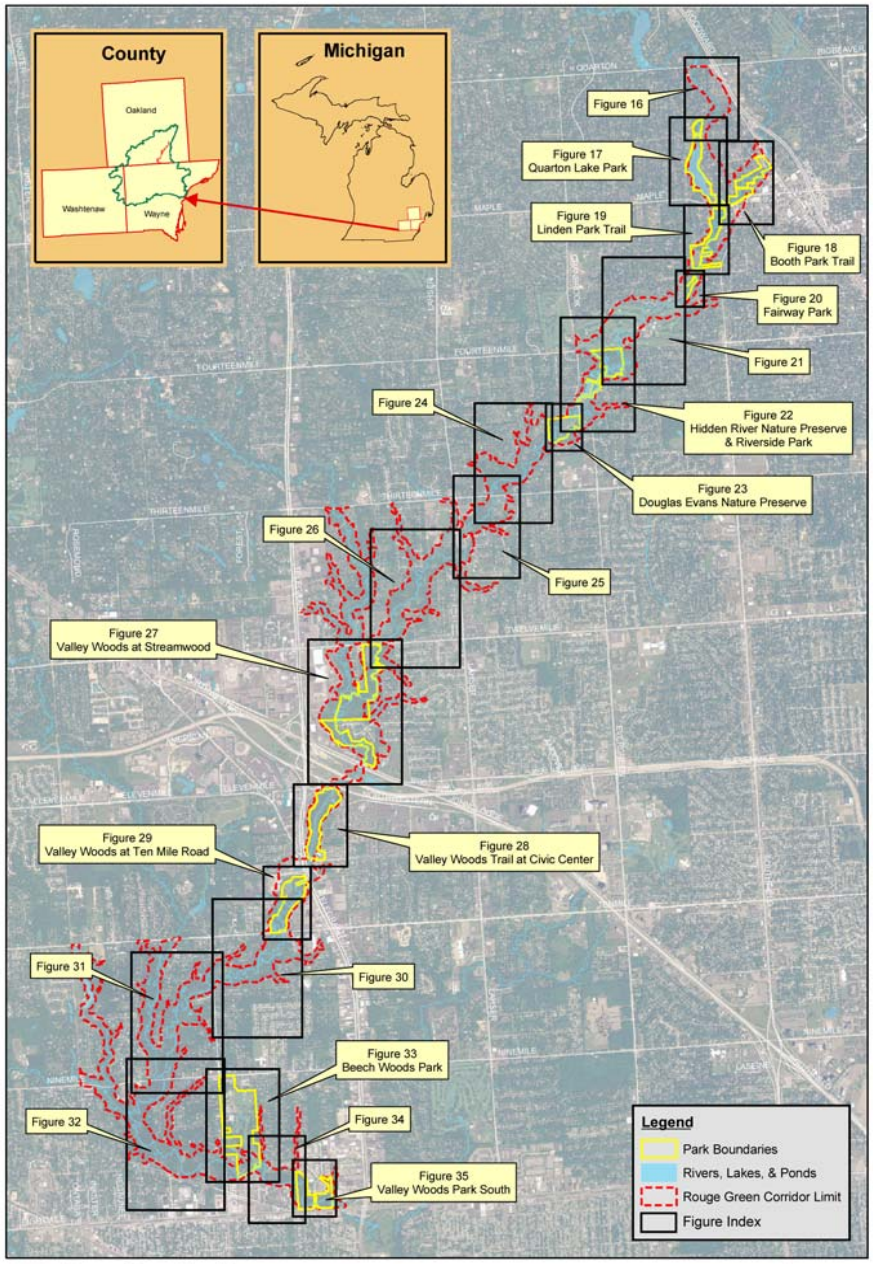


Figure 11- Green Infrastructure Vision Plan

Corridor Assessment: "Green Infrastructure"

- Forest cover largely intact
- RGC is a key "hub" linking smaller open spaces and other connecting pieces
- Provides vital services and functions:
  - storm water storage and filtration
  - groundwater recharge
  - erosion control
  - temperature modification and climate regulation
  - nutrient cycling
  - wildlife habitat/biodiversity
  - aesthetics and recreation



Habitat Plans

- Habitat Assessments and Habitat Plans prepared for:
  - 11 municipal parks/preserves
  - 20 river segments

Corridor Assessment: Aquatic Habitat

- Tributaries cooler
- Run-off driven, low baseflow
- Mainstem includes fish associated with urban development
- Aquatic habitat good to north, marginal to south
- Erosion ubiquitous, numerous logjams
- Frog/toad hot-spots at Hidden River, 10 Mile to Beech, and Beech Park to Valley Woods South
- Declines at Hidden River & Beech Woods Park to Valley Woods South
- Diverse mussels, less than historic
- No winter stoneflies observed

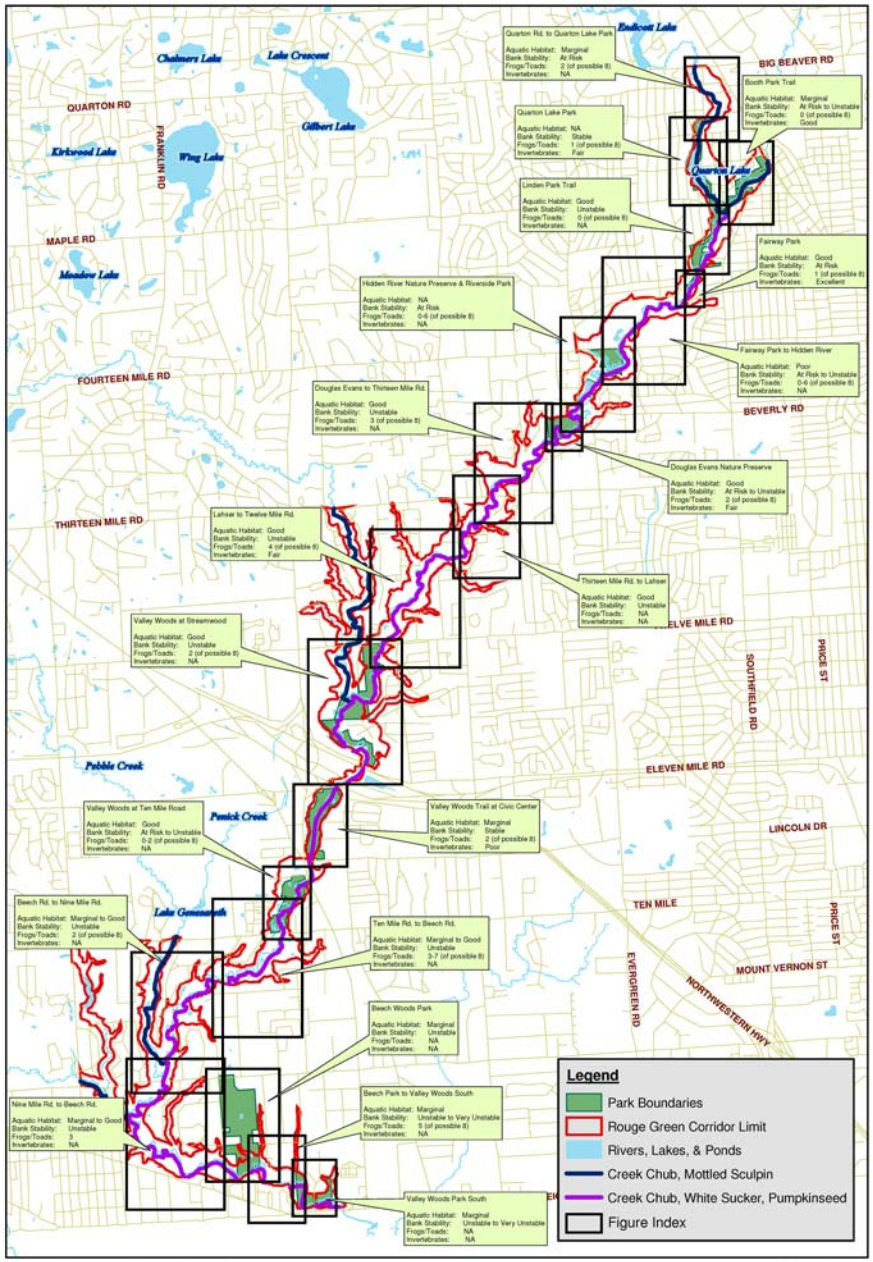


Figure 14 - Aquatic Habitat Quality

Corridor Assessment: Water Quality

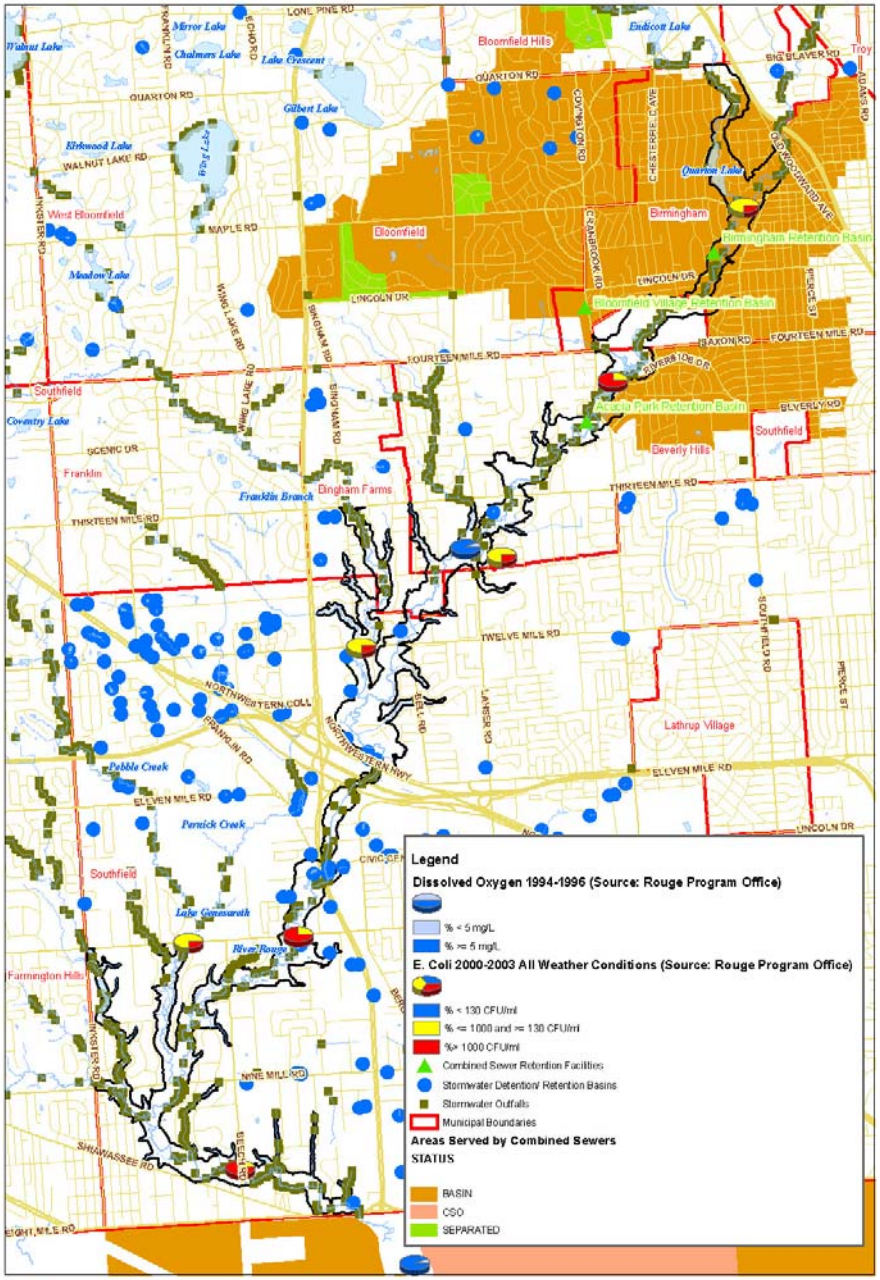


Figure 15- Water Quality Sampling Data and Control Structures

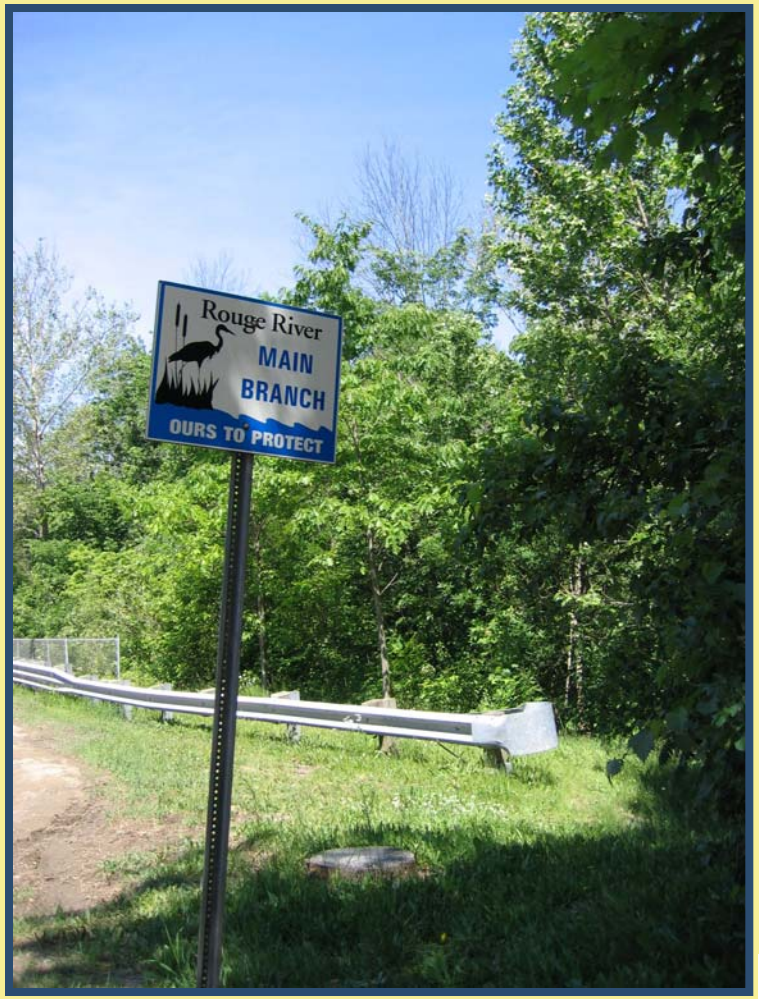
- Tremendous improvements in DO, reduced bacteria, sediment/solids
- Still violates water quality standards for bacteria
- 500 storm water outfalls w/in RGC
- Continued diligence needed

Corridor-Wide Habitat Goals

1. Connect river and floodplain.
2. Educate and involve residents in riparian corridor stewardship
3. Expand survey and monitoring efforts
4. Improve in-stream aquatic habitat
5. Improve water quality to meet water quality criteria
6. Manage invasive species
7. Manage woody debris
8. Promote the river and the RGC as a recreational asset
9. Reduce erosion and sedimentation
10. Reduce flashiness
11. Restore wetlands

Corridor-Wide Recommendations

- Policies and projects to reduce the volume of runoff and erosive forces within the RGC
- Landowner education and programs for riparian land care
- Enhance flood water storage in oxbows, former meander channels, and drained wetlands
- Maintain, protect, and expand (where possible) forested riparian buffers



Corridor-Wide Recommendations

- Volunteer monitoring: water quality and wildlife populations.
- Land use policies to minimize imperviousness in groundwater recharge areas
- Comprehensive LWD management program
- Policies to oversee stream related permitting
- Evaluate the effectiveness of existing invasive species programs and implementation of effective programs within key public lands

Specific Recommendations for Parks & Preserves

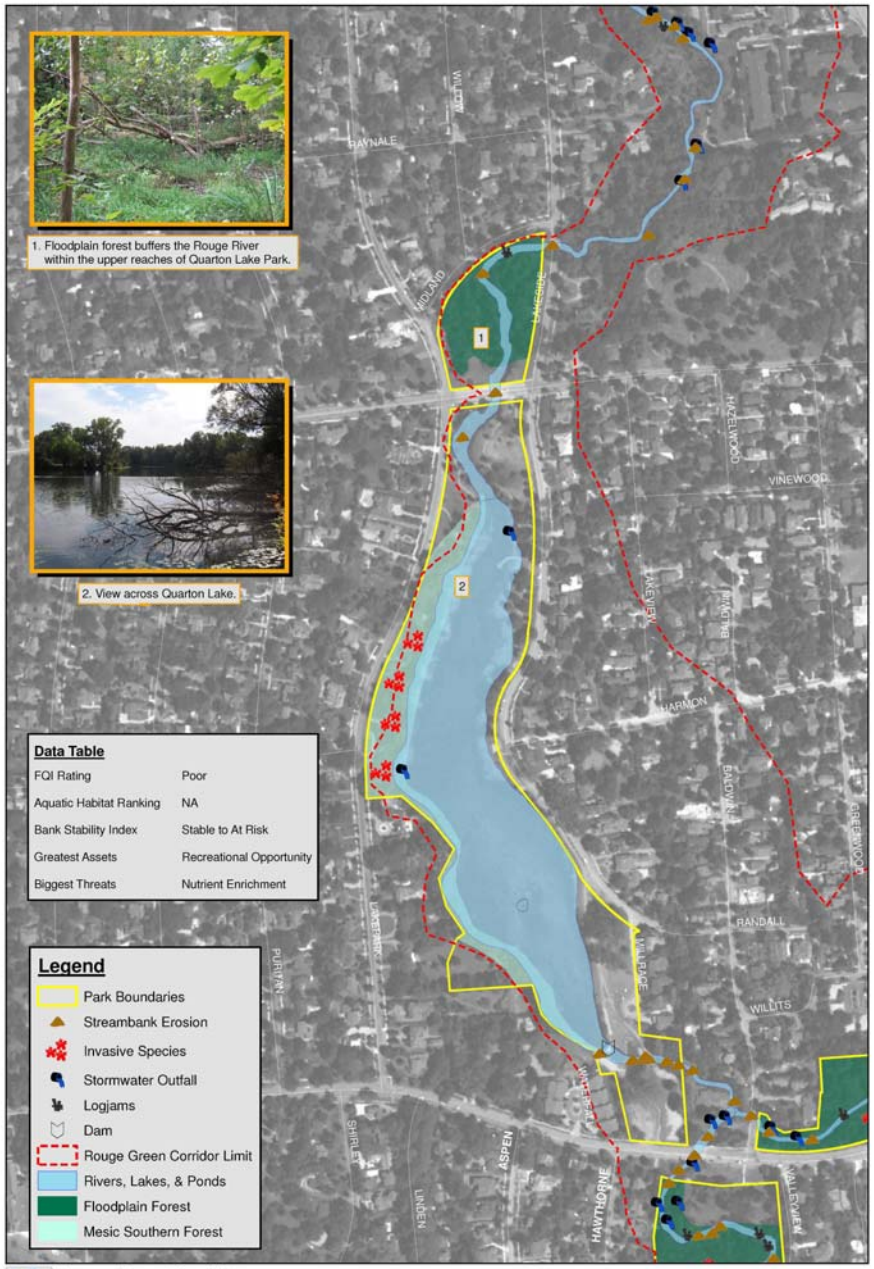


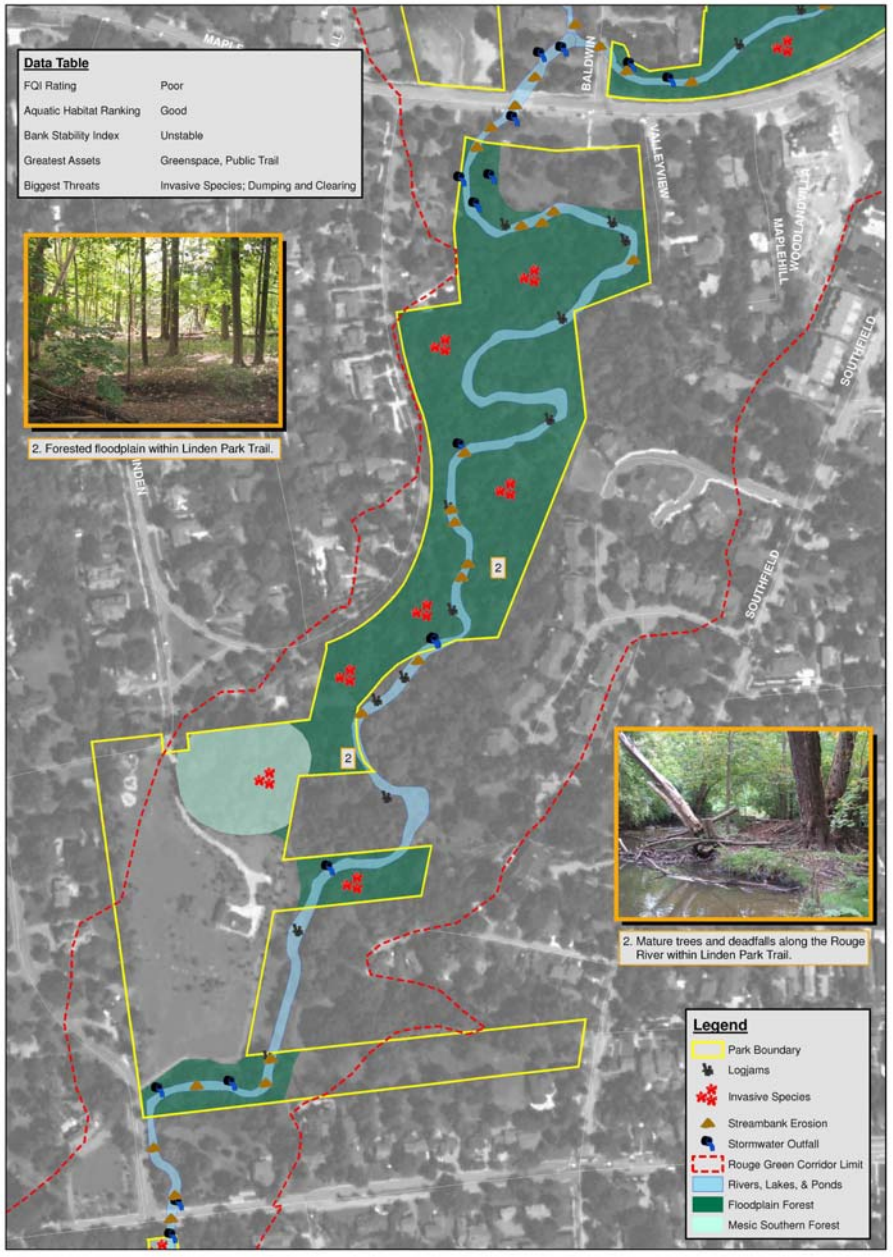
Figure 17 - Quarton Lake Park, Birmingham

Quarton Lake Park

- Impoundment created by dam in the Rouge River
- Dominant habitat is open water with limited emergent wetland
- Some protected floodplain forest in the northern end
- Pre-settlement natural communities not present
- FQI score: 18.5

Quarton Lake Park

- Continue to utilize, and expand, native landscaping and shoreline buffer zones to provide additional habitat and nutrient filtering
- Retrofit stormwater management to implement LID techniques
- Encourage and educate community on topics such as water quality, native landscaping, and the benefits of wetlands and floodplains
- Conduct additional wildlife surveys: Mammals, herpetiles, aquatic invertebrates



Rouge Green Corridor Habitat Assessment — Oakland County, Michigan

Created for: Oakland Land Conservancy
Created by: ALH, February 5, 2008, ASTI Project 6602
Aerial Photograph: USDA 2005

Figure 19 - Linden Park Trail, Birmingham

Linden Park Trail

- Core of park is floodplain forest with some open areas and upland area of southern mesic forest
- Highly impacted by invasive plant species (shrubs, herbaceous species)
- Few remnant plant species remain, few old-growth tree species
- FQI score: 18.4

Linden Park Trail

- Encourage protection of adjacent privately-owned forested floodplain areas
- Encourage and educate nearby residents on topics such as water quality, native landscaping, and the benefits of wetlands and intact floodplain buffers.
- Conduct additional wildlife surveys: Mammals, herptiles, aquatic invertebrates

Fairway Park

Figure 20 - Fairway Park, Birmingham

- Small park located immediately south of Linden Park Trail
- Contains both floodplain forest and mesic southern forest
- Average distribution of invasive plant species
- FQI score: 19.9

Fairway Park

- Encourage and educate nearby residents about floodplain and natural area stewardship
- Link Fairway park with neighboring parks for wildlife surveys: Birds, mammals, herptiles, aquatic invertebrates

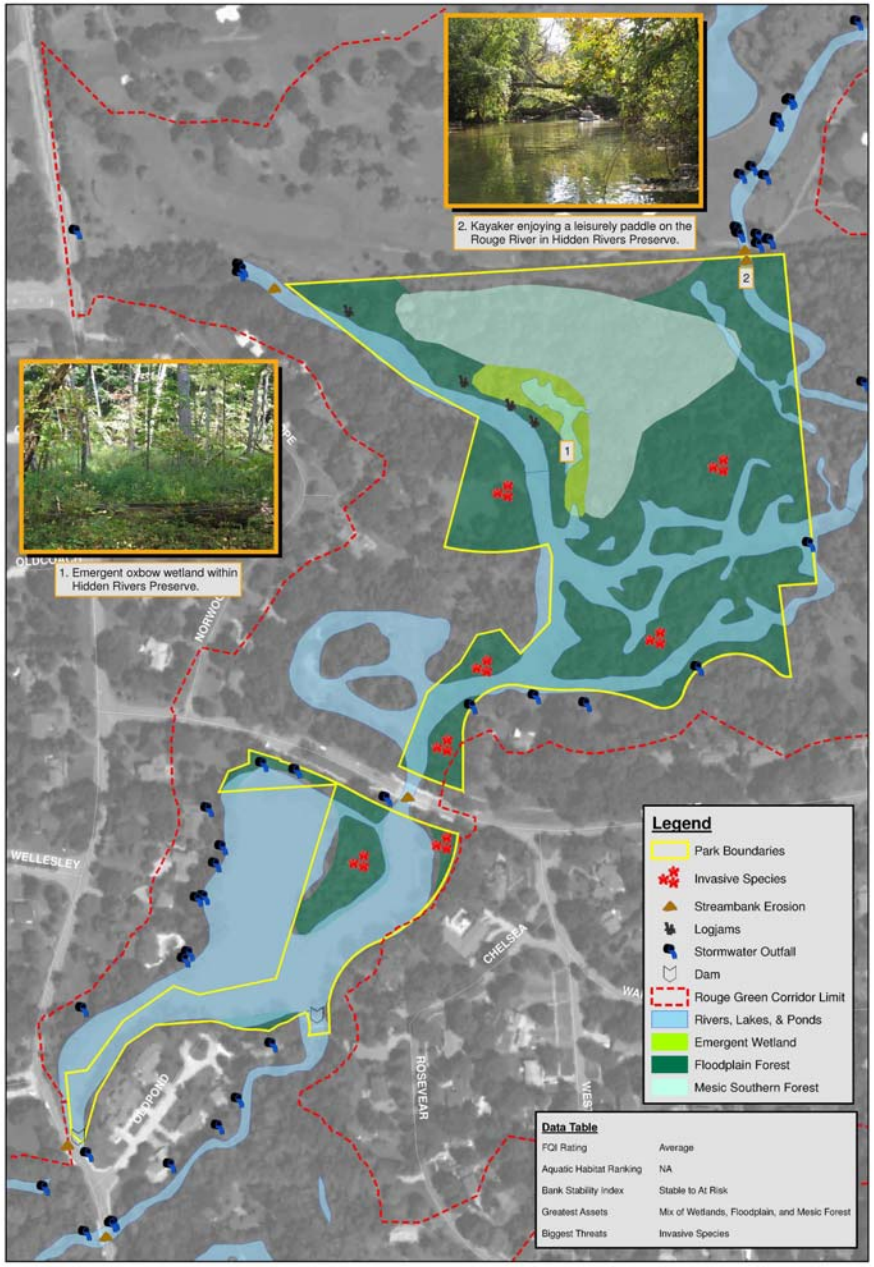


Figure 22 - Hidden River Nature Preserve and Riverside Park, Beverly Hills

Hidden Rivers Nature Preserve and Riverside Park

- Riverside Park is primarily and open water impoundment, while Hidden Rivers Preserve contains floodplain forest, emergent wetland, and intact mesic southern forest
- Invasive plant species abundant within Riverside Park and along the rivers edge within Hidden Rivers Preserve
- FQI score: 33.1

Hidden Rivers Nature Preserve and Riverside Park

- Evaluate the effectiveness of Hidden Rivers Nature Preserve Invasive Species & Erosion Control Management Project
- Limited invasive species removal within the quality southern mesic forest and on the island within Riverside Park to improve public access
- Encourage protection of adjacent privately-owned parcels
- Conduct additional wildlife surveys: Mammals, herptiles, aquatic invertebrates

Douglas Evans Nature Preserve

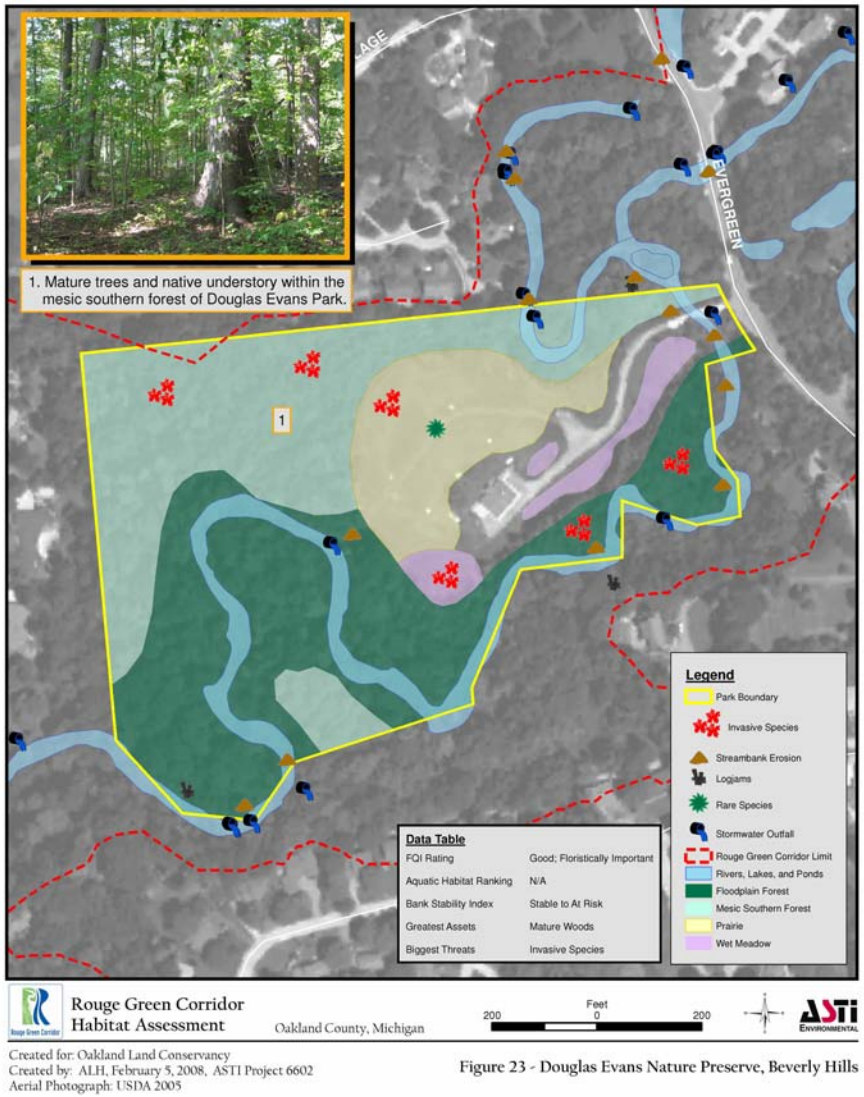


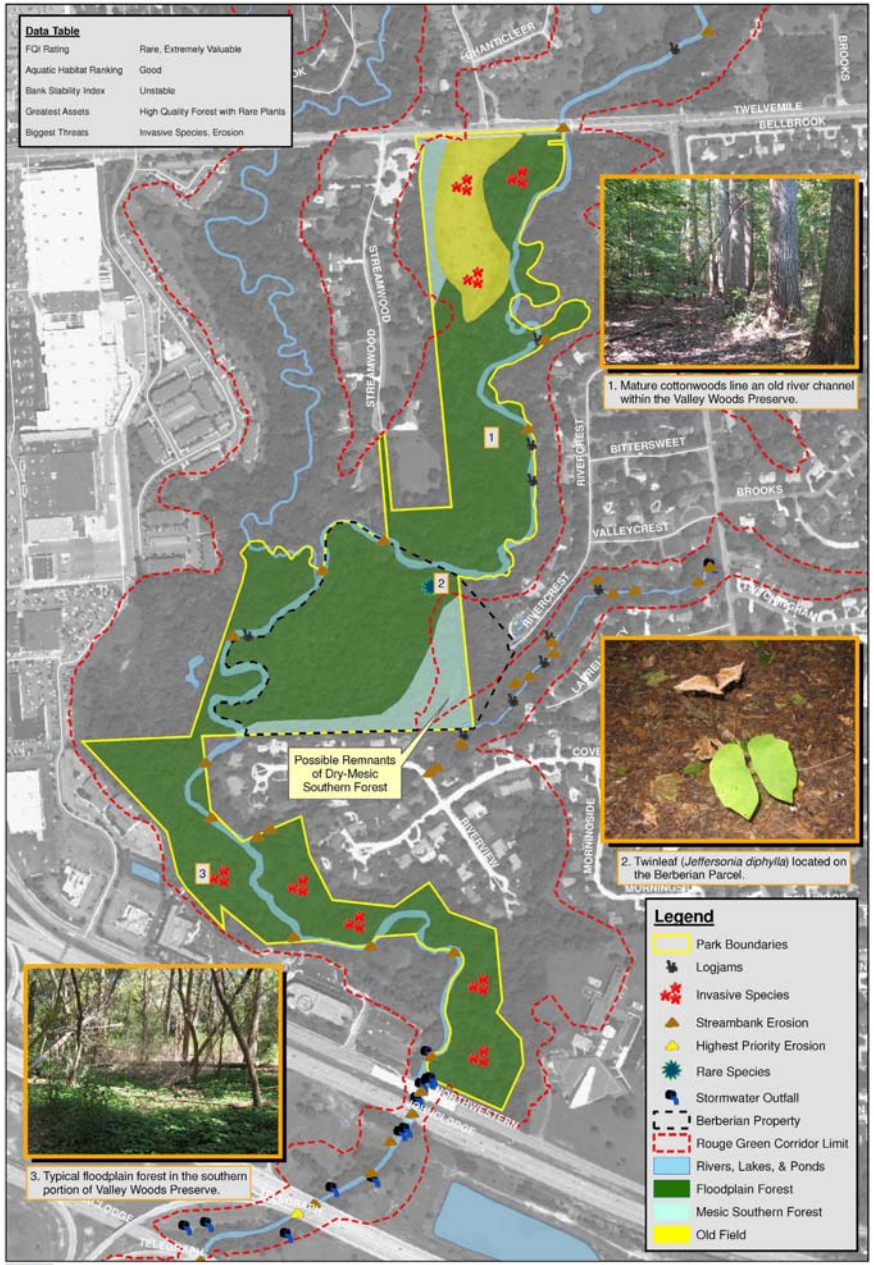
Figure 23 - Douglas Evans Nature Preserve, Beverly Hills

- Diverse habitat types, augmented by planted prairie and wet meadow areas
- Contains quality floodplain and southern mesic forest
- Invasive species locally abundant in many select locations
- Six species of native mussels are known from recent surveys of this stretch of the river
- FQI score: 31.2 (38.7)

Douglas Evans Nature Preserve

- Continue invasive species control within the high-quality areas of mesic southern and floodplain forests
- Implement regular spring mowing or controlled burns within the prairie areas, shrub removal as needed
- Continue/expand existing wildlife surveys, add aquatic invertebrates and monitor mussels

Valley Woods Nature Preserve at Streamwood



Created for: Oakland Land Conservancy
Created by: ALH, February 6, 2008, ASTI Project 6602
Aerial Photograph: USDA 2005

Figure 27 - Valley Woods at Streamwood, Southfield

- Dominated by floodplain forest of two different types
- Also contains an impressive and relatively undisturbed southern mesic forest along the hillside slopes
- Plant community of the central Berberian tract of statewide significance
- Known records of 5 Michigan rare plant species
- FQI score: 51.9

Valley Woods Nature Preserve at Streamwood

- Encourage protection of adjacent privately-owned parcels
- Evaluate the effectiveness of the Valley Woods & Hidden Rivers Nature Preserve Invasive Species & Erosion Control Management Project
- Control and remove invasive species as needed within high-quality areas
- Seed/plant native vegetation within the fill area along 12-Mile Road
- Conduct additional wildlife surveys: Birds, mammals, herptiles, aquatic invertebrates, evaluate impacts of deer herbivory

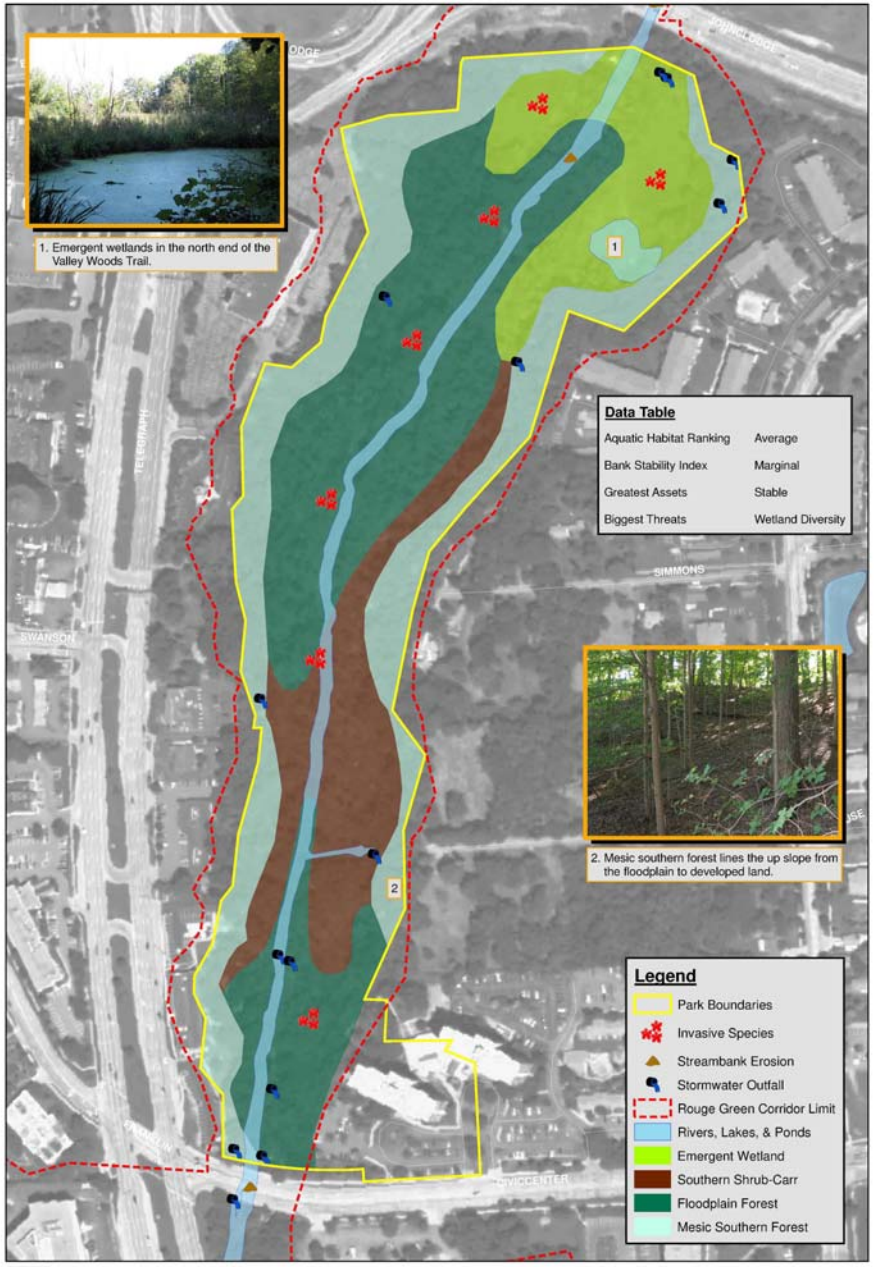


Figure 28 - Valley Woods Trail at Civic Center, Southfield

Valley Woods Trail Civic Center Drive

- Diverse mix of habitat types, including emergent wetland and shrub-carr wetland
- Few remnant plant species or intact plant communities
- Invasive species throughout and abundant in many areas
- River historically channelized through this section
- FQI score: 22.9

Valley Woods Trail
Civic Center Drive

- Restore wetlands in the north end and throughout the park by plugging drainage ditches and removing areas of dredge spoils
- Adjust channel rip rap to encourage natural river meanders
- Establish in-stream habitat structures to increase pool habitat and provide overhead cover for fish and to improve angling opportunities
- Conduct additional wildlife surveys: Birds, mammals, herptiles, aquatic inverts

Valley Woods Nature Preserve
10 Mile Rd.

Rouge Green Corridor Habitat Assessment
Oakland County, Michigan
Created for: Oakland Land Conservancy
Created by: ALH, February 5, 2008, ASTI Project 6602
Aerial Photograph: USDA 2005

Figure 29 - Valley Woods at Ten Mile Road, Southfield

- Large and relatively intact floodplain forest with some remnant plant community
- Emergent wetland in the north impacted by historical activities and invasive species
- Invasive species locally abundant, not widespread
- Natural meandering river channel
- FQI score: 29.8

Valley Woods Nature Preserve
10 Mile Rd.

- Restore hydrology to the emergent wetland area and floodplain in the northwest corner
- Anchor LWD aligned with the current to minimize the creation of new logjams
- Control invasive species in selected areas: emergent wetland (common reed, reed canary, loosestrife) and floodplain forest (invasive shrubs)
- Conduct additional wildlife surveys: Birds, mammals, herptiles, aquatic invertebrates

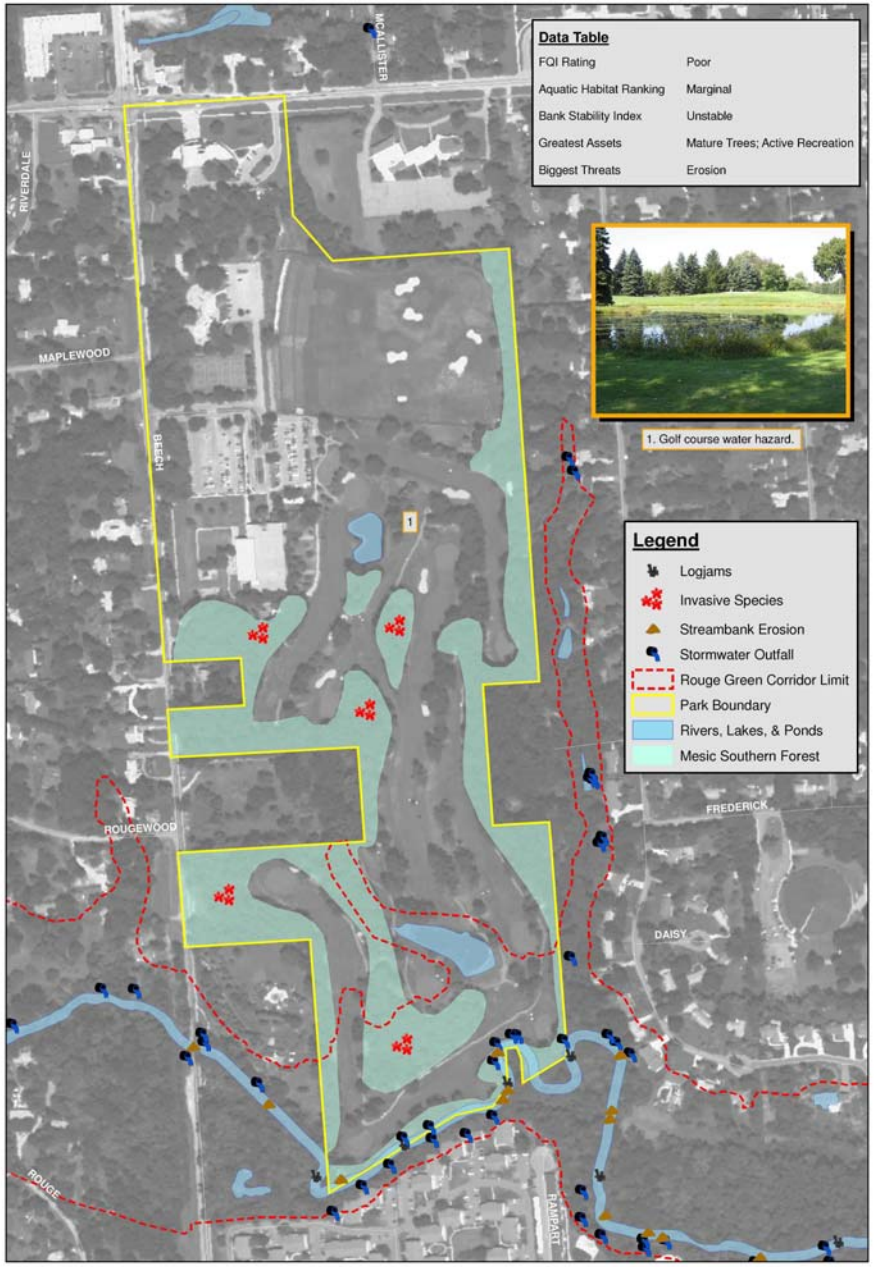


Figure 33- Beech Woods Park, Southfield

Beech Woods Park

- Maintained as a manicured golf course
- Many mature upland and bottomland tree species
- No remnant habitat types
- FQI score: 14.0

Beech Woods Park

- Create and maintain native vegetation buffer along the Rouge River and encourage native landscaping throughout
- Conduct wildlife surveys within the river channel and of birds within the mature tree canopy
- Stabilize stream bank and gully erosion within the park

Valley Woods Nature Preserve South

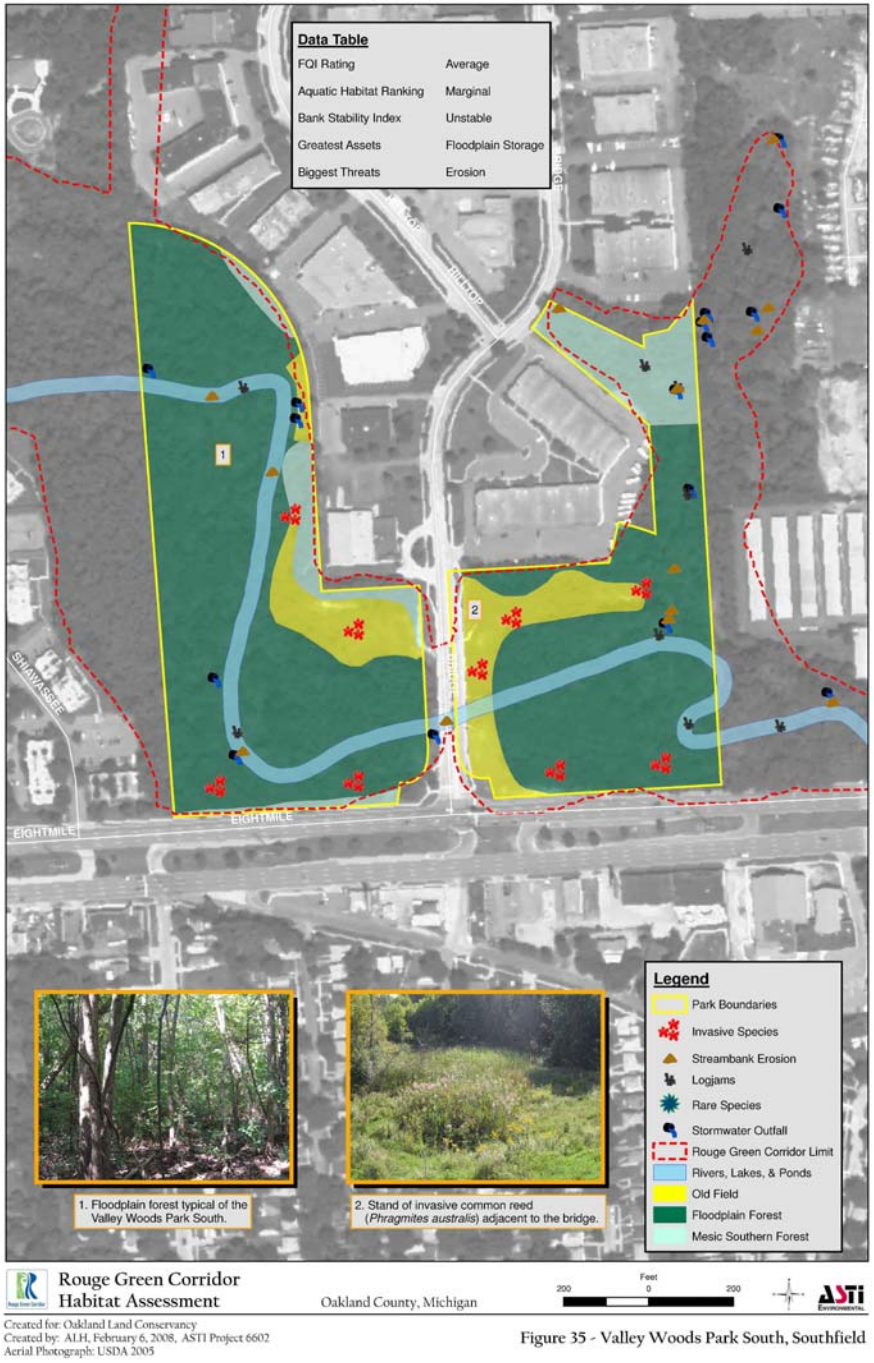


Figure 35 - Valley Woods Park South, Southfield

- Dominated by young, but diverse, functioning floodplain forest
- Invasives abundant in select areas near roads and east of the bridge
- Channelized river sections
- FQI score: 27.4

Valley Woods Nature Preserve South

- Remove select logjams and stabilize riverbank and gully erosion to improve water quality
- Cut-out portion of spoils banks to increase floodplain stormwater storage and sediment deposition
- Old field areas along Bridge Street could be seeded with native species.
- Control invasive species along 8 Mile Road
- Conduct additional wildlife surveys: Herpetiles, mammals, birds, aquatic inverts

Measuring Success

Success Target Metrics

Corridor-wide

- Amphibian Community:
  - Increase average species count from 2 to 4
- Aquatic Habitat Ranking: “Acceptable” Procedure. 51 ratings
- Bank Stability Index: Improve to, or maintain at, “Stable”
- Fish Community : “Acceptable” (Procedure 51 ratings)
- Floristic Quality Index: Minimum FQI of 20
- Average % native species >75%
- Macroinvertebrate Community:
- “Acceptable” Procedure 51 ratings
- Richards-Baker Flashiness Index:
- Halt trend to increasing flashiness
- Wetland Functional Value: “Suitable for Floodflow Alteration”
- Water Quality:
  - Average wet-weather TSS < 80 mg/L
  - Dissolved oxygen > 5 mg/L
  - E. coli bacteria < 130 mg/L

*May be more or less stringent for individual parks/preserves

Stewardship Projects

City of Birmingham

- **Booth Park Trail bank stabilization, invasive removal, and native species restoration (City of Birmingham)**

City of Birmingham

- **Booth Park Trail Woody Debris Management (Friends of the Rouge and City of Birmingham)**

Village of Beverly Hills

Invasive Species Management

- **Hidden Rivers Nature Preserve and Riverside Park (20 acres): Management of woody invasive plants (2.3 acres managed in 2009)**
- **Douglas Evans Nature Preserve (19 acres): Management of herbaceous and wood invasive plants (over 10 acres managed in 2009)**
- **To help with continuing effort, contact Six Rivers at (248) 601-2816 or contact the Village of Beverly Hills.**

City of Southfield

- **Valley Woods at Streamwood Streambank Stabilization by City of Southfield**

City of Southfield

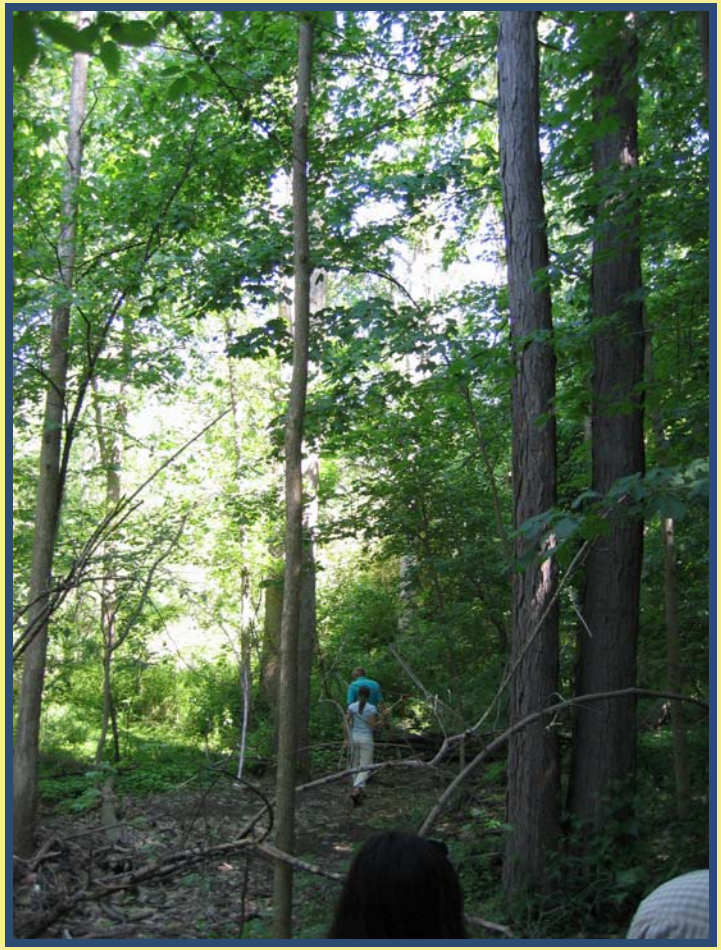
Invasive Species Management

- **Valley Woods at Streamwood (66 acres): Management of garlic mustard (12 acres managed in 2009) and management of woody invasives (5 acres managed in 2009)**
- **Valley Woods at Civic Center (34 acres): Management of woody invasives (2 acres managed in 2009) and management of garlic mustard (5 acres managed in 2009)**
- **Valley Woods at Ten Mile Road (27 acres): Management of garlic mustard (10 acres managed in 2009)**
- **To help with continuing effort, contact Six Rivers at (248) 601-2816 or contact the City of Southfield.**

Next Steps

Next Steps

- **Communities have prioritized recommendations into a 5-year implementation plan**
- **Will pursue community support and grant funding for implementation**




Questions
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