

# Riverine Habitat Restoration Using a Full Management Tool Box

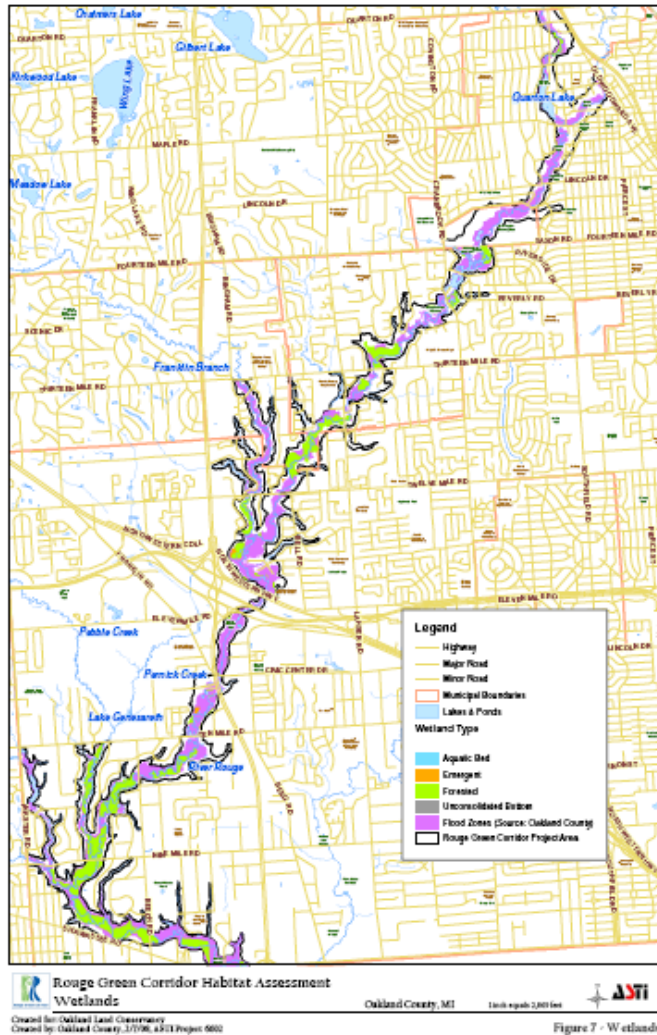
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## Rouge Green Corridor

- Multi-partner planning effort for the main branch of the Rouge River.
- Encompassed both public and private lands.
- Identity program
- Logo & road crossing signage
- Public tours & workshops
- Informational poster
- Web links





## *Rouge Green Corridor*

- The Valley Woods Wetlands Restoration Project was undertaken as a result of recommendations of the Rouge Green Corridor Urban Habitat Conservation & Stewardship Project funded through the National Fish & Wildlife Foundation

# *Habitat Restoration Goals*

The Rouge Green Corridor Urban Habitat Conservation & Stewardship Project identified 12 habitat restoration goals within the corridor. Each goal is associated with target habitat metrics used to measure progress and achievement:

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





- *Valley Woods*

- *Nature Preserve*

- Southfield nature preserve within the Rouge Green Corridor
- 128 acres along the Main Branch of the Rouge River
- Between Ten and Twelve Mile Roads
- Bisected by I-696, Telegraph & Northwestern Highways

# Restoration Site

- Management plan made recommendations for various road-bounded segments of the river through all three communities
- The Valley Woods site was identified as potential site for a large scale restoration project



Figure 29 - Park/Preserve: Valley Woods at Ten Mile Road, Southfield



## *River Segment*

- Quality aquatic habitat
- Mature forest canopy
- High diversity of fish species
- Macro-invertebrates
- Five kinds of turtles, two kinds of snakes, eight species of frogs, seventeen species of mammals and several species of freshwater mussels

# *Wetlands*

- Largest floodplain wetlands in the corridor.
- Old ditches drained the wetlands, increasing flood flows to the river and impairing function of the wetland to filter out sediments and pollutants. before they enter the river
- Monoculture vegetation & invasive phragmites diminish function of wetlands.







## • *Management Recommendations*

- Restore capacity of wetlands to store and detain stormwater by filling existing ditches and rock armor inlets into wetlands.
- Manage invasive phragmites
- Allow spring flood waters to submerge the wetlands to discourage re-establishment of the invasive plants and reduce downstream flashiness and erosion.
- Detain and filter road runoff from entering the river





# *Herbicide Treatment*

- Total treatment of 4 acres
- Focused applications on Phragmites.



# *Herbicide Treatment*



- Initial broadcast application in August
- Secondary application prior to excavation
- 3 Follow-up spot treatment applications

# *Excavation*

- Phragmites Stands
- After 2 herbicide treatments
- Excavation min. 4 feet in depth
- Any remaining roots submerged



# *Excavation*



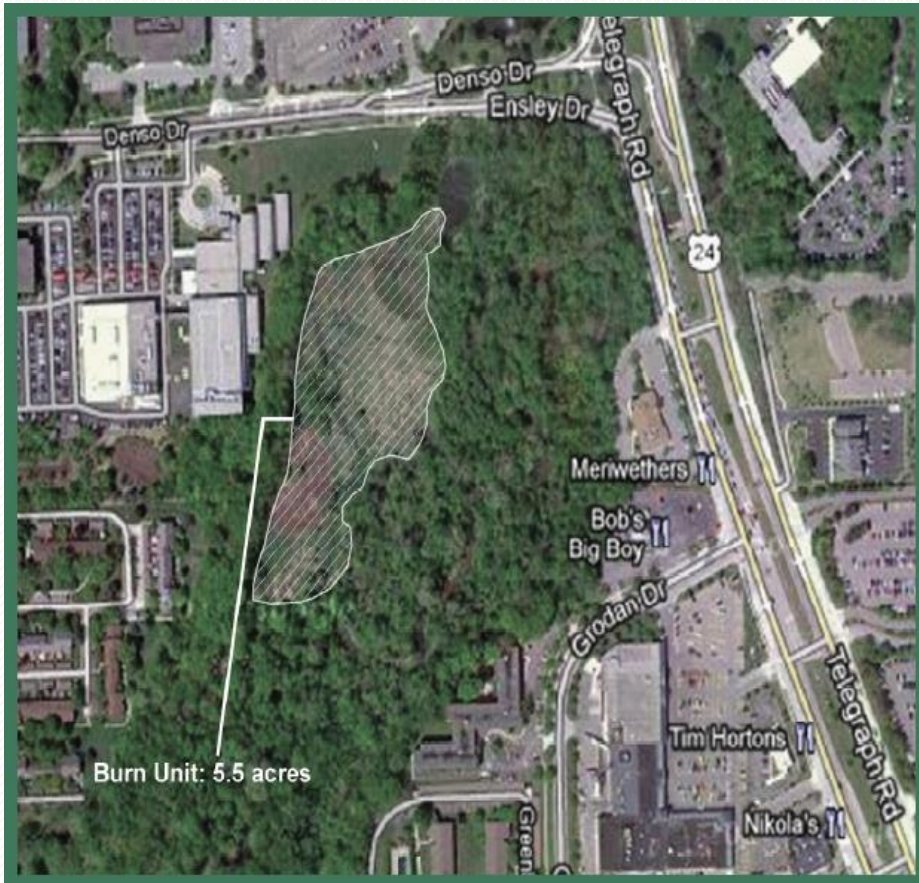
- Removal of approximately 2000 cubic yards of material

# *Excavation*



Created ½  
acre of open  
water habitat

# *Prescribed Burn*



- First prescribed burn within the community
- Multiple land uses surrounding the area
  - Commercial
  - Apartments
  - Corporate
  - Senior Housing
  - Highways
  - Natural area



**freep.com**

**Across metro  
Detroit, fires set to  
control invasive  
species**



**Fire set to kill plants foreign to Michigan**  
Southfield Nature Preserve torched for a good reason

**candgnews.com**

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**Southfield**  
February 21, 2012

**Southfield plans prescribed burn to  
restore nature preserve**

By Jennie Miller  
C & G Staff Writer

## ***Prescribed Burn***

### **● *Public Outreach***

- Council Presentation
- Press releases
- Southfield City Cable 15
- News coverage
- Road signage
- Met with area businesses
- Flyers / letters to local condos and senior housing



## *Prescribed Burn*

- Crew & Equipment
- Site Preparation
- Smoke Management
- Fire Period



# *Prescribed Burn*



## *Prescribed Burn*

- Removed built-up dead vegetative material
- Allowed wetland restoration with minimal disturbance of sensitive soils
- Release of native seed bank
- Allow access to soils for re-seeding and planting of new stock

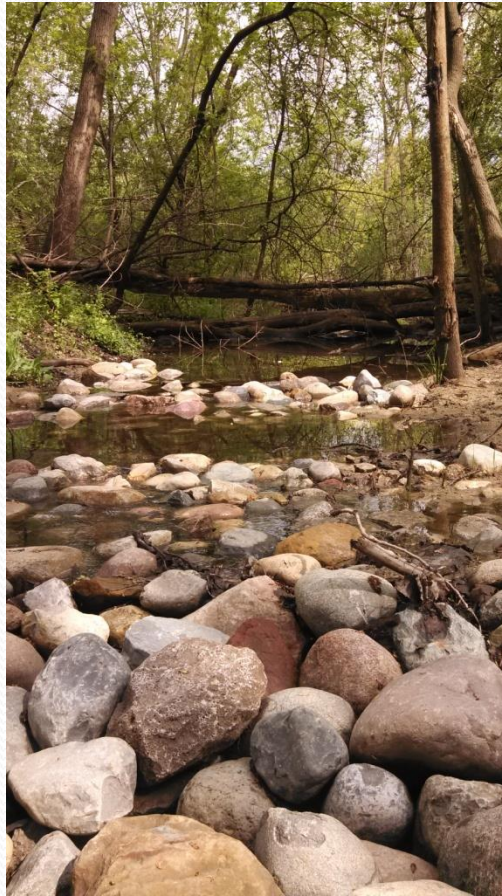




## *Planting and Seeding*

- Herbicide treatments of remnant invasives
- Restoration of wetland area with native plantings and wetland seed mix
- 5 acres of planting restoration

- *Hydrologic Modifications*



Eliminate drainage ditches to provide for stormwater storage and restore function

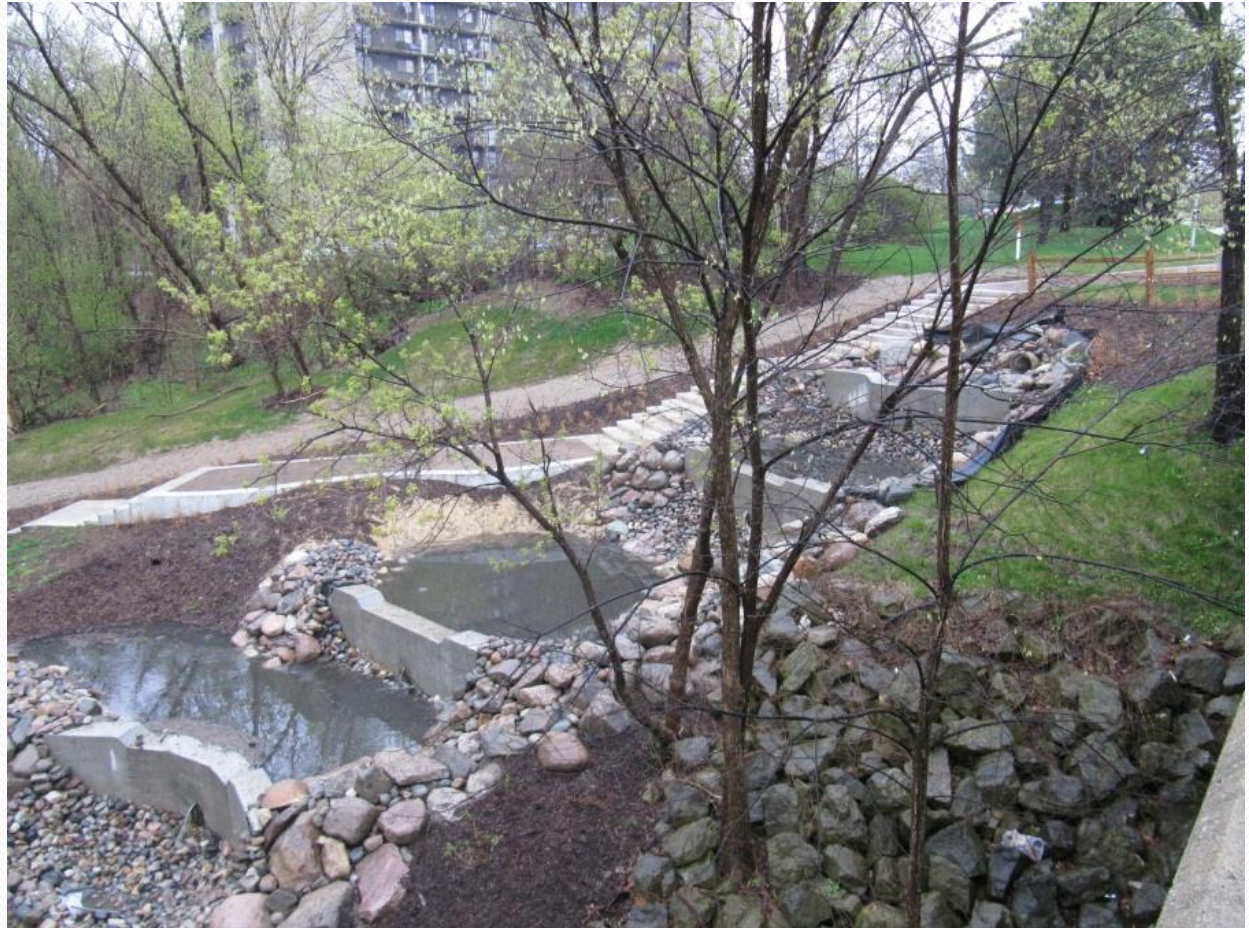
# *Storm Water Outfall*

- Direct runoff from local streets
- Eroding sidewalk and stream banks
- Potential trailhead location



# *Outfall Stormwater Structure*

- Filters pollutants from roadway
- Reduces erosion to the river
- New steps provide public access to river & preserve





# Outfall Stormwater Structure

- Interpretive signage provides public education about stormwater runoff.



# Great Lakes RESTORATION



*"We're committed to creating a new standard of care that will leave the Great Lakes better for the next generation."*

*- Lisa P. Jackson, Chair of GLRI Task Force*

## ***Grant Support***

- ***Great Lakes Restoration Initiative***
- ***Rouge River Wet Weather Demonstration Project***
- Alliance of Rouge Communities received a Great Lakes Restoration Initiative Grant (GLRI) for *"Transforming the Rouge Area of Concern"* to fund 4 projects in the Rouge River Watershed :
- Southfield portion GLRI Grant: \$320,000
- Rouge Grant: \$63,650
- Local Match \$63,650
- Southfield Project Cost: \$447,300



*Working together, restoring the river*



## Riverine Habitat Restoration

# Questions?

## Riverine Habitat Restoration

### Using a Full Management Tool Box

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