

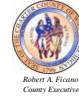


Michigan's
Nonpoint Source
Program

Clean Michigan Initiative Clean Water Fund Grant

Tracking Code #2005-0335

Wayne County Department of Public Services



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IDEP Rouge River Watershed from Residential Areas September 1, 2005 through August 31, 2011 (Amended)

The major goal of this project was to find and eliminate illicit connections in portions of the Lower 1, Lower 2, Middle 1, Middle 3 and Upper Stormwater Management Areas (SWMAs) of the Rouge River Watershed. A major tributary of the Detroit River, the Rouge River watershed covers 467 square miles. Land use in the watershed is 72% urban, 12% forested, 8% agricultural, 5% water/wetlands, and other uses 3%. Various segments of the Rouge River are included on the current 303(d) list for the State of Michigan due to a variety of sources of impairment including untreated sewage discharges. Wayne County established partnership with Alliance of Rouge Communities in order to facilitate implementation of community Illicit Discharge Elimination Plans. The project objectives to identify and eliminate illicit connections are consistent with the goals of the Watershed Management Plans. Dye testing commercial and industrial facilities in targeted areas was the primary focus of the effort. The investigation of residential area storm sewers to determine illicit discharge source(s) is a unique aspect to the project. Water quality data identified general areas in the targeted SWMA with elevated *E. coli* concentrations. A major illicit connection was found by the project when water temperature and conductivity measurements taken at 15 minute intervals over three days of dry weather showed diurnal spikes in a storm sewer upstream of an outlet. Tracking upstream in the storm sewer discovered a broken sanitary sewer line serving 48 residences and 14 commercial/industrial facilities.



Grant Amount: \$496,100
Match Funds: \$496,100

Total Amount: \$992,200



Project Accomplishments:



- Inspected 1,032 facilities
- Found 4 facilities with 19 illicit connections
- Found 20 facilities with 21 illicit discharges
- Investigated 34 suspicious outfalls
- 13 facilities corrected 23 illicit connections and discharges
- A broken sanitary line serving 62 structures in a residential area was discovered

Annual Pollutant Load Reductions:

- Prevented 4.4 million gallons of polluted water from entering Rouge River *per year*.
- Prevented 43,300 pounds of polluting materials from entering the river *per year*.

Project Partners

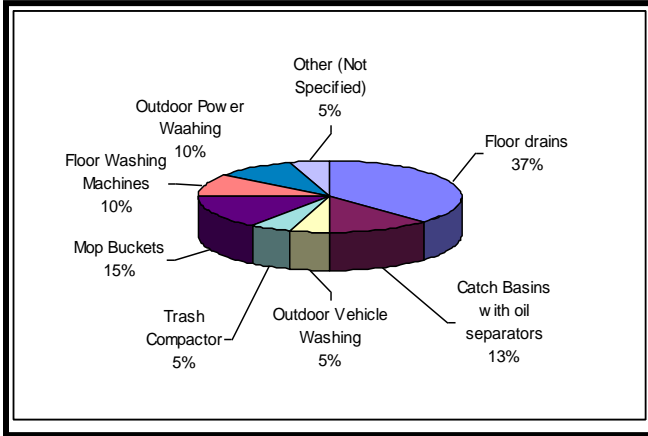
- Alliance of Rouge Communities (ARC)
- Michigan Department of Environmental Quality-Water Resources Division
- City of Garden City
- City of Inkster
- City of Livonia
- City of Plymouth
- Plymouth Township
- City of Westland



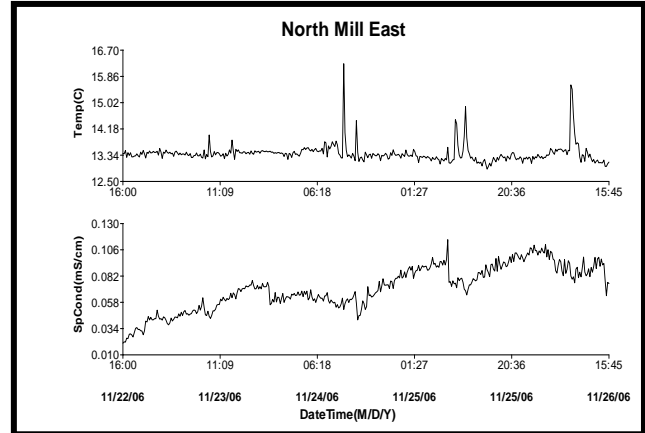
Broken Sanitary Sewer
Line Passing through a
Storm Drain
Discharging to the
Middle Rouge River

Information and Education Activities:

- Partnering with the communities educated city staff about illicit connections, their water quality impact and the importance of finding and eliminating them.
- Facility inspections allowed staff to interact with the business community on a personal level and educated them on their role in preventing the pollution of Michigan water resources.
- Residential investigations allowed staff to interact with residents on a personal level and educate them on their role in preventing the pollution of Michigan water resources.



Description: Types of Illicit Connections Found in the Lower Rouge River Watershed, September 2005 through August 2011. Note: Does not include illicit connections found in residential areas.



Description: Water temperature and conductivity 15 minute intervals for three days near outfall. Note temperature spikes and conductivity dips. Broken sanitary sewer line in a storm sewer was found upstream of this point.

| Pollutant | Estimated amount of polluting material prevented from entering the Rouge River annually (pounds/year)* |
|-----------------------------------|--|
| Total Suspended Solids | 7,402 |
| Surfactants | 359 |
| Total Organic Carbon | 1,420 |
| Potassium | 455 |
| Ammonia | 304 |
| Biochemical Oxygen Demand (5 Day) | 7,402 |
| Total Solids | 25,377 |
| Phosphorus | 695 |
| Total Pounds | 43,414 |
| Flow (gallons/year) | 4,395,057 |

*Assumes the removal of all illicit connections/discharges identified under this project

Description: Summary of Estimated Pollutant Load Reductions to the Rouge River Resulting from Correction of the Illicit Connections and Discharges during the grant period September 2005 through August 2011.