

SEWRPC Regional Water Quality Management Plan Update for the Greater Milwaukee Watersheds:

Recommended Plan

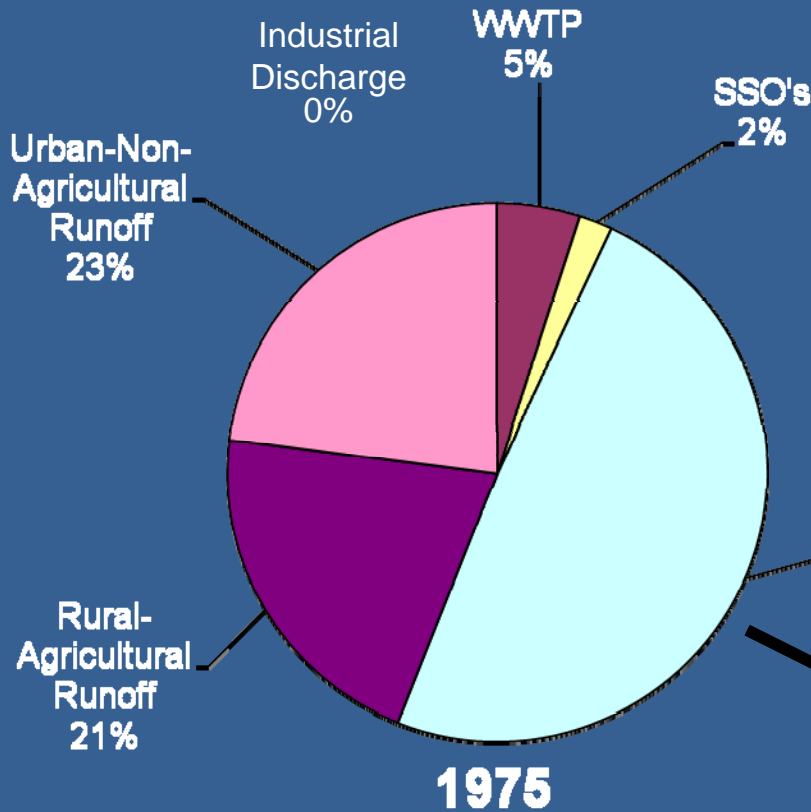


**Presentation for
Root-Pike WIN Watershed Visioning Session
November 10, 2009
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SEWRPC Chief Environmental Engineer**

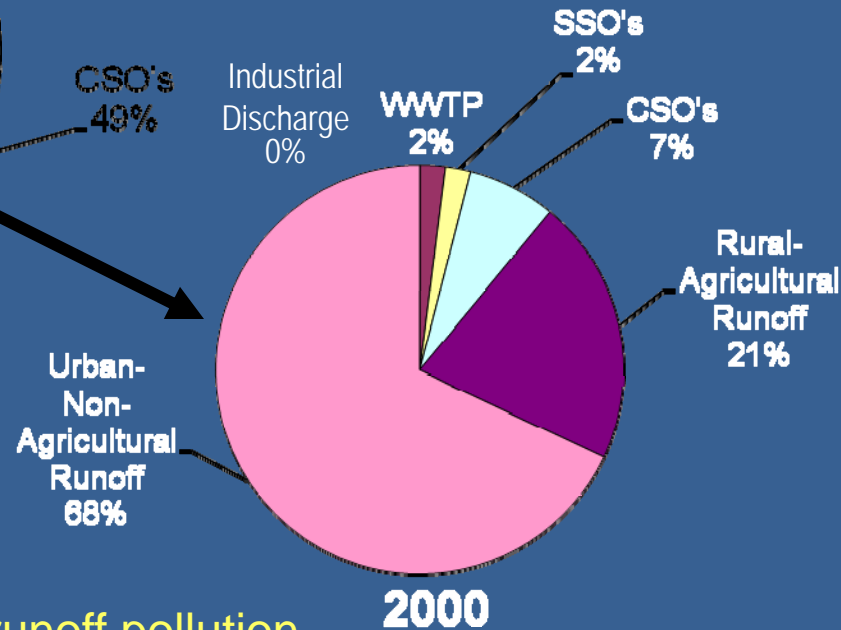


Pollution Sources Summary

Greater Milwaukee Watersheds Fecal Coliform Loadings



1975



2000

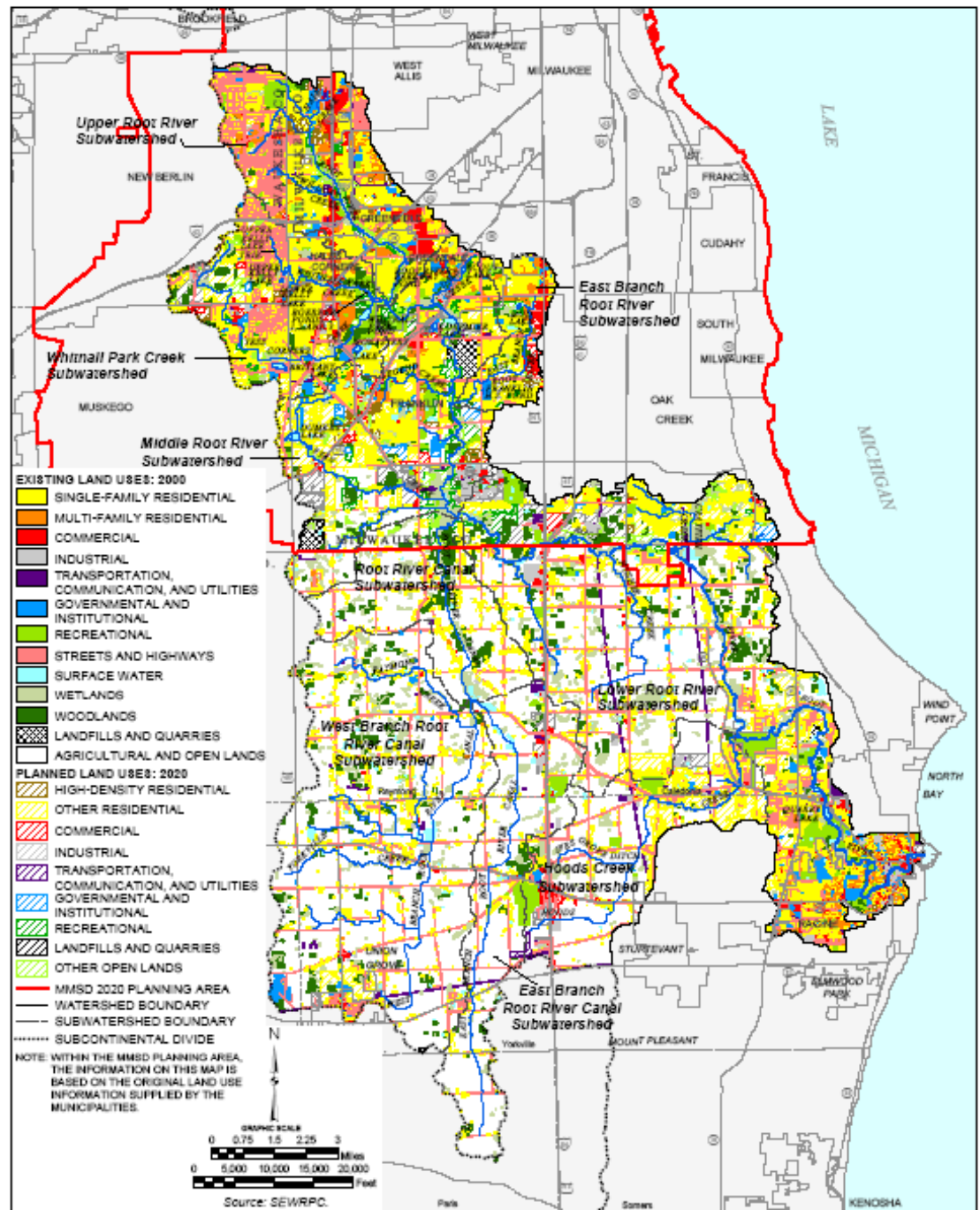
Estimated Pollutant Reduction over 25-Year Period About 50 Percent

CONCLUSION: Focus on abating stormwater runoff pollution

Recommended Plan Components

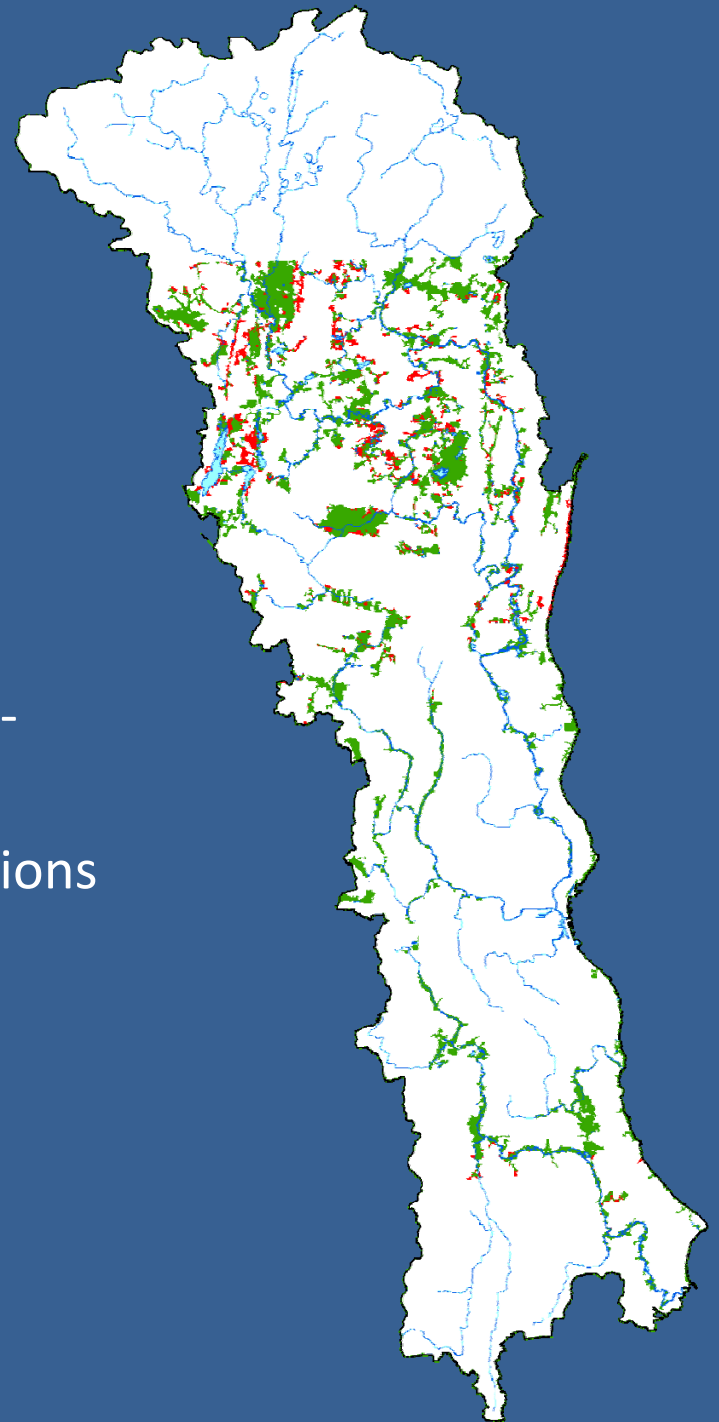
- Land Use Plan Element
- Surface Water Quality Element
 - Urban and rural nonpoint source pollution abatement
 - Point source pollution abatement measures in areas outside the MMSD planning area
 - Includes MMSD 2020 Facilities Plan recommendations except for increase in South Shore WWTP capacity through addition of physical-chemical treatment
 - Instream water quality measures
 - Inland lake measures
 - Auxiliary surface water quality measures
- Groundwater Management Plan Element

- Land Use Plan Element: Root River Watershed



Land Use Plan Element

- Preserve primary environmental corridors (PEC)
 - 85 % of PEC currently protected
 - Public interest ownership
 - State-local floodplain and shoreland-wetland zoning
 - State rules on sanitary sewer extensions
 - Local land use regulations
- Preserve natural areas and critical species habitat sites



Urban and Rural Runoff Control

- Nonpoint Source Control Component
 - Address urban and rural stormwater runoff pollution
 - Incorporate environmental restoration measures
 - Recognize Federal and State rules regarding urban and rural stormwater management

Rural Runoff Control Plan - Overview

- **Rural**
 - Realistic level of implementation of Chapter NR 151 rules
 - Manure and nutrient management
 - Controls on barnyard runoff
 - Riparian buffers
 - Wetland and prairie restoration
 - Restrict livestock access to streams
 - Manage milking center wastewater
 - Manage private onsite waste treatment systems



Urban Runoff Control Plan - Overview

- **Urban**

- Full implementation of Chapter NR 151 rules
- Enhanced program to detect and eliminate illicit discharges to the stormwater management system and to control urban-sourced pathogens
- Fertilizer management (low phosphorus fertilizer)
- Chloride reduction (roads and water softeners)
- Green features such as rain barrels, rain gardens, and stormwater trees
- Management of pet litter, marina waste
- Control of non-migratory waterfowl
- Litter control



Additional Recommendations

- Point Source Pollution Abatement Measures in Areas Outside the MMSD Planning Area
- Instream Water Quality Measures
- Identify and address local sources of beach contamination
- Conduct household hazardous waste collection programs
- Conduct pharmaceutical and personal care product collection programs
- Identify and address exotic invasive species in lakes and riverine areas
- Water quality monitoring recommendations

Summary of Plan Costs

| Plan Category | Estimated Capital Cost | Average Annual Operation and Maintenance Cost |
|---|------------------------|---|
| Urban runoff pollution abatement | \$239.0 million | \$34.7 million |
| Rural runoff pollution abatement | \$244.0 million | \$21.9 million |
| MMSD & member communities sewerage system | \$1,962.0 million | \$1.5 million |
| Instream measures | \$180.4 million | \$0.6 million |
| Other sewerage systems | \$70.1 million | \$0.8 million |
| Monitoring and Other | \$1.0 million | \$1.9 million |
| Total | \$2.70 billion | \$61.5 million |

Note: Of the total capital cost, \$1.470 billion, or 54 percent, represent new expenditures, of the total Operation and Maintenance cost, \$28.5 million, or 46 percent, represent new expenditures.

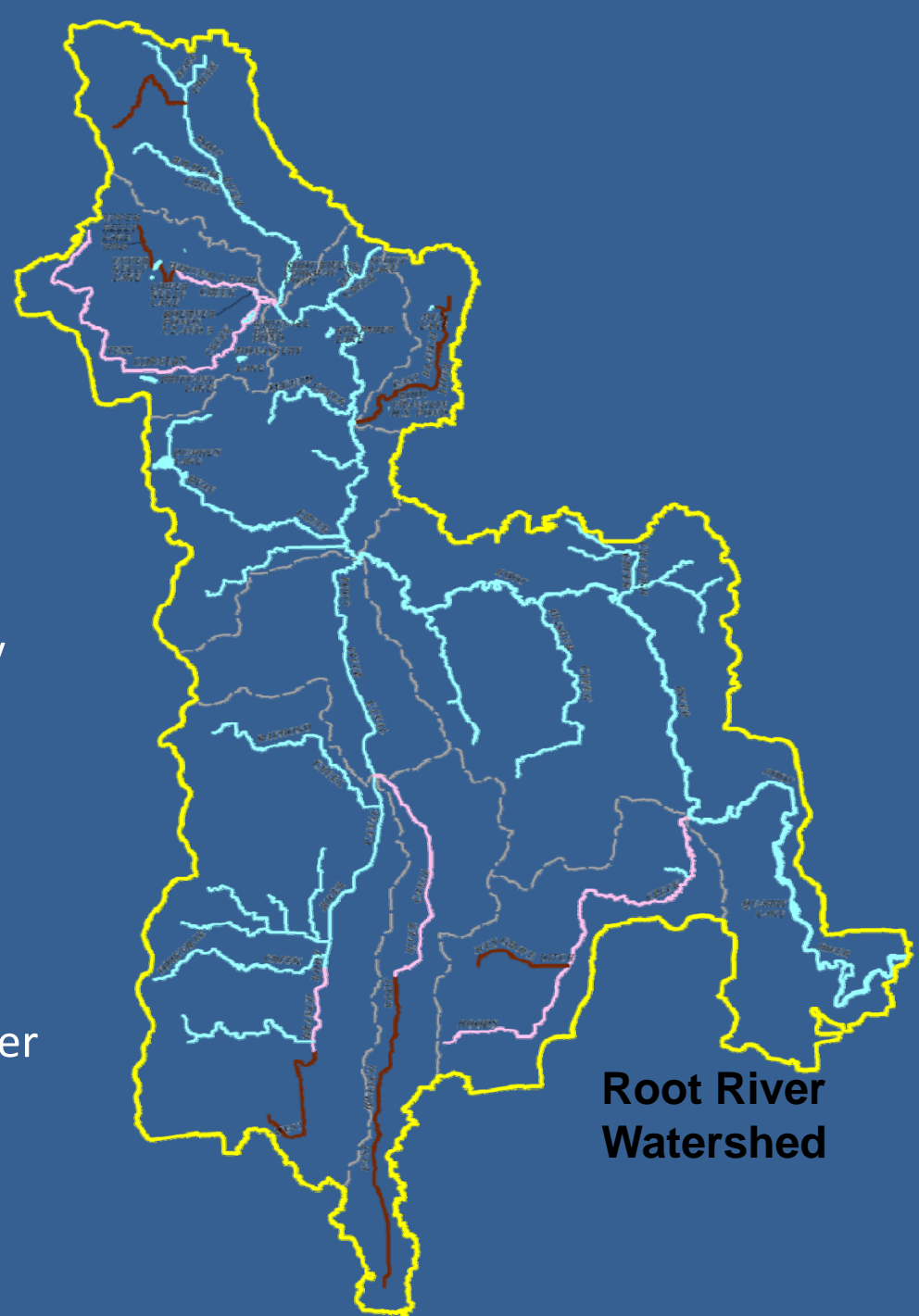
Source: MMSD, HNTB, and SEWRPC.

Ability of Recommended Plan to Meet Water Use Objectives and Water Quality Standards

- Assessed based on:
 - Water quality modeling results for pollutants for which there are regulatory or planning standards
 - Modeled changes in instream pollutant concentrations under recommended conditions relative to existing and future conditions

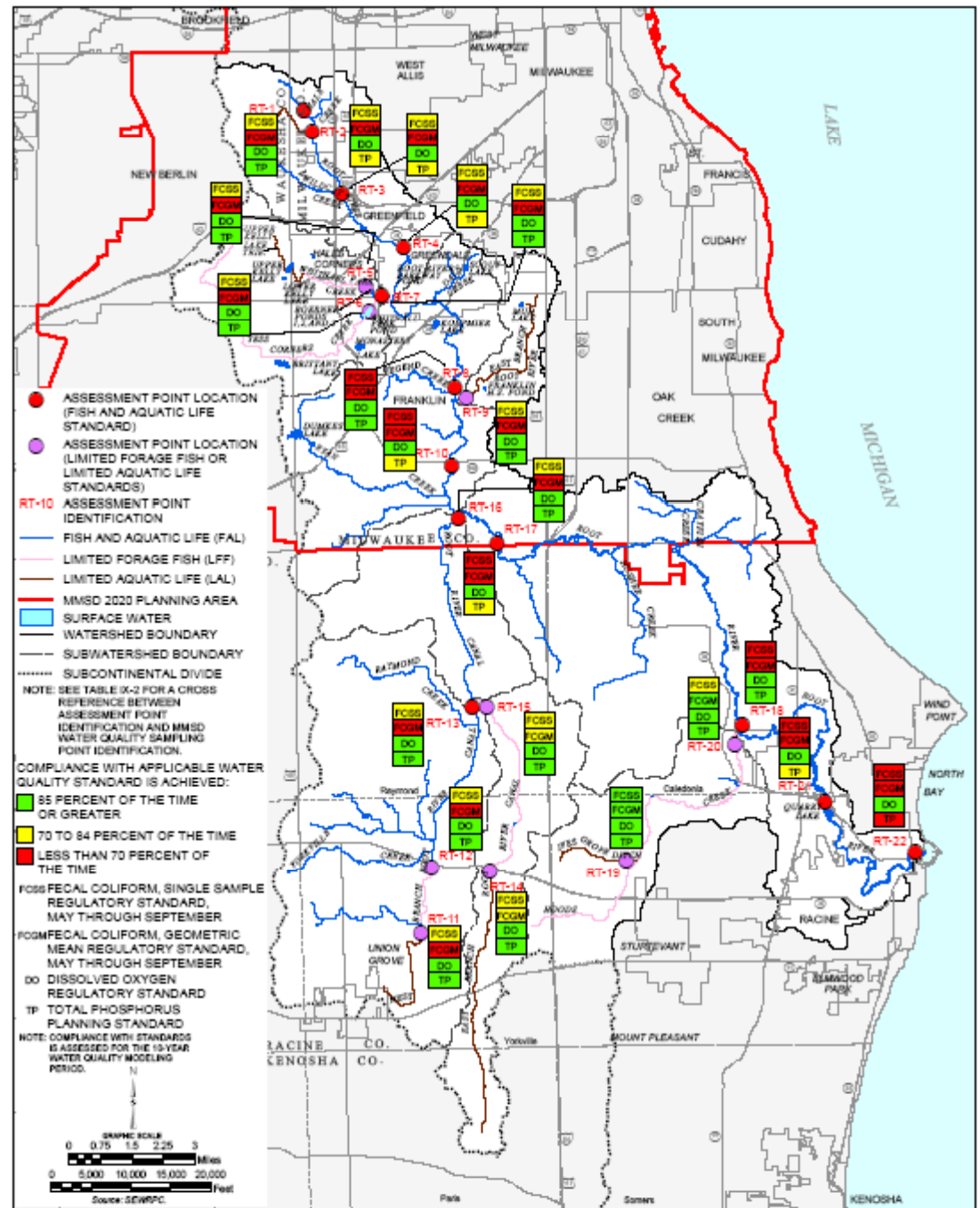
Conformance with Water Quality Standards Over Time at Given Locations in Streams

- Water Use Objectives
 - > Fish and Aquatic Life (FAL)
 - > Limited Forage Fish
 - > Limited Aquatic Life
 - Coldwater Biological Community (CWBC)
 - CWBC & Outstanding Resource Water
 - CWBC & Exceptional Resource Water
 - FAL & Exceptional Resource Water
 - Special Variance (Fecal coliform and DO Standards)



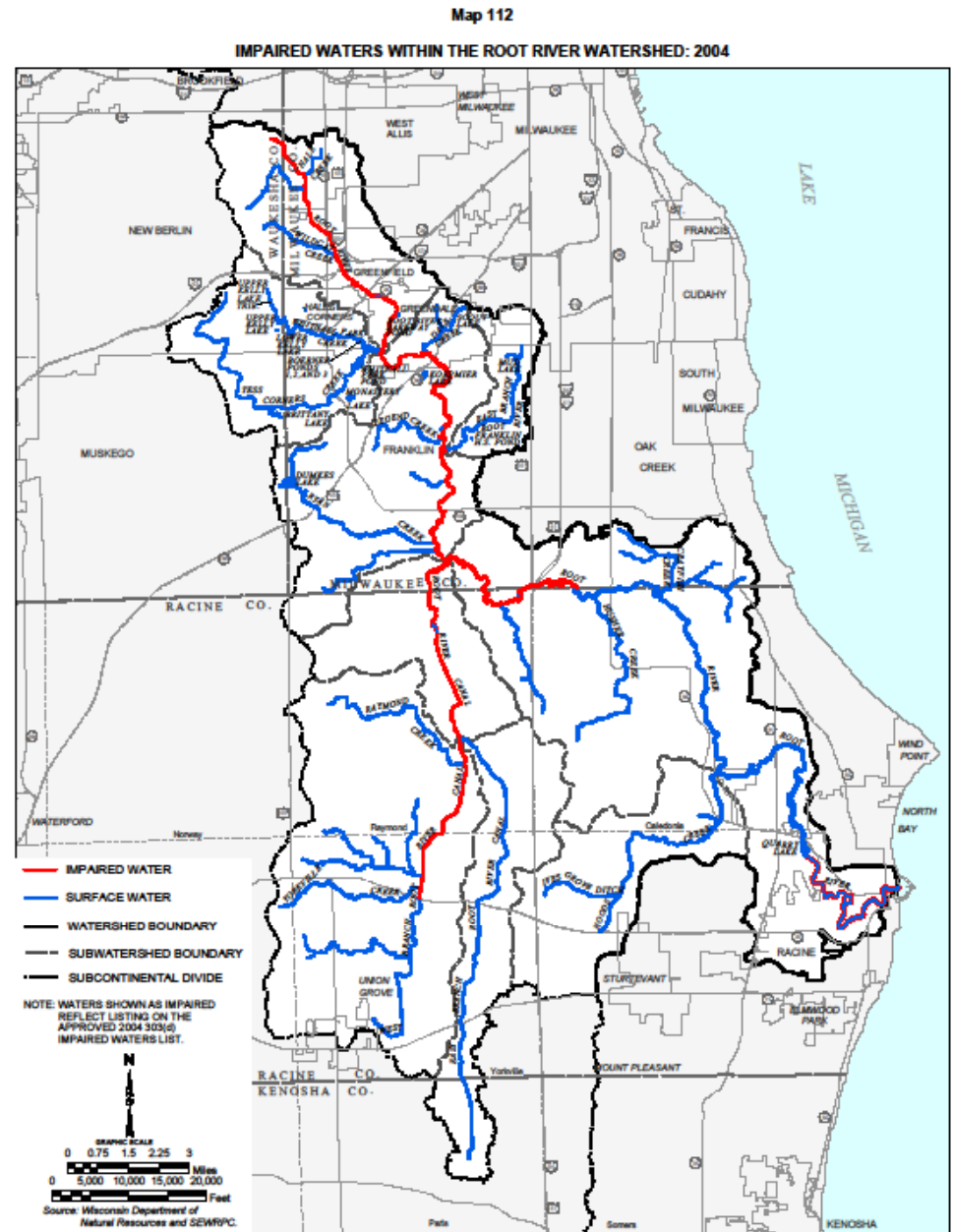
Water Quality Standards Compliance Under Recommended Plan Conditions: Root River Watershed

ASSESSMENT POINTS WITHIN THE ROOT RIVER WATERSHED FOR THE RECOMMENDED WATER QUALITY MANAGEMENT PLAN



PRELIMINARY DRAFT

Impaired Waters Within the Root River Watershed



Implementation Plan

- Assignment of implementation responsibilities
- Costs apportioned between public and private sectors and estimated by community
- Information on grant funding programs

Status of Endorsement and Implementation of the Regional Water Quality Management Plan Update

- Adopted the Regional Planning Commission –December 5, 2007
- Formally endorsed by:
 - Milwaukee, Ozaukee, Racine, and Washington Counties;
 - Cities of Franklin and Wauwatosa;
 - Villages of Elm Grove, Mt. Pleasant, Slinger, and Thiensville; and
 - Towns of Kewaskum and Norway



SOUTHEASTERN WISCONSIN WATERSHEDS TRUST

Southeastern Wisconsin Watersheds Trust has been formed to implement plan

Voluntary coalition of stakeholders throughout the greater Milwaukee watersheds

Currently developing second-level watershed restoration plans for the Kinnickinnic and Menomonee River watersheds