

Root River Watershed Restoration Plan: Report on Chapters IV (partial) and V (partial)

Presentation to the Root River Restoration Planning Group
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Planning Commission



Partners and Funding Agencies



Municipalities and Counties of the Root River Watershed



Plan Approach

1. Summarize Recommendations of the Regional Water Quality Management Plan Update (RWQMPU)
2. Evaluate Implementation of the RWQMPU
3. Inventory Recent and Ongoing Projects, Programs, and Initiatives and Integrate these Into Recommendations
4. Review and Refine Initially Identified Focus Issues
5. Characterize the Watershed Concentrating on Features Related to the Focus Issues

Plan Approach

6. Identify Targets to be Achieved by the End of the Plan Period
7. For Each Target, Identify Actions to be Taken
8. Identify Foundation Actions
9. Present Actions in Addition to those Recommended in the RWQMPPU
10. Develop an Implementation Strategy

The plan is being documented in:

SEWRPC Community Assistance Planning Report
No. 316, *A Restoration Plan for the Root River
Watershed*

Report Chapters

- I. Introduction
- II. Summary of recommendations of the RWQMPU for the Root River and evaluation of implementation to date
- III. Inventory of relevant plans, programs, and initiatives
- IV. Characterization of the watershed
- V. Description of targets to be achieved and alternative management measures
- VI. Recommended watershed restoration plan
- VII. Implementation strategies

Chapter IV—Characterization of the Root River Watershed



Exotic and Invasive Species



Aquatic Invasive Species - Animals



Common Carp

Source: Minnesota DNR



Rusty Crayfish

Source: Wisconsin DNR



Goldfish

Source: B. Albert, USGS



Zebra Mussel

Source: Wisconsin Lakes Partnership

Aquatic Invasive Species - Plants



Curly-leaf Pondweed

Source: Elizabeth Czarapata, WDNR



Eurasian Water Milfoil

Source: Elizabeth Czarapata, WDNR



Flowering Rush

Source: W.A. Smith, WDNR

Riparian Invasive Species - Plants



Common Buckthorn

Source: Wisconsin DNR



Glossy Buckthorn

Source: Wisconsin DNR



Wild Parsnip

Source: Wisconsin DNR



Japanese Knotweed

Source: Elizabeth Czarapata, WDNR



Purple Loosestrife

Source: S. Kelly Kearns, WDNR



Common Reed Grass

Source: Elizabeth Czarapata, WDNR

Riparian Invasive Species - Plants



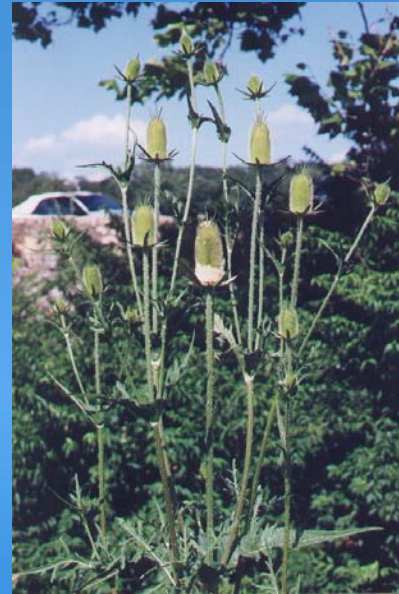
Common Teasel

Source: Stephen Solheim, UW-Whitewater



Garlic Mustard

Source: Wisconsin DNR



Cut-Leaf Teasel

Source: Wisconsin DNR



Reed Canary Grass

Source: Wisconsin DNR

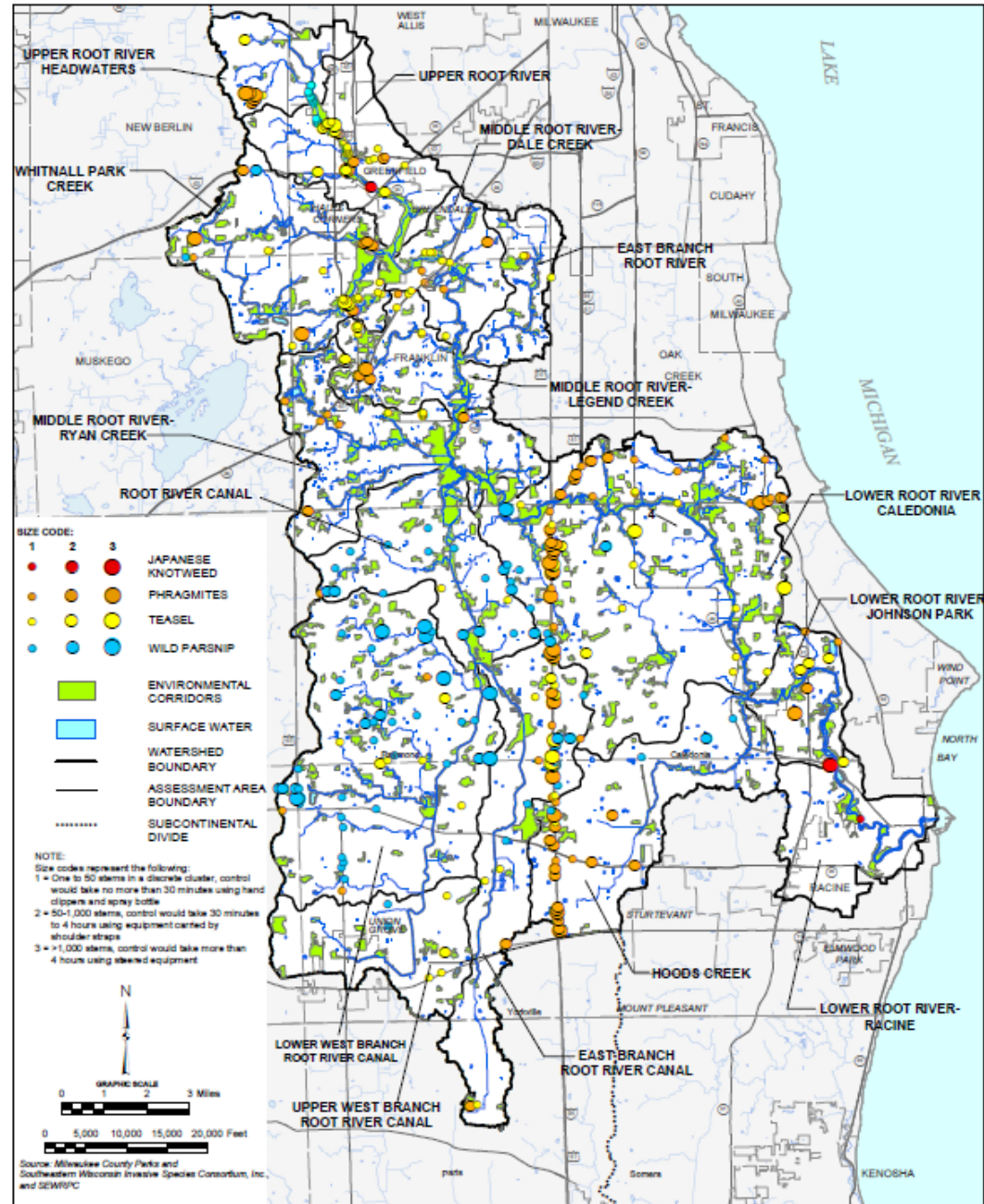
Infestations of Aquatic Invasive Species

Waterbody	Species Reported
Hoods Creek	Rusty Crayfish
Lower Kelly Lake	Eurasian Water Milfoil
Quarry Lake	Zebra Mussel
Root River	Common Carp, Goldfish, Rusty Crayfish
Root River Canal	Common Carp, Rusty Crayfish
Ryan Creek	Rusty Crayfish
Scout Lake	Curly-leaf Pondweed, Eurasian Water Milfoil
Upper Kelly Lake	Curly-leaf Pondweed, Eurasian Water Milfoil
West Branch Root River Canal	Rusty Crayfish

SEWISC Roadside Surveys: 2011-2012

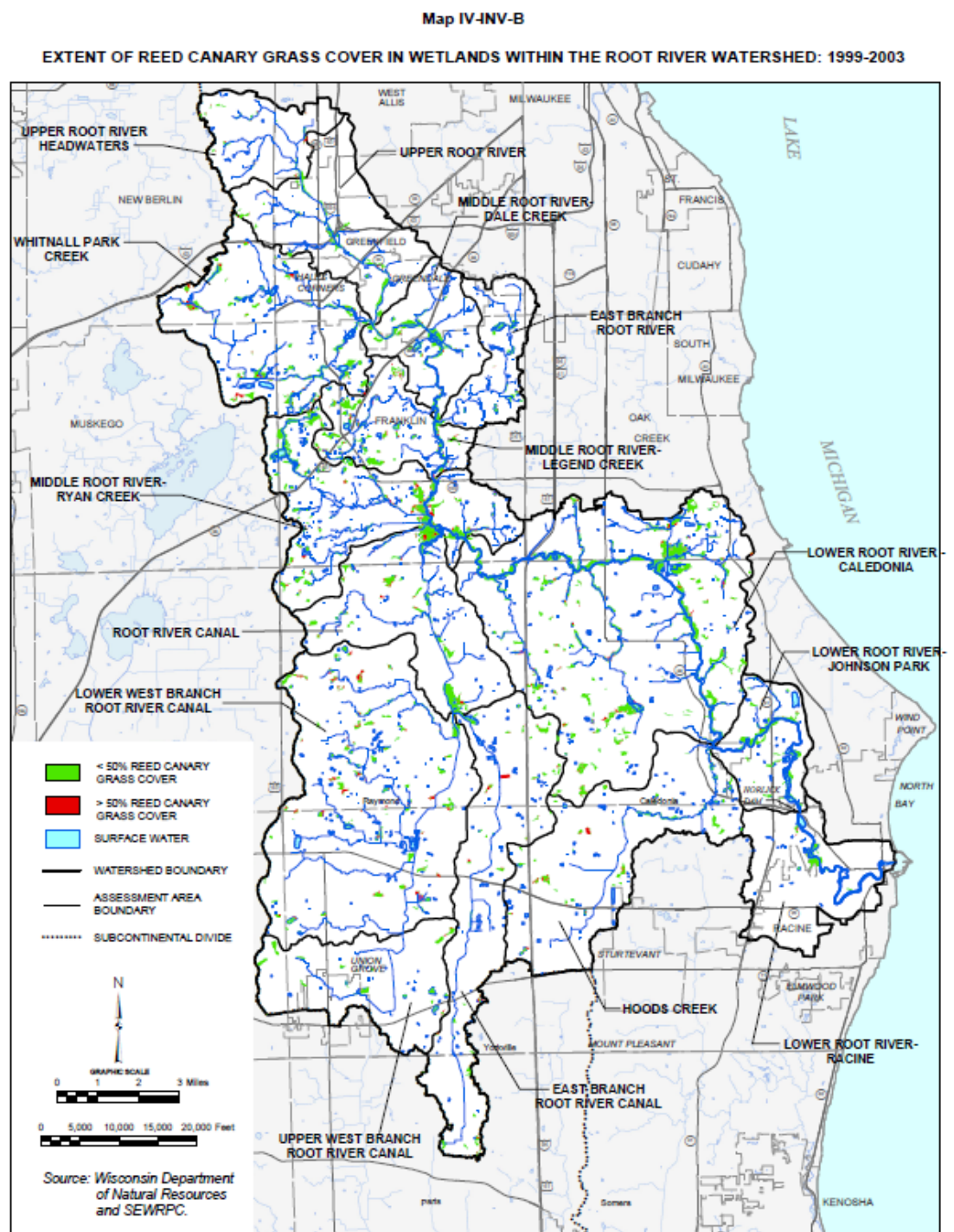
- Conducted from cars driving along highways
 - Common Reed Grass at 115 sites
 - Teasel at 113 sites
 - Japanese Knotweed at 3 sites
 - Wild Parsnip at 81 sites
- Infestations were quantified as small, moderate, or large

Map IV-INV-A
 INFESTATIONS OF JAPANESE KNOTWEED, PHRAGMITES, TEASEL,
 AND WILD PARSNIP WITHIN THE ROOT RIVER WATERSHED AS DETECTED IN ROADSIDE SURVEYS: 2011-2012



WDNR Reed Canary Grass Assessment

- Used satellite imagery to assess wetlands dominated by reed canary grass
 - 5,230 acres of wetland with less than 50 percent reed canary grass coverage
 - 619 acres of wetland with more than 50 percent reed canary grass coverage

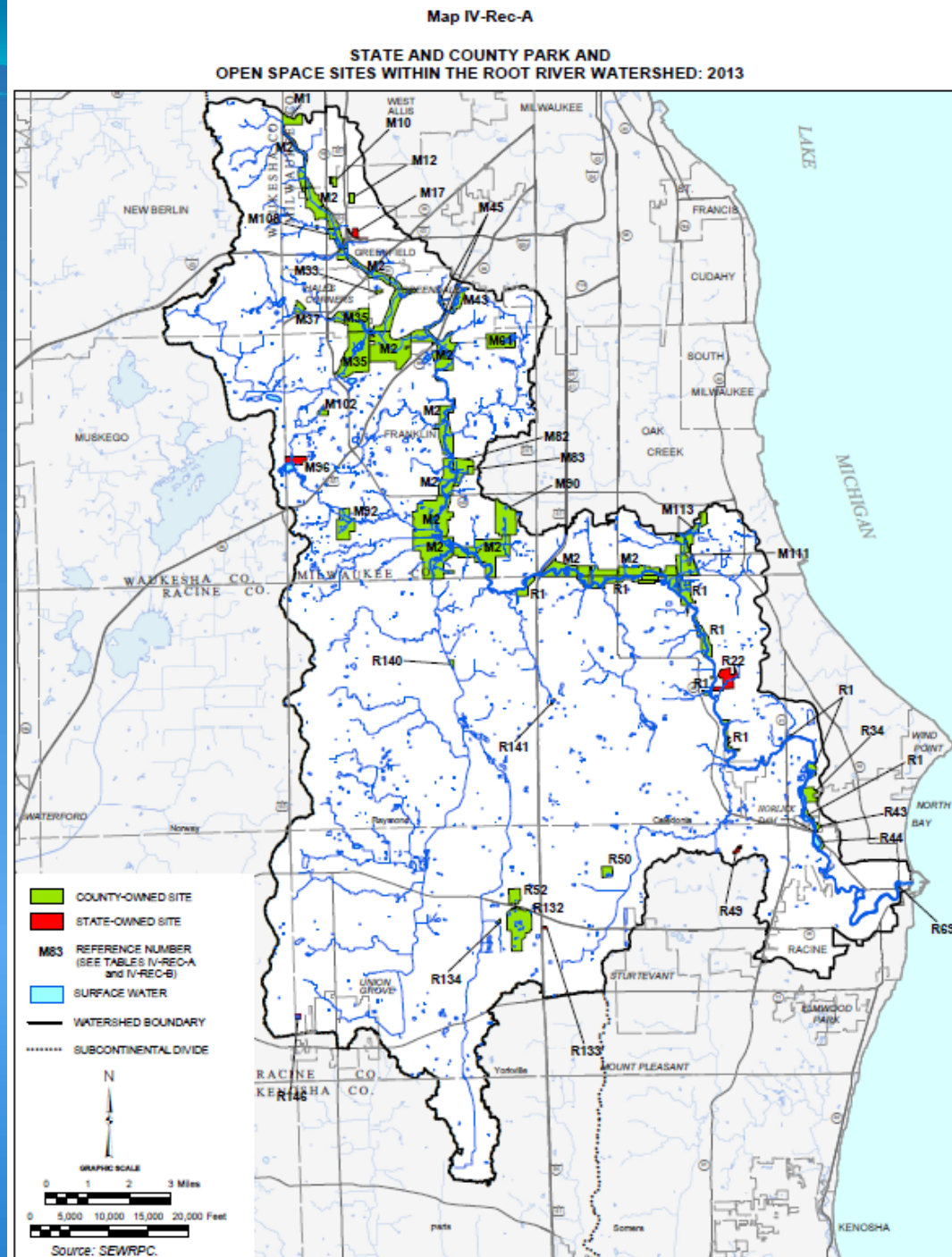


Recreational Use and Access



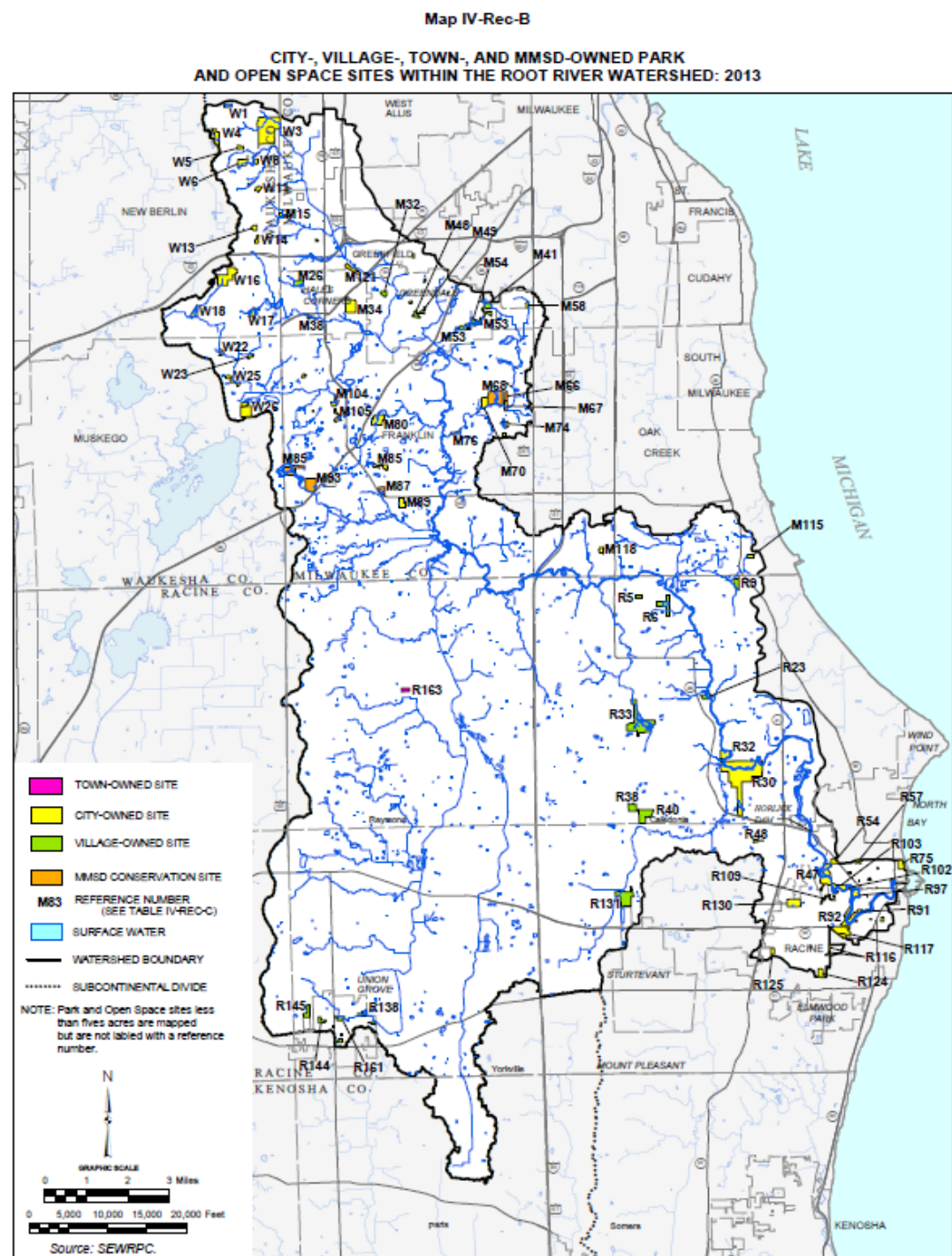
Park and Open Space Sites

- State
 - 8 sites
 - 220 acres
- Milwaukee County
 - 18 sites
 - 5,582 acres
- Racine County
 - 10 sites
 - 1,244 acres



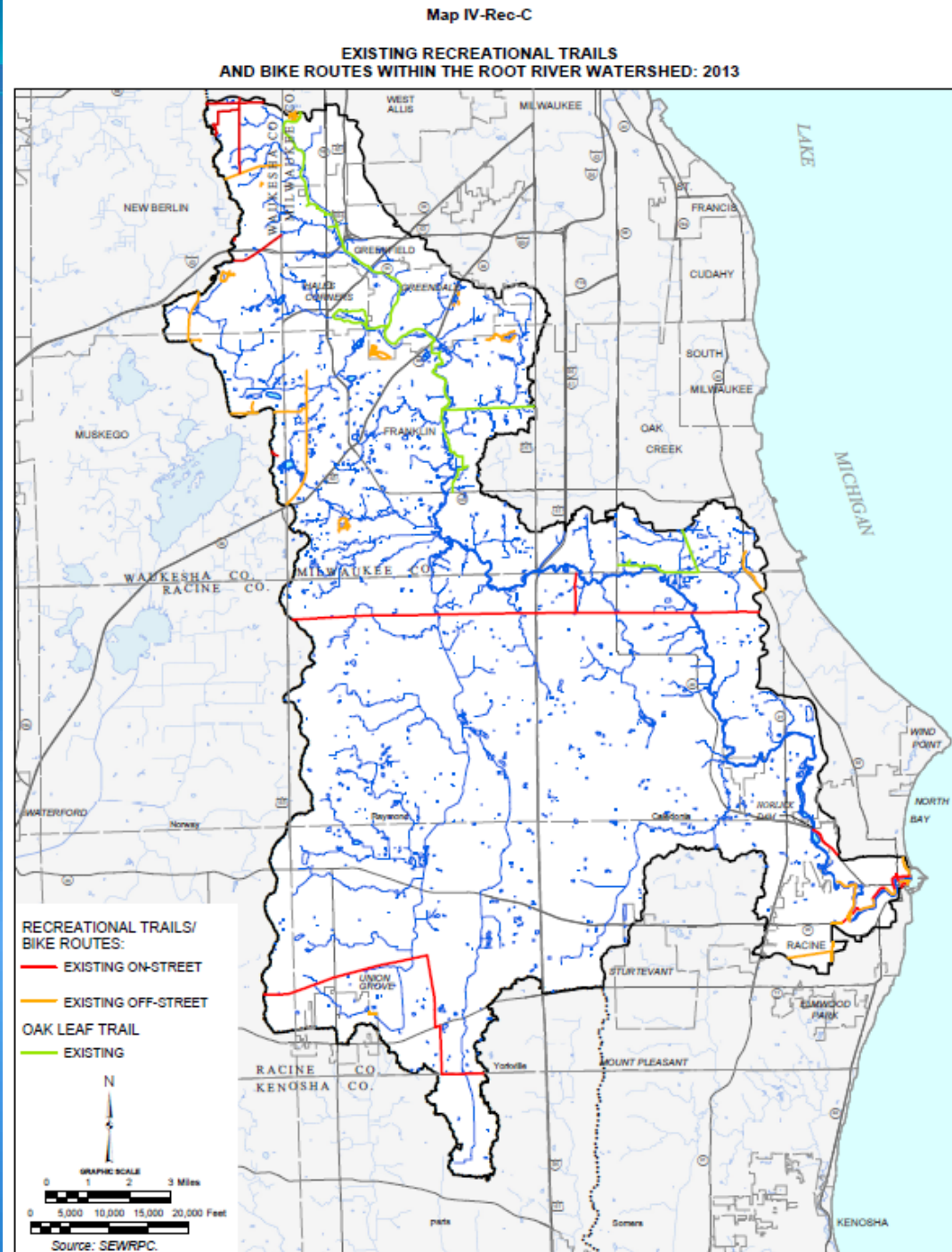
Park and Open Space Sites

- Municipal
 - 124 sites
 - 2,056 acres
- Milwaukee Metropolitan Sewerage District
 - 8 sites
 - 202 acres



Trails

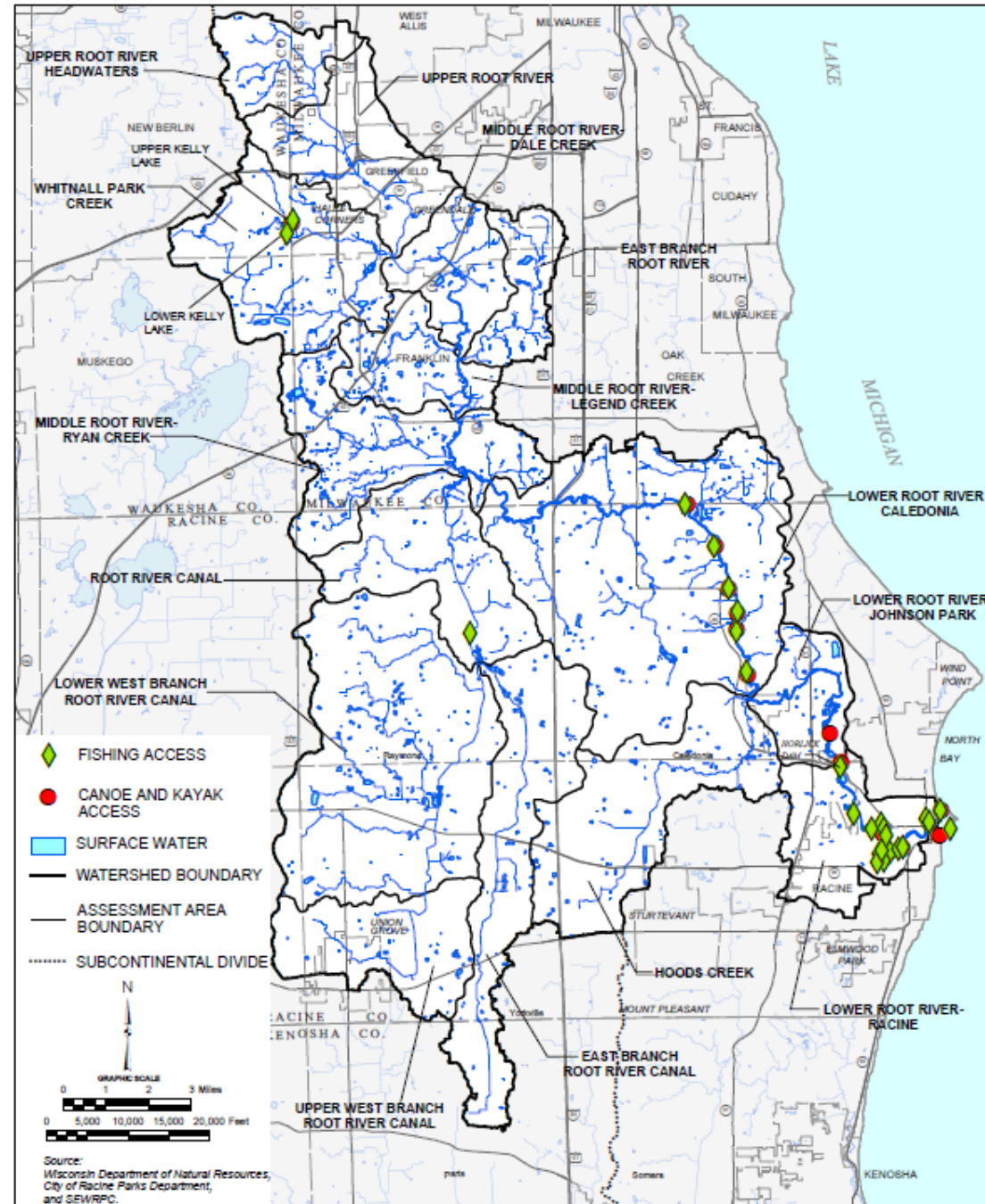
- 44 miles of off street trails
- 31 miles of on street bicycle trails
- Also equestrian trails
- Also “small trails” in several parks



Boat Access

- Below Horlick Dam
 - 1 developed boat launch
 - 4 developed canoe/kayak launches
 - 8 marinas/yacht clubs
- Above Horlick Dam
 - 1 developed boat launch
 - 1 developed canoe/kayak launch
 - “Informal” launches
- Lakes
 - Upper and Lower Kelly Lakes

Map IV-Rec-D
FISHING, CANOE, AND KAYAK ACCESS WITHIN THE ROOT RIVER WATERSHED: 2013

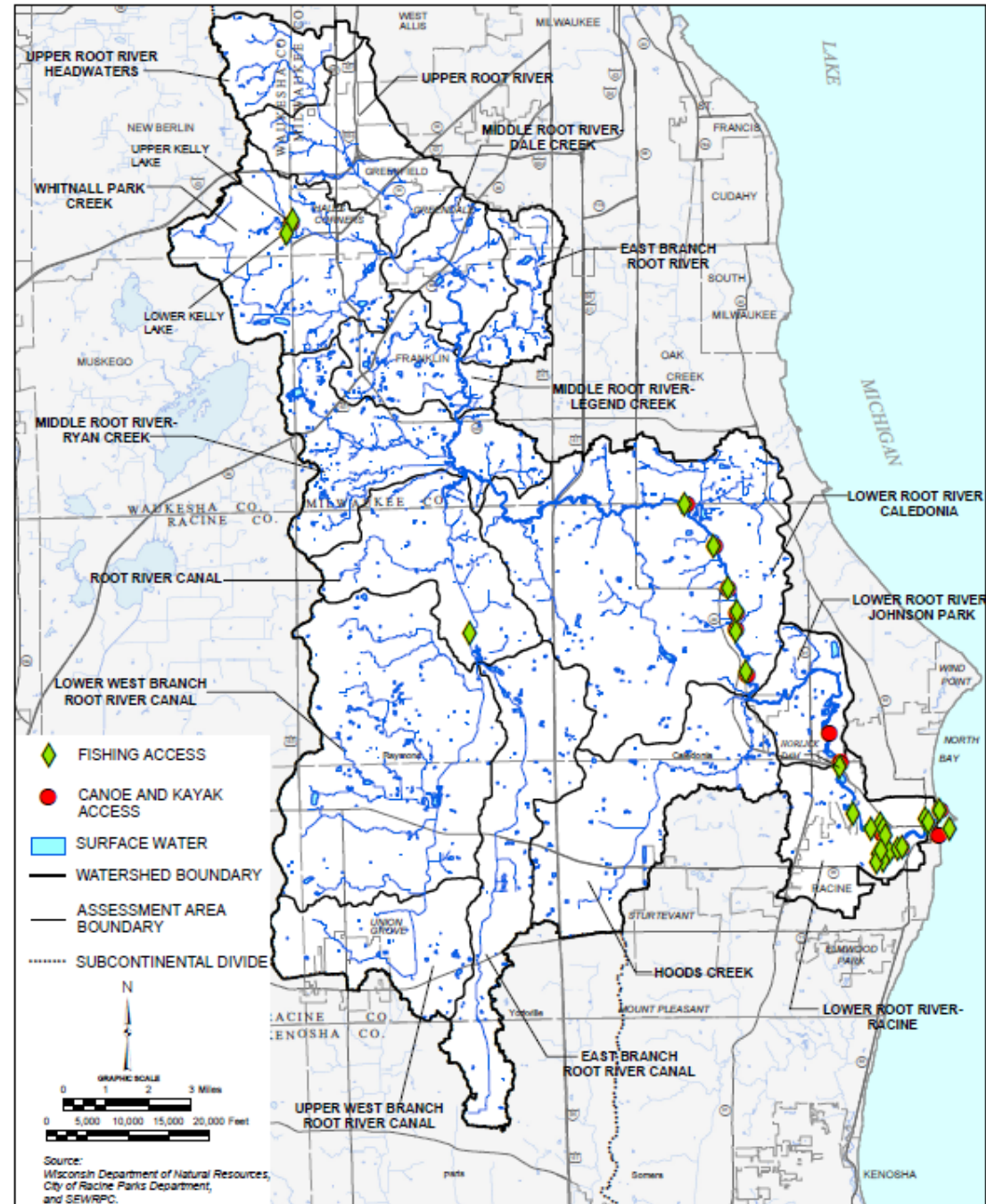


Fishing Access

- From banks at parks
- Urban fishing waters

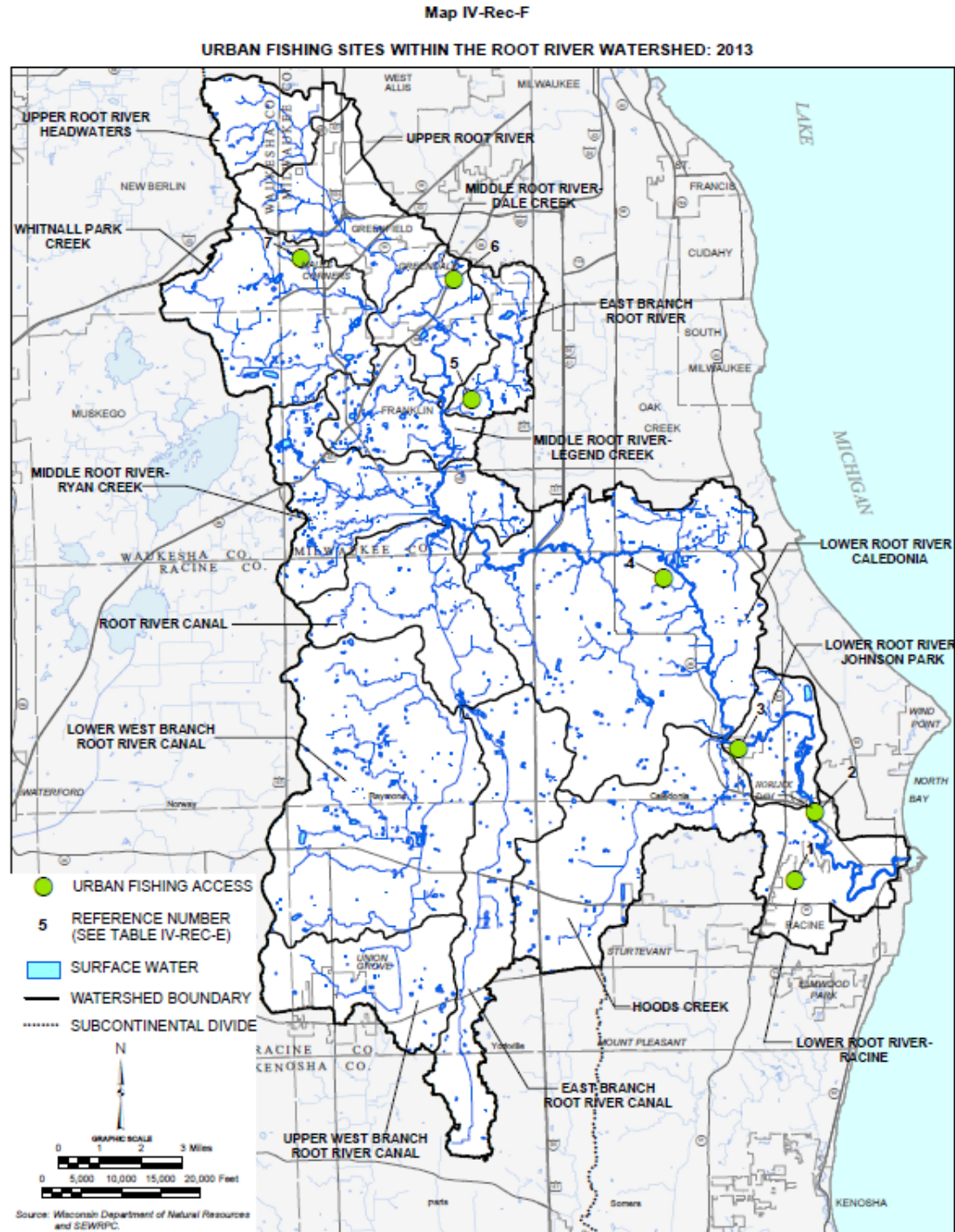


Map IV-Rec-D
FISHING, CANOE, AND KAYAK ACCESS WITHIN THE ROOT RIVER WATERSHED: 2013



Urban Fishing Waters

- Stocked ponds with special fishing rules
 - Franklin High School
 - Gorney Park
 - Lockwood Park
 - Johnson Park
 - Quarry Lake Park
 - Scout Lake Park
 - Schoetz Park



Chapter V—Development of Targets and Alternative Measures



Developing Targets

- Begin with a definition of the main problems or issues related to each focus area
 - As revealed by the inventories in Chapter IV
 - Constitutes a refining of the focus area
- Points to overall strategies for addressing the problems

Sources of Targets

- Starting point is the recommendations and analyses in the Regional Water Quality Management Plan Update
- Draw from relevant State and Federal standards
- Draw from the goals and objectives of related plans and efforts that address the overall strategy

Water Quality Targets

- Water quality problems are related to concentrations of dissolved oxygen, nutrients, and chloride
- Chloride concentrations
 - Long-term increase (since 1964)
 - Exceedences of water quality criteria
 - Accumulation of chloride in groundwater
 - Information gaps
 - Few winter data
 - Compared upper Root River to Menomonee River where there are more data available → Appendix E

Water Quality Targets

- Drivers of chloride problems:
 - Salt use for snow and ice control is probably the biggest source
 - Atmospheric deposition is probably only responsible for 0.25 – 0.50 milligram per liter
 - Average concentration is about 200 milligrams per liter
 - Nationally, salt for deicing accounted for 41 percent of total salt sales
 - Salt for water treatment accounted for 1 percent of total salt sales
 - Salt for agricultural uses accounted for 3 percent of total salt sales

Water Quality Targets

- Overall strategies
 - Fill data gaps
 - Reduce applications of chlorides for snow and ice control
- Targets
 1. Fill data gaps
 - a. Sample during winter
 - b. Sample the mainstem in Racine County and tributaries throughout the watershed
 - c. Sample for both chloride and specific conductance

Water Quality Targets

- Targets

2. Continue ongoing evaluations of existing county and municipal deicing and anti-icing programs with an emphasis on achieving additional salt reductions without compromising public safety
3. Promote evaluations of private deicing operations on commercial, industrial, institutional, and residential properties with an emphasis on achieving voluntary salt reductions without compromising public safety

Recreational Use and Access Targets

- Problem related to high concentrations of bacteria indicative of fecal contamination
 - Water may be unsafe for human contact because it contains disease-causing agents
- Two overall strategies for targets
 - Locate sources contributing sanitary wastewater to surface waters and end these contributions
 - Locate sources contributing fecal pollution of nonhuman origin and end these contributions.

Targets: Load Reductions

Source	Fecal coliform bacteria (trillion cells)
Urban	
NR 151-related	963.29
Other measures	3,019.28
Subtotal	3,982.57
Rural	
NR 151-related	204.67
Other measures	624.31
Subtotal	828.98
Total	4,725.42

Associated Water Quality

Condition	Mean Fecal Coliform Bacteria (cells per 100 ml) during year		Mean Fecal Coliform Bacteria (cells per 100 ml) during May to September swimming season	
	Mean	Range of Assessment Area Means	Mean	Range of Assessment Area Means
Existing (2000)	5,009	2,401-8,198	3,240	1,995-5,142
Recommended Plan (2020)	2,987	1,975-4,213	1,707	1,393-2,141

Compliance with Fecal Coliform Bacteria Single Sample Standard

Condition	Full year 400 cells per 100 ml (percent)		Swimming Season 400 cells per 100 ml (percent)	
	Mean	Range of Assessment Area Means	Mean	Range of Assessment Area Means
Existing (2000)	57	43 – 72	69	55 – 81
Recommended Plan (2020)	61	51 – 72	72	63 – 80

Compliance with Fecal Coliform Bacteria Geometric Mean Standard

Condition	Full year 200 cells per 100 ml (days in compliance)		Swimming Season 200 cells per 100 ml (days in compliance) ^a	
	Mean	Range of Assessment Area Means	Mean	Range of Assessment Area Means
Existing (2000)	46	6 – 148	27	4 – 84
Recommended Plan (2020)	94	28 – 248	54	12 – 138

^aOut of 153 days in the months May through September.

Recreational Use and Access Targets

- Issue related to adequacy of the number of public access points to the Root River
 - State Standard → Major streams should have one access site with parking every 10 miles of stream.
 - Currently one developed site with parking above Horlick Park
 - Additional access points recommended in Milwaukee County and Racine County park and open space plans
 - Back to the Root plan recommends adding a launch at Lincoln Park for portaging around the weir

Recreational Use and Access Targets

- Issue related to adequacy parking at public access points to Upper Kelly Lake and Lower Kelly Lake
 - State Standard → Small lakes of less than 10 acres should have one carry-in access site with parking for five vehicles
 - Both lakes have adequate numbers of access points
 - Both lakes have limited parking in the vicinity of the access points

Recreational Use and Access Targets

- Targets for public points to waterbodies
 1. Creation of 1-2 carry in access sites along the Root River upstream from Horlick dam
 2. Develop additional parking at existing access sites on Lower Kelly Lake and Upper Kelly Lake

Next Steps

- Continue and complete characterization of the watershed
 - Biological conditions
 - Fish, macroinvertebrates, mussels
 - Buffer analyses
 - Stream Characteristics
 - Flooding (Racine County)
 - Recreational access

Next Steps

- Continue identifying targets to be achieved by the end of the plan implementation period
- Continue Identifying and developing alternative measures for achieving targets

Project Web Site

- <http://www.sewrpc.org/SEWRPC/Environment/Root-River-Watershed-Restoration-Plan.htm>
- Presentations from RRRPG meetings
- Summary notes from Advisory Group meetings
- Draft chapters as they are completed
- Comment screen

