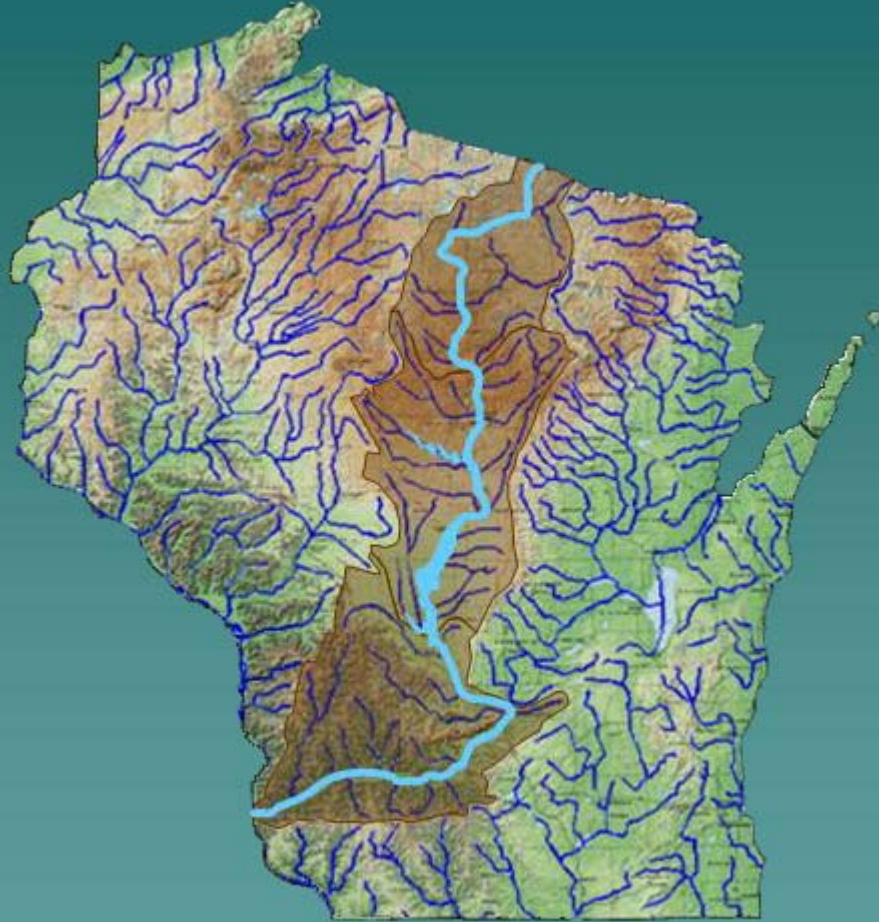


Wisconsin River



Hardest Working River In the Nation



Wisconsin River

Hardest Working River In The Nation

◆ Largest Basin In Wisconsin

- 430 miles in length
- 20% of Wisconsin, with diverse land use
- 14,776 mi² catchment at Prairie du Sac Dam



Wisconsin River

Hardest Working River In The Nation

◆ Largest Basin In Wisconsin

- 21 Storage reservoirs
- Big Eau Pleine - 20% of reservoir system
- Lake DuBay - 4th largest WI River reservoir
- Petenwell Lake - 2nd largest WI inland lake
- Castle Rock Lake - 5th largest WI inland lake
- Lake Wisconsin - 3rd largest WI River reservoir
- 25 Hydroelectric dams



Wisconsin River

Hardest Working River In the Nation





Wisconsin River

A River With History



Wausau Wisconsin 1900



Wisconsin River

A River With History



Wisconsin River 1900



Wisconsin River

A River With History



Paper Mill Industry



Wisconsin River

A River With History



Petenwell Dam 1949



Wisconsin River

A River With History



Petenwell Dam and Tailwater



Wisconsin River

A River With History

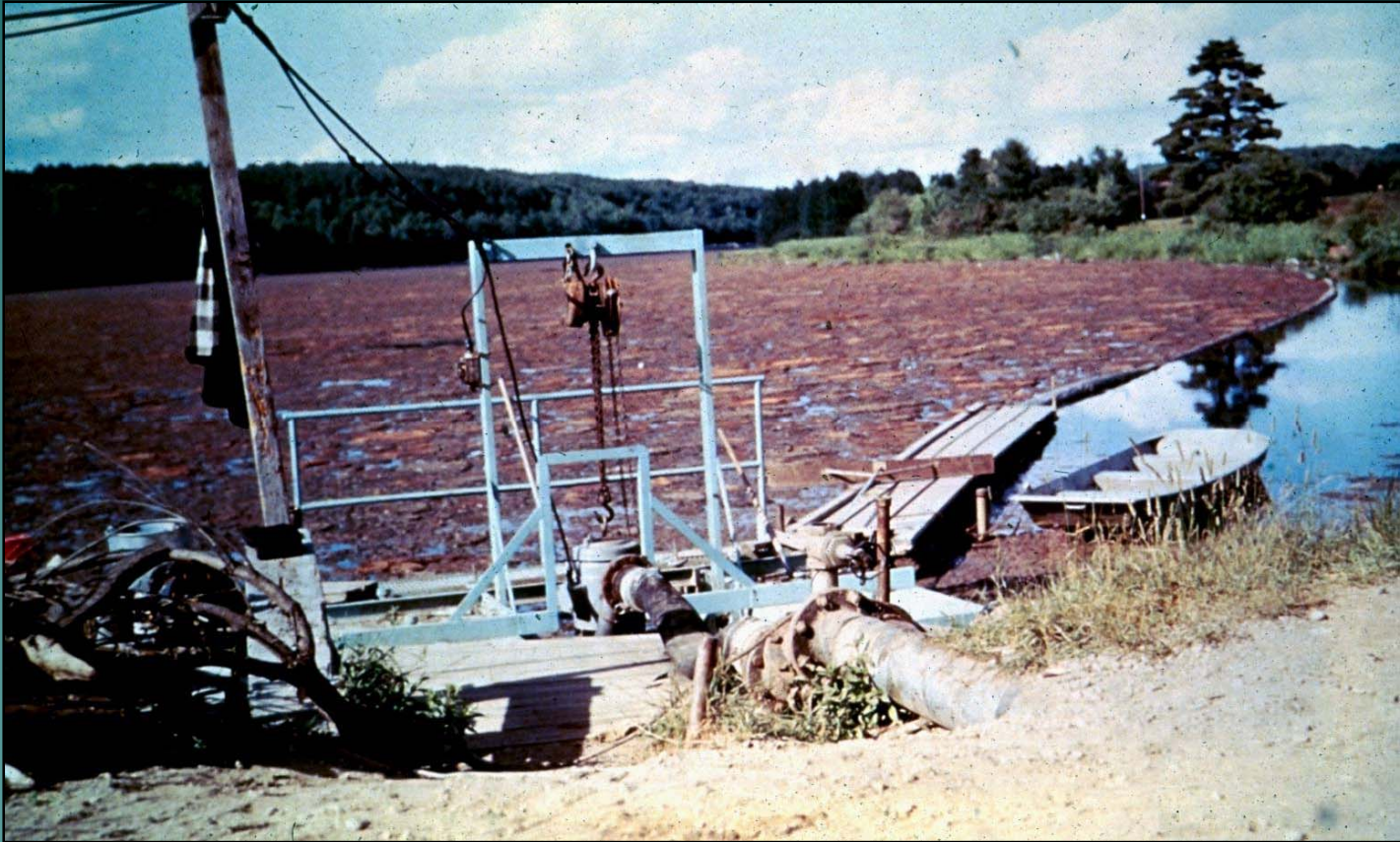


Direct Discharge
1960s



Wisconsin River

A River With History



Wisconsin River - 1969



Wisconsin River

A River With History



Spill on Wisconsin River



Wisconsin River

A River With History



Fish Kill on Wisconsin River



Wisconsin River

A River With History

◆ Progress

- 1972 Clean Water Act
- 1983 Clean Water Act Amendment
 - ◆ National goal of fishable and swimmable
- 1987 Wisconsin Waste Load Allocations
 - ◆ Set BOD limits for segments WI River
 - ◆ Restored dissolved oxygen levels to river segments



Wisconsin River

Water Quality Today

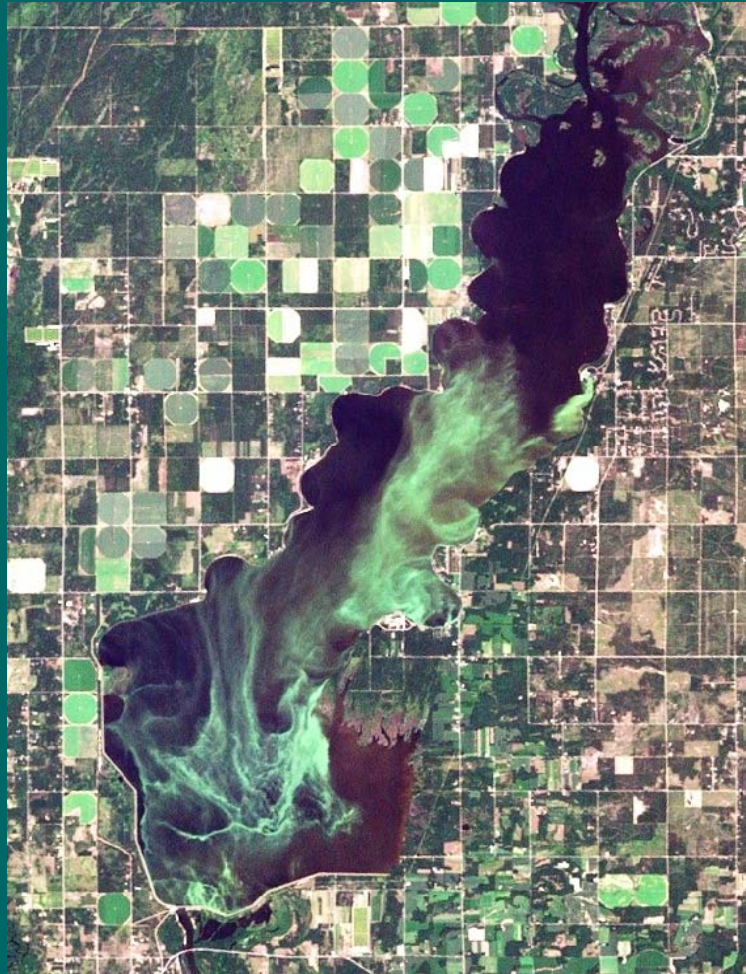
◆ Excessive Nutrient Loads

- Excessive nutrient loads (primarily phosphorus) cause water impairments.
 - ◆ Severe algal blooms
 - ◆ Low levels of dissolved oxygen
 - ◆ Human health concerns
 - ◆ Decreased opportunities for recreation
 - ◆ Affects tourism / Economic Impact



Wisconsin River

Water Quality Today



Algae Bloom Petenwell



Wisconsin River

Phosphorus Sources

Point Sources

Municipal Wastewater



Industrial Wastewater



Nonpoint Sources

Agriculture



Stormwater





Wisconsin River

Water Quality Today

◆ Impaired Waters

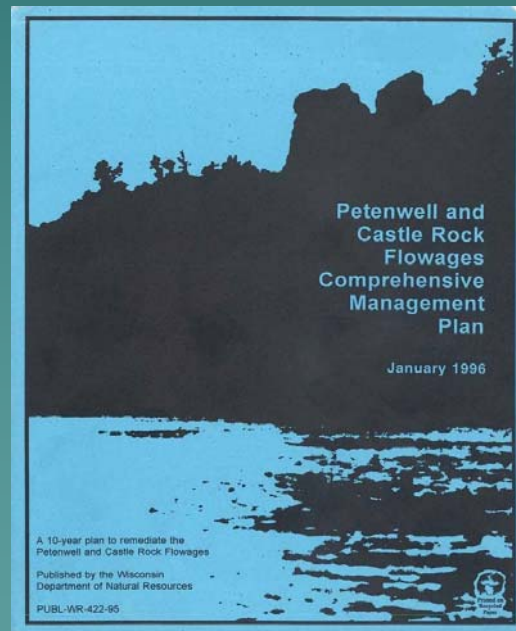
- Big Eau Pleine River, Big Eau Pleine Reservoir, Mill Creek, Petenwell Lake, Castle Rock Lake, Dexter Lake, Lake Wisconsin
- Low Dissolved Oxygen
 - ◆ low dissolved oxygen due to eutrophication



Wisconsin River

Phosphorus Reduction

◆ 1996 Petenwell & Castle Rock Comprehensive Plan





Wisconsin River

Phosphorus Reduction

◆ Progress

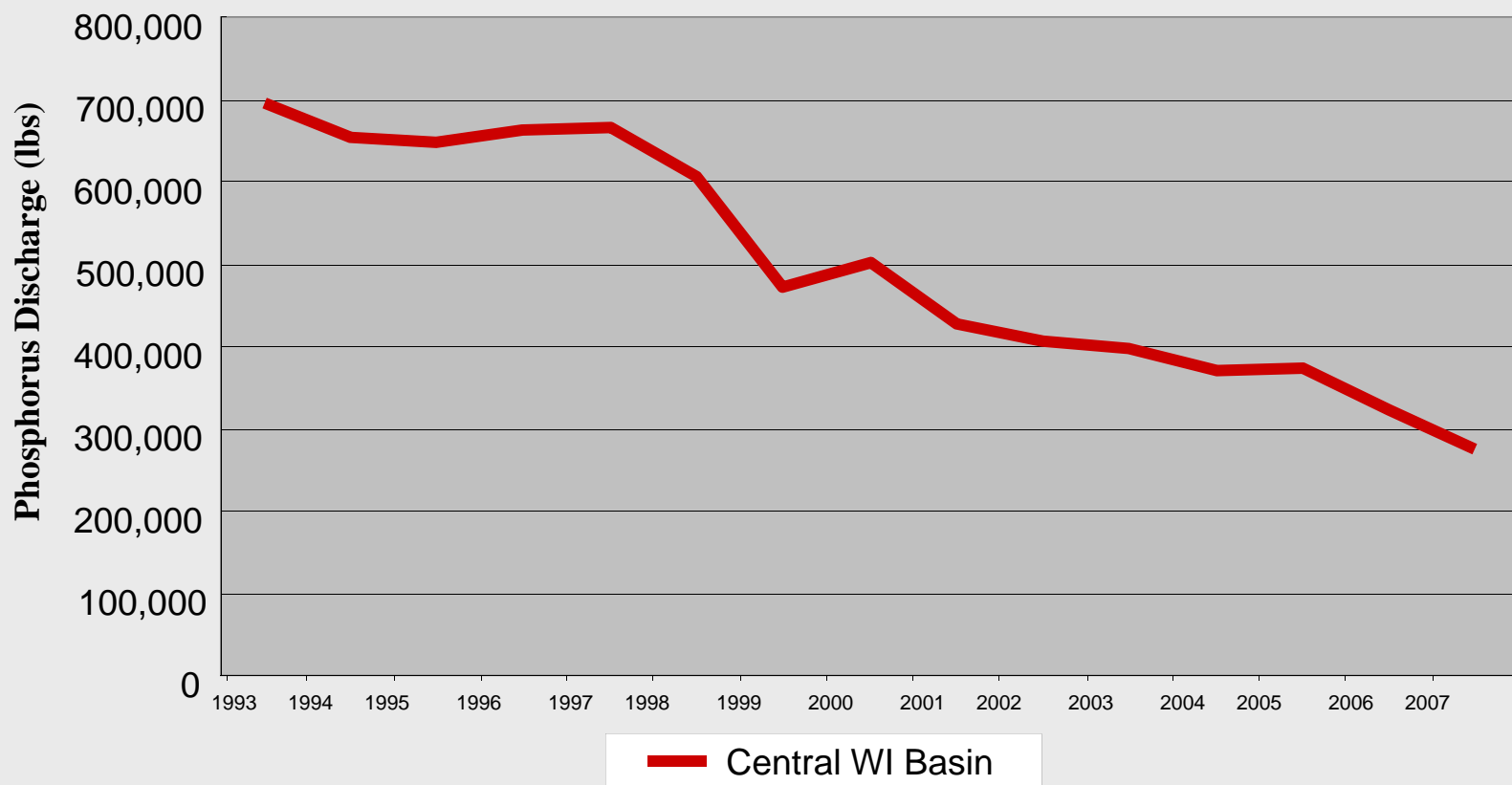
- 1992 Effluent Standards and Limitations (NR 217)
 - ◆ Phased phosphorus reductions from point sources
- Point sources have reduced phosphorus loads by 50% since 1993 (CWB)



Wisconsin River

Phosphorus Reduction

Estimated Annual Phosphorous Point Source Loading





Wisconsin River

Phosphorus Reduction

◆ Progress

- Stormwater: 98% of Industrial and Commercial sites have controls.
- Phosphorus Lawn Fertilizer Band



Wisconsin River

Phosphorus Reduction

◆ Progress

- Large Animal Feed Operations (CAFOS)
 - ◆ permits regulate nutrient discharge
- Agricultural Cost Share
 - ◆ manure storage, runoff control, nutrient management.
- County Land Conservations Departments
 - ◆ work with Agricultural community every day.
- DATCAP, NRCS ... assistance to agriculture



Wisconsin River

Phosphorus Reduction

- ◆ Wisconsin State Legislature (2009)
 - 281.14 Wisconsin River monitoring and study
- ◆ NR 217 and NR 151 updated in December 2010



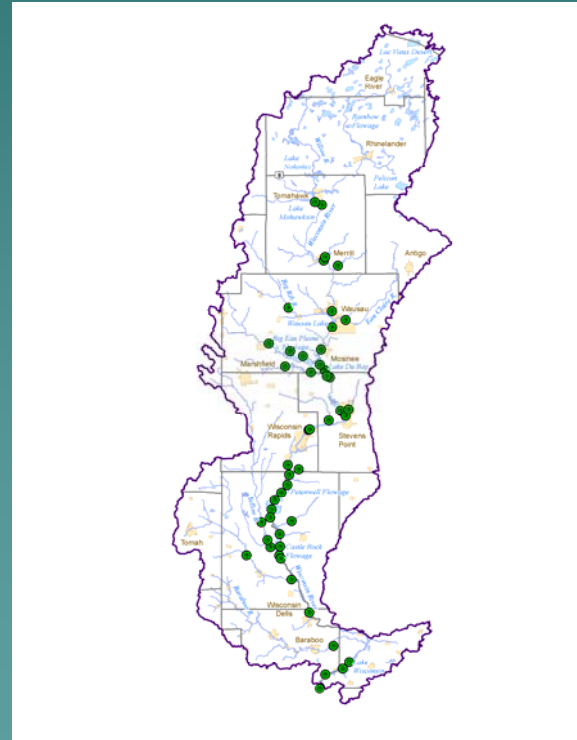
Wisconsin River

Phosphorus Reduction

◆ 2009 WI River Water Quality Improvement Project

Water Quality Monitoring Stations

- 13 Wis. River sites
- 16 Tributary sites
- 19 Reservoir sites





Wisconsin River

Phosphorus Reduction

- ◆ Water Quality Partnership
 - WDNR
 - Petenwell and Castle Rock Stewards
 - Adam Co., Juneau Co., Wood Co., Portage Co., Marathon Co
 - River Alliance of Wisconsin
 - Big Eau Pleine Citizens Organization
 - Big Eau Pleine Task Force
 - U.S. Army Corps of Engineers
 - U.S. Geological Society
 - U.S. Environmental Protection Agency
 - Wisconsin Valley Improvement Corporation
 - Wisconsin River Power Company
 - Alliant Energy
 - University of Wisconsin– Stevens Point
 - You