

## Wetland Restoration for Flood Reduction and Water Quality Improvement in the Rock River Basin

### Using Potentially Restorable Wetlands Mapping to Target Restoration

Tom Bernthal – WI Dept of Natural Resources  
Chris Smith – WI Dept of Natural Resources

## Outline

- Mapping Potentially Restorable Wetlands (PRW's)
- Flood Damage Reduction: PRWs and the Floods of 2008
- PRWs and Water Quality
- Prioritizing Opportunities

## PRW Assumptions

- All hydric soils were once wetlands.  
"Hydric" = soil units =>85% hydric in "Percent Hydric" field in SSURGO soils database from NRCS
- Wetlands shown on the WI Wetland Inventory are still remaining.
  - could be rehabilitated or enhanced but not re-established
- Hydric soils in urban areas are not likely to be restored, so are not mapped as PRWs
  - Forested hydric soils have been retained as PRWs though the feasibility of restoration is also low

## Simple PRW Equation

Hydric soils (not in urban areas)

- current wetlands (on WI Wetland Inventory)

- recently restored (from restoration data)

= **Potentially Restorable Wetlands**

Could also call these "Drained wetlands"

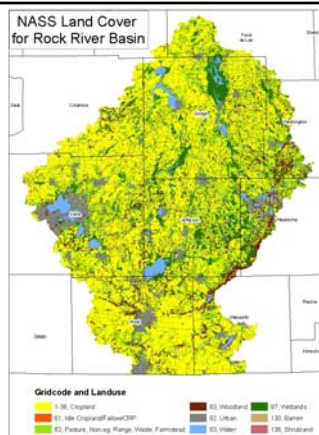
## Other Terms

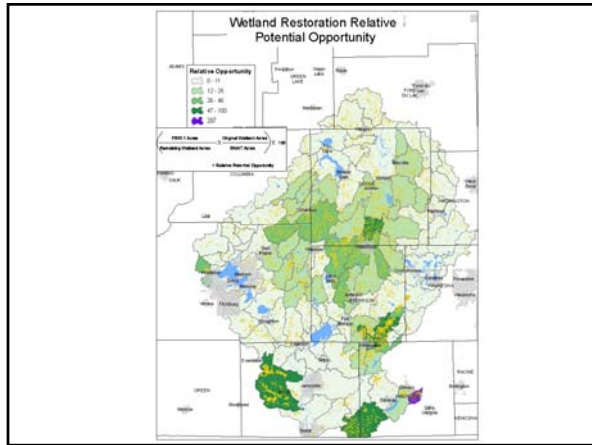
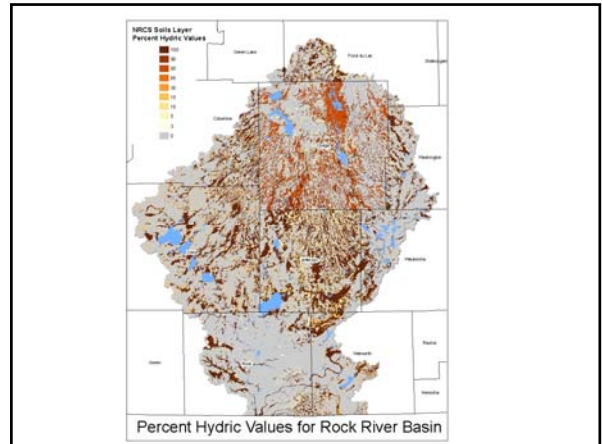
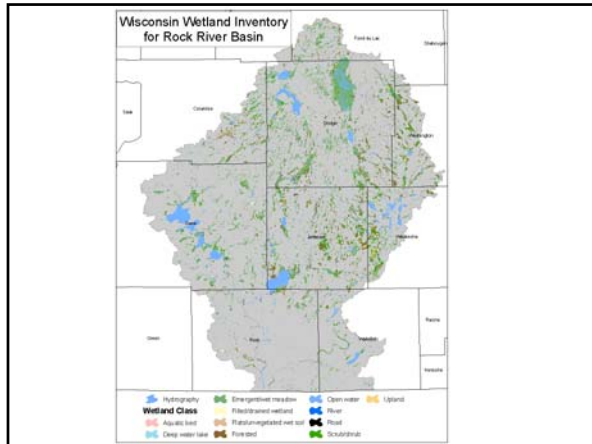
All Hydric soils (**Original Wetlands**)

- current wetlands (on WI Wetland Inventory)

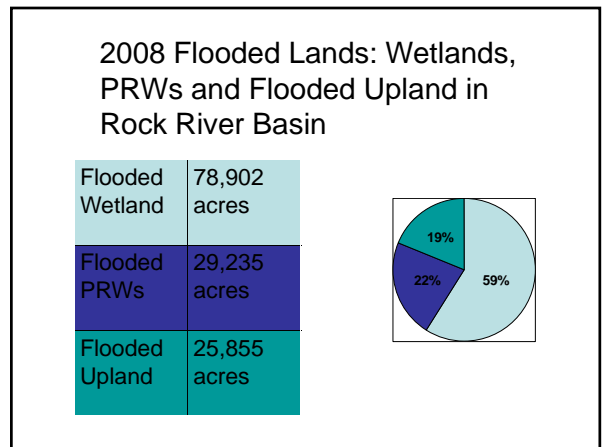
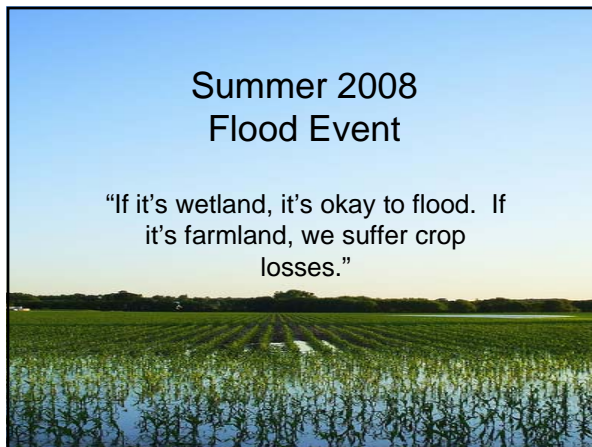
- recently restored (from restoration data)

= **Lost wetlands**



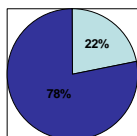


- ### Timeline
- Original process developed for Milwaukee River Basin - 2006
  - Applied to Rock River Basin (version 1) – 2008
  - 2008 Flooded Areas Map – Emergency Government – map open water in June 2008
  - PRW Mapping of Flooded Area Basins (Version 2.0) March 2009
  - Emergency Watershed Protection Program Floodplain Easement sign up March-April 2009

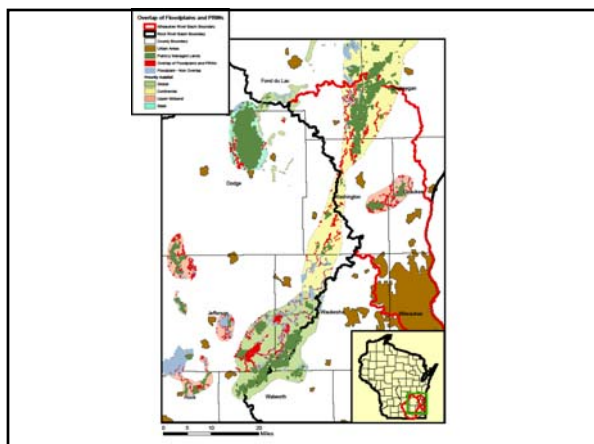
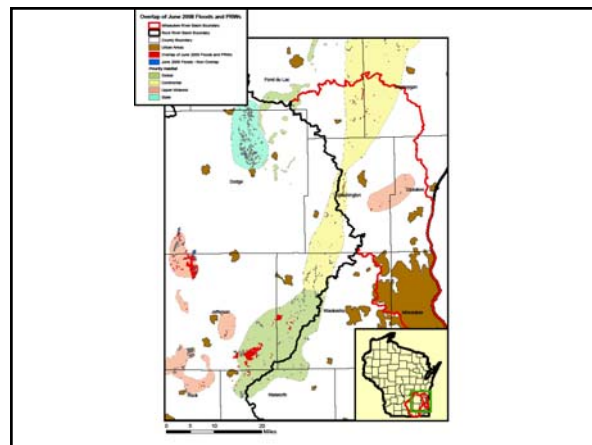
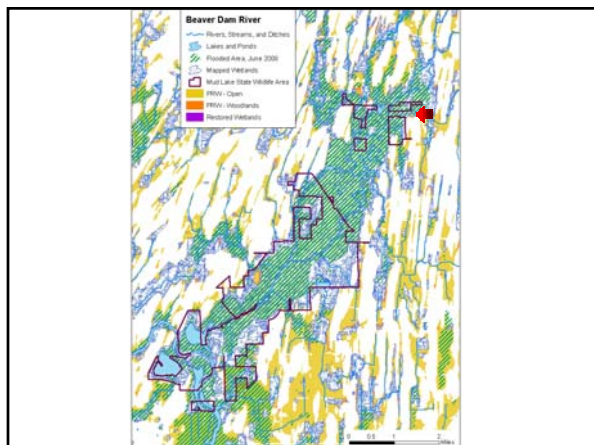


### 2008 Flooding of Wetlands in Rock River Basin

Flooded Wetland	78,902 acres
Not Flooded Wetland	282,727 acres

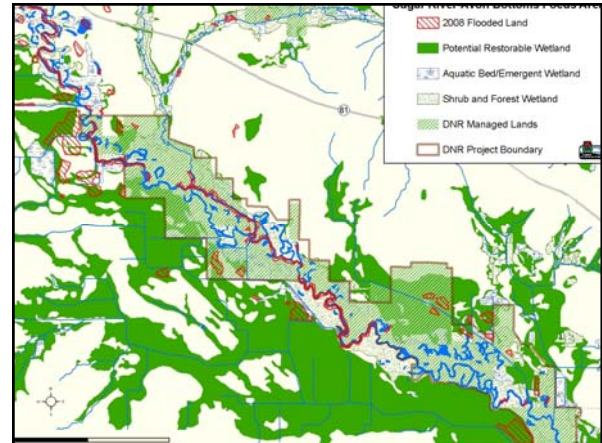
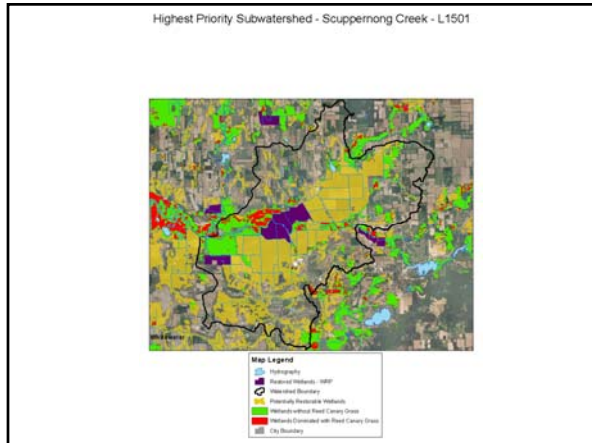
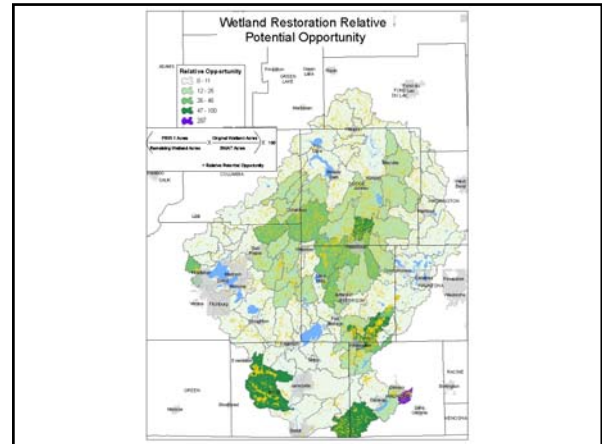
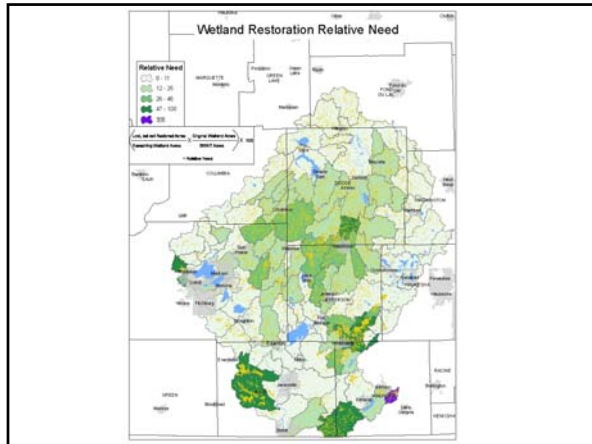


Highway K near Mud Lake State Wildlife Area



### Relative Need for Wetland Restoration

- Surrogate for Water Function
- Including Water Quality Improvement
- TMDL Implementation



## FUTURE USES

- Currently Relative Need for Restoration and Relative Opportunity
- TMDL Implementation
- Link to Explicit PRIORITIZATION Tools
- Best Area vs Best Site