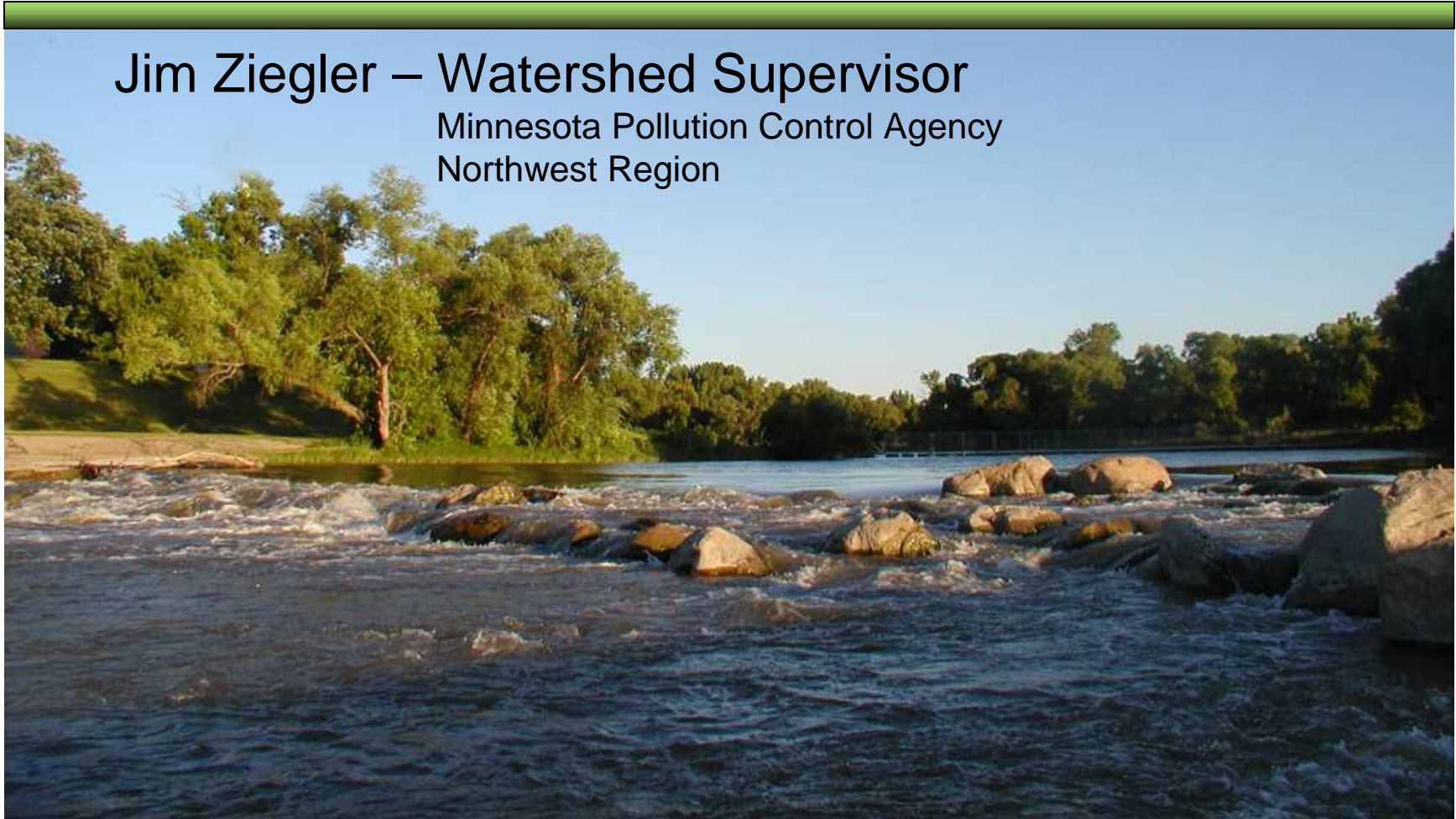




# Red River Basin Water Quality Update

Jim Ziegler – Watershed Supervisor  
Minnesota Pollution Control Agency  
Northwest Region





# Red Basin Natural Resource Framework Plan

- Maintain, restore and protect surface and ground water quality in the Red River basin.

- Desired Future Outcome:

“Existing water and biological quality will be maintained and protected and water quality improvements in the Red River Basin will be achieved by reducing point source and non-point source pollution in the mainstem, tributaries and Lake Winnipeg.”



## **Why we're concerned, what we want to protect**

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- Sources of drinking water
- Lake Winnipeg's commercial fishery
- The recreational opportunities that abound across the basin



# Why we are concerned

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## Poor water quality:

- Impairs beneficial uses
- Increases water treatment costs
- Affects recreational fishing. Several Red River fish kills in recent years.
- Mercury contamination leading to fish consumption concerns across the region



# Lake Winnipeg problems

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- Shows signs of excess nutrient loading from phosphorus and nitrogen
- Toxic alga blooms
- Fishery threatened



# Impairments

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- 43 Minnesota streams, rivers and lakes in the Red Basin are classified as impaired due to pollutants such as low oxygen, eutrophication, sediment, bacteria or limited aquatic habitat.



# Monitoring

- Continue to implement a basin approach to goals and monitoring
- MN, ND, Canada cooperation
  - Monitoring (PCA, ND Dept Health, USGS)
  - Parasites, Pathogens (IRRB)
- More managers using Lake Winnipeg as endpoint for WQ measurement



## Monitoring (continued)

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- Student WQ monitoring network (27 schools in MN, 12 in ND)
- Pathogen monitoring



# Restoration of impaired waters

- MN, ND 305b list has new impaired waters every two years
- 38 impaired waters studies underway in Red Basin on MN side to be done by 2009
- Lower Ottertail River gets \$400,000 for BMPs for TMDL implementation work
- WQ modeling for Bois de Sioux, Mustinka, Buffalo and Wild Rice
- Stream surveys to improve fish habitat
- Sturgeon reintroduced to the Basin



# Restoration of impaired waters

- ND 319 projects target \$5 million annually to on-the-land improvements
- ND - 6 watershed assessments underway and 5 Sec. 319 funded watershed restoration projects to address impaired water issues
- Progress continues in Manitoba on Lake Winnipeg Action Plan
- Over 60,000 acres in the basin in ND have been treated with BMPs through Section 319 watershed projects
- 12 full or partial ag waste systems have been installed through Section 319 funding

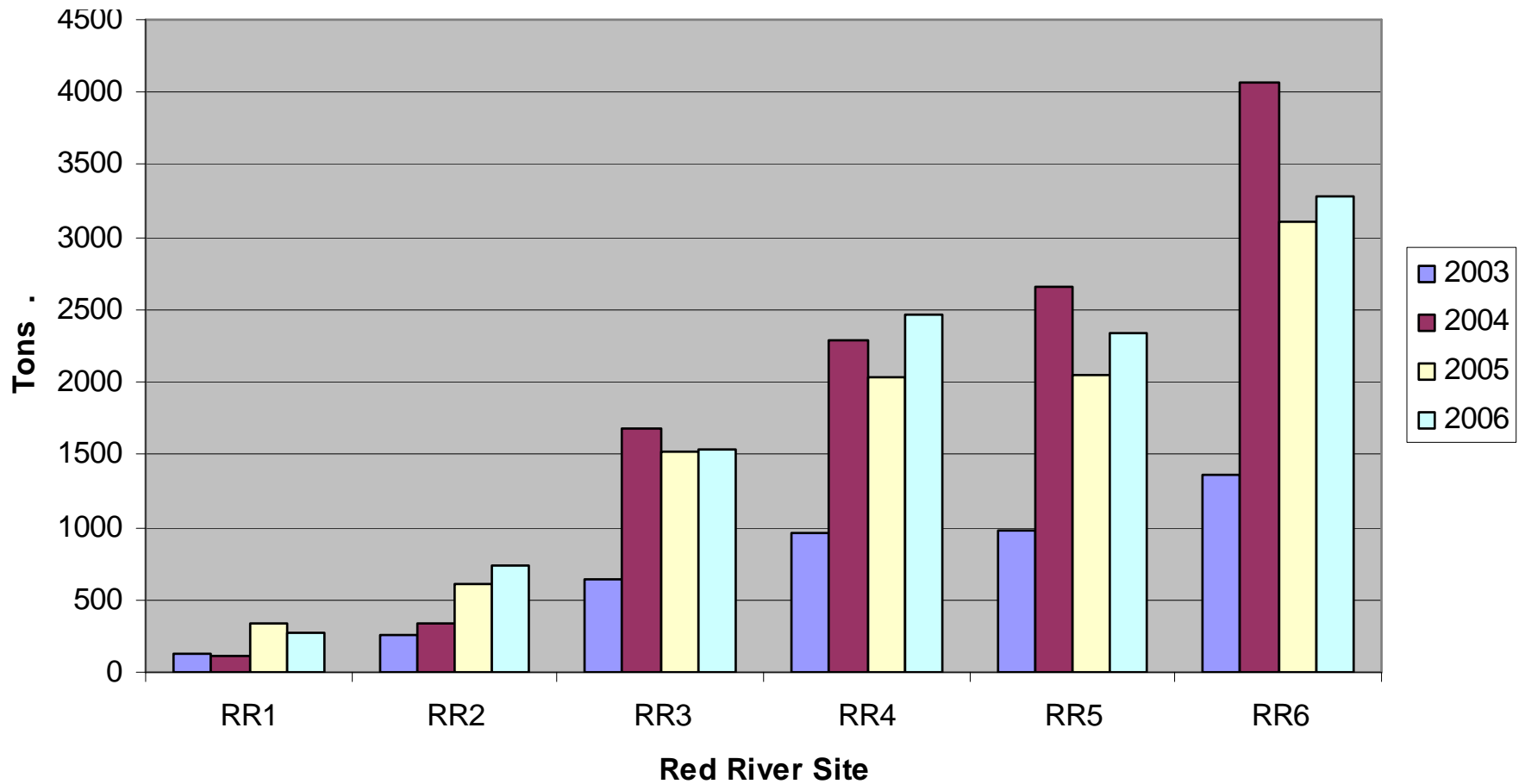


# Reducing Pollution

- Minnesota TMDL studies
- Minnesota Phosphorous Source Study
- Winnipeg treatment improvements
- Manitoba integrated watershed management plans (IWMPs)

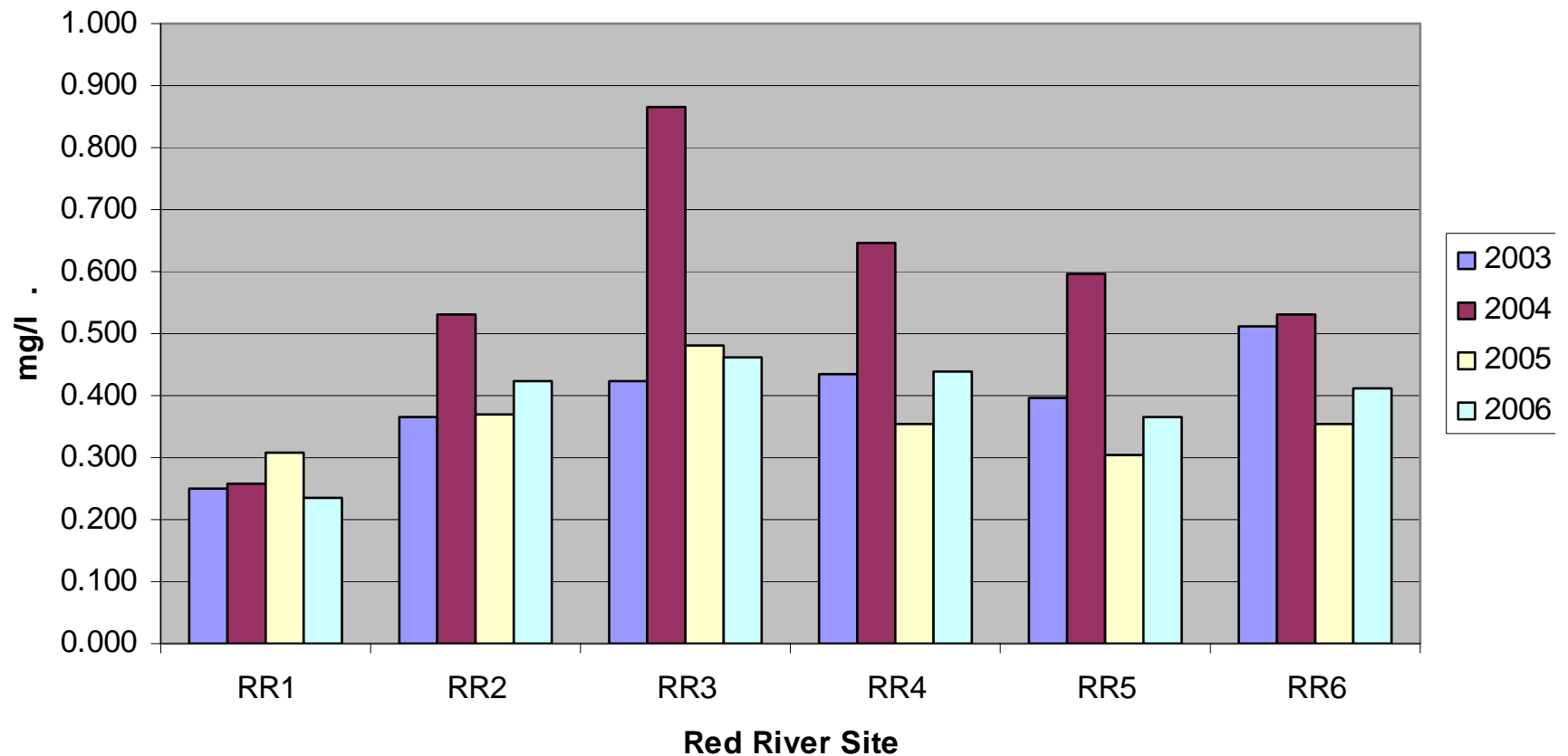


# Total phosphorus loads





# Phosphorus flow weighted mean concentrations at Red River sites





## What's next?

- Continue to focus on a basin perspective
- Work must span top, bottom of watershed
- Maintain a consistent approach, focus
- Two-pronged approach using both incentives and regulation
- Coordination among jurisdictions still holds challenges... and greatest potential for success



# The Minnesota, Wisconsin compact

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## Four strategies

1. Jointly evaluate and establish standards
2. Perform study, develop plan
3. Coordinate, improve monitoring capacity
4. Provide staff, funding



# Red River Basin Compact?

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1. Jointly evaluate, establish standards
2. Have RRBC identify point, non-point sources and recommend reductions
3. Continue coordination of WQ monitoring, evaluation and assessment and have states and province report at 2009 conference



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