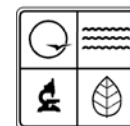


# Clean Water Forum Advisory Group Updates

**Water Protection Program**

June 5, 2006

[www.dnr.mo.gov/env/wpp/cwforum/index.html](http://www.dnr.mo.gov/env/wpp/cwforum/index.html)



Missouri  
Department of  
Natural Resources

At the December Clean Water Forum, the group decided to form several advisory groups to help us work on selected issues.

- 303(d) List/Water Quality Monitoring Issues
- Antidegradation Implementation Procedures
- Unclassified Streams/Wetland Classification/Tiered Aquatic Life
- Small Flows (<22,500 gal/day) Effluent Limits/Lagoon Policy/Pesticides
- Water Quality Effluent Limits/Effluent Dominated Streams/Waivers to Disinfect
- Continuing Authorities
- Federal Safe Drinking Water Rules/Public Drinking Water Design Guide
- Nutrient Criteria Development for Lakes
- Funding/Staff/Resources
- State Revolving Fund (SRF) Priority Points/Process
- Missouri Nonpoint Source Management Plan Revisions



# 303(d) List/Water Quality Monitoring Issues Advisory Group

Presented by  
John Ford  
Water Protection Program

## 303(d) Listing Methodology Document (LMD) Workgroup

- CWC requested revision of LMD in March 2006
- Workgroup met 3 times March-April 2006
- 60-day Public Notice of proposed LMD
  - ◆ March 6- May 5, 2006
- CWC hearing on draft LMD June 7, 2006
  - ◆ Proposed draft has many details
  - ◆ Several are still contentious.
- House Bill 1149 passed
  - ◆ removes rulemaking requirement for 303(d) list.




# Antidegradation Implementation Procedures Advisory Group

Presented by  
Trent Stober, P.E.  
MEC Water Resources, Inc.



# Water Quality Standards

- Beneficial Uses
- Water Quality Criteria
- Antidegradation



# Antideg Implementation Procedures Advisory Group

- Charged with developing a procedure for implementing the Antidegradation rules
- Submit Final Draft to EPA by March 2007
- Four Meetings to date:
  - ◆ February 8, March 8, April 12 and May 10
  - ◆ Future Meeting Date: June 21 and July 19



# Antidegradation Regulatory Background

- Concept established in 1968 by U.S. Department of Interior
- CWA Section 101(a)...Restore and Maintain the Integrity of the Nation's Waters
- CWA Sections 303(d)(4)(B)...TMDL, WLA, and Permitting Standard must be consistent with antidegradation policy
- Settlement Agreement Item in MCE Lawsuit



# MCE Settlement Agreement

- **Paragraph 6.** The Parties understand that the State of Missouri intends to adopt new or revised water quality standards to identify antidegradation implementation procedures, which relate to Claim 13 of Plaintiff's Complaint.
- **Paragraph 7.** (Paraphrased) EPA agrees to determine whether new or revised water quality standards are necessary to meet the requirements of the CWA.
- **Paragraph 8.** In the event that by April 30, 2007, the State of Missouri submits new or revised water quality standards identifying the antidegradation implementation procedures identified above in Paragraph 6, then Paragraph 7 should not apply.

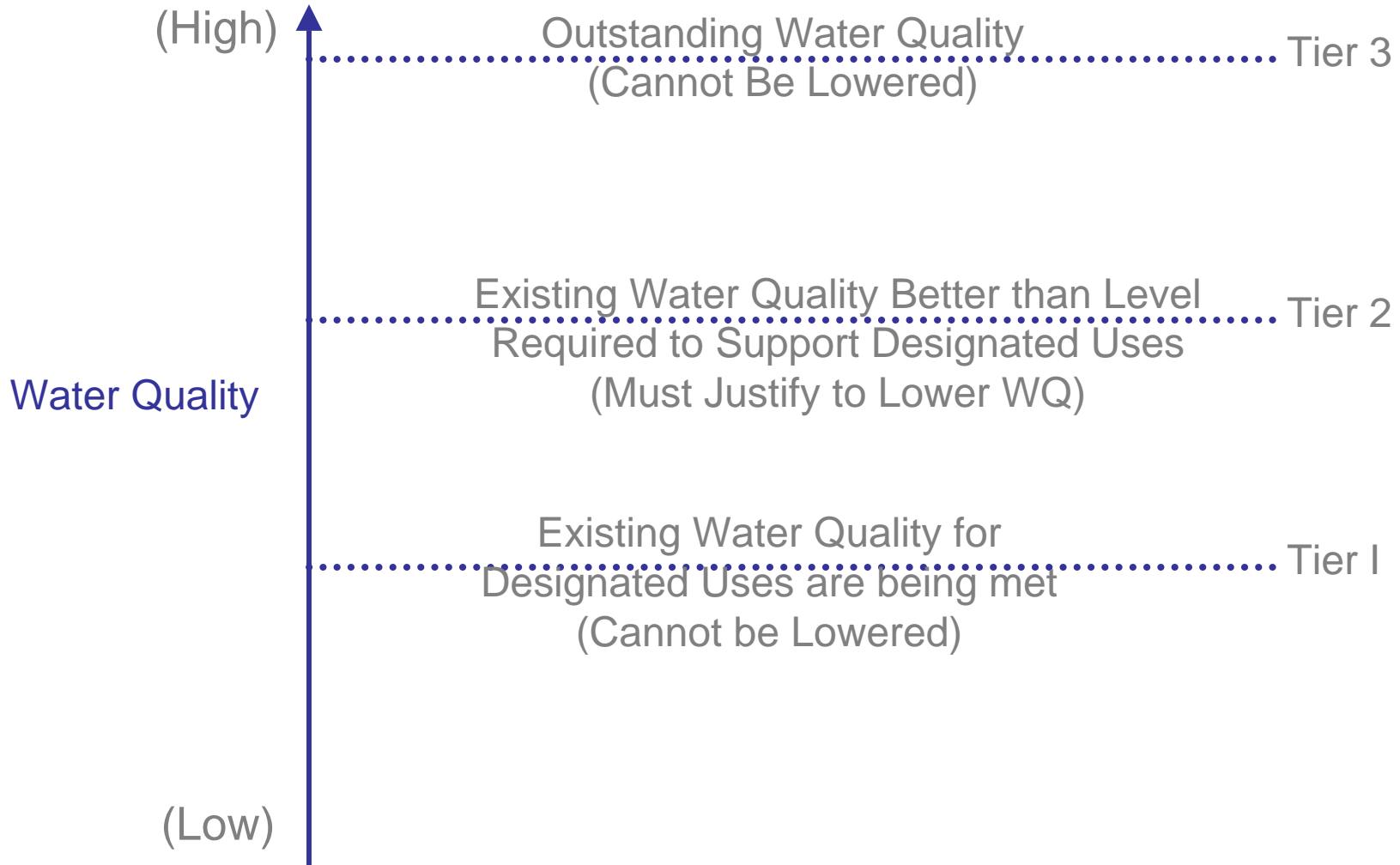
# Regulatory Background

## **40 CFR 131.12 Antidegradation Policy**

### *Adoption of Policy and Implementation Procedures*

- ◆ **Tier 1** – Existing Uses and WQ shall be maintained and protected.
- ◆ **Tier 2** - High Quality Waters – reduction in WQ may be lowered if justified according to specific provisions....
  - Intergovernmental Coordination & Public Participation
  - Economic and Social Analyses
  - Cost Effective & Best Management Practices for NPS
- ◆ **Tier 3** – Outstanding Waters – No reduction of WQ allowed

# Antidegradation Tiers





# Critical Antidegradation Issues

- Tiering of Water Bodies
  - ◆ Water body - by - water body
  - ◆ Pollutant-by-pollutant
  - ◆ Combination
  - ◆ Tracking status
- Establishing baseline water quality conditions

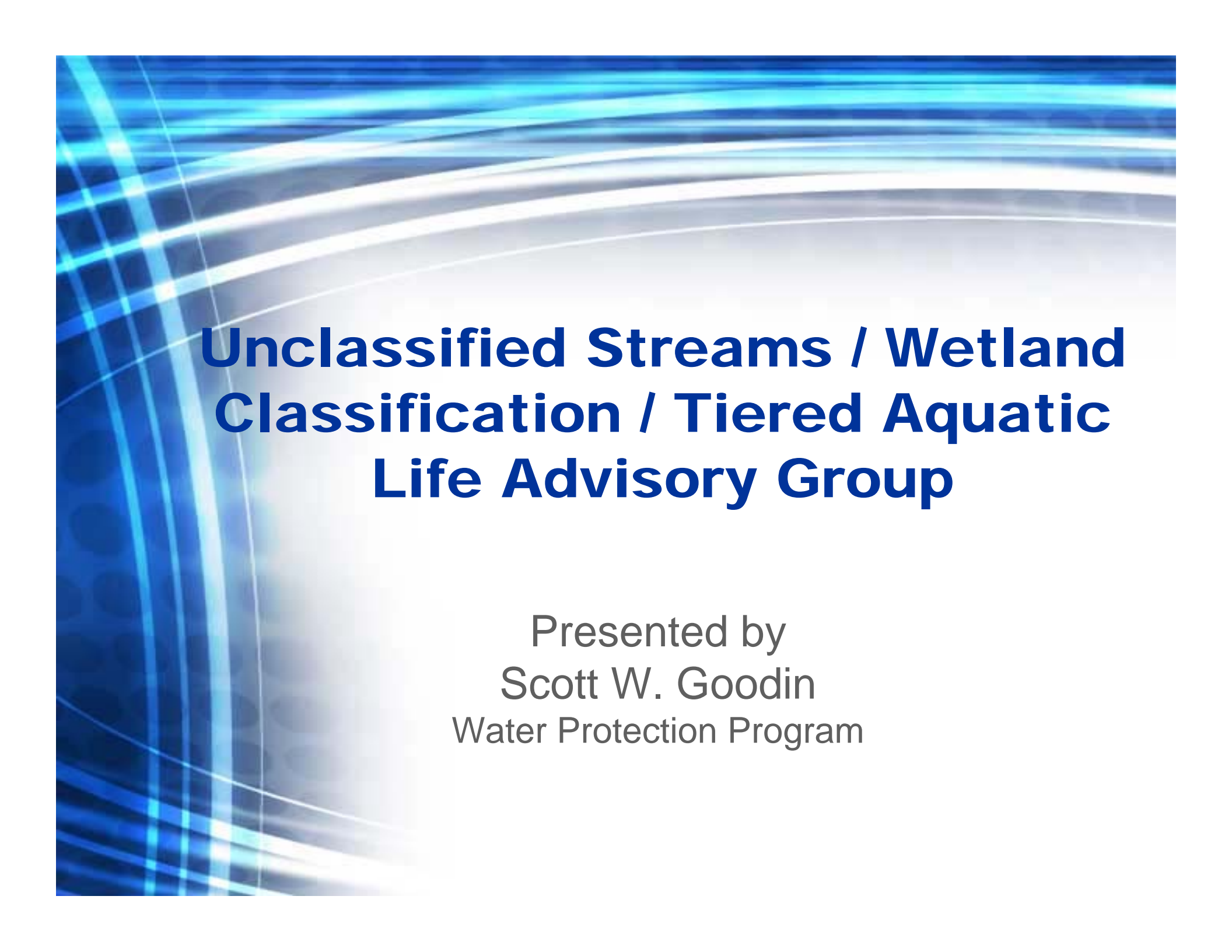
# Critical Antidegradation Issues

- Tier 2 Review Procedures
  - ◆ De minimis exemptions
  - ◆ Determination of assimilative capacity
  - ◆ Socio-economic review procedure
    - Whose responsibility
    - Approach – Complex to simple
    - EPA Guidance
    - Knee-of-the-curve ???
  - ◆ Alternatives Analysis



# Critical Antidegradation Issues

- Applicability of current department permitting procedures
  - ◆ Facility planning
  - ◆ Discharge permitting
  - ◆ Water quality reviews
  - ◆ Total maximum daily load (TMDL) studies



# Unclassified Streams / Wetland Classification / Tiered Aquatic Life Advisory Group

Presented by  
Scott W. Goodin  
Water Protection Program



## Tiered Aquatic Life Use (TALU) Assets

- Recognized and accepted ecological boundaries.
- Aquatic invertebrate data available for each ecological division.
- Available data may be manipulated to quantifiably define subsets within tiers.



# TALU Gaps

- Lack of comprehensive fishery data (targeted availability is some time in 2007)
- No Standards framework in place for codifying tiers.
- Effect on existing policies
- Partitioning of workload

# TALU Decision

- Discussion to resume upon results of data analysis, probably sometime in late 2007.



# Wetlands Classification and Standards Development

- Discussion tabled until further notice

# Unclassified Waters

Excerpt IV-J from EPA letter dated Sept. 8, 2000 regarding the protection of unclassified waters:

“Nationally, EPA will be examining the issue of whether or not the states have an appropriate default use in their general criteria for unclassified/unlisted waters, and if so, that default use is protective of the existing use or is consistent with the “fishable/swimmable” goal of the CWA...In conclusion, any water is presumed to have a default use designation of “fishable/swimmable” under the rebuttable assumption, and it is the Agency’s view that States must protect unclassified or unlisted waters as well as classified waters for that default use. We note that although unlisted (i.e., unclassified) waters are protected by the general criteria in the Water Quality Standard, there is no clear default use-designation language in Missouri’s WQS’s for “unclassified waters”. This is an issue which EPA will want to discuss during the triennial review.”



# Discussion Continues

Potential default uses identified from  
General Criteria:

- ◆ Livestock & Wildlife Watering
- ◆ Aquatic Life
- ◆ Recreational Contact



## Concerns Understood

- Potentially significant impact to permitted point/non-point pollutant sources & effect on utility rate-payers
- Policy considerations
- Lack of protocol or guidelines for UAAs
- Schedule of implementation



# Small Flows Effluent Limits, Lagoon Policy and Pesticides Advisory Group

Presented by  
Refaat Mefrakis, Mary West and  
Robert J. Brundage



Small Flows  
( $< 22,500$  gal/day)  
Effluent Limits

Refaat Mefrakis  
Water Protection Program



# Lagoon Policy

Mary West  
Environmental Services Coordinator  
Missouri Public Utilities Alliance



*Missouri Association of Municipal Utilities  
Municipal Gas Commission of Missouri  
Missouri Joint Municipal Electric Utility Commission*  
2407 W. Ash  
Columbia, MO 65203  
Phone: 573.445.3279  
Fax: 573.445.0680

# Lagoon Permitting

- Issue was for renewal of existing lagoon facilities with >30/30 BOD/TSS effluent limits
- Ammonia limits had not been put in permits
- Water Quality Impact studies had not been done on these facilities, as required by state regulations

# Assumptions

- Lagoons have the potential to cause water quality impairments
- MDNR did not have sufficient data to determine which lagoons are causing problems
- No in-depth study had been done on lagoons as a whole, only problems



## Initial Draft Procedure for Renewal Permitting

- Influent monitoring required
- Effluent monitoring frequency based on age of lagoon rather than design flow
- In-stream monitoring required for every facility (DO, pH, temp minimum)

# Final Policy

- Renew all permits that have no known water quality impact
- Not violating current permit limits
- Department conducts low flow stream surveys (50 to 60 a year) may hire contractors to increase number of surveys
- Permit will be opened if non attainment for any use
- Permit would then require a schedule of compliance for upgrade or improve operation. etc.



# Pesticides

Robert J. Brundage  
Newman, Comley & Ruth P.C.



# Water Quality Effluent Limits, Effluent Dominated Streams and Waivers to Disinfect Advisory Group

Presented by  
Refaat Mefrakis  
Water Protection Program



# Continuing Authority Advisory Group

Presented by  
Kevin Mohammadi  
Water Protection Program





# Title 10-Department of Natural Resources

Division 20-Clean Water Commission  
Chapter 6-Permits

10 CSR 20-6.010

Construction and Operating Permits

### 3) Continuing Authorities.

(A) All applicants for construction permits or operating permits shall show, as part of their application, that a permanent organization exists which will serve as the continuing authority for the operation, maintenance and modernization of the facility for which the application is made. Construction and first time operating permits shall not be issued unless the applicant provides such proof to the department and the continuing authority has submitted a statement indicating acceptance of the facility.

(B) Continuing authorities which can be issued permits to collect and/or treat wastewater under this regulation are listed in preferential order in the following paragraphs. An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for the higher preference authority by the department:

1. A municipality or public sewer district which has been designated as the area wide management authority under Section 208(c)(1) of the Federal Clean Water Act;
2. A municipality, public sewer district or sewer company regulated by the Public Service Commission (PSC) which currently provides sewage collection and/or treatment services on a regional or watershed basis as outlined in 10 CSR 20-6.010(3)(C) and approved by the Clean Water Commission. Permits shall not be issued to a continuing authority regulated by the PSC until the authority has obtained a certificate of convenience and necessity from the PSC;

3. A municipality, public sewer district or sewer company regulated by the PSC other than one which qualifies under paragraph (3)(B)1. or 2. of this rule or a public water supply district. Permits shall not be issued to a continuing authority regulated by the PSC until the authority has obtained a certificate of convenience and necessity from the PSC;
  
4. Any person with complete control of, and responsibility for, the water contaminant source, point source or wastewater treatment facility and all property served by it. The person may constitute a continuing authority only by showing that the authorities listed under paragraphs (3)(B)1.–3. of this rule are not available, do not have jurisdiction, are forbidden by statute or ordinance from providing service to the person or, if available, have submitted written waivers as provided for in subsection (3)(B) of this rule;



# Missouri Revised Statutes

## **Chapter 644**

### **Water Pollution**

#### **Section *644.027***

August 28, 2005

Sewer districts and systems made available to political subdivisions, no restriction allowed on connecting to system.

644.027. Nothing in sections 644.006 through 644.150, RSMo, shall be deemed to restrict, inhibit or otherwise deny the power of any city, town or village, whether organized under the general law or by constitutional or special charter, any sewer district organized under chapter 204, RSMo, or chapter 249, RSMo, any public water supply district organized under chapter 247, RSMo, or any other municipality, political subdivision or district of the state which owns or operates a sewer system that provides for the collection and treatment of sewage, to require the owners of all houses, buildings or other facilities within a municipality, political subdivision or district to connect to the sewer system of the municipality, political subdivision or district when such sewer system is available.

(L. 2001 S.B. 256)

Effective 4-17-01



# Draft

## St. Louis 208 area

- Arnold
- Cedar Hill
- Desoto
- Duckett Creed SD
- Festus/Crystal City
- Glaize Creek SD
- Herculaneum
- Lake St. Louis
- Lower Big River SD
- NESD
- O'Fallon
- Olympian Village
- Pevely
- Rock Creek SD
- Selma
- St. Charles
- St. Peters
- Wentzville





# Draft Joplin 208 area

- Alba
- Carl Junction
- Carterville
- Carthage
- Diamond
- Joplin
- Neosho
- Oronogo
- Village of Airport Drive
- Webb City



# Draft

## Kansas City 208 area

- Blue Spring
- Gladstone
- Grandview
- Greenwood
- Independence
- Kansas City
- Lake Wakomis
- LBVSD
- Lee's Summit
- Liberty
- North Kansas City
- Raymore
- Raytown
- Riverside



# Draft Level 2 Regional Facilities

- Lead Belt area WWTP (now Park Hills)
- Lake Ozark/Osage Beach



# Missouri Revised Statutes

## **Chapter 393** **Gas, Electric, Water, Heating and** **Sewer Companies** **Section 393.825**

August 28, 2005

# Nonprofit sewer companies, who may organize--articles of incorporation, contents, submission to secretary of state.

- 393.825. 1. Nonprofit, membership corporations may be organized under sections 393.825 to 393.861 and section 393.175 only for the purpose of supplying wastewater disposal and treatment services within the state of Missouri. Corporations which become subject to sections 393.825 to 393.861 and section 393.175 in the manner herein provided are herein referred to as "nonprofit sewer companies". Five or more persons may organize a nonprofit sewer company pursuant to sections 393.825 to 393.861 and section 393.175.
2. The articles of incorporation of a nonprofit sewer company shall recite in the caption that they are executed pursuant to sections 393.825 to 393.861 and section 393.175, shall be signed and acknowledged in duplicate by at least five of the incorporators and shall state:

- (1) The name of the company;
- (2) The address of its principal office;
- (3) The names and addresses of the incorporators;
- (4) The number of years the company is to continue, which may be any number including perpetuity;
- (5) The names and addresses of the persons who shall constitute its first board of directors;
- (6) Whether the company chooses to operate under the provisions of chapter 347, RSMo, or chapter 355, RSMo; and
- (7) Any provisions not inconsistent with sections 393.825 to 393.861 and section 393.175 deemed necessary or advisable for the conduct of its business and affairs. Such articles of incorporation shall be submitted to the secretary of state for filing.

(L. 1997 2d Ex. Sess. H.B. 1 merged with S.B. 3)

Effective 12-23-97



# Federal Safe Drinking Water Rules/Public Drinking Water Design Guide Advisory Group

Presented by  
Linda McCarty  
Water Protection Program

# Public Drinking Water

- LT2ESWTR and Stage 2 D/DBP
  - ◆ Advisory group met April 13
  - ◆ Reviewed rulemaking schedule
  - ◆ Discussed stakeholder process
  - ◆ Future meetings: August 17, October 17
- Design Guide
  - ◆ Currently reviewing initial comments, forming balanced workgroup





# Nutrient Criteria for Lakes Advisory Group

Presented by  
Mark Osborn  
Water Protection Program

# Nutrient Criteria Stakeholders

- Carolla Engineers
- Environmental Resources Coalition
- EPA
- FAPRI
- Independence, City of
- James River Basin Partnership
- JD Information Services
- KCMO Water Services
- Lakes of Missouri Volunteer Program
- Little Blue Valley Sewer District
- Marshall Municipal Utilities
- Missouri Department of Conservation
- Missouri Department of Natural Resources
- MEC Water Resources
- Missouri Coalition for the Environment
- Missouri Public Utility Alliance
- MO Dept of Agriculture
- MO Farm Bureau
- Newman, Comley & Ruth P.C.
- Sierra Club
- Springfield, City of
- St Louis MSD
- Table Rock Lake Water Quality, Inc.
- University of Missouri
- Upper White River Basin Foundation
- Washington University, St Louis



# Problems Caused by Nutrient Enrichment

- Causative factors
  - ◆ Total Nitrogen
  - ◆ Total Phosphorus
- Response factors
  - ◆ Turbidity
  - ◆ Excessive Algae Growth
  - ◆ Oxygen Reduction
  - ◆ Organic Enrichment
  - ◆ Hypoxia in Gulf of Mexico



# Nutrient Response Variables

- Hydrology
  - ◆ Waterbody size
  - ◆ Depth
  - ◆ Drainage area size and characteristics
  - ◆ Flow or residence time
- Eco-Regional Factors
  - ◆ Climate
  - ◆ Geology
  - ◆ Biota

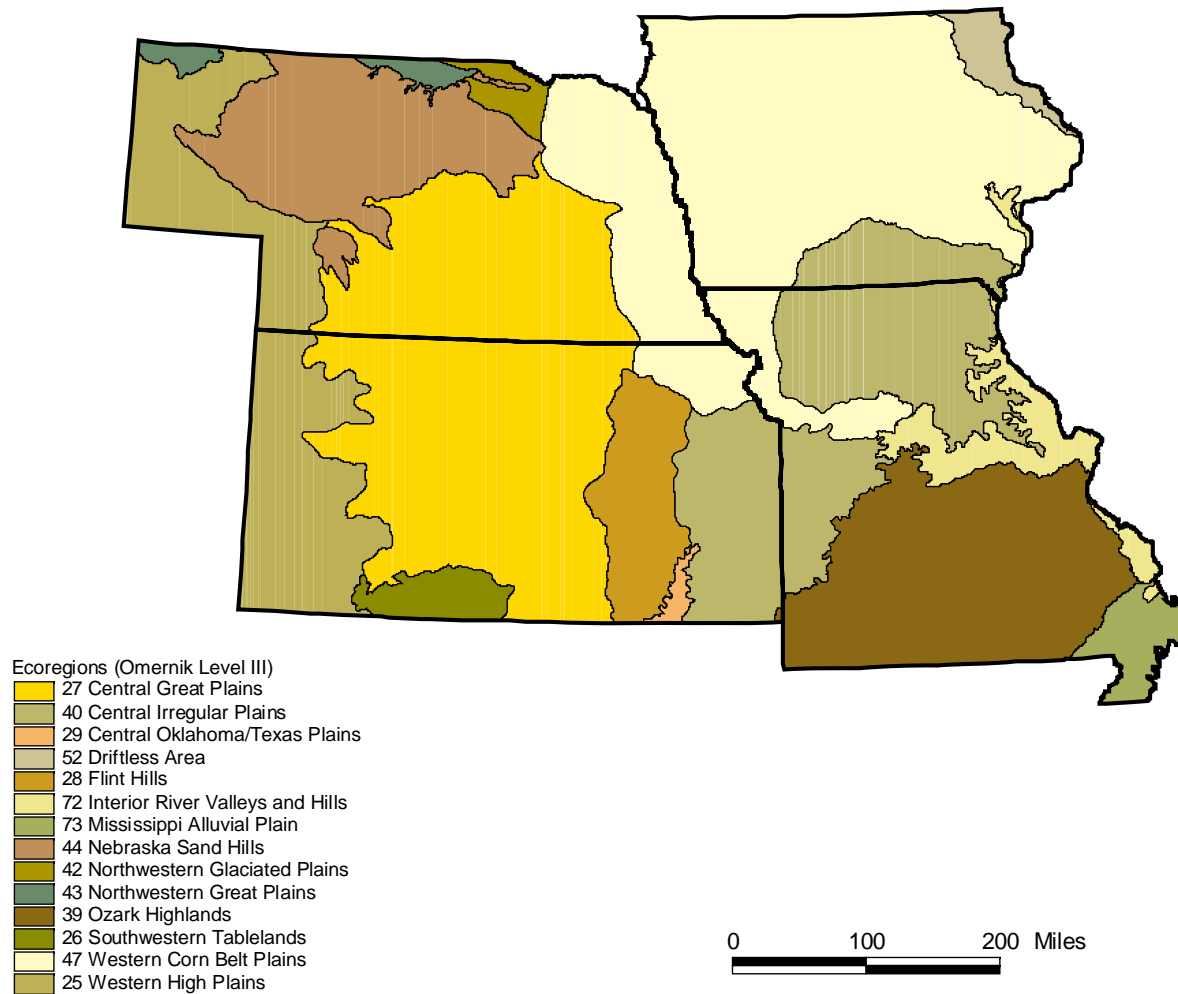
## Draft Aggregations of Level III Ecoregions for the National Nutrient Strategy




# EPA Recommendations

- Specify Criteria by Ecoregions
- Identification of Reference Conditions
- Account for cause and response relationships
- Specific Criteria Development
  - ◆ 25th percentile of all lakes and streams within ecoregions
  - ◆ 75th percentile of reference lakes and streams

# Omernic Level III Ecoregions in EPA Region VII





Missouri Plan:

Lakes and Reservoirs - 2006

Small and Medium Streams - 2008

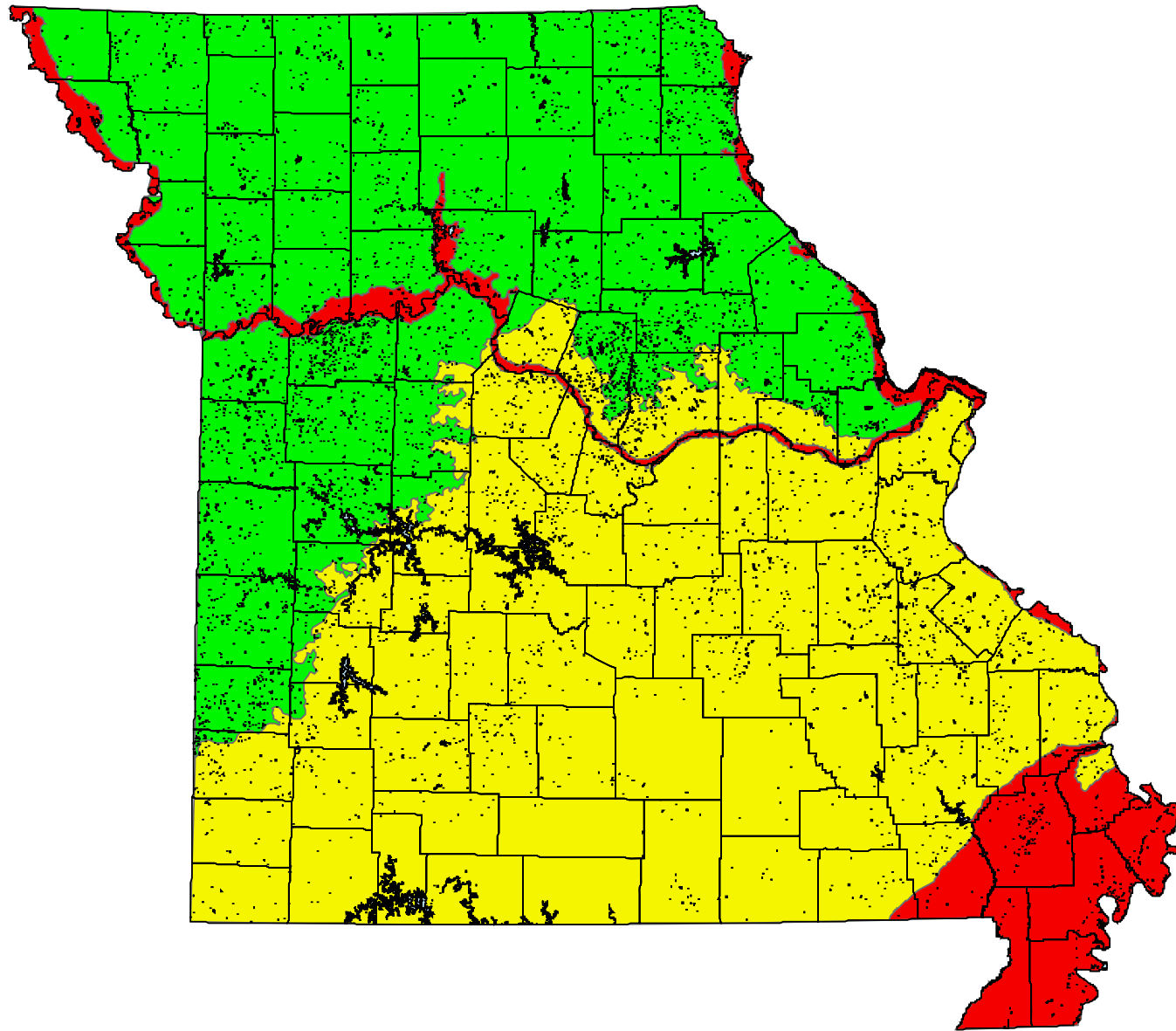
Big Rivers and Wetlands - to be determined



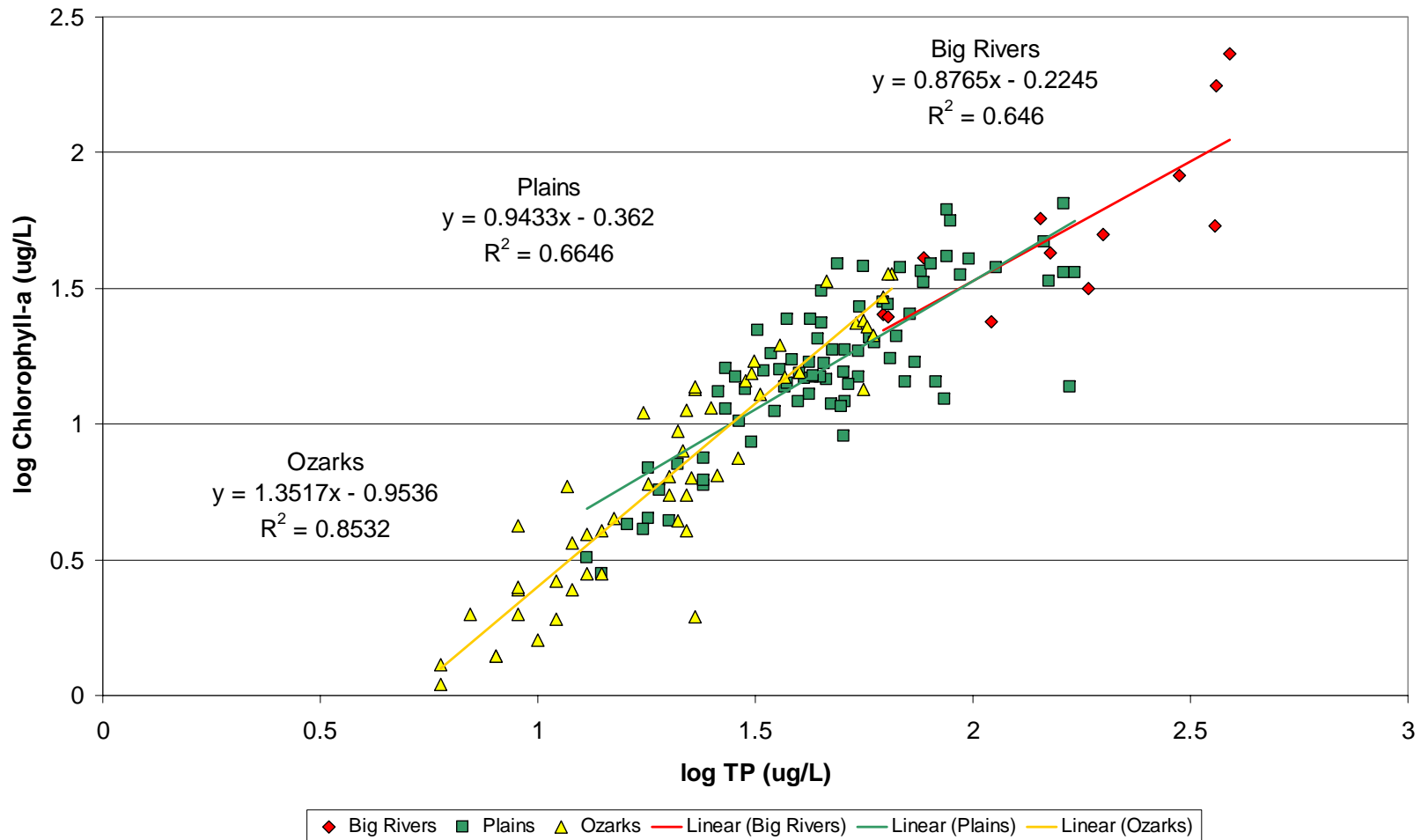


## Knowlton & Jones Findings

- Most lakes are artificial, use of reference lakes may not be appropriate
- EPA suggested criteria would place 75% of lakes and reservoirs in non-compliance
- Variations in nutrient levels within eco-regions



## Response of median chlorophyll-a to median total phosphorus





# Approaches for Lakes & Reservoirs

- Advisory and Action levels for Total Phosphorus
- Large lakes assessed individually
- Distinct criteria for lake segments (Table Rock)
- Plains – Lake Flushing Index
- Ozarks – Carlson's Trophic State Index
- Big Rivers
- Drinking Water Reservoirs – protection from cyanobacteria and chlorination byproducts



# Funding, Staff and Resources Advisory Group

Presented by  
Ed Galbraith  
Water Protection Program



# Water Quality Permits

**A New Business Plan  
(May 2002)**

## Recommendation #1

- Further Standardize the Permit Process for similar facility groups and use “Permit by Rule” for those with discharges of consistent quantity.

## Recommendation #2

- Streamline the renewal of General Permits. Simplify the permit renewal process by allowing the applicant to simply agree to the extended permit terms as opposed to having to complete another entire set of application forms.



## Recommendation #3

- Redistribute workload by reviewing and issuing routine permits from Regional Offices, and the more difficult permits out of the Central Office.

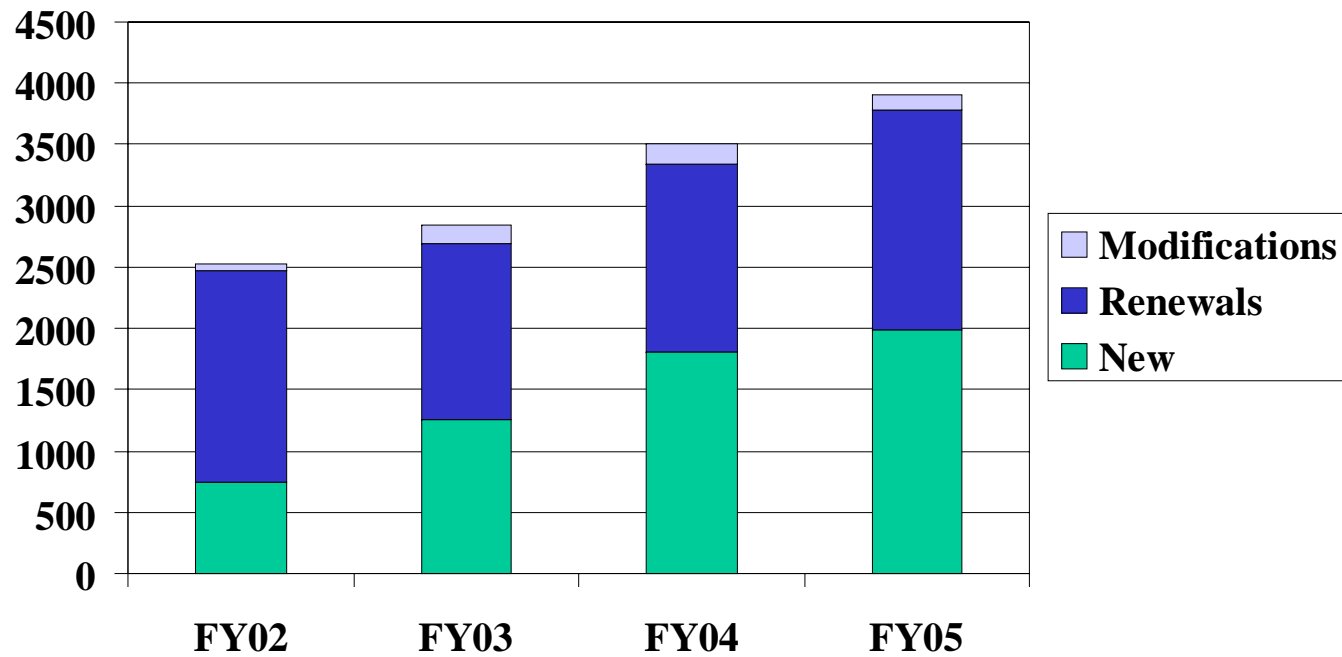
## Recommendation #4

- Streamline the internal process by completing water quality reviews and inspections prior to the receipt of a renewal application, e-mailing public notices rather than sending paper, and allowing FAX and electronic applications.

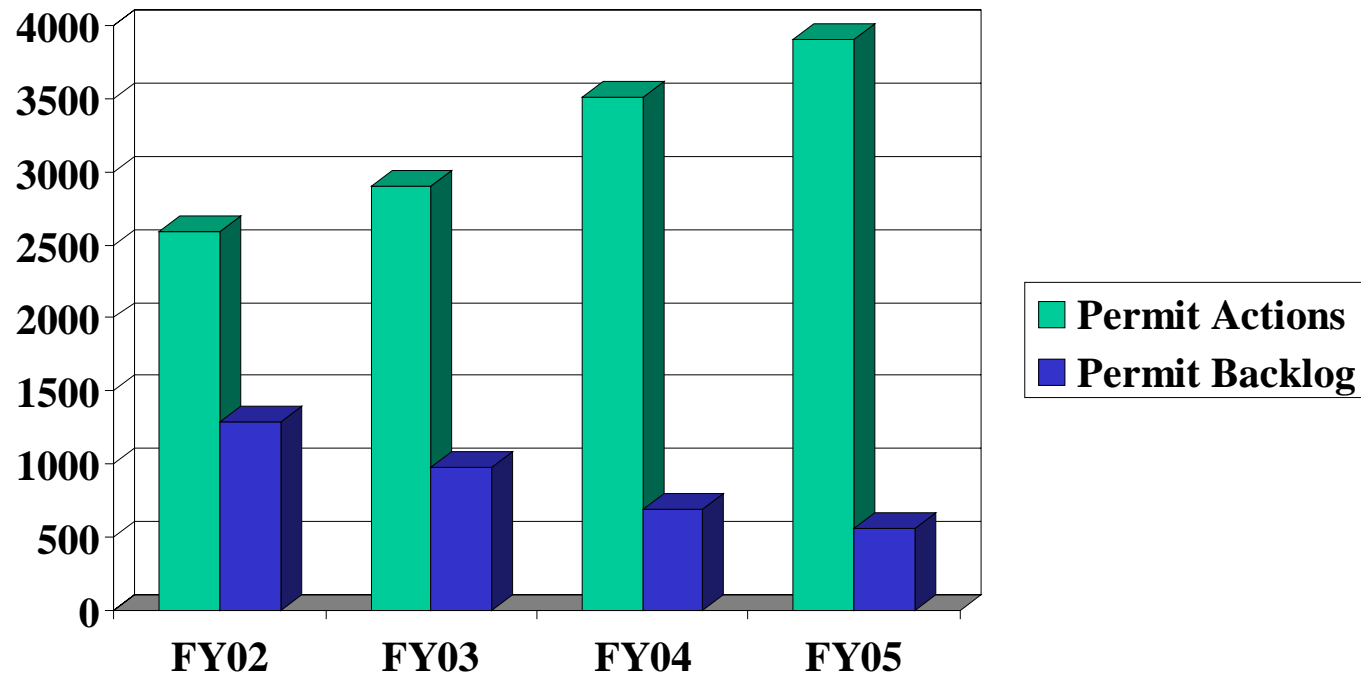
## Recommendation #5

- Improve communication with the applicants by putting an updated Permit Manual on the Web, encouraging pre-application meetings with applicants, allowing review of draft permits by applicant before public notice, and allowing applicant to request construction and operating permits with one application.

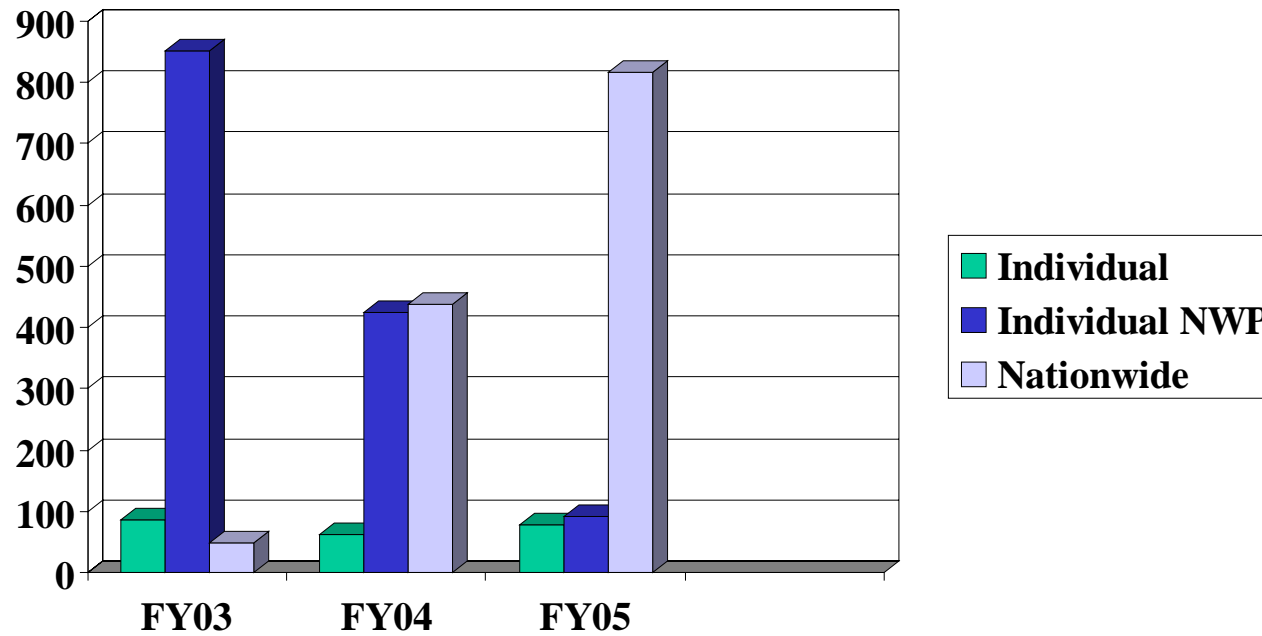
# Operating Permit Workload:



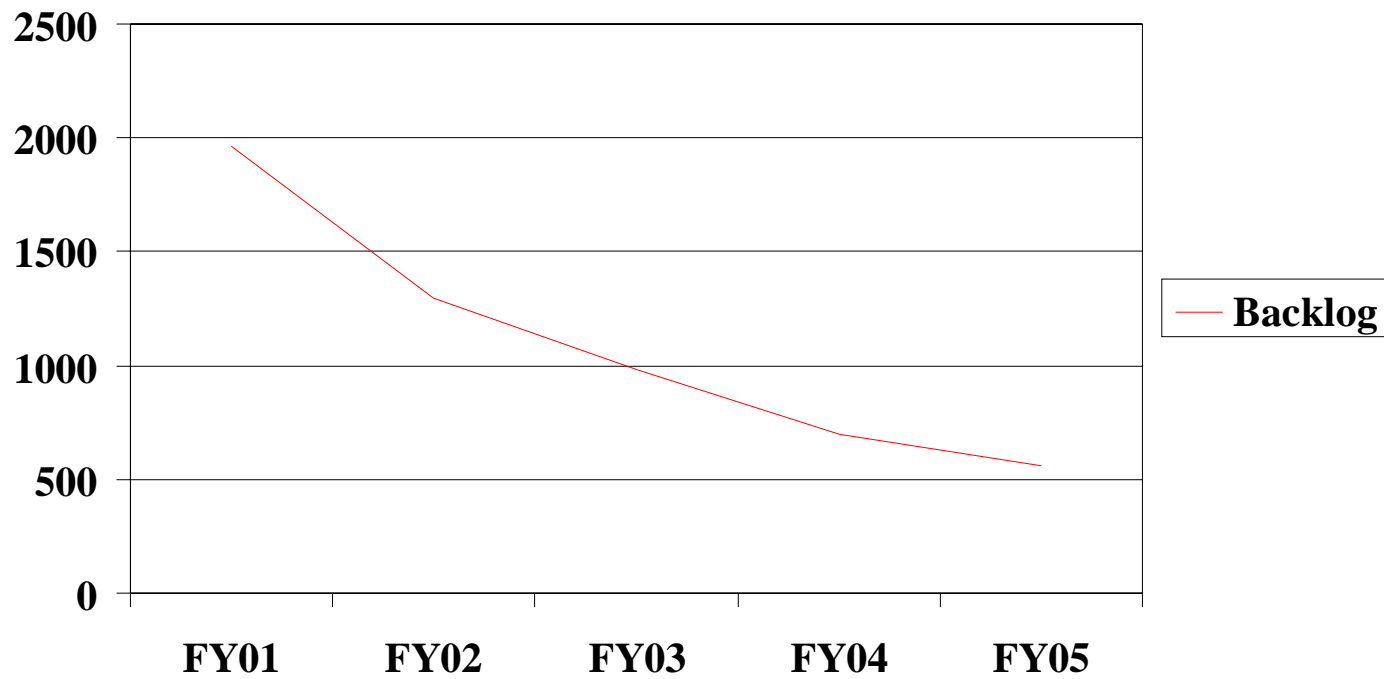
# Operating Permit Workload:



# 401 Certifications:



# Operating Permit Backlog:





# State Revolving Fund Priority Points Advisory Group

Presented by  
Joe Boland  
Water Protection Program



# Priority Points & CWSRF Regulation

$$\text{Basic Priority Points} = \left[ \frac{\text{Log } 10(A + 1) + B + C + D + \text{Log } 10(E) + F + (G \div 10)}{\frac{(A \div J) + H}{H}} + V \right] \times 10$$



# Priority Points & CWSRF Regulation

- Future funding levels
- Financial Capability
- Public health criteria
- Sustainable infrastructure

# Missouri's Nonpoint Source Management Plan -- Year Five Revisions

Presented by:

Greg Anderson

Nonpoint Source Coordinator

Becky Shannon, Chief

Watershed Protection Section





## What is the NPSMP?

- This Plan is a strategy document for addressing nonpoint source water pollution in Missouri
- This Plan is NOT a rule.
- This Plan is required in order for Missouri to receive 319 grant funds

# What is the NPSMP?

- First Nonpoint Source “Management Plan” written in 1989 as required by CWA amendments.
- In 1997 EPA put out new guidance
- DNR had to meet new guidance to receive 1999 319 grant \$



## What is the NPSMP?

- Revisions to meet new guidance went on from 1996-2000
- Developed with many partners
- Written as a five-year plan
- Includes schedule for regular updates

# What is the NPSMP?

- The Department of Natural Resources is responsible for the Plan, **however...**
- This Plan was developed to be a State Plan for use by others addressing nonpoint sources of water pollution



## Why revise the Plan now?

- There is no requirement to revise the plan now
- There is a schedule in the approved Plan to make major revisions to the Plan at year five, which was 2005
- Parts of the Plan are out of date.  
Several objectives had five-year targets