

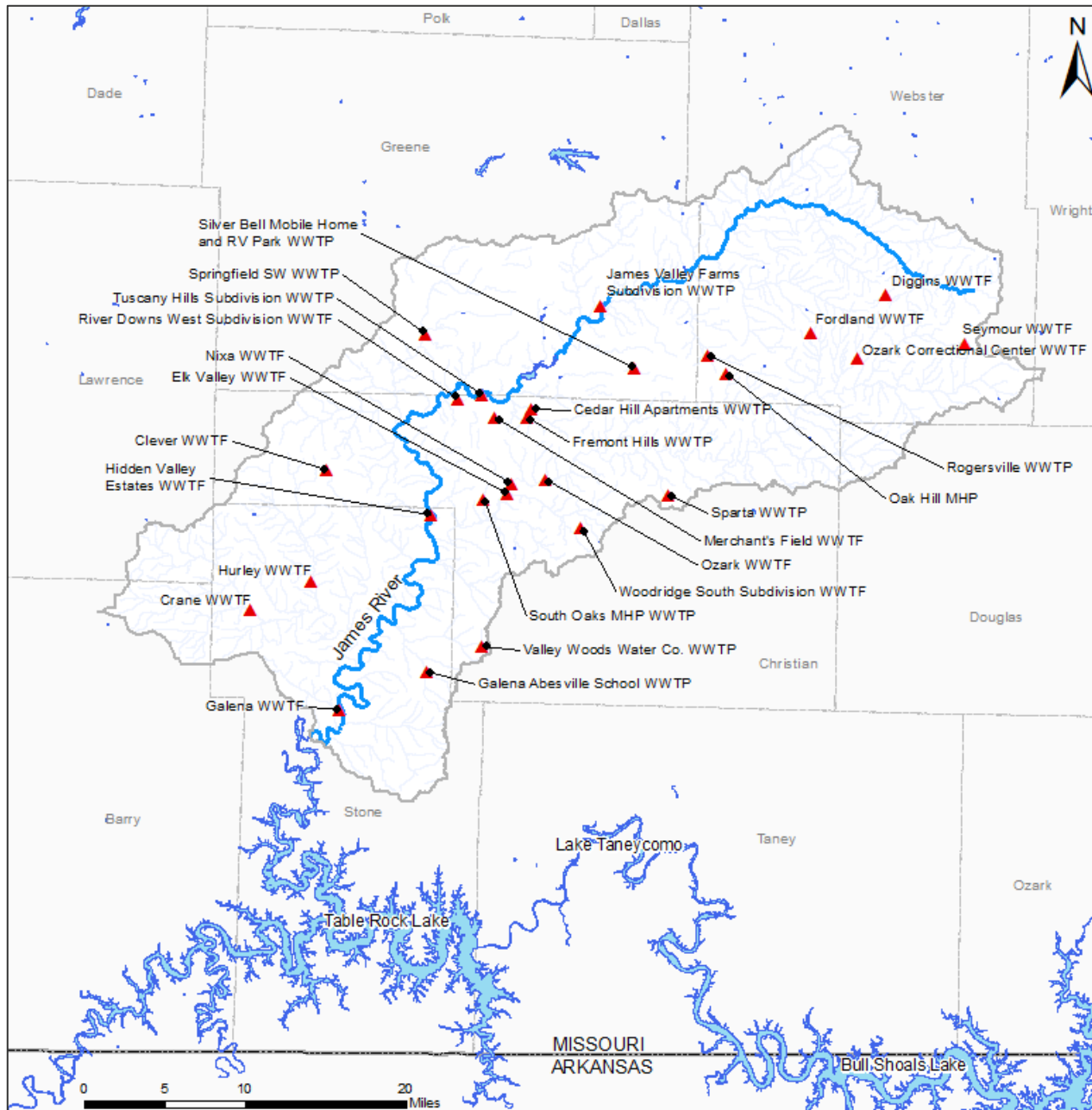


# Implementing the James River Nutrient TMDL

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Mike Kruse, Watershed Protection Section



# About the James River Nutrient TMDL

- Approved in 2001
  - But not fully implemented until 2022
  - Success story? Lessons learned?
- "Phased TMDL"
  - Not really. More staged and adaptive Implementation
  - See EPA 2006 guidance memo: "Clarification Regarding "Phased" Total Maximum Daily Loads"

# Implementation in Phases

## Phase 1 & 2 Reduce Phosphorus

- **Phase 1**
  - Reduce TP from point sources
  - 2001-present
- **Phase 2**
  - Reduce TP from nonpoint sources
  - 2004-present

### ACTIONS

State regulation limits point source TP discharges in the Table Rock Lake Watershed to 0.5 mg/L

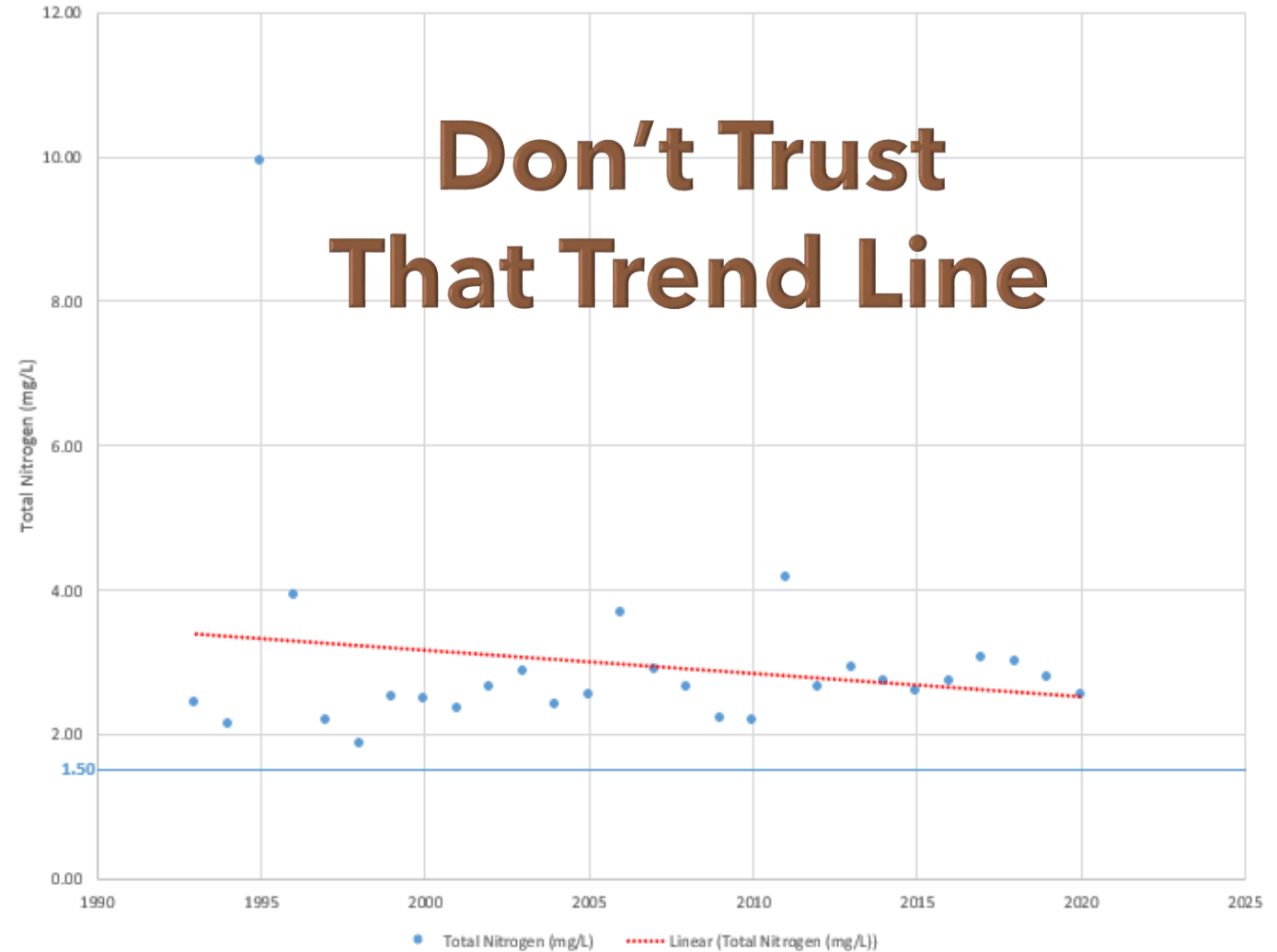
\$3.7 Million Section 319 Funds

\$1.7 Million State Cost-Share



# What About Nitrogen?

- TMDL had a Nitrogen WLA
  - Never Implemented in permits?
- Table Rock Lake (downstream)
  - 303(d) List for Nitrogen Impairment
- Expanded Design Flows
  - Nearly twice the flow as there was in 2001



# Phase 3

## Point Source Reductions of Total Nitrogen

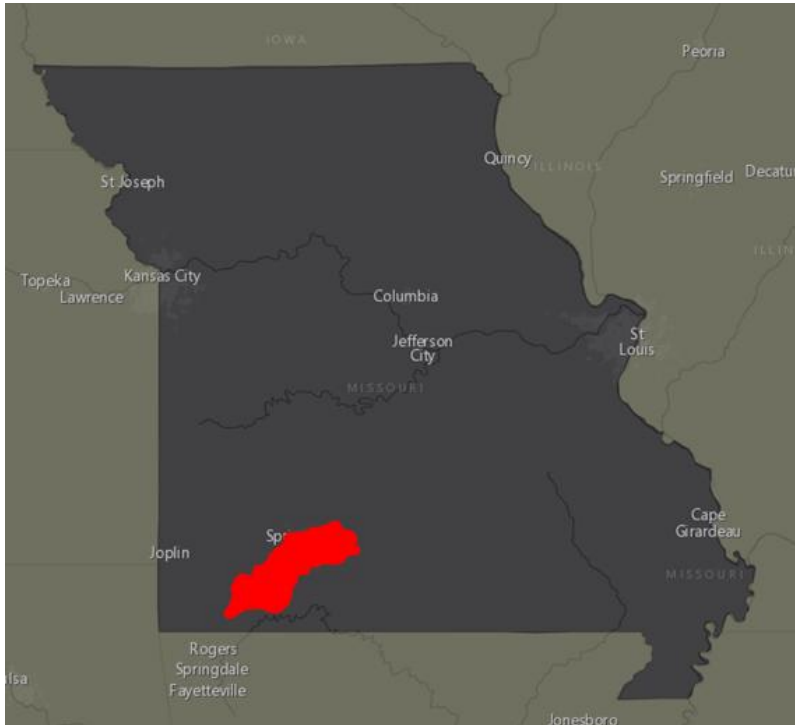
- Watershed-based permitting framework
- Potential nutrient trading
- Framework establishes:
  - Identify Applicable Facilities
  - TN Limitations and Monitoring
  - TN Wasteload Allocations
  - TN Trading
  - Reporting

- Facilities < 100,000 gpd
  - Optimize
  - Monitoring
- Facilities  $\geq$  100,000 gpd
  - Optimize
  - 12-year SOC
  - TN Wasteload Allocation
    - Mass-based Limit
    - Concentration Goal

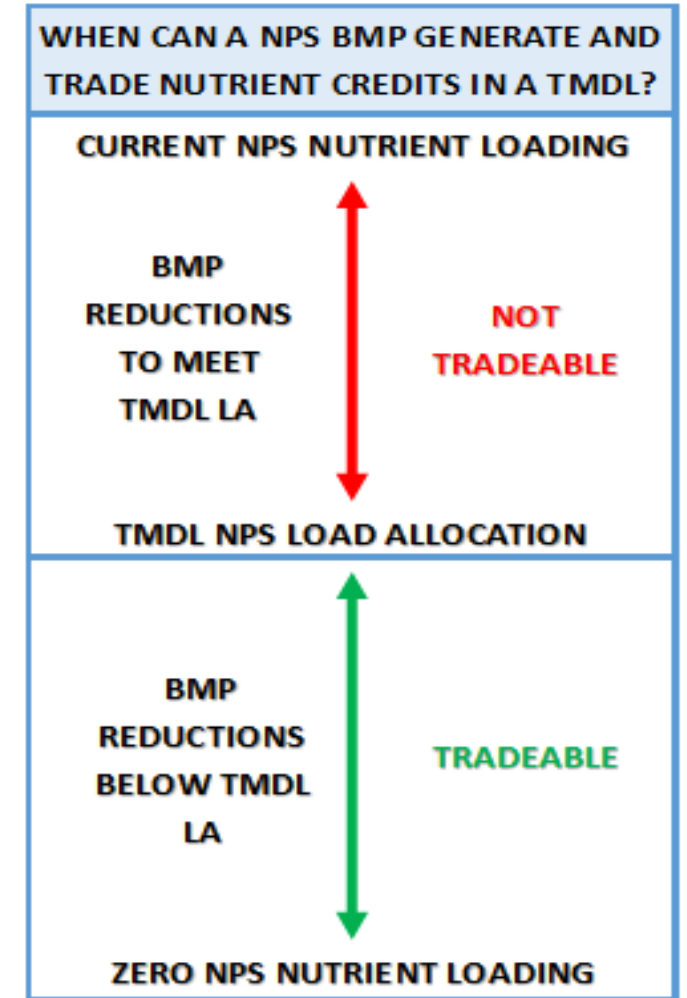
**Captures  
99.4% Point Source TN Load**

# Notes About Nutrient Trading in Missouri

## TMDL Implementation Establishes a Restricted Trading Zone



- NPS practices must first achieve load allocations according to their respective land use category before generating credits.
- The ability of established nonpoint source Best Management Practices (BMPs) to generate nutrient reductions will be determined on a per-treated acre or per field basis.
- Only reductions achieved below the NPS load allocation (represented in annual average pounds per acre) will be eligible for trading.



# Contact Info

## **TMDLs / 303(d) / Water Quality Standards / Section 319 grants**

Mike Kruse, Watershed Protection Section Chief

[Michael.Kruse@dnr.mo.gov](mailto:Michael.Kruse@dnr.mo.gov)

## **Nutrient Trading**

Owen Gallagher, Special Projects Coordinator

[Owen.Gallagher@dnr.mo.gov](mailto:Owen.Gallagher@dnr.mo.gov)

