Ozarks Water Watch

Protecting and Preserving our Ozarks Heritage

OZARKS WATER WATCH™
UWRB:Upper White River Basin Foundation

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UWRB:Upper White River Basin Foundation

Our Vision

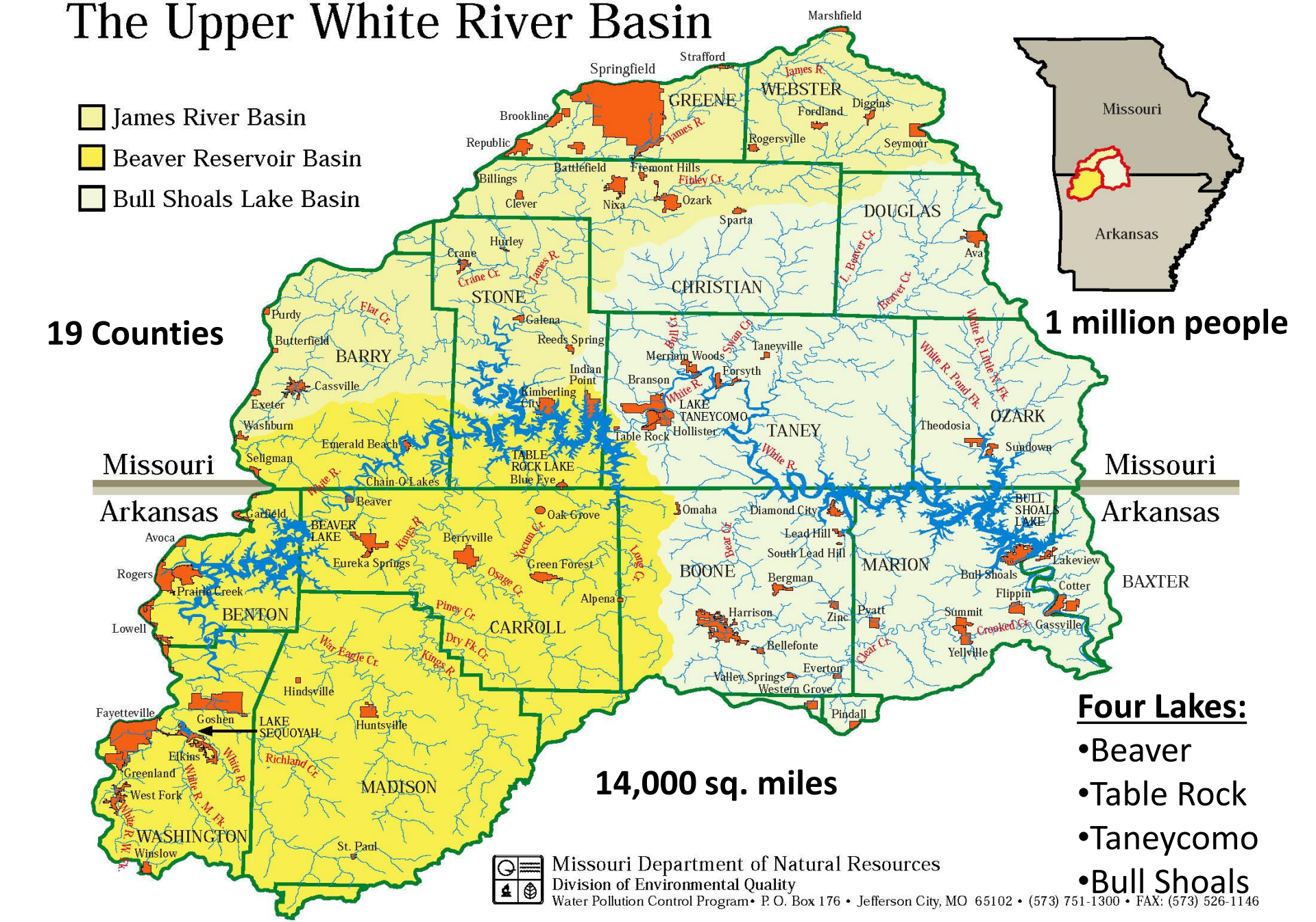
With your help, we will work together to make Beaver, Table Rock, Taneycomo and Bull Shoals lakes the four cleanest manmade lakes in North America

OZARKS WATER WATCH™
UWRB:Upper White River Basin Foundation

Our Mission

To promote water quality in the upper White River watershed through collaboration on research, education, public policy and action projects basin-wide in both Arkansas and Missouri.

The Upper White River Basin



Missouri Department of Natural Resources
Division of Environmental Quality
Water Pollution Control Program• P. O. Box 176 • Jefferson City, MO 65102 • (573) 751-1300 • FAX: (573) 526-1146

Missouri – Arkansas MOA

Through the efforts of Ozarks Water Watch, on November 24, 2008, the governors of Missouri and Arkansas came together at Bass Pro Shops in Springfield, Mo to sign the:

"Bi-State Memorandum of Agreement Regarding Cooperation on Water Quality and Water Quantity Issues in the States' Shared Water Resources"

Missouri / Arkansas MOA

- ***Enhance and promote cooperation*** among the state agencies

- Address ***water quality and water quantity*** issues involving surface and ground water resources in the two states

- Shared water resources are ***important economically and environmentally*** to Missouri and Arkansas.

- Formalize the resolve of both states to ***cooperate in addressing these water issues of common concern***.

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Water Quality and Clarity

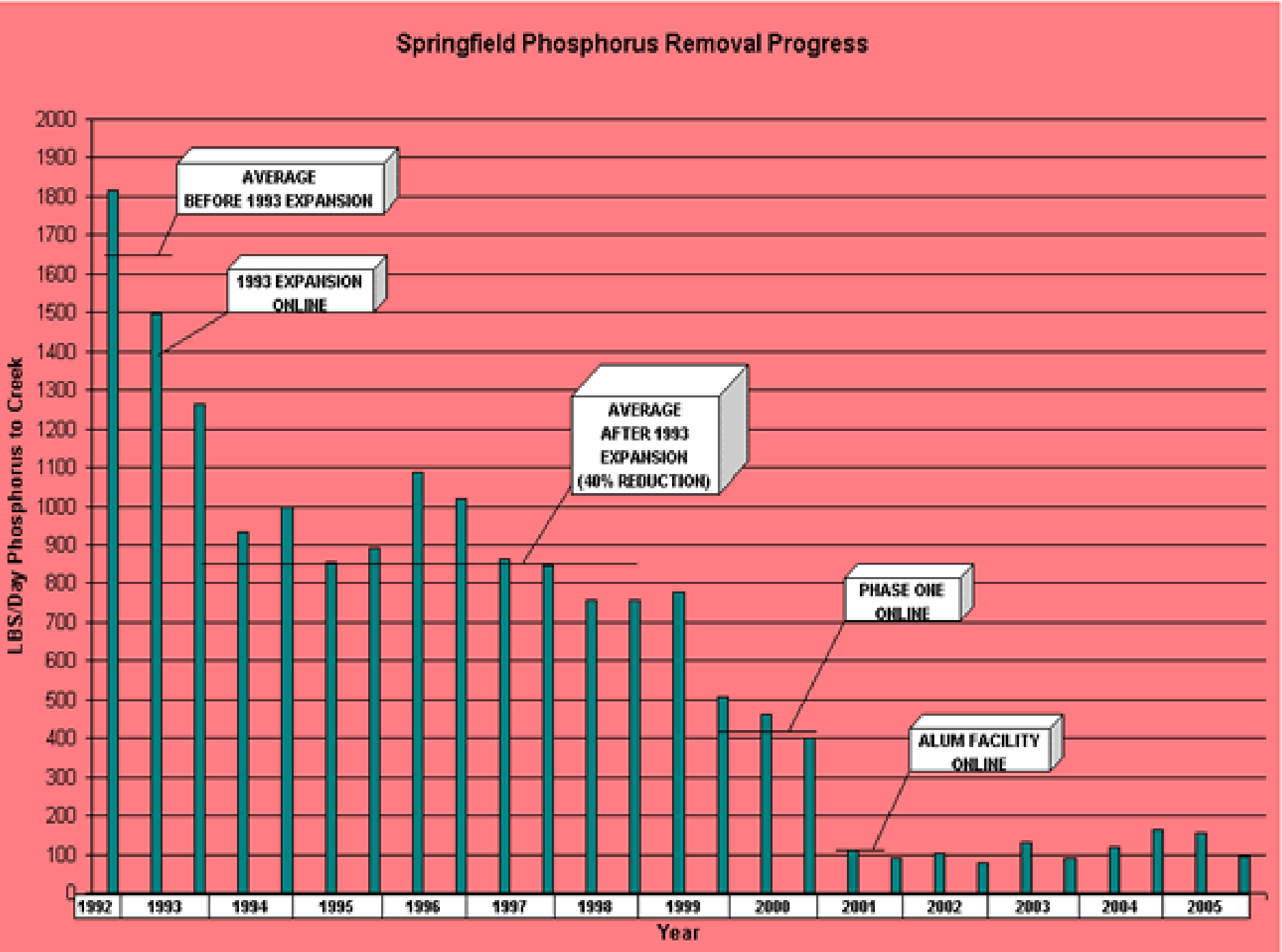
1999

1999

MO Clean Water Commission

In 2001, the Missouri Clean Water Commission placed phosphorous limits of 0.5 ppm on the discharges from wastewater treatment plants in the Table Rock and Taneycomo lake's watersheds. Since that time there have been no major algae blooms on Table Rock Lake.

Springfield, MO Wastewater Treatment Plant
Point Source Pollution
© 2007 Europa Technologies
Image © 2007 DigitalGlobe


Springfield Phosphorus Removal Progress
LBS/Day Phosphorus to Creek
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
AVERAGE BEFORE 1993 EXPANSION
1993 EXPANSION ONLINE
AVERAGE AFTER 1993 EXPANSION (40% REDUCTION)
PHASE ONE ONLINE
ALUM FACILITY ONLINE
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
Year

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Serving nature and you

Table Rock Lake Water Quality, Inc.

MISSOURI DEPARTMENT OF NATURAL RESOURCES

State Revolving Fund (SRF)

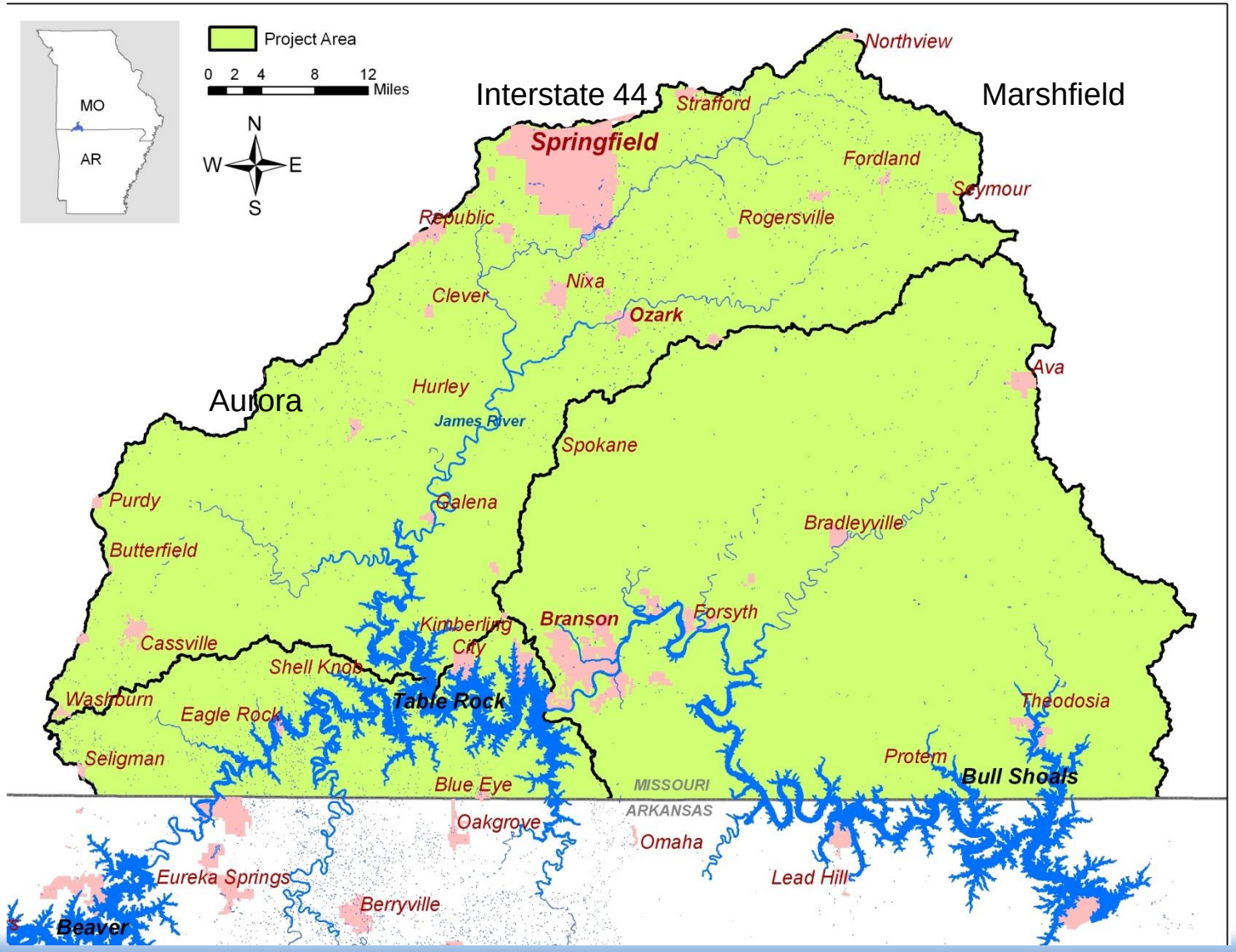
Septic Remediation Grant

$ 1 Million in SRF Funds

SRF Septic Remediation Grant

- Provides grant & loan funds to repair or replace failing septic systems in the UWRB
- Great interest since Stone County has required septic inspection at time of property transfer
- Pays 60% of costs (up to $25,000)
- Pays 98% of costs for low income
- Half grant, half zero interest loan
- OWW requires a Deed of Trust on property

Map of Upper White River Watershed



Numbers To Date

- **Total Grant $1,000,000** (DNR SRF Grant Funds)
- **Spent: $412,708** approx. $5,400.00 per system
- **Systems Replaced 68** (71% near water)

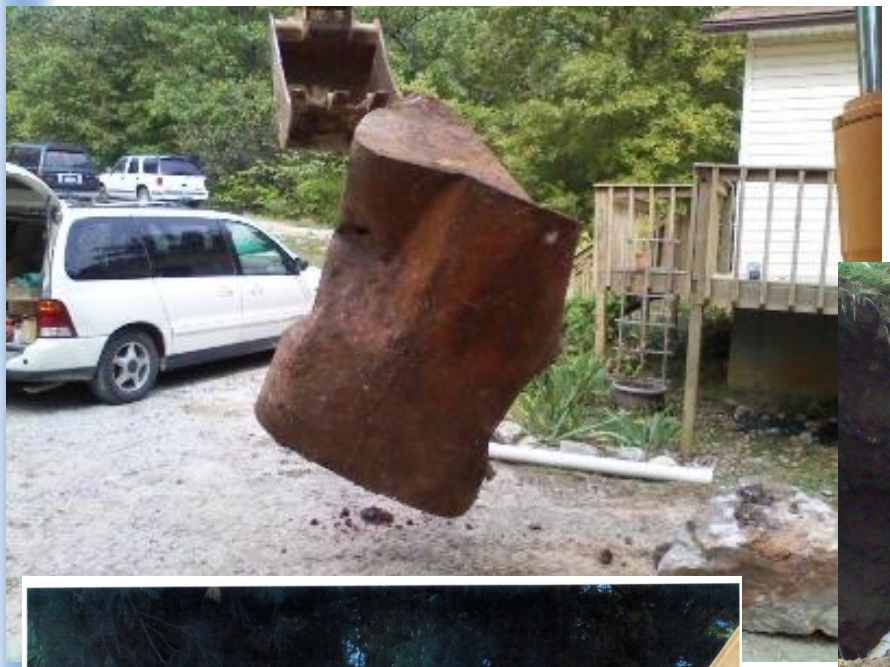
Homes within 300’ of water 22
Homes within 300-1000’ of water 26

*Total Nitrogen in lbs – 816 *Total Phosphorus in lbs - 177

*Pounds of algae (dry) – 17,700 *wet (pea soup) algae - 71,000

* Based on models and average nutrient levels contained in septic effluent.

Sample of Completed Systems



Started with this.

Ended with this.

Solid Bedrock

Advanced System w/ Drip

UWRB Volunteer Water Quality Monitoring Program

Volunteers increased from 8 to 35 in 2013!

Stream Team Newsletter, Master Naturalists, LMVP volunteers

Monitoring 21 Sites in Missouri – April - October

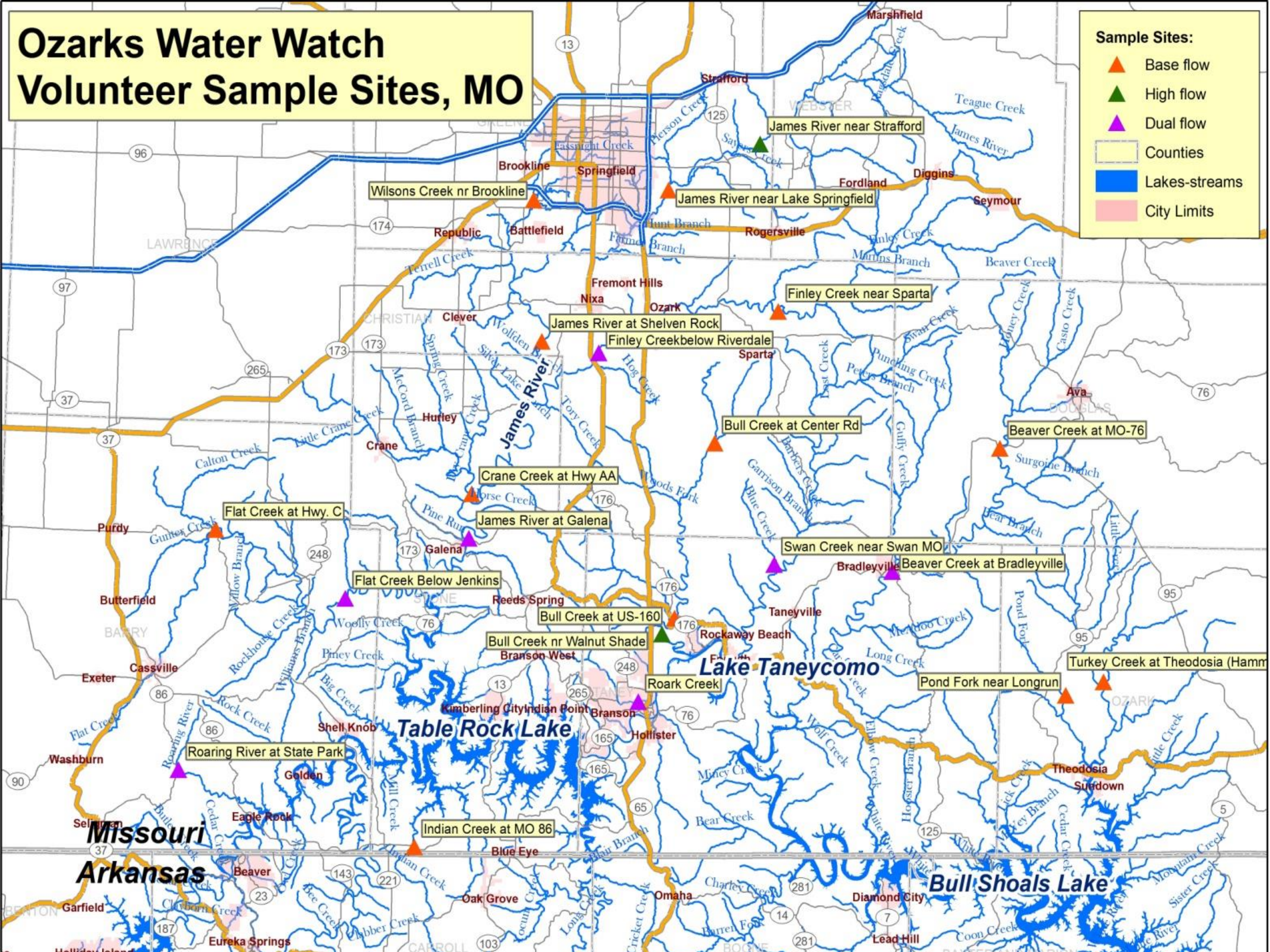
12 Base Flow, 7 Dual, 2 High Flow

Volunteers collect “Grab Samples” to be tested by MU

OWW pays for this testing. 4 samples per year and 2 high flow

Untrained volunteers are encouraged to get Stream Team Training

Many are Trained Stream Team volunteers already


Ozarks Water Watch
Volunteer Sample Sites, MO
Sample Sites:
Base flow
High flow
Dual flow
Counties
Lakes-streams
City Limits
James River near Strafford
Wilsons Creek nr Brookline
James River near Lake Springfield
Finley Creek near Sparta
James River at Shelven Rock
Finley Creekbelow Riverdale
Bull Creek at Center Rd
Beaver Creek at MO-76
Crane Creek at Hwy AA
Flat Creek at Hwy. C
James River at Galena
Swan Creek near Swan MO
Beaver Creek at Bradleyville
Flat Creek Below Jenkins
Bull Creek at US-160
Bull Creek nr Walnut Shade
Turkey Creek at Theodosia (Hamm
Roark Creek
Pond Fork near Longrun
Roaring River at State Park
Indian Creek at MO 86
Lake Taneycomo
Table Rock Lake
Bull Shoals Lake
Missouri
Arkansas
James River
Springfield
Marshfield
Strafford
Brookline
Battlefield
Republic
Fordland
Diggins
Seymour
Rogersville
Fremont Hills
Nixa
Ozark
Clever
Sparta
Ava
Hurley
Crane
Purdy
Galena
Bradleyville
Butterfield
Reeds Spring
Taneyville
Rockaway Beach
Branson West
Cassville
Exeter
Kimberling City
Indian Point
Branson
Hollister
Shell Knob
Washburn
Golden
Eagle Rock
Theodosia
Sundown
Blue Eye
Beaver
Omaha
Diamond City
Oak Grove
Garfield
Eureka Springs
Lead Hill

Arkansas Stream Smart Volunteer Monitoring Program

Background

- Volunteer Monitoring Program in the Beaver Lake Watershed
- First Year of Monitoring
- 25 sites have been identified for monitoring
- 10 sites are currently being monitored
- 22 volunteers currently participating

White River near West Fork

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Stream Smart

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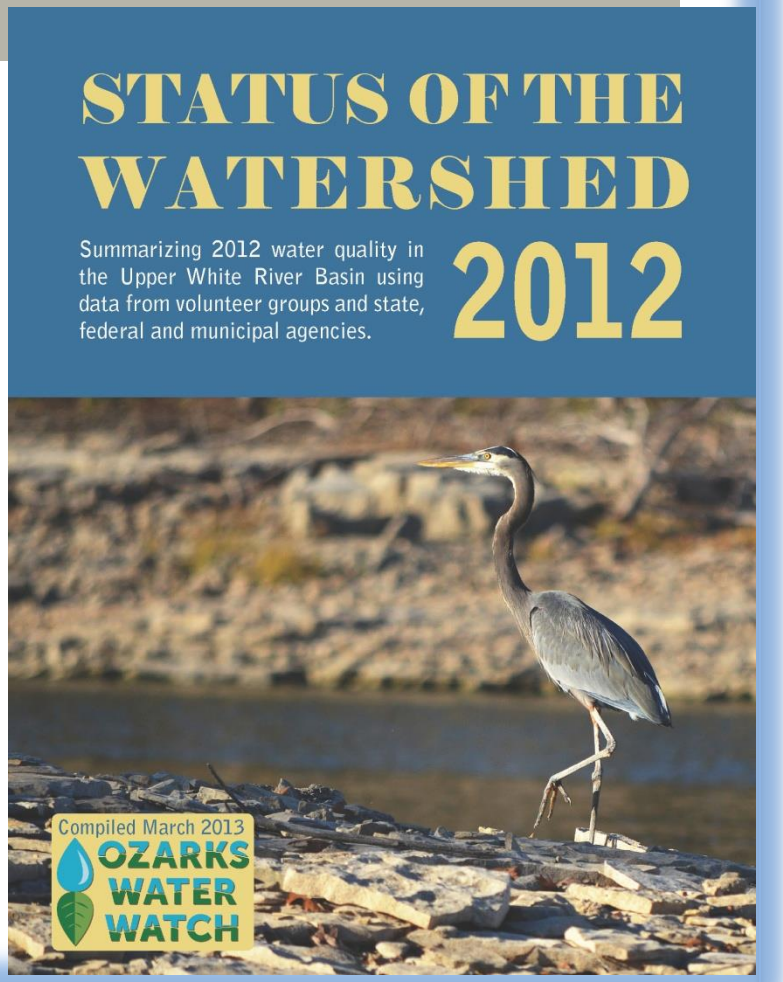
Status of the Watershed Report

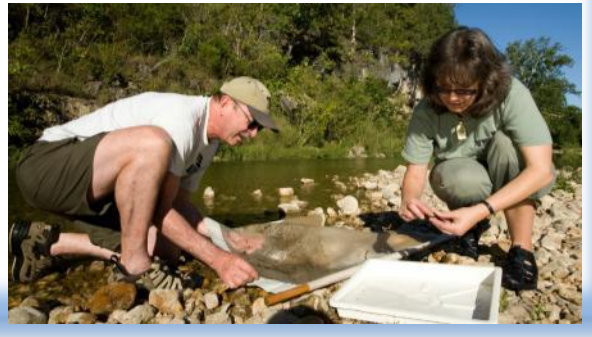
To answer the question:

“How’s the water?”

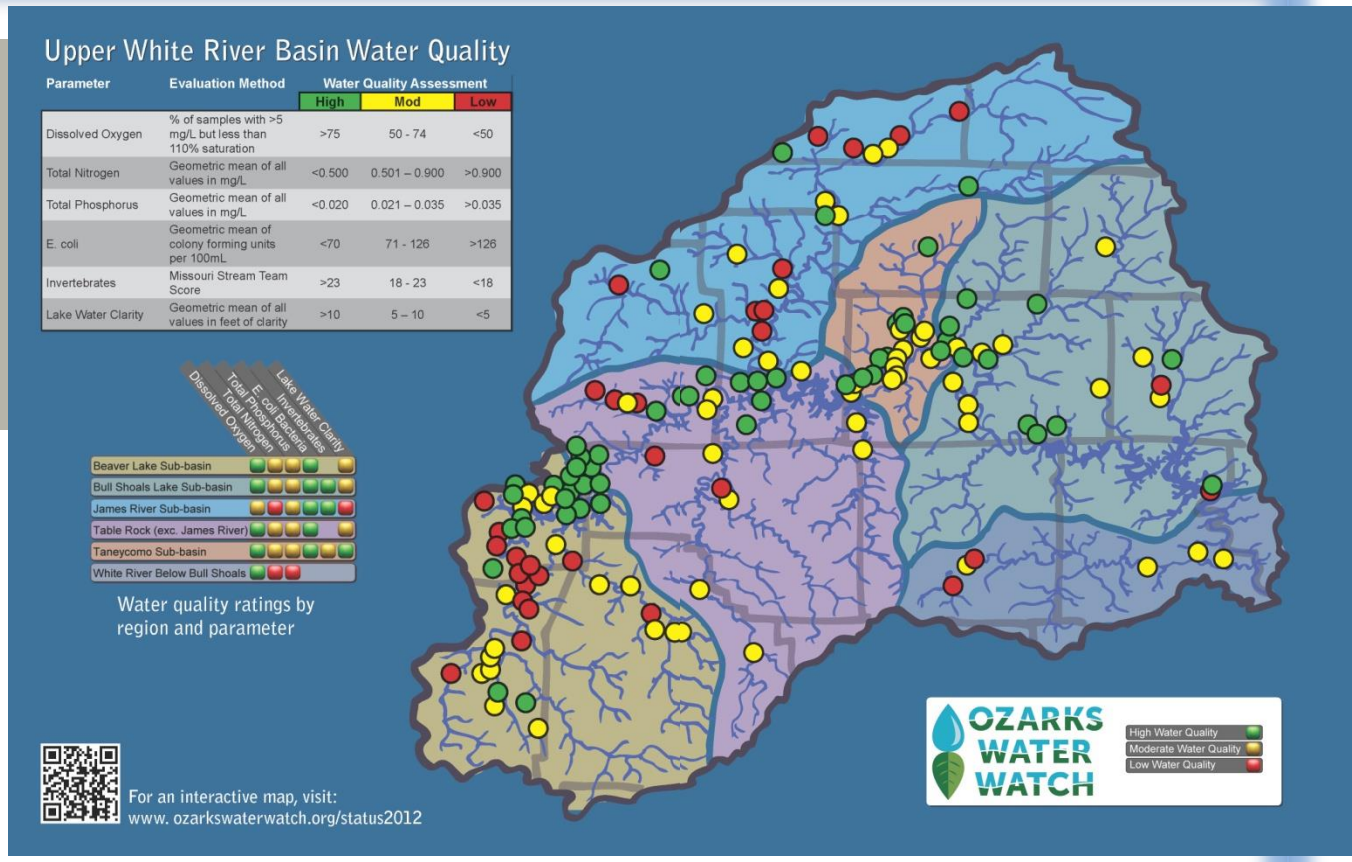


2012 Status Report

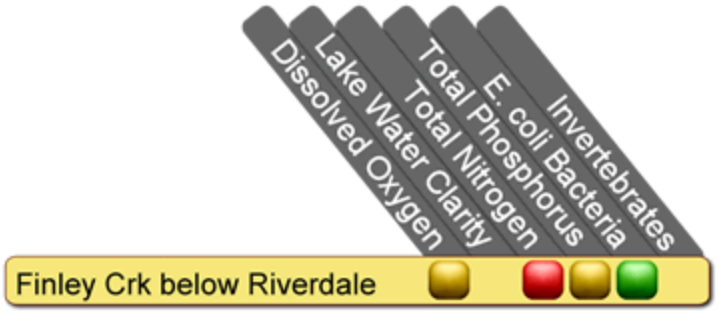
- 11 Monitoring organizations including five volunteer groups
- 4,000 water quality measurements
- 1,600 monitoring events
- 160 different locations in the watershed



New 2012: Interactive online map



- Higher Water Quality
- Moderate Water Quality
- Lower Water Quality



www.ozarkswaterwatch.org/status2012

Important: Sites are compared against each other in the watershed.

2012 Data Contributors

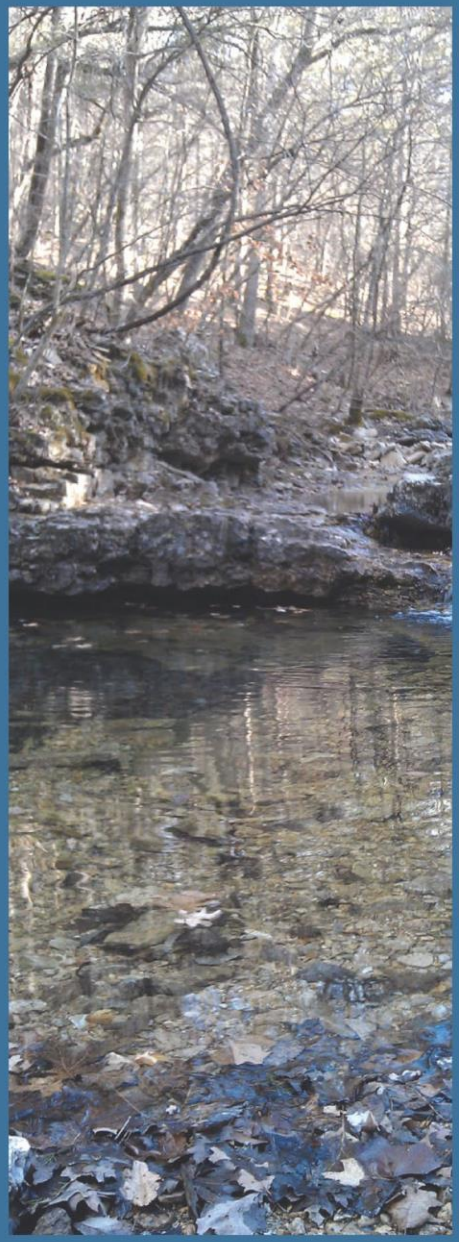
Ozarks Water Watch volunteers collected total nitrogen and total phosphorus samples at 19 Missouri stream sites.

Missouri Stream Team volunteers monitored 36 sites in the Upper White River Basin (URWB). This report features their dissolved oxygen and invertebrate data.

The Lakes of Missouri Volunteer Program volunteers monitored 31 lake and 2 stream sites in the URWB. Their total nitrogen, total phoshporus and water clarity data are featured in this report

Stream Smart volunteers monitored 6 stream sites in the URWB. Included in this report are their total nitrogen and total phosphorus data.

Secchi Day on Beaver Lake volunteers sampled at 41 Beaver Lake sites. This report features their total phosphorus and water clarity data.



United States Geologic Survey (USGS) monitored 10 sites for total nitrogen, total phosphorus, dissolved oxygen and E. coli bacteria.

Watershed Committee of the Ozarks measured E. coli at 3 stream sites.

Arkansas Water Resources Center measured total nitrogen and total phosphorus at 9 sites.

Arkansas Department of Environmental Quality (ADEQ) measured total nitrogen, total phosphorus and dissolved oxygen at 23 sites.

Taney County monitored 10 sites for concentrations of total nitrogen, total phosphorus and E. coli bacteria.

Beaver Water District measured total nitrogen, total phosphorus, dissolved oxygen and E. coli bacteria at 10 locations.

USGS
science for a changing world

WATERSHED COMMITTEE OF THE OZARKS

ARKANSAS WATER RESOURCES CENTER

ADEQ
ARKANSAS
Department of Environmental Quality

TANEY COUNTY MISSOURI

Beaver Water District

Not all agency-monitored sites and parameters are listed. Each agency may have monitored additional sites and for additional parameters.

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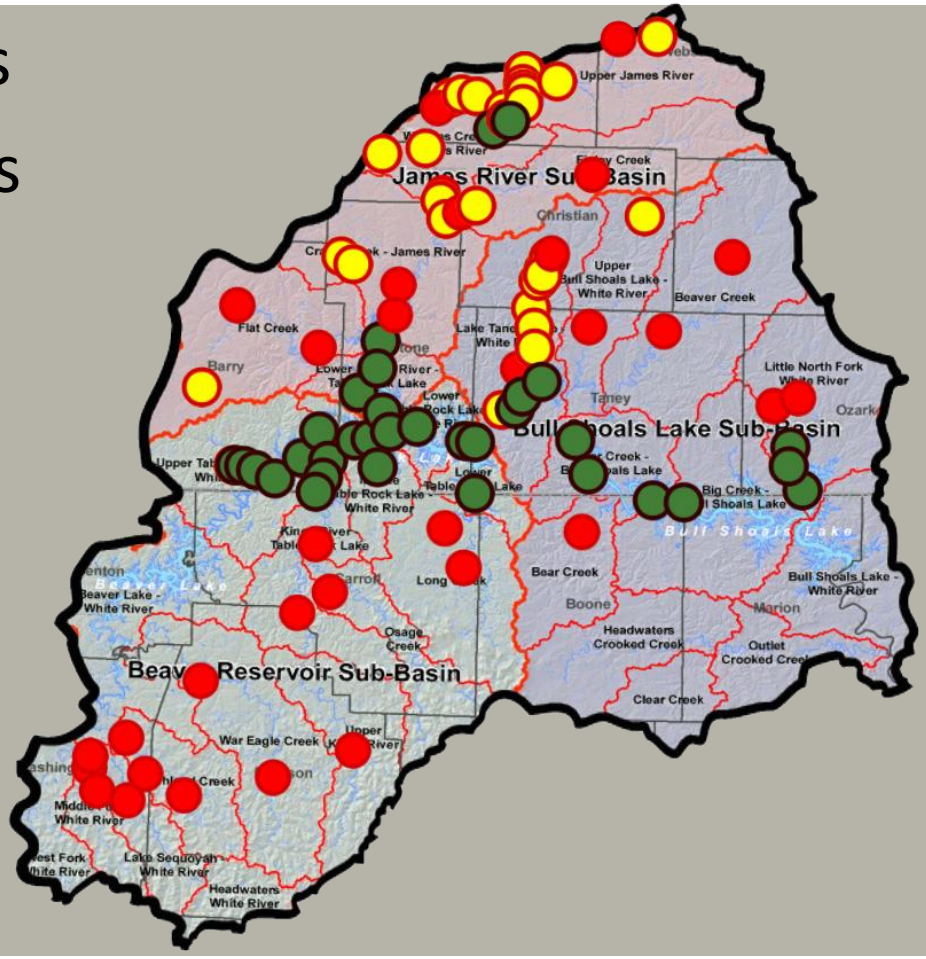
Benefits of using volunteers

- Can monitor more sites for less cost
- Can utilize existing volunteer monitoring framework
- Volunteers do more than collect water samples and invertebrates (they keep watch!)
- Volunteers often live near their sample site

Existing Volunteer Monitoring Groups

- Missouri Stream Teams
- Arkansas Stream Teams
- Streamsmart Arkansas
- Lakes of Missouri Volunteer Program



Invertebrate Sampling

- Missouri & Arkansas Stream Teams

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Volunteer monitoring is not free

- Coordination
- Equipment
- Sample analyses
- Travel
- Outreach and recruiting

But the returns far exceed the cost!

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www.ozarkswaterwatch.org

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Ozark Waters

Volume VII, Issue 13 April 1, 2013

In This Issue

EPA: 55% of Nation's Streams & Rivers rated POOR

Quote of the Week

Bass Pro debuts major bowfishing event at Table Rock

ABuffalo National River named to Top 10

Fishing: Missouri, Kansas lakes and streams showing signs of trouble

Click HERE to Receive Our Weekly Newsletter by Email!

EPA: 55% of Nation's Streams & Rivers rated POOR (No foolin')

By: David Casaletto, Executive Director, Ozarks Water Watch

Sorry to say, this is not an April Fool's joke. In the just released National Rivers and Streams Assessment (NRSA), EPA has found that 55% of the nation's river and stream miles do not support healthy populations of aquatic life, with phosphorus and nitrogen pollution and poor habitat the most widespread problems. In the ecological region that includes the Ozarks, that number jumps to 65%!

OZARKS WATER WATCH

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