Arkansas's 303(d) List

Brief Discussion

ADEQ

ARKANSAS

Department of Environmental Quality

What is the 303(d) list?

- List of waters currently **not**
  - Supporting a designated use or
  - Attaining water quality standards or criteria

- ADEQ must compile a 303(d) list every 2 years and submit the list to EPA for approval

Designated Uses and Water Quality Standards

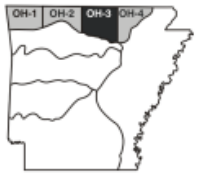
Section 303(c) of the Clean Water Act:

- Requires states to adopt water uses (Designated Uses) consistent with the Clean Water Act
  - Designated uses are those uses specified in water quality standards for each waterbody whether or not they are being attained
  - Existing uses are those uses actually attained in a waterbody on or after November 28, 1975, whether or not they are included in the water quality standards
- Requires states to establish water quality standards to protect the designated uses of each waterbody

Designated Uses

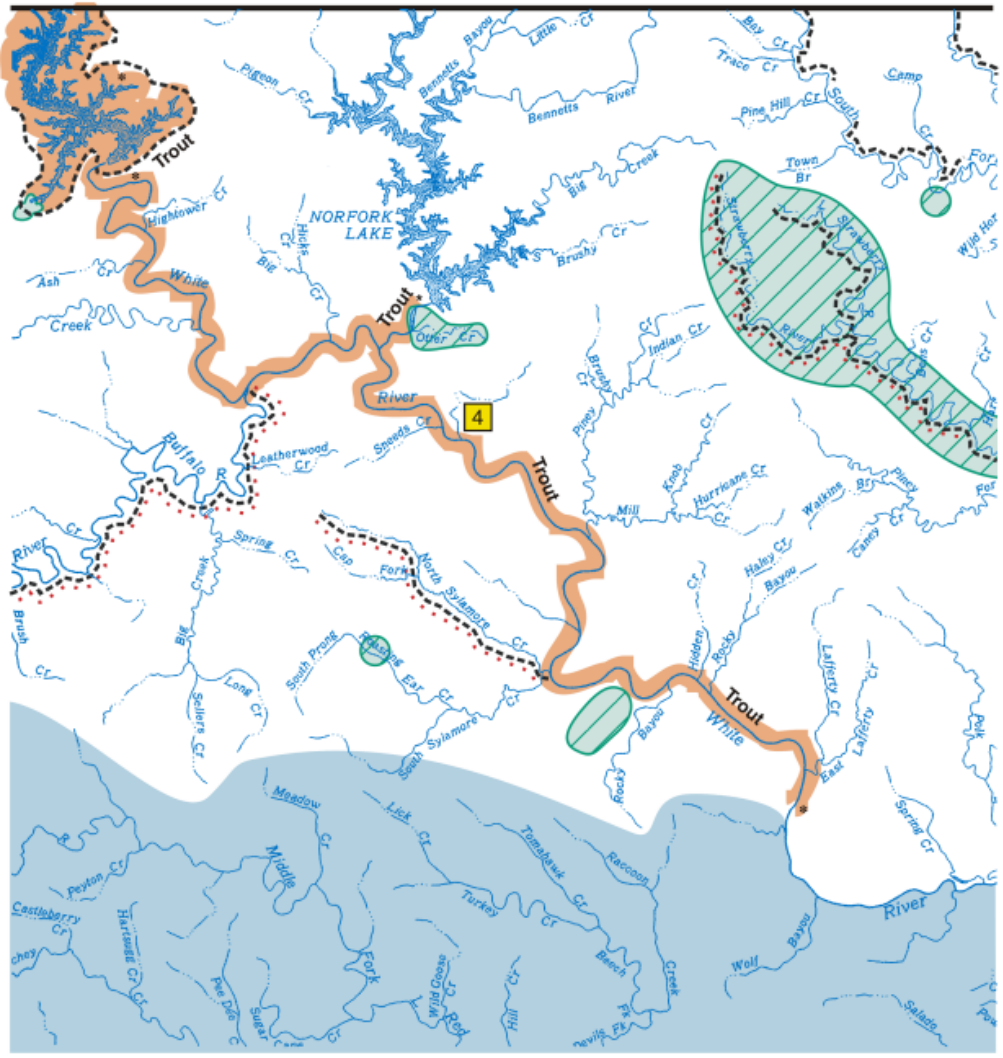
- Extraordinary Resource Waters (ERW)
- Ecologically Sensitive Waterways (ESW)
- Natural and Scenic Waterways
- Fisheries (Aquatic Life)
- Primary Contact Recreation (swimming)
- Secondary Contact Recreation (wading)
- Drinking Water
- Agriculture and Industrial Water Supply

Plate OH-3 (Ozark Highlands)



LEGEND

- Ecologically Sensitive Waterbodies
- Trout Waters
- Extraordinary Resource Waters
- Natural and Scenic Waterways
- Variation by UAA



DESIGNATED USES: OZARK HIGHLANDS ECOREGION
(Plates OH-1, OH-2, OH-3, OH-4)

Extraordinary Resource Waters
Current River (OH-4)
Eleven Point River (OH-4)
Strawberry River (OH-3, OH-4)
Spring River, including its tributaries: Field Creek, Big Creek, English Creek, Gut Creek and Myatt Creek (OH-4)
South Fork Spring River (OH-3, OH-4)
North Sylamore Creek (OH-3)
Buffalo River (OH-2, OH-3)
Kings River (OH-2)
Bull Shoals Reservoir (OH-2, OH-3)

Natural and Scenic Waterways
Strawberry River from headwaters to Sharp-Izard County Line (OH-3, OH-4)
Kings River - that segment in Madison County (OH-2)
Buffalo River (OH-2, OH-3)
North Sylamore Creek (OH-3)*

Ecologically Sensitive Waterbodies
Numerous springs and spring-fed tributaries which support southern cavefish, Ozark cavefish, Arkansas darter, least darter, Oklahoma salamander, cave snails, cave crawfish and unique invertebrates (OH-1, OH-2, OH-3)
Strawberry River - location of Strawberry River darter (OH-3, OH-4)
Spring River - snuffbox and pink mucket mussels; Ozark hellbender (OH-4)
Eleven Point River - location of Ozark hellbender (OH-4)
Current River - location of flat floater and pink mucket mussels (OH-4)
Illinois River - Neosho mucket (OH-1)

Primary Contact Recreation - all streams with watersheds of greater than 10 mi^2 and all lakes/reservoirs

Secondary Contact Recreation - all waters

Domestic, Industrial and Agricultural Water Supply - all waters

Fisheries

Trout

Bull Shoals Reservoir - lower portion (OH-2)
White River from Bull Shoals Dam to Dam #3 (OH-3)
North Fork White River (OH-3)
Spring River from Mammoth Springs to South Fork Spring River (OH-4)
Upper White River from Beaver Dam to State Line (OH-1)

Lakes and Reservoirs - all

Streams

Seasonal Ozark Highlands fishery - all streams with watersheds of less than 10 mi^2 except as otherwise provided in Reg. 2.505
Perennial Ozark Highlands fishery - all streams with watersheds of 10 mi^2 and larger and those waters where discharges equal or exceed 1 CFS

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* As designated in the National Wild and Scenic Rivers System

Use Variations Supported by UAA or Other Investigations

Railroad Hollow Creek - no fishable/swimmable uses (OH-1, #1)
Columbia Hollow Creek - seasonal fishery March-June (OH-1, #2)
Curia Creek - below first waterfall, perennial fishery (OH-4, #3)
Moccasin Creek - below Highway 177, perennial fishery (OH-3, #4)
Stennitt Creek- from Brushy Creek to Spring River, no domestic water supply use (OH-4)

SPECIFIC STANDARDS: OZARK HIGHLANDS ECOREGION

(Plates OH-1, OH-2, OH-3, OH-4)

	Streams		Lakes and Reservoirs
Temperature °C (°F)*	29 (84.2)		32 (89.6)
Trout waters	20 (68)		
Turbidity (NTU) (base/all)	10/17		25/45
Minerals	see Reg. 2.511		see Reg. 2.511
Dissolved Oxygen**	Pri.	Crit	see Reg. 2.505
<10 mi^2 watershed	6	2	
10 to 100 mi^2	6	5	
>100 mi^2 watershed	6	6	
Trout waters	6	6	

All other standards (same as statewide)

Variations Supported by UAA

Railroad Hollow Creek: from headwaters to Spavinaw Creek - year-round dissolved oxygen - 2 mg/l (OH-1, #1)
Curia Creek - below first waterfall, critical season D.O. 6 mg/l (OH-4, #3)
Moccasin Creek - below Highway 177, critical season D.O. 5mg/l (OH-3, #4)
SWEPCO Reservoir - maximum temperature 54°C (limitation of 2.8°C above natural temperature does not apply) (OH-1, #5)
Stennitt Creek - from Brushy Creek to Spring River, TDS = 456 mg/l (OH-4, #6)

Water Quality Standards

- Numeric Standards

ALL WATERBODIES - HUMAN HEALTH CRITERIA

Substance	Criteria (ng/l)*
Dioxin (2,3,7,8 TCDD)	0.001
Chlordane	5.0
PCBs (polychlorinated biphenyls)	0.4

- Narrative Standards

Reg. 2.509 Nutrients

Materials stimulating algal growth shall not be present in concentrations sufficient to cause objectionable algal densities or other nuisance aquatic vegetation or otherwise impair any designated use of the waterbody. Impairment of a waterbody from excess nutrients are dependent

List Development

1. Collect data from stream segments, assemble and evaluate all existing and readily available water quality data.
2. Assess data based upon Regulation No. 2 and the
3. "Assessment Methodology"
    a. Regulation No. 2 provides the value
    b. Assessment Methodology provides the procedure
4. Make a "Support" or "Non-Support" determination
5. Compile 303(d) List
6. Public Notice
7. Submit to EPA on or before April 1 every other year

Water Quality Monitoring Network

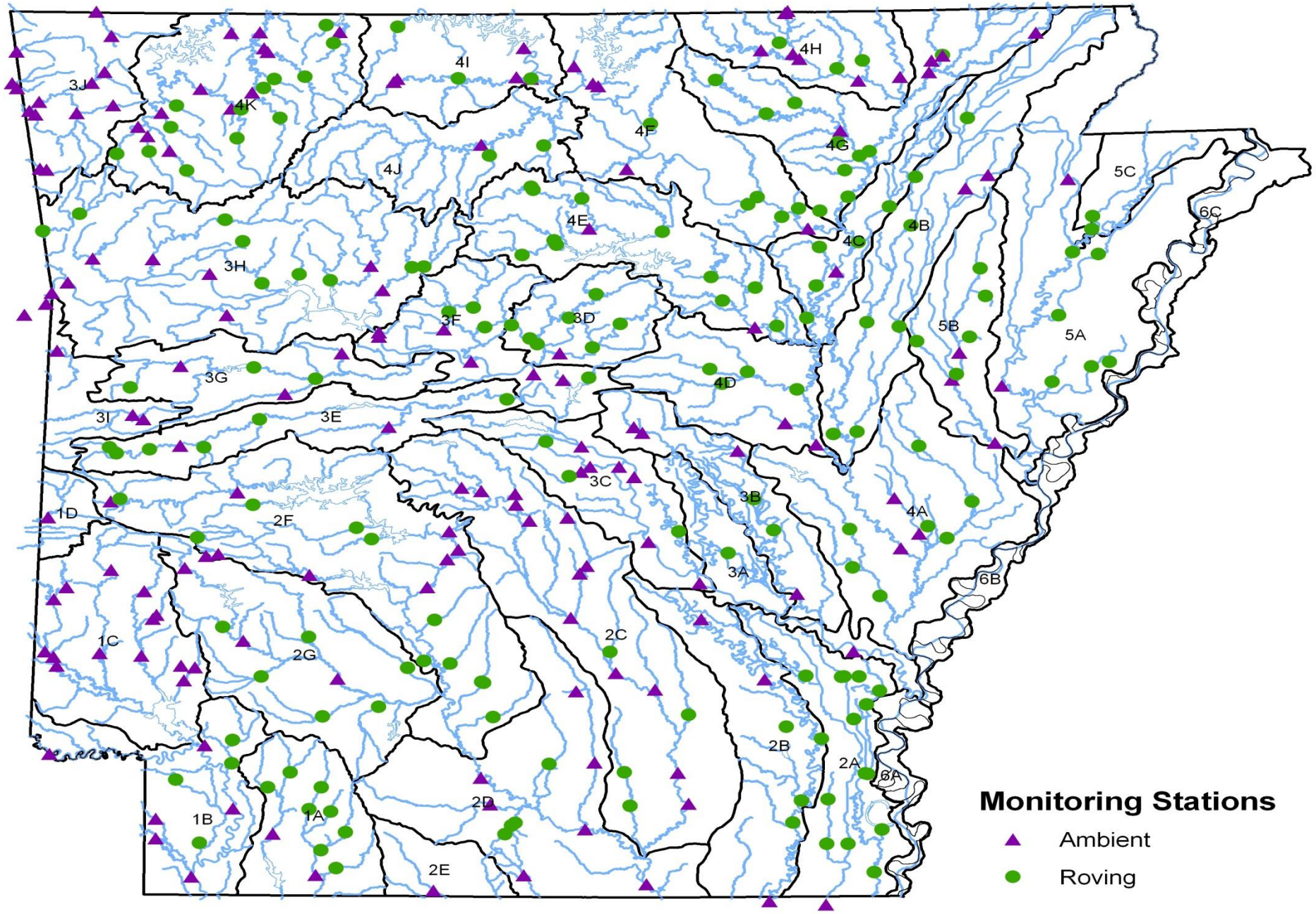
Ambient Surface Water Network

- Approximately 150 stations
- Chemical parameters & flow
- Sampled monthly
- ~25-30 years of data

Roving Surface Water Network

- Approximately 200 stations
- Waters with limited or no WQ data
- Sampled every other month for 2 years, then move on

Special Projects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Monitoring Stations
Ambient
Roving

Watershed Monitoring Network

Macroinvertebrate Community

Watershed Based

20 – 30 sites

Statewide

100+ sample/year

Fish Community

Watershed Based

10 – 20 sites

Statewide

30+ sample/year

Assessments

Parameter	Support	Non-support
Temperature	≤ 10%	> 10%
DO	< 5 samples or ≤ 10%	> 10%
pH	≤ 10%	> 10%
Turbidity	≤ 25%	> 25%

Example: 60 Temperature measurements were taken at a station representing a particular stream segment during the period of record.

If 6 samples exceed the criteria ⟹ **SUPPORT**

If 7 samples exceed the criteria ⟹ **NON-SUPPORT**

305(b) Report Listing Format

Five Categories of Waters:

1. All designated Uses and water quality standards are met

   1B: TMDL has been completed, but now meeting

2. Some uses and standards met, insufficient data to assess other uses

3. Insufficient data to assess any uses

4. Water impaired, does not require a TMDL:

   4A: a TMDL has already been completed

   4B: other pollution control requirements will result in WQ standards attainment

   4C: impairment is not caused by a pollutant

305(b) Report Listing Format

Five Categories of Waters:

5. Waters not meeting WQ standards (303(d) List)

High

Truly impaired, TMDL needed

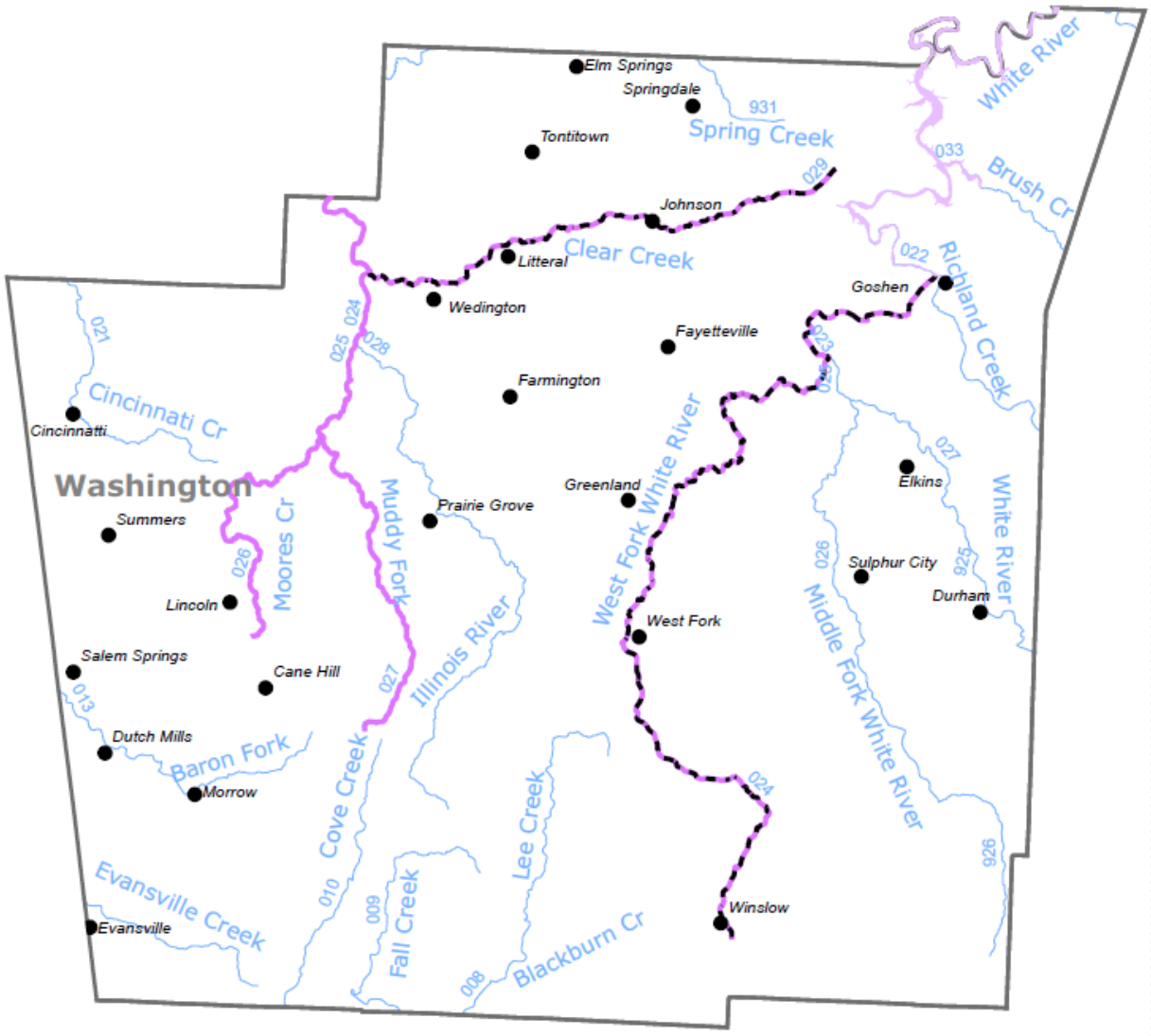
Medium

Adoption of new regulations or standards
Questionable data
Data verification needed
Impairment caused by a point source

Low

Impairment is naturally occurring
ADEQ did not support the listing (EPA added)

Draft 2014 Impaired Waters List



De-Listing of Waters

- Develop a TMDL
- Implement control strategies (other than a TMDL)
- Updated assessments indicate no known impairments
- Improved delineation of impaired waterbodies
- Improved water quality standards and assessment methodologies


Questions?