

ARKANSAS POLLUTION CONTROL AND ECOLOGY COMMISSION #014.00-002

**ARKANSAS POLLUTION CONTROL  
AND ECOLOGY COMMISSION**



**REGULATION NO. 2**

**REGULATION ESTABLISHING WATER  
QUALITY STANDARDS FOR SURFACE  
WATERS OF THE STATE OF ARKANSAS**

Adopted by the Arkansas Pollution Control and Ecology Commission on April 23, 2004  
Amended April 28, 2006

Submitted to the  
Arkansas Pollution Control  
And Ecology Commission  
October, 2006

Arkansas Pollution Control and Ecology Commission  
Regulation No. 2, As Amended

**Regulation Establishing  
Water Quality Standards for Surface Waters  
of the State of Arkansas**

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dissolved oxygen saturation, diurnal dissolved oxygen fluctuations, pH values, aquatic-life community structure and possibly others. However, when excess nutrients result in an impairment, based upon Department assessment methodology, by any established, numeric water quality standard, the waterbody will be determined to be impaired by nutrients.

All point source discharges into the watershed of waters officially listed on Arkansas' impaired waterbody list (303d) with phosphorus as the major cause shall have monthly average discharge permit limits no greater than those listed below. Additionally, waters in nutrient surplus watersheds as determined by Act 1061 of 2003 Regular Session of the Arkansas 84<sup>th</sup> General Assembly and subsequently designated nutrient surplus watersheds may be included under this Reg. if point source discharges are shown to provide a significant phosphorus contribution to waters within the listed nutrient surplus watersheds.

<u>Facility Design Flow – mgd</u>	<u>Total Phosphorus discharge limit – mg/L</u>
= or > 15	Case by case
3 to <15	1.0
1 to <3	2.0
0.5 to <1.0	5.0
<0.5	Case by Case

For discharges from point sources which are greater than 15 mgd, reduction of phosphorus below 1 mg/L may be required based on the magnitude of the phosphorus load (mass) and the type of downstream waterbodies (e.g., reservoirs, Extraordinary Resource Waters). Additionally, any discharge limits listed above may be further reduced if it is determined that these values are causing impairments to special waters such as domestic water supplies, lakes or reservoirs or Extraordinary Resource Waters.

**Reg. 2.510 Oil and Grease**

Oil, grease or petrochemical substances shall not be present in receiving waters to the extent that they produce globules or other residue or any visible, colored film on the surface, or coat the banks and/or bottoms of the watercourses or adversely affect any of the associated biota. As a guideline, oil and grease shall not exceed 10 mg/l average or 15 mg/l maximum when discharging to surface waters. No mixing zones are allowed for discharges of oil and grease.

**Reg. 2.511 Mineral Quality**

Mineral quality shall not be altered by municipal, industrial, other waste discharges or instream activities so as to interfere with designated uses. The following limits apply to the streams indicated, and represent concentrations of chloride (Cl<sup>-</sup>), sulfate (SO<sub>4</sub><sup>2-</sup>) and total dissolved solids (TDS) not to be exceeded in more than one (1) in ten (10) samples collected over a period of not less than 30 days or more than 360 days.

**Stream**

**Concentration-mg/L**  
**Cl<sup>-</sup>      SO4 =      TDS**

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<b>Arkansas River Basin</b>			
Arkansas River (Mouth to L&D #7)	250	100	500
Bayou Meto (Rocky Branch to Bayou Two Prairie)	64	ER	ER
<u>Bayou Meto (mouth to Bayou Two Prairie)</u>	<u>95**</u>	<u>45**</u>	<u>ER</u>
<u>Bayou Two Prairie (mouth to Rickey Branch)</u>	<u>95**</u>	<u>45**</u>	<u>ER</u>
Rocky Branch Creek	64*	ER	ER
Arkansas River (L&D #7 to L&D #10)	250	100	500
Cadron Creek	20	20	100
Arkansas River (L&D #10 to Oklahoma line, including Dardanelle Reservoir)	250	120	500
James Fork	20	100	275
Illinois River	20	20	300
Poteau River from Business Hwy 71 to Stateline	120	60	500
Unnamed trib at Waldron	50	70	660
<b>White River Basin</b>			
White River (Mouth to Dam #3)	20	60	430
Big Creek	20	30	270
Unnamed trib from Frit Ind.	ER	48*	ER
Cache River	20	30	270
Bayou DeView	20	30	270
Little Red River (including Greers Ferry Reservoir) Black River	20	30	100
Strawberry River	20	30	270
Spring River	20	30	290
Eleven Point River	20	30	270
Stennitt Creek	ER	ER	456*
South Fork Spring River	20	30	270
Myatt Creek	20	30	270
Current River	20	30	270
White River (Dam #3 to Missouri line, including Bull Shoals Reservoir)	20	20	180
Buffalo River	20	20	200
Crooked Creek	20	20	200
White River (Missouri line to headwaters, including Beaver Reservoir)	20	20	160
Kings River	20	20	150
West Fork White River	20	20	150
<b>St. Francis River Basin</b>			
St. Francis River (Mouth to 360 N. Lat.)	10	30	330
L'Anguille River	20	30	235
Tyronza River (headwaters to Ditch No. 6 confluence)	20	30	350
Tyronza River (Ditch No. 6 confluence to mouth)	20	60	350
Little River	20	30	365
Pemiscot Bayou	20	30	380

<u>Stream</u>	<u>Concentration-mg/L</u>		
	<u>Cl<sup>-</sup></u>	<u>SO<sub>4</sub><sup>=</sup></u>	<u>TDS</u>
St. Francis River (36° N. Lat. to 36° 30' N. Lat.)	10	20	180
<b>Ouachita River Basin</b>			
Bayou Bartholomew	30	30	220
Chemin-A-Haut Creek	50	20	500
Overflow Creek	20	30	170
Bayou Macon	30	40	330
Boeuf River	90	30	460
Big Cornie Creek	230	30	500
Little Cornie Creek	200	10	400
Three Creeks	250	10	500
Little Cornie Bayou	200	20	500
Walker Branch	180	ER	970
Gum Creek	104*	ER	311*
Bayou de L'Outre above Gum Creek	250	90	500
Bayou de L'Outre below Gum Creek	250	90	750
Ouachita River (Louisiana line to Camden)	160	40	350
Saline River	20	40	120
Saline River east bifurcation at Holly Creek	ER	250	500
Hurricane Cr above Hurricane Lake Dam	20	250	500
Hurricane Cr from Hurricane Lk. Dam to Ben Ball Brdg	125	730	1210
Ben Ball Bridge to Hwy.270	125	700	1200
Hwy 270 to Saline River	100	500	1000
Alcoa unnamed tribs to Hurricane Cr.	125	700	1100
Dry Lost Creek and tribs	ER	560	880
Lost Creek to Little Lost Creek	ER	510	820
Lost Creek below Little Lost Creek	ER	300	550
Holly Creek	30	860	1600
Moro Creek	30	20	260
Smackover Creek	250	30	500
Ouachita River (Camden to Carpenter Dam)	50	40	150
Town Creek below Acme tributary	ER	200	700
Unnamed trib from Acme	ER	330	830
Little Missouri River	10	90	180
Muddy Fork Little Missouri	ER	250	500
Bluff Creek and unnamed trib.	ER	651*	1033*
Garland Creek	250	250	500
South Fork Caddo	ER	60	128
Back Valley Creek	ER	250	500
Ouachita River (Carpenter Dam to Headwaters, including Lake Ouachita tributaries)	10	10	100
<b>Red River Basin</b>			
Bayou Dorcheat	100	16*	250

Stream	Concentration-mg/L		
	Cl <sup>-</sup>	SO <sub>4</sub> =	TDS
Albemarle unnamed trib (AUT) to Horsehead Creek	137*	ER	383*
Horsehead Creek from AUT to mouth	85*	ER	260*
Cypress Creek	250	70	500
Crooked Creek	250	10	500
Dismukes Creek	26	ER	157
Big Creek from Dismukes to Bayou Dorcheat	20	ER	200
Bois d'Arc Creek from Caney Creek to Red River	113*	283*	420*
Caney Creek	113*	283*	420*
Bodcau Creek	250	70	500
Poston Bayou	120	40	500
Kelley Bayou	90	40	500
Red River from Oklahoma to confluence with Little River	250	200	850
Red River from Little River to Louisiana	250	200	500
Sulphur River	120	100	500
Days Creek	250	250	500
McKinney Bayou	180	60	480
Little River	20	20	100
Saline River	20	10	90
Mine Creek from Hwy 27 to Millwood Lake	90	65	700
Cossatot River	10	15	70
Upper Rolling Fork	20	20	100
Rolling Fork from unnamed trib A to DeQueen Lake	130	70	670
Unnamed tribs A and A1 at Grannis	135	70	700
Mountain Fork	20	20	110
Mississippi River (Louisiana line to Arkansas River)	60	150	425
Mississippi River (Arkansas River to Missouri line)	60	175	450

ER - ecoregion standard

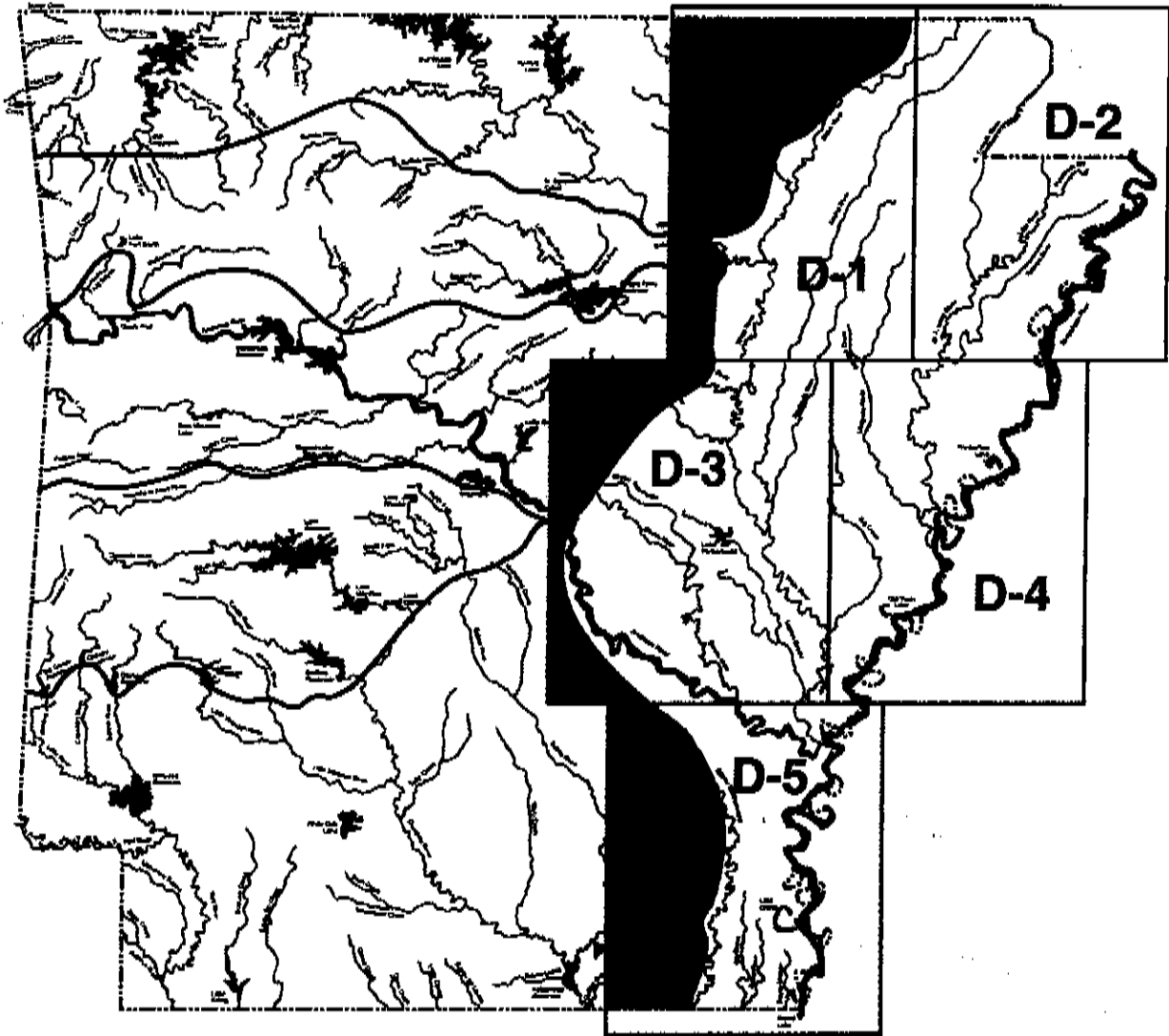
\*-based on critical background flow of 4 cfs

\*\* These limits shall apply to all tributaries of Bayou Meto and Bayou Two Prairie listed in Appendix A

Any modification of these values must be made in accordance with Reg. 2.306.

The following values determined from Arkansas' least-disturbed ecoregion reference streams are considered to be the maximum naturally occurring levels. For waterbodies not listed above, any discharge which results in instream concentrations more than 1/3 higher than these values for Cl and SO<sub>4</sub> - or more than 15 mg/l, whichever is greater, is considered to be a significant modification of the water quality. Similarly, such modification exists if the following TDS values are exceeded after being increased by the sum of the increases to Cl and SO<sub>4</sub>. Such modifications may be made only in accordance with Reg. 2.306.

# Index to Plates of the Delta





## DESIGNATED USES: DELTA ECOREGION

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

### Extraordinary Resource Waters

Second Creek (D-4)

Cache River above Cache Bayou - adjacent to natural areas (D-3)

Arkansas River below Dam #2 (D-5)

Strawberry River (D-1)

Two Prairie Bayou adjacent to natural areas (D-3)

### Natural and Scenic Waterways

None

### Ecologically Sensitive Waterbodies

Lower St. Francis River and lower 10 miles of Straight Slough - location of fat pocketbook mussel (D-2, D-4)

Right Hand Chute at confluence with St. Francis River - location of fat pocketbook mussel (D-2)

Departee Creek - location of flat floater mussel (D-1)

Black River at mouth of Spring River - location of pink mucket mussel (D-1)

**Channel-altered Delta Ecoregion Streams** - These include the majority of the streams in this ecoregion and are characterized by substantial alteration of the morphology of their main-stream channel as well as their tributary streams. Such alteration of the tributaries of these streams significantly affects the water quality and hydrology of the streams and their watersheds. Most of the upper segments of these waters have been dredged and straightened into ditches. Additionally most of the tributaries of these streams have been straightened, ditched and, in some cases, rerouted to quickly move water off the agriculture fields and into the major streams. In the lower segments of these waters, channel realignment is less expansive but most of these channels have been "snagged" to remove any in-stream obstructions (brush, logs, and other debris) and the stream channel and banks have been dredged to uniform depths and cleared of any obstructions. These include Cache River, Bayou DeView, Village Creek, Blackfish Bayou and others to be determined by the Department on a case by case basis.

**Primary Contact Recreation** - all streams with watersheds of greater than 10 mi<sup>2</sup> and all lakes/reservoirs

**Secondary Contact Recreation** - all waters

**Domestic, Industrial and Agricultural Water Supply** - all waters

### Fisheries

Trout - none

Lakes and Reservoirs - all

#### **Streams**

Seasonal Delta fishery - all streams with watersheds of less than 10 mi<sup>2</sup> except as otherwise provided in Reg. 2.505

Perennial Delta fishery - all streams with watersheds 10 mi<sup>2</sup> or larger and those waters where discharges equal or exceed 1 CFS

### Use Variation Supported by UAA

Unnamed ditch to Little Lagrue Bayou - perennial Delta fishery (D-3, #1)

Little Lake Bayou - seasonal Delta fishery; no primary contact (D-5, #2)

Coon Creek and unnamed tributary from Frit Ind. - no domestic water supply use (D-1, #3)

Rocky Branch Creek and Bayou Meto from Rocky Branch Creek to Bayou Two Prairie - no domestic water supply use (D-3 #4)

Ditch No. 27 - no domestic water supply use (D-2, #5)

Ditch No. 6 - no domestic water supply use (D-2, #6)

**SPECIFIC STANDARDS: DELTA ECOREGION**  
(Plates D-1, D-2, D-3, D-4)

	<b>Least-Altered Streams</b>	<b>Channel-Altered Streams</b>	<b>Lakes and Reservoirs</b>
Temperature °C (°F)*	30 (86)	32 (89.6)	32 (89.6)
White River	32 (89.6)		
St. Francis River	32 (89.6)		
Mississippi River	32 (89.6)		
Arkansas River	32 (89.6)		
Turbidity (NTU)(primary/storm)	45/84	75/250	25/45
Arkansas River(primary/storm)	50/52		
Mississippi River (primary/storm)	50/75		
St. Francis River(primary/storm)	75/100		
Minerals	see Reg. 2.511	see Reg. 2.511	see Reg. 2.511
Dissolved Oxygen (mg/l)**	<u>Pri</u> <u>Crit</u>	<u>Pri</u> <u>Crit</u>	see Reg. 2.505
<10 mi <sup>2</sup> watershed	5    2	5    2	
10 mi <sup>2</sup> to 100 mi <sup>2</sup>	5    3	5    3	
>100 mi <sup>2</sup> watershed	5    5	5    5	
All other standards	(same as statewide)		

**Variations Supported by UAA**

Unnamed ditch to Little Lagruc Bayou - from headwaters to confluence with Little Lagruc Bayou,  
critical season D.O. standard - 3 mg/l (D-3, #1)

Little Lake Bayou - critical season D.O. standard - 2 mg/l (D-5, #2)

Unnamed tributary from Frit Ind, to Coon Creek - sulfates 48 mg/l (D-1, #3)

Rocky Branch Creek- chlorides 64 mg/l

Bayou Meto from Rocky Branch Creek to Bayou Two Prairie - chlorides 64 mg/l

Bayou Meto from mouth to Bayou Two Prairie- chlorides 95 mg/L; sulfates 45 mg/L. (D-3, #4)

Ditch No. 27 – sulfates 480 mg/L; TDS 1,200 mg/L; maximum water temperature 95 F (D-2, #5)

Ditch No. 6 from Ditch No. 27 confluence to its mouth – sulfates 210 mg/L; TDS 630 mg/L (D-2, #6)

Tyronza River from Ditch No. 6 confluence to its mouth – sulfates 60 mg/L – see Reg. 2.511 (D-2, #7)

Bayou Two Prairie (mouth to Rickey Branch)- chlorides 95 mg/L; sulfates 45 mg/L

Little Bayou Meto- chlorides 95 mg/L; sulfates 45 mg/L

Bakers Bayou- chlorides 95 mg/L; sulfates 45 mg/L

Wabbaseka Bayou- chlorides 95 mg/L; sulfates 45 mg/L

Indian Bayou- chlorides 95 mg/L; sulfates 45 mg/L

Little Bayou Meto- chlorides 95 mg/L; sulfates 45 mg/L

Flat Bayou- chlorides 95 mg/L; sulfates 45 mg/L

Shumaker Branch- chlorides 95 mg/L; sulfates 45 mg/L

Skinner Branch- chlorides 95 mg/L; sulfates 45 mg/L

White Oak Branch- chlorides 95 mg/L; sulfates 45 mg/L

Caney Creek- chlorides 95 mg/L; sulfates 45 mg/L

Salt Bayou- chlorides 95 mg/L; sulfates 45 mg/L

Snow Bayou- chlorides 95 mg/L; sulfates 45 mg/L

Brooks Branch- chlorides 95 mg/L; sulfates 45 mg/L

Fish Trap Slough- chlorides 95 mg/L; sulfates 45 mg/L

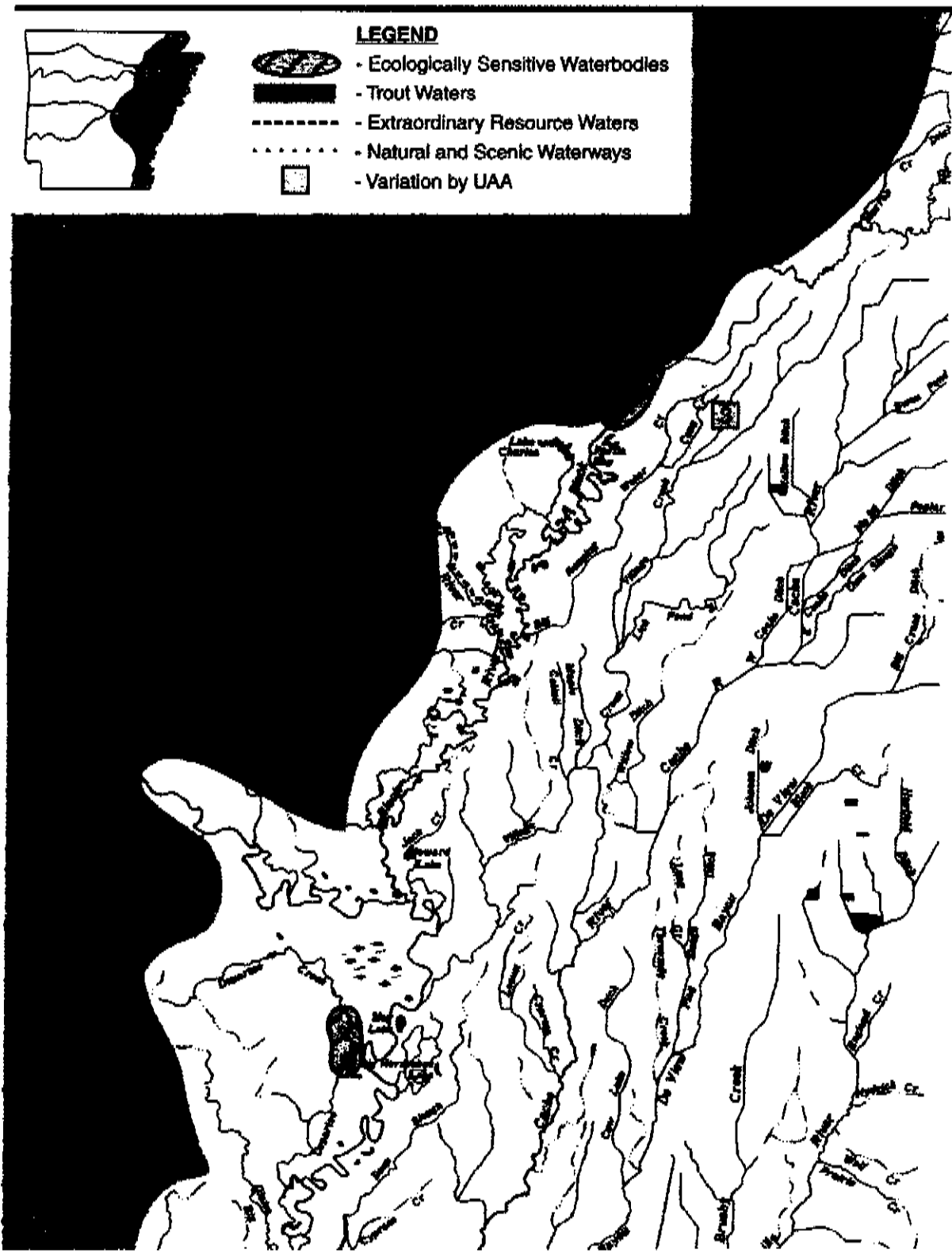
Ricky Branch- chlorides 95 mg/L; sulfates 45 mg/L  
Buck Creek- chlorides 95 mg/L; sulfates 45 mg/L  
Faras Run- chlorides 95 mg/L; sulfates 45 mg/L  
Blue Point Ditch- chlorides 95 mg/L; sulfates 45 mg/L  
Big Ditch- chlorides 95 mg/L; sulfates 45 mg/L  
Main Ditch- chlorides 95 mg/L; sulfates 45 mg/L  
Crooked Creek Ditch- chlorides 95 mg/L; sulfates 45 mg/L  
Lonoke Ditch- chlorides 95 mg/L; sulfates 45 mg/L  
Indian Bayou Ditch- chlorides 95 mg/L; sulfates 45 mg/L  
Caney Creek Ditch- chlorides 95 mg/L; sulfates 45 mg/L  
Salt Bayou Ditch- chlorides 95 mg/L; sulfates 45 mg/L  
Bradley Slough- chlorides 95 mg/L; sulfates 45 mg/L  
Tupelo Bayou - chlorides 95 mg/L; sulfates 45 mg/L  
Dennis Slough- chlorides 95 mg/L; sulfates 45 mg/L  
Buffalo Slough- chlorides 95 mg/L; sulfates 45 mg/L  
Flynn Slough- chlorides 95 mg/L; sulfates 45 mg/L  
Boggy Slough- chlorides 95 mg/L; sulfates 45 mg/L  
Bear Bayou- chlorides 95 mg/L; sulfates 45 mg/L  
Bubbling Slough- chlorides 95 mg/L; sulfates 45 mg/L  
Five Forks Bayou- chlorides 95 mg/L; sulfates 45 mg/L  
Government Slough- chlorides 95 mg/L; sulfates 45 mg/L  
Brushy Slough- chlorides 95 mg/L; sulfates 45 mg/L  
Tipton Ditch- chlorides 95 mg/L; sulfates 45 mg/L  
Hurricane Slough- chlorides 95 mg/L; sulfates 45 mg/L  
Newton Bayou- chlorides 95 mg/L; sulfates 45 mg/L  
West Bayou- chlorides 95 mg/L; sulfates 45 mg/L  
Long Pond Slough- chlorides 95 mg/L; sulfates 45 mg/L  
Castor Bayou- chlorides 95 mg/L; sulfates 45 mg/L  
Cross Bayou- chlorides 95 mg/L; sulfates 45 mg/L

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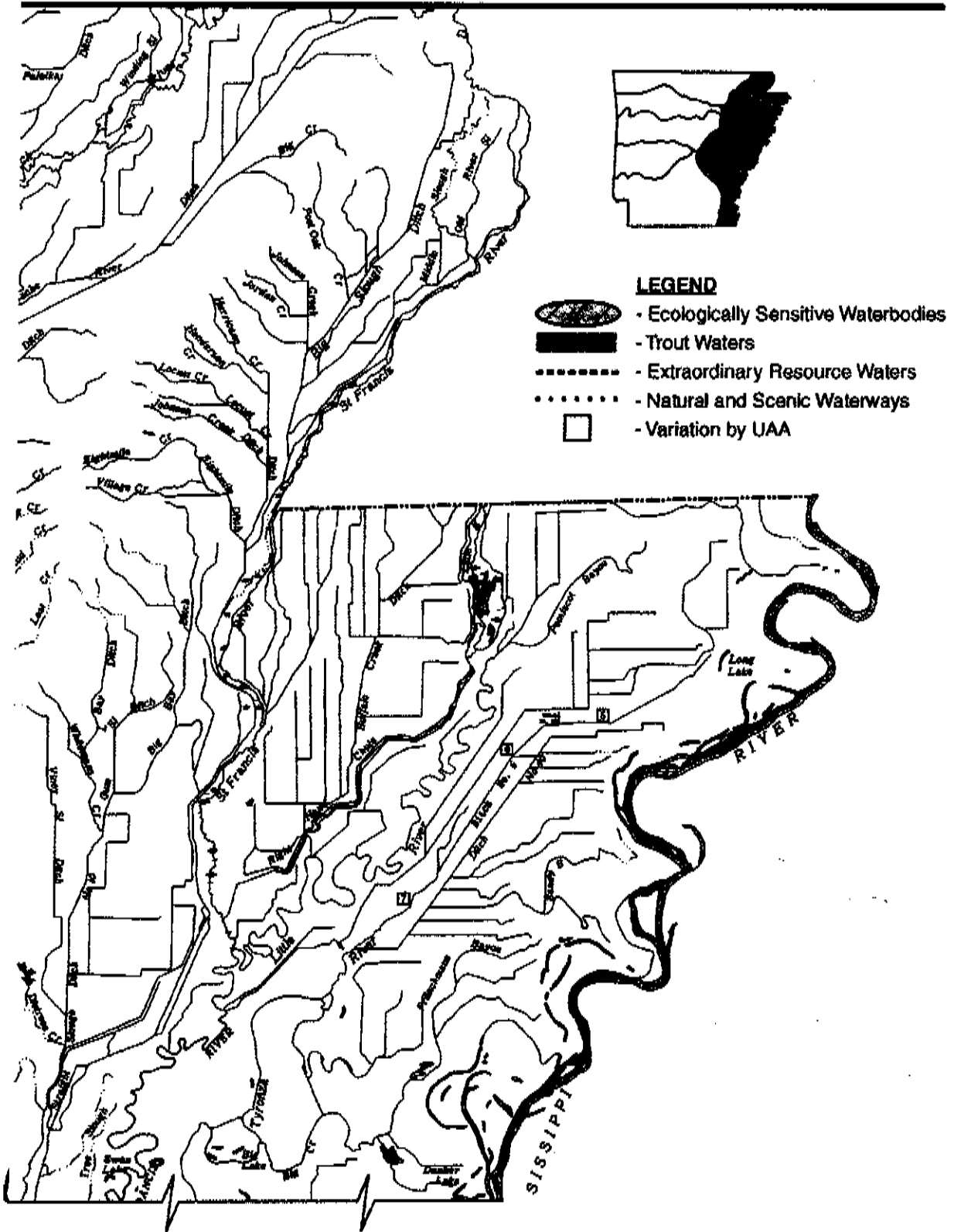
\* Increase over natural temperatures may not be more than 2.8°C (5°F).

\*\* When water temperatures exceed 22 °C, the critical season D.O. standard may be depressed by 1 mg/l for no more than 8 hours during a 24-hour period.

# Plate D-1 (Delta)



# Plate D-2 (Delta)



# Plate D-3 (Delta)

