

Amended Exhibit A to Huntsville Petition

**Proposed Regulation (Initial Draft)**

# ARKANSAS POLLUTION CONTROL AND ECOLOGY COMMISSION



BY \_\_\_\_\_

SECRETARY  
STATE OF ARKANSAS

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## 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 (August 26, 2011)

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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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**

(A) Site Specific Mineral Quality Criteria

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 the monthly average concentrations of chloride (Cl<sup>-</sup>), sulfate (SO<sub>4</sub><sup>=</sup>) and total dissolved solids (TDS).

<u>Stream</u>	<u>Concentration-mg/L</u>		
	<u>Cl<sup>-</sup></u>	<u>SO<sub>4</sub><sup>=</sup></u>	<u>TDS</u>
Arkansas River Basin			
Arkansas River (Mouth to L&D #7)	250	100	500
Bayou Meto (Rocky Branch to Bayou Two Prairie)	64*	ER	ER
Bayou Meto (mouth to Bayou Two Prairie)	95**	45**	ER
Bayou Two Prairie (mouth to Rickey Branch)	95**	45**	ER
Rocky Branch Creek	64*	ER	ER
Little Fourche Creek (Willow Springs Branch to Fourche Creek)	ER	ER	179
Willow Springs Branch (McGeorge Creek to Little Fourche Creek)	ER	112	247
McGeorge Creek (headwaters to Willow Springs Branch)	ER	250	432
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	150	70	660
White River Basin			
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 (from Mouth to AR Hwy 14)	48	37.3	411.3
Bayou Deview (from AR Hwy 14 to Whistle Ditch)	48	38	411.3
Big Creek (from Whistle Ditch to mouth of Unnamed trib)	58	49	ER
Unnamed trib to Big Creek	71	60	453
Lost Creek Ditch	20	30	270

<u>Stream</u>	<u>Concentration-mg/L</u>		
	<u>Cl<sup>-</sup></u>	<u>SO<sub>4</sub><sup>=</sup></u>	<u>TDS</u>
Little Red River (including Greers Ferry Reservoir)	20	30	100
Black River	20	30	270
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><u>War Eagle Creek (downstream from confluence with Holman Creek)</u></b>	<b>130 185*</b>	<b>30 41*</b>	<b>525 407*</b>
<b><u>Holman Creek (downstream from confluence with Town Branch)</u></b>	<b>185*</b>	<b>41*</b>	<b>525*</b>
<b><u>Town Branch</u></b>	<b>185*</b>	<b>41*</b>	<b>525*</b>
St. Francis River Basin			
St. Francis River (Mouth to 36° N. Lat.)	10	30	330
L'Anguille River	20	30	235
Tyronza River (headwaters to Ditch No. 6 confluence)	20	30	350
Ditch No. 27	ER	480	1200
Ditch No. 6 (mouth to Ditch No. 27 confluence)	ER	210	630
Tyronza River (mouth to Ditch No. 6 confluence)	20	60	350
Little River	20	30	365
Pemiscot Bayou	20	30	380
St. Francis River (36° N. Lat. to 36° 30' N. Lat.)	10	20	180
Ouachita River Basin			
Bayou Bartholomew	50	20	500
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
Unnamed trib from GLCC 003	538*	35*	519*
Unnamed trib to Little Cornie Bayou	305*	ER	325*
Little Cornie Bayou from unnamed trib to State Line	215*	25*	500*
Walker Branch	180*	ER	970*
Gum Creek	104*	ER	311*
Bayou de L'Outre above Gum Creek	250	90	500

StreamConcentration-mg/L

	<u>Cl<sup>-</sup></u>	<u>SO<sub>4</sub><sup>=</sup></u>	<u>TDS</u>
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
Hurricane Cr from Ben Ball Bridge to Hwy.270	125	700	1200
Hurricane CR from 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
Unnamed trib A to Flat Creek from mouth of EDCC	16*	80*	315*
001 ditch to confluence with Flat Creek			
Confluence with unnamed trib A to Flat Creek	23*	125*	475*
Bayou de L'Outre Creek above Loutre Creek	180	ER	970
Unnamed trib UT004 from GLCC	014*	ER	311*
Unnamed trib UT002 from GLCC	278*	90*	500*
Loutre Creek- from Hwy 15 South to the confluence of Bayou de Loutre	256*	997*	1756*
Bayou de Loutre – from Loutre Creek to the discharge for the City of El Dorado - South facility	264*	635*	1236*
Bayou de Loutre – from the discharge for the City of El Dorado-South downstream to the mouth of Gum Creek	250*	431*	966*
Bayou de Loutre -- from the mouth of Gum Creek downstream to the mouth of Boggy Creek	250*	345*	780*
Boggy Creek - from the discharge for Clean Harbors El Dorado LLC to the confluence of Bayou de Loutre	631*	63*	1360*
Bayou de Loutre- from the mouth of Boggy Creek downstream to the mouth of Hibank Creek	250*	296*	750*
Bayou de Loutre -- from the mouth of Hibank Creek downstream to the mouth of Mill Creek	250*	263*	750*
Bayou de Loutre -- from the mouth of Mill Creek downstream to the mouth of Buckaloo Branch	250*	237*	750*
Bayou de Loutre- from the mouth of Buckaloo Branch downstream to the mouth of Bear Creek	250*	216*	750*
Bayou de Loutre – from the mouth of Bear Creek	250*	198*	750*



<u>Stream</u>	<u>Concentration-mg/L</u>		
	<u>Cl<sup>-</sup></u>	<u>SO<sub>4</sub><sup>=</sup></u>	<u>TDS</u>
downstream to the final segment of Bayou de Loutre			
Bayou de Loutre (Final segment) – from the mouth of			
Bear Creek to the Arkansas/Louisiana State Line	250*	171*	750*
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
Wilson Creek from its mouth upstream approx.			
1.7 miles at the UMETCO property line	56	250	500
Ouachita River (Carpenter Dam to Headwaters,			
including Lake Ouachita tributaries)	10	10	100
Red River Basin			
Bayou Dorcheat	100	16*	250
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

<u>Stream</u>	<u>Concentration-mg/L</u>		
	<u>Cl<sup>-</sup></u>	<u>SO<sub>4</sub><sup>=</sup></u>	<u>TDS</u>
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.

### (B) Ecoregion Reference Stream Minerals Values

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><sup>=</sup> 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.

### CALCULATED ECOREGION REFERENCE STREAM VALUES (mg/l)

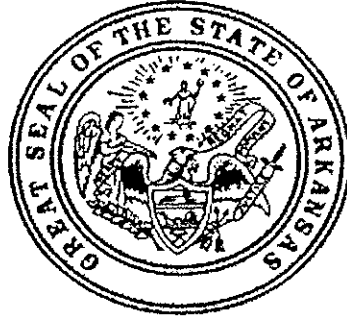
Ecoregion	Chlorides	Sulfates	TDS
Ozark Highlands	17.3	22.7	250
Boston Mountains	17.3	15	95.3
Arkansas River Valley	15	17.3	112.3
Ouachita Mountains	15	20	142
Gulf Coastal Plains	18.7	41.3	138
Delta	48	37.3	411.3

### (C) Domestic Water Supply Criteria

In no case shall discharges cause concentrations in any waterbody to exceed 250, 250 and 500 mg/l of chlorides, sulfates and total dissolved solids, respectively, or cause concentrations to exceed the applicable limits in the streams to which they are a tributary, except in accordance with Reg. 2.306.

### Reg. 2.512 Ammonia

Total ammonia nitrogen (N) shall not exceed those values and frequency of occurrence established in the following tables:



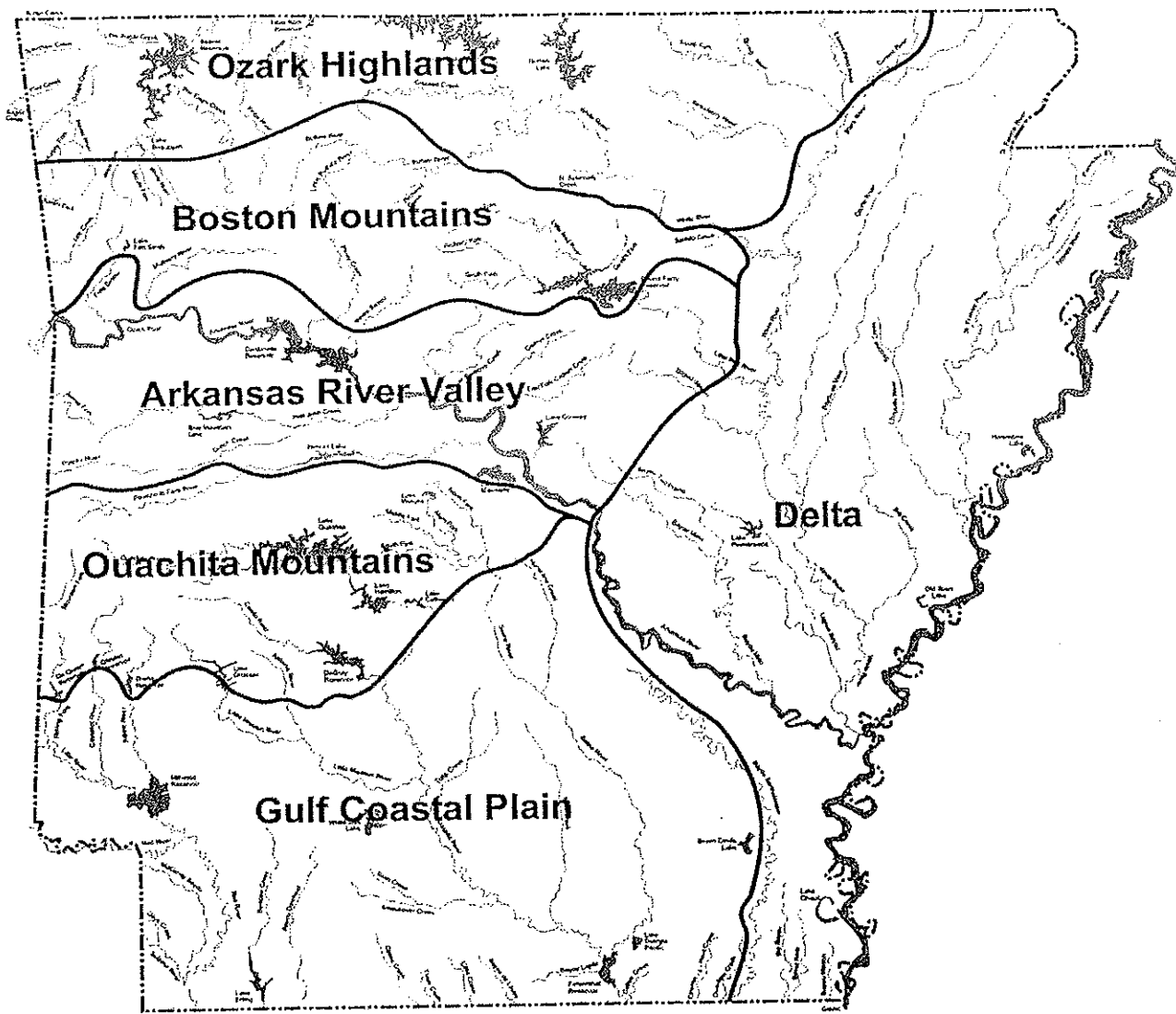
# **REGULATION NO. 2**

## **APPENDIX A**

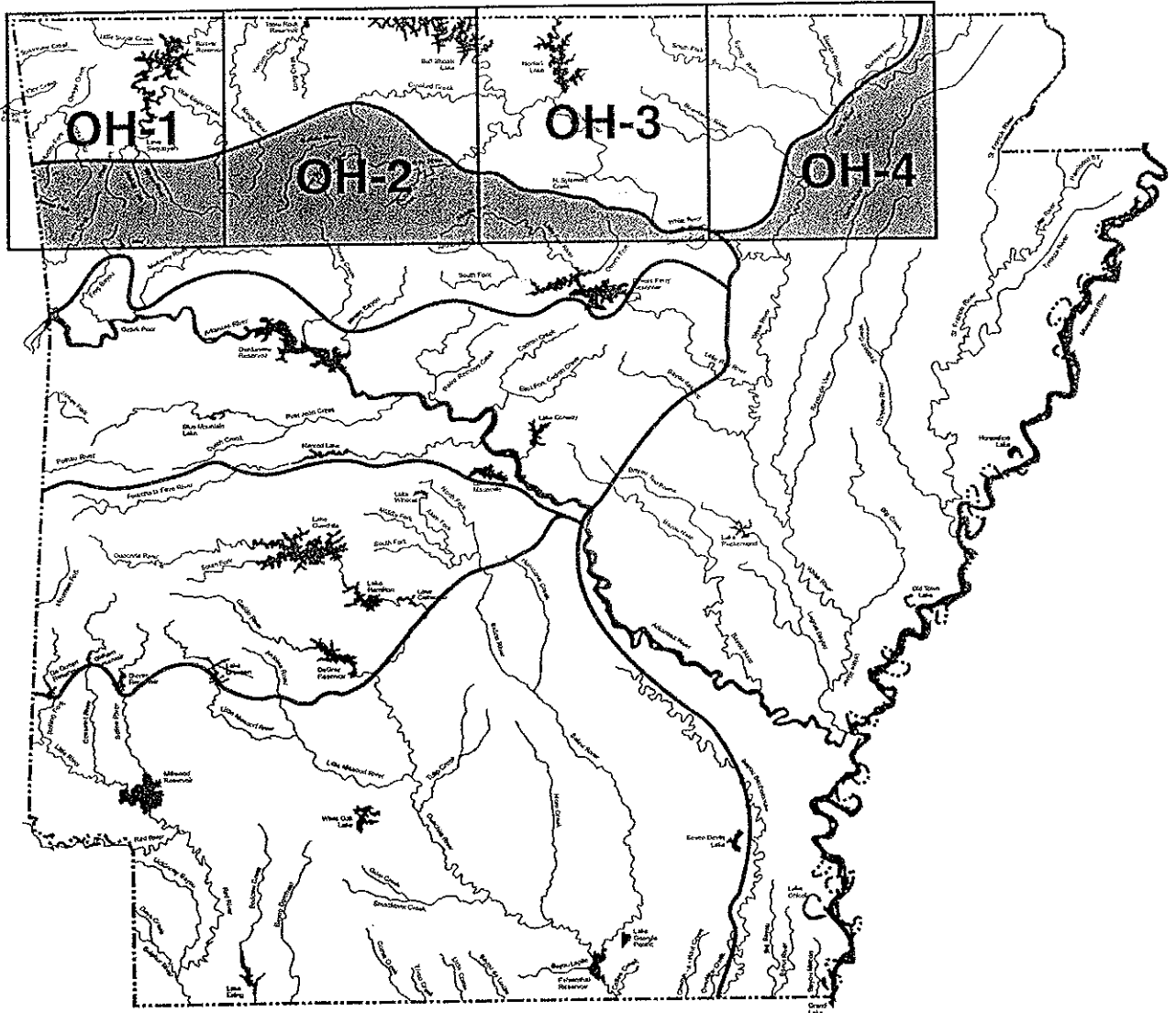
**Designated Uses, Specific Standards and Maps of Waters of  
the State by Ecoregions**

**(September 24, 2010)**

APPENDIX A: MAP OF ECOREGIONS OF ARKANSAS



# Index to Plates of the Ozark Highlands



**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<sup>2</sup> 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<sup>2</sup> except as otherwise provided in Reg. 2.505  
Perennial Ozark Highlands fishery - all streams with watersheds of 10 mi<sup>2</sup> 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)

	<u>Streams</u>	<u>Lakes and Reservoirs</u>
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**	<u>Pri.</u> <u>Crit</u>	see Reg. 2.505
<10 mi <sup>2</sup> watershed	6        2	
10 to 100 mi <sup>2</sup>	6        5	
>100 mi <sup>2</sup> watershed	6        6	
Trout waters	6        6	

All other standards (same as statewide)

**Variations Supported by UAA**

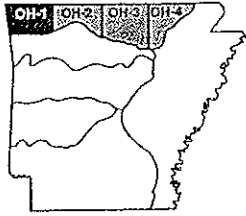
Railroad Hollow Creek: from headwaters to Spavinaw Creek - year-round dissolved oxygen - 2 mg/l (OH-1, #1)  
 Curia Creek - below first waterfall, critical season D.O. 6 mg/l (OH-4, #3)  
 Moccasin Creek - below Highway 177, critical season D.O. 5mg/l (OH-3, #4)  
 SWEPCO Reservoir - maximum temperature 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)

Town Branch, chloride = 185 mg/L, sulfate = 41 mg/L, TDS = 525 mg/L (OH-1)  
Holman Creek from the confluence with Town Branch, chloride = 185 mg/L, sulfate = 41 mg/L, TDS = 525 mg/L (OH-1)  
War Eagle Creek downstream from confluence with Holman Creek, chloride = 185-130 mg/L, sulfate = 41-30 mg/L  
TDS = 525-407 mg/L (OH-1)



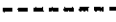


\* Increase over natural temperatures may not be more than 2.8°C (5°F).

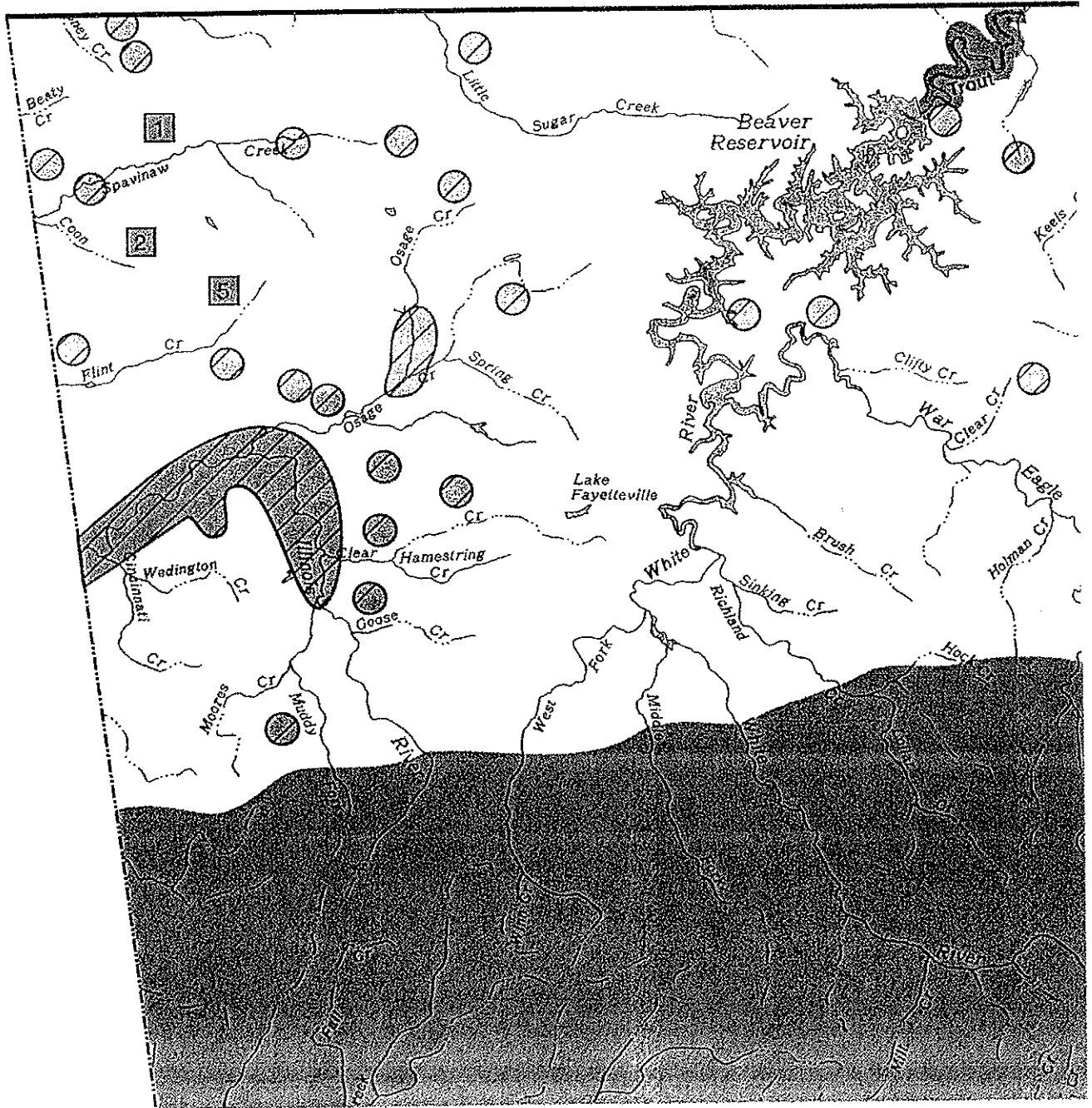
\*\* At water temperatures ≤10°C or during March, April and May when stream flows are 15 CFS and greater, the primary season D.O. standard will be 6.5 mg/l. When water temperatures exceed 22°C, the critical season D.O. standard may be depressed by 1 mg/l for no more than 8 hours during a 24-hour period.

# Plate OH-1 (Ozark Highlands)



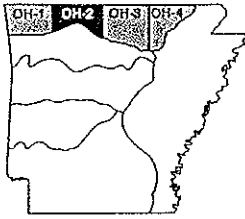
## LEGEND

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








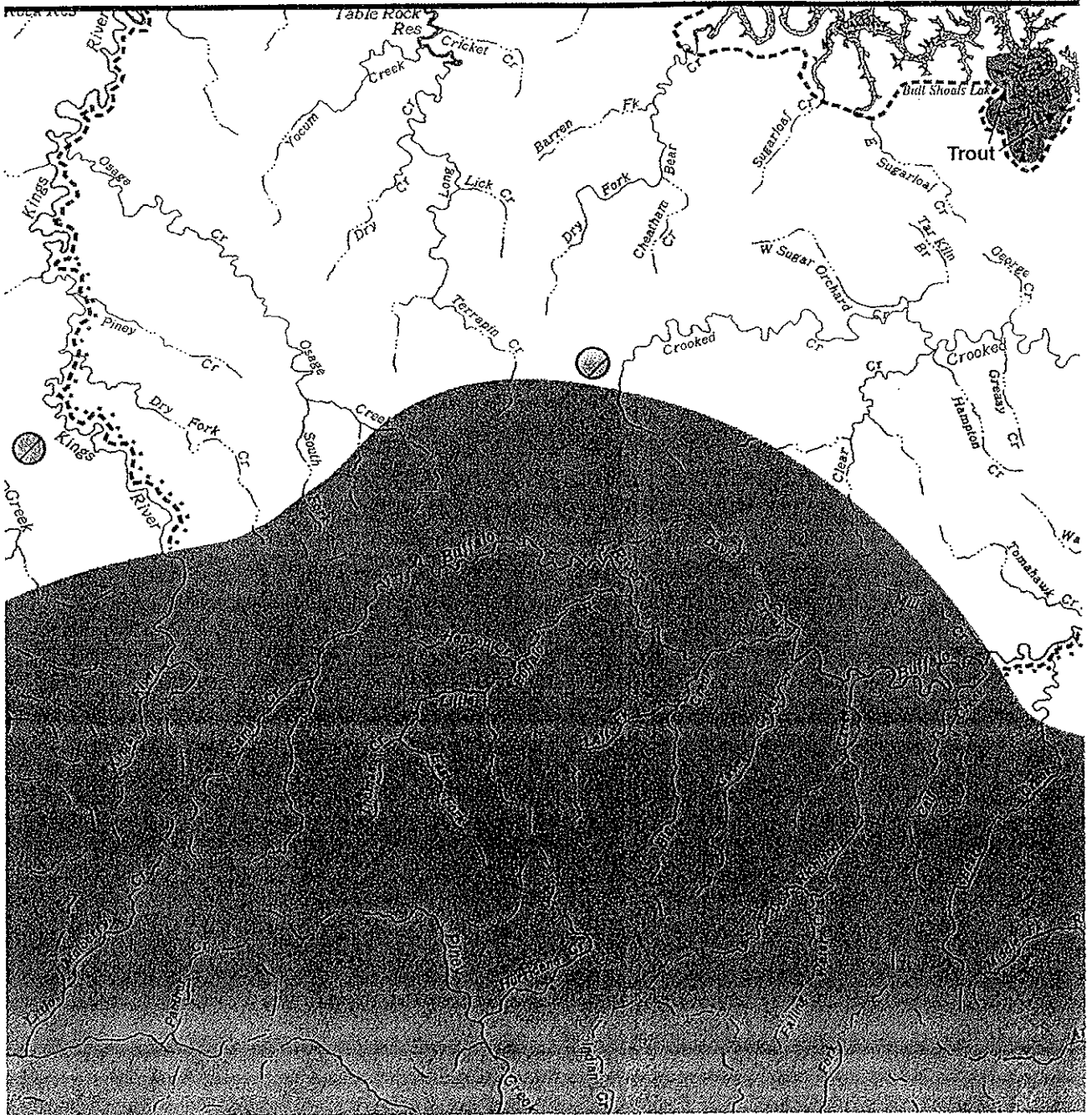


# Plate OH-2 (Ozark Highlands)

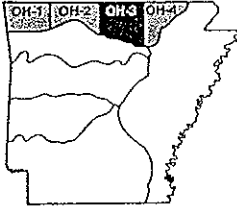


## LEGEND






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

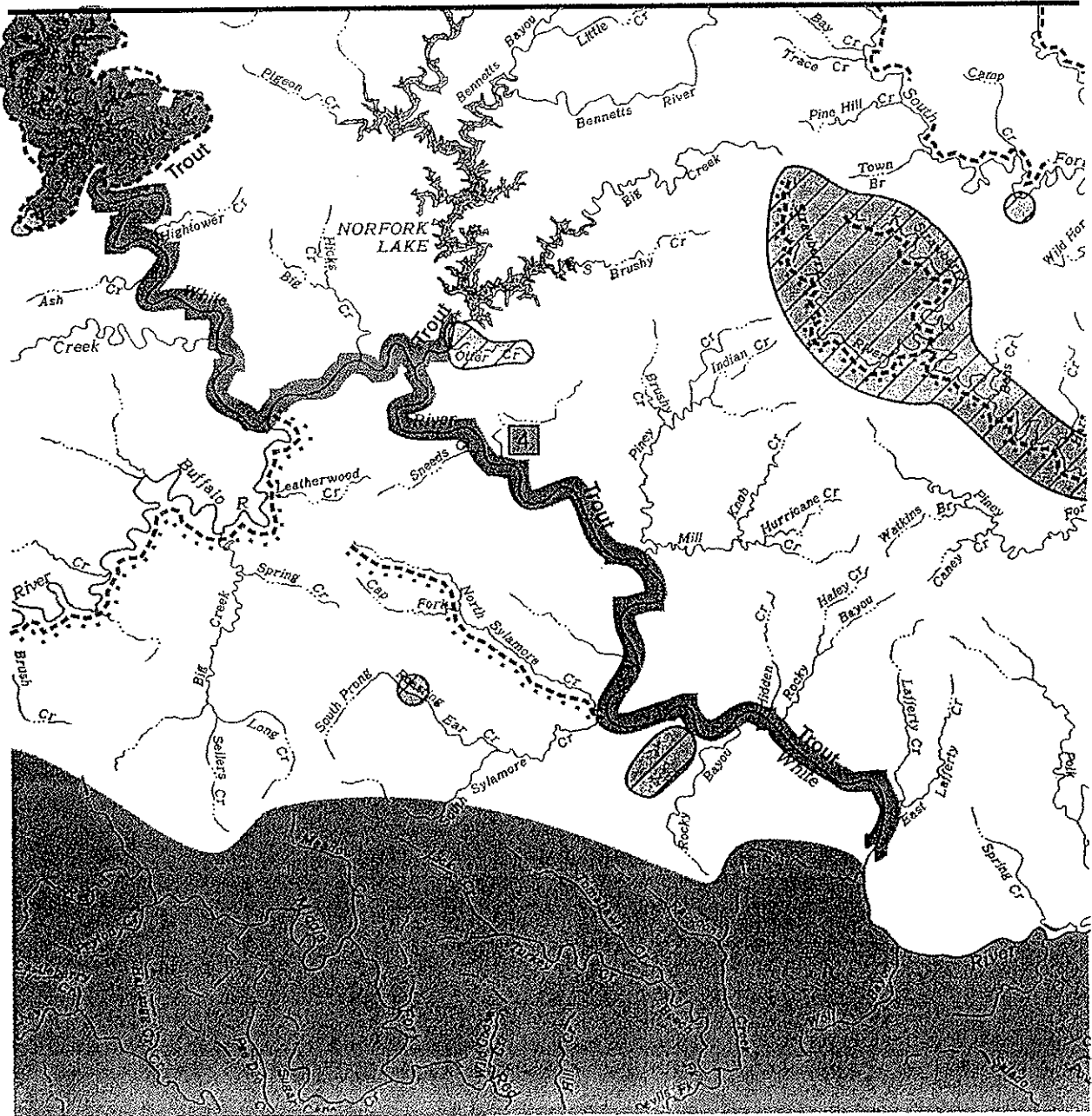


# Plate OH-3 (Ozark Highlands)

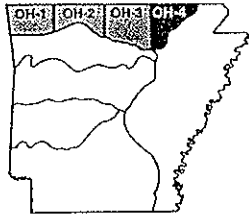


## LEGEND






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



# Plate OH-4 (Ozark Highlands)



## LEGEND

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

