

National Biological Assessment
and Criteria Workshop

Advancing State and Tribal Programs



Coeur d'Alene, Idaho
31 March – 4 April, 2003

WQS 101

Oklahoma Water Quality Standards

Presented by

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Oklahoma Water Resources Board





OKLAHOMA WATER QUALITY STANDARDS

**OAC 785:45 WATER QUALITY
STANDARDS**

**OAC 785:46 IMPLEMENTATION OF
WATER QUALITY
STANDARDS**



OKLAHOMA WATER QUALITY STANDARDS

OAC 785:45-5-12 Fish and Wildlife Propagation

(5) Biological Criteria.

(A) Aquatic life in all waterbodies designated Fish and Wildlife Propagation (excluding waters designated "Trout, put-and-take") shall not exhibit degraded conditions as indicated by one or both of the following:

- (i) comparative regional reference data from a station of reasonably similar watershed size or flow, habitat type and Fish and Wildlife beneficial use subcategory designation or
- (ii) by comparison with historical data from the waterbody being evaluated.

(B) Compliance with the requirements of (this section) shall be based upon measures including, but not limited to, diversity, similarity, community structure, species tolerance, trophic structure, dominant species, indices of biotic integrity (IBI's), indices of well being (IWB's), or other measures.



Public/Private Water Supplies

Agriculture

Body Contact Recreation

Hydropower

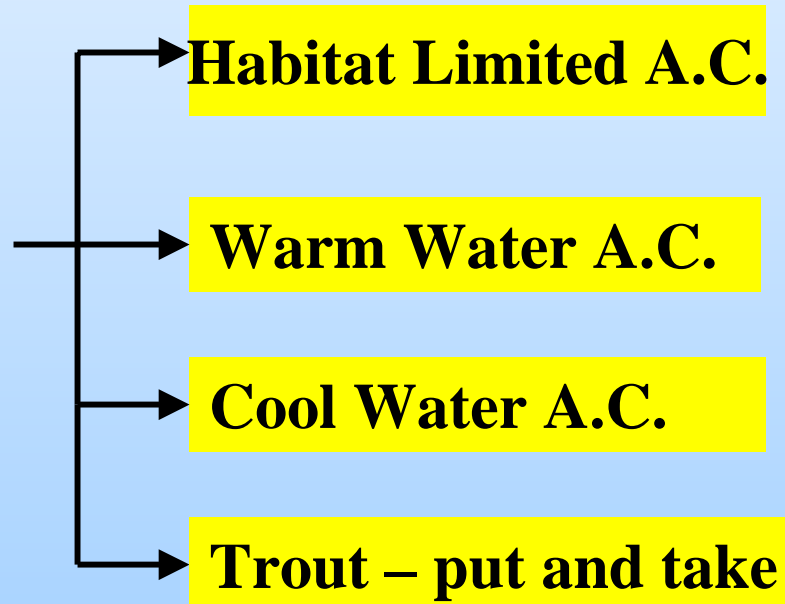
Agriculture

Fish and Wildlife Propagation

Aesthetics

Navigation

Industrial / Municipal Cooling Water



HOW CAN YOU TELL IF THIS IS A FISH COLLECTION FROM A HEALTHY STREAM?





DETAILED PLANNING

- WHAT DO YOU WANT BIOCRITERIA TO DO FOR YOUR PROGRAM?
- WHAT DO YOU HAVE ?
- WHAT DO YOU NEED ?
- IDENTIFY YOUR DEFENSIBLE ASSUMPTIONS



ULTIMATE GOAL FOR BIOLOGICAL ASSESSMENT

- to be able to examine a **standardized biological collection** and determine if the stream is supporting the fish community it is capable of supporting and determine at what level the **appropriate** “Fish and Wildlife Propagation” **Beneficial Use is being supported**



USE SUPPORT ASSESSMENT PROTOCOLS

The ability to consistently determine

- if the Beneficial Use is being supported
- the level at which the Beneficial Use is being supported (fully, partially, threatened, etc)

Benefits:

- “blind to source”
- can be used by any agency
- acceptable level of precision and accuracy
- focused toward 303(d) list and reporting compliance



USE SUPPORT ASSESSMENT PROTOCOLS

OAC 785:46-15-5. Assessment of Fish and Wildlife Propagation Support

(e) **Biological criteria.**

(1) If data demonstrate that an assemblage of fish or macro invertebrates from a waterbody is significantly degraded, according to 785:45-5-12(f)(5), from that expected for the subcategory of Fish and Wildlife Propagation designated in OAC 785:45 for that waterbody, then that subcategory may be deemed by the appropriate state environmental agency to be not supported.



GENERAL PROCESS

**ASSEMBLE ASSESSMENT DATA FROM DIFFERENT
BENEFICIAL USE SUB-CATEGORIES AND ECOREGIONAL
REFERENCE STREAMS**

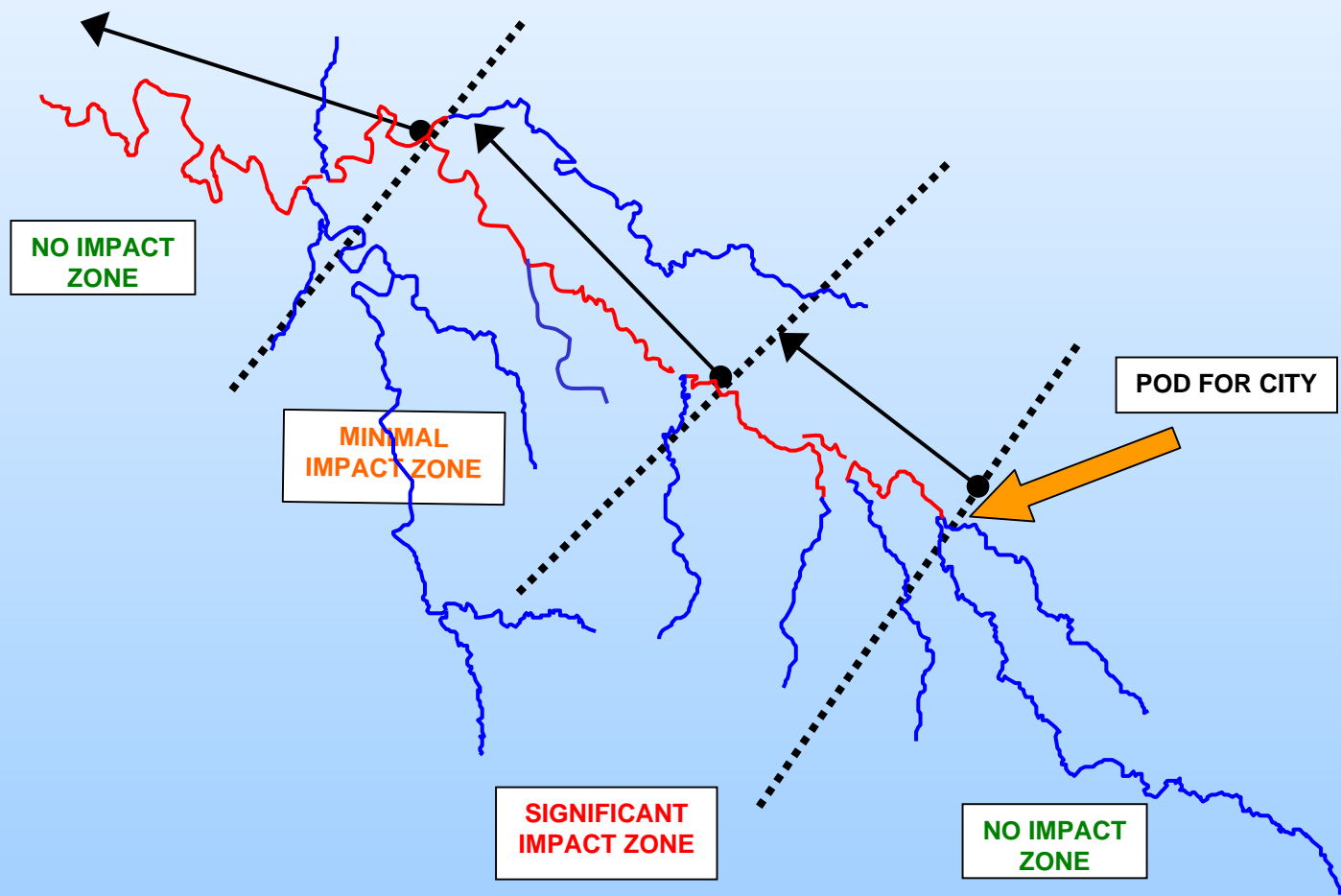
**ASSIGN IMPACT LEVEL TO ALL TEST SITES BASED UPON
LOCATION OF ASSESSMENT SITE**

**TEST IBI PARAMETERS FOR EFFICIENCY IN DETECTING
CHANGES IN STREAM QUALITY AND APPLY TO STREAM DATA**

CREATE TEXT TO REFLECT IBI RESULTS



ASSIGNMENT OF IMPACT LEVELS



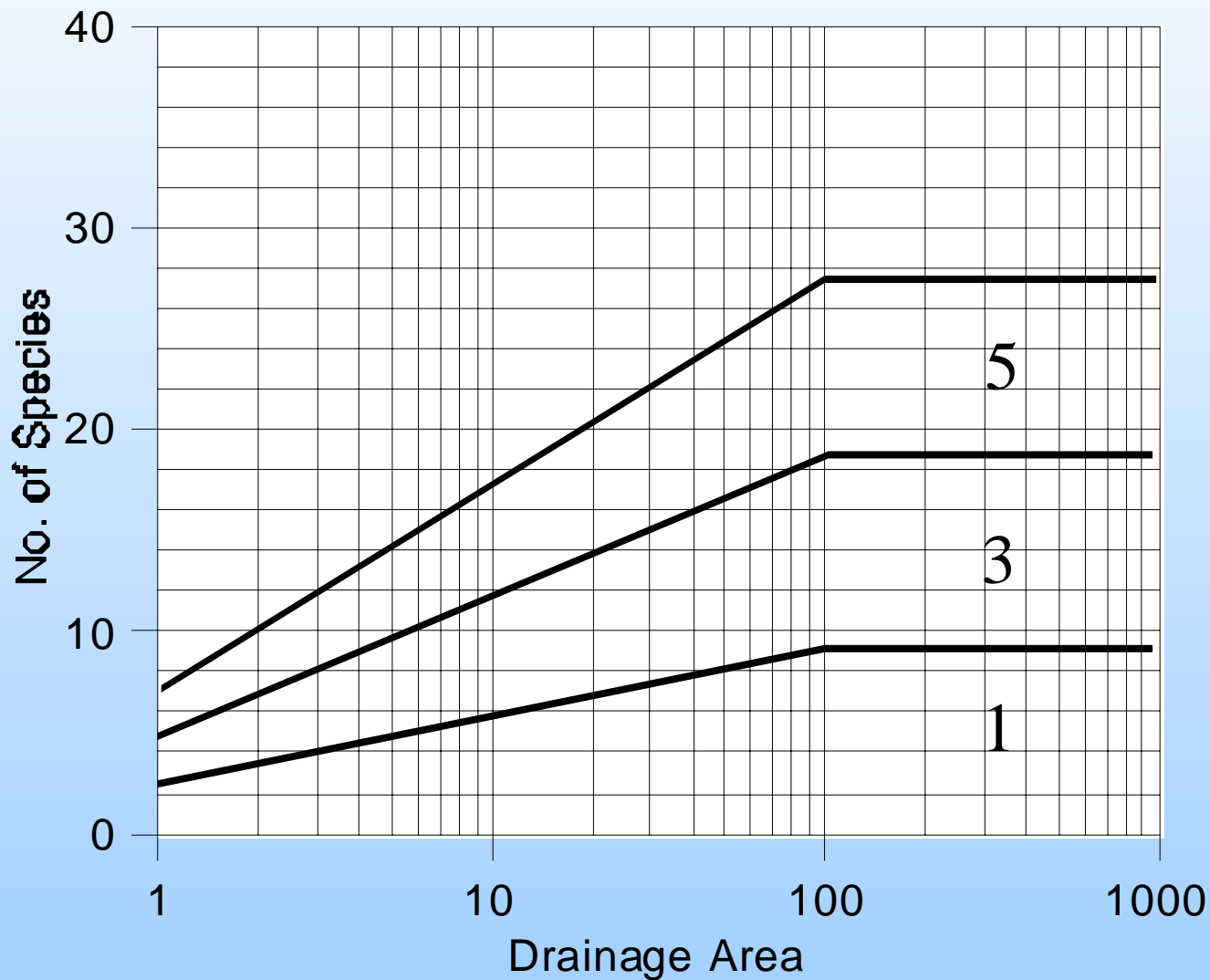


IBI FOR OK WQS

		5	3	1	
Sample Composition	# Total Sp.	see figure			
	Shannon's diversity* based upon numbers	>2.50	2.49-1.50	<1.50	
	# sunfish sp.	>4	3-4	<3	
	# species comprising 75% of sample	>5	4-3	<3	
	# intolerant sp. <100mi ² area	>6	4-6	<4	
	>100mi ² area	see figure			
	% tolerant sp.	see figure			
Fish Condition	% lithophils	>36	18-36	<18	
	% DELT anomalies**	<0.1	0.1-1.3	>1.3	
	Fish numbers (total individuals)	>200	200-75	<75	

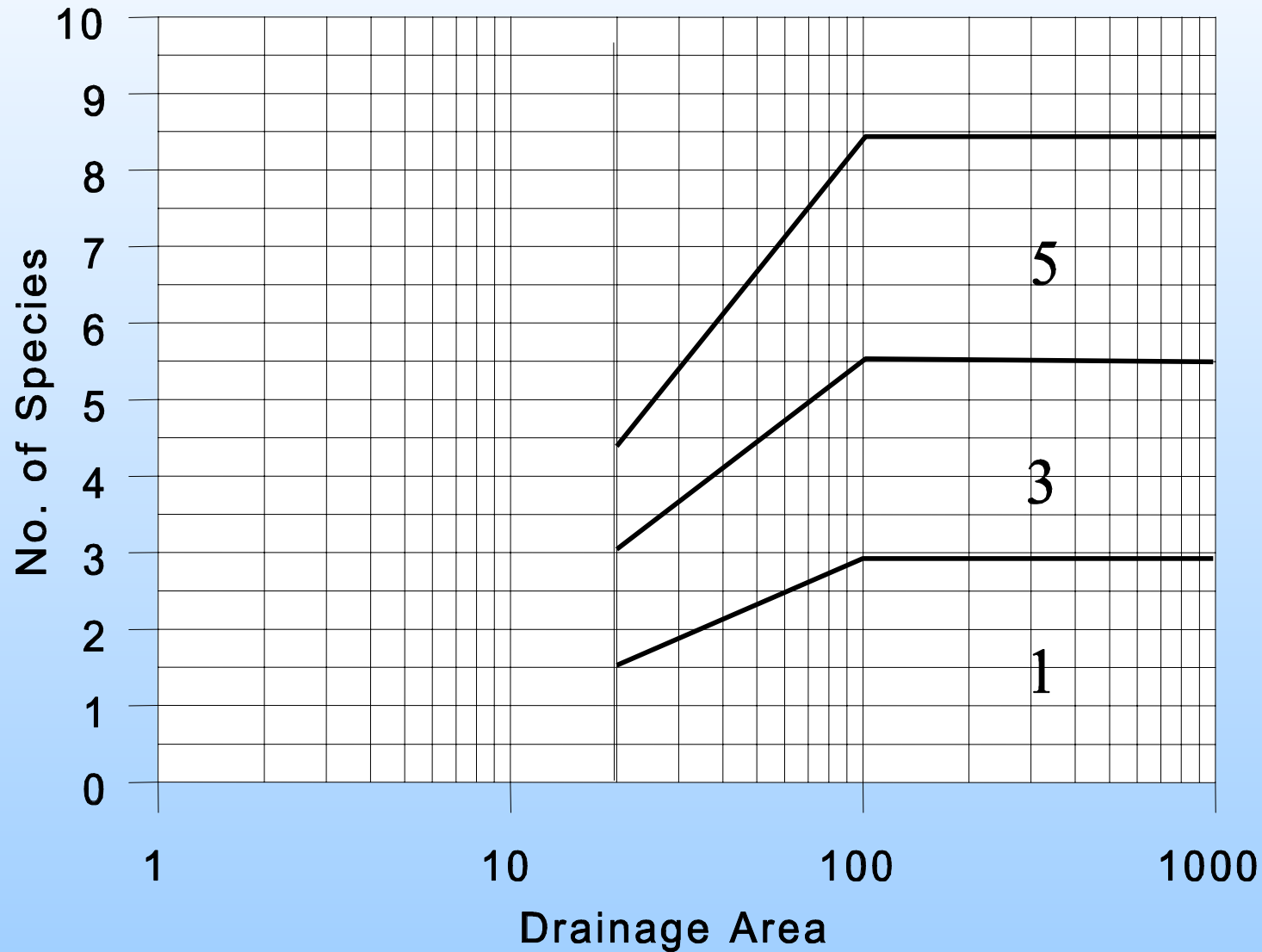


“number of sp.”



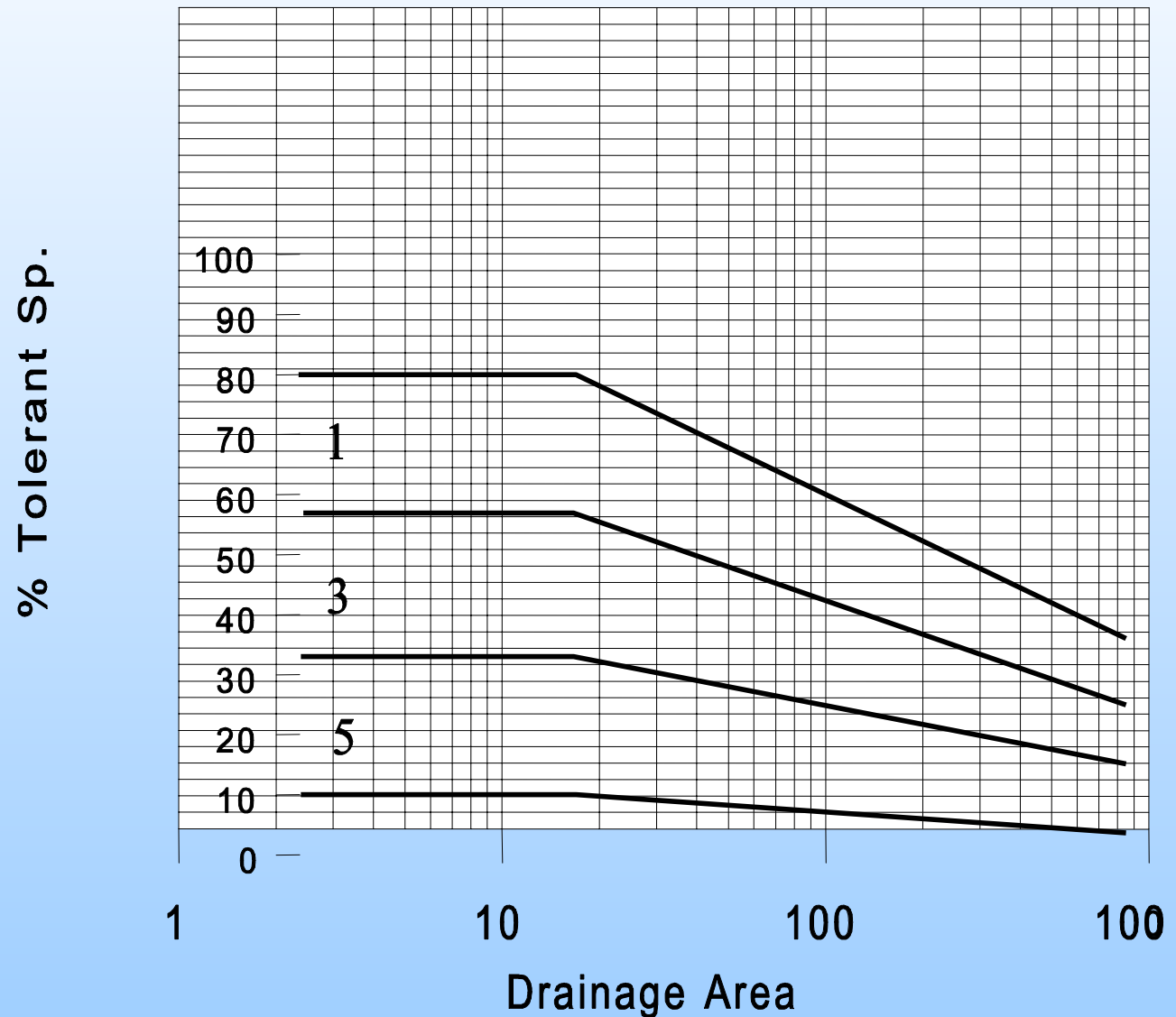


“number of intolerant sp.”



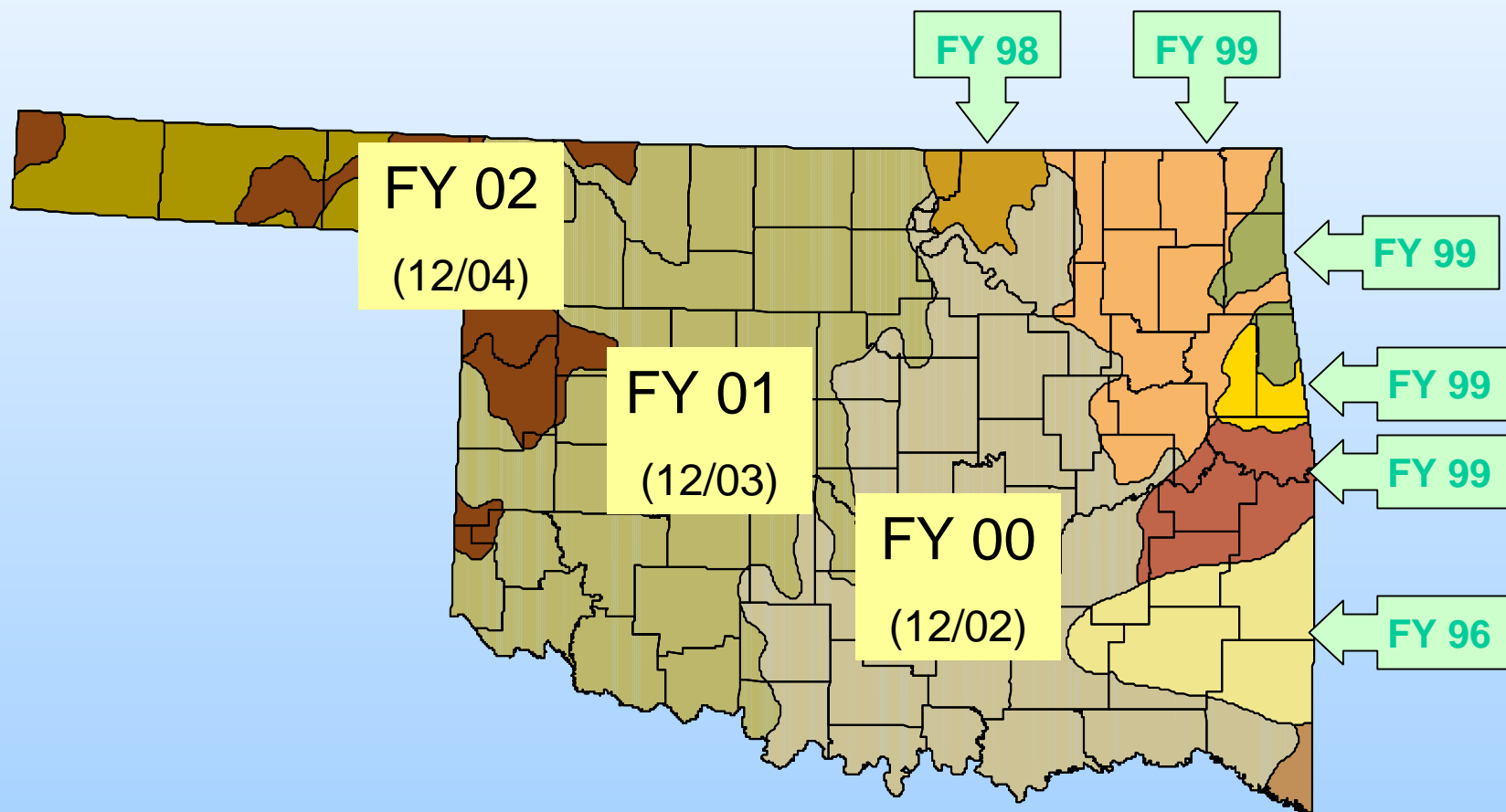


“percent tolerant sp.”





OMERNICK ECOREGIONS

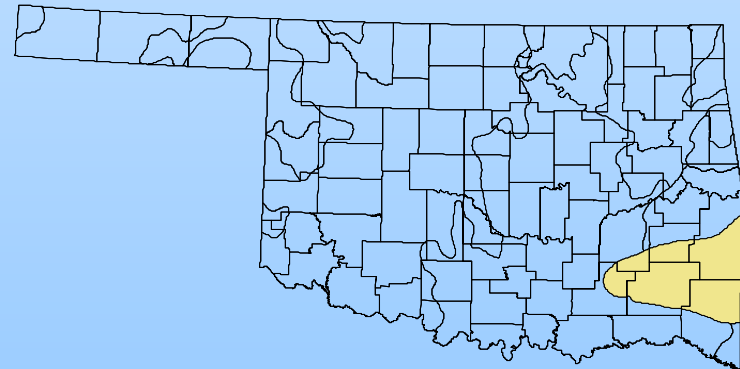




USE SUPPORT ASSESSMENT PROTOCOLS

OAC 785:46-15-5. Assessment of Fish and Wildlife Propagation support (cont.)

(g) **Special provisions for Ouachita Mountains wadable streams.** The determination of whether the use of Fish and Wildlife Propagation is supported for wadable streams located in the Ouachita Mountains ecoregion shall be made according to the application of Appendix C of this Chapter, together with this subsection, as follows:





USE SUPPORT ASSESSMENT PROTOCOLS

OAC 785:46-15-5 (g). Assessment of Fish and Wildlife Propagation support (cont.)

(1) Where designated, the subcategory of **Warm Water Aquatic Community** shall be deemed fully supported if the application of Appendix C produces a score of 35 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 24 or less. If a score is 25 to 34 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(2) Where designated, the subcategory of **Habitat Limited Aquatic Community** shall be deemed fully supported if the application of Appendix C produces a score of 27 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 18 or less. If a score is 19 to 26 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.



LESSONS LEARNED

- **HAVE A COMPREHENSIVE PLAN**
- **SHARE THE PLAN WITH STAKEHOLDERS**
- **BUILD ON THE RESULTS OF OTHERS**
- **RESULTS MUST BE DEFENSIBLE**
- **MORE DATA IS BETTER**
- **GET THE RESULTS INTO RULE**

QUESTIONS

