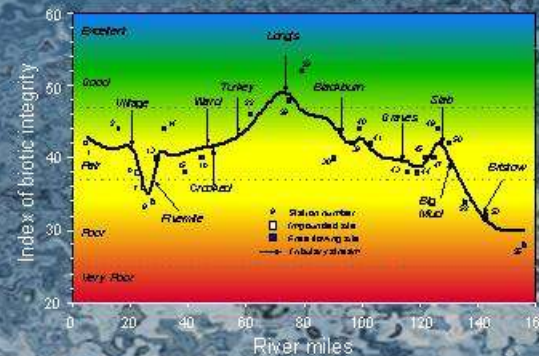



Instream Flow-Ecology Research in Alabama



- 
- *Status of the Joint Legislative Committee proceedings.*
 - *Active flow prescriptions.*
 - *Cooperative IBI program.*
 - *Flow-ecology research needs.*

Choctawhatchee River

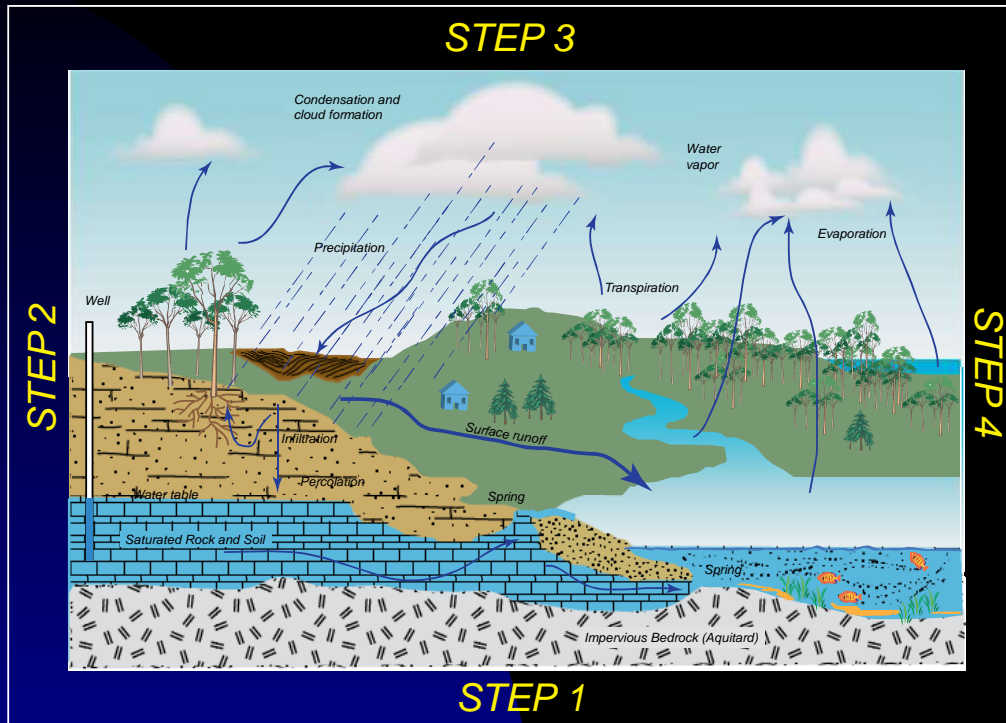
Permanent Joint Legislative Committee on Water Policy and Management Act 2008-164 Water Resource Assessment and Data Subcommittee

- *Establish a water resources data repository.*
- *Complete statewide surface water and groundwater assessments.*
- *Develop a stream gaging network plan.*
- *Develop a groundwater monitoring plan.*
- *Enhance the rainfall monitoring network.*
- *Coordinate water resources-related data standards.*
- *Establish a web-based data portal.*
- *Plan for future transportation development on Alabama waterways.*

Future Direction

- *Assess the proper structure for a regionalized approach to water planning and management.*
- *Explore the application and efficacy of the existing Riparian Doctrine as it relates to future water demand and availability.*
- *Create a statewide conservation policy and program that is sensitive to regional parameters in its application and is based on sound science principals.*
- *Explore water management technologies and develop appropriate legislative initiatives to support greater use of such technologies.*
- *Examine and recommend appropriate flow dynamics for rivers and streams to support the biological, recreational and industrial/transportation requirements.*

A Water Management Strategy



STEP 1 - Complete a water resource assessment and establish a monitoring network. Determine data deficiencies and create research opportunities

STEP 2 – Forecast water needs in all use categories. Determine flow needs for pollution assimilation, sustaining biological condition, and protecting the water production system.

STEP 3 – Identify management practices necessary to meet identified needs and protect water resource functions. Stakeholder and political interaction are needed at this step.

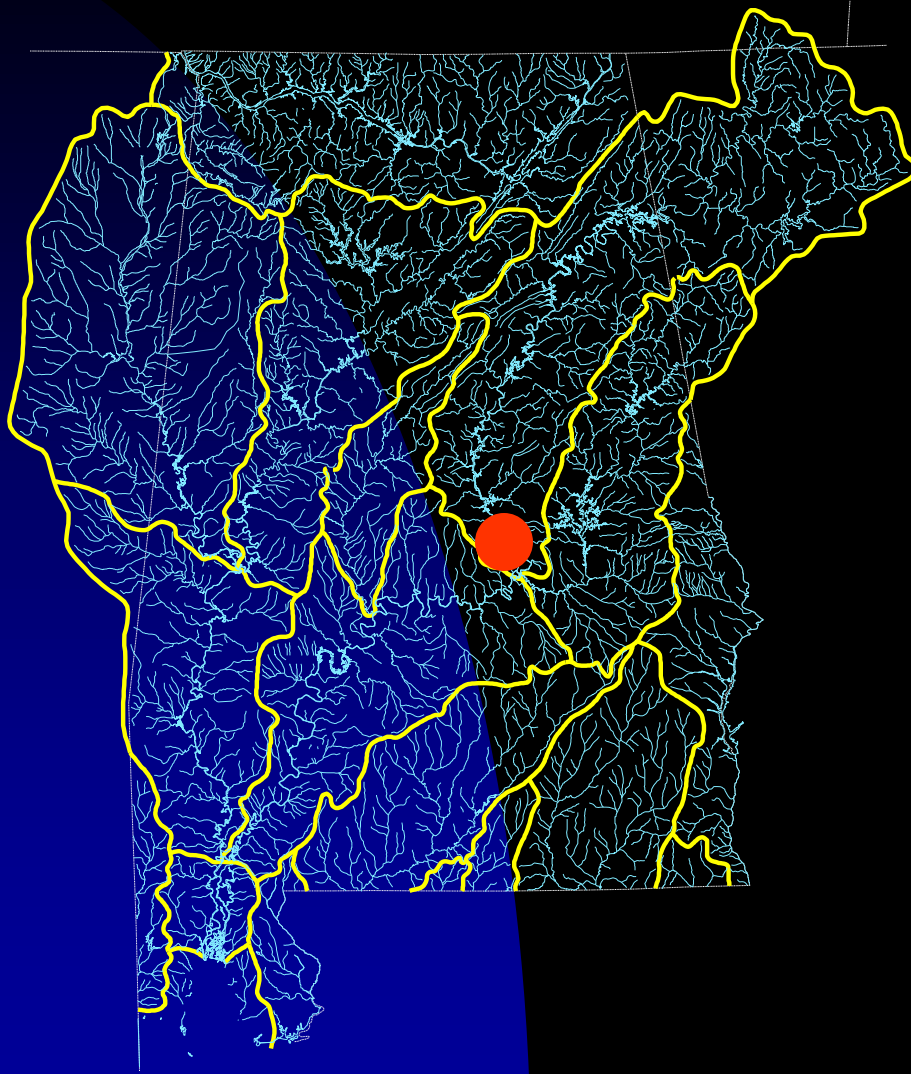
STEP 4 – Implement the approved water management program. Proceed with adaptive management approach with all stakeholders. Have a robust process for conflict resolution.

Water Use

Surface Water and Groundwater Availability

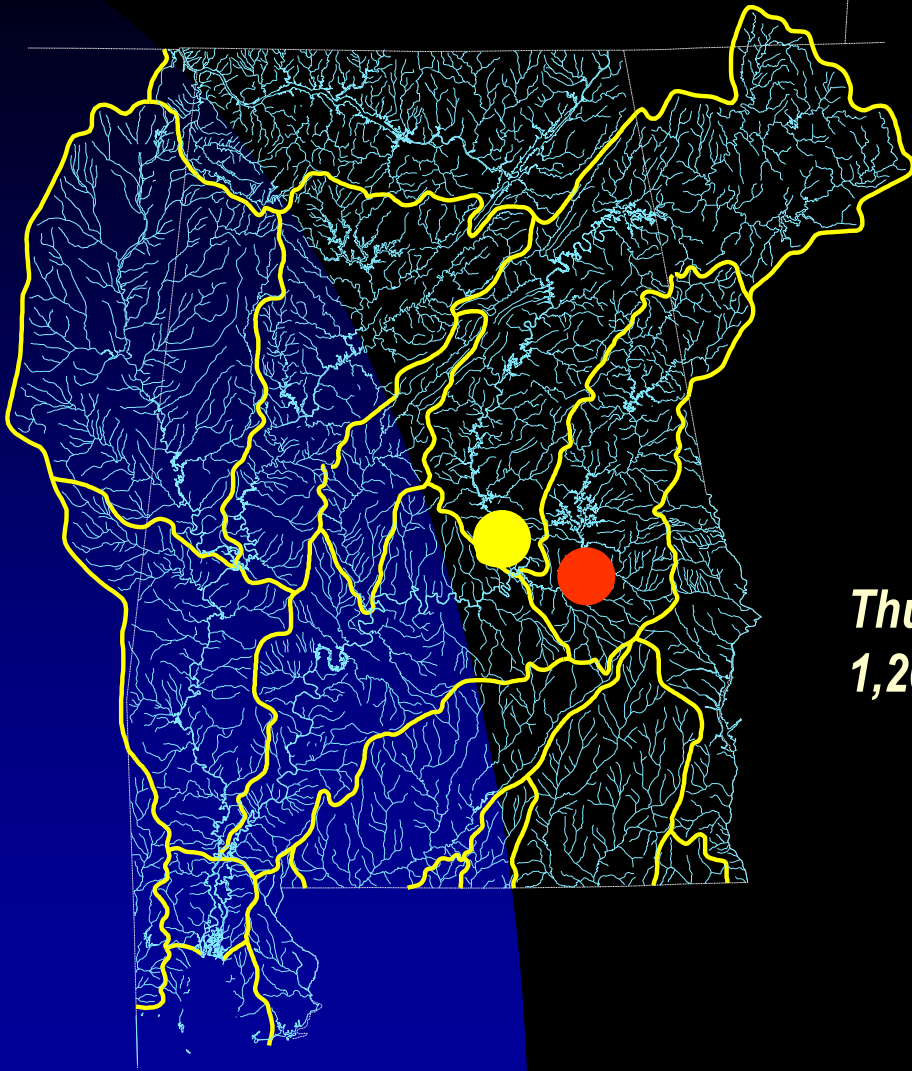
Environmental Flows

Current Flow Prescriptions in Alabama



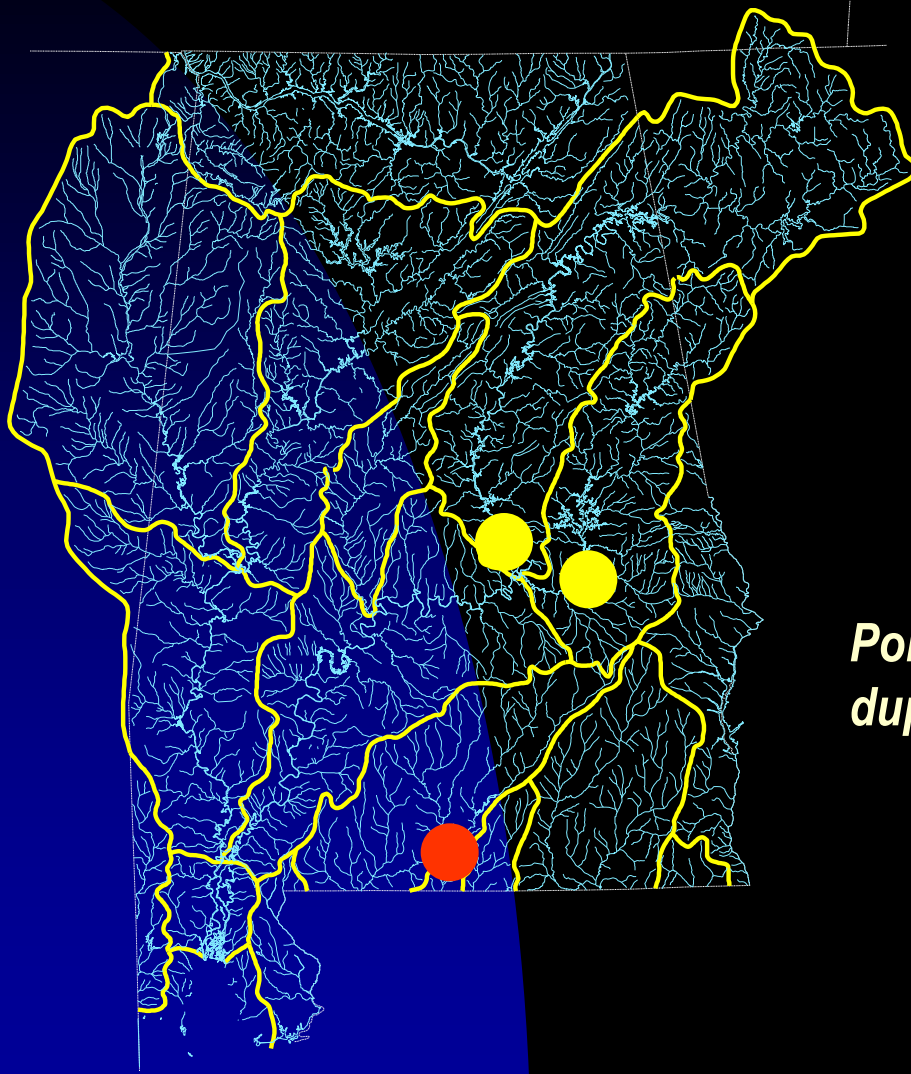
***Jordan dam – continuous minimum
2,000 cfs; 8,000 cfs spring fish
attraction flows (33 cfs/day rate);
weekend recreations flows of 4,000,
6,000, and 12,000 cfs.***

Current Flow Prescriptions in Alabama



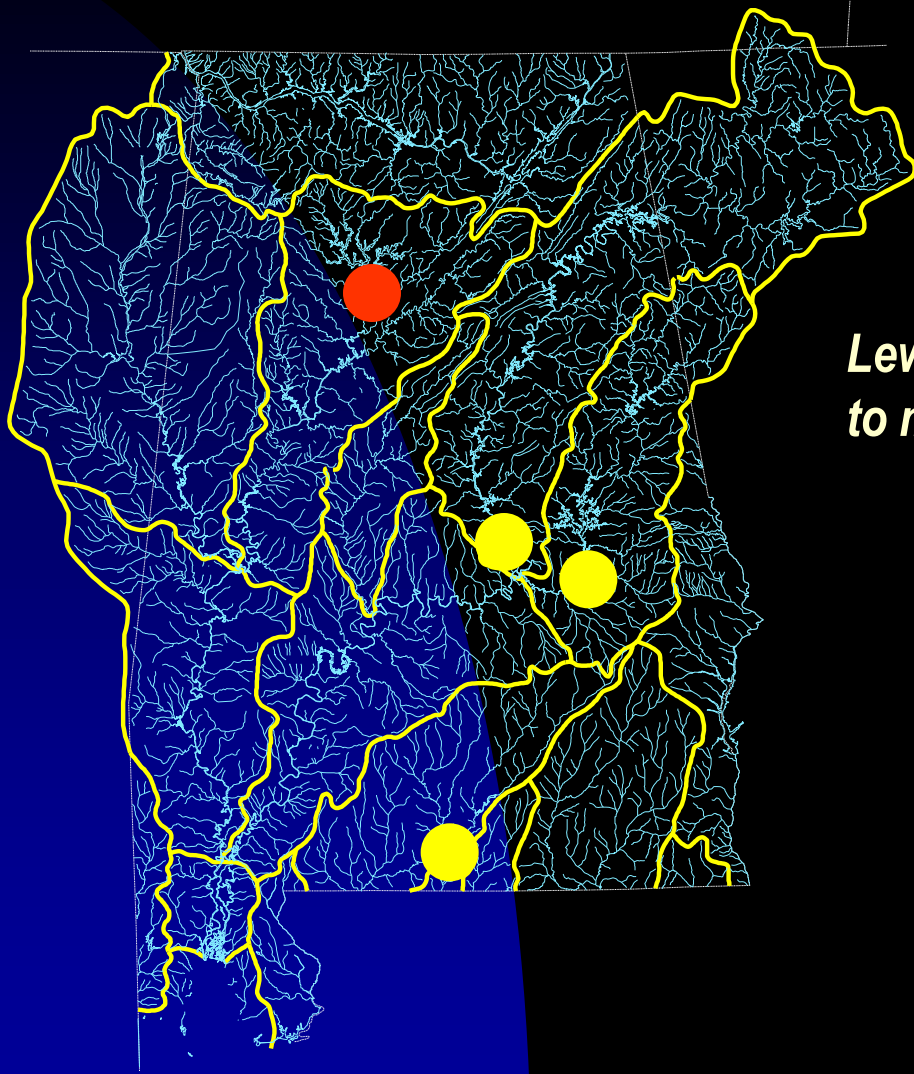
***Thurlow – continuous minimum
1,200 cfs, new drought plan in effect.***

Current Flow Prescriptions in Alabama



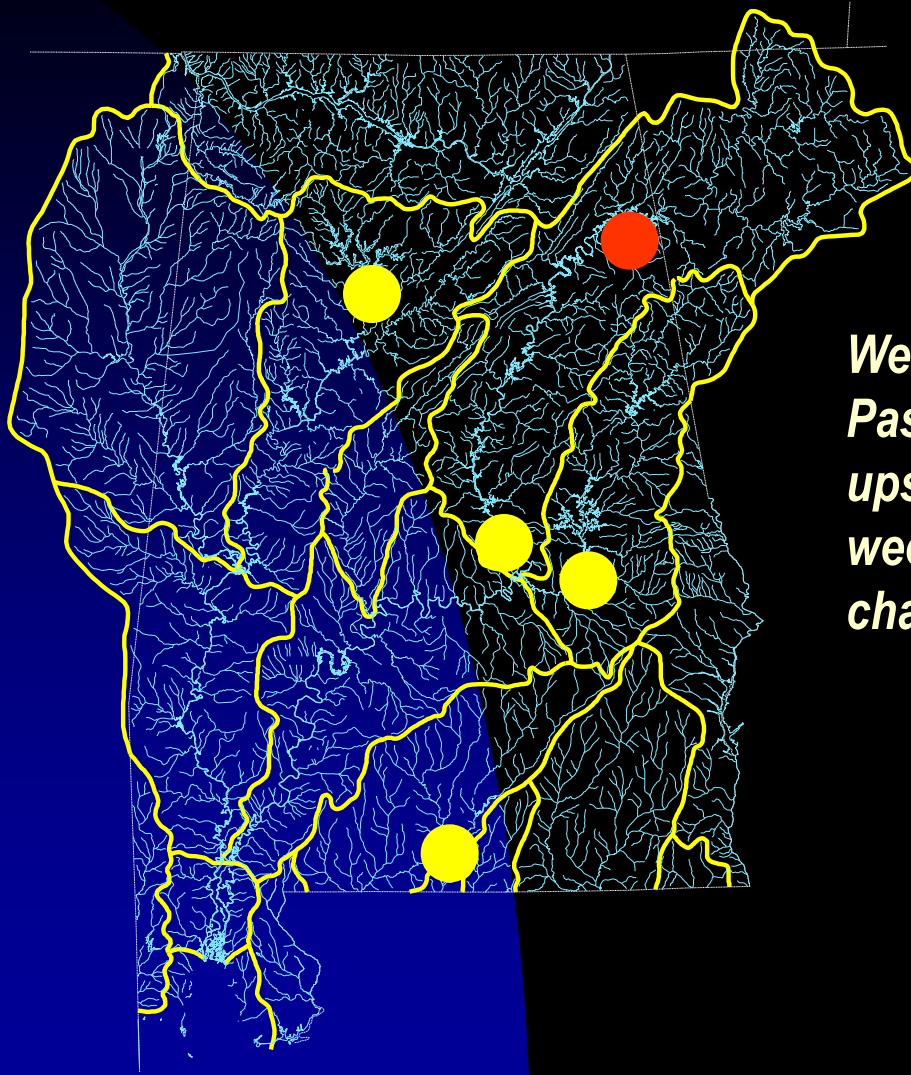
Point A – Anything <500 cfs must be duplicated downstream of dam.

Current Flow Prescriptions in Alabama



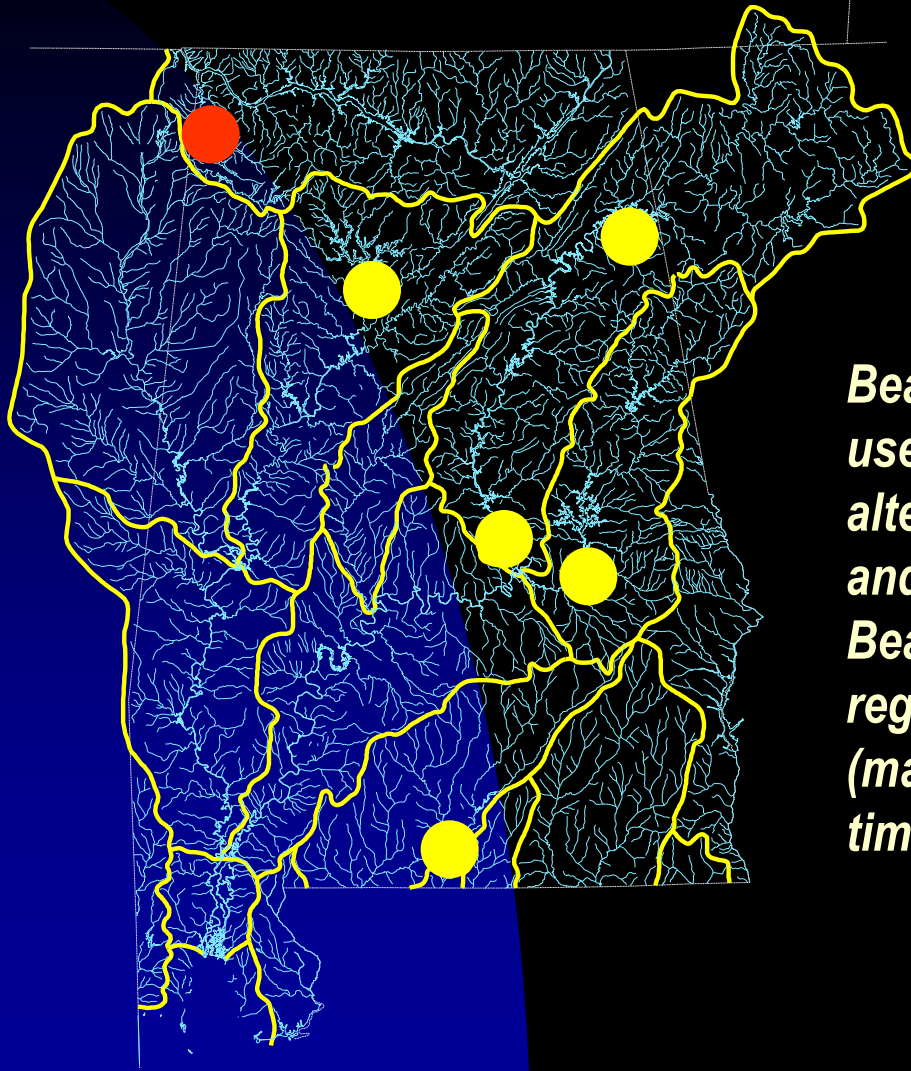
***Lewis Smith – 120 continuous flow
to maintain trout habitat (draft).***

Current Flow Prescriptions in Alabama

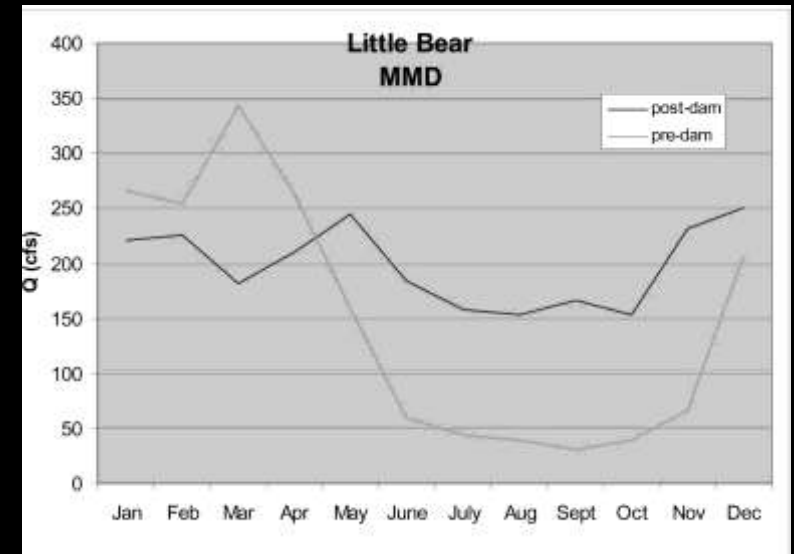
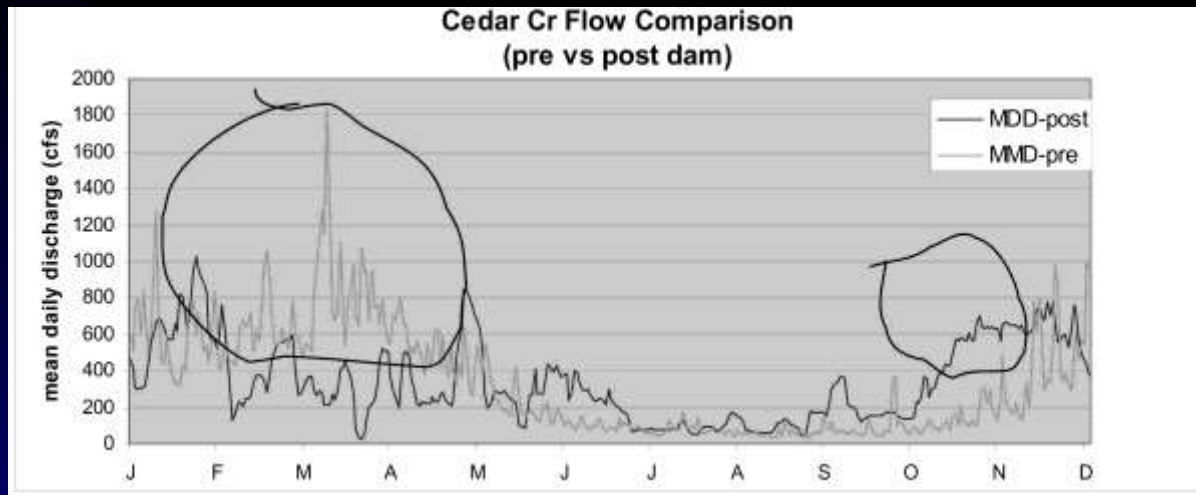


***Weiss bypass – adaptive approach.
Pass 5 to 9% of the inflow at
upstream gage adjusted twice
weekly through Coosa River bypass
channel (draft).***

Current Flow Prescriptions in Alabama



Bear Creek – controlled by TVA, USFWS used Tennant method to determine alternate flows. Flow goal - to preserve and enhance the biotic integrity of the Bear Creek watershed by providing a flow regime that mimics the natural hydrograph (magnitude, frequency, duration, and timing).

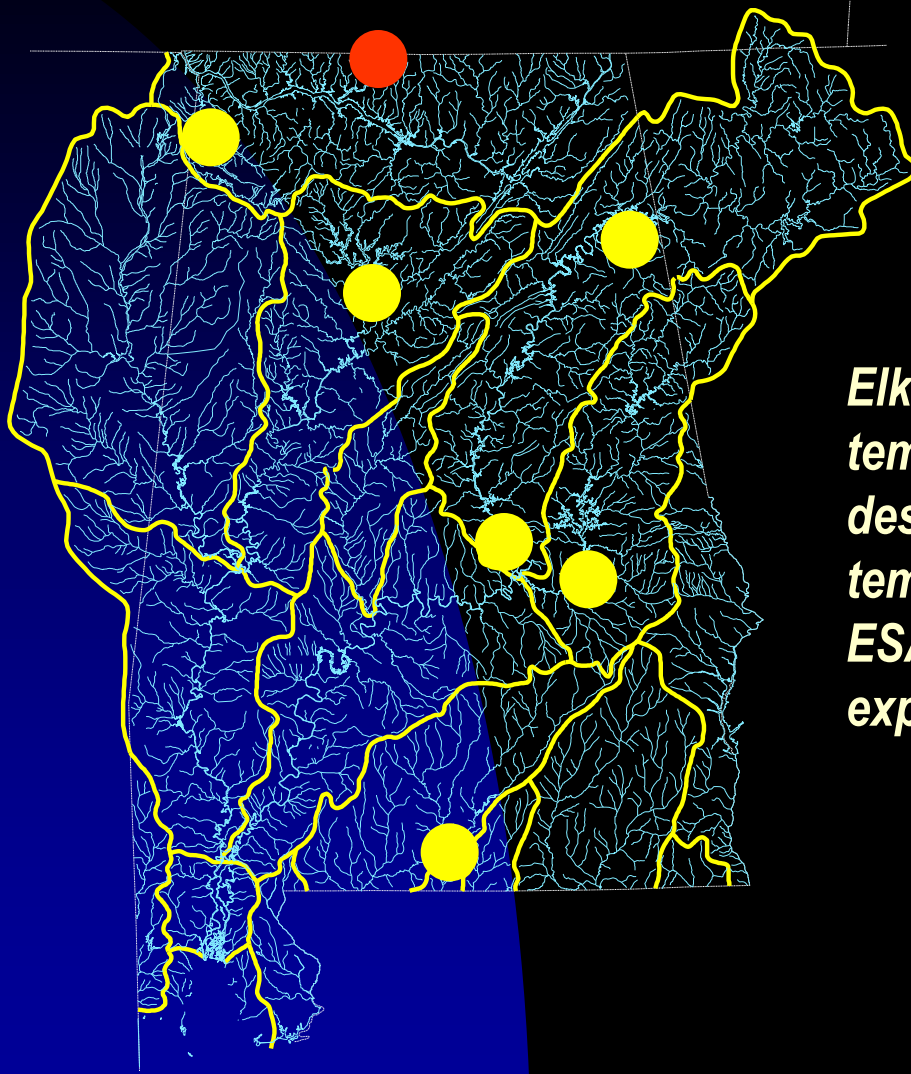


	Jan-Apr		May-June		July-Oct		Nov-Dec	
	Recommend min flow	Current ops	Recommend min flow	Current ops	Recommend min flow	Current ops	Recommend min flow	Current ops
LittBear	118	14	38	32	15	14	28	152
Cedar	240	13	71	69	20	30	51	416
Bear	347	310	119	127	52	61	83	154
Bear @ Bishop *	901	337	245	228	83	105	162	722

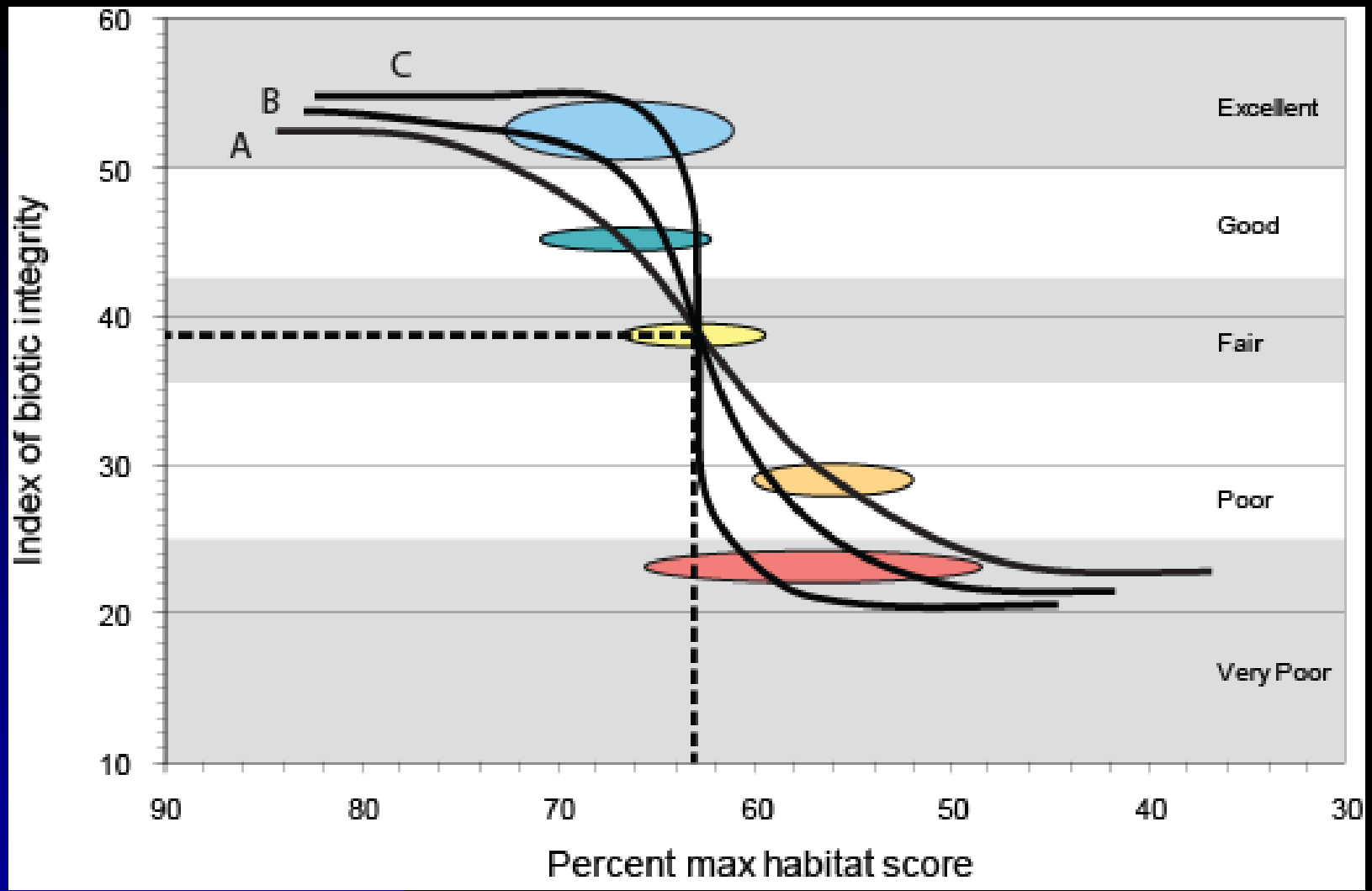
Recommended release at dam

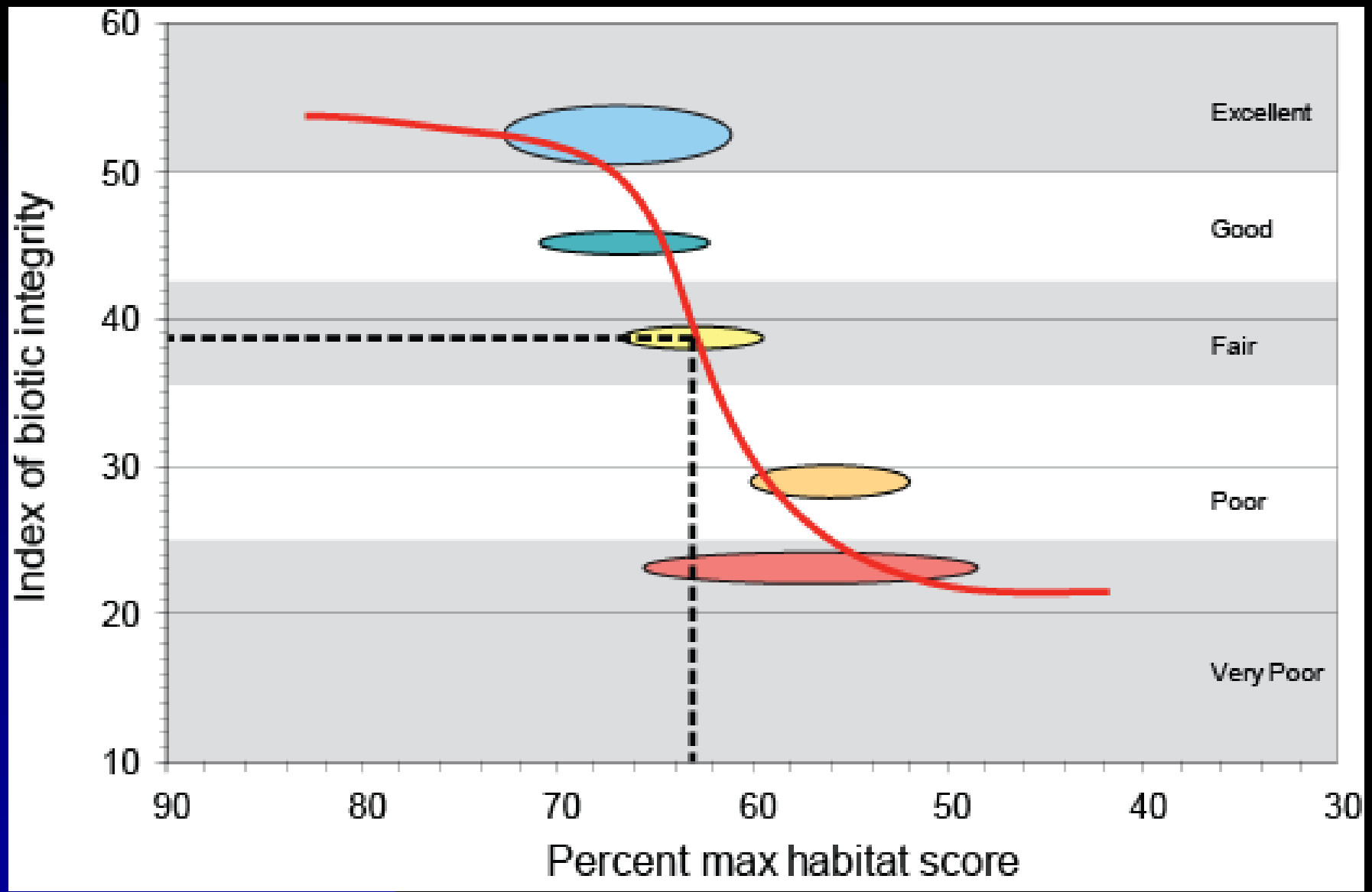
* target flow at Bear Creek @ Bishop

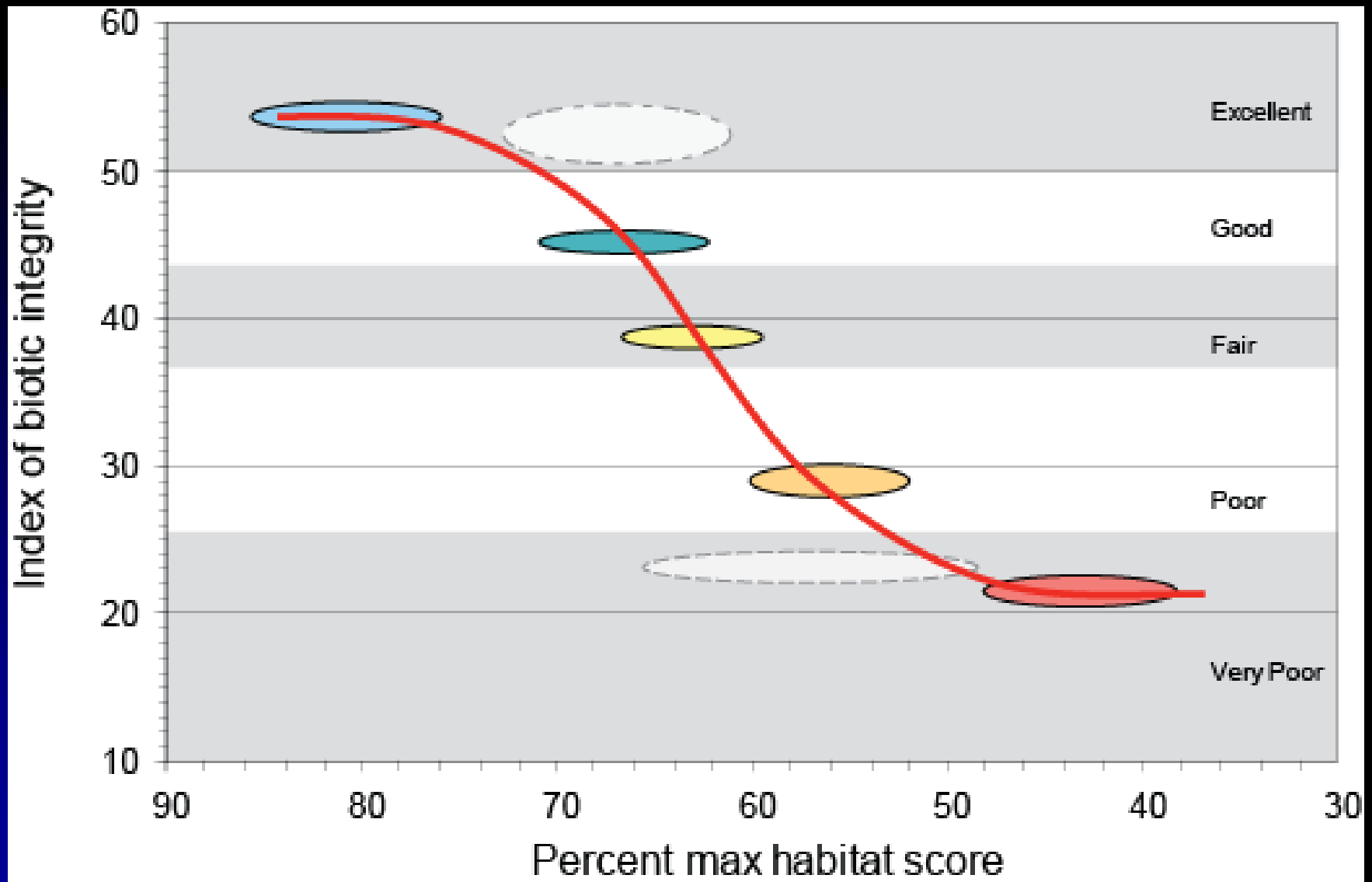
Current Flow Prescriptions in Alabama



Elk River – flow goal is to maintain temperature low enough to support a designated trout fishery, yet increase temperatures downstream enough for ESA-listed mussel and fish species to expand their upstream range.







Streamflow-Ecology Research Needs

- *Define target ecosystem components to protect (habitat, imperiled species, aquatic communities) .*
- *Select appropriate biological tool (IBI or its components, IFIM, occurrence probability).*
- *Calibrate tool to wadeable streams.*
- *Create and calibrate tool to large rivers.*
- *Better understand QW-flow needs of imperiled species*
- *Linkage of freshwater flows to Mobile River delta and the Mobile Bay estuary*