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Defining Success:
What's Science Got to do with it?

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Freshwater Species

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Freshwater Species at Risk

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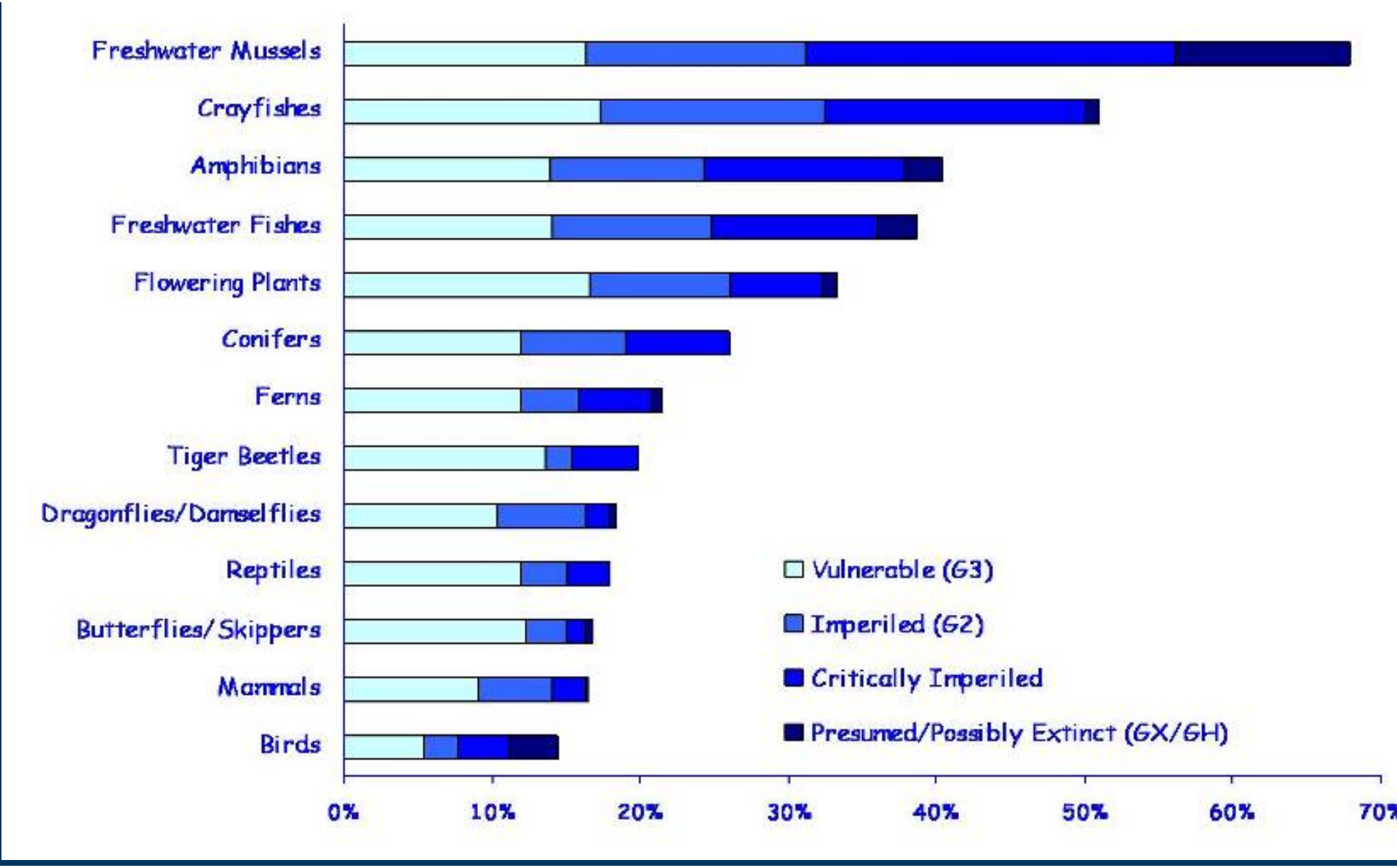
Freshwater Species at Risk



Fisheries • VOL 33 NO 8 • AUGUST 2008 • WWW.FISHERIES.ORG

FEATURE:
ENDANGERED SPECIES

Conservation Status of Imperiled North American Freshwater and Diadromous Fishes

ABSTRACT: This is the third compilation of imperiled (i.e., endangered, threatened, vulnerable) plus extinct freshwater and diadromous fishes of North America prepared by the American Fisheries Society's Endangered Species Committee. Since the last revision in 1989, imperilment of inland fishes has increased substantially. This list includes 700 extant taxa representing 133 genera and 36 families, a 92% increase over the 364 listed in 1989. The increase reflects the addition of distinct populations, previously non-imperiled fishes, and recently described or discovered taxa. Approximately 39% of described fish species of the continent are imperiled. There are 230 vulnerable, 190 threatened, and 280 endangered extant taxa, and 61 taxa presumed extinct or extirpated from nature. Of those that were imperiled in 1989, most (89%) are the same or worse in conservation status; only 6% have improved in status, and 5% were delisted for various reasons. Habitat degradation and nonindigenous species are the main threats to at-risk fishes, many of which are restricted to small ranges. Documenting the diversity and status of rare fishes is a critical step in identifying and implementing appropriate actions necessary for their protection and management.

Howard L. Jelks,
Stephen J. Walsh,
Noel M. Burkhead,
Salvador Contreras-Balderas,
Edmundo Díaz-Pardo,
Dean A. Hendrickson,
John Lyons,
Nicholas E. Mandrak,
Frank McCormick,
Joseph S. Nelson,
Steven P. Platania,
Brady A. Porter,
Claude B. Renaud,
Juan Jacobo Schmitter-Soto,
Eric B. Taylor, and
Melvin L. Warren, Jr.

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Do We Have a Vision of Success?

2010 ASSEMBLY OF THE GILBERT F. WHITE NATIONAL FLOOD POLICY FORUM

"Managing Risk to Humans and to Floodplain Resources"

Marvin Center, George Washington University

A Vision of the Management of Risks to Humans and to Floodplain Resources

As a nation, what do we want to accomplish by undertaking a comprehensive strategy for managing flood risks and risks to floodplain resources? What will "success" look like?

Scott Edelman, President, ASFPM Foundation; AECOM

Greg Shaw, Co-Director, Institute for Crisis, Disaster and Risk Management

Participants (brief self-introductions)

WATER RESOURCES
IMPACT

A Bi-Monthly Publication of the
AMERICAN WATER RESOURCES ASSOCIATION

awra.org if you would like to join a Committee.

National Water Resources Vision – In the United States (U.S.), water-resources related roles, responsibilities and authorities are shared or divided between local, state, tribal, and federal governments and the private sector

National Water Resources Vision

in their areas of jurisdiction. Additionally, hundreds, if not thousands of private-sector water companies and organizations manage water resources within the U.S. Clearly federal, state, and tribal governments each have specific roles, responsibilities and authorities for managing water resources under their jurisdiction and, clearly, each entity must fulfill its jurisdiction-specific role, responsibilities, and authorities. Many have raised the question of whether water resources programs should be managed independently from one another or whether they should or can be managed more efficiency and

public access. The results should prove to be very interesting!

Community, Conversation, Connections – A very special event being held this spring is the GIS Specialty Symposium in Orlando, Florida, March 29-31. This is the ces for of as put together a dynamite program with an outstanding slate of technical sessions. Later in the year the Summer Specialty Conference will bring together water resource professionals to address Tropical Hydrology and Sustainable Water Resources in a Changing Climate, August 30-September 1, in San Juan, Puerto Rico. Information is available at http://awra.org. I look forward to seeing you at one or both of these Symposiums.

E-MAIL CONNECTION

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Building Strong Collaborative Relationships for a Sustainable Water

Foster continued dialogue about a national (not Federal) water vision

National Report

Responding to National Water Resources Challenges

Draft

December 2009

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Local Governments

MMA

Massachusetts Municipal Association

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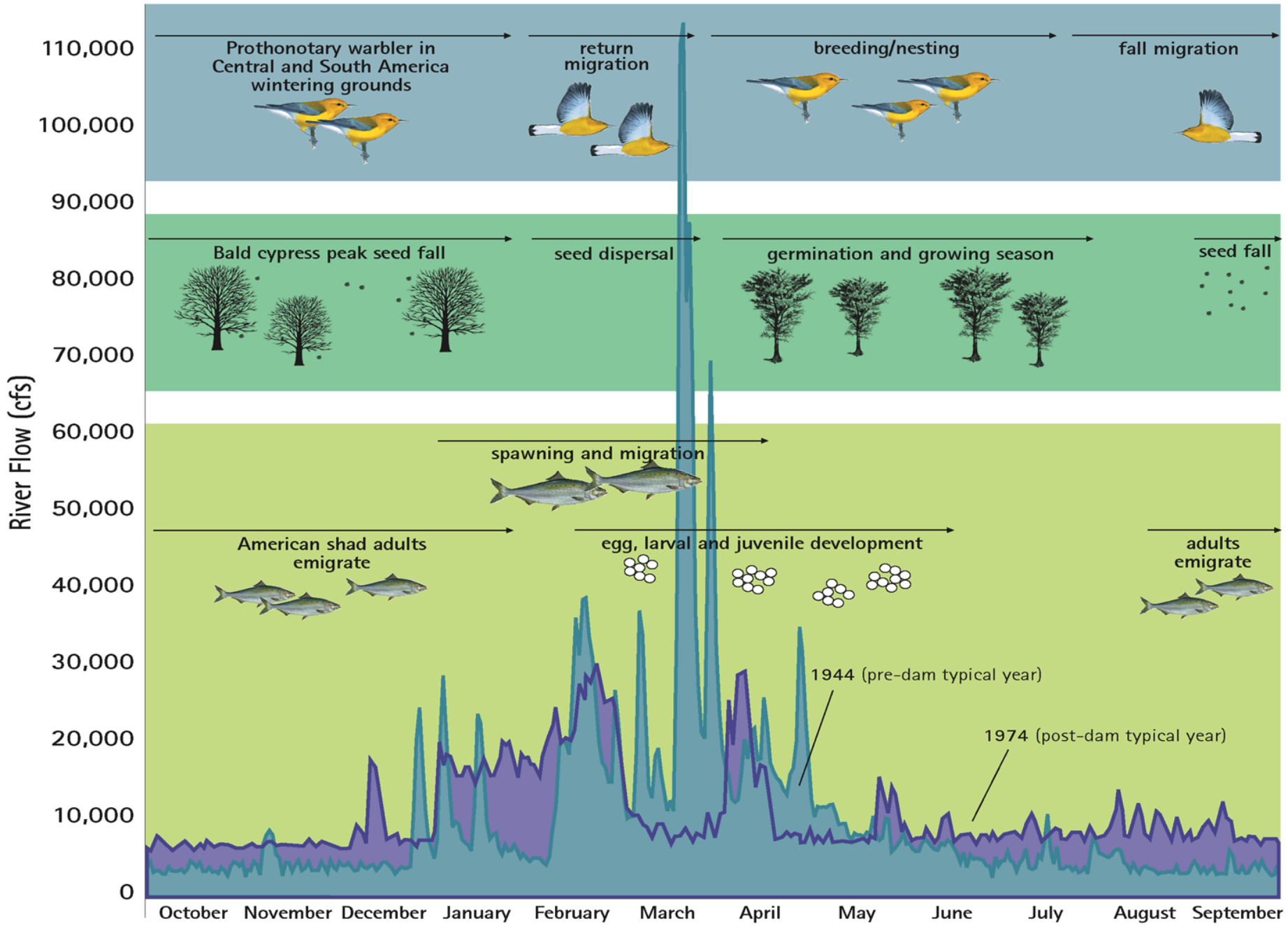
Defining A Vision

Ecological Model of the Savannah River



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‘Modernizing’ Water Management

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South Africa
National Water Law 1998

The purpose of this Act is to ensure that the nation´s water resources are protected, used, developed, conserved, managed and controlled in ways which take into account –

(a) **basic human needs** of present and future generations;

(b) promoting **equitable access** to water;

(g) **protecting aquatic and associated ecosystems and their biological diversity;**

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River Dependent Ecosystems

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River Dependent Communities

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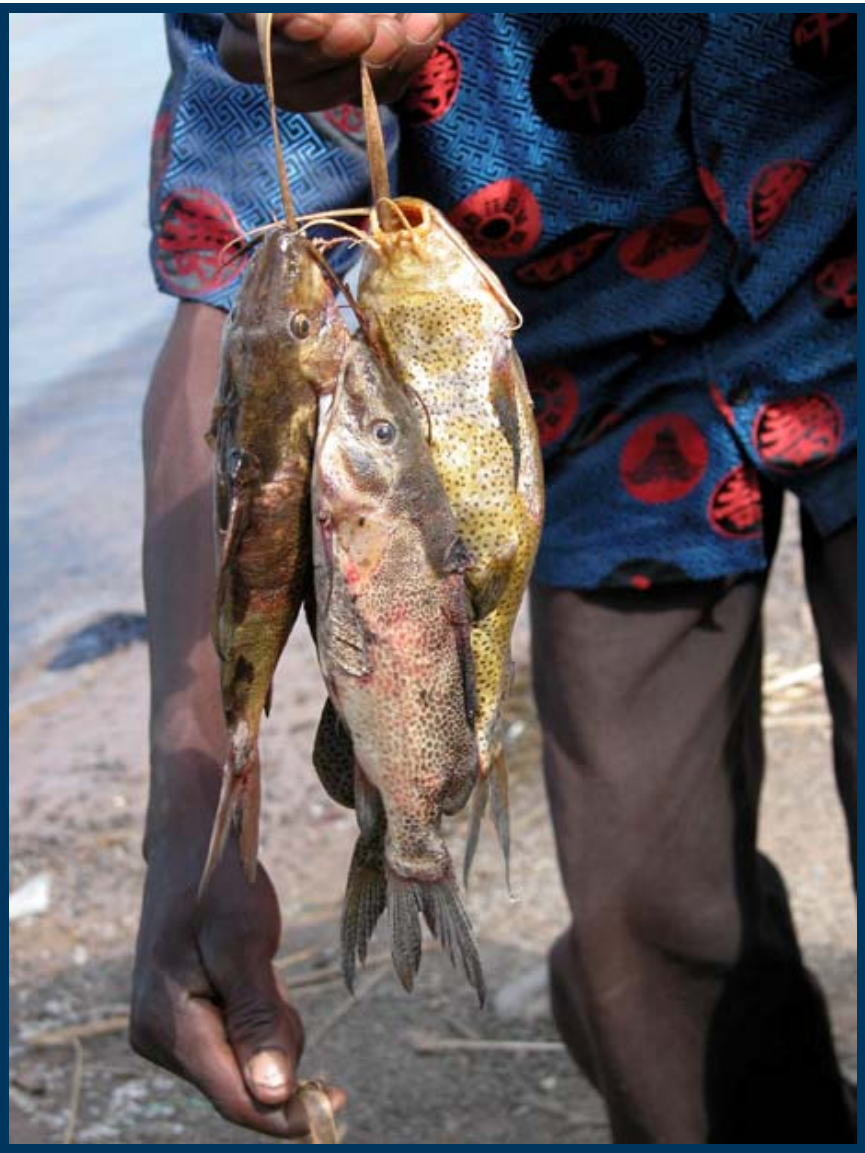
Subsistence Livelihoods



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Changing River Hydrology

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Changing Community Response

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Do We Have a Vision of Success?

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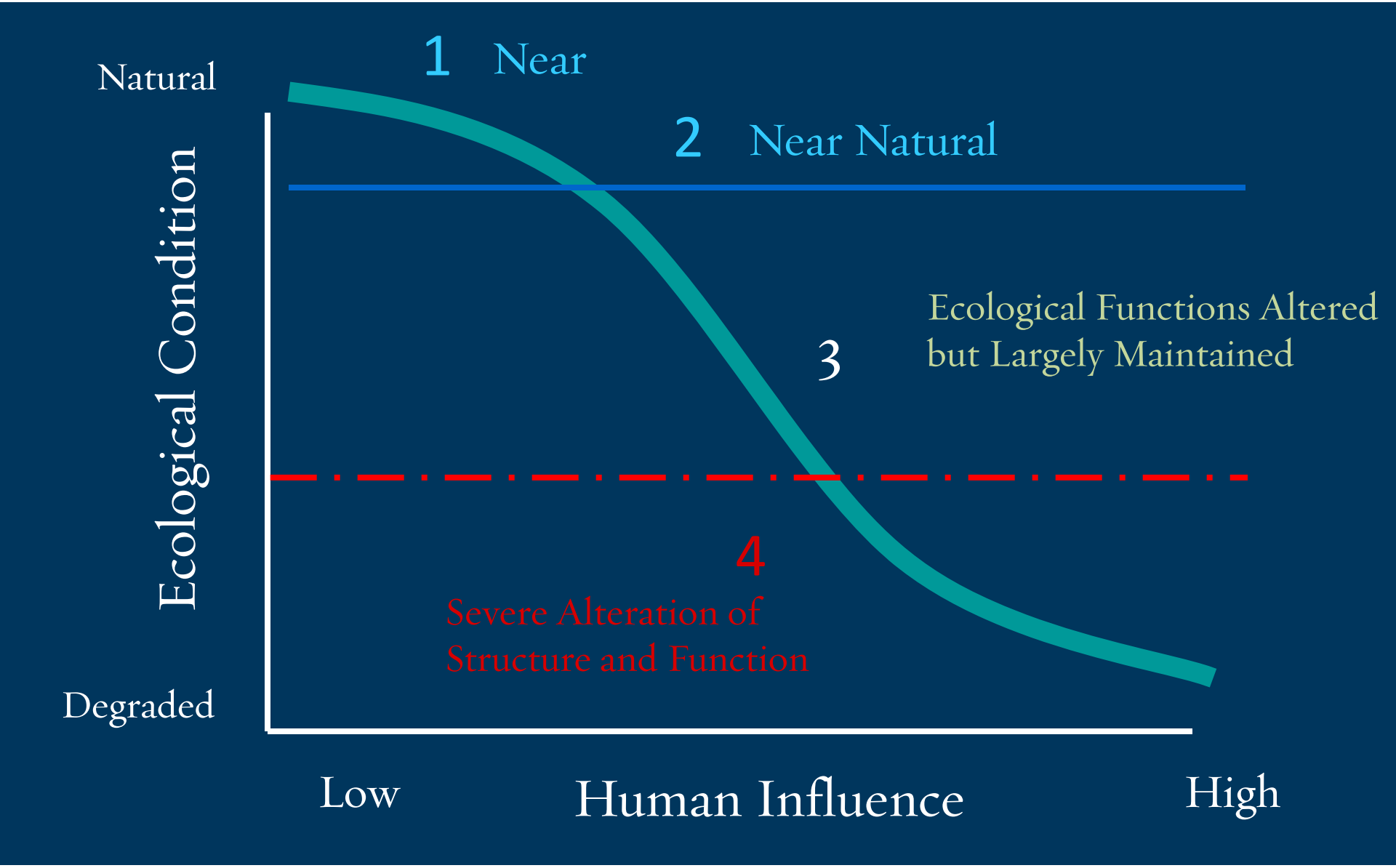
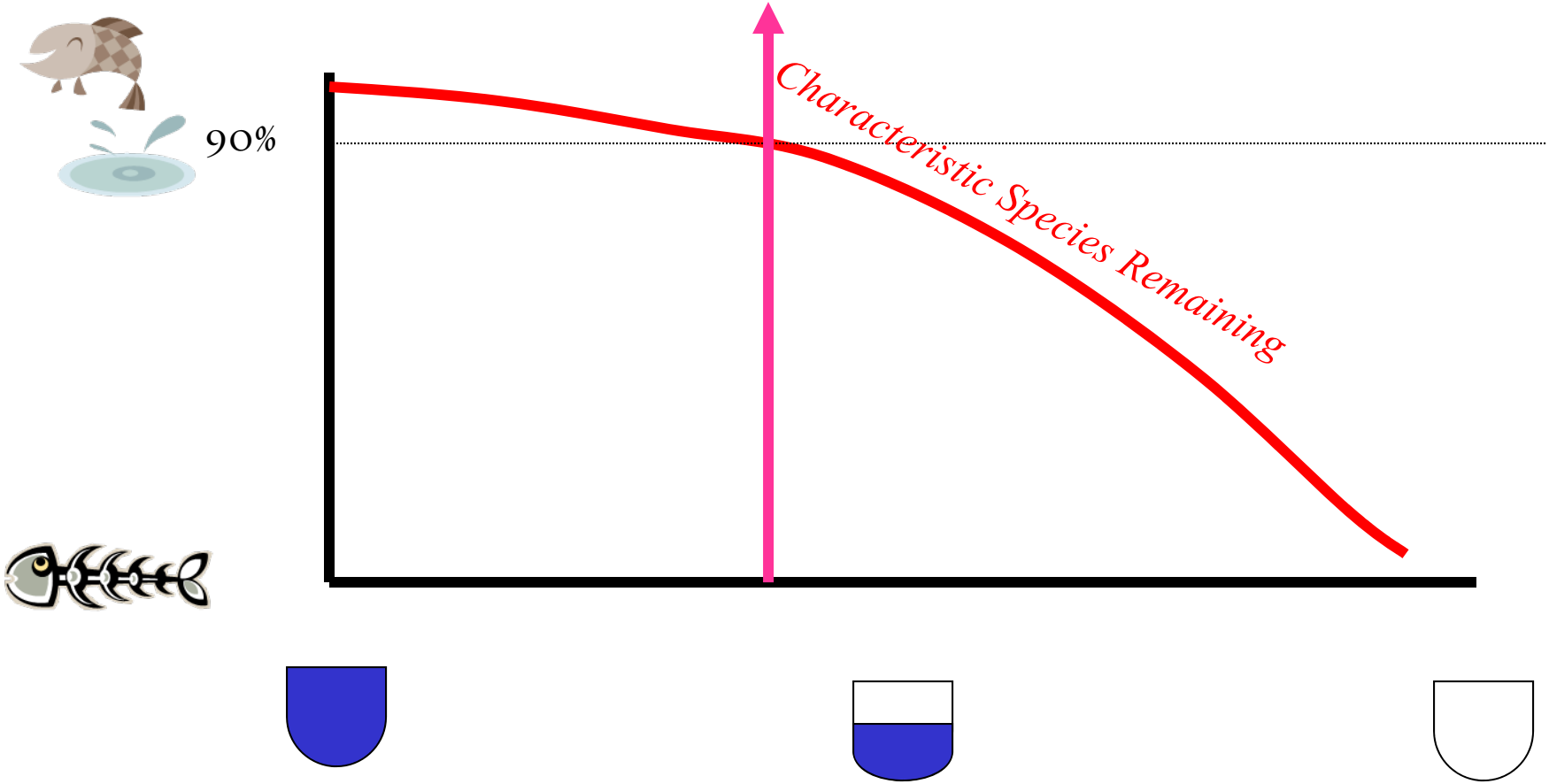
Biological Condition Gradient



Determining Impact For New & Expanding Uses



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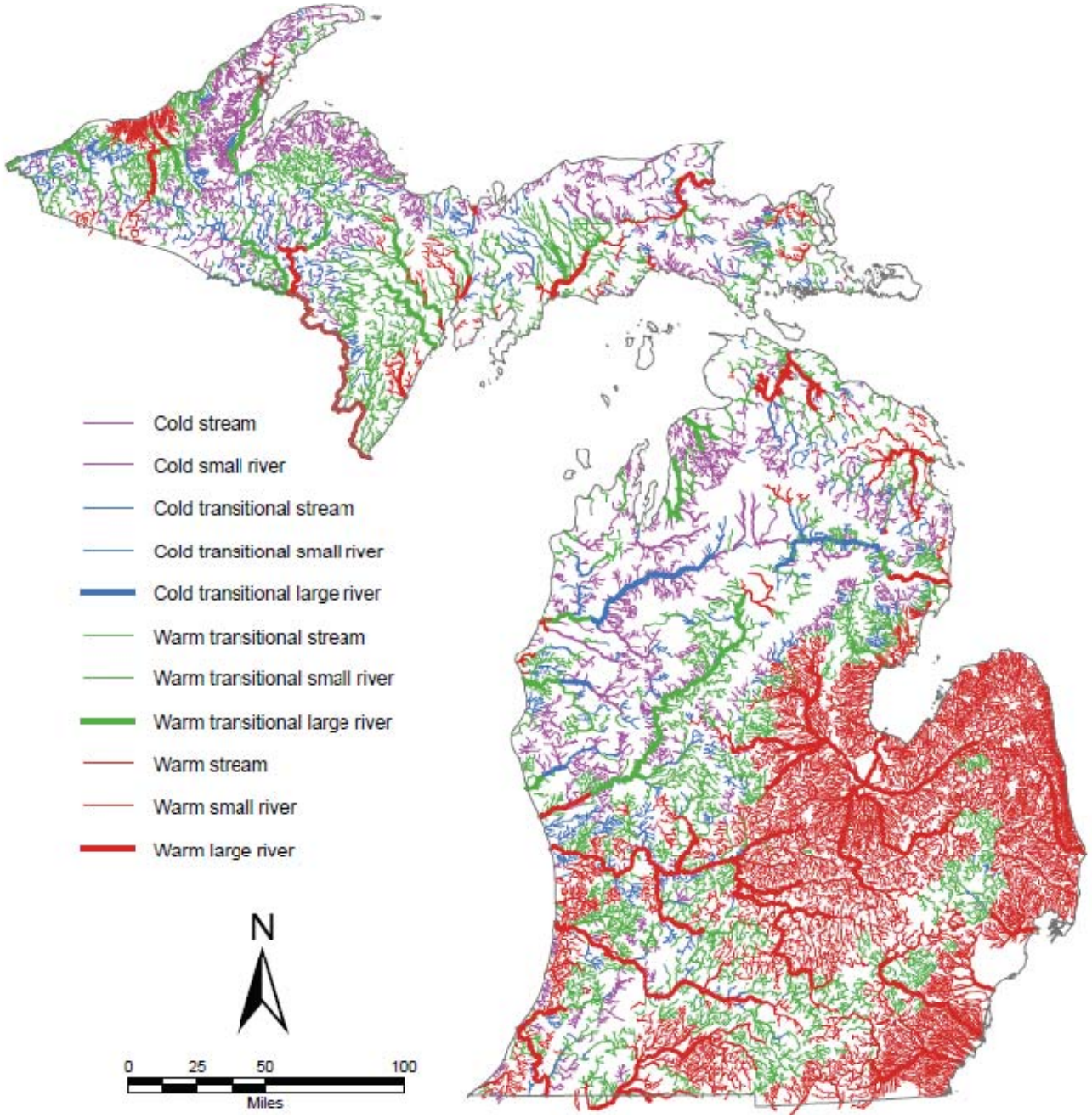
Ecological Classification of Rivers

Simple typing system using fish assemblages

	Streams	Sm Rivers	Lg Rivers
Cold	√	√	
Cold Trans	√	√	√
Warm Trans	√	√	√
Warm	√	√	√


Cold stream
Cold small river
Cold transitional stream
Cold transitional small river
Cold transitional large river
Warm trarsitional stream
Warm trarsitional small river
Warm trarsitional large river
Warm stream
Warm small river
Warm large river
N
0
25
50
100
Miles

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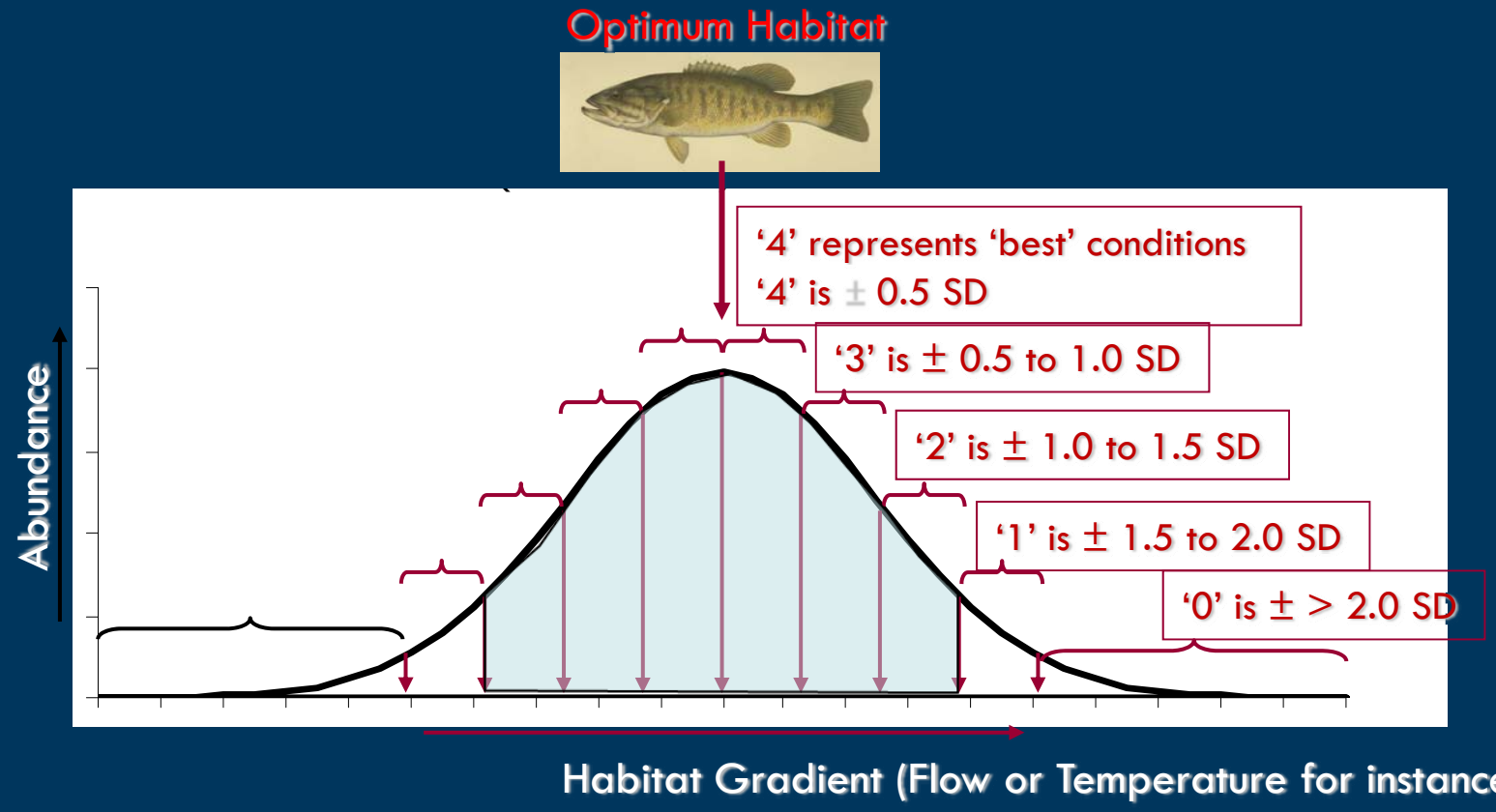
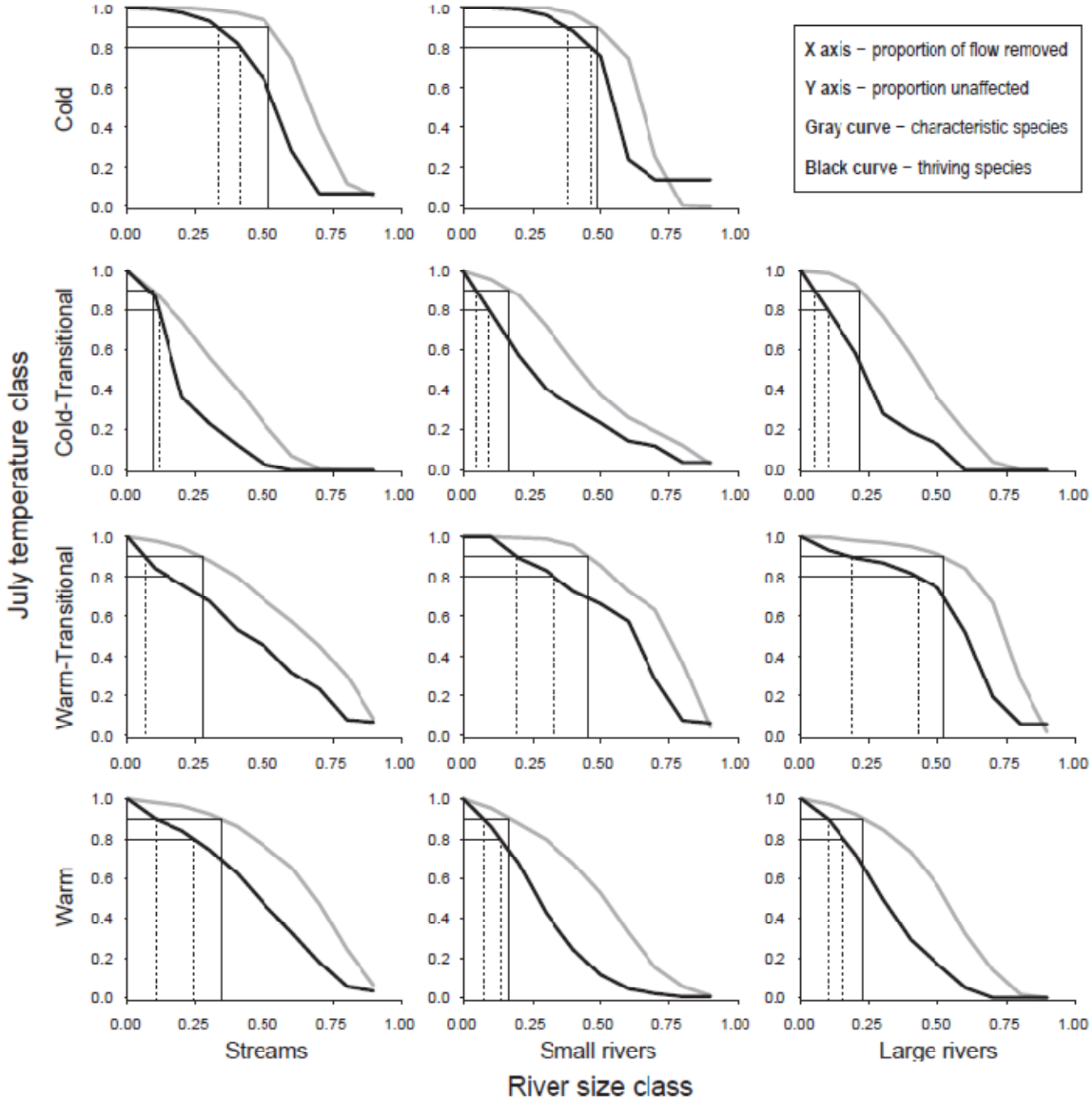
From: Paul Seelbach, MI IFR
Scott Hamilton, MI DEQ

Rank scores re. normal distribution; 60+ species




X axis – proportion of flow removed
Y axis – proportion unaffected
Gray curve – characteristic species
Black curve – thriving species
July temperature class
Cold
Cold-Transitional
Warm-Transitional
Warm
Streams
Small rivers
Large rivers
River size class

Surface Water Information Management System

Department of Environmental Quality • Department of Natural Resources

Michigan.gov
The Official State of Michigan Website

WELCOME

WELCOME to the Michigan Surface Water Information Management System (MiSWIMS). This application is an interactive map-based system that allows users to view information about Michigan's surface water. It was developed through a cooperative effort by the Michigan Department of Information Technology (DIT), Michigan Department of Environmental Quality (DEQ), and Michigan Department of Natural Resources (DNR). Users are able to view and download data collected by the DEQ and DNR from surface water monitoring sites located throughout Michigan.

The application provides the user two ways to search for water information: Text search and map search.

TEXT SEARCH

The Text Search gives the user the ability to search for waterbodies by name, place, watershed or STORET number. The text search is a fast way to narrow down your surface water search. Users with slower dial up connections will benefit from using the text search because the graphics from the map will not be displayed until the user has defined the search. After finding the surface water or information of interest, the user may go to the map or start a new search.

>>text search >>read more

MAP SEARCH

The Map Search option gives the user a visual interface for mapping surface water information. Users have the ability to search for surface water information by waterbody name, address, place, town range section, and latitude/longitude. Layers can be turned on or off depending on interest, and can be used to identify basic information. The map zooms into the area of interest after a search is complete, and information can then be obtained by identifying a specific monitoring site or river reach.

>>map search >>read more

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Building a Vision Informed By Science

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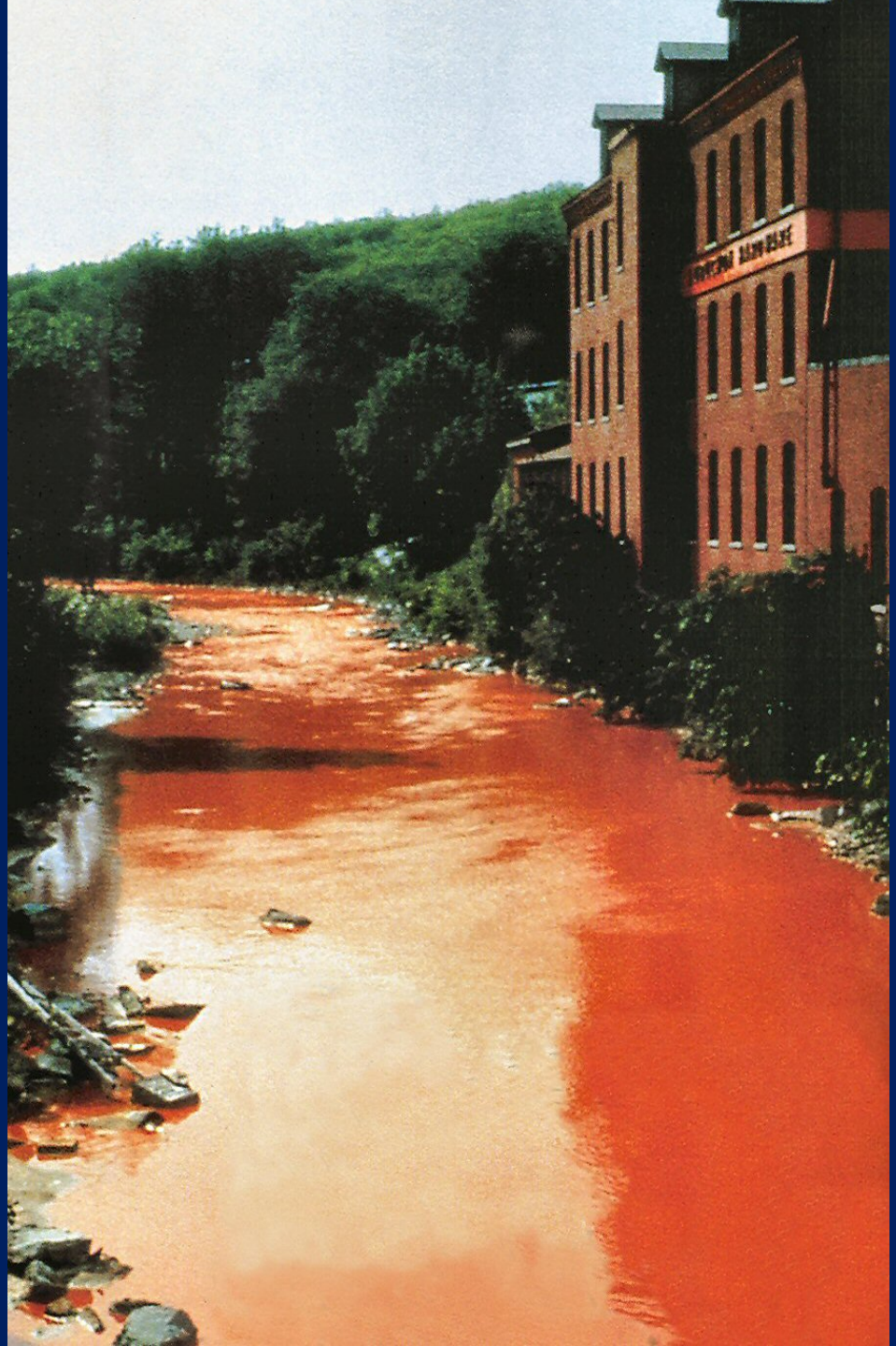
Key Elements

1. Can't just be about environment
2. Define ecological and human outcomes
3. System scale management
4. Maintain key ecological and physical functions
   - Flows and water levels
   - Sediment and nutrient regimes
   - Floodplain and river corridor functions
   - Connectivity – lateral and longitudinal



The Way Life Should Be

Nashua River, Massachusetts

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Why did the road cross the river?

Photo: G.L. Sweetnam