

Fish and Wildlife Recovery Targets 2000

Saginaw Bay/Saginaw River
Area of Concern

Guidance for Target Setting

- Related to Listed Impairment
- Easily Understood/Consensus Support of Stakeholders
- Progress Measurable
- Reasonably Achievable
- Identifiable Actions Steps To Achieve Target and Begin Delisting

FISHERIES

Fish Populations

Goal

- Sustainable fish production in river and bay at historical levels for important species

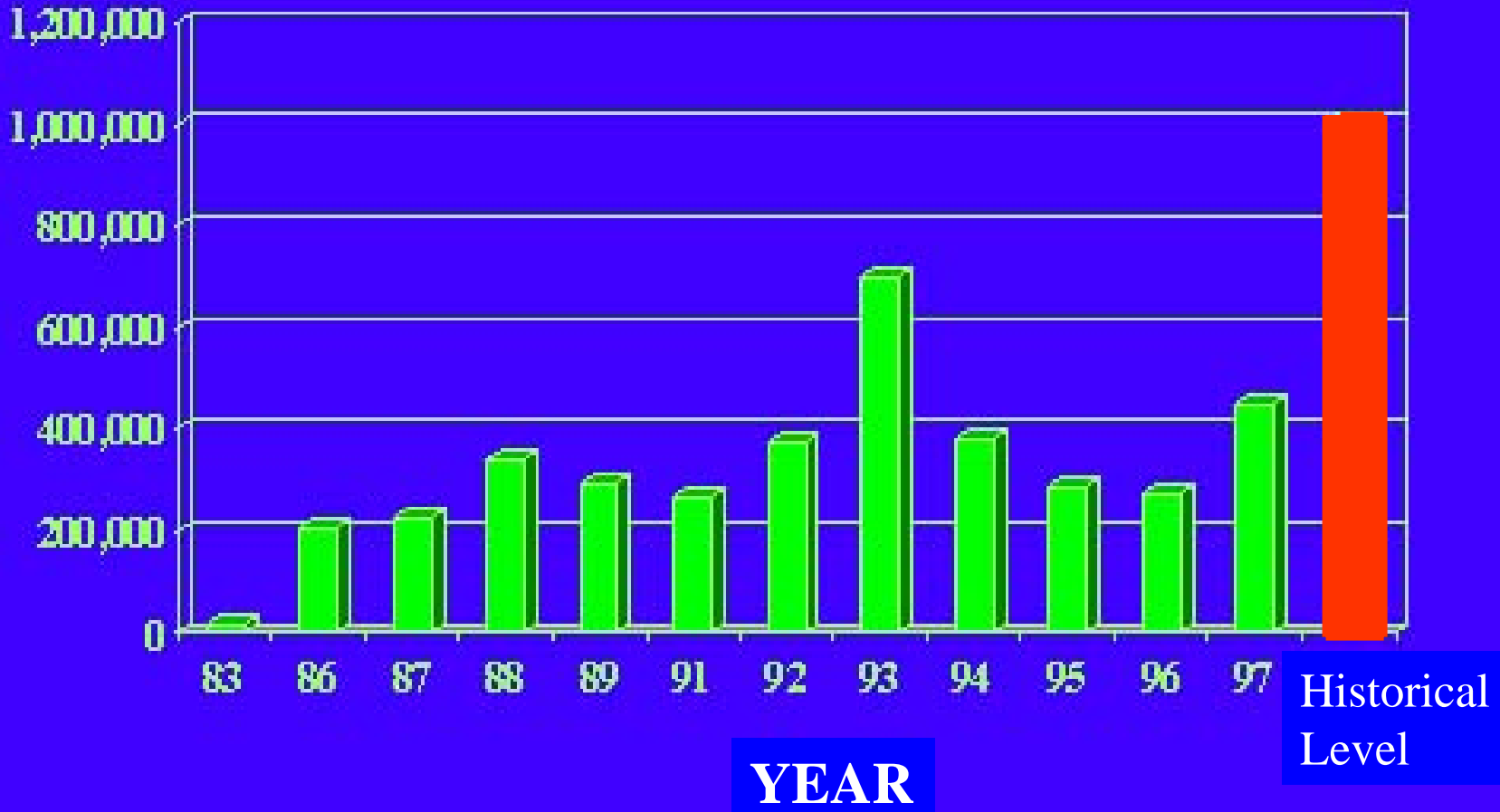
Targeted Condition

- Walleye - Increase abundance in Bay
- Yellow Perch - Sustained harvest of 750,000 lbs/yr of larger sized individuals
- Lake Sturgeon - Documented evidence of natural reproduction

WALLEYE HARVEST FROM SAGINAW BAY

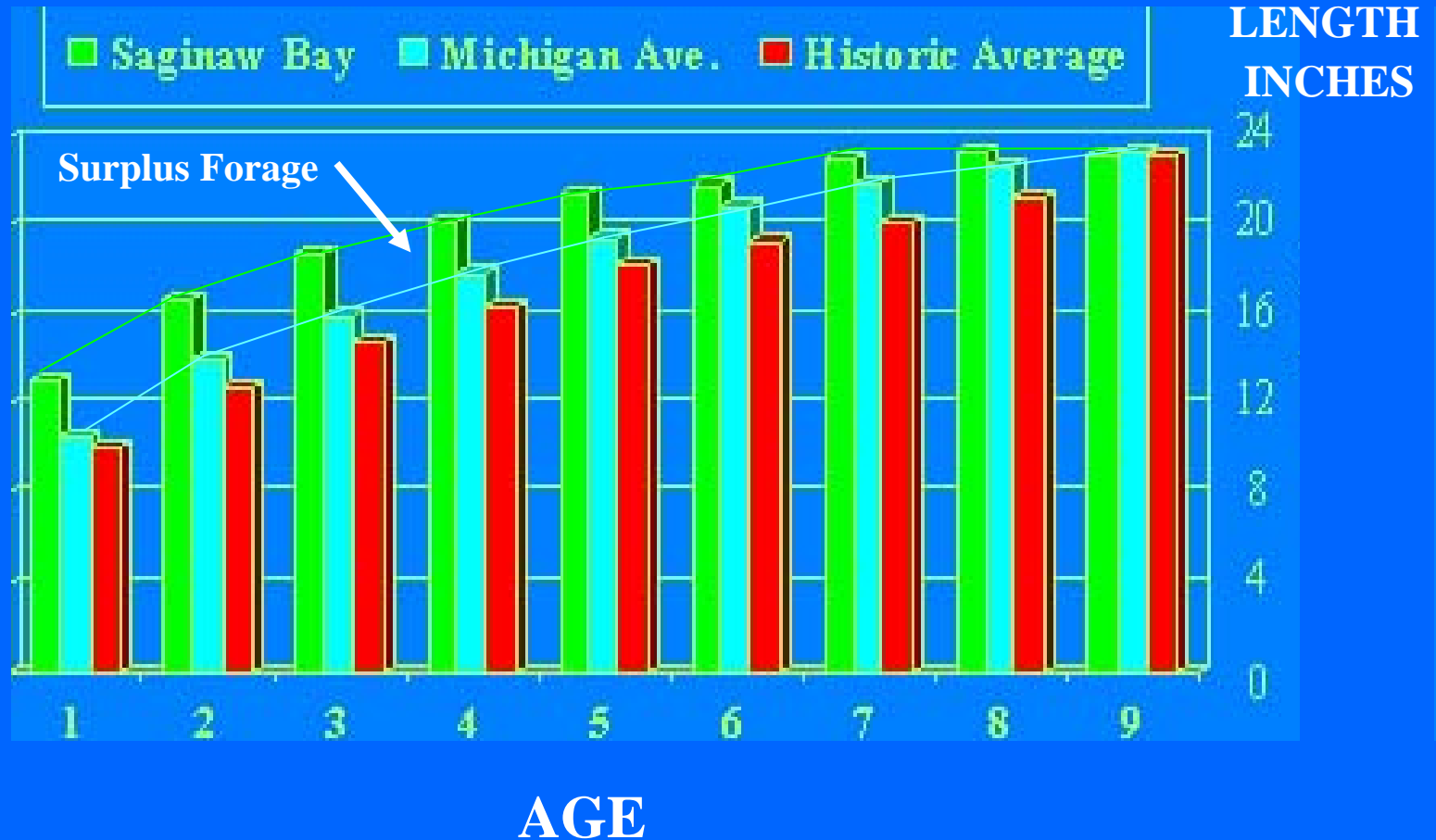
INCREASE HARVEST CLOSER TO HISTORICAL LEVELS

POUNDS



WALLEYE GROWTH RATES

INCREASE ABUNDANCE TO USE AVAILABLE FORAGE



FISHERIES

Contaminants in Fish

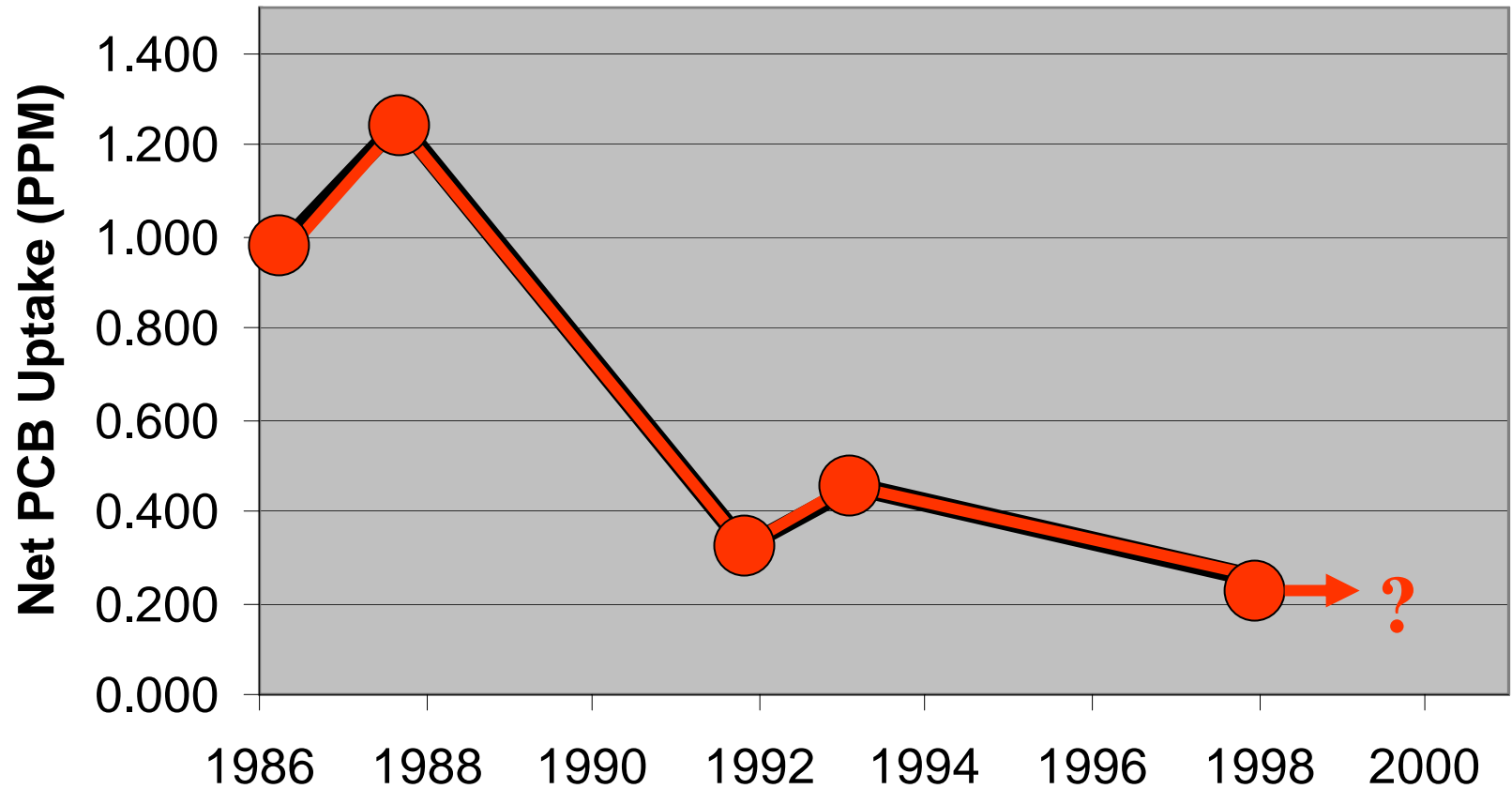
Goal

- Reduce chemical contaminants such that fish consumption warnings can be lifted

Targeted Condition

- PCBs and dioxins in river and bay walleye equal or less than levels found in other areas of the Great Lakes

PCB Caged Fish Uptake Saginaw River



FISHERIES

Fish Tainting

Goal

- Eliminate taste and odor problems in fish taken from river and bay

Targeted Condition

- Taste and odor problems reported by anglers in Tittabawassee River and Saginaw River less than 1 in 10,000 of estimated annual catch of species

FISHERIES

Habitat

Goal

- Protect existing spawning nursery areas, targeted restoration of critical habitat, and passage above barriers to spawning areas

Targeted Condition

- Dissolved oxygen levels in river meet or exceed WQS of 5.0 mg/l
- Critical coastal marsh areas are being protected

FISHERIES

Next Steps

- **Monitor River D.O.**
- **Regulation of dams***
- **Investigate fish passage***
- **Public information on critical role of habitat***
- **GIS to inventory habitat in coastal marshes**
- **Monitor walleye and yellow perch harvest***
- **Initiate lake sturgeon recovery plans***
- **Establish baseline toxic measures**
- **Caged fish studies***
- **Survey for tainting***

***Underway**

WILDLIFE

Contaminants

Goal

- Eliminate impairments to wildlife caused by toxic chemicals

Targeted Condition

- Bald eagle reproduction equal or greater than other areas of Lake Huron shoreline
- Herring gull egg PCB levels in bay not higher than other areas in Lake Huron

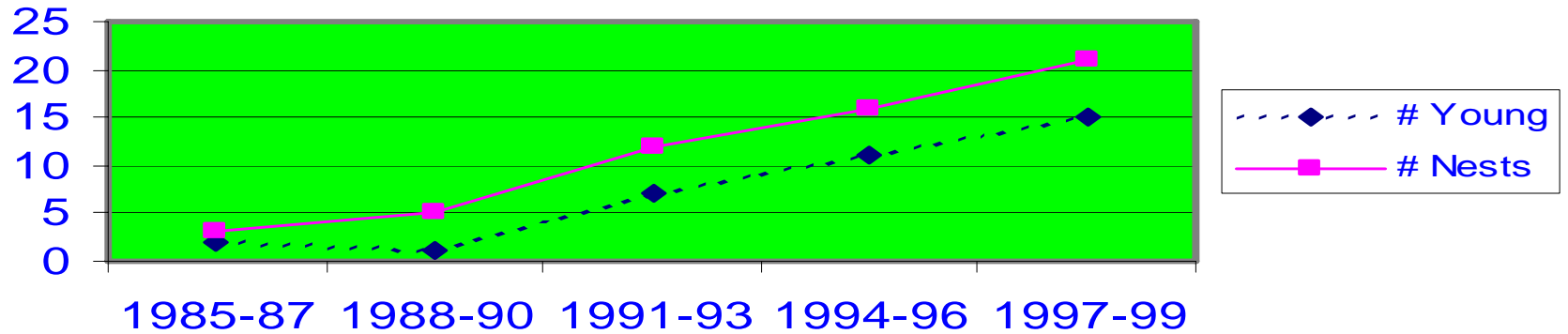


Brian Morin

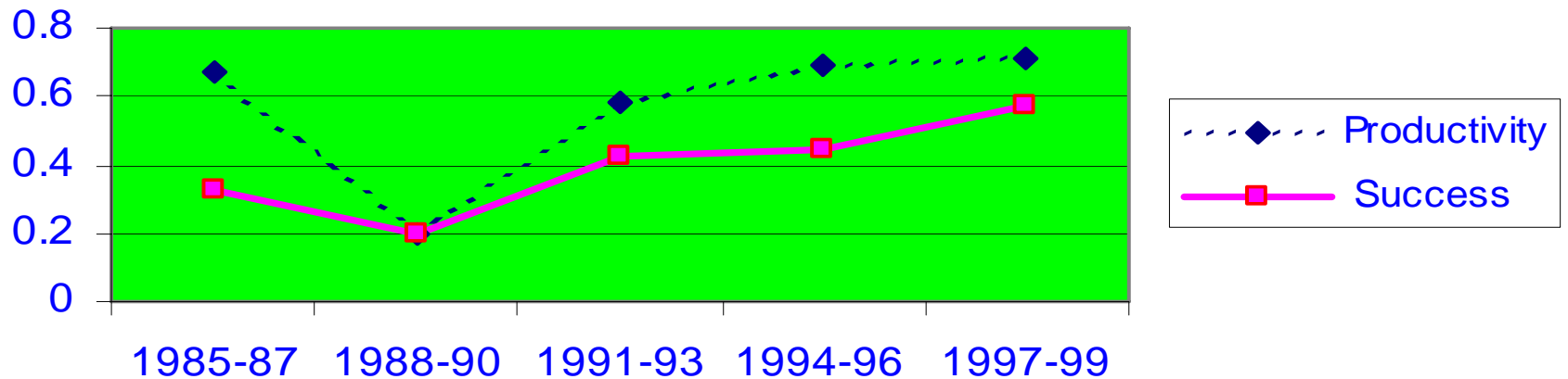


John Struger

Bald Eagle Nests and Number of Young in Saginaw Bay



Bald Eagle Productivity and Nesting Success Rates for Saginaw Bay

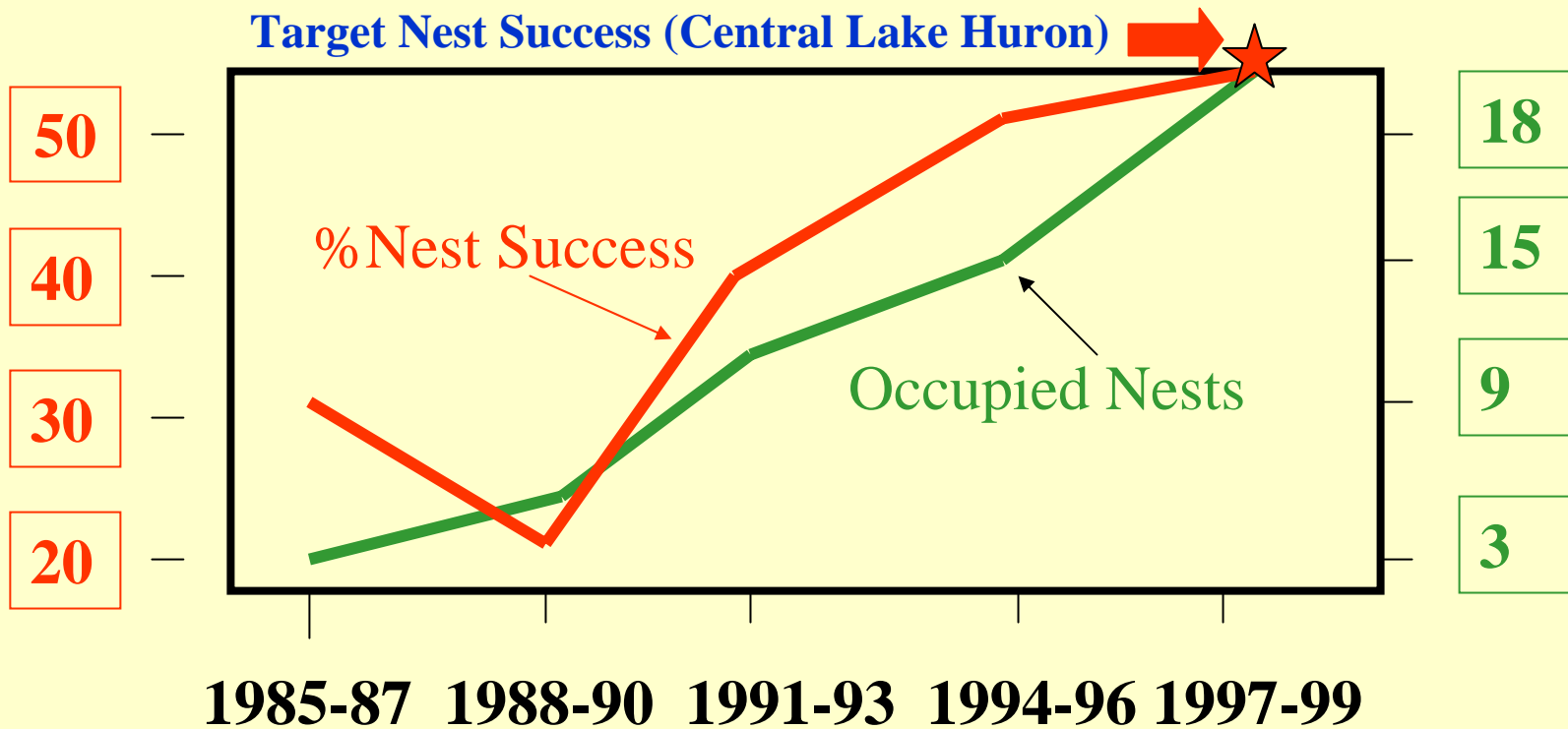


WILDLIFE

Recovery of Bald Eagle Saginaw Bay/River

Percent
Nest
Success

Occupied
Nests



WILDLIFE

Habitat

Goal

- Coastal marsh protection
- Restoration of wetlands, coastal marshes and wet prairies (7,500 acres)
- Focus on 585 foot lake contour and lower

Targeted Condition

- 60% of coastal marshes essential to F&W protected in easements, ownership or agreements
- Remaining 40% identified for monitoring /protection

WILDLIFE

Next Steps

- Develop GIS/inventory data base for coastal marshes
- Coordinate restoration opportunities
- Establish index
- Identify critical marshes
- **Continue routine monitoring of bald eagle nesting in bay area***
- **Continue comparative analysis of herring gull eggs in bay with other areas in Lake Huron***

***Underway**

Fish and Wildlife Recovery Goals

Upper Rouge River

Part of Rouge River Area of Concern

Rouge River

Upper Subwatershed Management Plan

2001

Long Term Goals

- Protect fish and wildlife habitat within the river and on adjacent riparian lands to sustain the diversity of viable fish and wildlife populations in the subwatershed
- Enhance the diversity of fish and wildlife populations in the subwatershed comparable to that found in other southern Michigan rivers systems with similar physical characteristics

Fish and Wildlife Objectives

- Control source of pollution that currently cause reduction of dissolved oxygen levels below the standard established to protect warmwater fish population
- Encourage woody debris management and channel maintenance to protect and enhance habitat
- Identify opportunities to create new F&W habitat in conjunction with other projects
- Provide education to home owners and public agencies on the use of chemicals in the environment and proper disposal of hazardous materials

Management Alternatives

<p style="text-align: center;">Goals</p> <p>Actions</p> <p>1=direct benefit 2= indirect benefit</p>	Human Health	Flows (Flooding/Habitat Loss)	Ecosystem (F&W)	Aesthetics	Erosion Sedimentation
<p>A. Illicit Connections</p> <p>1. Staff Training</p> <p>2. Outfall Inspection/Testing</p>	<p>1</p> <p>1</p>		<p>1</p> <p>1</p>	<p>1</p> <p>1</p>	
<p>B. Dumping and Spills</p> <p>1. Ordinance/Enforcement</p> <p>2. Hot Line Reporting</p> <p>3. Household Hazardous Disposal,</p>	<p>2</p> <p>2</p> <p>2</p>		<p>1</p> <p>1</p> <p>1</p>	<p>2</p> <p>2</p> <p>2</p>	
<p>C. Land Use/ Management</p> <p>1. SW Controls New Develop.</p> <p>2. Soil Erosion Controls</p> <p>3. Education – Lawn Care, etc.</p>		<p>1</p> <p>2</p> <p>2</p>	<p>2</p> <p>2</p> <p>2</p>	<p>2</p> <p>2</p>	<p>1</p> <p>1</p>
<p>D. Public Facility Management</p> <p>1.Stor. Load/Unloading Mgt.</p> <p>2. Vehicles Mgt/Main.</p> <p>3. Deicing Practices, etc.</p>			<p>1</p> <p>1</p> <p>1</p>	<p>2</p> <p>2</p>	<p>2</p>
<p>E. Septic Systems Insp. Maint.</p>	<p>1</p>		<p>1-2</p>	<p>1-2</p>	
<p>F. Storm/Sanitary System Main.</p>	<p>1-2</p>	<p>1-2</p>	<p>1-2</p>	<p>1-2</p>	<p>1-2</p>
<p>G. Treat. & Control BMPs</p>	<p>1-2</p>	<p>1-2</p>	<p>1-2</p>	<p>1-2</p>	<p>1-2</p>

Comparison of F & W Goals, Objectives Targets

	Saginaw Bay/River	Upper Rouge River
Related to AOC Listed Impairments?	Yes, specifically	In part, but other information used
Easily Understood/Broad Support?	Yes, with specific targets	Yes, overall goals and objectives, specific actions
Progress Measures?	End points clear, progress measures not as clear	Objectives clear, progress based upon ecosystem measures
Reasonably Achievable?	Targets very specific and may need to be modified to be support delisting	Outcome based upon continuing progress, not end point or delisting
Identifiable Actions to Reach Target/Goal?	Actions identified responsibility not always clear	Actions identified, responsibility specific

Why the Differences?

- Two different processes (RAP in one case and Storm Water Management Permit in the other)
- More specific information on fisheries and wildlife population impacts and specific management objectives available for Saginaw River Bay
- Local public agencies driving one and citizens/state agency driving the other
- One relied upon ecosystem monitoring (Rouge) committed to by participants
- Rouge goals not tied to restrictive categories of impairments lists for AOCs 30 years ago.