

The National Fish Habitat Initiative

Presented to the Midwest Association of Fish and Wildlife Agencies
July, 2004

**“Coming together is a beginning.
Keeping together is progress.
Working together is success.”**

- Henry Ford



The National Fish Habitat Initiative

➔ What is the National Fish Habitat Initiative?

The Goal.

A Brief History.

➔ Why is it important?

The Extent of the Problem.

The Value of Healthy Habitats.

➔ Why a national initiative?

The Value of a National Initiative.

➔ What can be achieved?

Current Successes.

The North American Waterfowl Model

➔ What more can we do about it?

Implementation Strategies.



The National Fish Habitat Initiative

The Goal: National protection and enhancement of fish habitat across inland and coastal waters.

The Process: Develop an implementation strategy that brings national focus, broad strategies and adequate funding to bear on fish habitat improvements and supports locally driven joint ventures.

The Focus: Fish first.



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A national fish habitat plan was recommended by the Sport Fishing and Boating Partnership Council in “A Partnership Agenda for Fisheries Conservation (2002).”

The FWS Fisheries Program made a commitment in the *Fisheries Program Vision for the Future (2002)* to focus on aquatic habitat conservation and management.

In 2003, the IAFWA endorsed the concept of a “comprehensive national fisheries habitat plan/strategy.”



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Current Partners:

- US Fish and Wildlife Service
- Sportfishing and Boating Partnership Council
- American Fisheries Society
- National Fish and Wildlife Foundation
- International Association of Fish and Wildlife Agencies
- National Oceanic and Atmospheric Administration



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Why is it important?

Aquatic habitat is rapidly being lost or destroyed, displacing aquatic species and causing their decline worldwide.

Without intervention, this loss will continue at an ever-increasing rate.



Recent Trends and Data

- Coastal Dead Zones on the Increase – Oxygen starved areas of the world's oceans have doubled over the last decade and pose as big a threat to fish stocks as overfishing – *UNEP Global Environmental Outlook Yearbook, 2003*
- The number and size of dead zones has doubled every decade since the 1970's; Dead zones are fast becoming a bigger threat to fish stocks than overfishing – *Robert Diaz, VIMS web site*



- **Since 1900, 123 aquatic freshwater species have become extinct in North America. The future extinction rate is predicted to be 4% per decade (Ricciardi and Rasmussen 1999).**
- **20% of the world's freshwater fish are extinct or in serious decline (Moyle and Leidy 1992).**
- **Of 822 species of native freshwater fishes in the US, 39% are at risk of extinction (Stein and Flack 1997).**



The top-ranked problem identified by 75% of coastal resource managers was habitat degradation and loss (NOAA CSC 1996).

Increased turbidity is one of the most significant threats to the quality of aquatic habitat (Judy et al. 1984).

Nitrogen loading associated with land development has:

altered vegetation of marsh/estuarine habitat, causing salt marsh cord grass (*Spartina alterniflora*) to become dominant over salt hay (Wigand et al. 2003)

changed estuarine habitat from eelgrass to microalgae, slowing fish growth and increasing fish mortality (Deegan et al. 2002).



The Extent of the Problem

Table 1. Extinction rate estimates (percent loss per decade) for continental North American fauna

Freshwater fauna	Recent	Future	Terrestrial and marine fauna	Recent	Future
Fish	0.4	2.4	Birds	0.3	0.7
Crayfish	0.1	3.9	Reptiles	0	0.7
Mussels	1.2	6.4	Land mammals	0	0.7
Gastropods	0.8	2.6	Marine mammals	0.2	1.1
Amphibians	0.2	3.0			
Mean rate	0.5	3.7		0.1	0.8

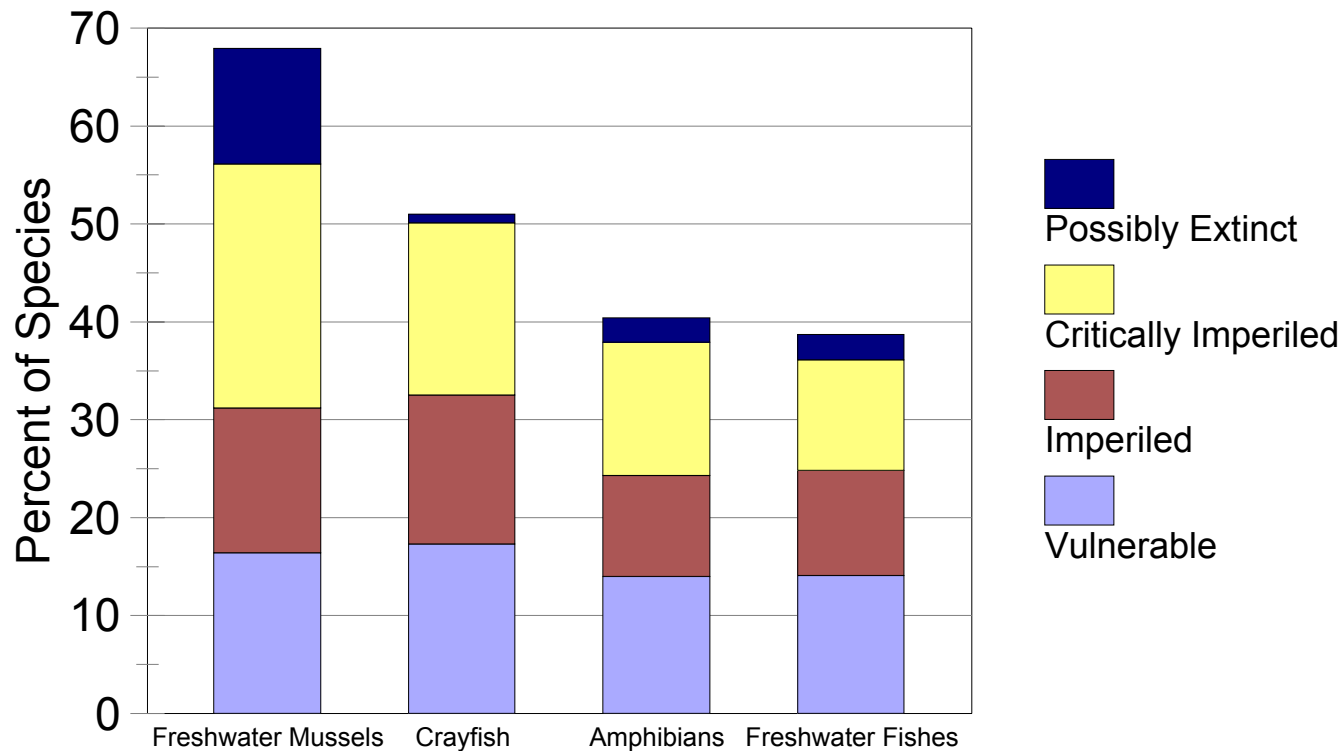


(From Ricciardi and Rasmussen 1999)



The Extent of the Problem

Figure 1. Aquatic Species at Risk
Proportion by percentage of the total



(From: Stein and Flack, 1997 Species Report Card)



227 aquatic species are federally threatened or endangered:

- **21 amphibians**
- **115 fish**
- **70 bivalves**
- **21 crustaceans (USFWS 2004).**

Of these, the loss of native mollusks is most alarming:

297 bivalve taxa are found north of Mexico. 44% are extinct or endangered, primarily due to the inundation of riffle habitat resulting from impoundment of major river systems (Bogan 1995).



Nine Principal Factors (in order of significance) that contribute to the biological impoverishment of aquatic ecosystems:

- Habitat destruction and fragmentation
- Toxic organic materials
- Nitrogen contamination
- Toxic metals
- Acid Deposition
- Exotic Species introduction
- Toxic algal blooms
- Harvest of aquatic species
- Altered thermal regimes

Seven of these Nine are habitat-related.
(Naiman et al. 1995)



Habitat Destruction and Fragmentation

The most significant stressor to most US streams is altered instream habitat (EPA 2000).

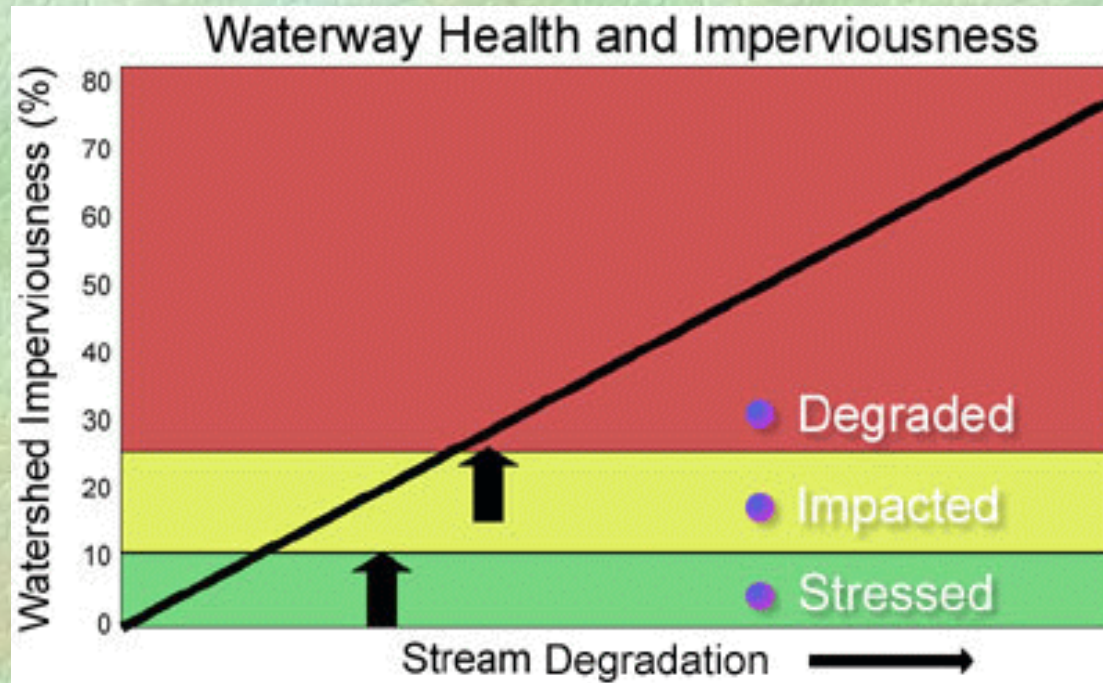
50% of lakes and more than 50% of streams assessed by states do not meet their designated use (EPA 2003).

79 invasive species have cost the US economy \$97 billion, degrading ecosystems and contributing to species decline (Stein and Flack 1996).

Between 1992 and 1997, 32,600 acres per year of wetland (palustrine and estuarine) habitat have been lost nationwide (NRCS 1997).



The Extent of the Problem



- When total impervious area in a watershed exceeds 25%, serious degradation of downstream ecosystems occurs (University of Wisconsin 2002).



The Values of Healthy Habitat

- In 2001, 82 million Americans participated in wildlife-related recreation, spending \$108 billion (USFWS 2002).
- 34.1 million Americans over 16 spent 557 million days and over \$35.6 billion fishing (USFWS 2002).
- 1,782 federally operated reservoirs/lakes support 900 million recreational visits/year, an economic value of \$44 billion/year (NRLSC 1999).



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For us it's primarily about fish and anglers....
But there's a lot more to gain.....



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The Values of Healthy Habitat

- ✧ Improved water quality
- ✧ Improved wildlife habitat
- ✧ Increased groundwater replenishment
- ✧ Mitigation of droughts and floods
- ✧ Increased cycling and movement of nutrients
- ✧ Maintenance of biodiversity
- ✧ Moderation of weather extremes and their impacts
- ✧ Improved recreation (fishing, wildlife viewing, human reconnection with the natural environment)
- ✧ Increased economic values (tourism and recreation increases, real estate value increases, water availability)



More Economic Values of Healthy Habitat

Based on Willingness to Pay Analyses:

\$30 - 97/year (\$102-330 million/year total) for salmon recovery efforts in households in OR and WA (ECONorthwest 1999).

\$50 - 330/year for protecting T&E species in the Colorado, Green, and Rio Grande river basins (Ekstrand and Loomis 1998).

\$21/month for a combination of environmental services, including habitat improvement, South Platte River basin (Loomis et al. 2000).

\$101/day for increased trout populations, \$132/day for larger trout for ID, CO, MT anglers (Dalton et al. 1998).

Non-angling residents have a WTP to protect non-threatened species (Loomis and White 1996).

Urban residents may value non-consumptive uses, such as aesthetics, more than fishing (Casagrande 1996).

Habitats can have multiple values, in addition to providing for species, e.g., flood protection, agricultural use (Sommer et al. 2001).



The Values of Healthy Habitat

Estuaries provide habitat for more than 75% of America's coastal and marine commercial and 80-90% of the recreational fish catch (NSC 1998).

Of the \$111 billion generated by the commercial and recreational fishing industry in 1997, 71% came from wetland-dependent species (EPA 2002).

Ocean and coastal habitats support 66% of all U.S. commercial and recreational fish and shellfish, and 45% of all protected species (NOAA 1999 In Maryland, recreational boaters add over \$2 billion to the economy (MD Sea Grant 2003).

New York City could avoid spending \$3 - 8 billion on new wastewater treatment plants by investing \$1.5 billion purchasing land around reservoirs, purifying the water supply for free (Schuyt and Brander 2004).



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Why a *National* Initiative?

Work across systems to promote the *recognition* that habitat loss is a national problem and that fisheries resources depend on habitat.

Deal more effectively with large-scale habitat problems.

Maximize information sharing on lessons learned, progress, and the status of fish habitats.



The Value of the Initiative

Bring fisheries issues to the table with water quality and quantity issues.

Quantify fish habitat needs.

Increase and broaden public support.

Track progress and achieve measurable results.



The Value of the Initiative

Provide a framework to promote collaboration that is non-regulatory and non-confrontational.

Leverage funding sources. (non-traditional sources; develop more funding mechanisms).

Enhance relationships through efficient collaborative efforts, institutionalize the process, and work with key national groups.

Create ongoing national/ congressional recognition of the problem.



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What Can Be Done About It?

Current Successes

- The North American Waterfowl Management Plan
- Chesapeake Bay Restoration Project, Virginia, Maryland, D.C., and Pennsylvania
- Duck Creek Watershed Project, Juneau, Alaska
- Blackfoot River Challenge, Montana
- Southwest Alaska Conservation Coalition



Current Successes

CASE STUDY, The Chesapeake Bay Program



The Chesapeake Bay watershed covers 64,000 square miles. It includes parts of DE, NY, PA, WV, MD, VA, and D.C.

The Chesapeake Bay Foundation, a non-profit Group organized to voice public concerns about the Bay, was formed in 1967.

In 1983, the Chesapeake Bay Agreement Was signed between MD, VA, PA, DC, the Chesapeake Bay Commission, and US EPA.



Current Successes

Accomplishments



- 330 acres of oyster habitat constructed
- 2,869 miles of riparian forest buffers planted
- reduced destruction of estuarine & freshwater wetlands
- 30 % increase in submerged aquatic vegetation (SAV)
- American shad returns on the Susquehanna River increased from several hundred in the 1980s to over 125,000 in 2003
- Striped bass declared restored in 1995



The Model

The North American Waterfowl Management Plan Model History

- By 1985, waterfowl populations had plummeted to record lows. Habitat was disappearing at a rate of 60 acres per hour.
- Approximately 3.2 million people were spending nearly \$1 billion annually to hunt waterfowl.
- About 18.6 million people observed, photographed, and appreciated waterfowl, spending \$2 billion to pursue these activities.



The Model

The North American Waterfowl Management Plan Model History

- Canada and the US developed a joint strategy to restore waterfowl populations through habitat protection, restoration and enhancement.
- the Plan was signed in 1986, becoming the foundation partnership upon which hundreds of others would be built.



The North American Waterfowl Management Plan Model

The Premise

- international in scope, implementation at the regional level
- success depends upon partnerships called “Joint Ventures”
- Joint Venture membership consists of federal, state, provincial, tribal, and local governments, businesses, conservation organizations, and citizens
- Joint Ventures develop implementation plans focusing on areas identified in the Plan



The North American Waterfowl Management Plan Model

ACCOMPLISHMENTS

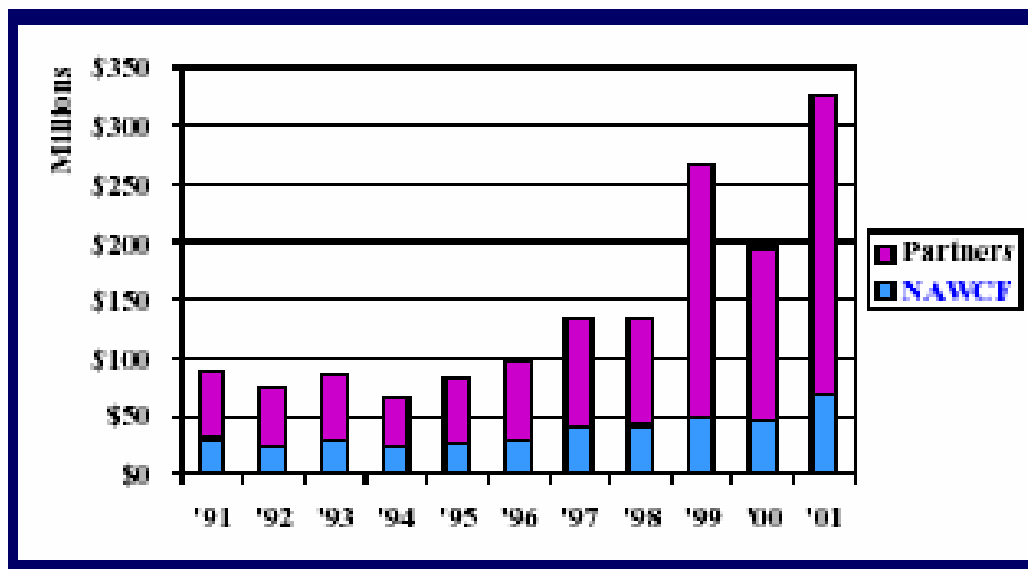
- The model established by the North American Waterfowl Management Plan has been used in other conservation plans with success.
- As of the end of 2003, Plan partners had invested more than \$2.2 billion to restore than 8 million acres of habitat.
- A key outgrowth of the Plan was the passage in 1989 of the North American Wetlands Conservation Act (NAWCA).



The North American Waterfowl Management Plan Model

ACCOMPLISHMENTS

NAWCF Leveraging Effect in U.S., Canada and Mexico, 1991-2001



What More Can We Do About It?

Strategies for Implementation

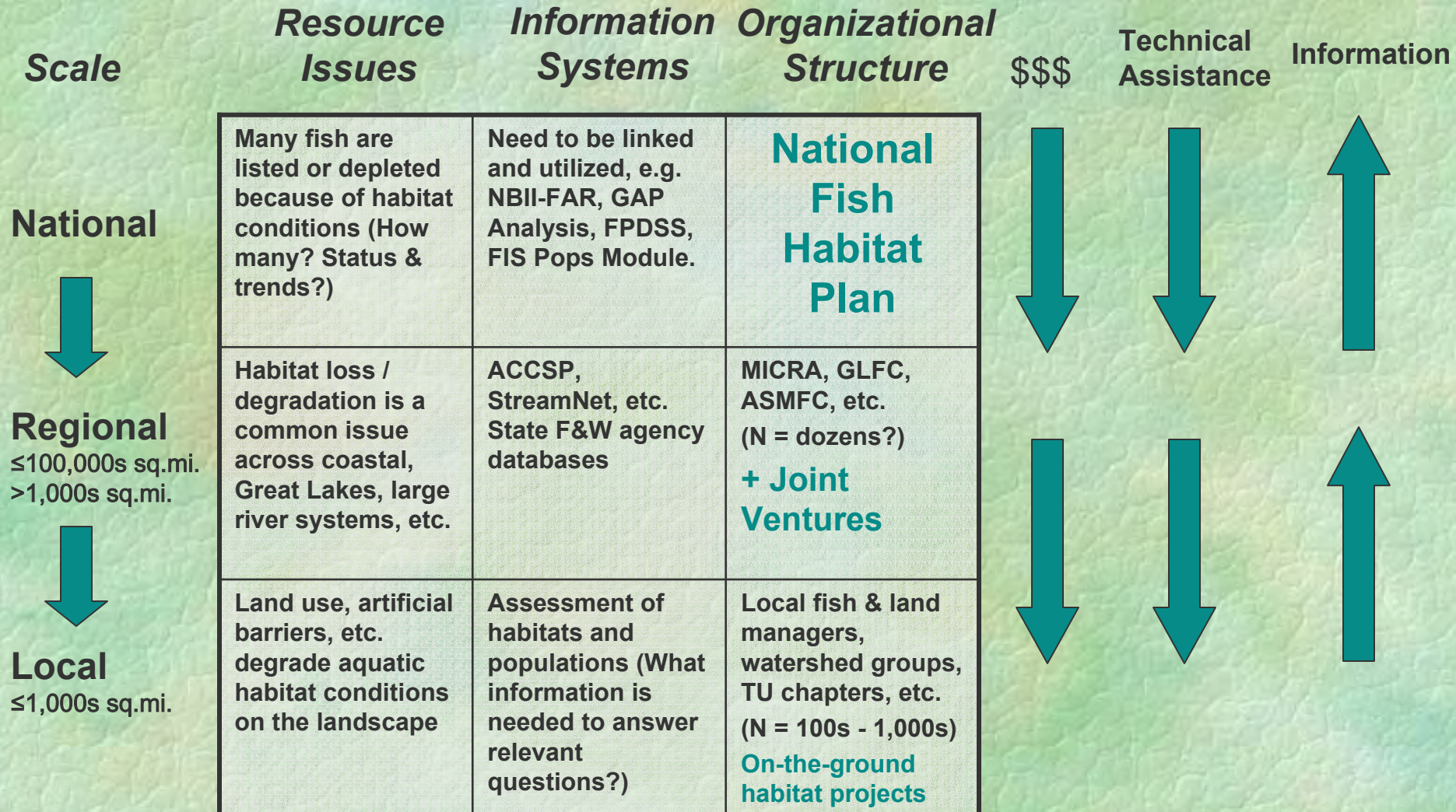
Develop a National Fish Habitat Plan that...

- **is a national focus for aquatic habitat restoration**
- **capitalizes on existing mechanisms, incentives, explores new national strategies**
- **measures progress and communicates success**
- **is geographically focused and locally based**
- **is scientifically sound**
- **fosters partnerships**



Implementation Strategies

Concept Model



Potential Strategies for Implementation

Develop Incentive Programs

- **Landowner tax break for habitat restoration on private lands** (Oregon Riparian Habitat Tax Incentive Program)
- **Conservation programs for agricultural land.**
- **Mitigation banks. Setting aside aquatic habitat in an undisturbed area to mitigate for destruction of it elsewhere** (Eugene, Oregon Mitigation Bank).
- **Land trusts, conservation easements.**



Potential Strategies for Implementation

Develop Funding Options

- Income tax “check off” boxes (NE, MD, VA, CO).
- Conservation license plates (OR salmon, ID cutthroat trout, Florida manatee).
- Regional and local fundraising. Use of schools, non-profit organizations, “friends” groups, etc., to establish a fundraising effort.



Potential Strategies for Implementation

Provide Technical Assistance

- **working with other federal, state, local, and tribal agencies to focus their aquatic habitat efforts**
- **developing restoration manuals** (Southern Division AFS Reservoir Committee Habitat Manual for Use of Artificial Structures in Lakes and Reservoirs)
- **developing handbooks and websites focused on available grant opportunities, funding partners, etc.** (EPA Watershed Initiative)
- **landowner outreach for conservation**



Potential Strategies for Implementation

Innovative Approaches

- **Voluntary “Conservation buyer” program.**
Landowners sell their property for future conservation, similar to a “life lease” arrangement (Southwestern Alaska Conservation Coalition).
- **Corporations develop aquatic habitat restoration programs:**

Founded by the Gillette Corporation, the National Corporate Wetlands Restoration Project brings industry together with state, federal, and local agencies and organizations to preserve and restore coastal habitat.



Potential Strategies for Implementation

Innovative Approaches

- **Business Improvement Districts (BID).** Residents agree to a self-imposed tax, with the funds going to a non-profit organization that manages it for specific goals determined by the residents and businesses (L. Papi, pers. comm.).
- **Landowner Enterprise Fee Fishing Areas.** A landowner improves their property to enhance fishing and then opens it to the public for a fee.



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Partner Roles

Sport Fishing and Boating Partnership Council

Advises USFWS on conservation issues that benefit recreational fisheries and boating, and encourages partnerships

Assists USFWS in gathering stakeholder input and building consensus

Summarizes and forwards stakeholder input
(August, 2004)

Developed recommendation to pursue Plan and initial scoping process



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Partner Roles

International Association of Fish & Wildlife Agencies

Serves as lead in development of the plan

Provides resources to help develop plan in coordination with existing planning actions

Represents State interests

Multistate Conservation Grant opportunities

Communicates progress



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Partner Roles

American Fisheries Society

Provides scientific advice to help address priority concerns and assist Joint Ventures groups

Hosts science workshop (August, 2004)

Currently developing a North American Fisheries Action Plan



The National Fish Habitat Initiative

Partner Roles - US Fish and Wildlife Service

- Serves as lead Federal partner
- Coordinates collection and analysis of stakeholder input and current actions
- Works with local, regional, and national interests to ensure mutual benefit
- Promotes implementation, communication, outreach, and support among partners and key constituents
- Brings additional federal resources to the effort



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Next Steps...

Establish a working group

AFS workshop on measurement

Develop a framework for the plan

Develop a communication strategy

Identify habitat restoration needs

Identify additional interested stakeholders



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**For More Information,
Visit the official website:
www.fishhabitat.org**

