

The Value of Bottomland Forests

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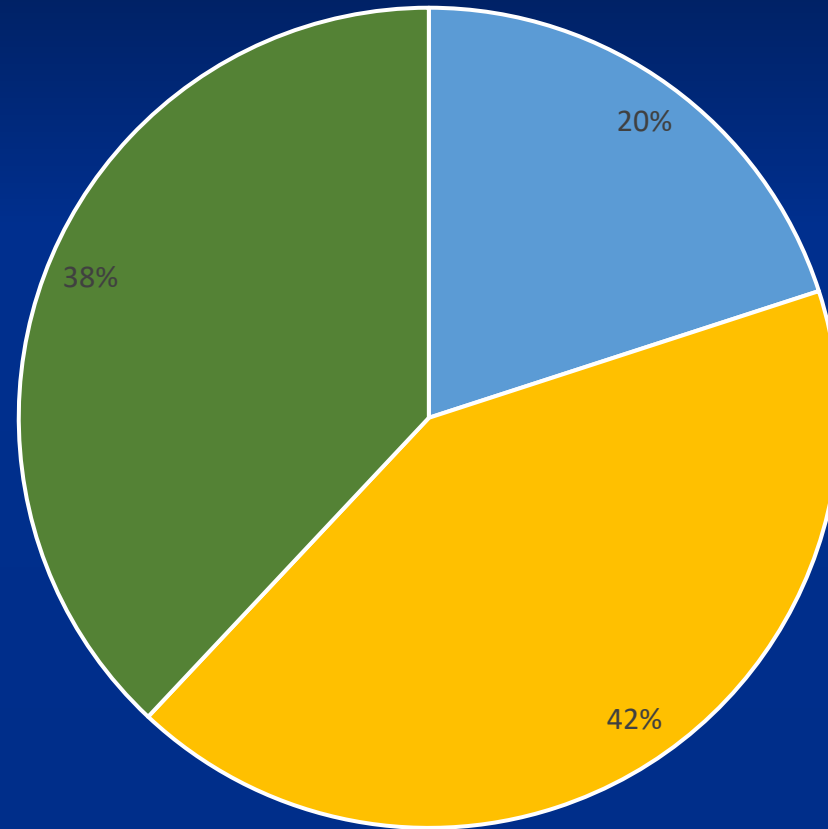
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NORTH CAROLINA



Ownership Objectives

Forestland – 766 Million Acres



■ Institutional - \$

■ Public - Multiple Use

■ Family Forests - Amenity-Related Objectives

Family Forest Landowners

- Top 10 Reasons for Ownership

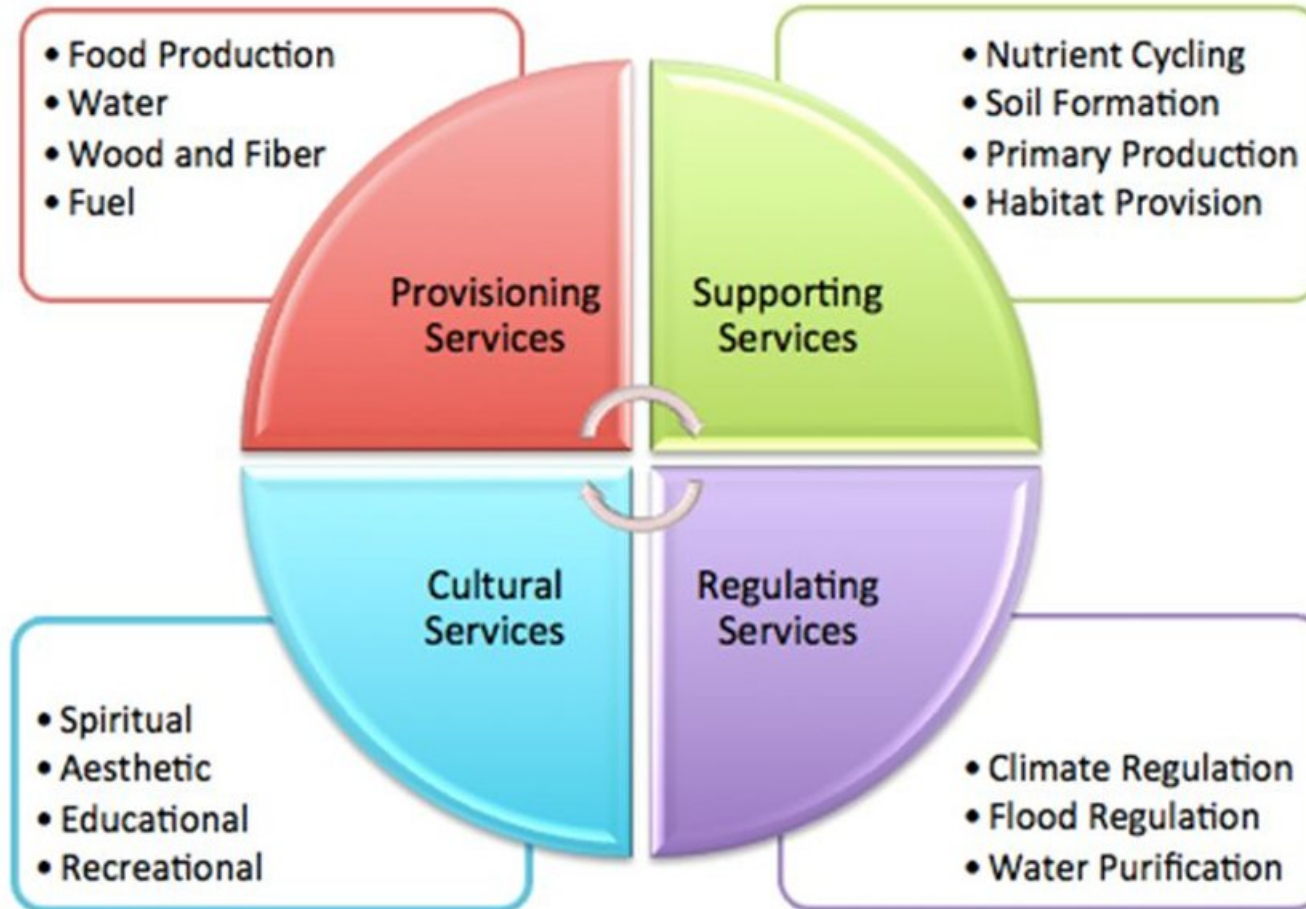
1. Beauty
2. Nature
3. Legacy
4. Privacy
5. Investment
6. Hunting
7. Recreation
8. Firewood
9. Timber
10. Non-timber Forest Products

Source: Butler et al. 2016



Ecosystem Services

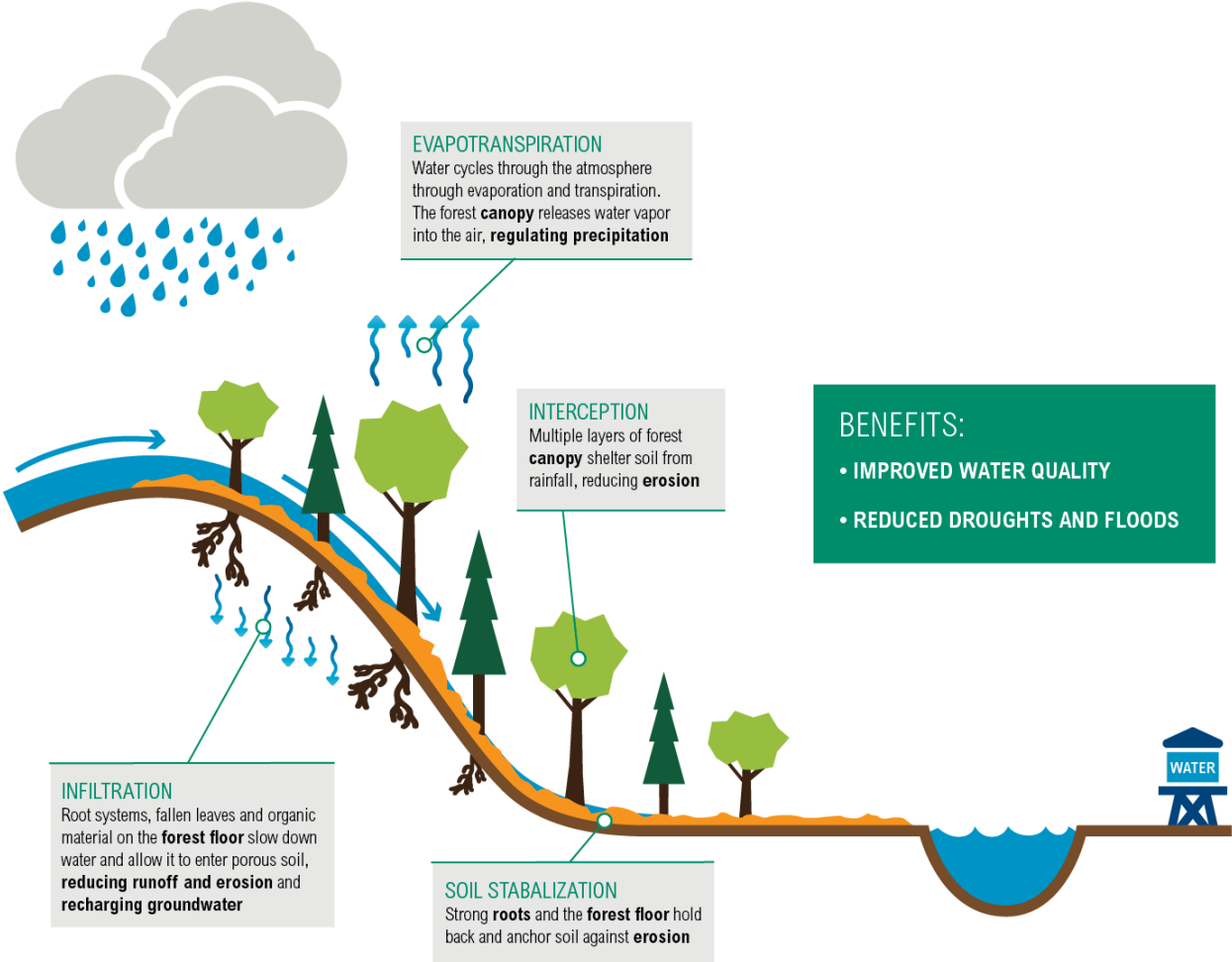
Forests provide ecosystem services



Source: Millenium Ecosystem Assessment, 2005.

Water Quality and Quantity

How Natural Infrastructure Improves Water Security



Forestry Best Management Practices

- Protect water quality during forest management actions
- Every state has BMPs
 - Voluntary, regulatory or quasi-regulatory
- >92% implementation rate
- Approx. 90% improvement in water quality vs non-bmp



PROTECTING THE NATION'S WATER

State Forestry Agencies and Best Management Practices



NATIONAL ASSOCIATION OF STATE FORESTERS

Carbon Storage and Sequestration

- Trees are the best carbon capture technology
 - Photosynthesis – removes CO₂, bind in a sugar, release oxygen
 - Wood = carbon
 - Long-lasting
 - Carbon release – decomposition, roots burn sugar to capture water/nutrients from soil
 - U.S. Forests Store 866 million tons of carbon annually
 - 16% of our annual emissions
- Younger forests = fast growing = higher sequestration rate
- Older forests = bigger trees = more carbon storage
- Afforestation is important



USFWS Focus Federal Trust Species

- The Southeast defines “Federal trust species” as species (migratory birds, threatened & endangered species, interjurisdictional fish, marine mammals, and other species of concern) entrusted to the U.S Fish and Wildlife Service through statute-based management directives and/or other regulatory means.



WETLAND FORESTS

>264 of 1095 trust species in southeast

52 Primary birds >200 periodic birds in forested wetlands

39 Plants

9 Insects

6 Reptiles

4 Crayfish

3 Mammals

2 Fish (and 105 other fish and mussel species listed or at-risk).

1 Salamander



Game and other Resident Species



Aesthetics vs. Habitat



Desired Forest Conditions

Priority Wildlife and Habitat Needs

Swainson's Warbler



• Cane

American Woodcock



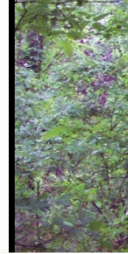
- **Complex, Multi-layer Forest**



● Small Cavities

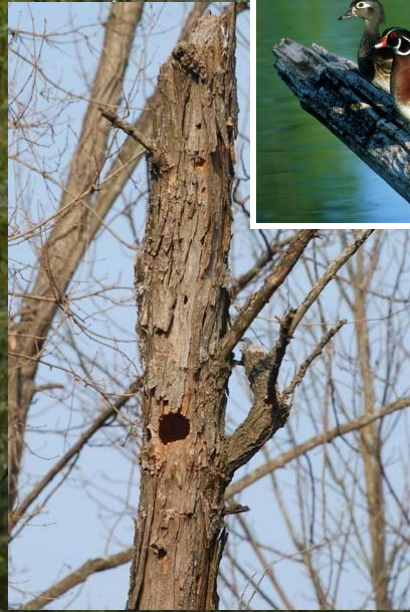
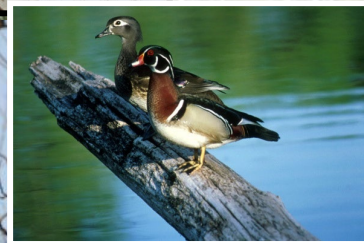


Spanish Moss



● Tall, Emergent Trees

2006



● Snags-large cavities



● Den trees



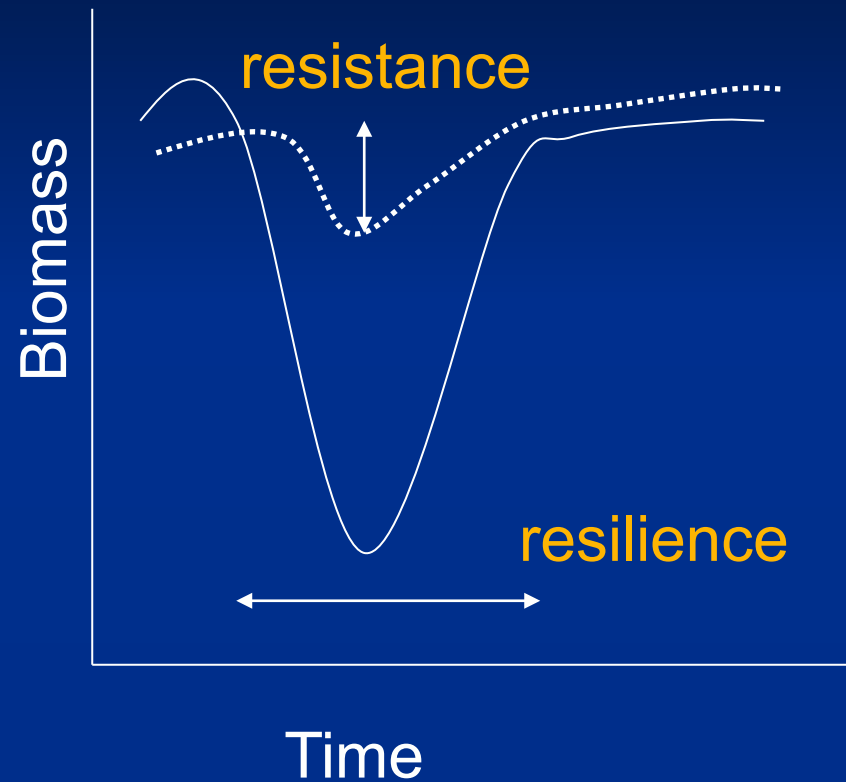
● Coarse down-woody Material



©2009 Will Cook

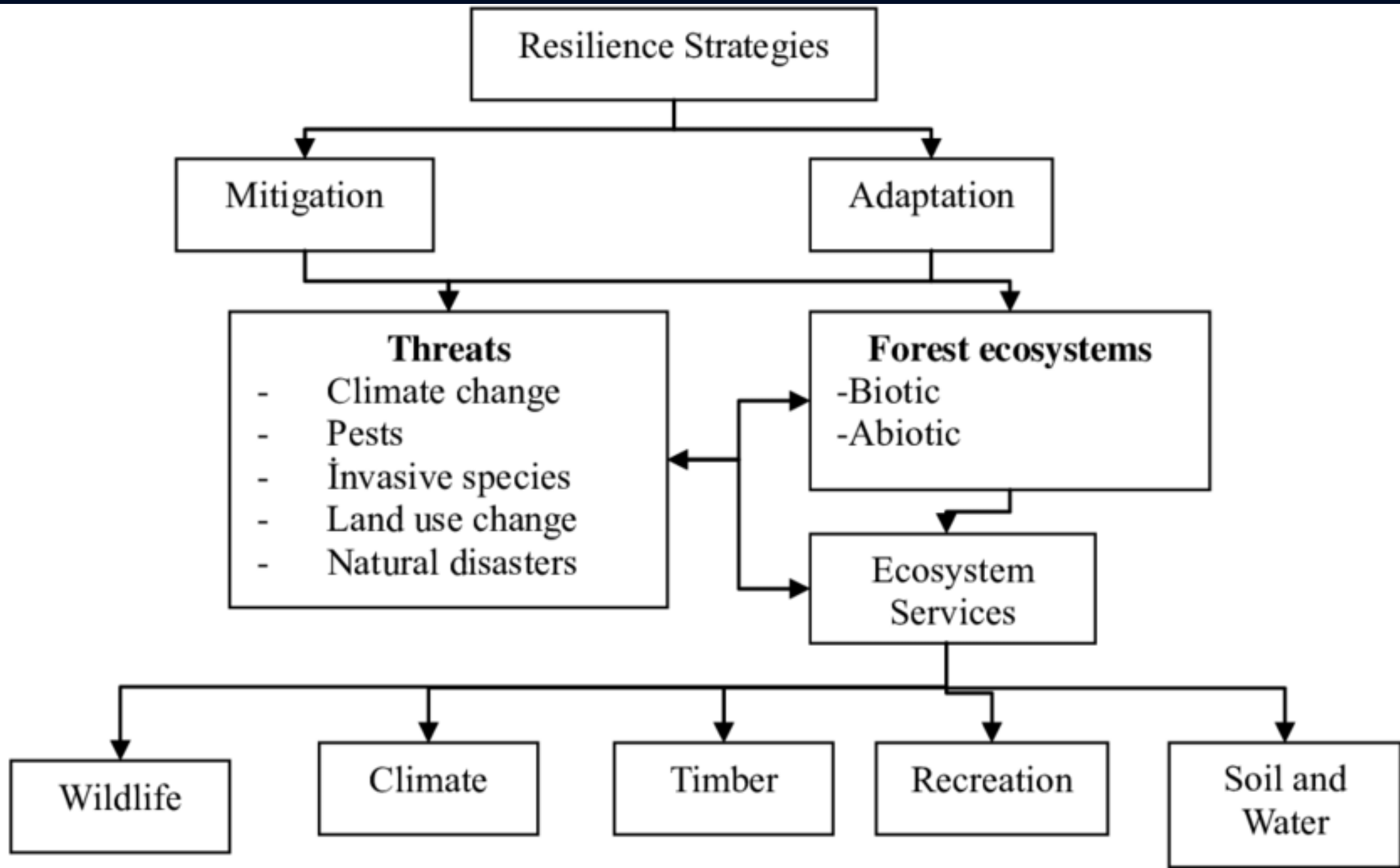
System Responses to Disturbance

- **Resistance:**
Net change in biomass following a disturbance
- **Resilience:**
Time to recovery of biomass following a disturbance.



Source: Dr. Brenda McComb

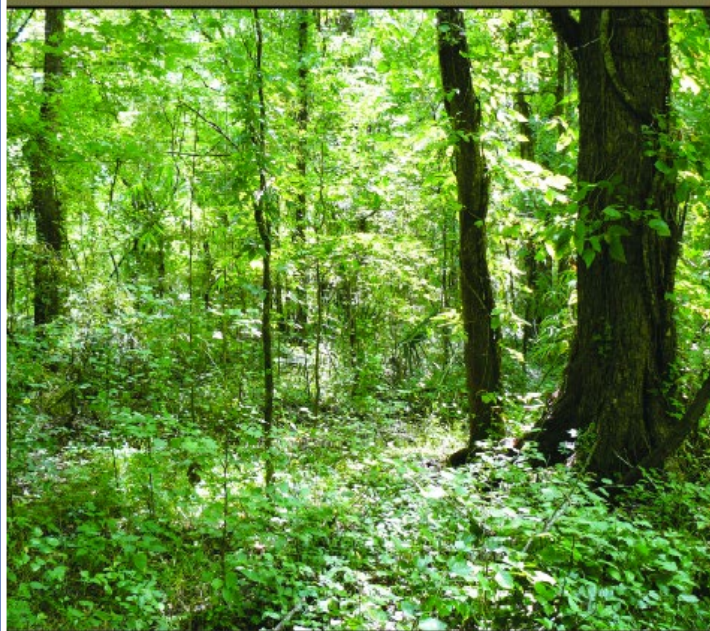
https://commons.wikimedia.org/wiki/File:Lodgepole_pine_Yellowstone_1998_near_firehole.jpg





Lower Mississippi Valley Joint Venture's Forest Resource Conservation Working Group

RESTORATION, MANAGEMENT AND MONITORING OF
FOREST RESOURCES IN THE MISSISSIPPI ALLUVIAL VALLEY:
RECOMMENDATIONS FOR ENHANCING WILDLIFE HABITAT



LOWER MISSISSIPPI ALLUVIAL VALLEY JOINT VENTURE
FOREST RESOURCE CONSERVATION WORKING GROUP

Context Includes Overviews of:

The Mississippi Alluvial Valley

Priority Wildlife Species and Habitat Objectives

Management of Bottomland Hardwood Forests

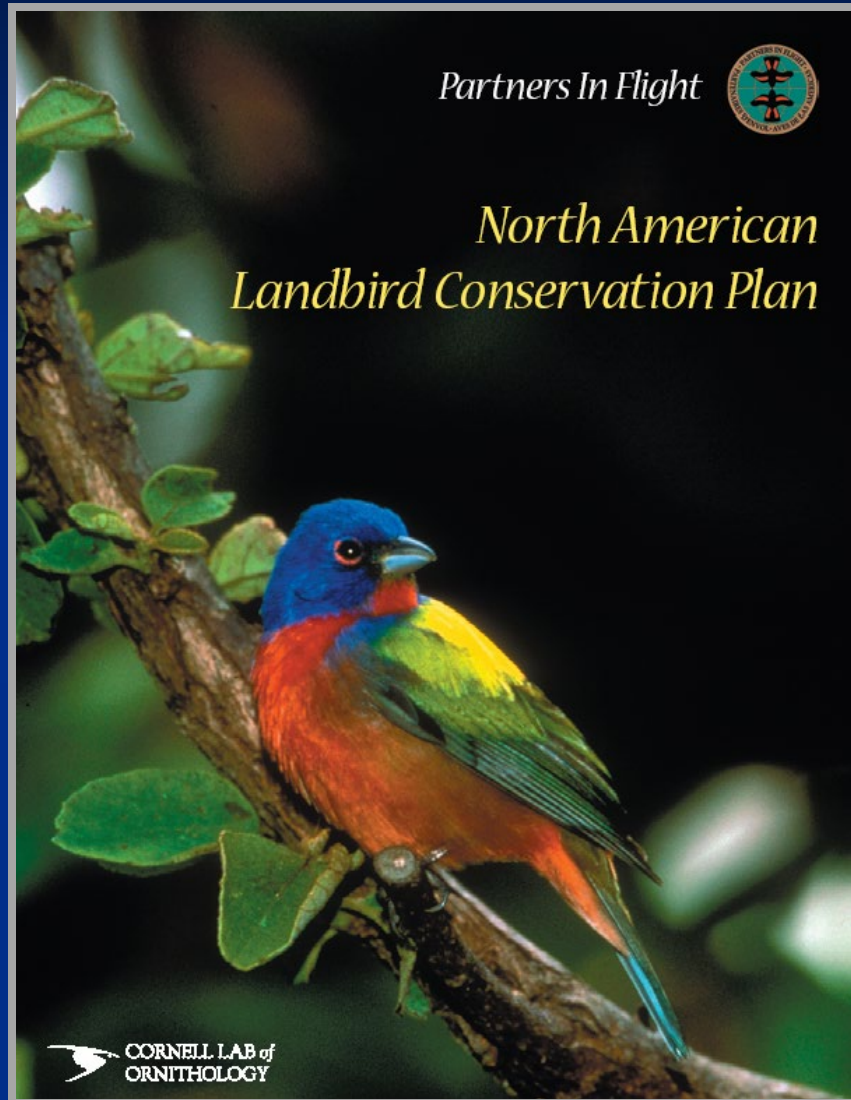
Restoration of Bottomland Hardwood Forests

Forest Evaluation and Monitoring

Recommendations and Conclusions

<https://www.lmvjv.org/desired-forest-conditions>

A Population-based, Multi-scale Conservation Framework



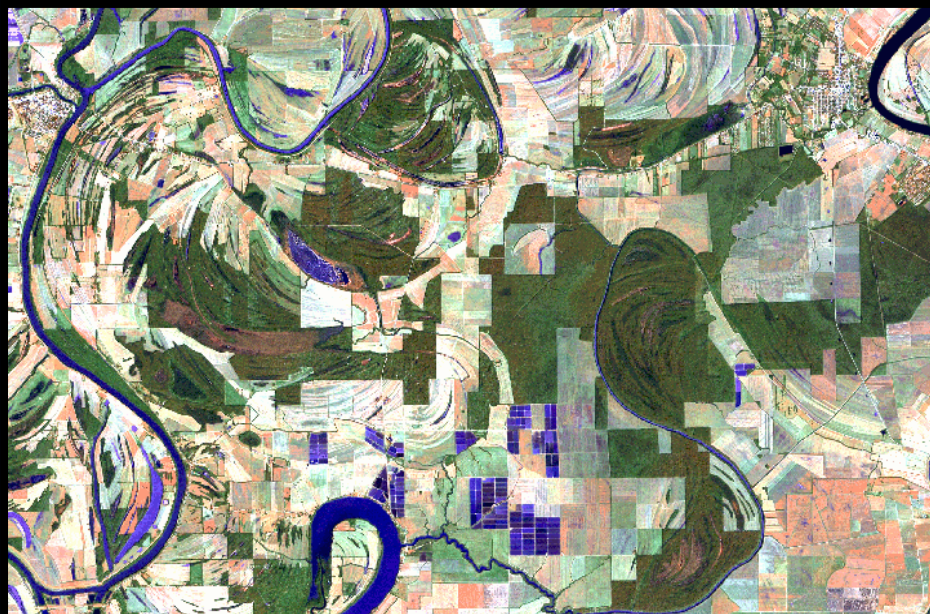
Target: Landscapes capable of sustaining populations range-wide at prescribed levels.

Approach: Application of biological models in establishing population-based goals and objectives expressed and linked across multiple spatial scales.

Population Sustainability is a Function of:

(landscape quality) + (site quality)

Landscape Quality



- Block size and Configuration
- Distance from Hostile Habitats

Site Quality

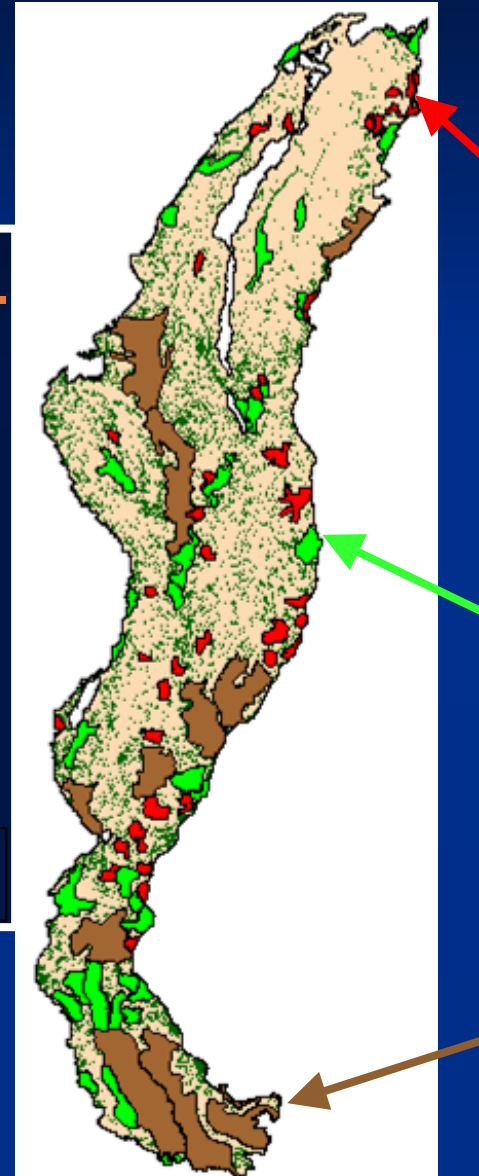


- Forest Composition & Structure
- Landscape Position & Wetness

Population-Based Goals and Objectives

MAV Forest Breeding Bird Source Population Objectives

State	10K	20K	100K
Arkansas	9	11	3
Illinois	0	1	0
Kentucky	2	1	0
Louisiana	19	15	7
Mississippi	14	6	2
Missouri	6	1	0
Tennessee	1	1	1
Totals	51	36	13



Swainson's Warbler

Requires dense understory



Cerulean Warbler

Requires large trees with complex canopy structure



Swallow-tailed Kite

Requires large exposed trees for nesting, open areas for feeding