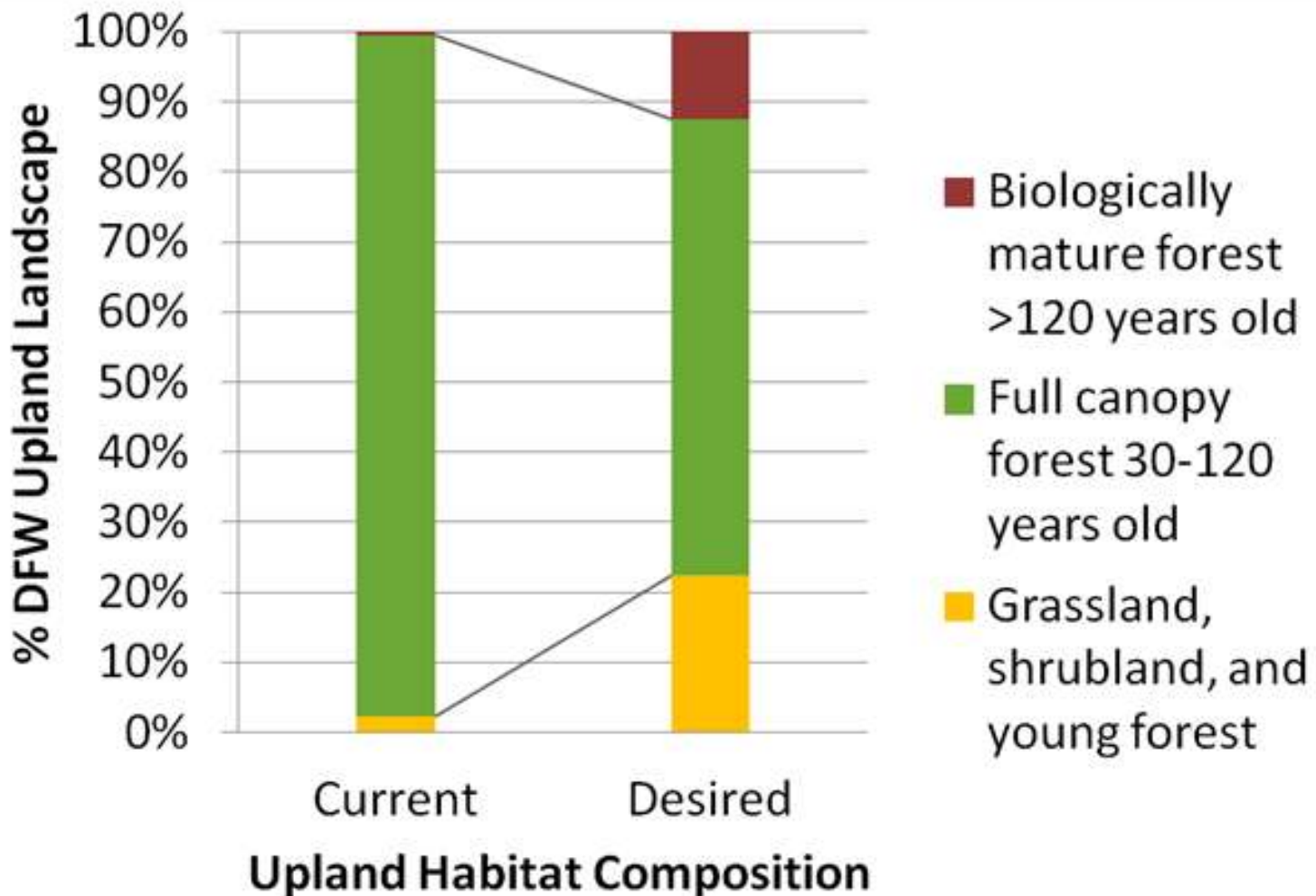




DFW Landscape Habitat Goals



Current vs. Desired Habitats on DFW Lands

Habitat Type	Current %	Desired Minimum %	Desired Maximum %	Management Interval
Grassland	0.25%	1%	2%	1-2 years
Shrubland	1%	6%	8%	3-8 years
Young Forest	4%	13%	15%	20-30 years
Total	5.25%	20%	25%	

Support for DFW Landscape Goals

- Partners in Flight
- American Woodcock Initiative
- Ruffed Grouse Conservation Plan
- New England Cottontail Conservation Plan
- MassAudubon 'State of the Birds'



2009 State of the Birds Report

Eastern Forest

"Many eastern forest birds are suffering consistent and troubling declines [because of]:

Development in forests

Lack of early-successional forest or natural disturbance"



ASSOCIATION of
FISH & WILDLIFE
AGENCIES



Audubon




Protecting nature. Preserving life.



Scientific Literature Review

- Development has disrupted natural disturbance processes.
- Declining wildlife species prefer large habitat patches.

 **The Auk**

VOLUME 125, NUMBER 1, JANUARY 2008
AN INTERNATIONAL JOURNAL OF ORNITHOLOGY



PUBLISHED BY THE AMERICAN ORNITHOLOGICAL UNION

Conservation Biology



**Ecology and Management of
Scrub-shrub Birds in New England:
A Comprehensive Review**

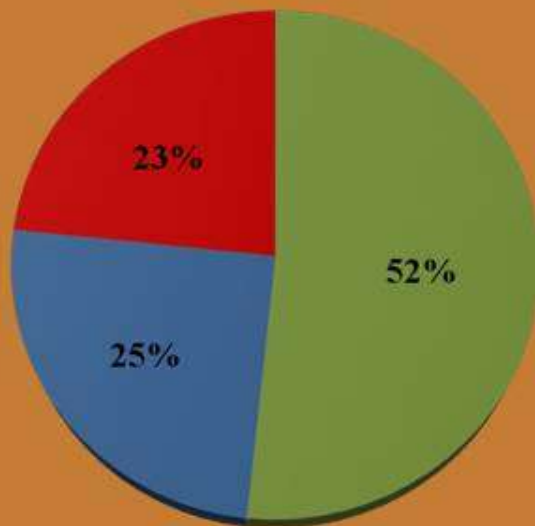


Submitted to the USDA Natural
Resources Conservation Service
Resource Inventory and
Assessment Division, August
30, 2007

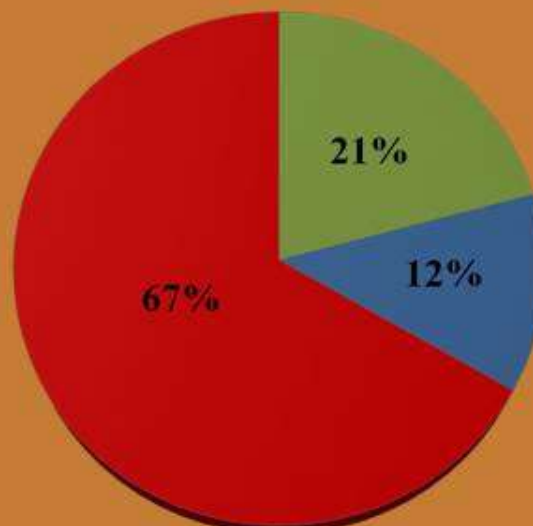


Bird Population Trends in the Northeast 1966 - 2010

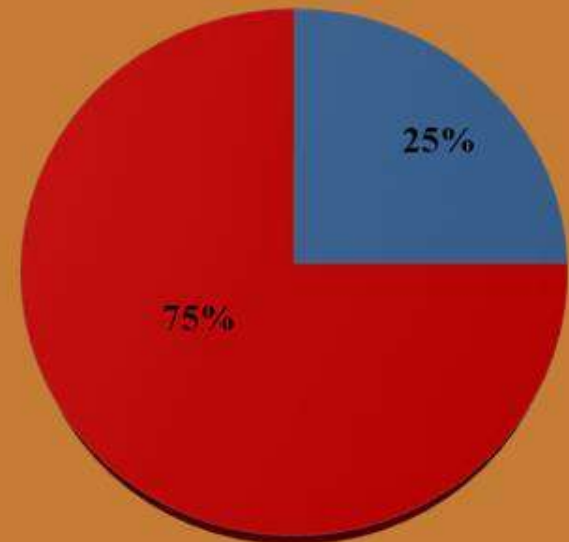
WOODLAND
(60 Species)



SHRUBLAND
(24 Species)



GRASSLAND
(8 Species)

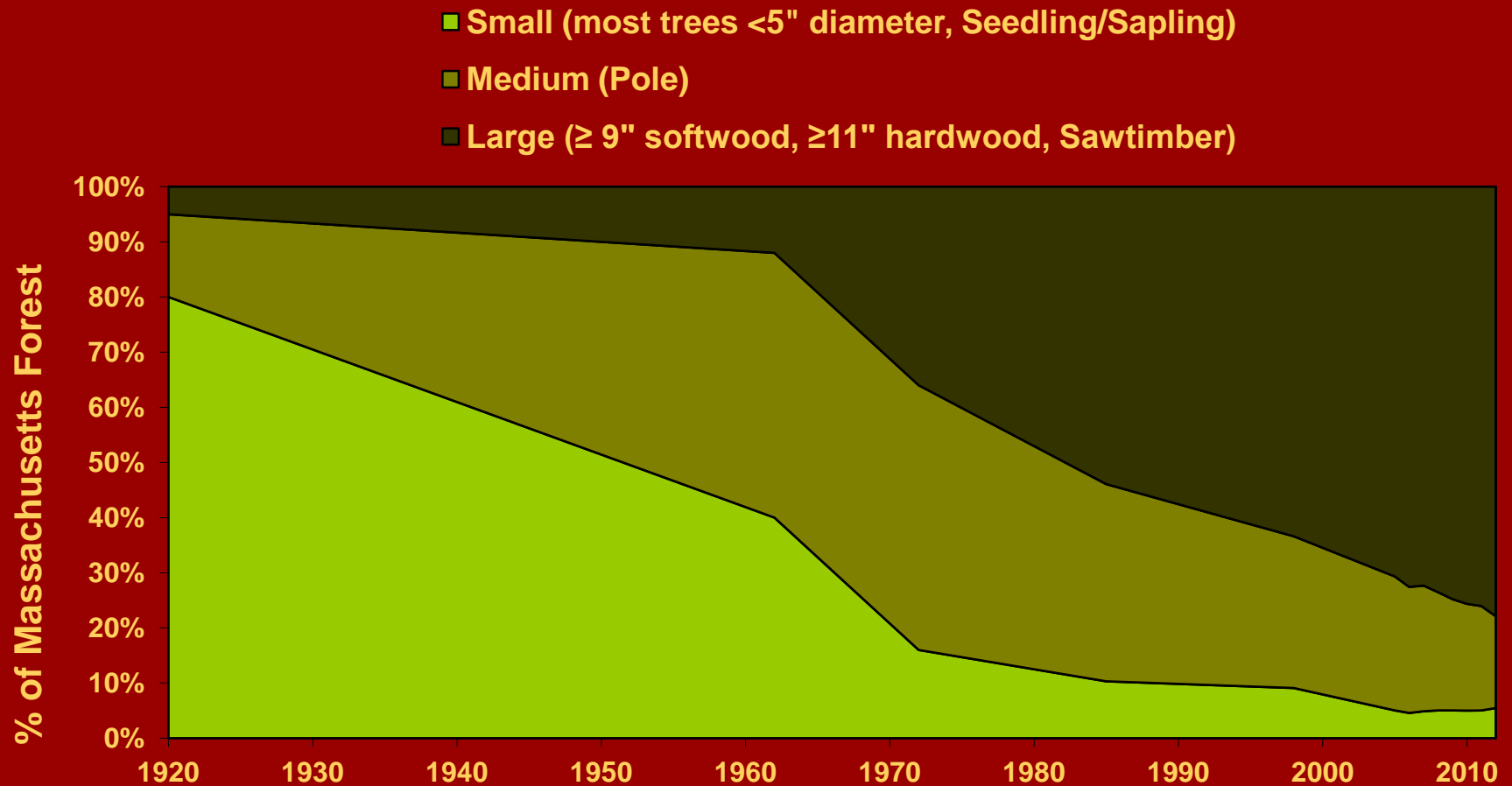


■ % Increasing ■ % Stable ■ % Decreasing

Data extracted from The North American Breeding Bird Survey (BBS) using population trends from 1966 - 2010 for the New England/Mid-Atlantic Region. Habitat designations assigned by BBS.

Massachusetts Forest History

Tree Size Class Distribution



(Forest stand size class data from USDA Forest Service Forest Inventory and Analysis)

Habitat Patch Size

- Patch Size Matters
 - Grassland/Shrubland Nesting Birds
 - Mature Forest Nesting Birds that move to ES Habitats during post-fledging period



Habitat Patch Size for Grassland, Shrubland, & Young Forest Birds

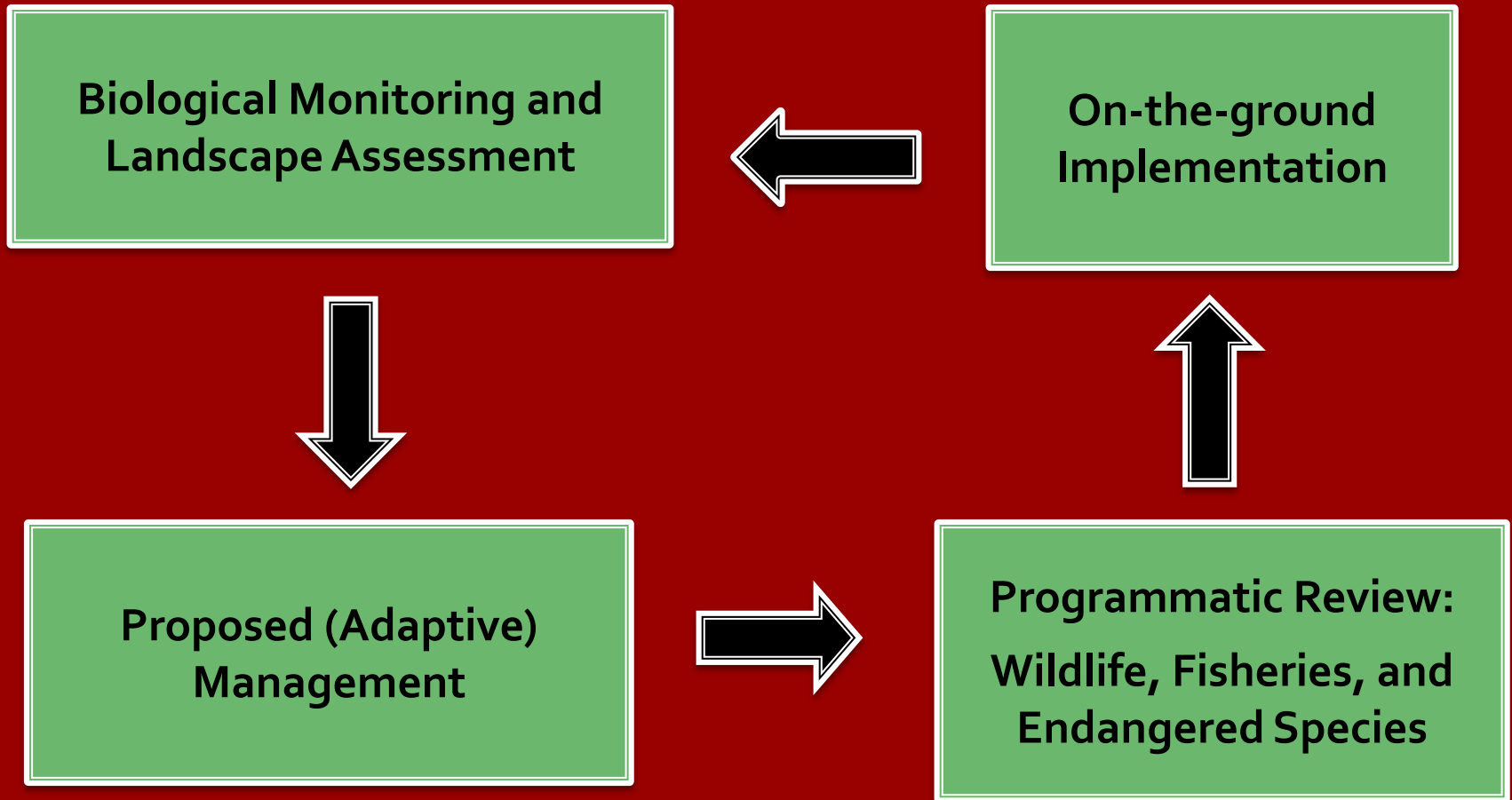


2 – 5 acres



>100 acres

Integrated Decision-making



Natural Disturbances: 1600s Pre-Settlement

Wind

0.1 – 1.0 acres



Beaver floods
10 – 100+ acres



Hurricanes

100 – 1,000+ acres



Fire ?



Floods / Ice Scour 10 – 100+ acres

1830s Height of Agricultural Period

Major Landscape Change (60-80% cleared)

Consequences: Decline and Loss of Species

Beaver

Fisher

Mountain Lion

Deer

Wild Turkey

Passenger Pigeon

Moose

Wolf

Black Bear



1850 – 1950s: Forest Succession

Young Forest, Shrublands, Abandoned fields

Major Landscape Change: Farms abandoned
Consequences: Increases in Wildlife



Ruffed Grouse
American Woodcock
Eastern Meadowlark
Brown Thrasher
Prairie Warbler
NE Cottontail



1950s – Present: Forest Matures / Development



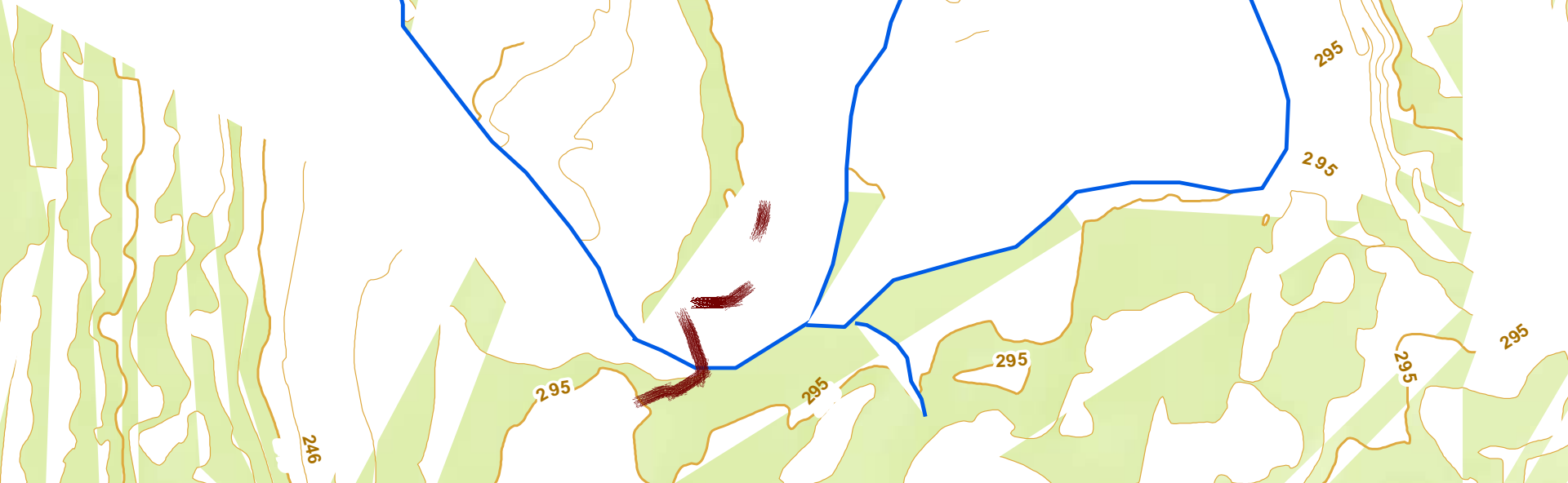
Beaver Floodlands Provide Expansive Open Habitat



Beaver Floodlands, Tan Brook, Amherst, MA



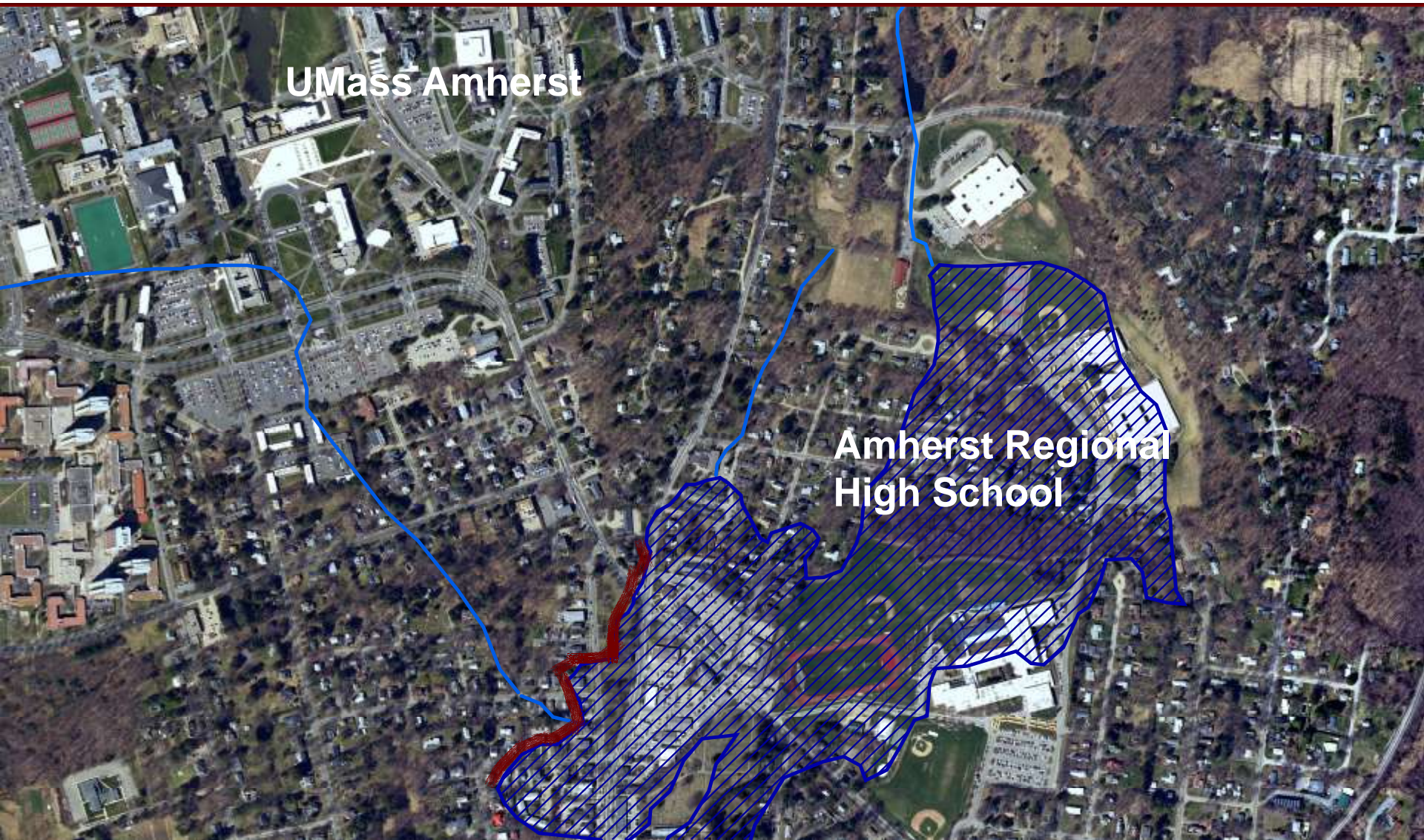
Beaver Dams are established on low-gradient, intermittent brook



Beaver Floodlands, Tan Brook, Amherst, MA



Beaver Floodlands, Tan Brook, Amherst, MA



Altered Natural Disturbances

Beaver:
Development

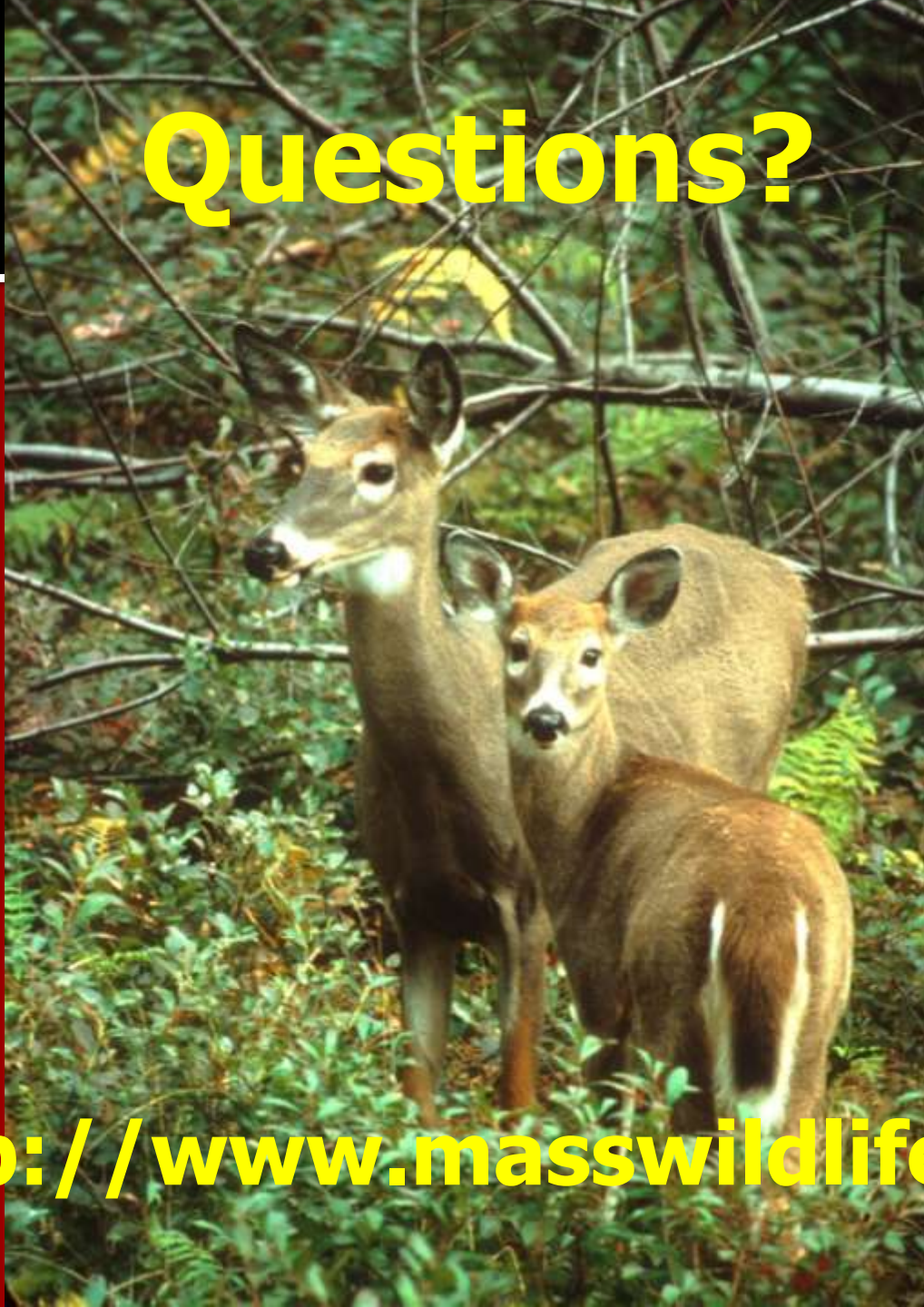
Water:
Flood Control
(>3,000 dams built
in Massachusetts)

Wind:
Development

Fire:
Suppression

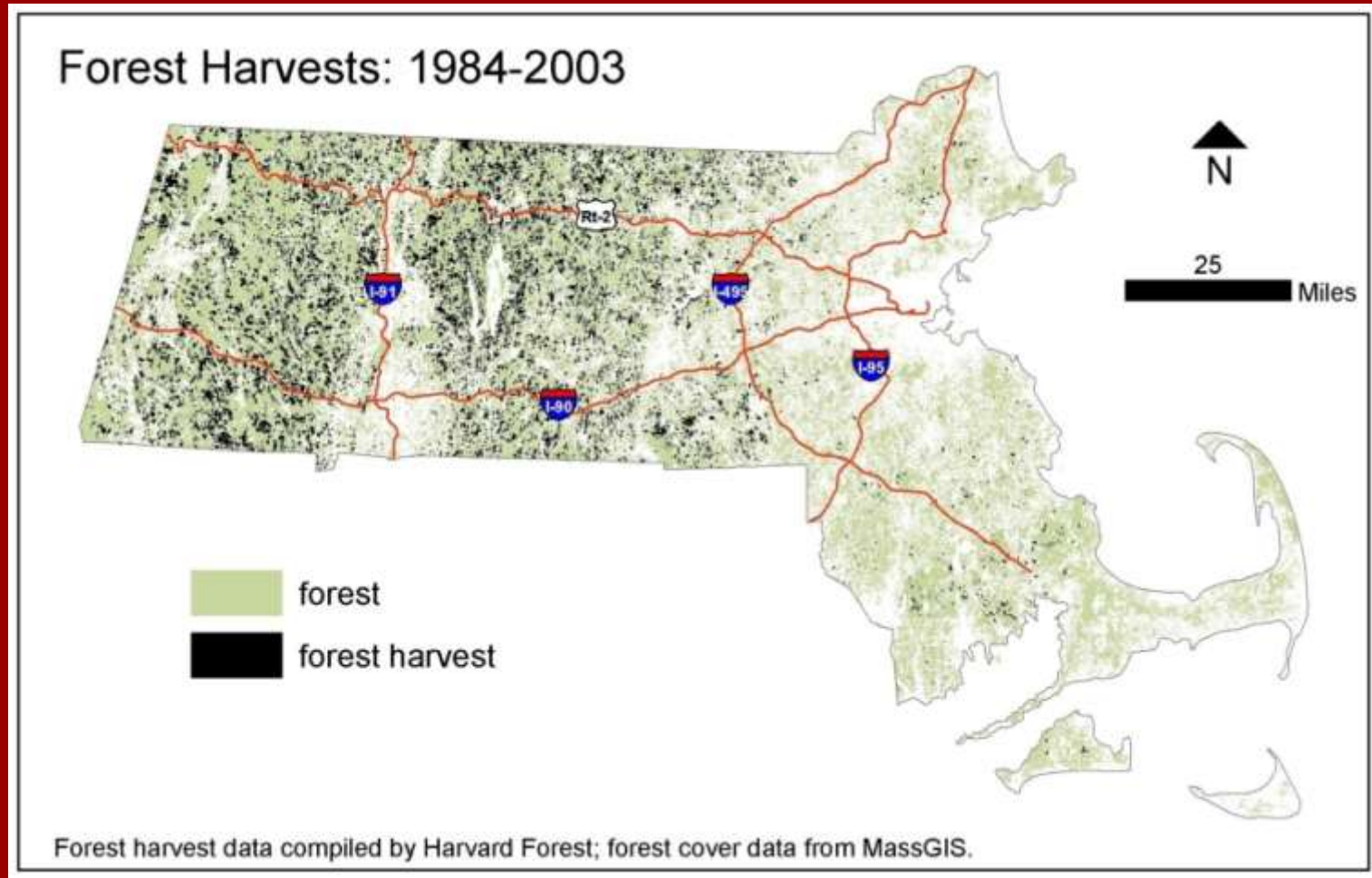


Questions?



<http://www.masswildlife.org>

Selective Cutting – Lack of open habitat



Massachusetts Bay Colony reported shipments of >6 tons of beaver pelts to Britain in the 1620's (Foster, et al. 2002).

William Pynchon was granted a monopoly on the fur trade in the CT River Valley by the King of England in mid 1600's and by mid 1670's had shipped nearly 250,000 beaver pelts to London (Outwater, 1996).

Beaver largely extirpated from Massachusetts by early 1700's (Foster, et al. 2002). Began returning in early 1900's (natural immigration & human release).

Over a 25-year period from 1970-1995 <30,000 beaver pelts tagged by all licensed trappers throughout all of Massachusetts (MassWildlife, unpublished data).



Foster, D.R., G.Motzkin, D.Bernardos, and J. Cardoza. 2002. Wildlife dynamics in the changing New England Landscape. *Journal of Biogeography* 29:1337-1357.
Outwater, Alice. 1996. *Water: A Natural History*. Basic Books, pg. 12.