RESTORING THE PIEDMONT PRAIRE

SITE FIRE MANAGEMENT PLANNING

&

PRESCRIBED FIRE

SER Conference

College Park MD

3.29.13

James R. Remuzzi

President and Founder

Sustainable Solutions, LLC

- Natural Resource Planning
- Inventory and Monitoring
- Forest Restoration
- GPS and GIS
- Training and Education
- Prescribed Fire
- Warm Season Grasses
- Invasive Plant Control
- Forestry Mowing
- Conservation Contracting™

www.sustainablesolutionsllc.net

Agenda

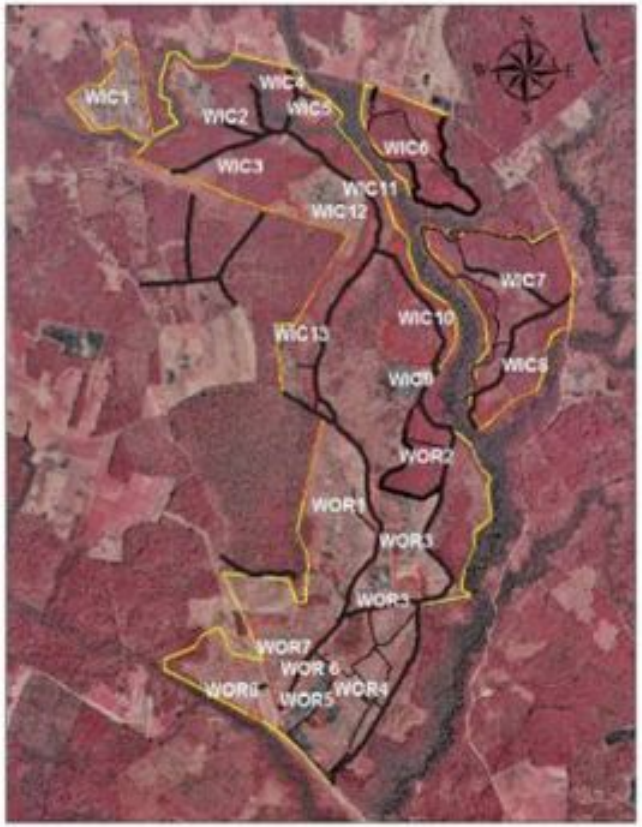
- Introduction
- The Piedmont Prairie
- THE WHAT: Site Fire Management
- THE HOW: Prescribed Fire
- Anatomy of a Rx Fire
- Preparing the Prescription
- Limitations
- Q&A

04/08/2007 03:12 PM

05/31/2007 01:08 PM

Johnson Tract

Site Fire Management Plan



The Nature Conservancy

Protecting nature. Preserving life.™

MD/DE Chapter

Prepared by:

Sustainable Solutions

A NATURAL RESOURCE CONSULTING COMPANY

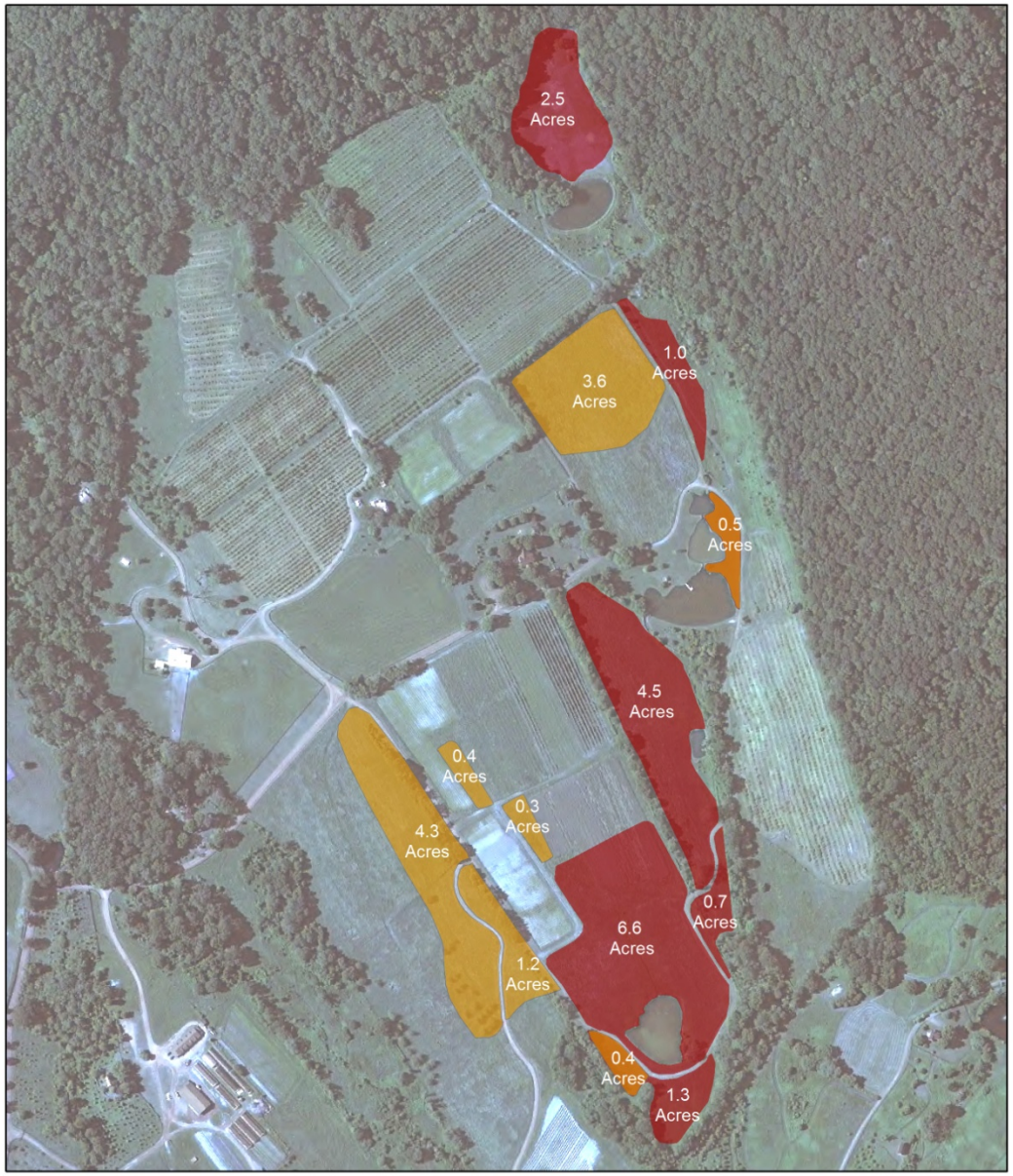
2008

04/28/2009

More Prescribed F
Means Less Wildfire
11/09/2009 02:36 PM
T
X 36-023

04/27/2009

01/27/2007



PRESCRIBED FIRE - MARCH 18TH, 2011
& MARCH 19TH, 2010

SUNNYSIDE FARM

RAPPAHANNOCK COUNTY, VIRGINIA

2011 BURNED AREAS (10.7 ACRES)

2010 BURNED AREAS (17.1 ACRES)

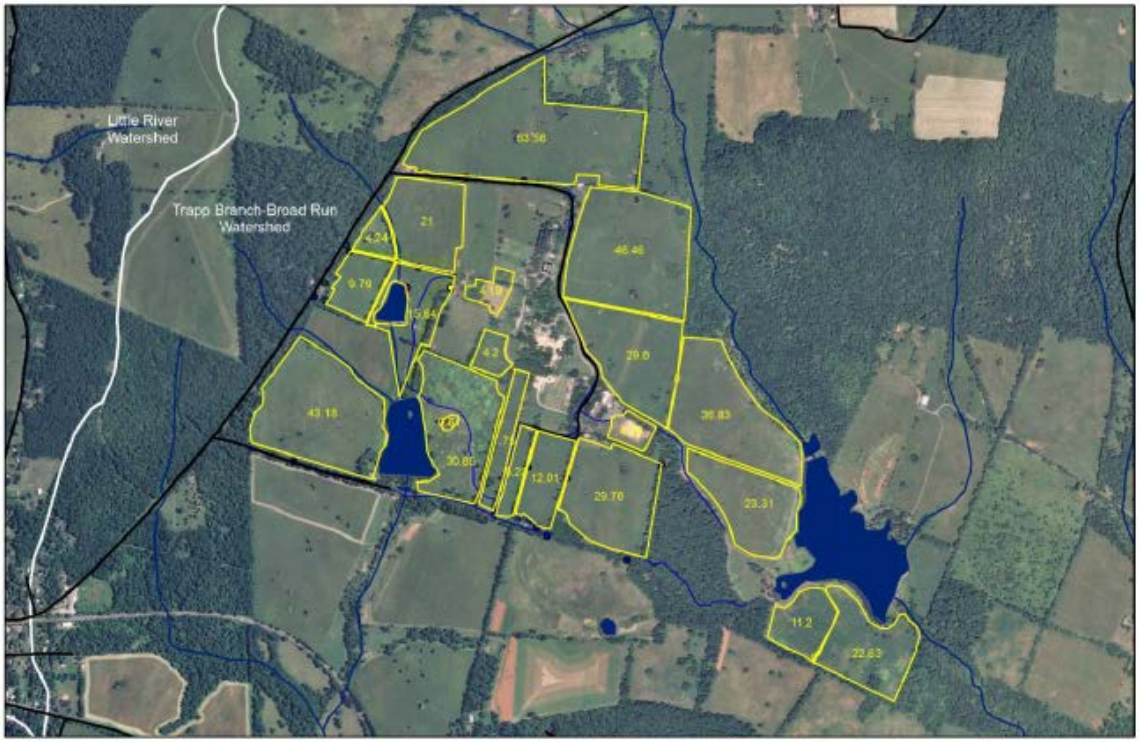
0 50 100 Meters

N

SustainableSolutions

01/27/2007

Kinloch Estate
Site Fire Management Plan



Prepared by:

SUSTAINABLE SOLUTIONS LLC
A NATURAL RESOURCE MANAGEMENT COMPANY

2013

KINLOCH FARM INC.
SITE FIRE MANAGEMENT PLAN

MANAGEMENT UNITS

OVERVIEW - KINLOCH & ROLAND FARMS

FARQUIER COUNTY, VIRGINIA

- KINLOCH BURN UNIT BOUNDARY
- ROLAND BURN UNIT BOUNDARY
- STREAMS
- ROADS
- 12-DIGIT WATERSHED BOUNDARY

IMAGERY SOURCE: USGS 2012 NAIP

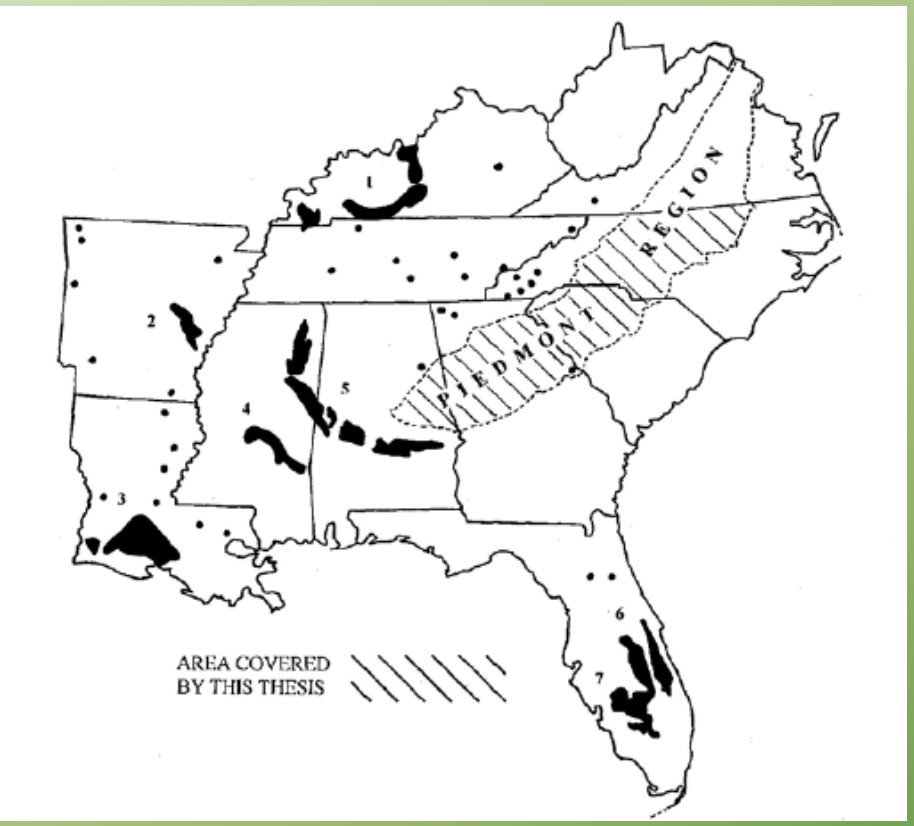
VERSION 1.01

N W E S

0 1,250 2,500 Feet

SUSTAINABLE SOLUTIONS

The Piedmont Prairie



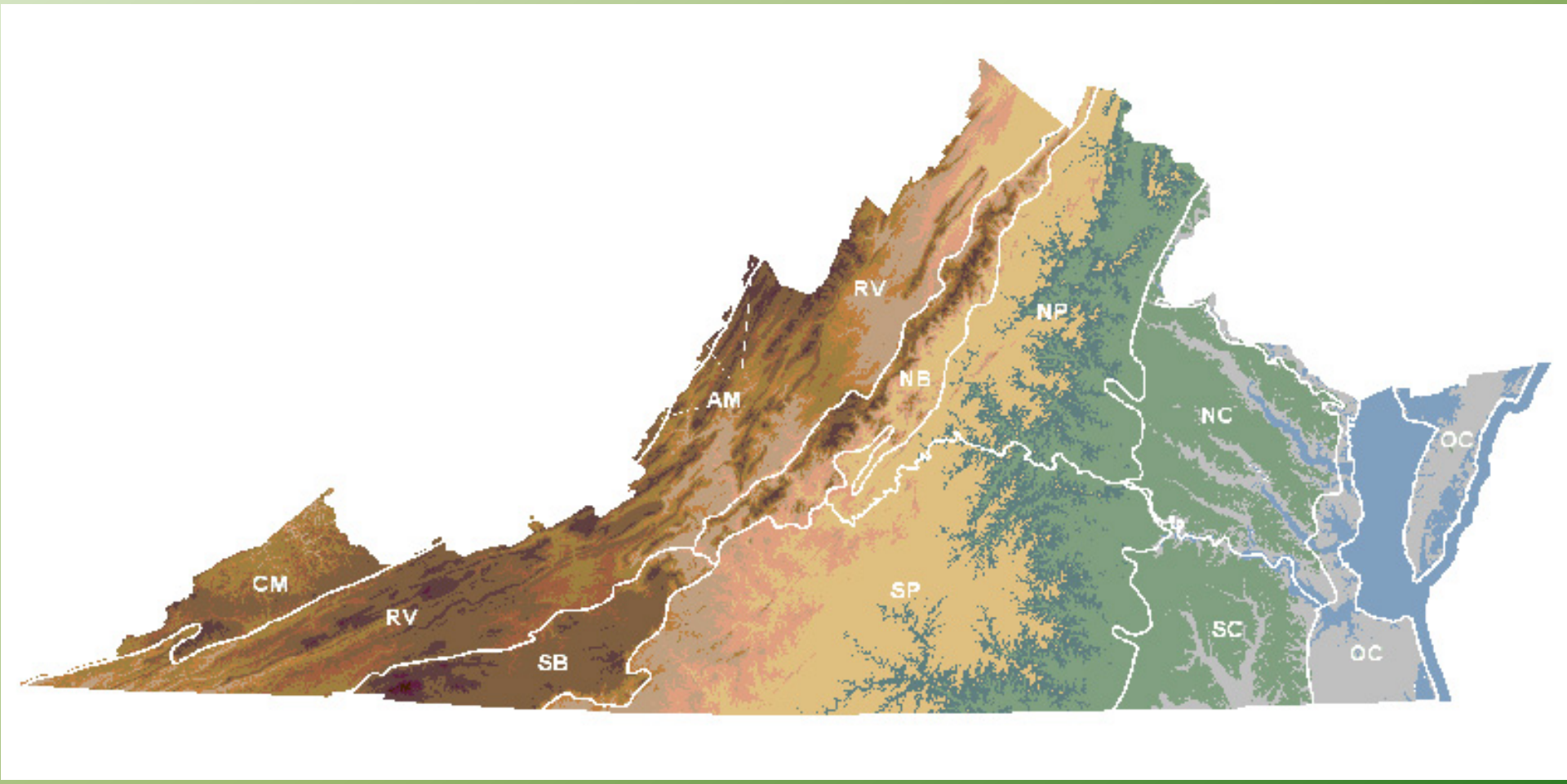
THE PRESETTLEMENT PIEDMONT SAVANNA:
A MODEL FOR LANDSCAPE DESIGN
AND MANAGMENT

by

PHILIP MATTHEW JURAS
B.F.A., The University of Georgia, 1990

A Thesis Submitted to the Graduate Faculty
of The University of Georgia in Partial Fulfillment
of the
Requirements for the Degree
MASTER OF LANDSCAPE ARCHITECTURE

http://www.philipjuras.com/publications/thesis/chapter5.htm\


CM
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OC

THE NATURAL COMMUNITIES OF VIRGINIA
CLASSIFICATION OF ECOLOGICAL COMMUNITY GROUPS

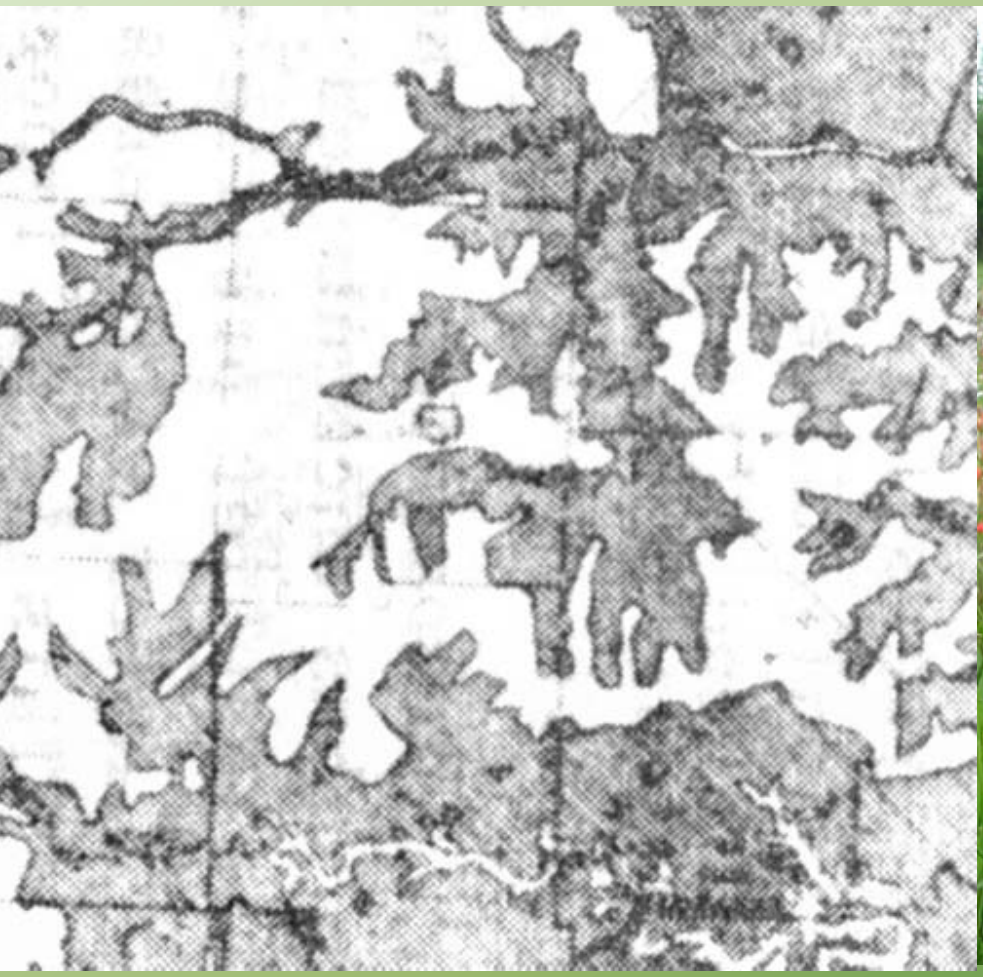
Second Approximation (Version 2.5)
Information current as of February, 2012

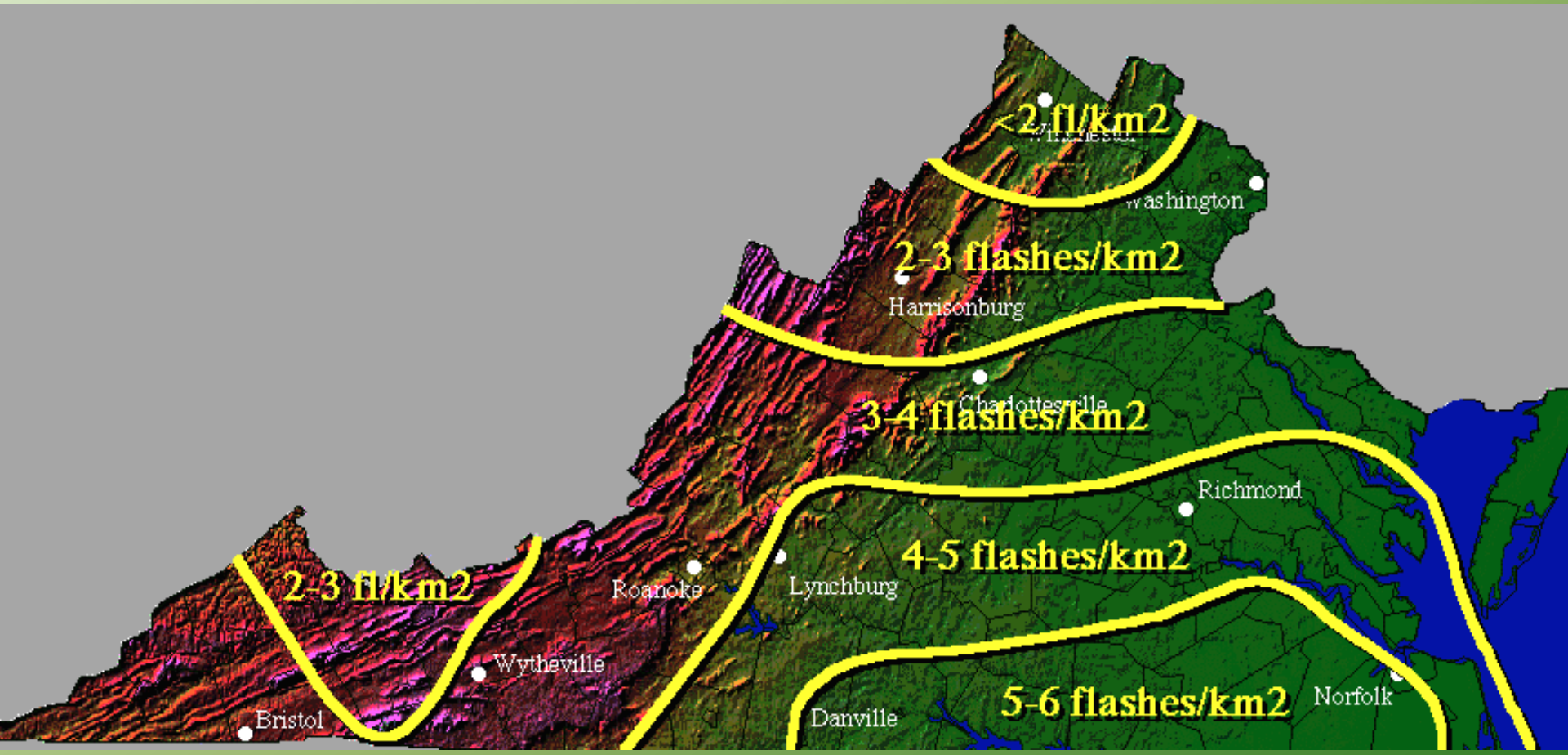
Piedmont Prairies

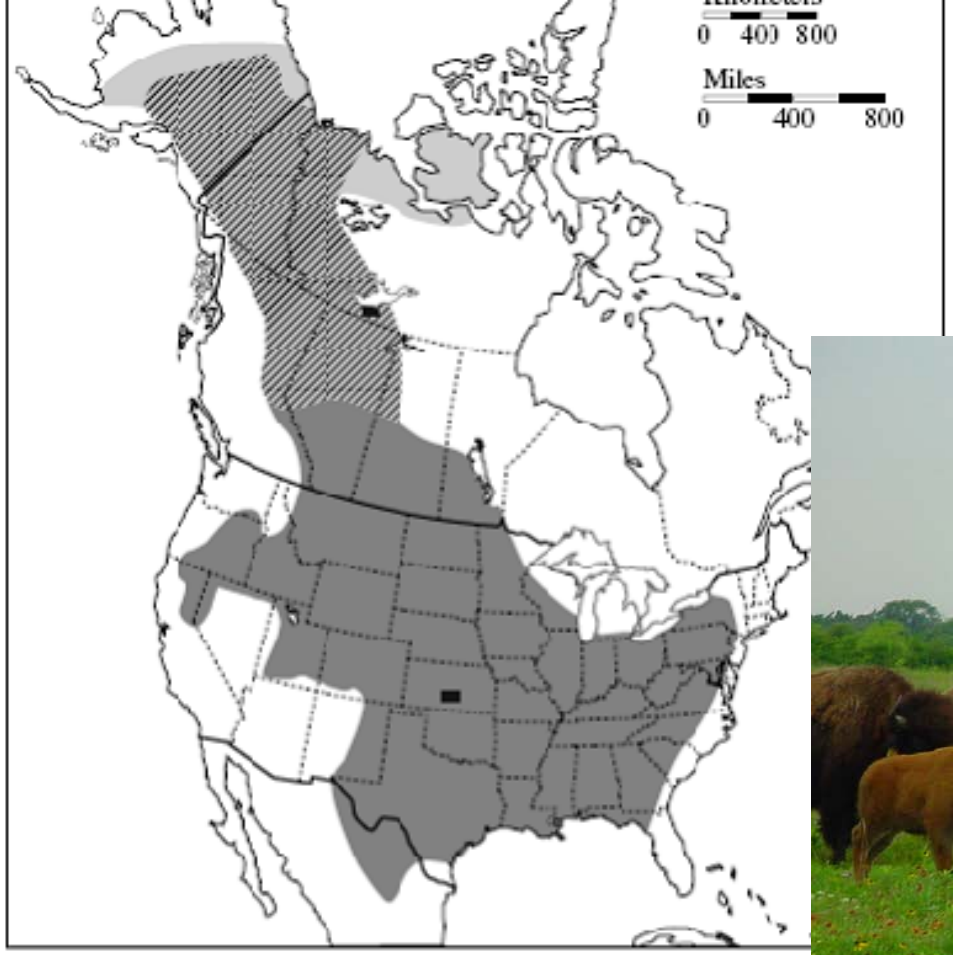
The only extant, prairie-like communities in the Virginia Piedmont are semi-natural and influenced by artificial disturbance regimes. Examples occurring in military base training areas ("impact areas") at Fort Pickett and Quantico Marine Base have been subject to frequent incendiary fires for at least 50 years; these comprise our only examples of grassland vegetation that has been shaped by random burns of a size, frequency, and intensity comparable to those of putative pre-settlement fire regimes. Similar grasslands have developed in Manassas National Battlefield Park and scattered powerline rights-of-way as the result of long-term periodic mowing. The vegetation of most sites is dominated by little bluestem (***Schizachyrium scoparium***) and indian grass (***Sorghastrum nutans***). Frequent associates include large purple false-foxglove (***Agalinis purpurea***), purple three-awn grass (**Aristida purpurascens**), bushy aster (***Symphyotrichum dumosum*var. *dumosum***, = *Aster dumosus* var. *dumosus*), tick-trefoils (***Desmodium*** spp.), bushclovers (***Lespedeza*** spp.), scaly blazing-star (***Liatris squarrosa* var. *squarrosa***), narrow-leaved mountain-mint (***Pycnanthemum tenuifolium***), orange coneflower (***Rudbeckia fulgida***), few-flowered nutrush (*Scleria pauciflora*), and goldenrods (***Solidago nemoralis*var. *nemoralis*** and ***Solidago juncea***). A number of state-rare, light-demanding species, *e.g.*, stiff goldenrod (***Oligoneuron rigidum* var. *rigidum***, = *Solidago rigida* ssp. *rigida*), Torrey's mountain-mint (***Pycnanthemum torrei***), earleaf foxglove (***Agalinis auriculata***), and blue-hearts (***Buchnera americana***), are associated with these communities, particularly on mafic soils.

Reference: Fleming (2002a), Fleming *et al.* (2001).

© Ira Runyan




< 2 fl/km2
Washington
2-3 flashes/km2
Harrisonburg
Charlottesville
3-4 flashes/km2
Richmond
4-5 flashes/km2
2-3 fl/km2
Roanoke
Lynchburg
Wytheville
Bristol
Danville
5-6 flashes/km2
Norfolk



Original range of Holocene bison based on paleontological evidence and historical accounts

Original distribution of wood bison based on zooarchaeological and paleontological evidence and existing oral and written accounts

Original distribution of plains bison based on historical accounts and fossil evidence of horn core occurrence

Type specimen locality

WHEN EASTERN ELK VANISHED FROM THEIR RANGE
Remnant populations may still exist
?
1830s
1896
1800
1700?
1875
1847
1877
1885
1858
No record of elk
1840
1805
1850s
1840
Prehistoric evidence of elk
1875
1855
1800
1898
1850
1780s
1865
1830s
1737
No record of elk
1770s
Eastern Elk Range
1842
Prehistoric evidence of elk, 2,500 years ago

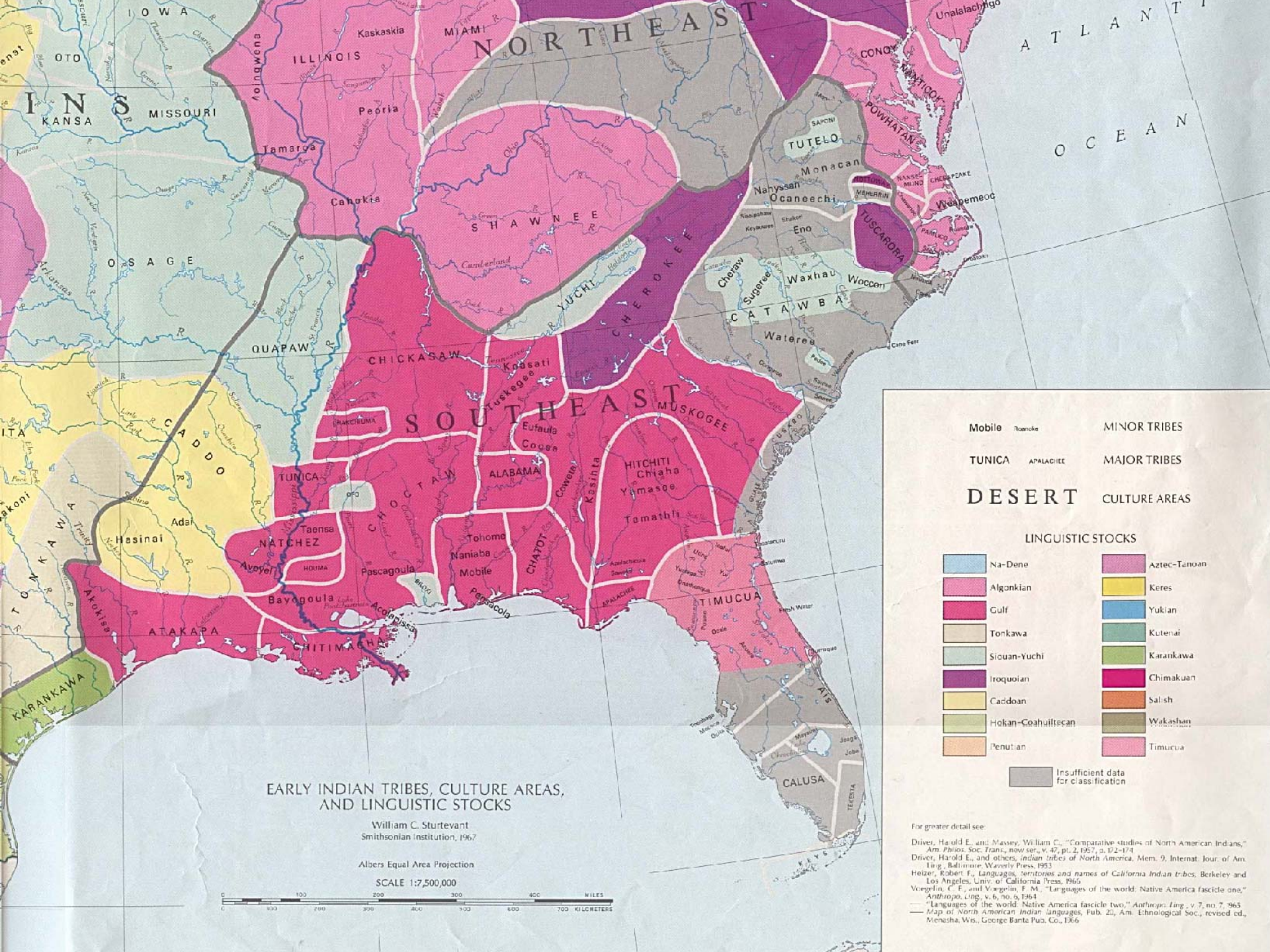
George Caitlin

Charles Russell

Fire Management today

Volume 60 • No. 3 • Summer 2000

Wildland Fire—An American Legacy



For greater detail see:

Driver, Harold E., and Massey, William C., "Comparative studies of North American Indians," *Am. Philos. Soc. Trans.*, new ser., v. 47, pt. 2, 1957, p. 172–174.

Driver, Harold E., and others, *Indian tribes of North America*, Mem. 9, Internat. Jour. of Am. Ling., Baltimore, Waverly Press, 1953.

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——— "Languages of the world: Native America fascicle two," *Anthropo. Ling.*, v. 7, no. 7, 1965.

——— *Map of North American Indian languages*, Pub. 20, Am. Ethnological Soc., revised ed., Menasha, Wis., George Banta Pub. Co., 1966.

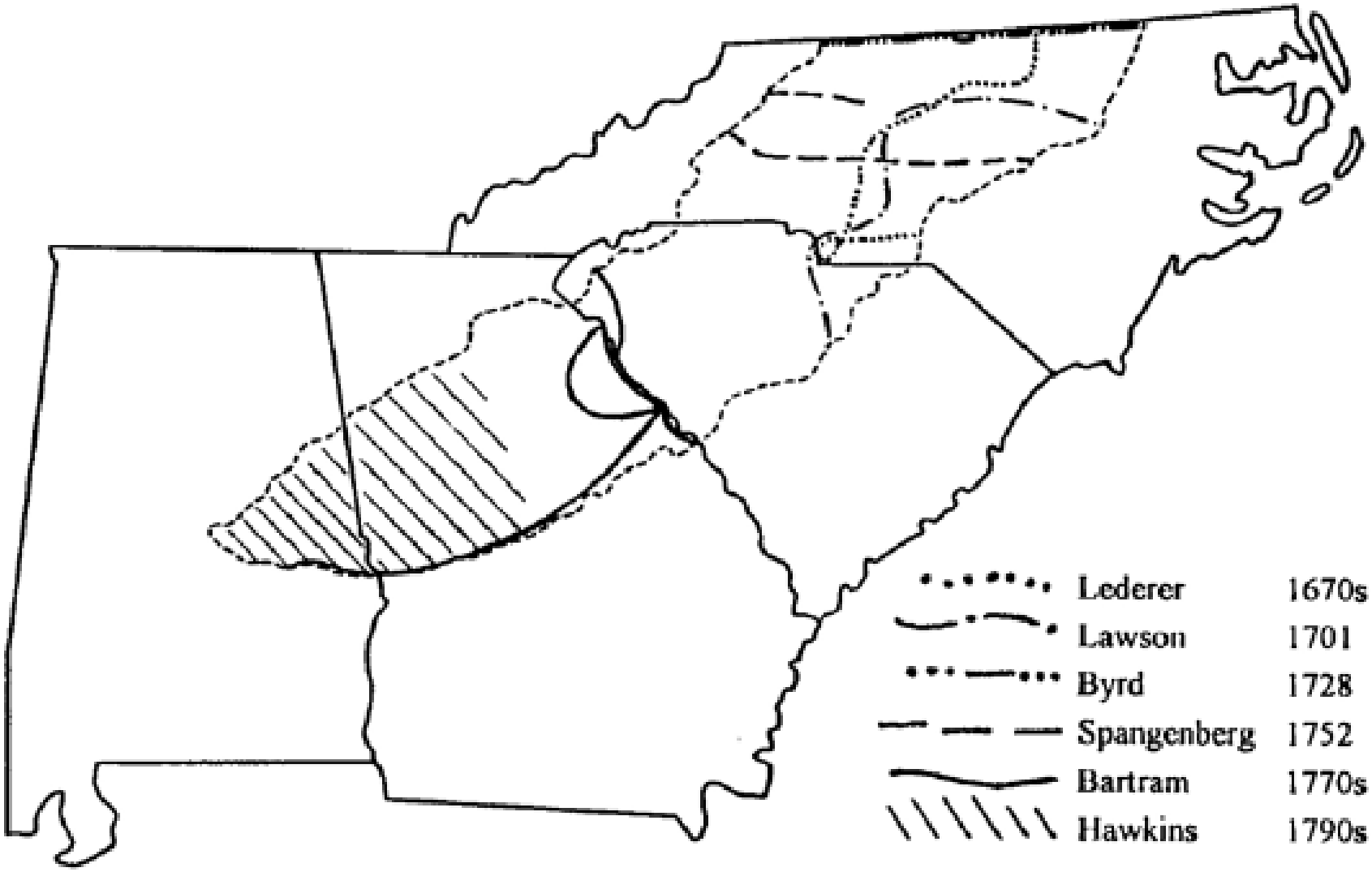
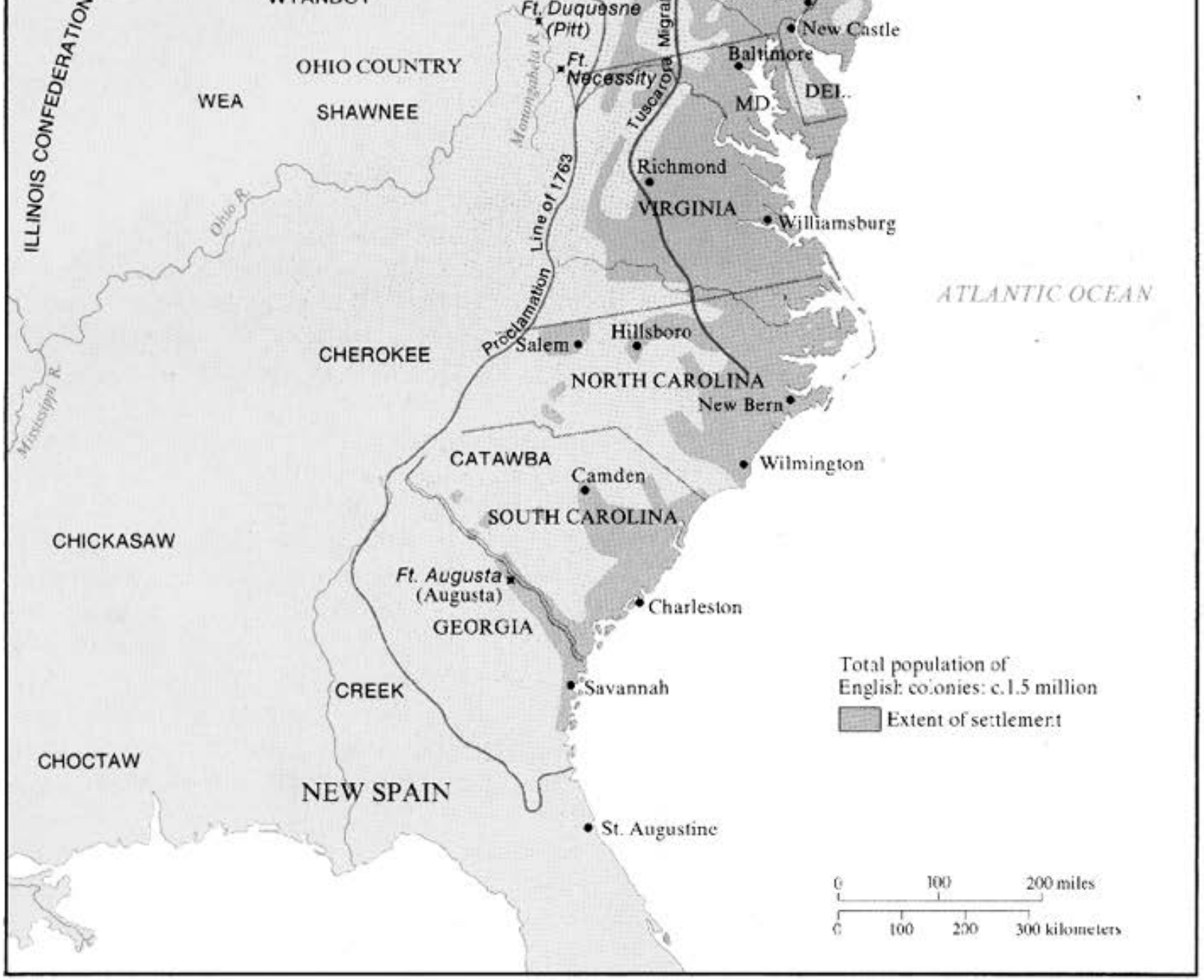


Figure 5.1 Approximation of areas traversed by Piedmont explorers.



European Settlements and Indian Tribes, 1750

Fire Planning

Fire Management Plans

- Look at SITE in relation to landscape
- Complex
- Examines historical Fire Regimes
- Fuels and Site Characteristics

Burn Plans

- UNIT specific
- Operational
- Serves as contract on burn.
- Binding
- Fuels and Site Characteristics
- Approved by local agency

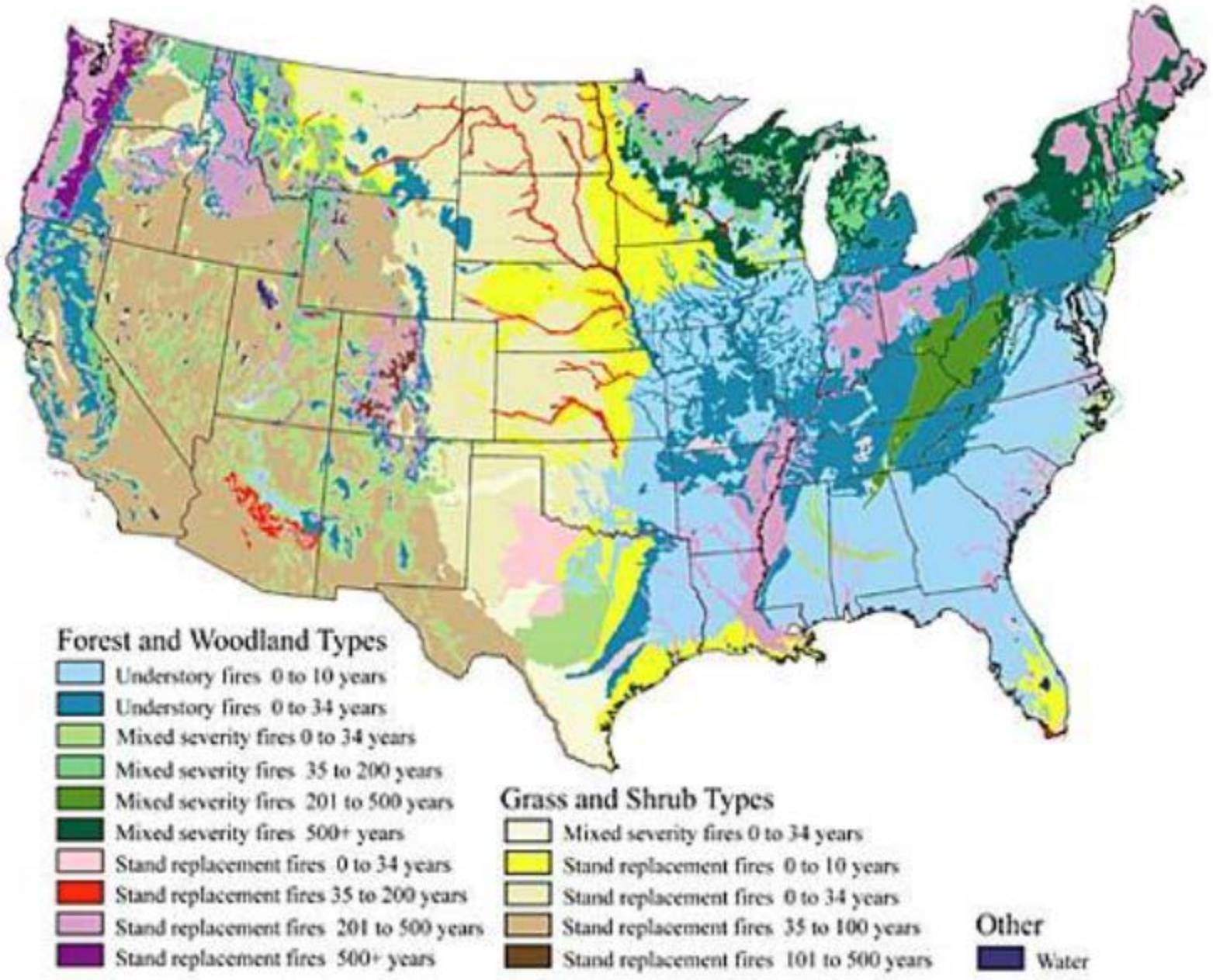


Figure 16- USDA Forest Service Fire Regime Map

Fire Regime Condition Class

Coarse Scale - 2000

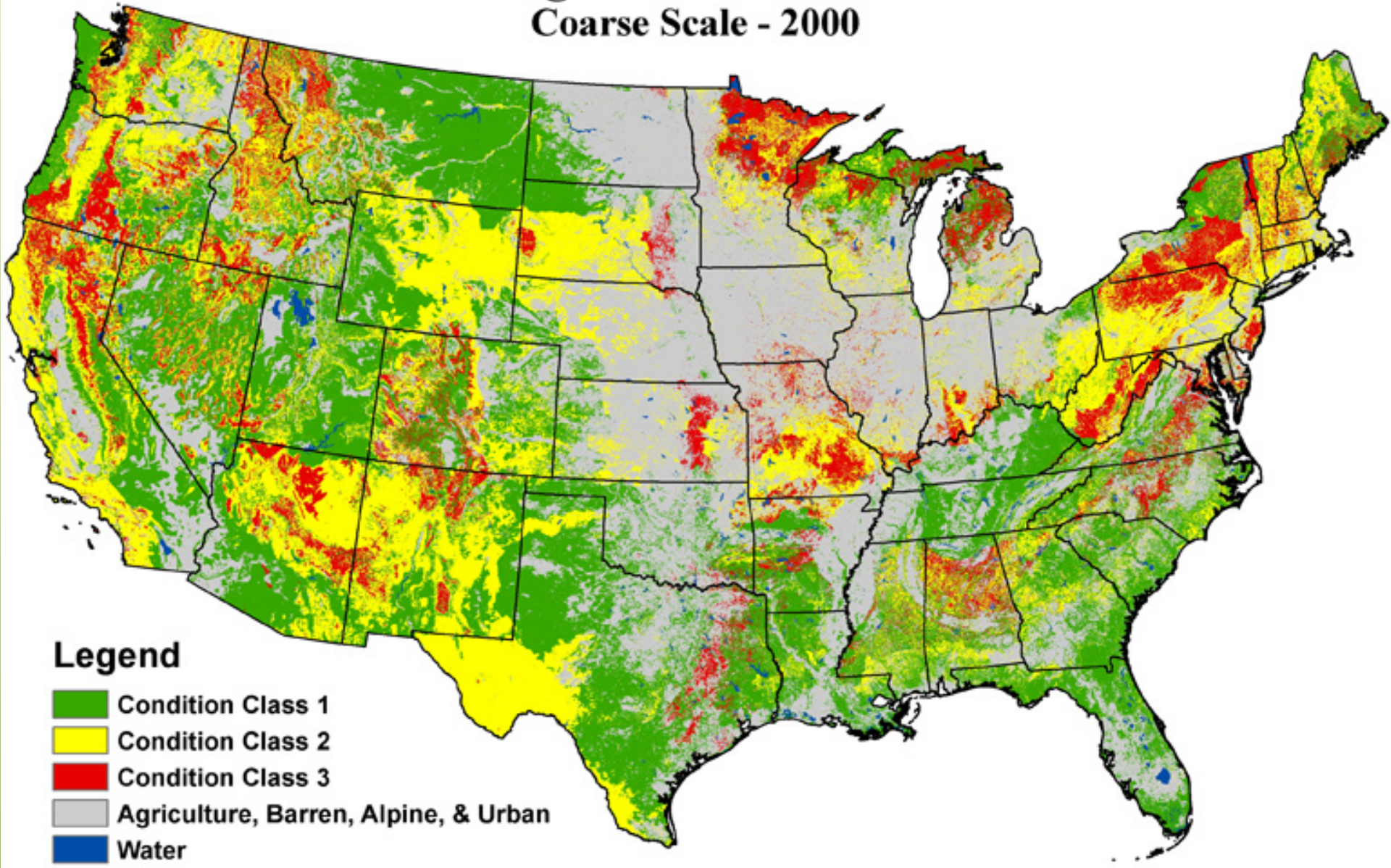
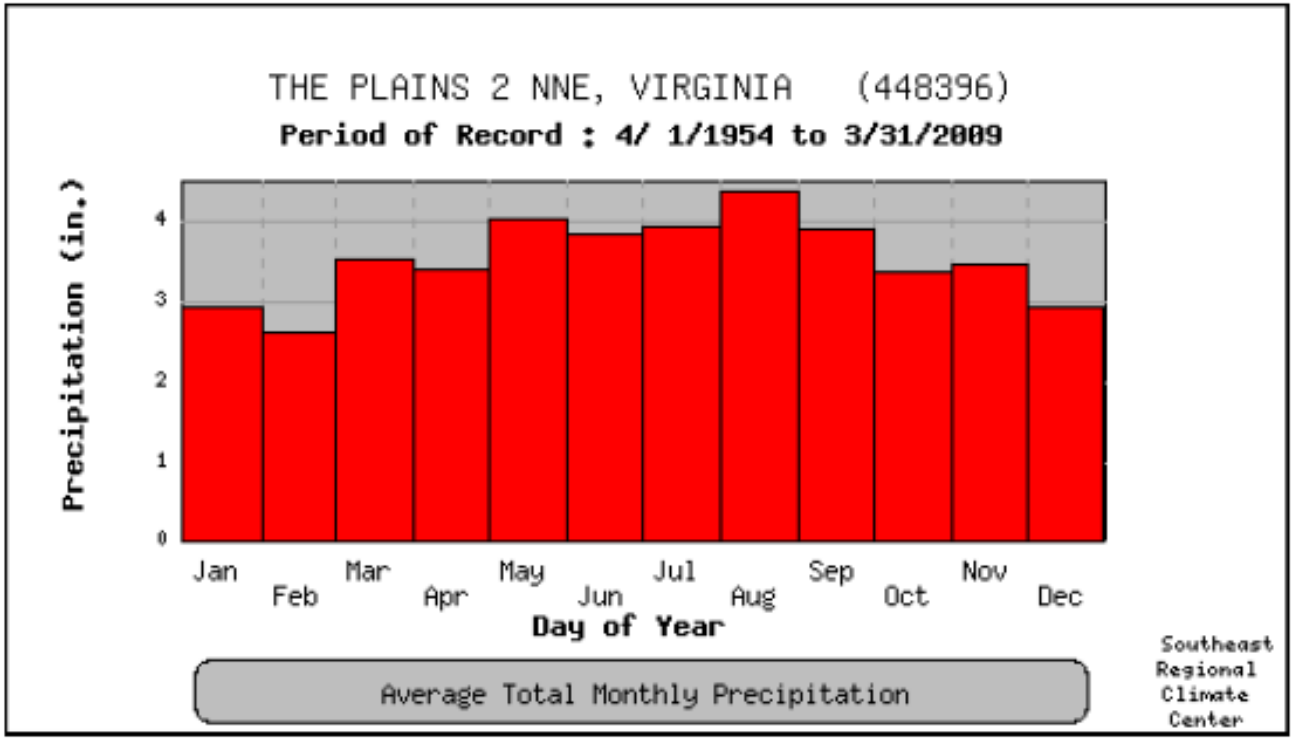


Table 3-The Plains Average Monthly Tempreture & Precipitation 1954-2009



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Now what?

Controlled Burn

Prescribed Fire

Why Use Prescribed Fire?

Rx Fire Benefits:

- Improve Wildlife Habitat
- Recycle nutrients into Soil
- Invasive Species control
- Improved forage
- Perpetuate fire dependant species
- Increase aesthetics and access
- Prepare sites for Seeding or Planting
- Control undesirable species.