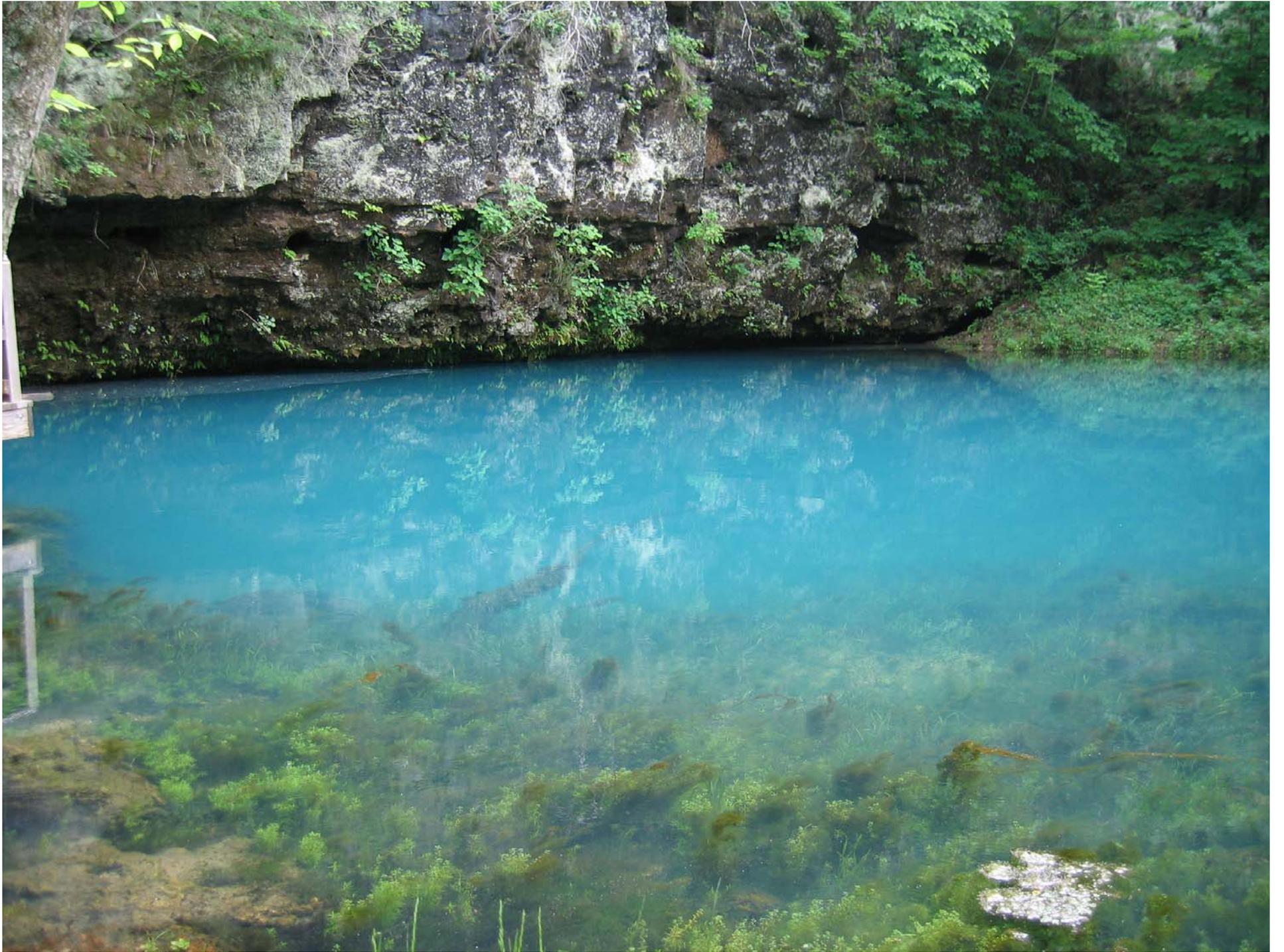


**Natural Resource Condition
Assessment :
Ozark National Scenic
Riverways, Missouri**

**Victoria Grant
Natural Resources Program Manager**











Establ. 1964: the “template” for
the Wild and Scenic Rivers Act



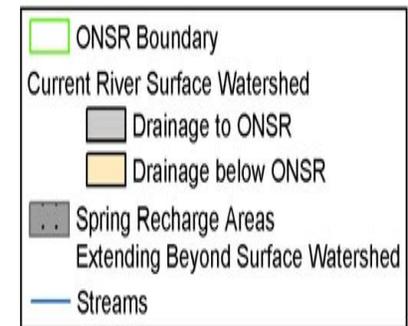
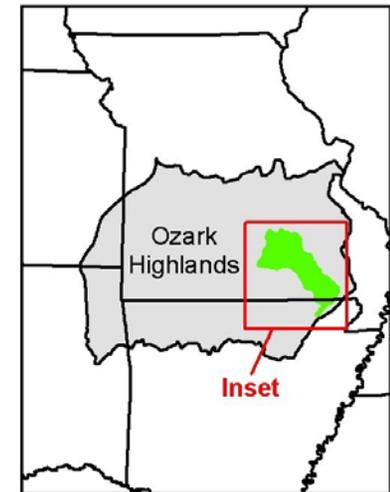
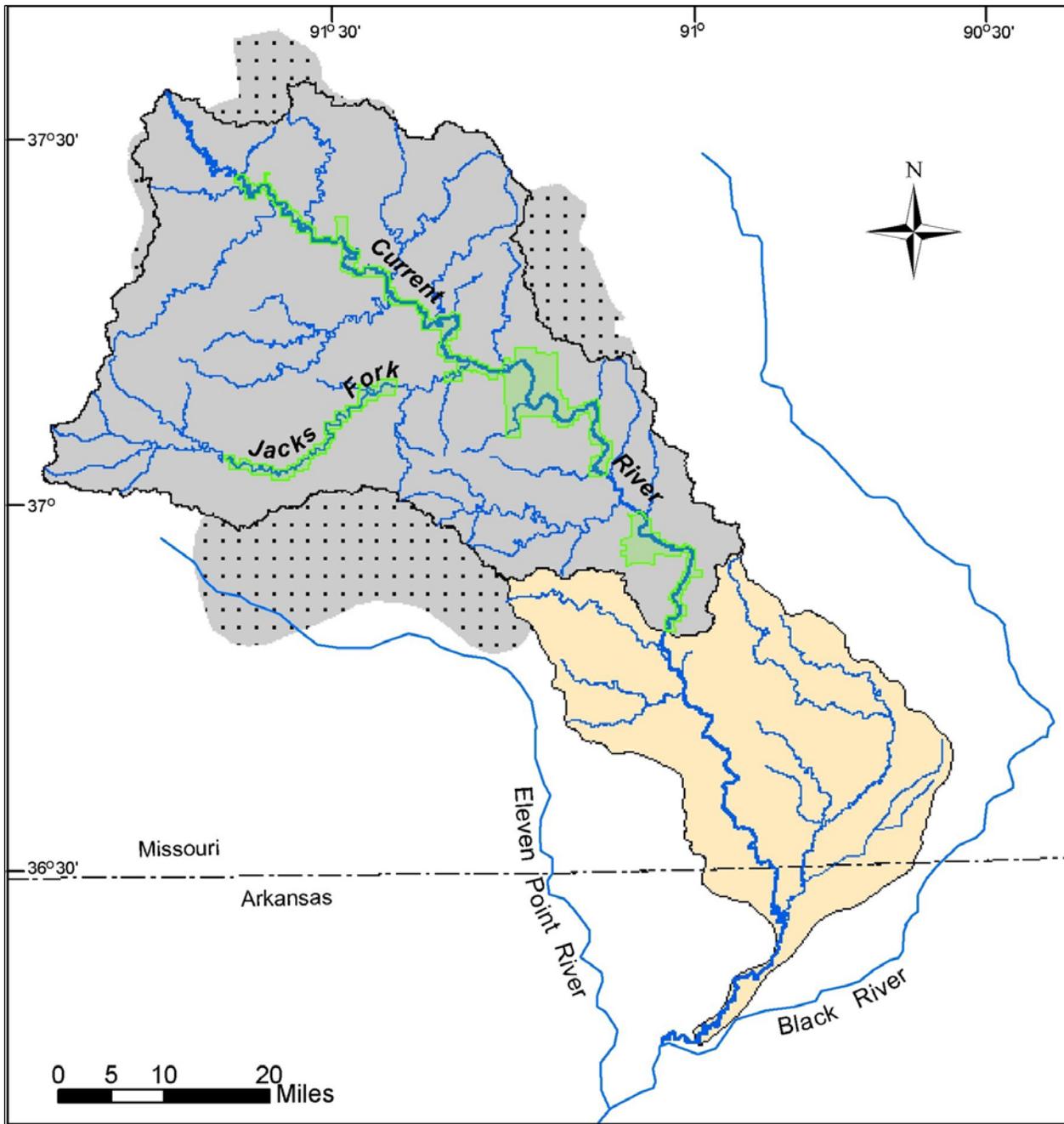




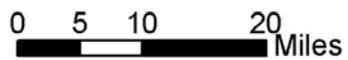








Created By: ONSR GIS August 2003
 Source: after Aley & Aley, 1987



Park Purpose

- Preserve and protect the unique scenic and natural values, processes, and unspoiled setting derived from the clean, free-flowing Current and Jacks Fork Rivers and springs, caves, and their karst origins
- Provide for and promote opportunities for the scientific and public understanding of the Riverways natural resources

Park Purpose

- Provide opportunities for the understanding and appreciation of the human experience associated with the Ozark Highlands landscape
- Provide for uses and enjoyment of the outdoor recreation opportunities consistent with the preservation of the Riverways resources

Significance

- The ancient Ozark Highlands is an important center of biodiversity in North America, including over 200 endemic (native) species. The high variety of species found within ONSR is due to the rich array of aquatic, terrestrial, and subterranean habitats concentrated in the river corridors. In particular the Riverways supports unique species found nowhere outside of this region.

Significance

- The impressive hydro-geologic character of the Ozark karst landscape support an amazing variety of natural features in the Riverways, including a spring system that is world-class and unparalleled in North America. The Riverways features of 300 springs, including the largest spring in the National Park System, and a total of six first magnitude springs. The cave system is equally impressive with over 325 caves – the highest density of any unit in the national park system.

Significance

- ONSR contain 134 miles of clear, spring fed rivers. Because of their high water quality, both the Jacks Fork and Current Rivers have been designated by the State of Missouri as two of the three Outstanding National Resource Waters in the state.

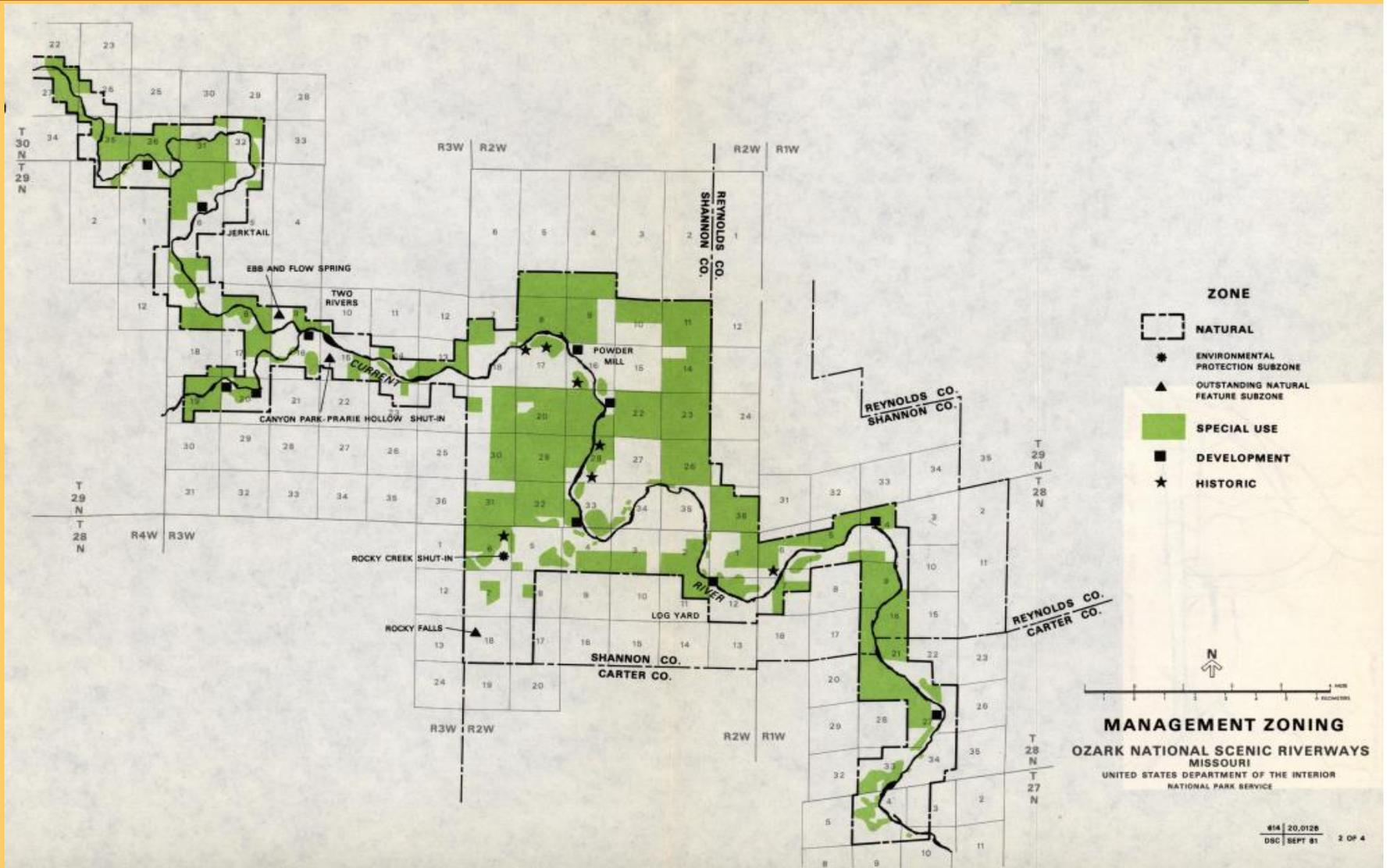
Significance

- The complex and dynamic resources and system of the Ozark National Scenic Riverways provide opportunities for high quality and diverse outdoor recreation available year round on and along free-flowing rivers.
- The Riverways feature archeological sites, historic structures, objects, and landscapes reflecting more than 12,000 years of people living along, adapting to, and interacting with these Ozark Highland rivers.

Provide for Values

- Scenic setting
- Natural values
- Natural processes
- Understanding
- Outdoor Recreation
- Clean
- Free-flowing
- Rivers
- Caves
- Springs
- Karst
- Biodiversity
- Human experience
- Cultural features

GMP Zoning



Management Zones

- **Natural Zone**

- Outstanding Natural Features Subzone
- Environmental Protection Subzone

- **Historic Zone**

- Archeological Subzone

- **Special Use Zone**

- Scenic Easement Subzone
- State-owned Lands Subzone
- Private Lands Subzone
- Habitat Management Subzone

- **Development Zone**

Zone Goals

Natural Zone	Natural resources and processes will be preserved and remain largely unaltered by human activity.
Outstanding Natural Features Subzone	Features possessing unusual intrinsic value, provide access while protecting conditions and processes that make the area outstanding and unique
Environmental Protection Subzone	Sufficiently unique or fragile to warrant special protective consideration
Historic Zone	Historically significant resources, emphasizing preservation, protection, and interpretation
Archeological Subzone	Management of known sites will protect their scientific and cultural values

Zone Goals

Special Use Zone	Lands not under complete NPS control.
Scenic Easement Subzone	Control actions prohibited by the scenic easement stipulations.
State-owned Lands Subzone	Utilize land management agreement to ensure compatibility with NPS management objectives.
Private Lands Subzone	Not subject to NPS management control
Habitat Management Subzone	Preserve pastoral scene or improve wildlife habitat.
Development Zone	Emphasize development of facilities while minimizing disruption of natural, historic, cultural, scientific, and recreational values.

For Example

- The objectives of forest management are generally to promote the natural reforestation of all of the natural zone...
- To provide a 40% increase in species richness and a 60% reduction in stems >1/4 inch dbh by the second growing season post-burn.

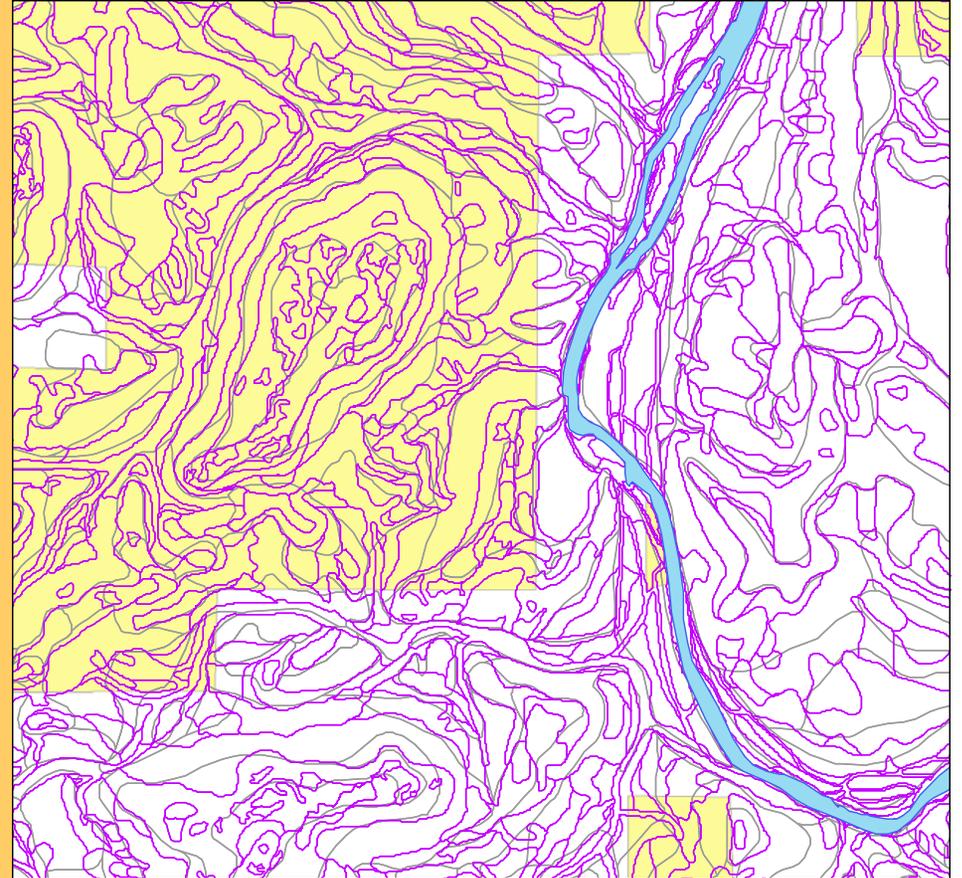
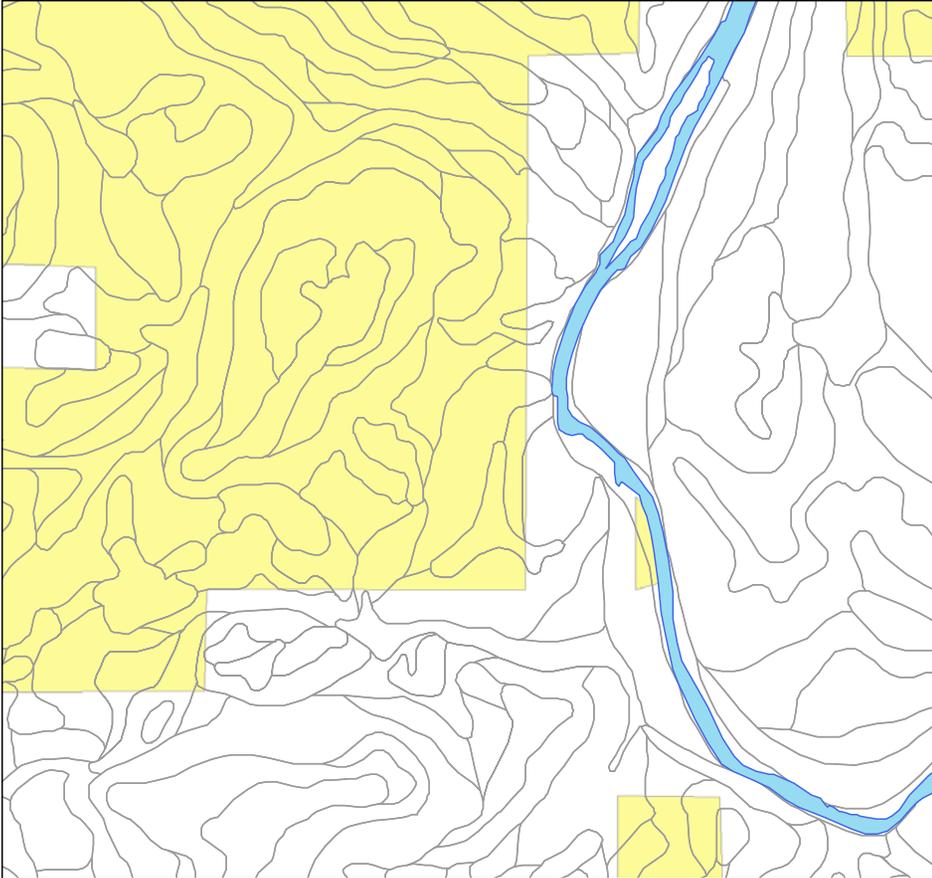
Key issues

- River use – Number of watercraft/competing uses
- Water quality
- Roads – ORVs including ATVs
- Horse Use
- Unrestricted camping
- Use of vehicles on gravel bars
- Open fields
- Opening portion of Big Spring Area to hunting
- River crossings
- Use of alcohol on river

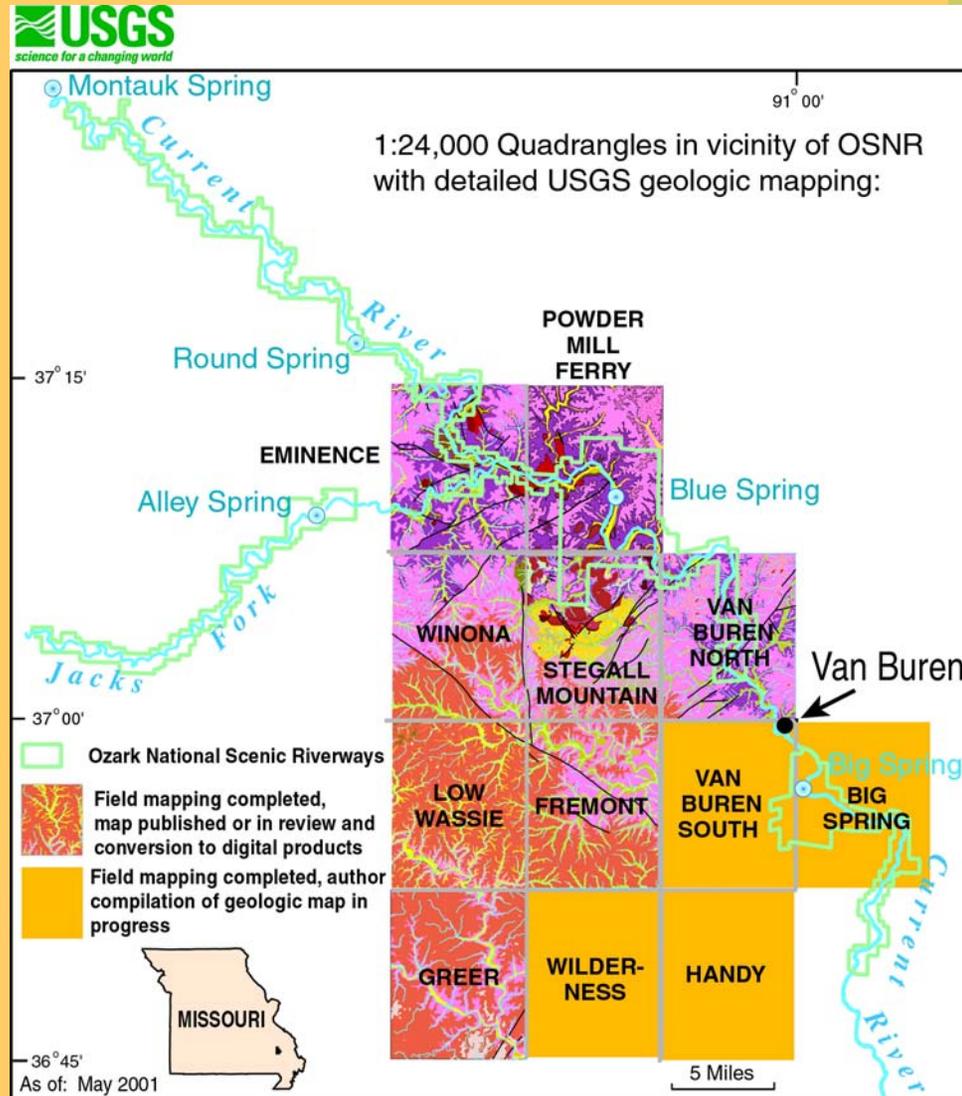
Key Data Sets

- USGS Bedrock Geology
- MDNR Soils
- MDC Ecological Classification System
- Schroeder Historic Vegetation
- USGS Vegetation/Fuels Map
- Sowa Aquatic Gap Classification
- I&M/Global Change invertebrate data
- I&M/MDC/NPS fish data
- I&M birds, amphibians/reptiles,
- NPS water quality, springs
- USGS gages
- CRF caves

Soils Mapping

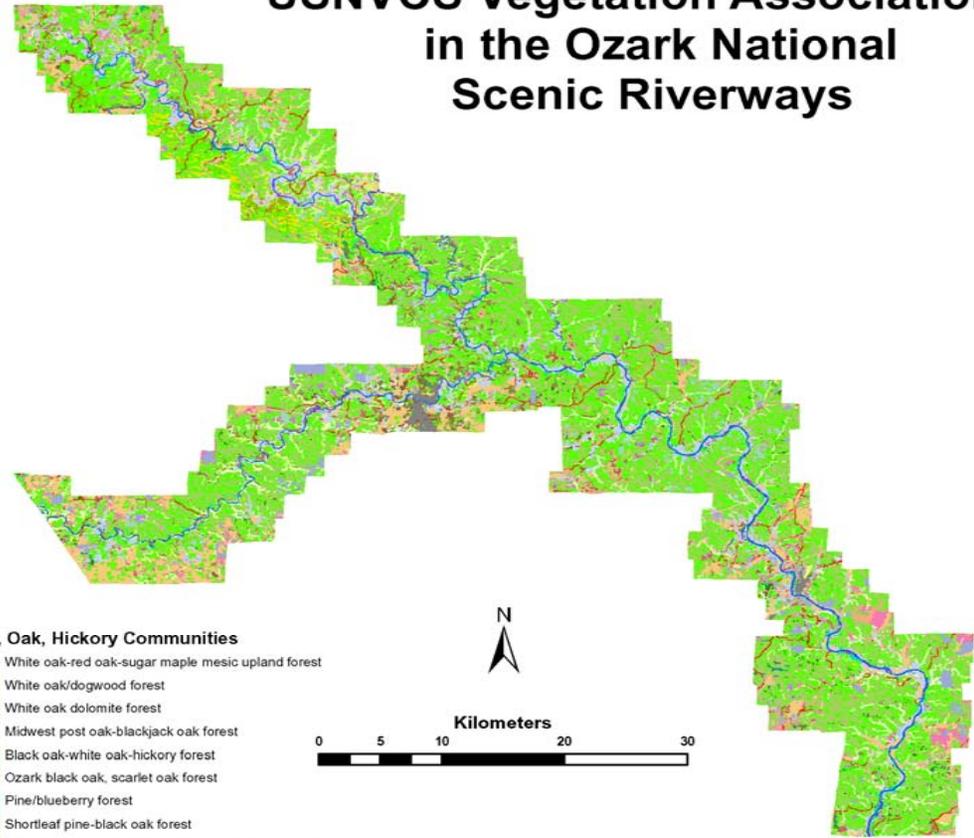


Bedrock Geology



Vegetation/ Fuels Map

USNVCS Vegetation Associations in the Ozark National Scenic Riverways



Pine, Oak, Hickory Communities

- White oak-red oak-sugar maple mesic upland forest
- White oak/dogwood forest
- White oak dolomite forest
- Midwest post oak-blackjack oak forest
- Black oak-white oak-hickory forest
- Ozark black oak, scarlet oak forest
- Pine/blueberry forest
- Shortleaf pine-black oak forest
- Interior highlands shortleaf pine, oak-dry mesic forest

Glades and Woodlands

- Chinkapin oak-red cedar dry alkaline forest
- Chinkapin oak, ash/little bluestem woodland
- Post oak-blackjack oak/little bluestem woodland
- Shortleaf pine, oak dry woodland
- Midwest post oak-blackjack oak forest (igneous phase)
- Ozark igneous glade opening
- Blackjack oak xeric scrub
- Ozark dolomite glade complex
- Ozark igneous glade complex

Bottomland Communities

- River channel
- Bare gravel bar
- Herbaceous gravel bar
- Witchhazel, dogwood gravel bar
- Carolina willow shrubland
- Sycamore-silver maple floodplain forest
- Box elder forest
- Ash-oak-sycamore mesic bottomland forest
- Sugar maple-oak-hickory mesic bottomland forest

Altered Land Cover Types

- Regeneration stand
- Shelterwood cut
- Pole stand
- Pine plantation
- Pine-oak regeneration stand
- Pine plantation/timber mgmt forest
- Pine pole stand
- Agricultural field or pasture
- Open old field (shrubby or sparse trees)
- Wooded old field
- Deciduous shrubby old field
- Cedar-deciduous wooded old field
- Cedar old field
- Other clearing
- Surface water
- Agricultural forested woodlot
- Road
- Utility corridor
- Urban
- Residential clearing
- Industrial/quarry



Mapping Region Location

Produced by Robert Chastain
December 2005

Other key assessments

- Jacobson geomorphology
- Rabeni fish/habitat relationships
- Panfil watershed assessment
- US Naval thermal imaging
- Rabeni conceptual model
- Over 1100 documents in NR library...