

# Working Together to Restore Forest Landscapes in Southern Illinois

**LET THE SUN SHINE IN**



**Managing Forest Landscapes for Oak, Priority Birds species and Biological Diversity**

# The Forests of Southern Illinois

Historically:

- ▶ dominated by oak hickory
- ▶ frequent fire
- ▶ "open" woodlands
- ▶ numerous plant & animal species



- **+120 yr mixed oak overstory**
- **60-85 yr mixed mesophytic midstory and understory**
- **Oak-hickory transition by sugar maple-beech**
- **Loss of**
  - **keystone species and regional biodiversity**
  - **hard mast and associated wildlife species**

Post settlement: decline of oak hickory, fire suppression, dense forest, loss of habitat



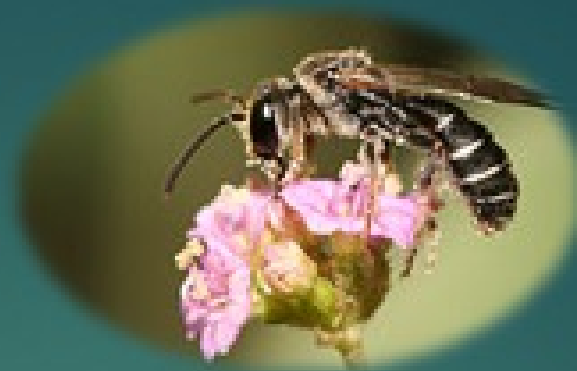
**The Illinois Ozarks may be the first forest in central North America to completely convert from oak-hickory to maple-beech.**

**— Fralish & McArdle (2009)**

**Lisa Helmig (1997) predicted the Illinois Ozarks' conversion could be complete by 2050.**



**“snap’s”**



Restoration opportunities are rapidly waning as (a) fire-adaptive floras are progressively lost to shading, competition, and preferential herbivory; (b) older seed-bearing individuals succumb to old age and existing seed banks lose viability over time; and (c) understory and forest floor conditions become increasingly mesophytic. — Nowacki and Abrams (2008)



16	<i>Carex willdenowii</i>	Willdenow's Sedge	ST
17	<i>Carex nigromarginata</i>	Black-edged Sedge	SE
18	<i>Carya pallida</i>	Pale Hickory	SE
19	<i>Chamaelirium luteum</i>	Fairy Wand	SE
20	<i>Chimpaphila maculate</i>	Spotted Wintergreen	SE
21	<i>Corydalis halei</i>	Hale's Corydalis	SE
22	<i>Dichanthelium ravenelii</i>	Panic Grass	SE
23	<i>Eupatorium hyssopifolium</i>	Hyssop-leaved Thoroughwort	SE
24	<i>Galactia mohlenbrockii</i>	Boykin's Dioclea	SE
25	<i>Helianthus angustifolius</i>	Narrow-leaved Sunflower	ST
26	<i>Hexalectris spicata</i>	Crested Coralroot Orchid	SE
27	<i>Isotria verticillata</i>	Whorled Pogonia	SE
28	<i>Lonicera flava</i>	Yellow Honeysuckle	SE
29	<i>Lysimachia fraseri</i>	Loosestrife	SE
30	<i>Melothria pendula</i>	Squirting Cucumber	ST
31	<i>Matelea obliqua</i>	Climbing Milkweed	ST
32	<i>Quercus Montana</i>	Rock Chestnut Oak	ST
33	<i>Penstemon brevisepalus</i>	Short-sepaled Beard Tongue	SE
34	<i>Polygala incarnate</i>	Pink Milkwort	SE
35	<i>Rhexia mariana</i>	Dull Meadow Beauty	SE
36	<i>Salvia azurea</i> ssp. <i>Pitcheri</i>	Blue Sage	SE
37	<i>Scleria pauciflora</i>	Carolina Whipgrass	SE
38	<i>Sedum telepioides</i>	American Orpine	ST
39	<i>Spiranthes vernalis</i>	Spring Ladies' Tresses	SE
40	<i>Talinum parviflorum</i>	Small Flower-of-an-hour	ST
41	<i>Trillium viride</i>	Green Trillium	SE



# Let the Sun Shine in Project

## Issues/Challenges



- **Loss of Oaks:** Across the Eastern US and in Southern Illinois's natural forest systems, oaks are not regenerating. Oak seedlings are dying before they reach maturity, and most of the forests in the Southern Illinois have an oak canopy, the understory is made up of maples, ashes, basswood and elms. Illinois' oak-dominated natural communities — barrens, woodlands, and forests — are becoming denser as the forests convert to closed, mesic forests.
- **Forest Fragmentation:** Fragmentation occurs as landscapes become broken up by development or ownership. It can severely limit wildlife and management in oak ecosystems. As development occurs in and around habitats, animals that require large, connected ecosystems can become regionally endangered or even extirpated
- **Loss of Biodiversity:** Oaks are foundational species in ecosystems across the temperate zone, creating the structure of the ecosystems and supporting an array of plant and animal life. Oak ecosystems support high biodiversity in part because they are heterogeneous environments. Oak woodlands and savannas have open canopies that create highly variable light levels and also foster variability in soil moisture, pH, potassium, and organic matter. This heterogeneity allows numerous plants and animal species to find niches within the ecosystem.





# Let the Sun Shine in Project

## Current Management

With the sun comes life. "Let the Sun shine in!" is a region-wide effort to bring attention to and address several regional forest threats by helping to increase oak dominance, reduce effects of forest fragmentation, improve forest health and native biodiversity, and supplement the efforts of forestry professionals through on-the-ground work and technical assistance. This project is also raising awareness about the link between oak regeneration, biological diversity, and a more open, sunny forest, hence Let the Sun Shine In!

Private landowner outreach, demonstration areas, workshops, and communication vehicles are the tools used to enhance understanding of the issues in southern Illinois forests. Forest landowners are gaining a deeper appreciation of how their lands can further a variety of conservation goals, from enhanced hunting opportunities to priority bird species protection.







### Better forest management could turn around this trend

Only by making our forests sunnier can we save the diversity of life that depends on them. But, what is the most effective way to restore our forests? To answer that question, scientists and land managers are working together at Trail of Tears State Forest to examine the timing of specific forest management techniques.

## With the Sun Comes Life.



### Illinois' open oak woodlands, barrens and forests

You might be surprised to know that Illinois forests once were more open, much more open. The above photo gives you some idea of how that open oak forest may have looked. Notice how much light is in this forest, which has a canopy that covers about 65 percent of the sky.

### An open forest supports a diversity of life

A more open forest allows sunlight to filter through to the ground, giving life to wildflowers, grasses and shrubs. Bees, butterflies and other pollinators feast on these flowers, while the forest floor provides cover for birds and other wildlife to raise their young. Wild turkeys and the declining Eastern whip-poor-will, for example, prefer grassy openings for nesting. Scientists report a suite of birds — including blue jay, indigo bunting and field sparrow — would increase in

number if our forests were sunnier. This isn't a surprise, considering that more open forests also contain down, dead wood, which is a haven for bugs. Bugs provide food to birds, bats, snakes and lizards.

Bringing light into our forest also is good for oak trees — the dominant tree in our forests and food for about 100 different animals. Currently, Southern Illinois forests don't have enough oak saplings to ensure our forests retain these trees in sufficient numbers.

# Let the Sun Shine in Project Opportunities:

All Lands approach to achieve regional forest management objectives .Combining Regional Resources to Work in Priority Areas

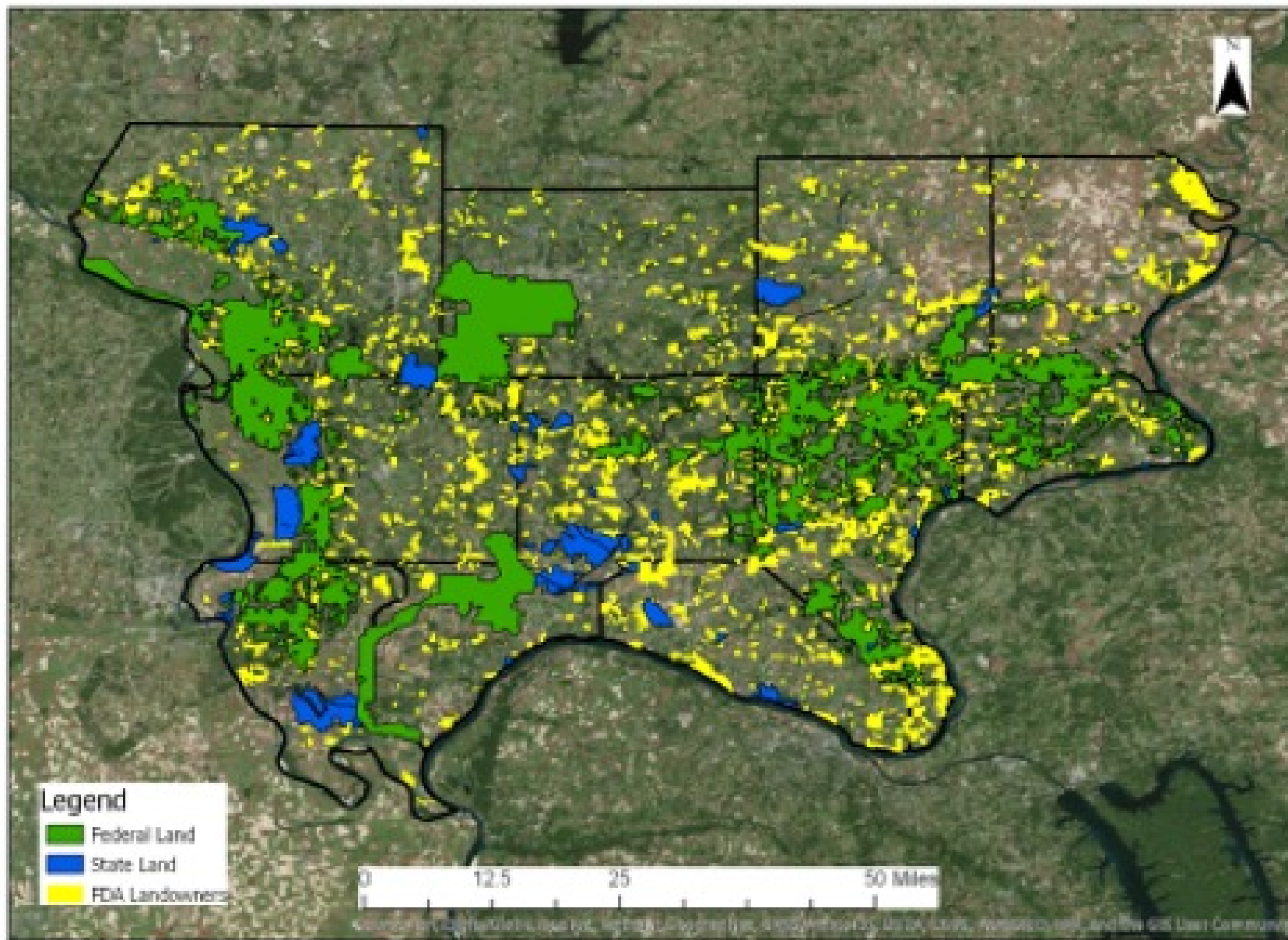
Southern Illinois is a large, forested landscape. Unfortunately, the demands on local organizations and private landowners to recover oak forests are greater than the resources available. This project crosswalks collective forest management objectives and identifies priority areas for management in the region.



## Partners

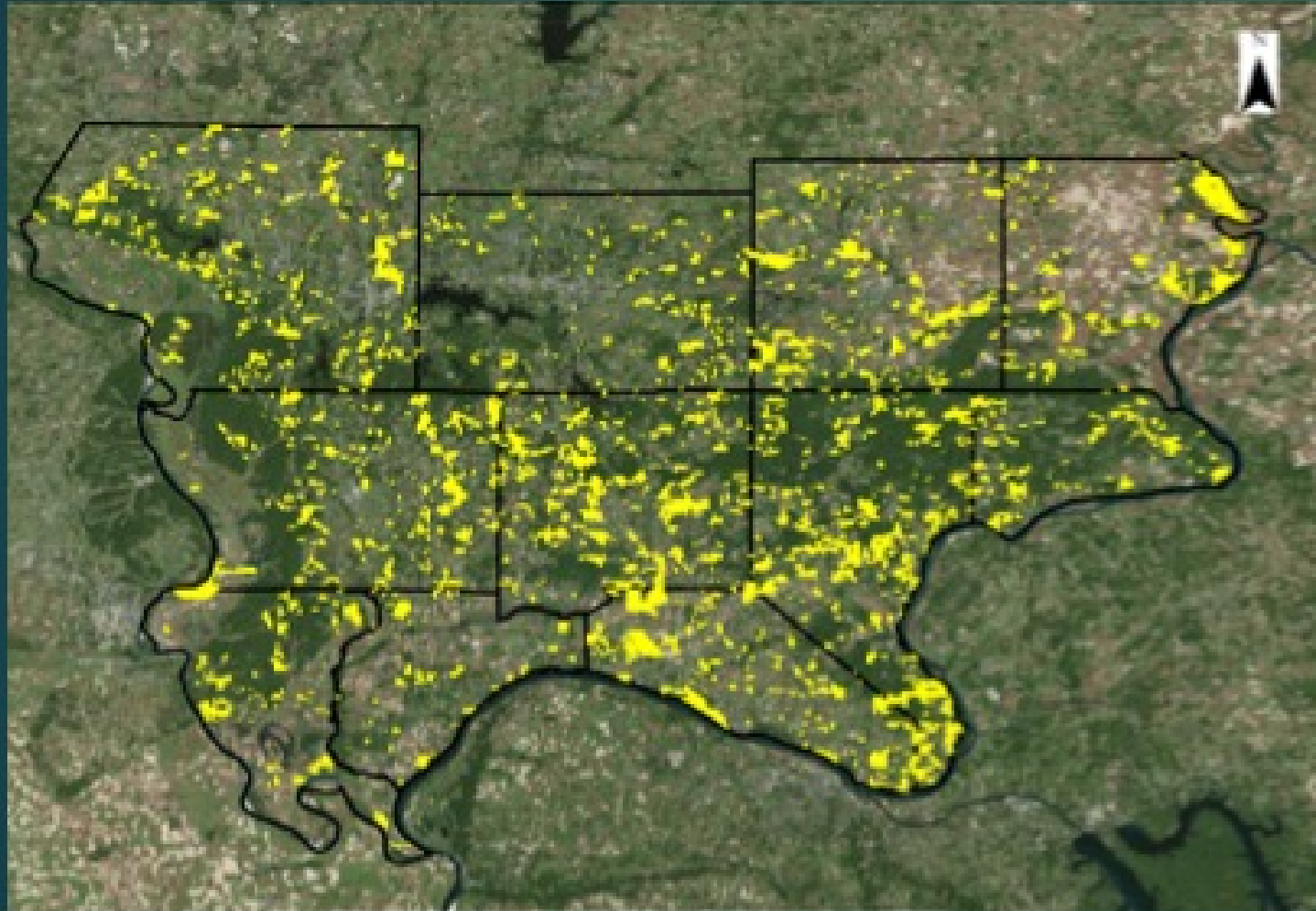
Shawnee RC&D  
Illinois DNR  
Shawnee National Forest  
US Fish and Wildlife Service  
National Wild Turkey Federation  
Central Hardwoods Joint Venture  
University of Illinois Extension  
Southern Illinois University  
The Nature Conservancy  
River to River CWMA  
S. Illinois Prescribed Burn Association  
Illinois Forestry Association  
Shawnee RC&D  
Natural Resource Conservation Service

## State, Federal, and FDA Land Ownership in Southern Illinois



*Lands  
with  
a Plan!*

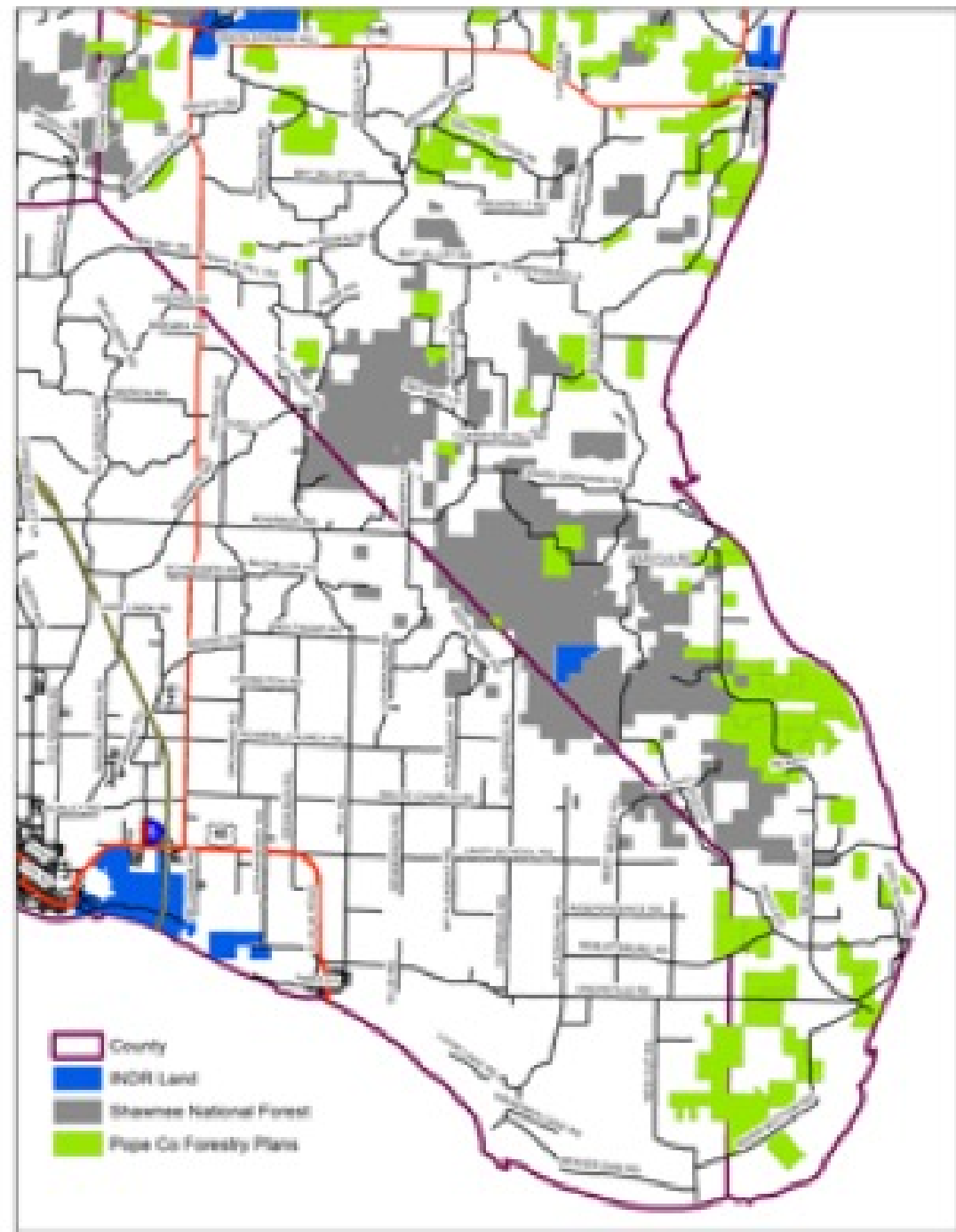
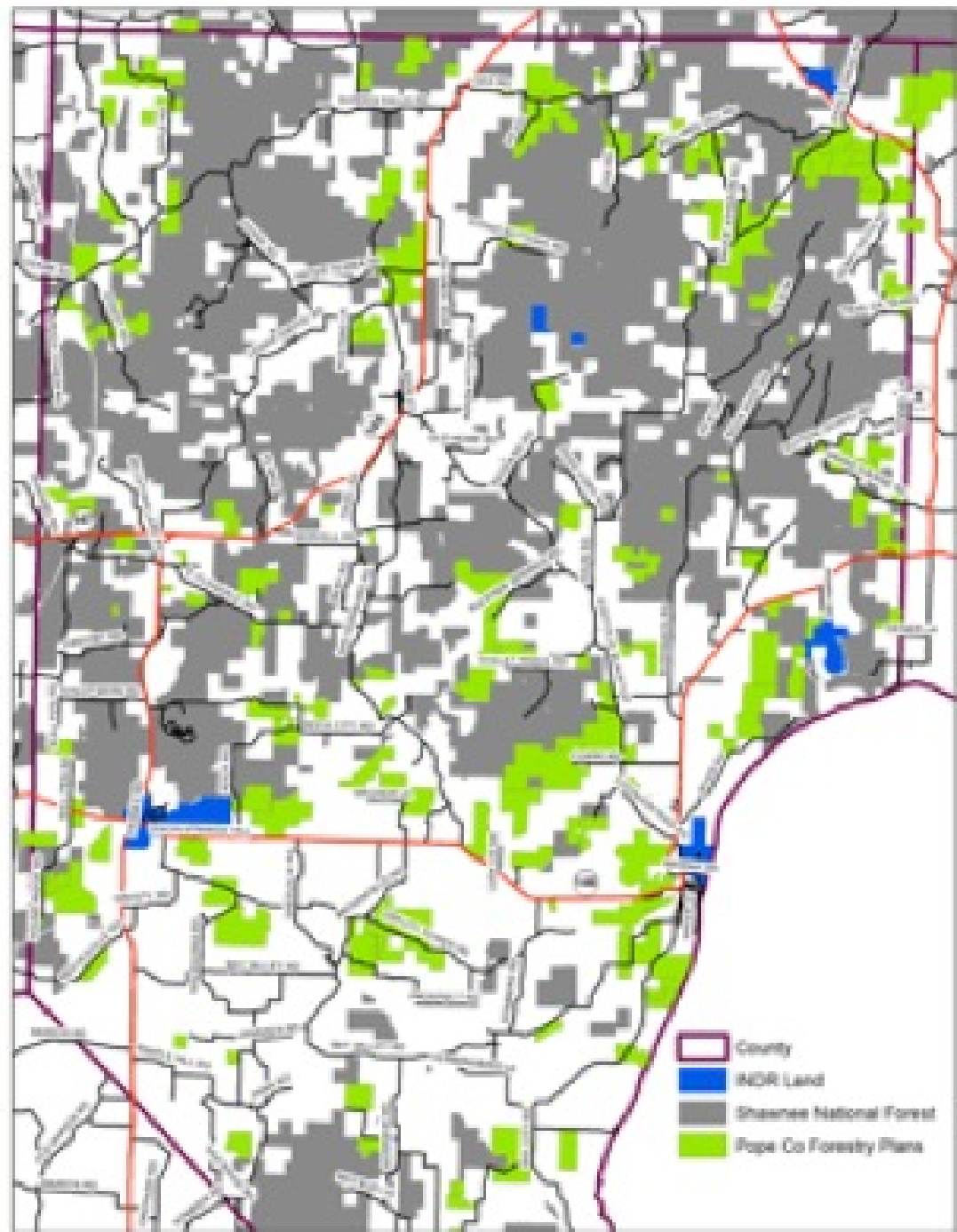
## Private Land in Southern Illinois with a Forest Stewardship Plan (FSP)



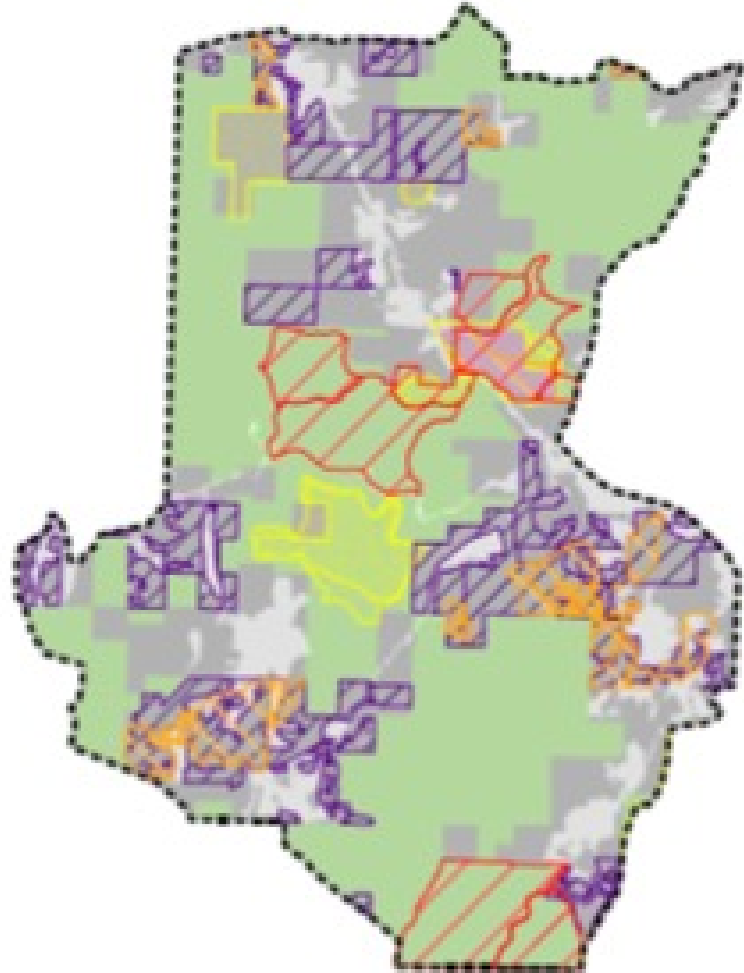
- 132,968 acres (1700 landowners) enrolled in the Forest Stewardship Program in southern Illinois.

1,457 EOR's in southern 11 counties;  
363 EOR's are associated with FSP properties

- 25% of all EORS in southern 11 counties are associated with FSP properties
- 28% (500) FSP properties are adjacent to national forest (total of 88,500 acres)

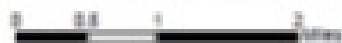


# Let The Sun Shine In Williams Hill Cluster

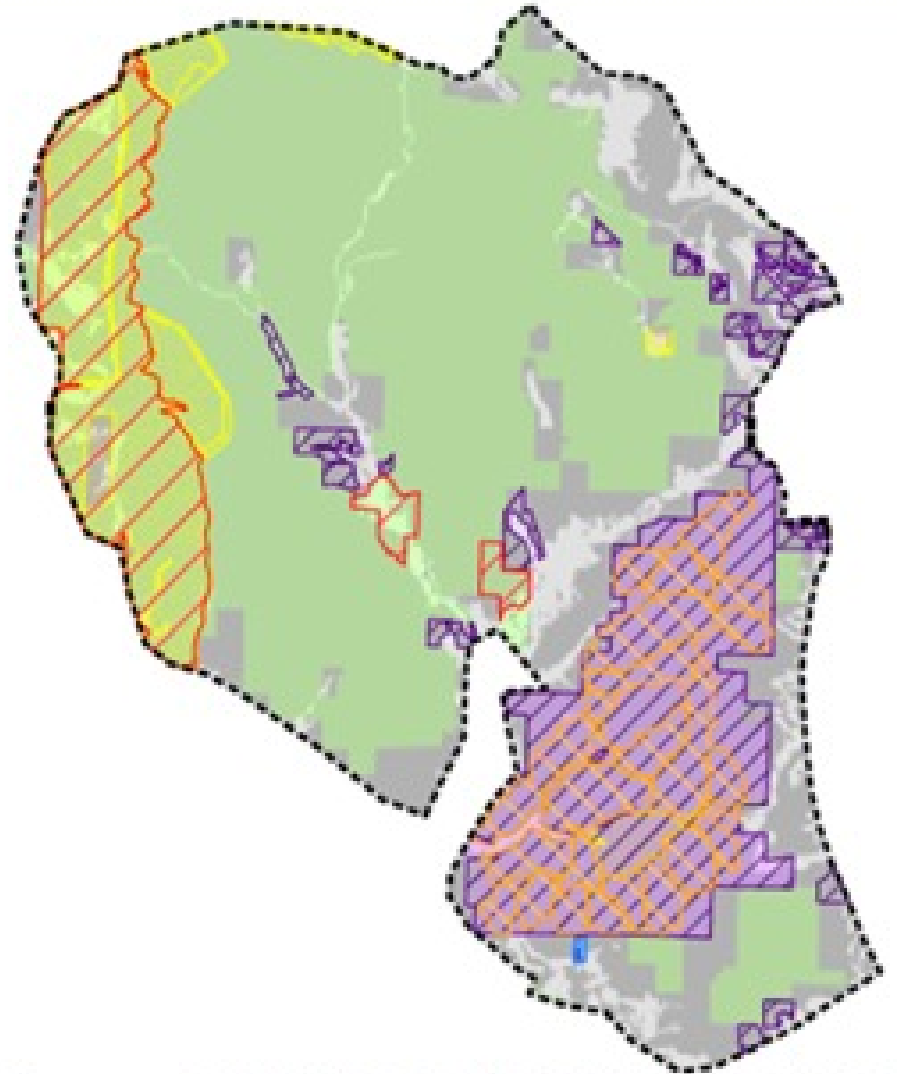


Legend

- |                     |                              |                           |                           |
|---------------------|------------------------------|---------------------------|---------------------------|
| PDA                 | Federal Prescribed Burn      | Federal Land Forested     | Private Land Non-Forested |
| SPBA                | State & Federal Natural Area | Federal Land Non-Forested | State Land Forested       |
| Stewardship Cluster |                              | Private Land Forested     | State Land Non-Forested   |



# Let The Sun Shine In Trail of Tears Cluster

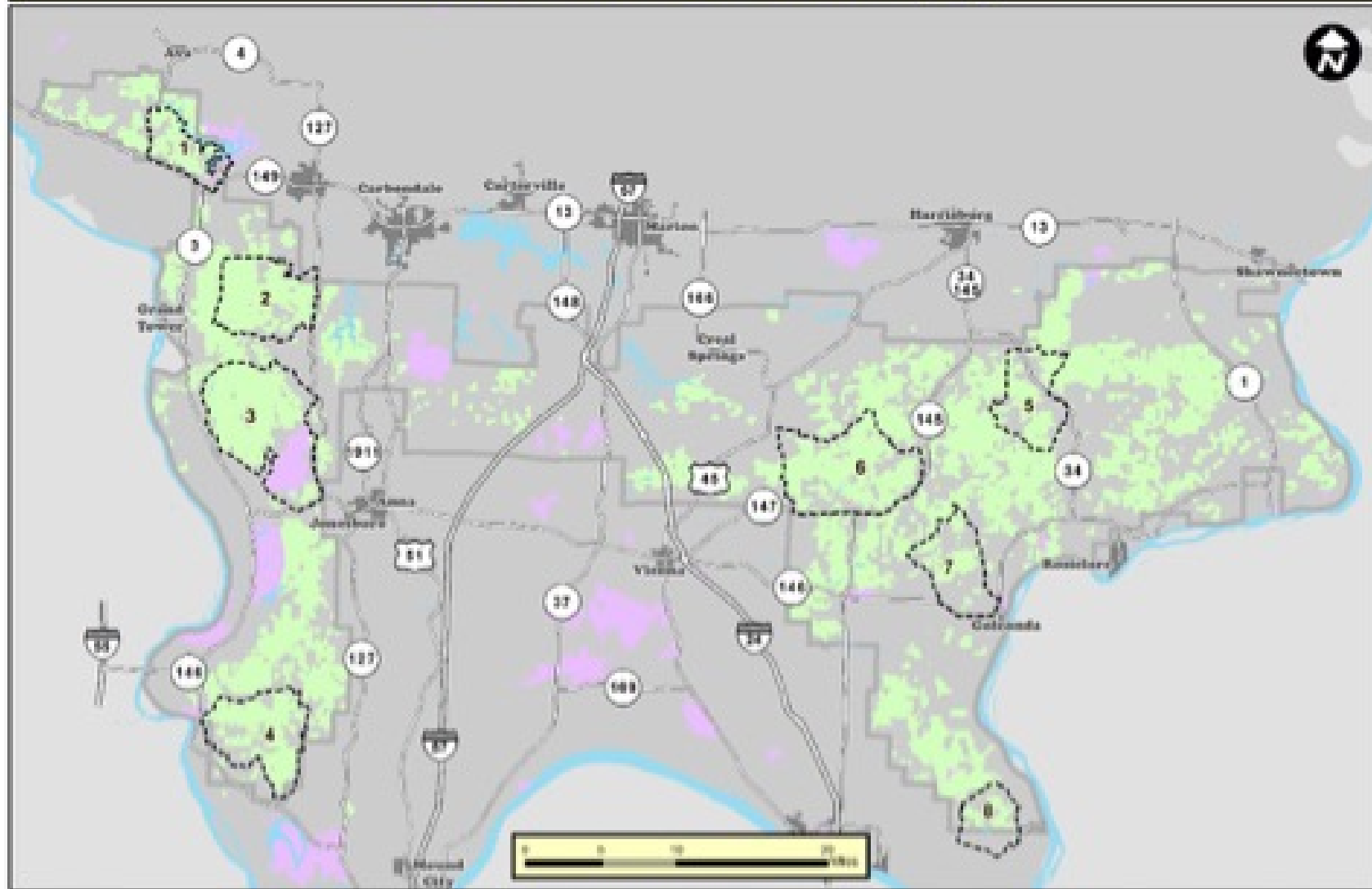


Legend

- |      |                              |                           |                           |
|------|------------------------------|---------------------------|---------------------------|
| CDP  | Federal Prescribed Burn      | Federal Land Forested     | Private Land Non-Forested |
| PDA  | State & Federal Natural Area | Federal Land Non-Forested | State Land Forested       |
| SPBA | Stewardship Cluster          | Private Land Forested     | State Land Non-Forested   |



## Let The Sun Shine In Cluster Vicinity Map



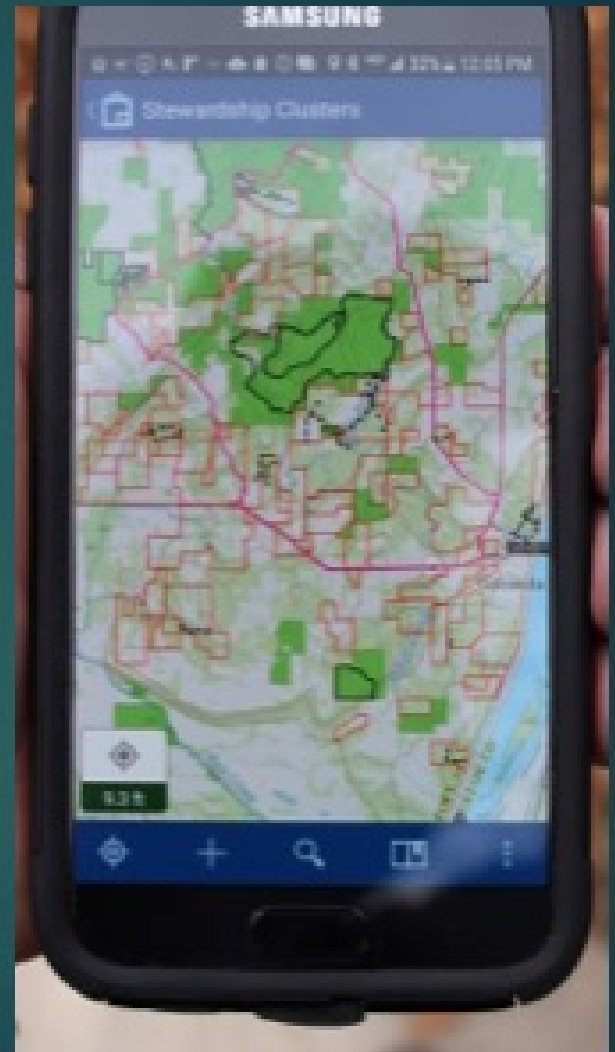
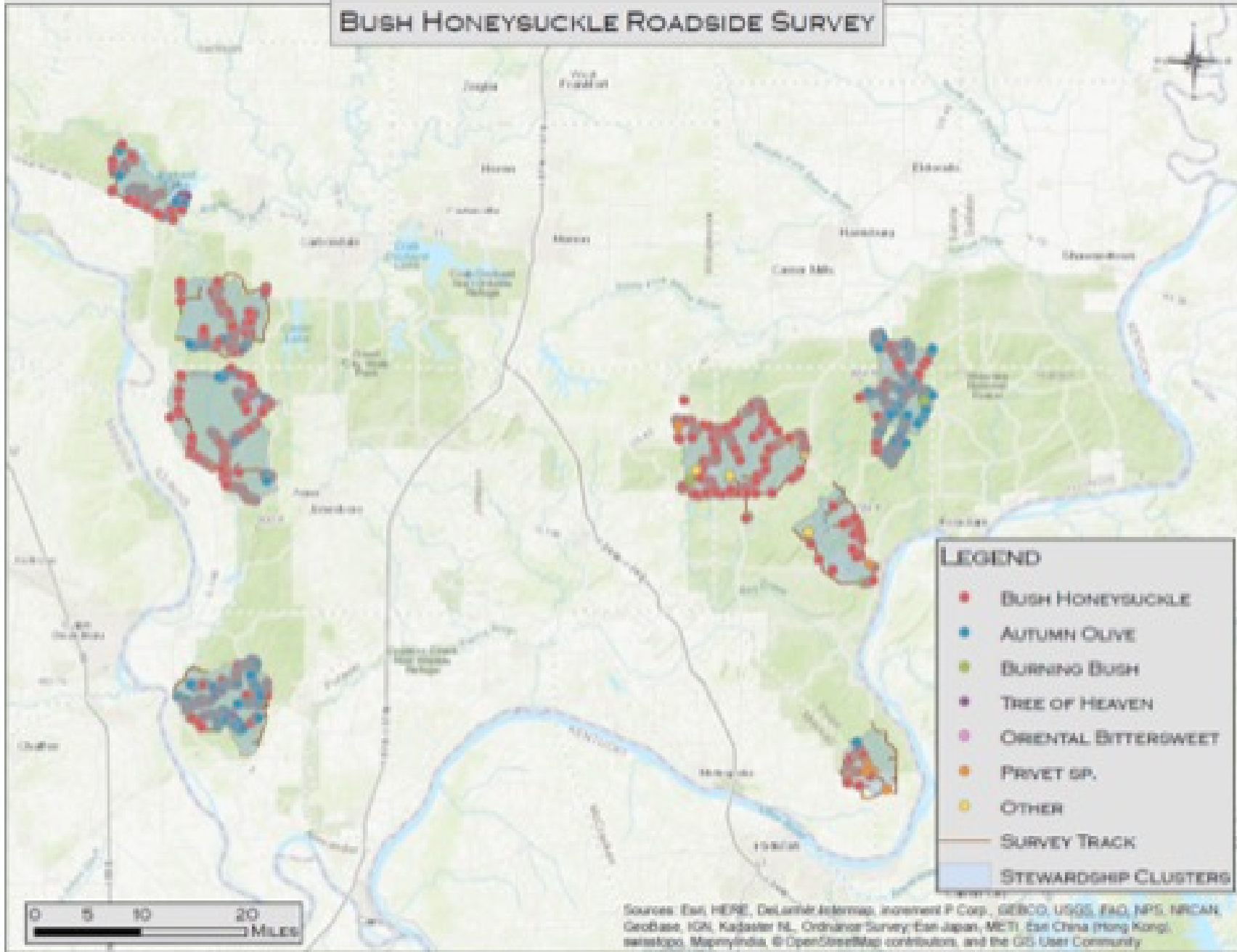
August 11, 2011

FWS/FPS Stewardship Program 1000 Ecoregion of Virginia Watersheds from 95-M Let The Sun Shine In Cluster Vicinity

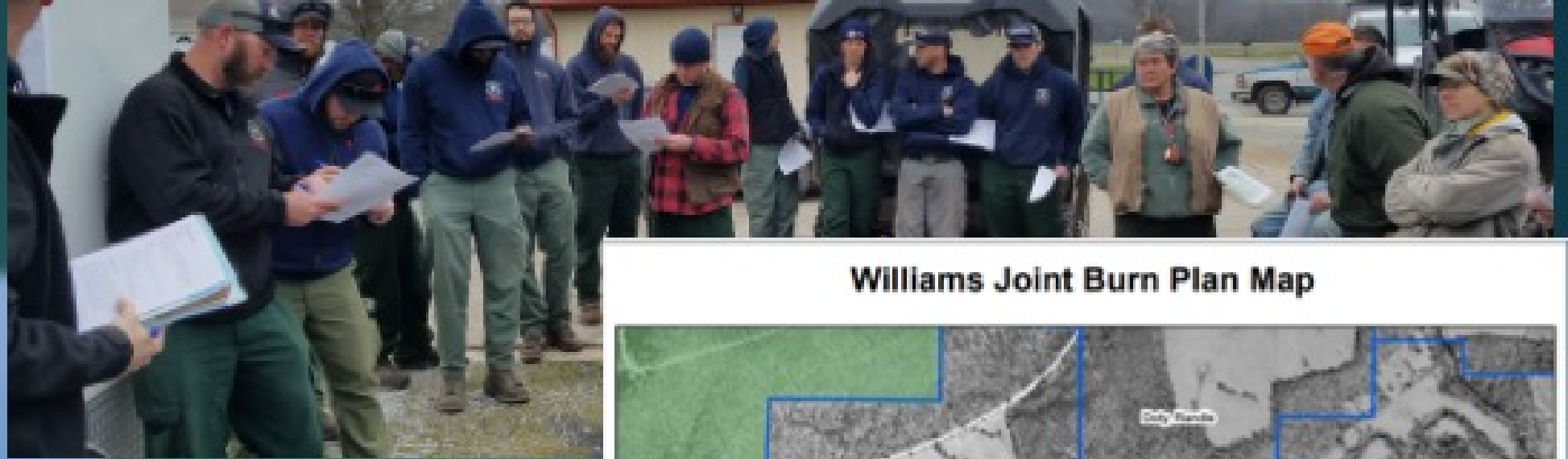
### Legend

- Stewardship Cluster
- Waterbody
- National Forest Land
- State Land
- Non-National Forest Land
- Forest Boundary
- Municipal

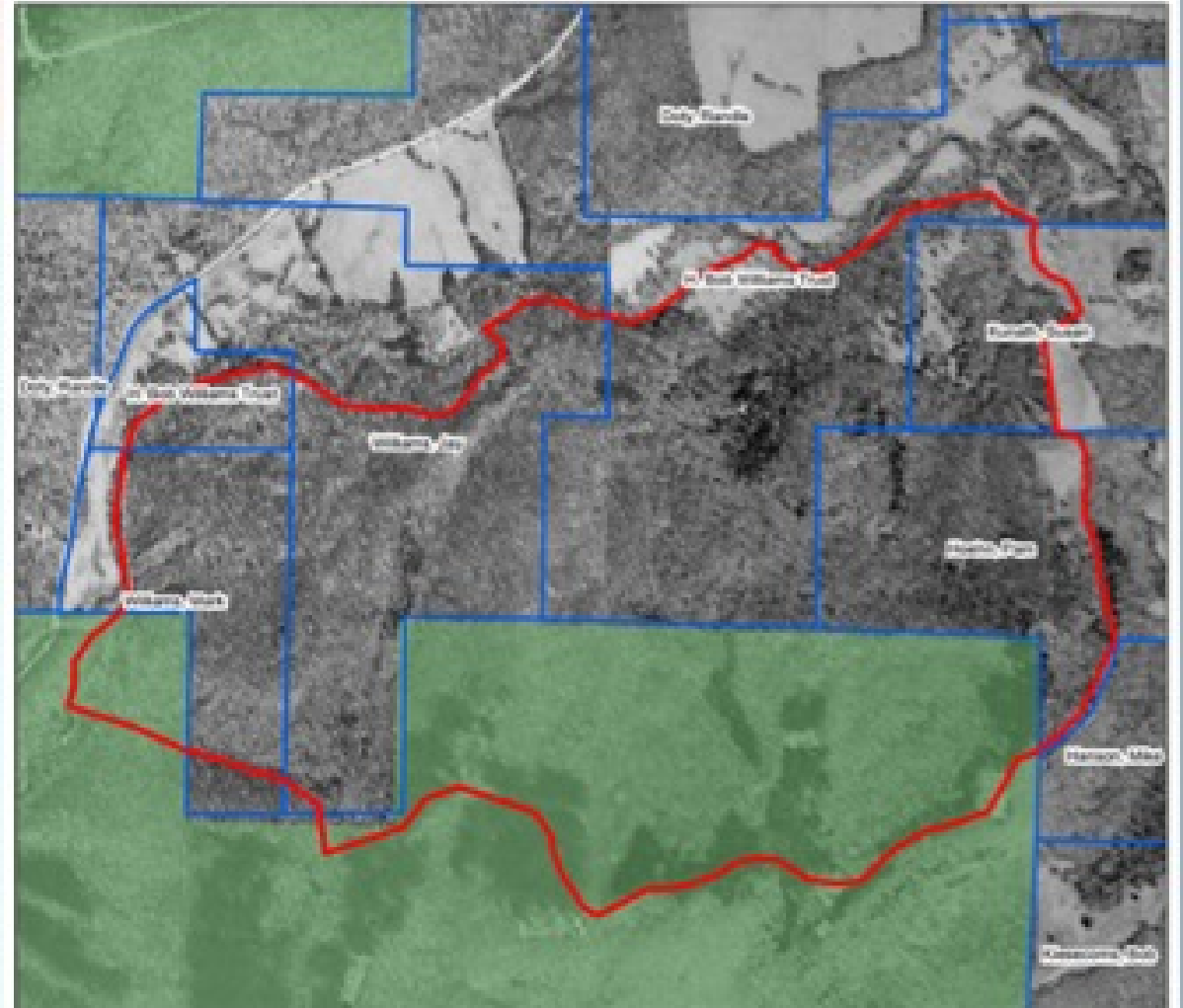
# BUSH HONEYSUCKLE ROADSIDE SURVEY

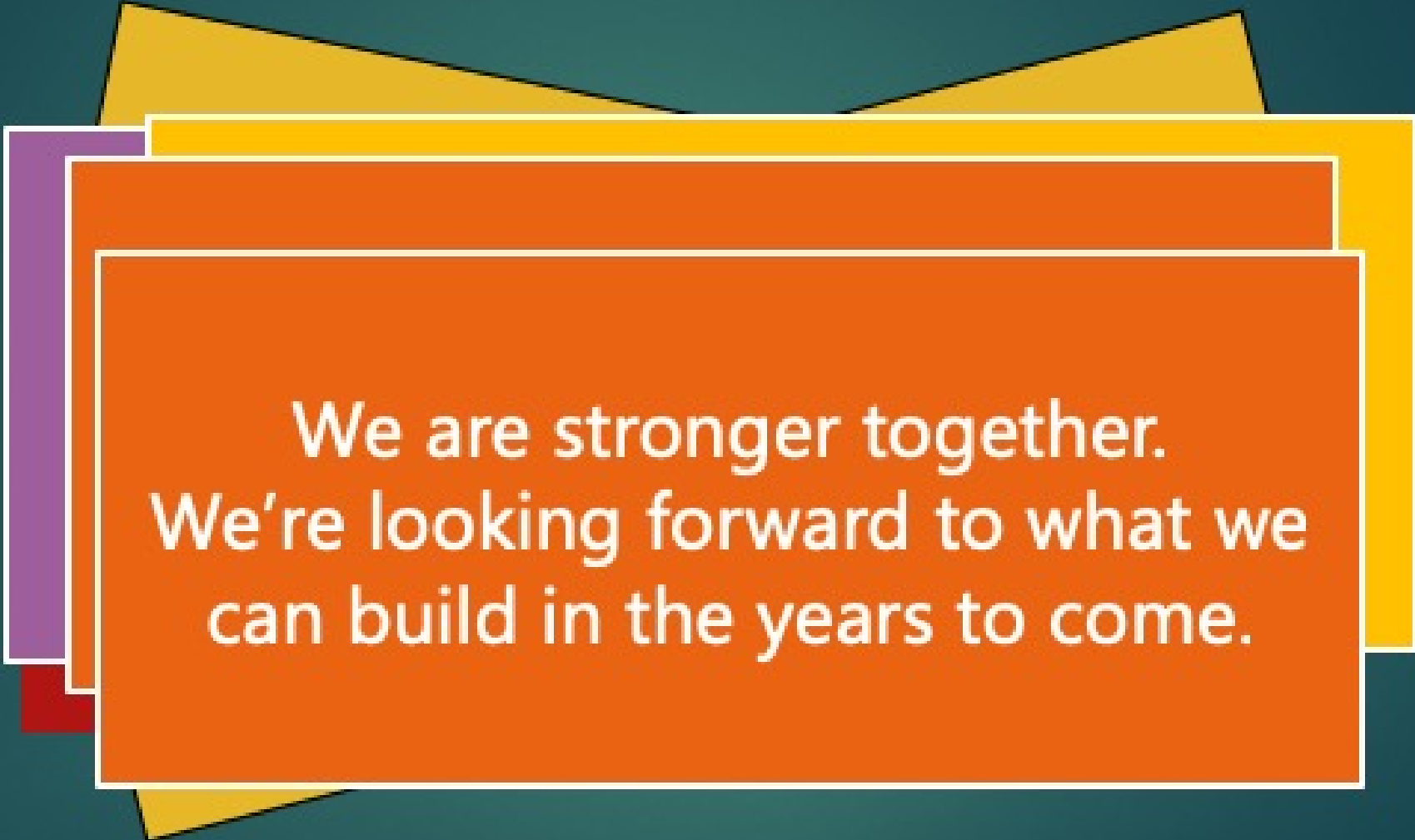






**Williams Joint Burn Plan Map**





We are stronger together.  
We're looking forward to what we  
can build in the years to come.

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