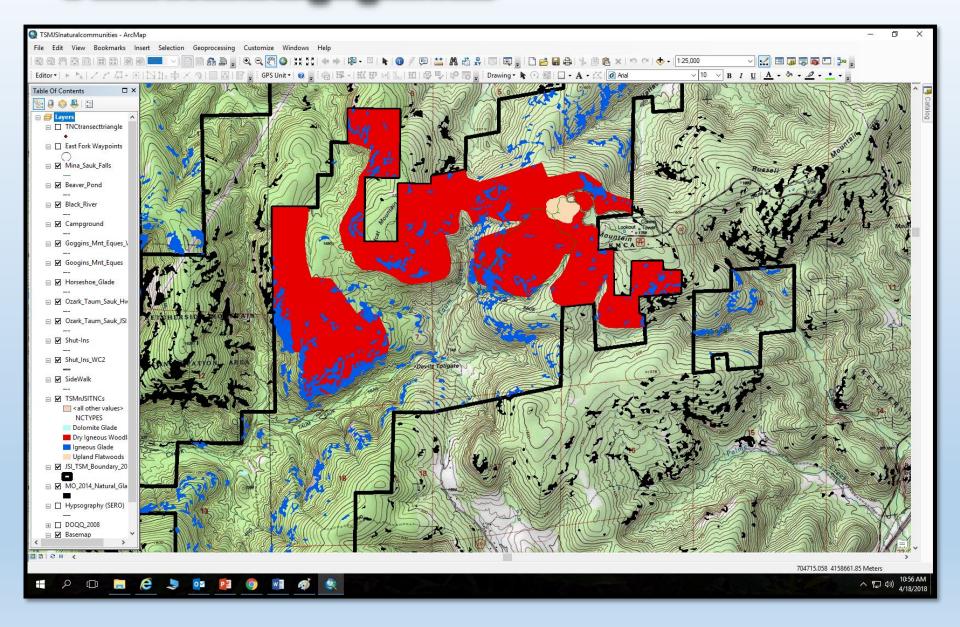
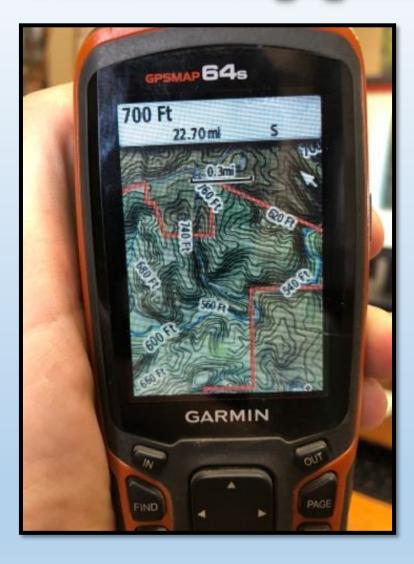


**Geographic Information System:** Any system designed to capture, store, manipulate, manage and present spatial/geographic data.

## **Platforms/Equipment**

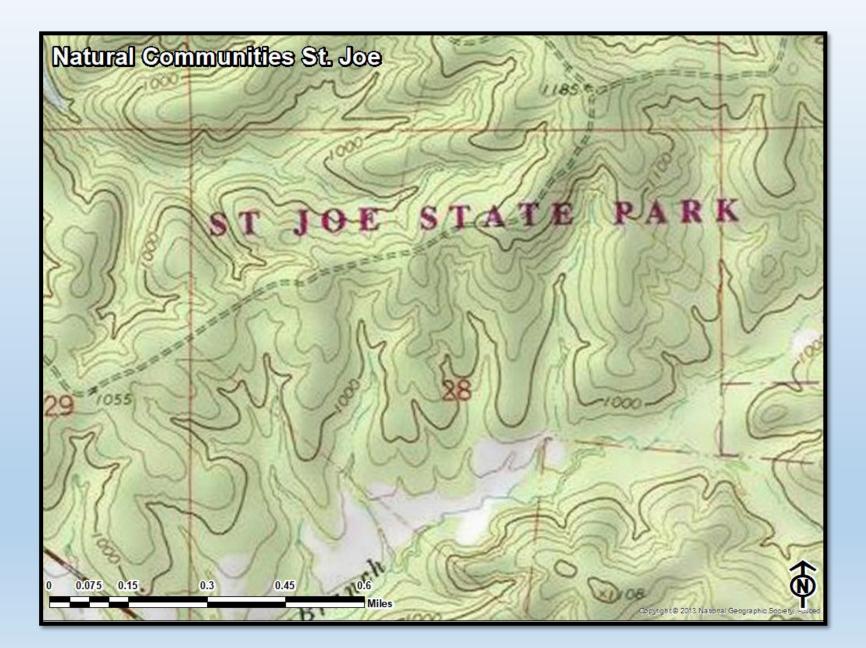


# **Platforms/Equipment**















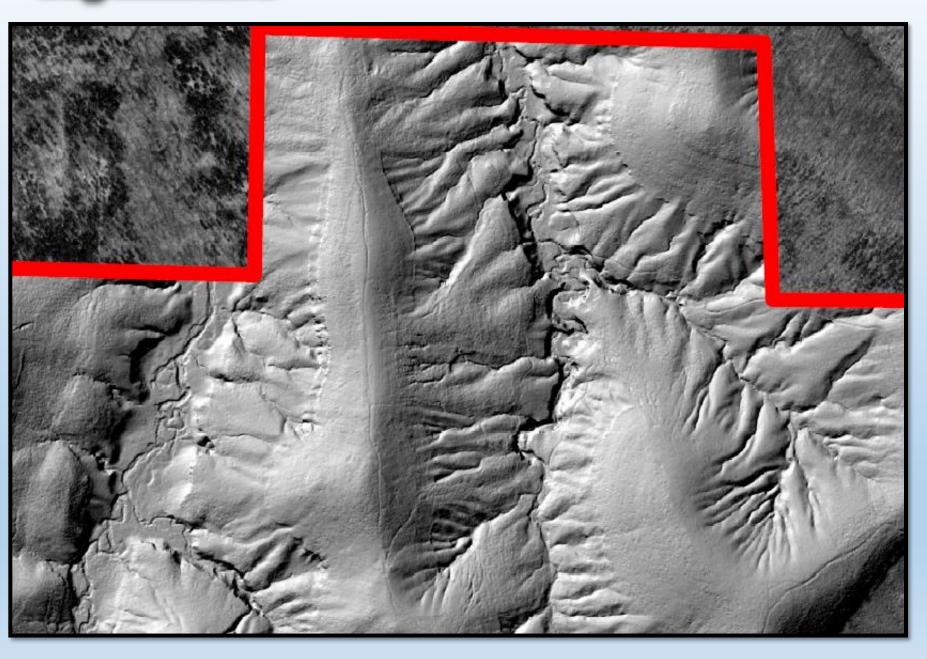
Extents of LiDAR Available For Download As Of 28 September 2017



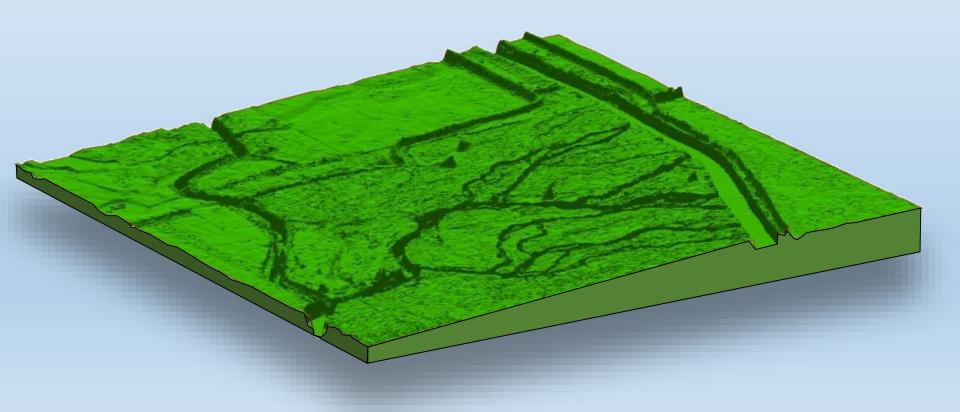
#### **Light Detection and Ranging**

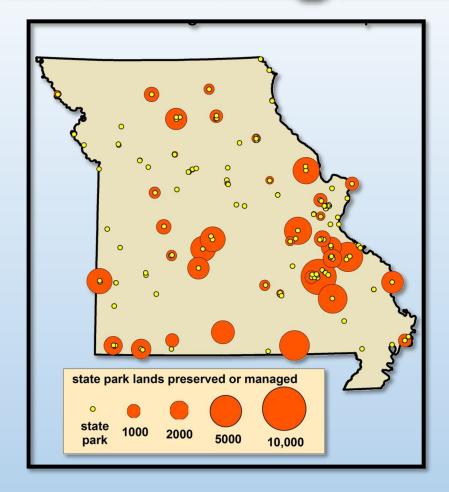




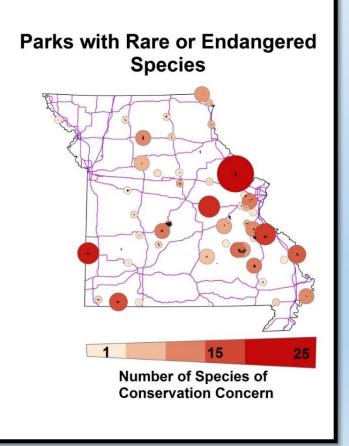


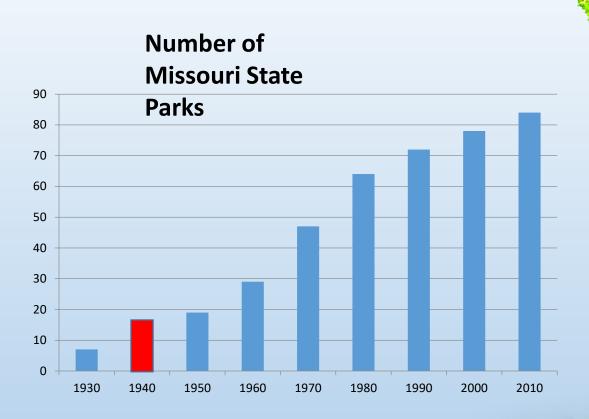


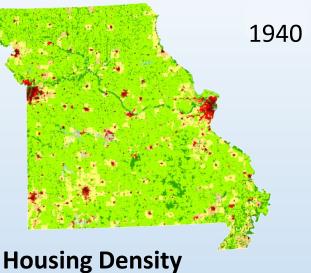


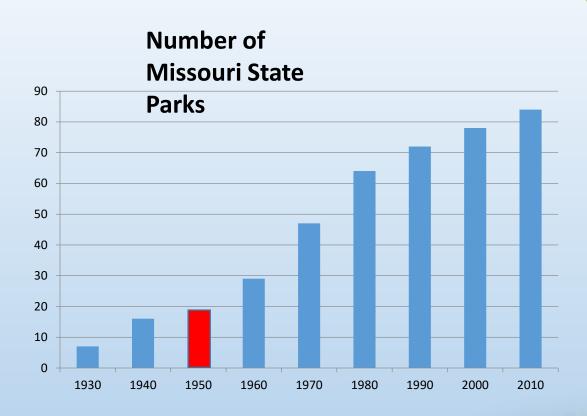


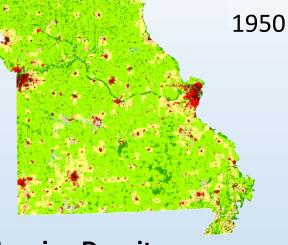




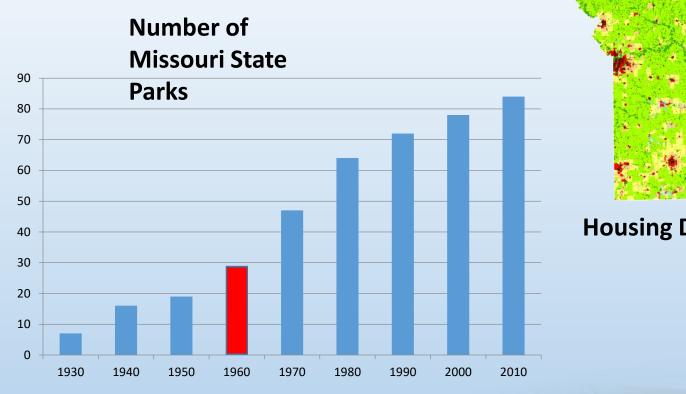


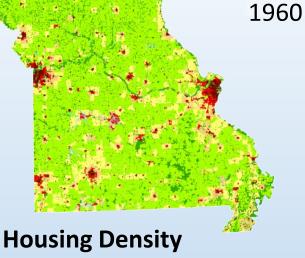


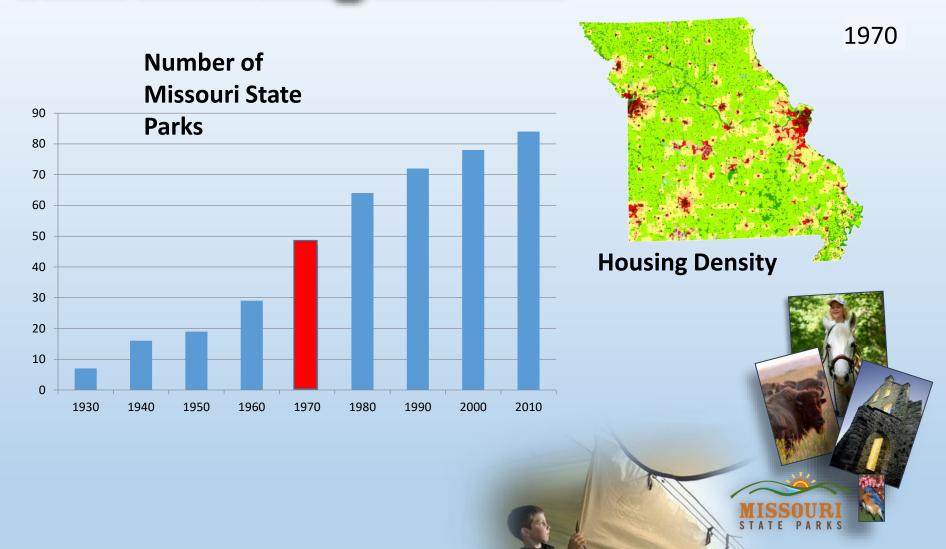


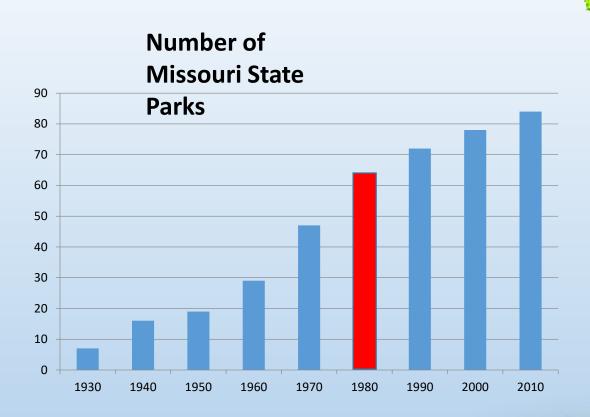


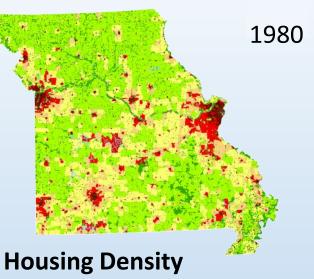
#### **Housing Density**

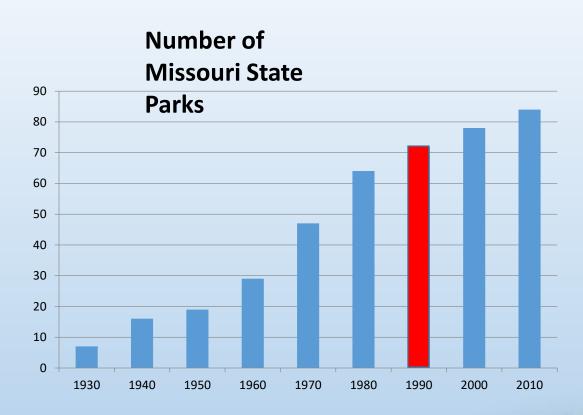


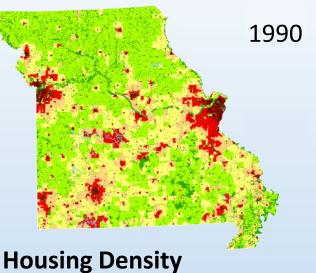


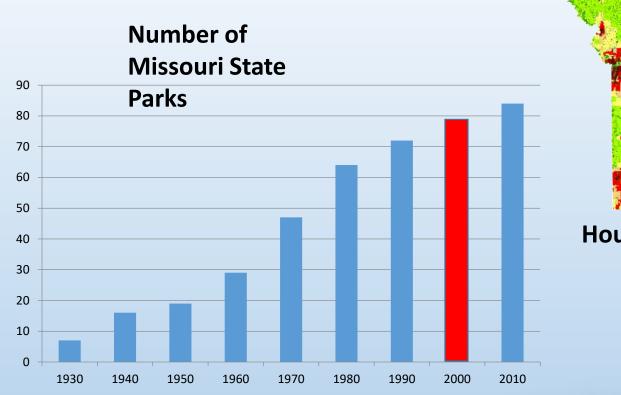




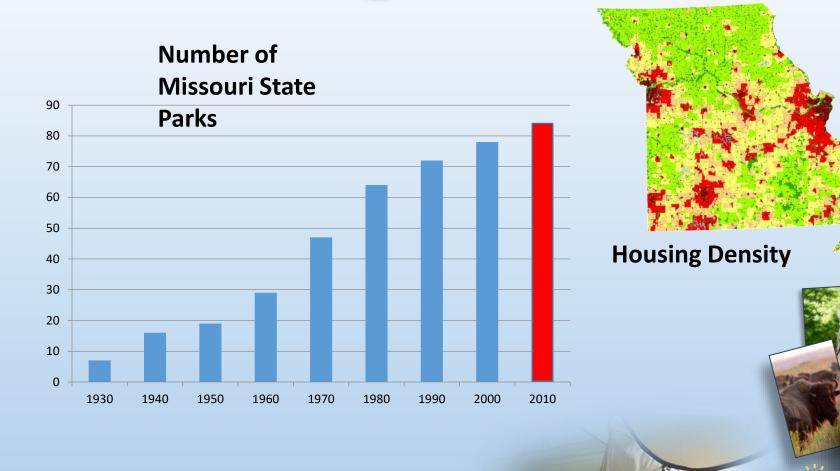




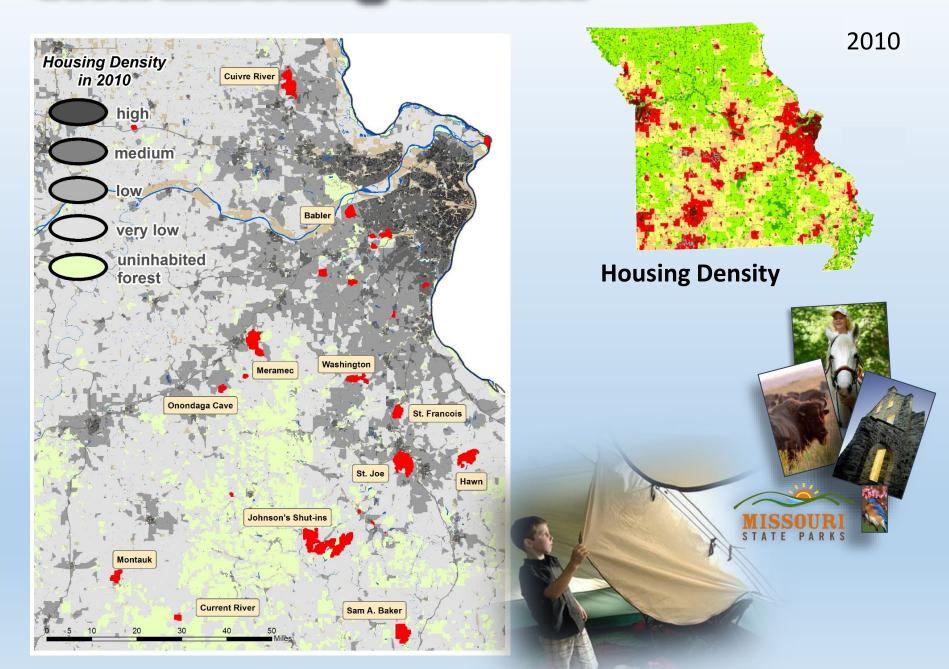




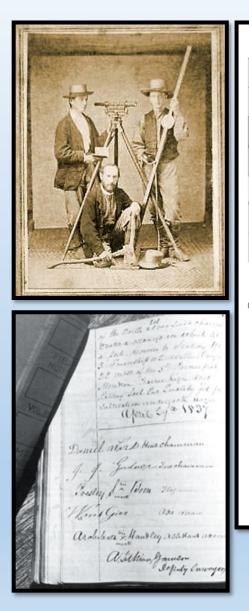
2000 Housing Density

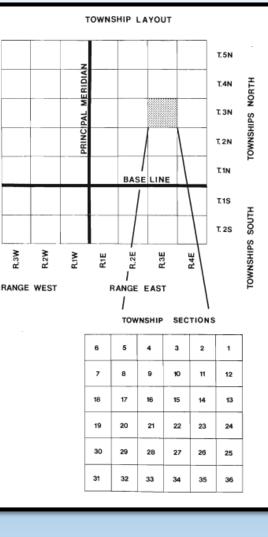


2010



## **Uses: Ecosystem Mapping (historic)**





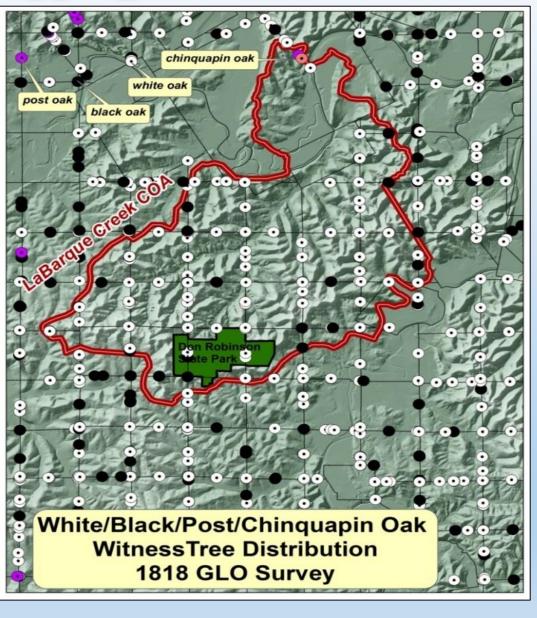
#### General Land Office Survey Notes

- Followed the Louisiana purchase in an effort to map lands in the state for prospective landowners
- In the Ozarks occurred 1815 1850's
- Recorded nature of the landscape, dominant vegetation, marked witness trees and noted the species and diameter

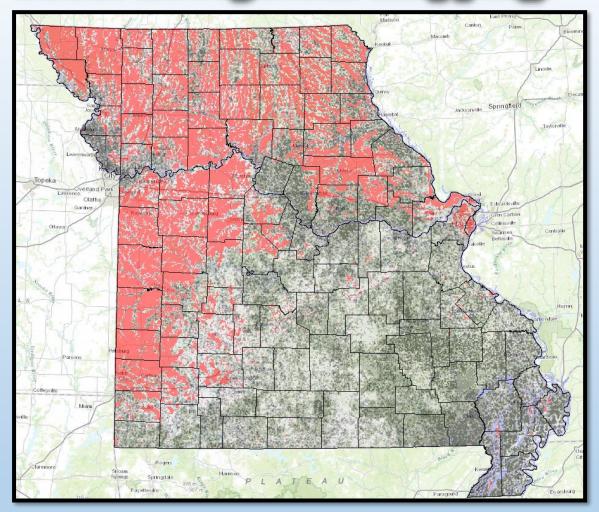


## **Uses: Ecosystem Mapping**





# **Uses: Ecosystem Mapping**



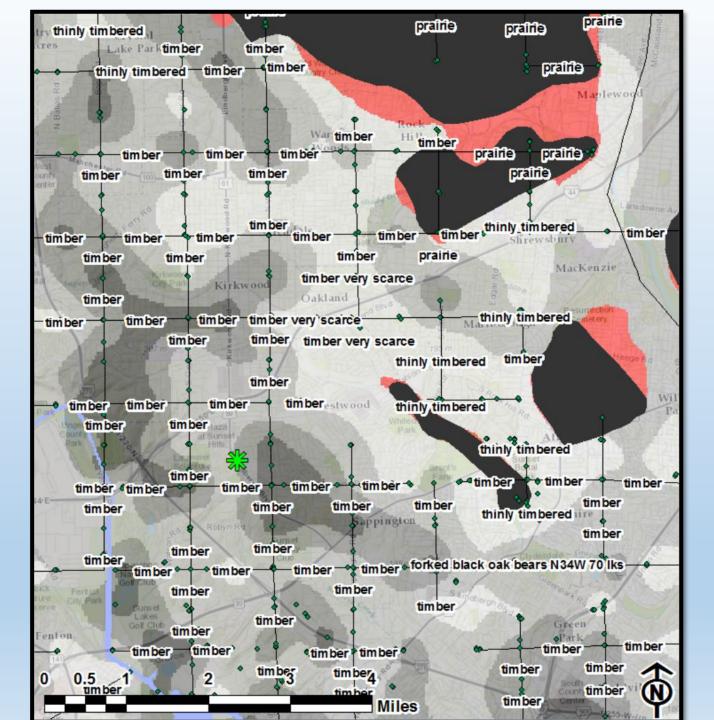
#### Statewide Acreage: 44.7 Million

- Glades -158,336 Acres 0.03%
- Prairies 12,028,160 Acres 27%
- Savanna 6,919,680 acres 15.5%
- Open Woodland 10,888,320 24.5%
  - Total 'Prairie Affinity' acreage: 67%



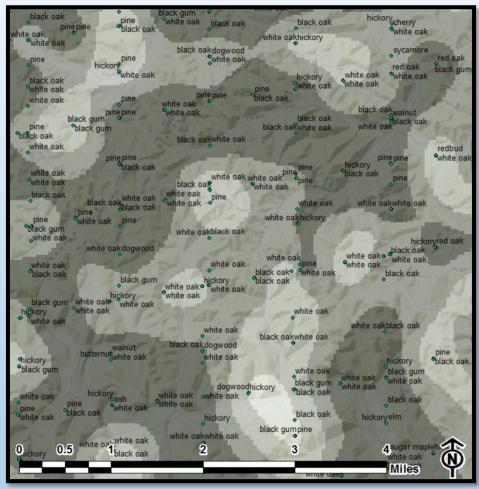
#### University of Missouri

• James Harlan – Geography Department. Historic Vegetation of Missouri



| Acres              | Lake Park                  | and the            | Acountle prech        | Tille<br>Park              |                | e) Ri                                      |  |  |  |  |  |
|--------------------|----------------------------|--------------------|-----------------------|----------------------------|----------------|--|--|--|--|--|--|
| _Wal-Mart          | Pavement                   | Pavement           | Country Club          | Scarce Nature              | Pavement       | Scarce Nature                              |  |  |  |  |  |
| ligits Rd          |                            | Stedber            |                       | THERE                      | Manchester Rd  | Maplewood                                  |  |  |  |  |  |
| B                  | Box Stores Plentiful Hills |                    |                       |                            |                |  |  |  |  |  |  |
| Mahch              | -Wal-Mart                  | Pavement           | Woods                 | Subdivision                | Pavement       | Subdivision                                |  |  |  |  |  |
| ounty<br>Center    | In Rd (100)                | [61]               | Pav                   | ement                      | Webster        |  |  |  |  |  |  |
| 12D                | 40                         | od Rd-             |                       | and the                    | Groves         | Lana downe Ave                             |  |  |  |  |  |
| 1-                 | Subdivision                | Subdivision        | Subdivision           | McDonalds                  | Subdivision    | Pavement                                   |  |  |  |  |  |
| 25                 | A Received                 | 1                  | Statute.              | Y.                         | ~ a            | MacKenzie                                  |  |  |  |  |  |
| out of Sention and | City P at                  | Kirkwood           | Oakland               |                            | E dan          |  |  |  |  |  |  |
|                    | Pavement                   | Subdivision        | -Pavement             | Subdivision                | -Pavement      | Subdivision                                |  |  |  |  |  |
| X                  | 207 m                      | Subd               | ivision               | Subdiv                     | ision          | Lee Golf<br>Centor Heege F.d. e            |  |  |  |  |  |
| KOL                |                            |                    | al Asian              | The second Rd              | 8              | EN ENTER S                                 |  |  |  |  |  |
| Park               | Pavement-                  | Pavement-          | Pavement              | od Subdivisio              | n-Pavement     | Subdivision Wal-Mart An                    |  |  |  |  |  |
| County 1<br>Park   | 13 A                       | Plaza<br>at Sonset |                       | Park                       |                | Afton                                      |  |  |  |  |  |
| 0-61               | X                          |                    |                       |                            |                | ubdivision Cubdivision                     |  |  |  |  |  |
| 44·E               | Subdivision                | Subdivision        | -Subdivision          | n Subdivision <sup>3</sup> |                | ubdivision — Subdivision                   |  |  |  |  |  |
|                    |                            | Robyn Ra           |                       | Sappington                 | NEL A          | Lakeshire                                  |  |  |  |  |  |
|                    | Valson                     |                    | ans et auntry<br>Club |                            | Subdivision    | yandale manual por                         |  |  |  |  |  |
| shick Fert sat     | Subdivisi                  | on McDonalds       | Subdivisio            | n-Pavement                 |                | Subdivision<br>Subdivision                 |  |  |  |  |  |
| sture City Pan     | Sumet                      | 30                 | 1 mar                 | Can                        | El aler oh Bha | A AG                                       |  |  |  |  |  |
| Fenton             | Got Club                   | Subdivision        |                       | Subdivision                | 2000           | Green<br>Park<br>Subdivision Subdivision - |  |  |  |  |  |
| 0 0 5              | -Gravos                    |                    | Wal-Mart              | 3 270                      | 12             |  |  |  |  |  |  |
| 0 0.5              |                            | 2                  | 3                     | 4<br>Miles                 |                | Canty Mehivil                              |  |  |  |  |  |
| Carlo and          |                            |                    |                       | INITES                     | CON VIKIL      | 25-1255 Web                                |  |  |  |  |  |

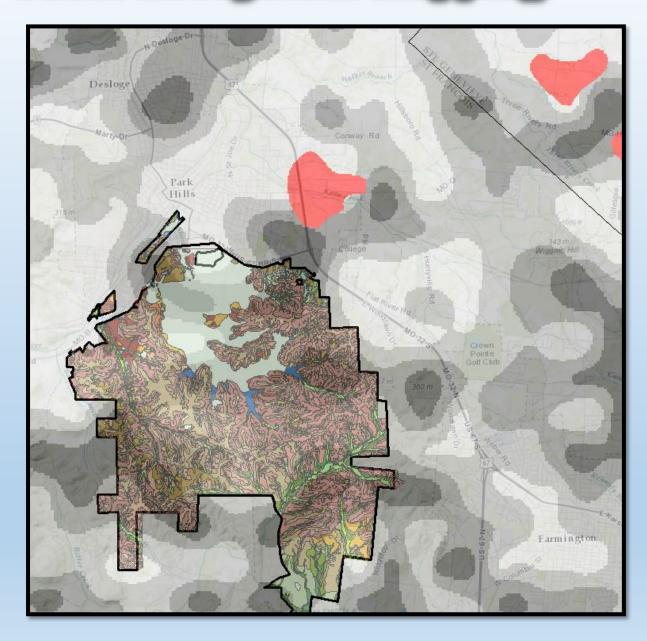
| black oak <sup>ash</sup> ash<br>black oak       | h black oak<br>white oak                             | black oakwhite oak<br>black oakwhite oak<br>white | post oakoost oak<br>oak                                    | black oak black<br>white oak                     | oak            |
|---|--|---|--|--|----------------|
| white oak                                       | white oak  | and the second                                    |  |  |                |
|   | black oakpost oak                                    | white oakhickory                                  | black oakwhite oak   | white oak white oak                              |                |
| black oak                                       | white oak  | black oak   | hickory  | white oak  | 1              |
| white oakbla<br>white oak                       |  | khickory elm<br>black oak<br>white oak            | white oak oblack oak                                       | black oak<br>black oak<br>white oak<br>white oak | oak<br>oak     |
| black oak                                       | EN   | white oak   | black oak  |  | -              |
| black oak<br><sup>®</sup> white oak             | white oak<br>white oak                               | post oakpost oak                                  | post oak<br>* post oak                                     | white oak<br>black oak                           | X              |
| • butternut                                     | a  | post oak  | post oak   | the states                                       | ry.            |
|   | kory hickoryhickor<br>ite oak <sup>o</sup> black oak | rycherry post oakpost oa<br>post oak              | kpost oak post oak <sup>post</sup><br>black oak            | oakpost oak                                      |                |
| hickory   | hickory  | hickory   | post oak   |  | al a           |
| black oak<br>black oak<br>oblack oak            | hickoryhickory                                       | white oak<br>white oak                            | white oak<br>white oak                                     | black oakwhite oak<br>white oak<br>white oak     | 1              |
| ack oakwhite oakwł<br>White oak                 | hite oak hickory<br>black oak <sup>blac</sup>        | post oak post oak<br>k oakpost oak<br>black oak   | kpost oak<br>post oak<br>post oak<br>opost oak             | post oak white oak white                         | e oa           |
| white oak                                       | 1  |   | white we table of the only                                 | white oak  | 1              |
| white oak<br>•black oak                         | white oakhickory                                     | white oakpost oak                                 | white oakblack oak   | white oak white oak                              | and the second |
| - Carl  | post oak   | ♦ black oak                                       |  | white  | e oa           |
| hite oakblack oakhi<br>®black oak<br>øblack oak | ckory black oakpost o<br><sup>O</sup> black oak      | akpost oak hickory<br>black oak<br>black oak      | post oakpost oakpost o<br>black oak <sup>b</sup> black oak | ash  | k oa           |
| black oak<br><sup>•</sup> black oak             | black oakpost oak                                    | post oakpost oak                                  | white oakelm   | black oak<br>cherry<br>elm                       |                |
| white oak                                       | black oak  | white oak   | hickory  |  |                |
| 0 0.5   | 1<br>lack oak post o                                 | 2 post oak  | black gun black oak  | A walnut Miles                                   | D              |



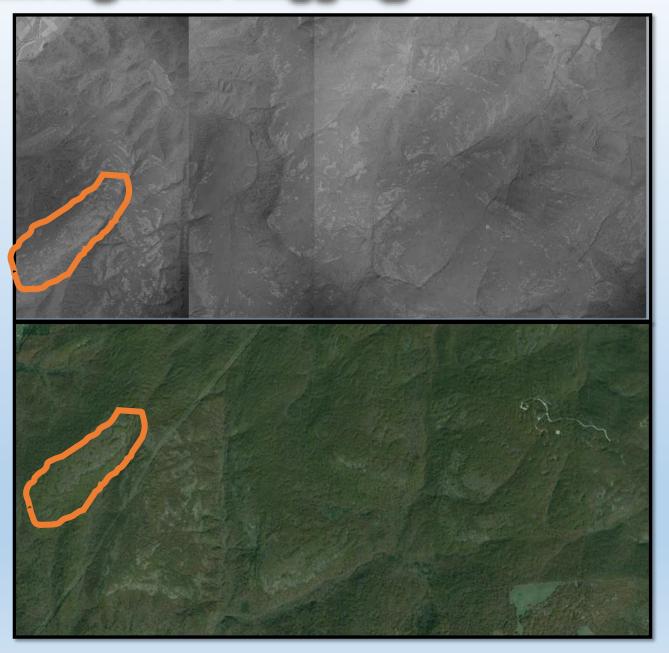
#### **Shannon County**

Farmington

# **Uses: Ecosystem Mapping**



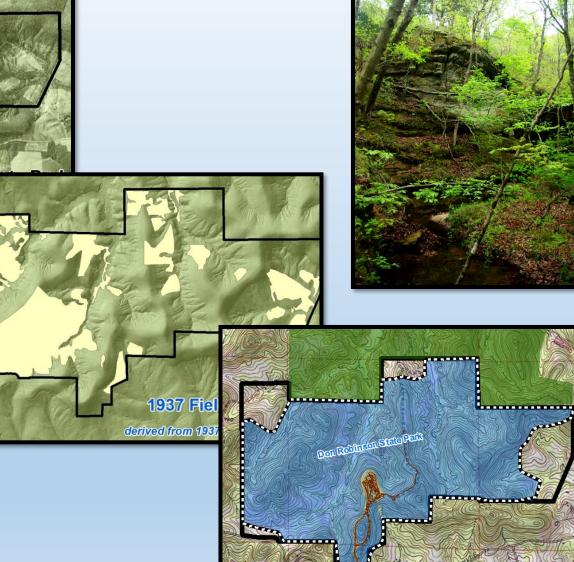
# **Uses: Ecosystem Mapping**



# **Uses: Mapping past damage**







Landscape cleared in 1937 - 880 Acres, 38%

0.225 0.45

0

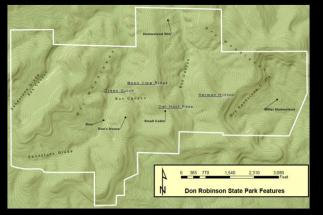
0.9

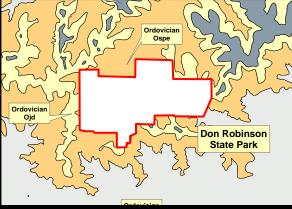
1.35

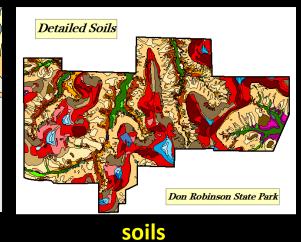
1.8

Miles

# Uses: Ecosystem Mapping



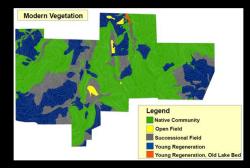




#### topography

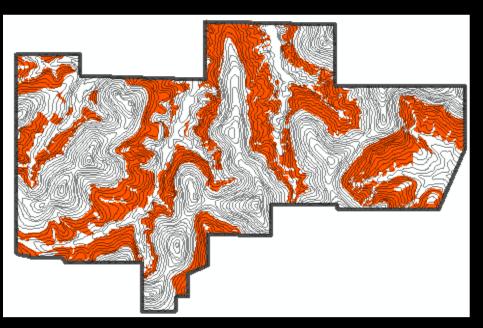


#### historic vegetation

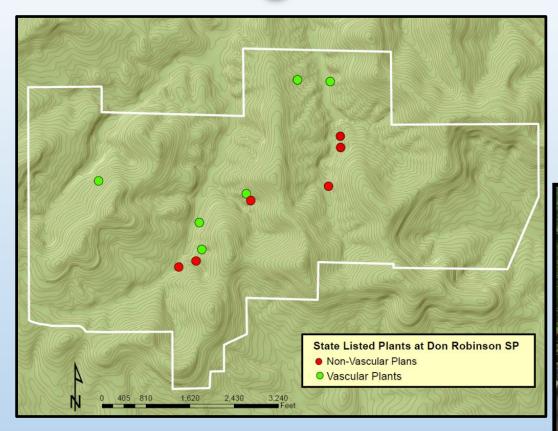


#### modern vegetation

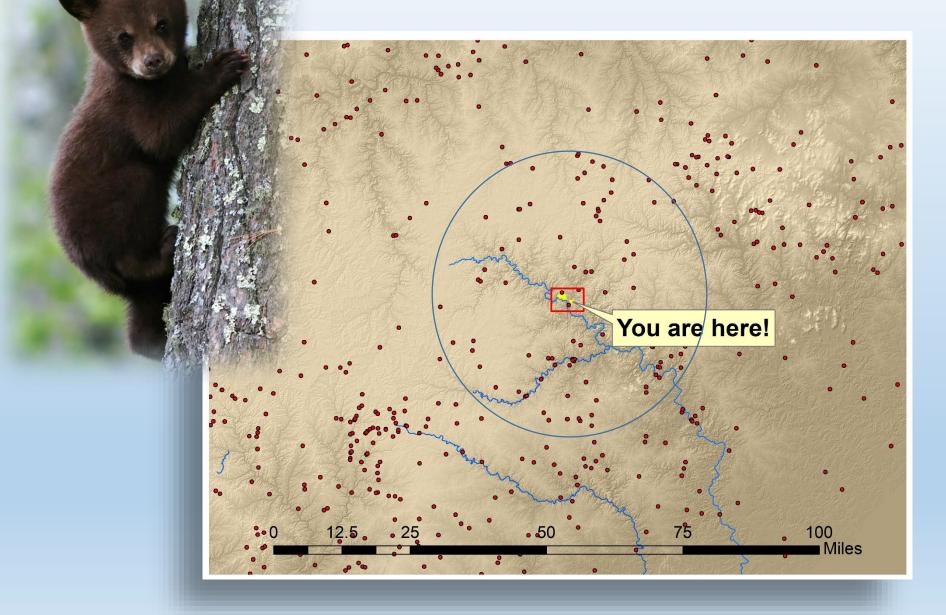




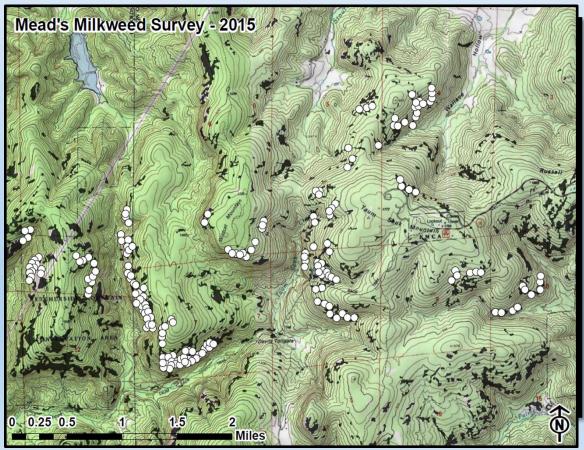
### **Natural Communities**

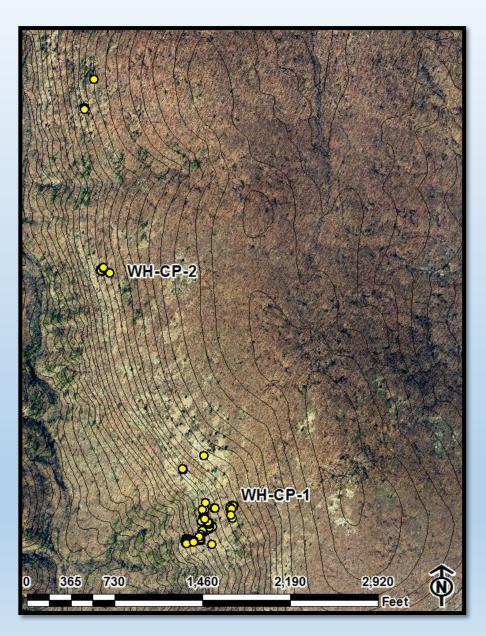
















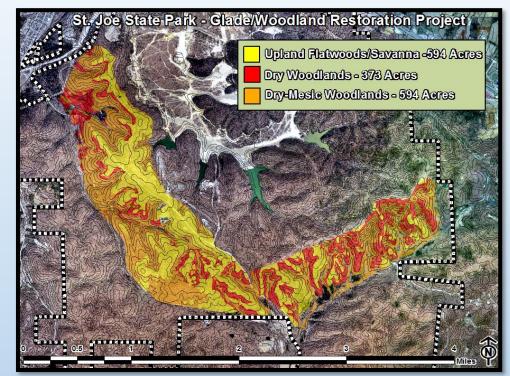








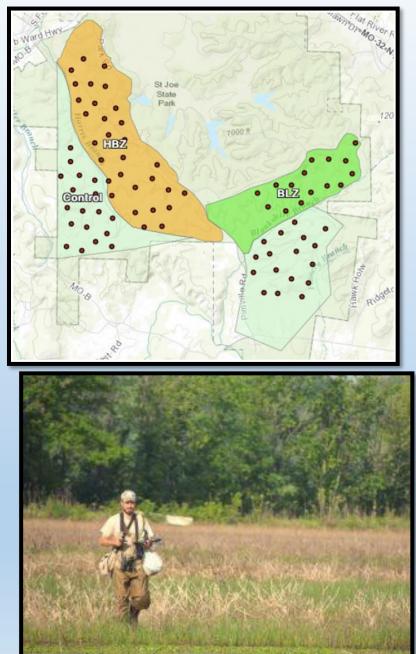




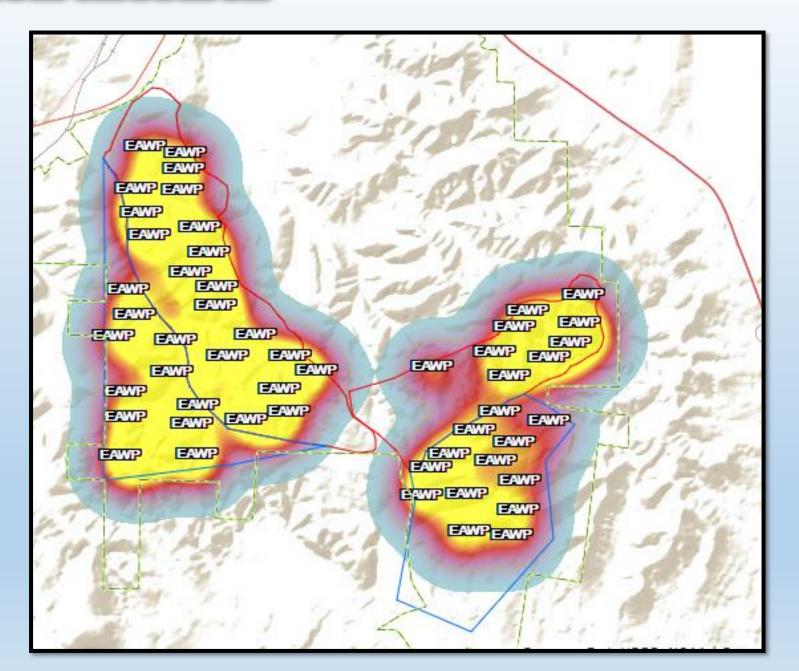




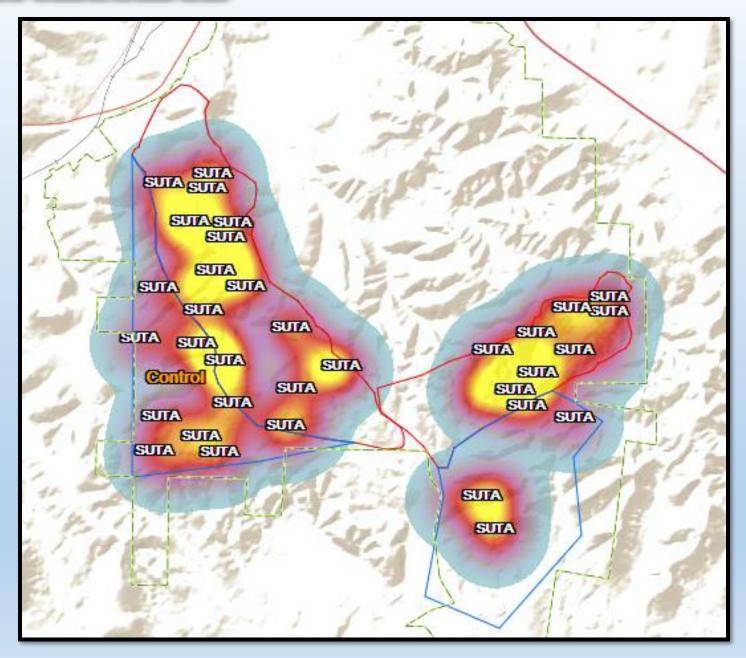




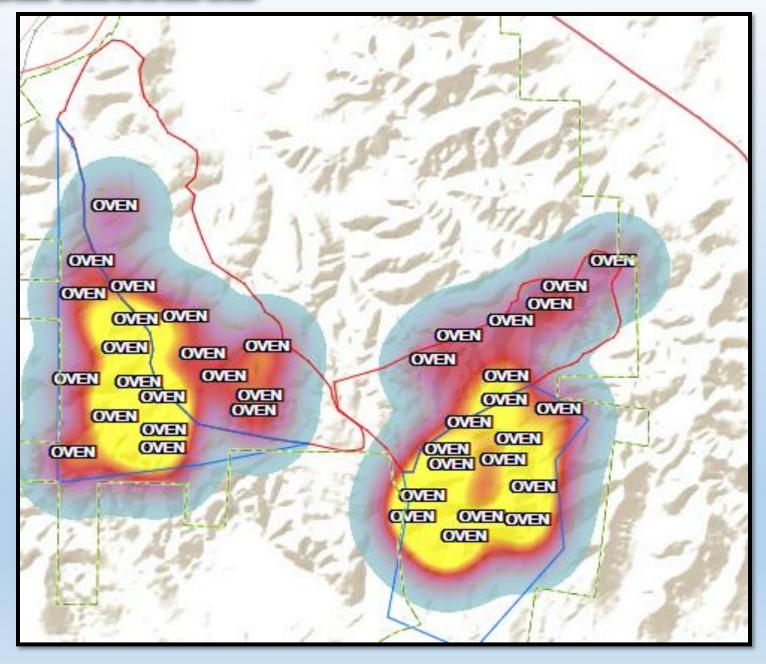
#### **Uses: Research**

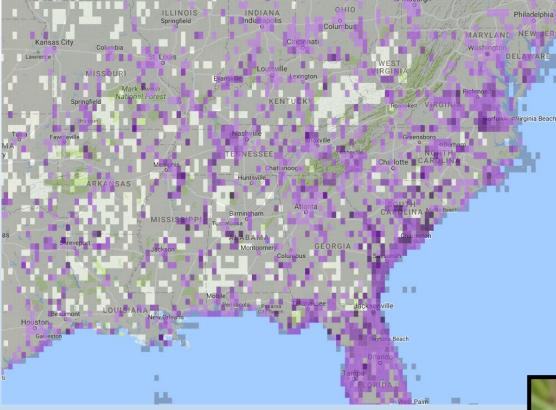


## **Uses: Research**



#### **Uses: Research**

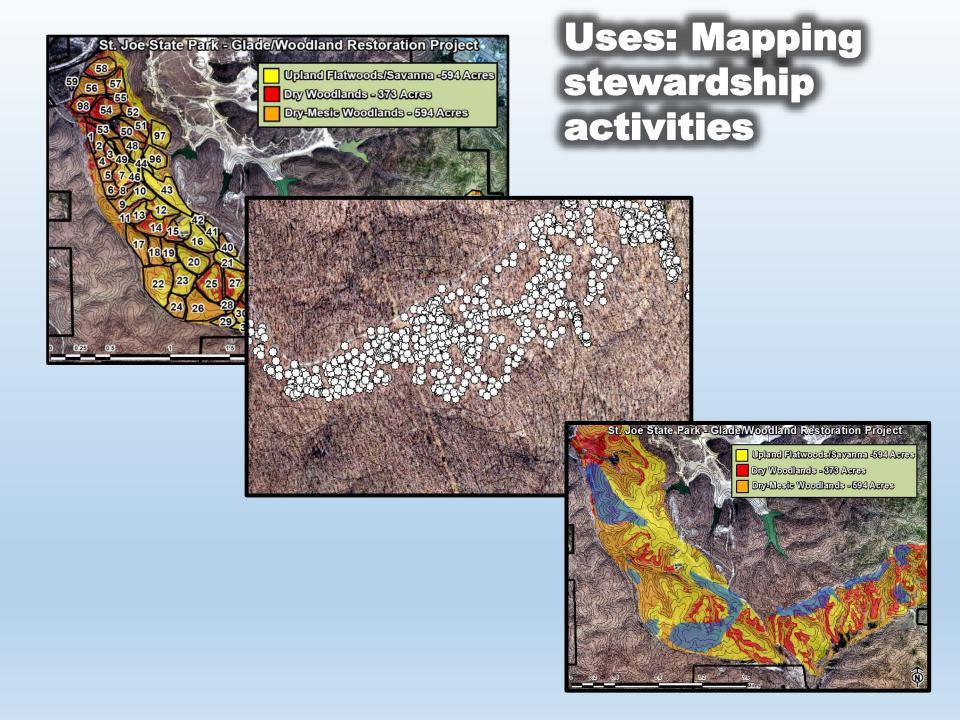




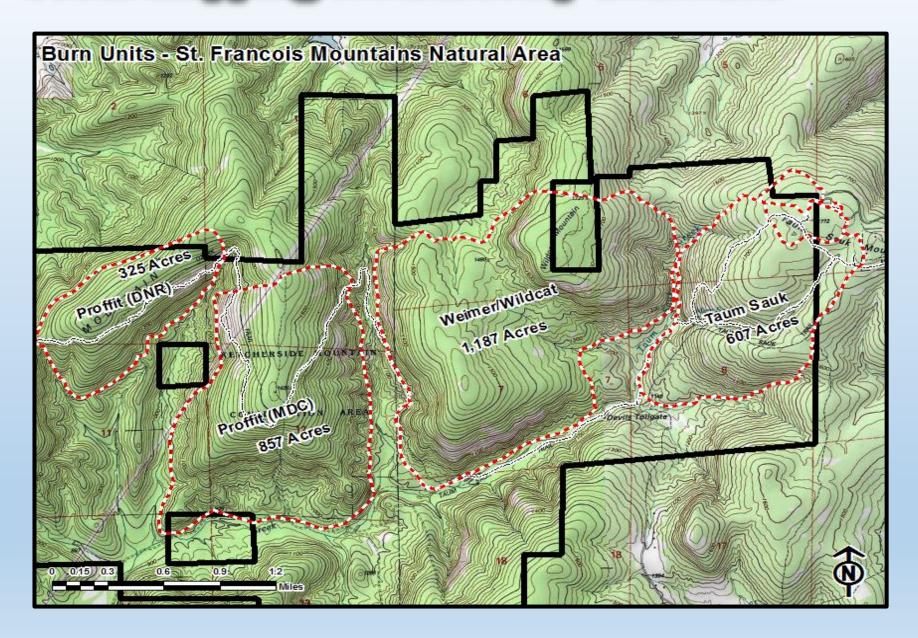




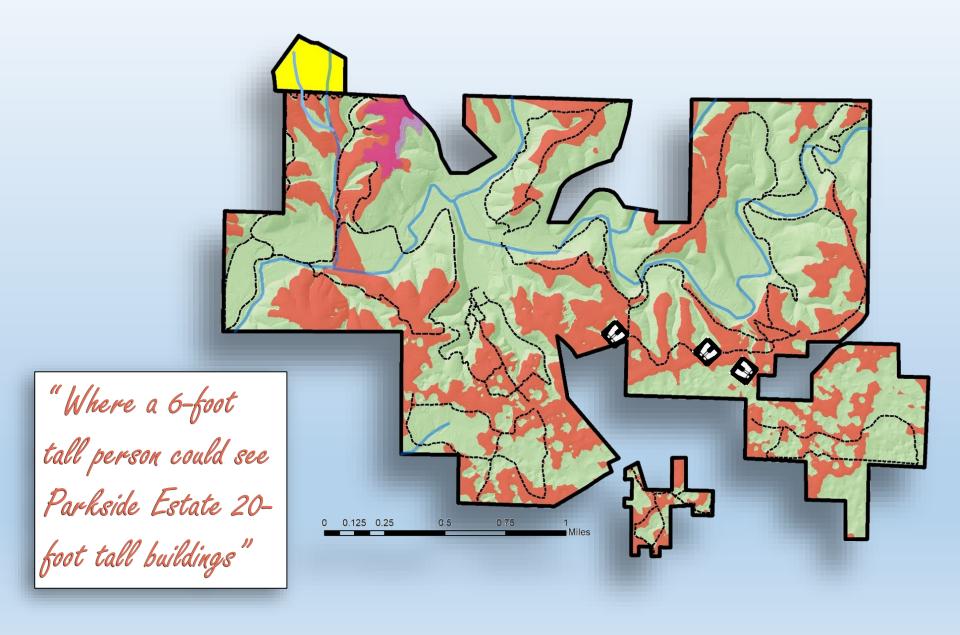
#### Yellow-throated Warbler



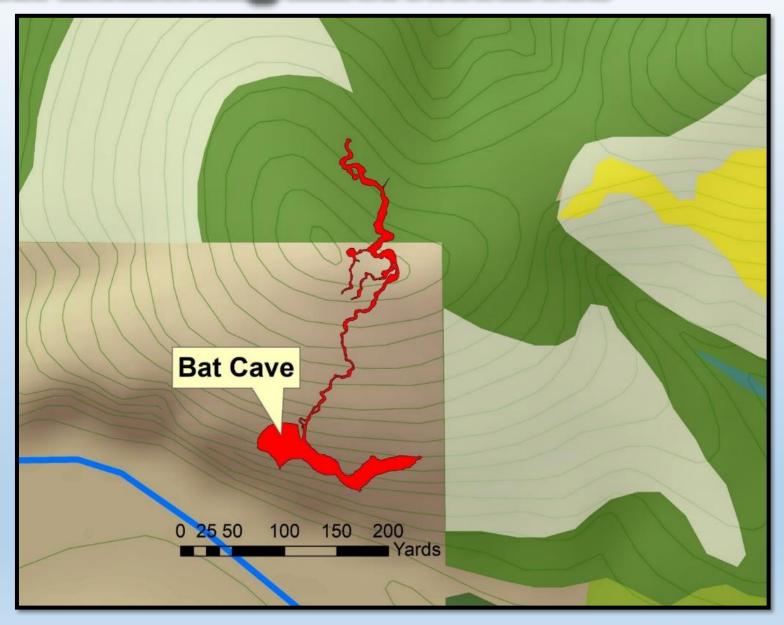
## **Uses: Mapping stewardship activities**



## **Uses: Impact of development**



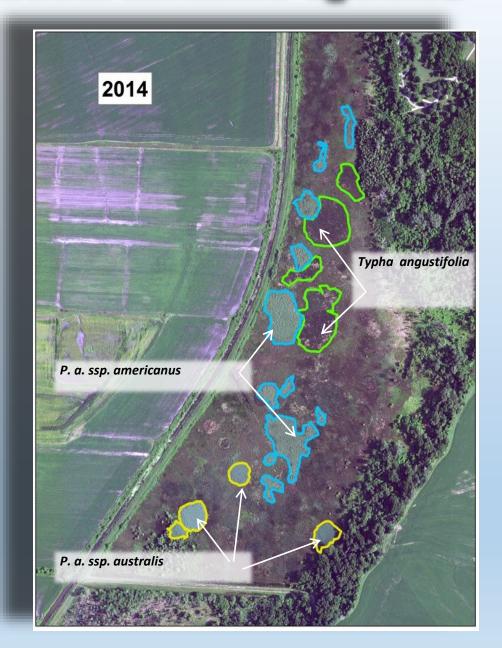
## **Uses: Monitoring karst resources**



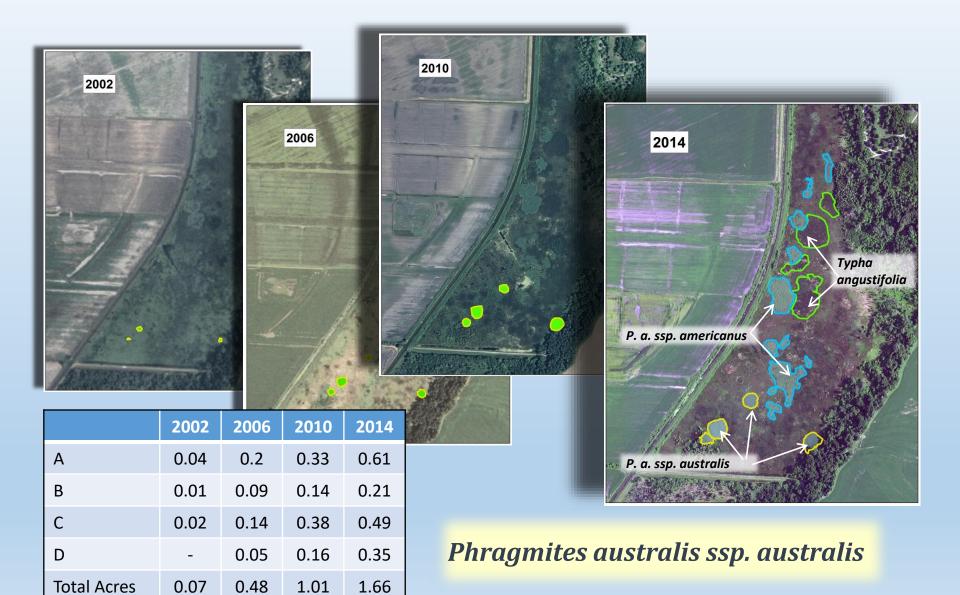
# **Uses: Invasive Species**



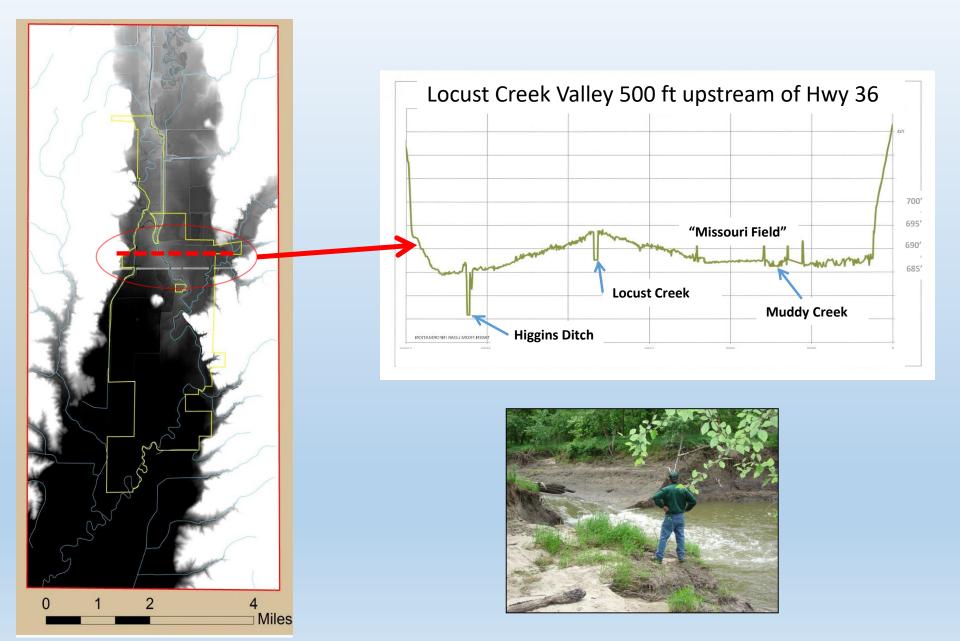
# **Uses: Invasive Species**



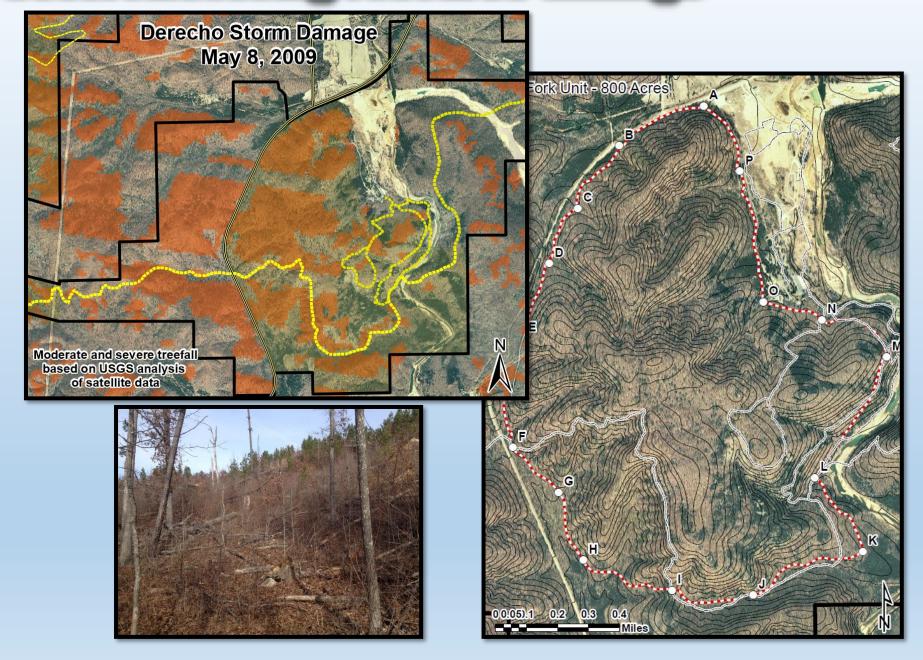
## **Uses: Invasive Species**



## **Uses: Assessing resource damage**



## **Uses: Assessing resource damage**



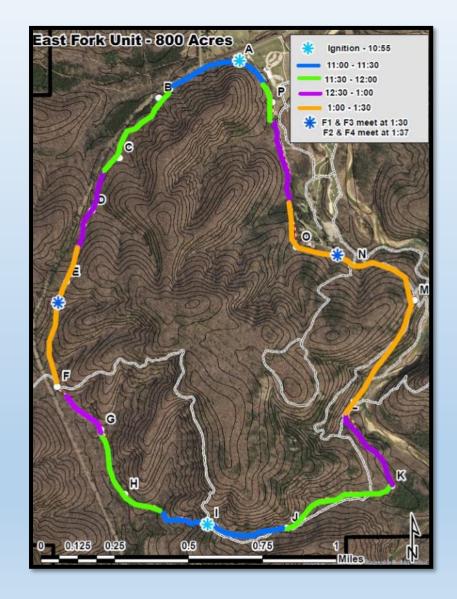
# **Developing technology**



# **Developing technology**







# **Developing technology**

