

**SHAWNEE NATIONAL FOREST**  
**BIOLOGICAL EVALUATION FOR**  
**REGIONAL FORESTER'S SENSITIVE PLANT SPECIES**

**HIDDEN SPRINGS RANGER DISTRICT**

**Ozark Road Improvement Project**  
**Pope County**

**May 14, 2012**

**INTRODUCTION AND PROPOSED MANAGEMENT ACTION**

Forest Service Manual (FSM) Section 2672.41 requires a biological evaluation (BE) and/or biological assessment (BA) be conducted for all Forest Service planned, funded, executed, or permitted programs and activities. The objectives of this BE are to: 1) ensure that Forest Service actions do not contribute to the loss of population viability of any native or desired non-native species or contribute to trends toward federal listing; 2) comply with the requirements of the Endangered Species Act (ESA) so that federal agencies do not jeopardize or adversely modify critical habitat (as defined in ESA) of any federally listed species; and, 3) provide a process and standard to ensure that federally threatened and endangered and Region Nine Sensitive species receive full consideration in the decision-making process.

The Hidden Springs Ranger District supports known occurrences and suitable habitat for Region Nine Forester's Sensitive plant species (RFSS), all of which were considered in this analysis. This BE documents the analysis of potential effects of the proposed action to RFSS plant species. This document discloses the potential direct, indirect, and cumulative effects resulting from the Ozark Road Improvement Project and a No Action alternative.

Pope County Road District Number 2 received funding to upgrade the Ozark Road (from Appel Road to the Water Tower Road) from a gravel surface to chip-seal. A portion of this road (from Appel Road to the Burden Falls road, about 1.7 miles) is under Forest Service jurisdiction. Pope County has requested a road maintenance agreement to allow them to accomplish this road improvement work. The improvement would accommodate the public traffic, increase safety and would reduce future maintenance costs. The work would include replacement of eight culvert pipes, clearing, brushing and adding gravel, with disturbance limited to the existing road corridor. The road would be upgraded to an oil and chip surface.

**ALTERNATIVES**

Two alternatives are presented, the Proposed Action and No Action.

**Proposed Action Alternative**

Under the road maintenance agreement the Forest would allow Pope County to maintain and improve Ozark Road (#402) from the intersection of the Delwood Road and Bell Smith Springs to the intersection of Appel Road in McCormick, about 1.7 miles. The work would include replacement of eight culvert pipes, clearing, brushing and adding gravel, with disturbance limited to the existing road corridor. The road would be upgraded to an oil and chip surface. Removal of brush and trees up to four inches DBH would occur during routine maintenance. The terms of the maintenance agreement are included below.

**THE COOPERATOR (Pope County Road District Number 2) SHALL:**

1. Replace culvert pipes and perform motor grader work in preparation for applying an oil and chip surface. Culvert Installation shall be in accordance with US Department of Transportation FP-03 (Standard Specifications For Construction of Roads and Bridges on Federal Highway Projects, USDOT, 1999).
2. Perform all work within the existing and established road surface as defined in Exhibit B. Maximum traveled way width shall be 20 feet, maximum shoulder shall be 1 foot on either side of traveled way. Total maximum road surface width shall be 22 feet.
3. Surface blade the traveled way, clean established lead-off ditches, clean the existing ditchlines and smooth the road surface where rock ledges are present and can be removed by either backhoe or track hoe.
4. Not perform any clearing work to remove trees or brush. Nor perform any clearing work when replacing culvert pipes.
5. Mark the location of culverts to be replaced and contact the Forest Service a minimum of 72 hours prior to any culvert replacement.
6. Place a two-layer oil and chip surfacing to the existing roadway once road prep is complete.
7. Notify the Forest Service a minimum of 72 hours prior to placement of the oil and chip surfacing.
8. Follow the MUTCD (FHWA 2009) for safety and traffic signing in the work zone, including utilizing flag people when needed.
9. Assume all maintenance responsibility for this segment of roadway upon completion of work. Maintenance requirements are as follows:
  - a. Road Surface width for maintenance shall be as listed in item 2 above.
  - b. Brushing limits shall be a maximum of 10 feet from edge of road surface and does not include removal of standing trees larger than 4 inches in diameter. Overhead clearing shall be a minimum of 14 feet above the road surface. (See Exhibit C)
10. Mowing limits shall be a maximum of 10 feet from the edge of the road surface. (See Exhibit D)
11. Mowing and brushing shall occur as often as necessary to ensure the safety of the traveling public.

**THE U.S. FOREST SERVICE SHALL:**

1. Retain all jurisdiction responsibility for this segment of roadway.
2. Shall be on site when culverts are installed.

## No Action Alternative

This alternative would not implement any aspect of the proposal. The Forest would continue to maintain the road as a gravel road. This is a viable alternative, but it would not meet the purpose and need for this project.

## REGIONAL FORESTER'S PLANT SPECIES KNOWN TO OCCUR IN POPE COUNTY

The following information was compiled from computer databases and available literature. The below Regional Forester's Sensitive plant species are known from Pope County where the Ozark Road Improvement Project on the Shawnee National Forest is located. Note: IL-T = Illinois Threatened, IL-E = Illinois Endangered. A = Alexander, G = Gallatin, H = Hardin, Ja = Jackson, Jo = Johnson, M = Massac, P = Pope, S = Saline, U = Union, and W = Williamson.

G,H,Ja,Jo,(M),P	<i>Actaea rubifolia</i> (Appalachian Bugbane) (IL-T)
A,P,S	<i>Amorpha nitens</i> (Shining False Indigo) (IL-E)
P	<i>Bartonia paniculata</i> (Twining Screwstem) (IL-E)
P	<i>Buchnera americana</i> (American Bluehearts)
P	<i>Calamagrostis porteri</i> ssp. <i>insperata</i> (Porter's Reedgrass) (IL-E)
P, Ja, Ma	<i>Carex alata</i> (Winged Sedge) (IL-E)
P	<i>Carex atlantica</i> (Star Sedge) (IL-T)
Ja,Jo,P	<i>Carex bromoides</i> (Sedge) (IL-T)
(G),H,(Jo),P,S	<i>Carex communis</i> (Fibrous-root Sedge) (IL-T)
(G),Jo,P,U	<i>Carex decomposita</i> (Cypress-knee Sedge) (IL-E)
(A,H,Ja,Jo,M,P,S,U)	<i>Carex lupuliformis</i> (False Hop Sedge)
G,H,P,(U)	<i>Carex nigromarginata</i> (Black-edge Sedge) (IL-E)
(Jo),P	<i>Carex prasina</i> (Drooping Sedge) (IL-T)
A,Jo,M,P,S,U	<i>Carex socialis</i> (Low Woodland Sedge)
G,Jo,P,S,U	<i>Carex willdenowii</i> (Willdenow's Sedge) (IL-T)
H,M,P	<i>Chamaelirium luteum</i> (Fairywand) (IL-E)
(A,G),Ja,Jo,(M,P,U)	<i>Chelone obliqua</i> var. <i>speciosa</i> (Red Turtlehead)
A,G,Ja,Jo,M,P,U,W	<i>Cypripedium parviflorum</i> v. <i>pubescens</i> (Greater Yellow Lady's Slipper)
Jo,P	<i>Dennstaedtia punctilobula</i> (Eastern Hay-scented Fern) (IL-E)
H,P,(U)	<i>Dichanthelium ravenelii</i> (Ravenel's Rosette Grass) (IL-E)
P	* <i>Dichanthelium yadkinense</i> (Yadkin's Panic Grass) (IL-E)
Ja,Jo,P,S,U,W	<i>Dodecatheon frenchii</i> (French's Shooting Star) (IL-T)
Ja,Jo,P,U,W	<i>Dryopteris goldiana</i> (Goldie's Woodfern)
H,Jo,P,U	<i>Echinacea simulata</i> (Wavyleaf Purple Coneflower)
G,Ja,M,P,S,U	<i>Eleocharis wolfii</i> (Wolf's Spikerush)
H,(Ja),Jo,(M),P,Pu	<i>Euonymus americana</i> (Strawberry Bush) (IL-E)
Jo,P	<i>Eupatorium hyssopifolium</i> (Hyssop leaf Thoroughwort) (IL-E)
Ja,Jo,M,P,S,U,W	<i>Festuca paradoxa</i> (Clustered Fescue)
A,Ja,M,P	<i>Gentiana alba</i> (Plain Gentian)
M,P	<i>Helianthus angustifolius</i> (Swamp Sunflower) (IL-T)
(A),P,(U)	<i>Heteranthera reniformis</i> (Kidneyleaf Mudplantain) (IL-E)

H,(Ja),(P)	<i>Hexalectris spicata</i> (Spiked Crested Coralroot Orchid) (IL-E)
Ja,Jo,P,U	<i>Hottonia inflata</i> (American Featherfoil)
P,Jo,G	<i>Huperzia porophila</i> (= <i>Lycopodium</i> ) (Rock Clubmoss) (IL-T)
G,H,P,S	<i>Hylotelephium telephioides</i> (= <i>Sedum</i> ) (Allegheny Stonecrop) (IL-T)
P	<i>Isotria verticillata</i> (Purple Fiveleaf Orchid) (IL-E)
A,G,H,Ja,Jo,M,P,S,U,W	<i>Juglans cinerea</i> (Butternut)
G,H,Ja,Jo,P,W	<i>Lilium superbum</i> (Turk's-cap Lily)
Ja,P	<i>Lonicera flava</i> (Yellow Honeysuckle) (IL-E)
H,P	<i>Oxalis illinoensis</i> (Illinois Wood Sorrel) (IL-E)
A,G,H,Ja,Jo,M,P,S,U	<i>Panax quinquefolius</i> (American Ginseng)
G,H,M,P	<i>Phaeophyscia leana</i> (Wreath Lichen) (IL-T)
Ja,Jo,P,S	<i>Plantago cordata</i> (Heartleaf Plantain) (IL-E)
P	<i>Platanthera clavellata</i> (Small Green Wood Orchid) (IL-E)
(Ja),(P)	<i>Poa alsodes</i> (Autumn Bluegrass) (IL-E)
(M),P	<i>Polygala incarnata</i> (Procession Flower) (IL-E)
Ja,M,P,W	<i>Rhexia mariana</i> (Maryland Meadowbeauty) (IL-E)
Jo,P	<i>Rhynchospora glomerata</i> (Clustered Beaksedge) (IL-E)
P	<i>Rudbeckia fulgida</i> var. <i>sullivantii</i> (Sullivant's Coneflower)
P,(U)	<i>Sagittaria australis</i> (Longbeak Arrowhead) (IL-E)
H,M,P	<i>Scirpus polyphyllus</i> (Leafy Bulrush) (IL-T, proposed S)
H,P,Jo,U,W	<i>Scleria pauciflora</i> (Fewflower Nutrush) (IL-E)
Jo,(M),P,(U),W	<i>Spiranthes vernalis</i> (Spring Ladies' Tresses) (IL-E)
H,P	<i>Stellaria pubera</i> (Star Chickweed) (IL-E)
G,Ja,Jo,(M),P,U	<i>Stenanthium gramineum</i> (Eastern Featherbells) (IL-E)
(A),(Ja),Jo,M,P	<i>Styrax americanus</i> (American Snowbell) (IL-T)
P	<i>Thelypteris noveboracensis</i> (New York Fern) (IL-E)
G,H,Jo,P,U	<i>Trichomanes boschianum</i> (Appalachian Bristle Fern) (IL-E)
H,(P)	<i>Vaccinium stamineum</i> (Deerberry) (IL-E)

\* Nomenclature follows Mohlenbrock 2002 instead of USDA, NRCS Plants Database 2012.  
 ( ) a parenthesis on the county indicates that the species has been extirpated or thought to be extirpated from that particular county.

## EFFECTS

The Project road has been traveled for numerous years by several botanists and ecologists with no records of any RFSS (plants) being documented. The roadway edge, including approximately 25 feet on either side of the gravel, was floristically surveyed on May 10, 2012. A species list was compiled and can be found at the end of this BE.

No RFSS were found at the time of the survey and only marginal habitat for one RFSS species was determined (*Juglans cinerea*, butternut). With no RFSS present, there will be no direct or indirect effects with either the proposed action or the no-action alternative.

## CUMMULATIVE EFFECTS

Since there will be no effects to any known locations of RFSS, there are no cumulative effects to analyze for. The project can proceed as proposed with no negative impacts to Regional Forester's Sensitive plant Species. If any new populations are discovered prior to or during project implementation, the proper standards and guidelines will be followed to protect the new populations/individual(s).

*/s/Elizabeth Longo Shimp*

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Plant Species List - May 10, 2012 – Roadside flora approximately 25 feet from gravel edge included:

### **Trees**

Acer saccharum  
Amelanchier arborea  
Carya glabra  
Carya ovata  
Cercis canadensis  
Cornus florida  
Diospyros virginiana  
Fraxinus americana  
Juglans nigra  
Juniperus virginiana  
Liquidambar styraciflua  
Liriodendron tulipifera  
Morus alba  
Nyssa sylvatica  
Ostrya virginiana  
Pinus echinata  
Quercus alba  
Quercus falcata  
Quercus imbricaria  
Quercus marilandica  
Quercus rubra  
Quercus stellata  
Quercus velutina  
Rhamnus caroliniana  
Robina pseudo-acacia  
Sassafras albidum  
Ulmus alata  
Ulmus rubra

### **Vines and Shrubs**

Crataegus sp.  
Elaeagnus umbellata  
Lonicera japonica  
Parthenocissus quinquefolia  
Rhus copallina  
Rosa carolina  
Rosa multiflora  
Rubus allegheniensis  
Rubus occidentalis  
Smilax glauca  
Smilax rotundifolia  
Syphoricarpos orbiculatus  
Toxicodendron radicans  
Vitis aestivalis  
Vitis cinerea  
Vitis palmata

### **Other Dicots**

Achillea millifolium  
Ageratina altissimum  
Ambrosia artemisiifolia  
Ambrosia trifida  
Apocynum canibinum  
Asclepias syriaca  
Asclepias tuberosa  
Asclepias verticillata  
Aster simplex  
Chrysanthemum leucanthemum

Cinna fasciculata  
Cirsium discolor  
Convolvulus sepium  
Daucus carota  
Desmodium sp.  
Dianthus armeria  
Dioscorea quaternata  
Euphorbia corollata  
Galium aparine  
Geranium carolinianum  
Helianthus divaricatus  
Helianthus divaricatus  
Helianthus helianthoides  
Helianthus microcephala  
Lactuca floridana  
Lactuca serriola  
Lespedeza cuneata  
Lespedeza hirta  
Lespedeza virginica  
Medicago lupulina  
Melilotus alba  
Monarda bradburiana  
Monarda fistulosa  
Oxalis stricta  
Penstemon pallidus  
Plantago lanceolata  
Plantago rudgelii  
Polygonum virginianum  
Potentilla simplex  
Pycnanthemum tenuifolium  
Rudbeckia hirta  
Ruellia humilis  
Rumex crispus  
Sedum pulchellum  
Senecio glabellum  
Smilax hispida  
Solanum carolinianum  
Solidago caesia  
Torilis arvensis  
Trifolium hybridum  
Trifolium pratense  
Trifolium repens  
Triticum aestivum  
Verbascum thapsus  
Verbena hastata

## **Monocots**

Arisaema dracontium  
Bromus inermis  
Bromus pubescens  
Carex cephalophora  
Carex glaucoidea  
Cyperus esculentus (?)  
Danthonia spicata  
Elymus hystrix  
Festuca arundinacea  
Hemerocallis fulva  
Iris sp.  
Manfreda virginica  
Microstegium vimineum  
Muhlenbergia sobolifera  
Panicum boscii  
Panicum sp.  
Yucca smalliana

## **Ferns**

Asplenium platyneuron  
Botrychium dissectum var. obliquum  
Botrychium virginianum