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File Code: 1950/2670 **Date:** March 18, 2002
Route To: Kathy Flegel

Subject: Bluegrass Ridge EA- Supplemental Information on Plant Impacts

To: Michael Baines, Ironton District Ranger

This memo addresses rare plant information that was not addressed in the two previous plant biological evaluations completed for the Bluegrass Ridge Restoration Project EA in 1992 and 1994. The purpose of a biological evaluation is to ensure that Forest Service actions do not contribute to loss of viability of any native or desired non-native plant species, or contribute to trends toward Federal listing of any species. It is also intended to comply with the requirements of the Endangered Species Act that actions of Federal agencies not jeopardize or adversely modify critical habitat of Federally listed species, and to provide a process and standard by which to ensure that threatened, endangered, proposed, and sensitive species receive full consideration in the decision-making process.

FEDERALLY THREATENED OR ENDANGERED SPECIES:

According to the US Fish and Wildlife Service (2000), The Wayne National Forest comprises part of the potential range of four Federally Threatened or Endangered species (Table 1). The previous BEs done for the EA did not address these species, or their potential habitat in the Bluegrass Opportunity Area. However, the Forest received a letter from the USFWS in 1998 stating "the Bluegrass and Markin Fork timber sales will not adversely affect Federally listed species," thus they will not be addressed further in this analysis.

Table 1. Federally Proposed, Endangered and Threatened Species for the Wayne National Forest. Status abbreviations: **TNC** = The Nature Conservancy**; FS** = Forest Service; **S** = State; **E** = State Endangered; **T** = State Threatened; **P** = State Potentially Threatened. For TNC ranks (**G**,**S**,**N**) see Appendix 1.

Species	Common Name	Status TNC/FS/S	Habitat
Aconitum noveboracense	Northern wild monkshood	G3S1/T/E	Moist cliffs w/ cold air drainage
Isotria medeoloides	Small whorled pogonia	G3N2N3S1/T/E	Open second growth hardwoods
Spirea virginiana	Virginia spirea	G2N2S1/T/E	Damp, rocky banks; streambeds
Trifolium stoloniferum	Running buffalo clover	G3N3S2/E/E	Moist, semi-shaded, disturbed wds

REGIONAL FORESTER SENSITIVE SPECIES:

According to the most recent revision of the Regional Forester Sensitive Species list (February 2000), eleven RFSS have been designated for the Wayne National Forest (Table 2), seven of which have been found in Lawrence county. The two previous BEs done for the Bluegrass timber sale included five of these RFS species in their analyses [butternut (*Juglans cinerea*), Sampson's snakeroot (*Gentiana villosa*), Bicknell's panic-grass (*Panicum bicknelli*), Philadelphia panic-grass (*P. philadelphicum*), and pigeon grape (*Vitis cinerea*)]; however,

Philadelphia panic-grass and pigeon grape were only addressed in the 1992 biological evaluation, which was written for a timber sale with a different suite of alternatives, and two populations of Sampson's snakeroot were found in, or near, the Bluegrass Opportunity Area after the BEs were written. Therefore, the effects of the current proposed action on these three species will be discussed here. Furthermore, two RFSS were not addressed at all in the previous BEs [juniper sedge (*Carex juniperorum*) and blue scorpionweed (*Phacelia ranunculacea*)], and will also be included in the following analysis.

Table 2: Regional Forester Sensitive Species list for the Wayne National forest. Status abbreviations: **TNC** = The Nature Conservancy; **FS** = Forest Service; **S** = State; **SOC** = Forest Service Species of Concern - these species are subject to further review at the Regional level and may be considered potential candidate sensitive species; **E** = State Endangered; **T** = State Threatened; **P** = State Potentially Threatened. For TNC ranks (**G**,**S**,**N**) see Appendix 1.

Species	Common Name	Status TNC/FS/S	Habitat
Carex juniperorum	Juniper sedge	G2S2S1/SOC/E	filtered light; second growth forest
Dicanthelium bicknellii	A panic-grass	GUQS1/SOC/T	open woods; fields and shores
Gentiana alba	Yellow gentian	G4S1/SOC/T	moist meadows/prairies; open woods
Gentiana villosa	Sampson's snakeroot	G4S1/SOC/E	open woods and pinelands; shady places
Juglans cinerea	Butternut	G3N3/SOC/P	moist woods and fields; riverbanks
Magnolia tripelata	Umbrella magnolia	G5S3/SOC/P	rich woods; mesic ravines and coves
Panicum philadelphicum	Philadelphia panic-grass	G5S2/SOC/T	dry soil and sand fields; dry woods
Phacelia ranunculacea	Blue scorpion-weed	G4S1/SOC/E	dry or moist woods; sandy fields
Platanthera ciliaris	Yellow-fringed orchid	G5S2/SOC/T	wet, sandy bogs & meadows, fields & woods
Scutellaria saxatilis	Rock skullcap	G4N?S2/SOC/P	moist banks/woods; dry slopes & openings
Vitis cinerea	Pigeon grape	G4G5/SOC/P	moist, alluvial soil; low thickets & streambanks

Juniper sedge (*Carex juniperorum*)

Distribution and habitat

Juniper sedge is a recently described species (Catling et al. 1993) with a restricted known range that includes Ohio, Kentucky, Virginia, and Ontario (NatureServe Explorer 2001). This sedge typically grows on thin, clayey soils in open woodlands surrounding natural glades or prairie openings, and is often closely associated with eastern red cedar (*Juniperus virginiana*) (NatureServe Explorer 2001). Populations in Ohio have responded favorably to prescribed burning, and appear to thrive in open canopy conditions characterized by high sunlight exposure and warm temperatures. Threats to local viability include fire suppression, overgrowth by woody vegetation, and soil compaction (Cusick 1993).

Direct, Indirect and Cumulative Effects

A population of juniper sedge was found less than a third of a mile from the Bluegrass sale area on a closed canopy oak forest ridgetop (Natural Heritage Database 2000), and has a good likelihood of existence in the project area. While this species would likely benefit from conditions created by the proposed action (thinning, selective cutting, and burning), the construction of skid roads through the area may eliminate existing individuals. Juniper sedge is considered "imperiled" globally, and "critically imperiled" in Ohio; therefore, loss of a few individuals may compromise viability of this species. Furthermore, the Bluegrass population is the only known population of this species on the Wayne National Forest.

Determination

The proposed action, which includes thinning and burning in 200 acres of oak/hickory forest, and single-tree selection of 500 acres of mixed hardwoods, may impact juniper sedge if individuals are present along haul road corridors or landing pads.

Recommendations

To ensure global and local viability of juniper sedge, the Forest botanist should survey the proposed haul roads for the species prior to ground disturbance. If individuals were found in the zone of impact, appropriate mitigating measures would be determined prior to harvest activity.

Blue scorpion-weed (*Phacelia ranunculacea*)

Distribution and habitat

Blue scorpionweed is an herbaceous winter annual that germinates in December and flowers in late April. The seedpods ripen quickly, followed by a rapid withering and disappearance of the above-ground vegetation by mid-June (Allard 1940). This species has a disjunct range that includes Marlyand, Virginia, and North Carolina to the east, and Arkansas, Illinois, Indiana, Kentucky, Missouri, Ohio, and Tennessee to the west, where some debate exists as to whether the eastern and western populations are actually distinct species (Chuang and Constance 1977; NatureServe Explorer 2001; Spooner 1985).

Habitat for blue scorpionweed appears highly variable, but generally grows in semi-shade in well-drained alluvial woods. The only populations known on the Wayne National Forest were found on a dry early-successional hillside adjacent to a remnant oak-barren community, and in lowlands along a creek. The hillside population seemed to respond favorably to controlled burning, whereas the lowland population was threatened by flooding (Dumke pers. comm.). General threats to the species are unknown, but may include exposure to sunlight after logging (Spooner 1985).

Direct, Indirect and Cumulative Effects

To date, blue scorpion-weed has not been found in the project area, though there is a reasonable likelihood that it may exist there. This species may benefit from burning and partial canopy opening; however, construction of skid roads and landing pads may eliminate existing individuals from the project area. Blue scorpion-weed is considered "critically imperiled" in Ohio; therefore, loss of a few individuals could compromise its local viability.

Determination

The proposed action, which includes thinning and burning in 200 acres of oak/hickory forest, and single-tree selection of 500 acres of mixed hardwoods, may impact juniper sedge if individuals are present along haul road corridors.

Recommendations

To ensure local viability of blue scorpion-weed, the Forest botanist should survey the proposed haul roads for the species prior to ground disturbance. If individuals were found in the zone of impact, appropriate mitigating measures would be determined prior to harvest activity.

Sampson's snakeroot (*Gentiana villosa*)

Sampson's snakeroot is an erect herbaceous perennial that flowers from late August to October, and grows in mesic woodlands, pinelands, dry ravines, and roadsides. It occupies a range from southern New Jersey and Pennsylvania to southern Ohio and Indiana, south to Florida, Georgia, and Louisiana. This snakeroot is "critically imperiled" in Ohio, and, in the range of Wayne NF lands, is known historically from Jackson, Gallia, and Scioto Counties. Threats to the species are unknown, but may include overgrowth by woody species through succession (Andreas 1984; NatureServe Explorer 2001).

Direct, Indirect and Cumulative Effects

Two populations of Sampson's snakeroot were found within a half-mile of the Bluegrass OA (one to the northwest, the other to the east) (Natural Heritage Database 2000). Though no individuals of this species have been found within the project area to date, there is a reasonable likelihood that it could exist there. Since this species prefers more open, or semi-open habitats, it is not likely to be adversely affected by thinning and burning, and may actually benefit from these management actions. However, construction of skid roads and landing pads may eliminate existing individuals from the project area, and since this snakeroot is considered "critically imperiled" in Ohio, loss of a few individuals could compromise its local viability.

Determination

The proposed action, which includes thinning and burning in 200 acres of oak/hickory forest, and single-tree selection of 500 acres of mixed hardwoods, may impact Sampson's snakeroot if individuals are present along haul road corridors.

Recommendations

To ensure local viability of Sampson's snakeroot, the Forest botanist should survey the proposed haul roads for the species prior to ground disturbance. If individuals were found in the zone of impact, appropriate mitigating measures would be determined prior to harvest activity.

Philadelphia panic-grass (*Panicum philadelphicum*)

Philadelphia panic-grass is an herbaceous annual that flowers from June-October in a diversity of habitats from dry open woods and fields to moist shores of lakes and streams. It potentially occupies a wide range from Georgia to east Texas, north to Nova Scotia and southwestern Quebec, west to Ontario, Minnesota, Iowa, Kansas, and Oklahoma. In the range of Wayne NF lands, it is known historically from Jackson, Vinton and Lawrence counties, and is thought to be

more common than records indicate (Spooner and Schneider 1994; NatureServe Explorer 2001). Threats to the species are unknown, but may include grazing.

Direct, Indirect and Cumulative Effects

A population of Philadelphia panic-grass was found on Wayne NF land less than a mile from the Bluegrass OA in a small opening in oak woods (Natural Heritage Database 2000). Though no individuals of this species have been found within the project area to date, there is a reasonable likelihood that it could be found there. Due to its generalized open habitat, this species is not likely to be adversely affected by thinning and burning, and may actually benefit from these management actions; however, construction of skid roads and landing pads may eliminate existing individuals from the project area. Philadelphia panic-grass is considered "imperiled" in Ohio; therefore, loss of a few individuals could compromise its local viability.

Determination

The proposed action, which includes thinning and burning in 200 acres of oak/hickory forest, and single-tree selection of 500 acres of mixed hardwoods, may impact Philadelphia panic-grass if individuals are present along haul road corridors.

Recommendations

To ensure local viability of Philadelphia panic-grass, the Forest botanist should survey the proposed haul roads for the species prior to ground disturbance. If individuals were found in the zone of impact, appropriate mitigating measures would be determined prior to harvest activity.

Pigeon grape (*Vitis cinerea*)

Pigeon grape is high-climbing vine that flowers in June and fruits from September to October. It potentially occupies a wide range from Florida to New Mexico, north to New York, and west to Wisconsin, Iowa, Nebraska, and Kansas. In the range of Wayne NF lands, it has been found in Jackson, Lawrence, Scioto, Meigs and Perry Counties. This species typically grows in moist, open to semi-open habitats in alluvial soil of low woods, thickets, fencerows and stream banks (Burns 1992; NatureServe Explorer 2001). Threats to pigeon grape include the felling of trees upon which this species grows.

Direct, Indirect and Cumulative Effects

To date, pigeon grape has not been found in the project area, though there is a reasonable likelihood that it may exist there. Since this species tolerates disturbance well, it is not likely to be adversely affected by thinning, burning or skid trail construction, and may actually benefit from the resulting canopy opening. However, it may be negatively affected if a tree upon which it is growing is felled.

Determination

The proposed action, which includes thinning and burning in 200 acres of oak/hickory forest, and single-tree selection of 500 acres of mixed hardwoods, may impact pigeon grape if individuals are cut along with thinned trees.

Recommendations

To ensure local viability of pigeon grape, do not mark any trees for cutting that host this vine.

PROJECT-WIDE CUMULATIVE EFFECTS

Non-native invasive species (NNIS) pose a threat to plant and animal community health and diversity. Since exotic species, by definition, have been transplanted outside their original range, they often lack natural controls (e.g., disease, predators, parasites, or climate), which allows them to out compete and eventually replace more sensitive native species. Once NNIS become established, they are extremely difficult to eradicate, and the resulting change in community plant composition can alter ecosystem dynamics and functions over time. With any management activity that requires the use of heavy equipment brought in from off-site, there is a high risk of transporting NNIS into the project area. If these NNIS were allowed to establish, they could easily compromise habitat quality, and thus jeopardize any existing or future populations of juniper sedge and blue-scorpion-weed in the project area.

To help prevent the potential introduction and spread of NNIS, I recommend that contractors clean their equipment of all mud, soil, and vegetation debris prior to entering the harvest area. Furthermore, if haul roads and landing areas are to be reseeded upon harvest completion, require that the Forest botanist approve the seed mix.

SUMMARY OF EFFECTS AND RECOMMENDATIONS

Effects:

Juniper sedge, blue scorpion-weed, Sampson's snakeroot, Philadelphia panic-grass, and pigeon grape may benefit from selective cutting and prescribed burning. However, the sedge, snakeroot, panic-grass, and scorpion-weed may be negatively impacted by the construction of haul roads and landing pads, and the grape by the felling of its host tree species. Furthermore, all species may be negatively impacted by the cumulative impacts of NNIS introduction and spread in the Bluegrass OA.

Recommendations:

To ensure global and local viability of the above species, the Forest botanist should survey the proposed haul roads for these species prior to ground disturbance. If individuals were found in the zone of impact, appropriate mitigating measures would be determined prior to harvest activity. Furthermore, do not cut trees upon which pigeon grape is growing.

To help prevent the potential introduction and spread of NNIS, contractors should clean their equipment of all mud, soil, and vegetation debris prior to entering the harvest area. Furthermore, if haul roads and landing areas are to be reseeded upon harvest completion, require that the Forest botanist approve the seed mix.

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Appendix 1- TNC Ranks

G: Global Rank	
G1	Critically imperiled
G2	Imperiled
G3	Rare or uncommon
G4	Widespread, abundanct and *apparently* globally secure
G5	Widespread, abundanct and *demonstrably* globally secure
GH	Possible extinct in range with hope of rediscovery
GX	Presumed extinct
GU	Unrankable
HYB	Hybrid

N: National Rank	
N1-5	same rank as above
NE	exotic species established in US
NA	accidental in US, part of established biota

S: State Rank	
S1-5	same rank as above
SE	exotic species established in state
SA	accidental in state, part of established biota
SR	reported in state
SRF	reported in state, but report was inaccurate
SZ	zero "occurrences"
SP	potential given know distribution in adjacent areas

Additional Information	
?	there is some doubt concerning status
Q	questionable taxonomy
N	non-breeding
B	breeding
C	captive or cultivated only