

Updated
Biological Evaluation (Animals)
BLUEGRASS RIDGE RESTORATION PROJECT

Ironton Ranger District
Wayne National Forest
February 26, 2002
(updated September 2002)

Project Description/Existing Conditions

This biological evaluation (BE) is an update to the original evaluation for the Bluegrass Ridge Restoration Project, dated October 4, 1994. The project, approved in a Decision Notice dated November 3, 1994, remains unchanged, and includes the following activities:

- Thinning and prescribe burning an estimated 200 acres of upland oak/hickory forest, to encourage establishment of oak/hickory regeneration, and to create an open oak/hickory forest which would provide suitable habitat for several rare plants.
- Single-tree cutting on an estimated 500 acres of mixed hardwood forest, to accelerate development of an all-aged forest. This method mimics the natural creation of canopy gaps caused by individual tree mortality. It can result in the formation of old growth forest conditions faster than would naturally occur. [Note that the two timber sales designed to implement the project include only 93 acres total of thinning and burning, and 209 acres of single-tree cutting.]

Since the original BE was completed, new information has become available regarding several of the Federal Threatened/Endangered and Regional Sensitive Species addressed in the evaluation (discussed below). Additional mitigation measures were consequently proposed to further protect the Indiana bat. These measures include leaving all trees six inches or larger in diameter (unless a safety hazard) which could provide bat roosting habitat: dead trees, shagbark and shellbark hickory, and trees that are hollow, have major splits or broken tops. Trees with large areas of loose bark would also be left, if necessary, to provide at least 12 per acre.

Evaluation

This evaluation reviews the analysis of each species in the original BE and updates the information where necessary. Information which is accurate in the original BE is not repeated here. Four species were added which were not included in the original BE but now need to be analyzed (because they have been added to the federal or regional list, or have been discovered on or near the Wayne National Forest). Twenty-six species are no longer analyzed in the BE because they have been removed from the Wayne's Regional Sensitive Species list since they are not considered at risk on the Wayne. Only the alternative selected in the Decision Notice is addressed in this BE since it is already approved and partially implemented (two timber sales sold, and one of eight units cut).

Federal Threatened or Endangered Species

Indiana bat. The presence of the Indiana bat was not confirmed on the Ironton Ranger District until July 1997 when one was netted over Paddle Creek, about three miles west of Bluegrass Ridge. During netting in 1998, 1999 and 2000, an additional seven Indiana bats were caught on the Ironton District, all at the entrances of limestone mines about eight miles northwest of Bluegrass Ridge. (A cluster of about 150 hibernating bats was also found within one of these mines in February 1999.) Despite netting 14 sites on or near Bluegrass Ridge in 1997, 1998 and 2000, no more Indiana bats were found in that vicinity. Since bats are very mobile, however, their presence is possible anywhere on the Ironton district.

Primarily due to the discovery of the Indiana bat on the Ironton district, the Wayne National Forest prepared a Programmatic Biological Assessment (BA) in March 2001 to address the effects of the forest plan on federal threatened and endangered species, and to add mitigation measures. In September 2001, the US Fish and Wildlife Service issued a Biological Opinion (BO) in response to the BA, analyzing forest plan impacts on the federally listed species likely to occur on the forest (Indiana bat, American burying beetle and bald eagle), and adding more mitigation measures, called Terms and Conditions (T&C).

To protect Indiana bats and their habitat, the BO directs that hardwood timber harvests should leave at least a 60% canopy cover whenever possible. No dead trees over six inches dbh (diameter at breast height) are to be cut unless a safety hazard. Shagbark and shellbark hickory over six inches dbh, and all trees over six inches dbh that are hollow, have major splits or broken tops are to be cut only during the bat hibernation season (September 15 to April 15), unless a safety hazard. At least 12 trees per acre over six inches dbh with large areas of loose bark are to be left, unless a safety hazard. Also, at least three of the largest trees per acre over 20 inches dbh should be left, of the "preferred species" listed in the BO. An additional six "preferred" trees per acre over 11 inches dbh must also be left. If the 20 inch trees are unavailable, a total of 16 of the largest "preferred" trees must be left per acre. Per acre requirements apply to the entire stand average. Prescribed fire should not be conducted within one-quarter mile of any known Indiana bat hibernacula during the fall swarming and hibernation period, or under conditions when smoke might enter the hibernacula. The closest known Indiana bat hibernaculum is located about seven miles to the west.

As stated earlier, additional mitigation measures to be applied to the Bluegrass Ridge Restoration Project include **leaving all trees six inches or larger in diameter (unless a safety hazard) which could provide bat roosting habitat: dead trees, shagbark and shellbark hickory, trees that are hollow, have major splits or broken tops, and trees with large areas of loose bark (if less than 12 per acre available).** The two timber sales which have already been sold to implement the project were remarked in March 2002 and trees which exhibited the preceding characteristics were deducted from the sales (not to be cut). In November 2001, Wayne National Forest personnel took sample plots in both sales which revealed that all of the other T&C required by the BO, as stated in the preceding paragraph, should also be satisfied (except for leaving 12 trees per acre with loose bark, which may not be achieved on all cutting units because not enough are present everywhere to begin with).

The Indiana bat and its habitat could be adversely affected by the Bluegrass Ridge Restoration Project. The bat could be injured directly when trees are cut, or affected indirectly if roost trees are removed. If the T&C from the BO are applied, however, then the continued existence of the bat should not be jeopardized.

Bald eagle. A bald eagle was sighted flying over the dry lakebed of Lake Vesuvius (three miles west of Bluegrass Ridge) in June 2001, but no nests or roosts have ever been found on the Ironton district. No suitable habitat is available in the Bluegrass Ridge area. As per the T&C in the BO, **any nests or roosts discovered would be protected as described in the Bald Eagle Recovery Plan (USFWS 1983).** Forest management activities, for example, would be limited within one-quarter mile of a nest. Also as per the T&C in the BO, **prescribed fire would not be conducted within one-half mile of any occupied nests or roosts, or under conditions when smoke might drift toward any eagle sites.** The bald eagle and its habitat are not likely to be adversely affected by the Bluegrass Ridge Restoration Project.

American burying beetle. This beetle is currently known in Ohio only from the Waterloo Wildlife Area near the Athens Ranger District (where it was reintroduced in 1998). Thus, the American burying beetle should not be affected by the Bluegrass Ridge Restoration Project.

Fanshell. The fanshell was not included in the original BE because the mussel was not recognized as occurring on or near the Wayne National Forest. The fanshell is now known from the lower Muskingum River (located between the two units of the Athens Ranger District, but draining neither), and the Greenup Lock area of the Ohio River, about 50 miles downstream from Bluegrass Ridge. The fanshell is associated with large rivers, thus no suitable habitat is available in the Bluegrass Ridge area. The greenside darter, a host fish for the fanshell, has been found in Symmes Creek, however (USFS 2001). Bluegrass Ridge is drained by tributaries which enter Symmes Creek about three miles away. Mitigation measures which minimize soil erosion into adjacent streams are included in the EA and the timber sale contracts. For example, harvest operations are not to occur when soils are saturated, and waterbars must be constructed on skid trails. The fanshell should not be affected by the Bluegrass Ridge Restoration Project since no habitat is available near Bluegrass Ridge, the nearest known location is so far downstream, and sedimentation into waterways would be minimal due to mitigation measures.

Pink mucket pearly mussel. This mussel is associated with large rivers and is known from the Ohio River in Lawrence County, at least 20 miles from Bluegrass Ridge and upstream from the Ironton Ranger District. Spotted bass and sauger, host fish for the mussel, have been found in Symmes Creek, however (USFS 2001). The pink mucket pearly mussel should not be affected by the Bluegrass Ridge Restoration Project since no habitat is available near Bluegrass Ridge, the nearest known location is many miles downstream and then up the Ohio River, and sedimentation into waterways would be minimal due to mitigation measures.

Regional Sensitive Species

Pygmy shrew. The pygmy shrew was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The pygmy shrew is known to occur on the Wayne National Forest, including on Bluegrass Ridge

(Horn 2002). The shrew is probably more common than previously thought, and is not considered at risk on the Wayne.

Evening bat. The evening bat was not included in the original BE because, although rare in Ohio (where it is at the north edge of its range), the bat was common elsewhere. While these conditions still hold true, the Wayne's Regional Sensitive Species list has now been modified to include more species at the edges of their ranges, even if common in other areas. The evening bat is known on the Wayne National Forest from only one record, 22 years ago, along Black Fork Creek, approximately 15 miles north of Bluegrass Ridge.

Evening bats have been observed foraging along the edge of mature woods and woodlots, within clearings in woods, over small streams, and in pastures. The bat usually roosts in the summer in attics, but has also been found in trees in natural cavities and under loose bark. Evening bats have been recorded in Ohio only during the summer, suggesting that they migrate and/or hibernate during the winter (Belwood 1998). No buildings are present on Forest Service land on Bluegrass Ridge, but suitable summer foraging and (tree) roosting habitat is available for the evening bat. If present, individual bats (especially nonvolant young) could be harmed during timber harvest or prescribed fire activities. However, the mitigation measures designed to protect the Indiana bat during the Bluegrass Ridge Restoration Project should also protect the evening bat. Thus, the project should not contribute to the loss of viability of the evening bat or cause the bat to move toward federal listing.

Rafinesque's big-eared bat. This bat was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The Rafinesque's big-eared bat has not been documented on the Wayne National Forest.

Black bear. The black bear has been documented occasionally in Lawrence County but the presence of a permanent breeding population is unlikely at this time. If present, individual bears could be disturbed during timber harvest or prescribed fire activities. Sensitive animals would probably leave the area temporarily; plenty of undisturbed Wayne National Forest land is available nearby. Timber cutting would cause an increase in the brushy understory, resulting in a larger food supply of vegetation and fruits for bears. Cutting oaks would reduce available mast, but in the thinning/burning areas oak regeneration would ensure a long term supply. In the single tree areas, shade tolerant beech would eventually provide a mast supply. Possible den sites would be preserved by provisions in the EA and timber sale contracts which protect rock shelters and hollow trees. Thus, the Bluegrass Ridge Restoration Project should not contribute to the loss of viability of the black bear or cause the animal to move toward federal listing.

River otter. The river otter has been documented in Symmes Creek, but should not be adversely affected by the Bluegrass Ridge Restoration Project because the animal is unlikely to venture up the shallow tributaries to Bluegrass Ridge, plus the mitigation measures included in the EA and the timber sale contracts would protect otter habitat by minimizing sedimentation into nearby streams.

Bobcat. The rare bobcat has not been confirmed in Lawrence County but very possibly occurs there since it has been verified from two adjacent counties (Ohio DNR 2002). If present,

individual bobcats could be disturbed during timber harvest or prescribed fire activities. Sensitive animals would probably leave the area temporarily; plenty of undisturbed Wayne National Forest land is available nearby. The Bluegrass Ridge Restoration Project should not contribute to the loss of viability of the bobcat or cause the animal to move toward federal listing because timber cutting would improve both bobcat and prey habitat, den sites would be preserved by provisions protecting rock shelters and hollow trees, plus the bobcat is not known from Lawrence County anyway.

Allegheny woodrat. The Allegheny woodrat was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The woodrat has not been documented on the Wayne National Forest.

Black vulture. The black vulture was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The black vulture has not been documented on the Wayne National Forest.

Northern harrier. The northern harrier was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The northern harrier has been documented on the Wayne National Forest, including Lawrence County, but only in the winter, not during the summer breeding season.

Sharp-shinned hawk. This hawk was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The sharp-shinned hawk is known to nest on the Wayne National Forest, including Lawrence County. The hawk has probably always been rare and local in Ohio, but population numbers appear stable (Earnst & Andres 1996) and the bird is not considered at risk on the Wayne.

Red-shouldered hawk. This hawk was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The red-shouldered hawk is an uncommon, but not rare, nesting bird on the Wayne National Forest, including Lawrence County. Population numbers in eastern Ohio appear to be increasing (Earnst & Andres 1996), and the hawk is not considered at risk on the Wayne.

Barn owl. The barn owl was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The barn owl has not been documented on the Wayne National Forest.

Chuck-will's-widow. This bird was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The Chuck-will's-widow has not been documented on the Wayne National Forest.

Purple martin. The purple martin was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The martin has been documented on private land within the Wayne National Forest. In the eastern US, the purple martin nests exclusively in man-made nest structures, and prefers to be near rural residences with open fields and water (Peterjohn & Rice 1991).

Bewick's wren. The Bewick's wren was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The Bewick's wren has not been documented on the Wayne National Forest.

Cerulean warbler. Monitoring for cerulean warblers and other breeding birds was conducted on the Bluegrass and Markin Fork Timber Sales in May and June 2002 (Artman 2002). This survey detected only one cerulean warbler breeding pair within the sale areas. This pair was located on a control plot, not in a unit marked for harvest. Cerulean warblers were found during spring territory-mapping surveys in 1995, 1996, 1997 and 1999 in a fire study area on Bluegrass Ridge adjacent to the timber sales. The warblers probably occur throughout Bluegrass Ridge in suitable mature hardwood habitat. The study, done by the US Forest Service Forestry Sciences Lab in Delaware, Ohio, centered on the effects of prescribed fire on oak regeneration. Conducted in oak-hickory forest similar to that found in the timber sale units to be thinned and burned, the study determined that burning had no effect on cerulean warbler populations (Artman 2002a). Surveys for singing males conducted in the spring of 1997 and 1998 in uncut areas and in recent single-tree and group cuts in the Pine Creek South area of the Ironton district found similar numbers of cerulean warblers in all the areas. Unlike the fire study surveys, these latter surveys provide anecdotal information only, and were not performed with statistically valid sampling protocol; they do, however, clearly indicate that cerulean warblers use single-tree cut areas.

The normal operating season, according to the timber sale contracts, is July 1 to December 1. Individual cerulean warblers could be harmed if a tree with an active nest were cut. In southern Ohio, however, most nestlings have fledged by July 1. An average of about 1.2 pairs of cerulean warblers per 100 acres was found on the Bluegrass Ridge fire study site (even less in the 2002 survey). Assuming this population density is similar throughout the ridge, three or four nests could be located within the 302 acres to be cut during the timber sales. Only about twenty percent of the trees would be cut, and at least half of the nests should have fledged, meaning the chance of losing even one nest is less than fifty percent. An average of 8.0 pairs of cerulean warblers per 100 acres was found on the Youngs Branch fire study site on the Ironton district. The higher number could be due to better habitat or clustering of the pairs of birds (a common habit of the species) (Artman 2002a). Even if these higher figures are used, only two to three nests should be lost during the timber sales. The Bluegrass Ridge Restoration Project should not contribute to the loss of viability of the cerulean warbler or cause the bird to move toward federal listing because tens of thousands of acres of suitable habitat remain undisturbed on the Ironton district, studies indicate that burning and single-tree cutting do not affect the warbler, and only a very small number of individual birds are likely to be harmed.

Henslow's sparrow. The Henslow's sparrow is associated with large grassy/brushy fields. Suitable habitat is not available on Bluegrass Ridge. Thus, the sparrow should not be affected by the Bluegrass Ridge Restoration Project.

Rough green snake. This snake was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The snake is known to occur on the Wayne National Forest, including Lawrence County. The rough green

snake is probably more common than previously thought, and is not considered at risk on the Wayne.

Black kingsnake. The black kingsnake was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The snake is at the northern edge of its range in southern Ohio, where it has been documented in Lawrence County. Population trends are unknown in Ohio, and the black kingsnake is not considered at risk on the Wayne National Forest at this time.

Timber rattlesnake. The extremely rare timber rattlesnake has been confirmed on the Ironton Ranger District twice in recent years, approximately 10 miles north of Bluegrass Ridge. Despite intensive surveys in the vicinity of unconfirmed sightings, the snake has not been found elsewhere on the district. If present, individual snakes could be injured during timber harvest or prescribed fire activities, but most snakes would be able to move out of harm's way. The Bluegrass Ridge Restoration Project should not contribute to the loss of viability of the timber rattlesnake or cause the snake to move toward federal listing because timber cutting would improve both rattlesnake and prey habitat, den sites would be preserved by provisions protecting rock shelters and hollow trees, plus the rattlesnake is not known from Bluegrass Ridge anyway.

Eastern hellbender. The eastern hellbender is currently known on the Wayne National Forest only from the Little Muskingum River on the Athens Ranger District. Thus, the hellbender should not be affected by the Bluegrass Ridge Restoration Project.

Four-toed salamander. This salamander was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The four-toed salamander is being considered, however, for possible return to the Sensitive Species list because of its recent discovery on the Wayne National Forest, in a spring on the Ironton Ranger District, approximately ten miles from Bluegrass Ridge (Pfungsten 2002). This salamander is generally associated with woodland pools with sphagnum or other mosses, in mature hardwood forest (Pfungsten & Downs 1989). Suitable habitat is not known to be available on Bluegrass Ridge, but if the salamander were present the remote possibility exists that individual animals could be injured during project activities. The four-toed salamander should not be significantly affected by the Bluegrass Ridge Restoration Project because, even with the removal of selected trees, the mature hardwood forest habitat would remain intact.

Mud salamander. The mud salamander was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. This salamander is being considered, however, for possible return to the Sensitive Species list because of its rediscovery on the Wayne National Forest, in several springs on the Ironton Ranger District, the closest approximately ten miles from Bluegrass Ridge (Pfungsten 2002). The mud salamander is associated with muddy lowland springs, sluggish floodplain brooks and the swamp forests along such streams (Pfungsten & Downs 1989). Suitable habitat is possibly available in Elkins Creek, into which part of Bluegrass Ridge drains, but the mud salamander should not be affected by the Bluegrass Ridge Restoration Project because the creek is at least 600 feet from the closest cutting unit.

Green salamander. The green salamander was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The green salamander has not been documented on the Wayne National Forest.

Eastern spadefoot. The eastern spadefoot was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The spadefoot has not been documented on the Wayne National Forest.

Ohio lamprey. The Ohio lamprey is currently known on the Wayne National Forest only from the Little Muskingum River on the Athens Ranger District. Thus, the lamprey should not be affected by the Bluegrass Ridge Restoration Project.

Silver lamprey. The silver lamprey was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. One specimen was found in Pine Creek (the other main watershed on the Ironton Ranger District, in addition to Symmes Creek) many years ago, but the silver lamprey has not been documented again on the Wayne National Forest, despite numerous fish surveys.

Rosyside dace. The rosyside dace was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The rosyside dace has not been documented on the Wayne National Forest.

Blue sucker. The blue sucker was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The blue sucker has not been documented on the Wayne National Forest.

Lake chubsucker. This chubsucker is associated with marshy/swampy lakes and streams, and is known from the Black Fork Creek watershed, a tributary in the headwaters of Symmes Creek, approximately 30 miles upstream from Bluegrass Ridge. The lake chubsucker should not be affected by the Bluegrass Ridge Restoration Project since no habitat is available near Bluegrass Ridge, the nearest known location is many miles upstream, and sedimentation into waterways would be minimal due to mitigation measures.

River redhorse. The river redhorse was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The river redhorse has not been documented on the Wayne National Forest.

Ohio muskellunge. The Ohio muskellunge was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The muskellunge is known to occur in the Little Muskingum River on the Athens Ranger District. The fish is more common than previously thought, and is not considered at risk on the Wayne National Forest.

Eastern sand darter. The eastern sand darter is known from Symmes Creek, but should not be adversely affected by the Bluegrass Ridge Restoration Project because the mitigation measures

included in the EA and the timber sale contracts would minimize sedimentation into nearby streams.

Tippecanoe darter. The tippecanoe darter was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The Tippecanoe darter has not been documented on the Wayne National Forest.

Slenderhead darter. The slenderhead darter was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The darter is known to occur in the Little Muskingum River on the Athens Ranger District. The fish is more common than previously thought, and is not considered at risk on the Wayne National Forest.

Wabash river cruiser. This dragonfly is currently known only from Burr Oak State Park near the Athens Ranger District. Thus, the Wabash river cruiser should not be affected by the Bluegrass Ridge Restoration Project.

Grizzled skipper. The grizzled skipper is currently known on the Wayne National Forest only from the Dorr Run area of the Athens Ranger District. Thus, the skipper should not be affected by the Bluegrass Ridge Restoration Project.

Olympia marble. The Olympia marble was documented approximately 15 years ago on Telegraph Ridge (about eight miles north of Bluegrass Ridge), and in the Lake Vesuvius area, but has not been found since, despite several searches. If present, individual butterflies (or eggs/pupae/larvae) could be harmed during timber harvest or prescribed fire activities. Only a small proportion of suitable habitat (dry ridgetops in and adjacent to open oak woods) would be impacted at any one time, however. The Bluegrass Ridge Restoration Project should not contribute to the loss of viability of the Olympia marble or cause the butterfly to move toward federal listing because timber cutting should improve butterfly habitat, and the butterfly is not known from Bluegrass Ridge anyway.

Edwards' hairstreak. The Edwards' hairstreak was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The butterfly is known from Telegraph Ridge on the Ironton Ranger District. The Edwards' hairstreak is more common than previously thought, and is not considered at risk on the Wayne National Forest.

Regal fritillary. The regal fritillary was included in the original BE but no longer needs to be addressed because it was removed from the Wayne's Regional Sensitive Species list. The regal fritillary has not been documented on the Wayne National Forest.

Round hickorynut. The round hickorynut was not included in the original BE because the mussel was not known to occur on the Wayne National Forest. The hickorynut is now known from Symmes Creek, both upstream and downstream from Bluegrass Ridge. This mussel is found in good quality medium to large streams, in muddy sand, in both swift or slow water (Watters 1995). The round hickorynut should not be adversely affected by the Bluegrass Ridge

Restoration Project because the mitigation measures included in the EA and the timber sale contracts would minimize sedimentation into nearby streams.

Salamander mussel. The salamander mussel is currently known on the Wayne National Forest only from the Little Muskingum River on the Athens Ranger District. Thus, the mussel should not be affected by the Bluegrass Ridge Restoration Project.

Lilliput. The lilliput was not included in the original BE because the mussel was not known to occur on the Wayne National Forest. The lilliput is now known from Blackfork Creek. This mussel is found in lakes, ponds, small streams, and medium rivers in quiet water in sandy mud (Watters 1995). The lilliput should not be adversely affected by the Bluegrass Ridge Restoration Project because the mitigation measures included in the EA and the timber sale contracts would minimize sedimentation into nearby streams.

Little spectaclecase. The little spectaclecase is known from upstream in Symmes Creek, but should not be adversely affected by the Bluegrass Ridge Restoration Project because the mitigation measures included in the EA and the timber sale contracts would minimize sedimentation into nearby streams.

In summary, implementing the alternative selected in the Bluegrass Ridge Restoration Project Decision Notice dated October 4, 1994 should not cause any direct, indirect or cumulative adverse effects which could jeopardize the continued existence of any of the Federal Threatened or Endangered Species listed above, nor contribute to the loss of viability or cause to move toward federal listing any of the Regional Sensitive Species listed above, **IF the mitigation measures highlighted above are implemented.** The anticipated effects of the proposed projects are similar to those anticipated in the forest BO. Continued implementation of the Bluegrass Ridge Restoration Project would result in 264 acres of hardwood thinning and uneven-aged cuts (2250 acres are allowed by September 2006, under the BO). The 38 acre timber sale unit already cut would not count toward the BO limit because it was cut in 1996, before issuance of the BO.

/s/ Katherine P. Flegel

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Citations

Artman, Vanessa. 2002. Cerulean warbler monitoring at Bluegrass and Markin Fork sales. On file at Wayne National Forest, Pedro, Ohio.

Artman, Vanessa. 2002a. Cerulean warbler data. On file at Wayne National Forest, Pedro, Ohio.

Belwood, Jacqueline. J. 1998. In Ohio's Backyard: Bats. Ohio Biological Survey, Columbus, Ohio.

Horn, David J. 2002. Mammal data. On file at Wayne National Forest, Pedro, Ohio.

Ohio DNR Division of Wildlife. 2002. Summary of 2001 bobcat sightings in Ohio. New Marshfield, Ohio.

Pfingsten, R.A. and F.L. Downs, Editors. 1989. Salamanders of Ohio. Ohio Biological Survey, Columbus, Ohio.

Pfingsten, Ralph A. 2002. Personal communication.

US Fish & Wildlife Service. 1983. Northern States Bald Eagle Recovery Plan. Twin Cities, Minnesota.

US Fish & Wildlife Service. 2001. Biological Opinion on the Wayne National Forest Plan. Reynoldsburg, Ohio.

US Forest Service. 2001. Programmatic Biological Assessment of Wayne National Forest Plan. Nelsonville, Ohio.

Watters, Thomas G. 1995. A Guide to the Freshwater Mussels of Ohio. Ohio DNR Division of Wildlife, Columbus, Ohio.