



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
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January 31, 2007

Kathleen Morse, Forest Supervisor  
Allegheny National Forest  
222 Liberty Street  
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RE: USFWS Project #2007-0214

Dear Ms. Morse:

This responds to your letter of November 21, 2006, and supplement of December 13, 2006, requesting Fish and Wildlife Service review of the November 2006, Biological Assessment (BA) for the Allegheny National Forest Land and Resource Management Plan, and requesting our concurrence with the Forest Service's effect determinations for federally listed species. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

The proposed Allegheny National Forest (ANF) Forest Plan, selected Alternative Cm, emphasizes retention and regeneration of all forest types and conditions through even-aged and uneven-aged management. Older forests are provided for in several different management areas. The preferred alternative differs from the current forest plan and other alternatives by providing a larger area (besides Alternative D) of late structural habitat, mainly along riparian corridors, linking patches of older forest throughout the ANF.

The revised Forest Plan provides for the protection of federally listed species through specific standards and guidelines, beginning on page 89. Based on the commitment to implement these measures, the Forest Service has concluded that adoption of the new Forest Plan is "not likely to adversely affect" the federally listed, threatened bald eagle (*Haliaeetus leucocephalus*), and the endangered Indiana bat (*Myotis sodalis*), clubshell mussel (*Pleurobema clava*), and northern riffleshell mussel (*Epioblasma torulosa rangiana*). The Forest Service has also concluded that adoption of the new Forest Plan is not likely to adversely affect species that are candidates for federal listing, including the rayed bean mussel (*Villosa fabalis*) and sheepnose mussel (*Plethobasus cyphus*). The Forest Service reached a "no effect" determination for the endangered northeastern bulrush (*Scirpus ancistrochaetus*) and threatened small-whorled pogonia (*Isotria medeoloides*).

## Background

On June 1, 1999, the Fish and Wildlife Service completed a formal consultation on the 1986 Allegheny National Forest Land and Resource Management Plan (as amended), and provided a biological opinion (BO) and incidental take statement to the Forest Service. In its BO, the Fish and Wildlife Service evaluated the effects of Forest Service's management program, including timber management, on the bald eagle, Indiana bat, clubshell mussel, and northern riffleshell mussel. We determined that implementation of projects predicated upon the Forest Plan is not likely to jeopardize the continued existence of the bald eagle, Indiana bat, or clubshell mussel. We also determined that implementation of the Forest Plan and most projects predicated upon it (with the exception of boating facility operation) are not likely to jeopardize the continued existence of the northern riffleshell. However, a jeopardy determination was made for the operation of boating facilities with respect to the northern riffleshell mussel, and reasonable and prudent alternatives were identified to avoid jeopardy to this species.

Since the issuance of the 1999 programmatic BO, the Fish and Wildlife Service has reviewed numerous individual projects implemented pursuant to the Forest Plan to determine if any effects would occur as a result of a site-specific project in a manner, or to an extent, not evaluated or previously disclosed and discussed in the programmatic BO. The project-specific consultations focused on: 1) compliance with the reasonable and prudent measures and associated terms and conditions in the programmatic BO; 2) consistency with the scope and effects previously analyzed in the programmatic BO; 3) project-specific incidental take vs. take estimated in the programmatic BO; and 4) project-specific reasonable and prudent measures and associated terms and conditions (*i.e.*, for non-jeopardy determinations). Our review of these projects resulted in the issuance of concurrence letters when it was determined that project activities were not likely to adversely affect federally listed species, and in the issuance of biological opinions when it was determined that project activities were likely to adversely affect federally listed species.

In 2006, the Forest Service began to evaluate the effects of the new proposed Forest Plan on federally listed, proposed, and candidate species. On May 9, 2006 the Forest Service submitted a draft BA to the Fish and Wildlife Service for review. On June 27, the Fish and Wildlife Service and Forest Service met to discuss the draft BA. Between July and November 2006, several revisions of the BA were provided to the Fish and Wildlife Service for review and comment. Revisions to the Forest Plan and BA were made to ensure that measures were in place to conserve and protect federally listed species, and support the Forest Service's "no effect" and "not likely to adversely affect" determinations.

### Northeastern Bulrush

Although the ANF is outside the current known range of the northeastern bulrush, suitable habitat occurs as vernal ponds or beaver-influenced wetlands on the Forest (BA, p.122). The Western Pennsylvania Conservancy began surveying some potential habitat on the ANF in 2006 and plans to continue surveys in 2007.

The Forest Service will implement the following standards and guidelines to protect the northeastern bulrush, and avoid any adverse effects related to project implementation (BA, pp. 123-124):

- If plants or populations are found, halt any activities that may cause impacts with 300 feet of the area of influence surrounding plants and/or populations. Consult with the Fish and Wildlife Service to determine and implement appropriate site-specific conservation measures before resuming activities.
- Prior to ground-disturbing and/or vegetation management activities, habitat for northeastern bulrush should be evaluated and/or surveyed to determine suitable habitat and/or occupation.

Because the northeastern bulrush is not known to occur on the ANF, the Forest Service has reached a “no effect” determination for this species. We concur with that determination, and with the above conservation measures to ensure protection of this species.

### Small-whorled Pogonia

The small-whorled pogonia is not known to occur on the ANF; however, the Forest Service has proposed conservation measures to ensure that future surveys for this species will be effective, and ensure that this species will be protected, if found on the ANF. Those measures are summarized below (BA, p. 130):

- If plants or populations are found, halt any activities that may cause impacts with 300 feet of the area of influence surrounding plants and/or populations. Consult with the Fish and Wildlife Service to determine and implement appropriate site-specific conservation measures before resuming activities.
- Prior to ground-disturbing and/or vegetation management activities, habitat for small-whorled pogonia should be evaluated and/or surveyed to determine suitable habitat and/or occupation.
- Refine and implement the small-whorled pogonia survey strategy where appropriate.

Because the small-whorled pogonia is not known to occur on the ANF, the Forest Service has reached a “no effect” determination for this species. We concur with that determination, and with the above conservation measures to ensure protection of this species.

### Bald Eagle

There are currently seven active bald eagle nests on the ANF. Nest productivity over the past 10 years has been consistent with other nests in the region, and since the 1999 consultation, eagle use of the forest has increased. The bald eagle population is expected to continue to recover; therefore, additional bald eagle nests are likely to be found on the ANF in the future.

Our 1999 programmatic BO concluded that adverse effects on the bald eagle could occur as a result of forest-wide management activities that require the removal of trees or result in disturbance near active bald eagle nests or roosts. We concluded that up to one bald eagle could be taken annually as a result of implementation of the ANF Forest Plan. Incidental take was

expected to be primarily in the form of harassment resulting from one or more of the following activities occurring in the vicinity of nesting, foraging, or roosting eagles: timber harvesting/tree removal; road and trail construction, maintenance and operation; federal and private oil and gas development; hunting; aerial application of insecticides; and operation and maintenance of boat launches, marinas and fishing areas. The BO contained reasonable and prudent measures and terms and conditions to ensure that incidental take of Indiana bats was minimized, monitored, and reported. Minimization measures focused primarily on buffers around eagle nests (330, 660, and 1320 feet) and time-of-year restrictions on certain activities.

Bald eagle nests are located in areas of the ANF where there is minimal disturbance from timber harvesting and other activities that may result in disturbance. That fact, in combination with Forest Service implementation of buffers, time-of-year restrictions, and other conservation measures, has served to protect bald eagles on the ANF. Accordingly, during the term of the programmatic biological opinion (1999-2006), no adverse effects to bald eagles were noted.

Under the new proposed Forest Plan, activities on the ANF that could affect the bald eagle are the same as those identified under the former Forest Plan (see above). However, the bald eagle will be protected and adverse effects on this species will be avoided by implementing the following conservation measures (BA, pp. 35-37). These conservation measures are similar to, or in some cases, more protective than those implemented under the former Forest Plan, and would apply under Forest Plan Alternatives B-D, including Alternative Cm:

- Around each nest, a 660-foot, no-disturbance buffer will be in place year-round. No activities that may disturb eagles or alter habitat (*e.g.*, timber harvest, land clearing, oil and gas development, road construction and maintenance, trail construction, habitat improvement) will be undertaken within this buffer. The buffer will remain in place for five years after a nest has been abandoned. A larger buffer will be implemented as necessary.
- Recreational activities within 660 feet of active bald eagle nests will be avoided. The buffer will be established and maintained through the use of buoys, signs, road closures or other appropriate measures when necessary. The Forest Service will establish a larger buffer when this is necessary to avoid adverse effects. If monitoring indicates a smaller buffer will result in no adverse effects, the Forest Service may establish a smaller buffer following consultation with the Fish and Wildlife Service.
- From January 15 to July 31, the following activities will not take place within 1320 feet of bald eagle nests: road and trail construction and maintenance, timber-cutting and hauling, oil and gas development, and low-level flights by Forest Service aircraft.
- Local roads will be closed to public use where active nests are located on a case-by-case basis.
- To maintain suitable roosting and nesting habitat, scattered white pines and other potential nest trees will be maintained along the slopes of the Allegheny Reservoir, Allegheny River, Tionesta Creek, Clarion River, Kinzua River, and Salmon Creek.

Federal activities that may result in the degradation of habitat should be avoided within 300 feet of the Allegheny River, Allegheny Reservoir, and Tionesta Creek.

- A burn plan will be prepared prior to implementation of any prescribed burning, and any burning within primary bald eagle habitat will include smoke considerations or mitigation measures to reduce smoke-related impacts to bald eagles.
- If the bald eagle is removed from the federal list, existing standards and guidelines will remain in effect for five years, after which management guidelines identified in association with the Bald and Golden Eagle Protection Act (BGEPA) will be adopted.
- When non-federal activities, such as oil and gas development, are proposed within 1320 feet of active bald eagle nests, the Forest Service will notify the developer of the presence of a federally listed species and the need to contact the Fish and Wildlife Service. The Forest Service will concurrently notify the Fish and Wildlife Service of the project.
- Power lines will be installed in a manner consistent with the most current version of the Avian Protection Plan Guidelines, including submission of a site specific plan that will identify and reduce hazards to the bald eagle.
- The Forest Service will continue to monitor bald eagle nest sites, nest productivity, and foraging and roosting areas on the ANF, and will report findings to the Fish and Wildlife Service. Any potential impacts will be immediately eliminated with larger buffers in consultation with the Fish and Wildlife Service.
- To reduce mortality, discarded fishing line and lures will be cleaned up monthly from May through September at developed fishing access sites around the Allegheny Reservoir. Signs and news releases will be displayed and distributed to educate hunters not to shoot eagles, and inform landowners of the need to protect bald eagle nests and habitat.

Further informal consultation will be required for the following activities to ensure avoidance of adverse effects:

- Any activities within 0.5 mile of known bald eagle nests or roosts.
- Recreational activities where potential impacts to eagle nesting, foraging, or roosting are known or suspected.
- Proposed installation and operation of any new access sites within the Allegheny Wild and Scenic River corridor.
- Installation of wind turbines.
- Proposed management plan for land surrounding the Allegheny Reservoir.

The Forest Service has concluded that implementation of Forest Plan Alternative Cm, along with the above conservation measures, “is not likely to adversely affect” the bald eagle. We concur with that determination.

### Indiana Bat

Our 1999 programmatic BO concluded that adverse effects on the Indiana bat could occur as a result of forest-wide management activities that require the removal of trees or alteration of forest habitat being used by Indiana bats. These activities included timber management, road and trail construction, oil and gas development, and fire management. The BO contained reasonable and prudent measures, and terms and conditions to ensure that incidental take of Indiana bats was minimized, monitored, and reported. Minimization measures included the retention of specified amounts of canopy closure, live trees, and snags when conducting timber management activities. Monitoring focused primarily on conducting further mist-net surveys to determine Indiana bat use of the ANF.

Approximately 87 percent of the ANF is considered to have suitable or optimal canopy closure conditions for Indiana bat foraging and roosting (BA, p. 95). However, the availability of larger diameter snags is more limited; only 28 percent of the ANF has a suitable distribution of snags over 12 inches d.b.h. (BA, p. 95). To address the shortage of larger-diameter potential roost trees, the Forest Service has proposed conservation measures that would retain larger-diameter snags and larger-diameter living trees (see below).

### *Survey Data*

When the 1999 programmatic BO was issued, limited bat survey information was available for the ANF. Data only included the 1998 sampling results from 25 mist-netting locations on the Forest. That sampling effort had resulted in the capture of one male Indiana bat in Jones Township, Elk County (BA, p. 96). Subsequent sampling efforts in the area where the Indiana bat was captured in 1998 have failed to locate Indiana bats.

Substantial sampling efforts have since been undertaken on the ANF to further document the presence and distribution of bats. Between 1998 and 2005, 311 sites were sampled using mist-netting, for a total of 1398 net-nights. As a result, over 3092 bats of eight species were captured (BA, p. 96). Mist-net sites were well-distributed across the Forest, and this sampling effort covered approximately 15 percent (77,000 acres) of the ANF (BA, p. 97).

Based on 1398 net-nights of sampling effort, the capture of a single Indiana bat on the ANF has produced 0.0007 Indiana bat/net-night. The success of this sampling effort is substantially less than that achieved in the part of the species’ range where Indiana bat maternity colonies are present. For example, Brack *et al.* (2002) reported that mist-netting associated with five studies in Indiana produced 0.025, 0.030, 0.148, 0.220, and 0.330 Indiana bat/net-night.

One male Indiana bat was also captured during the summer of 2001 in McKean County on private land adjacent to the ANF. During the period this male was tracked, it foraged and roosted on both private and Forest Service lands. Sampling efforts in the same area the

following year failed to locate any Indiana bats, leading the Forest Service to conclude that this was probably a transient male (BA, p. 103).

There are no known Indiana bat hibernacula on or near the ANF. The closest known hibernacula are located in Armstrong County, approximately 75 miles from the ANF (BA, p. 100). Efforts have recently been undertaken to determine whether Indiana bat hibernacula may occur on or near the ANF. In 2002 and 2004, two sites on the ANF, two sites on private land near the ANF, and one site on State Game Lands were sampled in September, during the bat swarming period. Three bat species were captured at each of four of these sites; one of the sites on the ANF had no swarming activity. No Indiana bats were captured at any of these sites. Three additional sites on the ANF were sampled in 2004, but no swarming activity was noted (BA, p. 99).

The above sampling data suggest that male Indiana bats are at least occasionally present on the ANF during the summer, but at a very low density. No female Indiana bats or juveniles have been captured on or near the ANF, and no Indiana bat hibernacula or swarming habitat has been found on or near the ANF.

### *Sex and Age Structure*

Based on the low capture rate for Indiana bats on the ANF, the Fish and Wildlife Service recommended that the Forest Service analyze capture data for little brown bats (*Myotis lucifugus*), a closely related species that is similar to the Indiana bat in size and reproductive biology. Between 2000 and 2005, 465 little brown bats were captured on the ANF. The male to female sex ratio was 5.5 to 1, and the adult to juvenile ratio was 10.3 to 1. Based on the capture data, only 6 percent of the adult population consisted of reproductive females (BA, p. 101). This is lower than the percent reproductive females elsewhere in Pennsylvania (19.2 percent), and much lower than the percent reproductive females in Virginia and West Virginia (43.9 and 39.5 percent, respectively) where the climate is warmer and more conducive to bat reproductive success (Brack *et al.* 2002).

These data suggest that the ANF is not preferred habitat for reproductive female bats. The BA surmises that the low representation of reproductive female bats on the ANF is due to the latitude and elevation, which results in short, cool summers with relatively high precipitation (BA, p. 98). This combination of factors would add to the cost of reproduction. Based on the available mist-net data (no female or juvenile Indiana bat captures) and surrogate bat data (low percentage of reproductive females present), Indiana bat maternity colonies are not likely to occur on the ANF. Despite the presence of thousands of acres of suitable forest habitat for Indiana bat roosting and foraging on the ANF, conditions during the critical summer months, particularly May and June, do not appear to be favorable to Indiana bat maternity colonies. However, conditions on the ANF may be suitable for adult male Indiana bats, which do not have to accommodate the energetic and thermal demands of pregnancy, lactation, and development to a post-volant state.

### *Migration Data*

Based on band recoveries, the anticipated maximum migration distance from hibernacula to summer habitat is approximately 320 miles or 520 km (Gardner and Cook 2002). Although these data were collected in what is considered the core of the species range (*i.e.*, Midwest), migration distances in New England and the mid-Atlantic states do not exceed those previously documented. The longest migration distances from three hibernacula in Pennsylvania and two in New York ranged from 24 to 89 miles (BA, p. 99).

Within 330 miles of the ANF, there are 45 known Indiana bat hibernacula. Bats in one or more of these hibernacula could potentially migrate as far as the ANF. Twenty-two of these hibernacula occur within 250 miles of the ANF in Pennsylvania (16), West Virginia (5), and New York (1), and support a wintering population of about 5480 Indiana bats, 1.2 percent of the total range-wide Indiana bat population. Most of those bats (3803) hibernate in Onondaga County, New York, which is 250 miles from the ANF. An additional 23 hibernacula are located between 251 and 330 miles of the ANF, and support a wintering population of about 16,679 Indiana bats (BA, pp. 98-100). Based on these data, the ANF is beyond the migration range of over 95 percent of the Indiana bat population.

Considering the ANF is within a feasible migration distance of several Indiana bat hibernacula, the Forest Service evaluated information from spring telemetry studies that were conducted in Pennsylvania and New York to determine migration distance and direction. Several Indiana bats were tracked from two large New York hibernacula. These bats migrated relatively short distances (up to 35 miles) to the east and south to reach summer habitat in the Lake Champlain Valley and Hudson River Valley (BA, p. 98). This places the ANF outside the normal migration distance of bats that hibernate in New York. In addition, the migration direction of these New York bats was away from, not toward, the ANF.

Indiana bats have also been tracked during their migration from three different Pennsylvania hibernacula. These bats migrated 54 to 90 miles to the east, south, or southeast to reach summer habitat in southeastern Pennsylvania and Maryland (BA, pp. 98-99). If migration distances of less than 100 miles are typical of bats hibernating in the mid-Atlantic states, then only 118 Indiana bats in four Pennsylvania hibernacula are within migration distance of the ANF. Furthermore, documented migration direction from Pennsylvania hibernacula is away from, not toward, the ANF. All of the Indiana bat hibernacula in Pennsylvania are located to the south of the ANF. If the prevailing migration direction of bats hibernating in Pennsylvania is to the south or southeast, one would expect these bats to be migrating further away from the ANF, not toward the ANF, to reach suitable summer habitat.

Based on the above information, the ANF may at least occasionally support a low density of male Indiana bats during the summer, but is not likely to support Indiana bat maternity colonies. Considering the potential presence of this species on the ANF, the Forest Service evaluated the effects of the new Forest Plan on Indiana bats, and also proposed several measures to ensure the species is conserved and protected.

To ensure that forest management activities will not adversely affect Indiana bats that may be present on the ANF, the Forest Service will implement the following conservation measures, as



summarized from the BA (pp. 113-115, 119). The conservation measures would be implemented under Forest Plan Alternatives B-D, including Alternative Cm:

- In all timber harvest units:
  - 0.25 acre within each five acres of harvest should be set aside as reserve areas. Layout of reserve areas should emphasize the following: vernal ponds, wet depressions, unique plant communities, rock complexes, den trees, snags, conifers, mast producing species, and tree and shrub species that are a minor component of the stand. Additional live and dead trees scattered throughout the harvest unit should be retained.
  - Retain trees with characteristics of suitable roosts (dead or dying trees with flaking or exfoliating bark) whenever possible.
  - Retain all shagbark hickory.
  - Retain at least nine snags per acre greater than 10 inches d.b.h. (where available).
  - For partial/intermediate harvests in healthy stands, retain canopy closure at optimal roosting and foraging habitat levels (>50%).
  - Retain at least three live trees per acre  $\geq 20$  inches d.b.h. (or largest trees available) of preferred roost tree species. Where possible, these trees should be located in areas of the stands where thick regeneration that occurs after a final harvest will not shade or obstruct flight to the tree. Retain an additional six live trees per acre greater than 10 inches d.b.h.
- All known roost trees on the ANF will be protected until they no longer serve as a roost. In the event that it becomes absolutely necessary to remove a known Indiana bat roost tree, removal will be conducted through consultation with the Fish and Wildlife Service, and during the time period when the bats are likely to be in hibernation (October 15 to March 31).
- During the review of Oil and Gas Management Plans of Operation, if known occurrences of federally-listed or candidate species are located in the vicinity of a proposed mineral development, this will be documented in a letter to the operator and copied to the Fish and Wildlife Service Field Office in State College, Pennsylvania. The letter will direct the operator to contact the Service to resolve issues related to threatened and endangered species prior to proceeding with any tree-cutting or earth disturbance.
- If Indiana bat maternity roost trees are discovered, protect the trees from physical disturbance and designate an area of use based on site conditions, radio-tracking or other survey information, and best available information regarding maternity colony needs. Maintain or enhance the site by maintaining an adequate number of snag, including

known roost trees; maintaining large live trees to provide future roosting opportunities; and maintaining optimal roosting and foraging habitat.

- Conduct prescribed burning within any maternity colony area only during the hibernating season.
- Demolition or removal of buildings or other man-made structures that harbor bats should not occur between April 15 and August 15. Bat boxes will be installed near the building prior to demolition. If the building must be removed when bats are present, a bat expert will survey the building to determine whether Indiana bats are present; if they are, consultation with the Fish and Wildlife Service will be necessary.
- Further consultation will take place if an Indiana bat is captured on the ANF or found to be using the ANF. Any captured Indiana bats will be fitted with a radio transmitter and tracked to determine use of roost trees and foraging habitat.

The BA concludes that adoption of the new Forest Plan, along with implementation of the above conservation measures, is not likely to adversely affect the Indiana bat because both direct mortality and indirect adverse effects to important habitat components are extremely unlikely to occur and are therefore considered discountable (BA, p. 116). Adverse impacts are considered unlikely because the available data indicate that at best, the ANF only supports a very low density of adult male Indiana bats, which are not likely to be adversely affected by implementation of the new Forest Plan. Under Alternative Cm, 81 percent of the ANF would be considered suitable or optimal foraging and roosting habitat for Indiana bats during the planning period (BA, p. 109).

This determination is based, in part, on the following analysis (BA, pp. 108-113). During timber management activities, harvest units average 20 acres in size. Based on an average Indiana bat home range size of 200 to 400 acres, and the typical size and distribution of harvest units, “the percent of any given Indiana bat home range being affected by timber harvest would vary between 0 and 20 percent with an estimated average of 11 percent” (BA, pp. 108-109). If an Indiana bat were present, approximately 90 percent of its home range would be unaffected by harvest activities. Therefore, impacts to the species through habitat alteration are unlikely. In addition, the risk of direct take (*i.e.*, cutting a tree with an Indiana bat roosting in it) is extremely low and considered discountable because 1) the species is very rare on the ANF, so it is not likely to be present in an area proposed for harvest; 2) if present, only a small percentage of its home range would be subject to harvest; and 3) Indiana bats are hibernating, near their hibernacula, or migrating at least half of the year when timber harvest occurs (BA, pp. 108-109).

The risk to Indiana bats is even lower due to the implementation of other management activities on the ANF, such as reforestation treatments, trail and road construction and operation, recreation, riparian management, and wildlife habitat enhancement. These activities result in few or no trees being cut; therefore, these activities are not likely to adversely affect Indiana bats (BA, pp. 110-113).

The Forest Service determined that adoption of the new Forest Plan is not likely to adversely affect the Indiana bat due to the following considerations, which are summarized from the BA (pp. 116-119) and discussed above.

- Intensive sampling on and adjacent to the ANF has only resulted in the capture of two adult male Indiana bats. No Indiana bat maternity colonies, adult females, or juveniles have been found.
- The age structure, sex ratio, and reproductive condition of captured bats on the ANF suggest that the ANF is not likely to support Indiana bat maternity colonies, despite the presence of what appears to be suitable or optimal habitat. This is probably due to the higher latitude and elevation at which the ANF is found, resulting in short, cool, wet summers that are not conducive to bat reproductive success.
- Surveys at caves on and near the ANF did not reveal any Indiana bats.
- The ANF is located within a feasible migration distance of only a small percentage of the total Indiana bat population, and almost all of the known Indiana bat hibernacula within 330 miles of the ANF are located to the south of the Forest. Based on available migration data from Pennsylvania and New York, Indiana bats are migrating relatively short distances (less than 100 miles) to the south, east, or southeast. These bats are moving away from, not toward, the ANF.
- Due to the rarity of Indiana bats on the ANF, they are not likely to be found in an area proposed for harvest. However, if an Indiana bat were present in an area proposed for harvest, only a small percentage of its home range would be affected by the harvest, and during at least half of the year Indiana bats would not be present during harvest activities.
- Under Alternative Cm, over 200,000 acres of the ANF will either be managed for late structural habitat conditions, or not subject to timber harvest. Under this Alternative, 70 percent of the ANF would be characterized, at least structurally, as optimal Indiana bat habitat.
- Standards and guidelines will ensure that an adequate number of live and dead roost trees will be present across the Forest, and that canopy closures will be suitable for Indiana bats. Standards and guidelines will also ensure that known Indiana bat habitat is protected and conserved.

In summary, the “not likely to adversely affect” determination is substantiated by data indicating that the ANF may support a low density of adult male Indiana bats, and that the risk to these bats from Forest Plan Alternative Cm implementation is extremely low. We concur with the Forest Service’s determination that the preferred alternative for the new Forest Plan is “not likely to adversely affect” the Indiana bat. Our concurrence is based on 1) the likelihood that the ANF only supports a low density of adult male Indiana bats, whose presence on the ANF may be transient; 2) the Forest Service’s commitment to implement the Standards and Guidelines related

to the Indiana bat; and 3) the Forest Service's commitment to protect known Indiana bat habitat on the ANF, should it be found.

### Clubshell and Northern Riffleshell

The clubshell and northern riffleshell have been found in the portion of the Allegheny River that occurs within the proclamation boundary of the ANF and within the Wild and Scenic River corridor (BA, p. 49). Within their range, these and other freshwater mussels are vulnerable to various threats, including but not limited to, in-stream encroachments, sand and gravel dredging, impoundments, invasive aquatic species, and water quality degradation. No suitable habitat for these species has been found in other streams located on the ANF.

The Allegheny River supports one of the largest remaining populations of the clubshell and northern riffleshell, which have been eliminated from over 90 percent of their historic range. In the 33.5 miles of river between Warren and Tionesta (running along the western edge of the ANF) northern riffleshell and clubshell populations have been estimated at 6.6 million and 1.1 million animals, respectively (BA, p. 49). During extensive mussel surveys of the Allegheny River, surveyors have noted that habitat in the river is good for mussels and relatively free of fines and sediment (BA, p. 51).

Our 1999 programmatic BO concluded that adverse effects on the clubshell and northern riffleshell could occur as a result of forest-wide management activities that contribute sediment or contaminants to the Allegheny River, or that result in the introduction of zebra mussels to the Allegheny River. Incidental take was expected to be in the form of harm resulting from various activities, including timber harvesting/tree removal; road and trail construction; federal and private oil and gas development; and operation of boat launches and marinas.

### *Boating Facility Operation*

The 1999 BO contained reasonable and prudent alternatives to avoid jeopardy to the northern riffleshell due to the operation of boat launches. Specifically, it called for the implementation of 1) educational and outreach efforts to inform the boating public about zebra mussels and ways to reduce their spread; 2) signs at boat launches to warn against zebra mussel introduction and prohibit the launching of contaminated vessels; 3) boat screening to identify zebra-mussel contaminated vessels and determine the risk of zebra mussel introduction; and 4) the installation of zebra mussel decontamination stations at boat launches.

Between 2000 and 2006, the Forest Service implemented these measures. The focus from 2000 to 2002 was on both education and boat screening, while the emphasis since 2003 has been on education, and screening boat trailers in parking lots. During this period, the Forest Service was able to educate the boating public about zebra mussels, and assess the risk of zebra mussels being introduced to the Allegheny Reservoir. Interviews with boaters revealed that by 2002, 98 percent of the boaters were familiar with zebra mussels and decontamination methods (BA, p. 59). In addition, the screening of boats and boat trailers revealed that over 98 percent of the boats and boat trailers presented a low (or no) risk of introducing zebra mussels (BA, pp. 59-60). As of 2006, no zebra mussels had been documented in the Allegheny Reservoir. This suggests

that the measures from the 1999 BO reduce the risk of zebra mussel introduction to the point that adverse effects on the clubshell and northern riffleshell are not likely to occur.

The proposed Forest Plan includes conservation measures similar to those included in the 1999 BO. The measures related to reducing the risk of zebra mussel introduction are summarized below (BA, pp. 71-72, Appendix C; December 2006 supplement to BA).

- Educational materials (handouts, signs, educational displays) will be made available to the public about zebra mussels, measures to reduce their spread, and decontamination methods. Information will be made available at boat launches, the marina, and the Buckaloons Recreation Area.
- Signs will be posted at the marina, boat launches, and Buckaloons prohibiting the launching of vessels that may be carrying zebra mussels.
- A portable wash station for the decontamination of vessels for zebra mussels will be made available at one of the boat launches during the boating season.
- The Forest Service will continue to survey the Allegheny Reservoir for zebra mussels during the annual drawdown.
- To continue the educational aspect of the zebra mussel prevention program, and to determine the risk of zebra mussel introduction to the Allegheny Reservoir from the operation of Forest Service boat launches, at least 500 watercraft will be screened at launch sites by Forest Service personnel and at least 1000 trailers will be inspected for potential zebra mussel contamination annually.

Because the above measures have been effective in reducing the risk of zebra mussel introduction to the point that no zebra mussels have been detected in the Allegheny Reservoir, the Forest Service has concluded that the operation of boat launches, in conjunction with the proposed conservation measures, is not likely to adversely affect the clubshell or northern riffleshell. We concur with that determination.

#### *Other Actions*

The 1999 programmatic BO contained reasonable and prudent measures, and terms and conditions to ensure that incidental take of the clubshell and northern riffleshell was minimized. Minimization measures included the implementation of Forest Plan standards and guidelines to reduce sediment and contaminant inputs from timber harvesting, vegetation management, oil and gas development, and the construction and operation of roads and trails.

Under the new proposed Forest Plan, activities on the ANF that could have effects on the clubshell and northern riffleshell are the same as those identified under the former Forest Plan. The primary area of concern is the 13 percent of the ANF that drains directly into the Allegheny River between Kinzua Dam and Tionesta Dam. In this area, headwater streams drain directly into the Allegheny River without first flowing through reservoirs, which would serve to trap

sediment and some contaminants. From this “13 percent area”, 165 miles of perennial streams and 110 miles of intermittent streams flow into the Allegheny River (BA, p. 61). Activities that result in earth disturbance within this 13 percent area have the highest potential for contributing sediment and potentially contaminants (pesticides, herbicides, brine) to the Allegheny River and affecting mussels (BA, p. 55).

Pursuant to the 1999 BO, the Forest Service monitored sedimentation from two different watersheds, one with high levels of earth disturbance and the other with low levels of earth disturbance. The watershed with high levels of earth disturbance contributed 13 times the amount of sediment as the watershed with low levels of earth disturbance. Most of this sediment was attributed to motorized off-highway vehicle trails, and dirt and gravel roads used by private oil and gas operations, rather than timber harvesting or Forest Service roads (BA, pp. 61-64). Roads and trails within 300 feet of streams were identified as being the highest potential source of runoff into streams (BA, p. 55). To remediate sediment from these sources, the Forest Service has been surfacing roads and trails within 300 feet of streams in the 13 percent area with higher quality surfacing material (BA, pp. 64-65). The new Forest Plan will require high quality surfacing material on all roads and motorized trails built within 300 feet of streams to minimize sedimentation (BA, p. 68; December 2006 supplement).

Under the preferred alternative (Cm), approximately 5000 acres of forest will be harvested annually, mostly using even-aged harvest methods (BA, p. 21). This is more than double the mean annual harvest reported between 1999 and 2006 under the programmatic biological opinion. During that period, harvests ranged from 1048 to 3108 acres annually, and averaged 2046 acres (BA, p. 107).

Almost all of the even-aged harvesting is expected to occur in Management Area 3.0, 10 percent of which (28,042 of 287,380 acres) occurs in the 13 percent area (BA, pp. 18, 56; USDA 2006, p. II-8). If 10 percent of the total annual harvest occurs in this area, we estimate that 500 acres of the 13 percent area would be treated annually. Approximately 65,000 acres within the 13 percent area are ANF lands (BA, p. 55). Therefore, less than 0.8 percent of the Forest Service land that drains directly into the Allegheny River would be treated annually (500 of 65,000 acres), and within this treatment area, timber harvesting would not occur within riparian corridors (see below).

The Forest Service has proposed the following conservation measures, as summarized from the BA (pp. 66-70; Appendix C), to protect the clubshell and northern riffleshell during implementation of Forest Plan Alternatives B-D, including Alternative Cm. These conservation measures are similar to, and in some cases, more protective than those implemented under the former Forest Plan.

- During project-level planning and implementation, riparian corridors will be defined on the basis of soils, vegetation and hydrology (surface and groundwater) that will maintain the ecological functions and values associated with the riparian area. Riparian corridors will vary by water feature, but at a minimum will be defined following these fixed width distances, which are double the distances used under the 1986 Forest Plan:

<b>Water Features</b>	<b>Distance from bank or ordinary high water mark, measured as slope distance</b>
Wilderness trout streams, remote trout streams, or Class A wild trout streams	200 feet, or 50 feet plus 4 feet for every 1 percent slope, whichever is greater
Perennial streams and other perennial water bodies	100 feet, or 50 feet plus 4 feet for every 1 percent slope, whichever is greater
Intermittent streams and mapped wetlands	50 feet, plus 2 feet for every 1 percent slope
Allegheny River	300 feet

Within the riparian corridors identified above:

- Construction of new facilities, roads, motorized trails, oil and gas developments, landings, and buildings will be avoided.
- Streams, wetlands, and their riparian corridors will be kept free of logging debris, sawdust, equipment, oil, and other materials or obstructions.
- Cable yarding that crosses streams should avoid impacts to the stream channel. Crossings should be at a right angle, with full suspension.
- When management activities occur, special attention will be given to riparian dependent resources.
- In riparian corridors within the 13 percent area, herbicides will only be used for management activities necessary to control invasive exotic plant species.
- In riparian corridors within the 13 percent area, timber harvesting should not occur.
- Proposed management activities shall be planned, evaluated, and implemented consistent with measures developed to protect the clubshell and northern riffleshell including those recognized to maintain, improve, or enhance their habitat. These measures include, but are not limited to, implementing standards and guidelines in the Allegheny National Forest Land and Resource Management Plan.
- Maintain watershed health and water quality by following guidelines contained in the current versions of “Timber Harvest Operations Field Guide for Waterways, Wetlands, and Erosion Control” and “Erosion and Sediment Pollution Control Program Manual,” Department of Environmental Protection, Commonwealth of Pennsylvania.
- Woody material naturally occurring in streams should only be removed when fisheries habitat is being degraded or when damage is likely to infrastructure such as bridges and culverts or private property. When a river is impassible due to woody debris, remove

only the portion necessary for safe passage of boats; the need will be determined on a case-by-case basis.

- Firewood should not be collected from streams, wetlands, springs, seeps, and vernal ponds.
- The drafting of water from a stream should maintain existing uses such as fish and aquatic life, including threatened and endangered species and their habitat.
- Glyphosate shall not be applied to surface waters or within 10 feet of standing or flowing water. This buffer should be adjusted based on field conditions at the time of spraying, in order to account for moister or drier conditions.
- Any roads constructed or reconstructed within 300 feet of a stream, as well as existing roads located within 300 feet of a stream, shall use a high quality surfacing material to minimize sediment delivery. In the event that this cannot be achieved, USFWS will be consulted.
- In the 13 percent area, any motorized trails constructed or reconstructed within 300 feet of a stream, as well as existing motorized trails located within 300 feet of a stream, shall use a high quality surfacing material to minimize sediment delivery. In the event that this cannot be achieved, the Fish and Wildlife Service will be consulted.
- Permanent and temporary road and trail crossings of streams shall be limited, and will be designed to minimize erosion. A high quality, non-erosive surfacing material, binding material, or other suitable material or methods should be used to control sediment delivery where vegetative cover is either inappropriate or expected to be inadequate for effective erosion control. Pit run sandstone is only appropriate for stream crossings as a subgrade material.
- Where natural re-vegetation is unlikely, or sedimentation and erosion are concerns, plant native or desirable non-native species immediately after road or trail construction or reconstruction.
- Where stream crossings are needed, bridges and bottomless arches should be favored rather than culverts and should be utilized to maintain fish and aquatic passage, stream channel structure, erosion control, bank stability, and stream gradient. Structures that properly distribute flood flow, bankfull flow, and sediment transport capacity should be used.
- Permanent stream crossing structures should be designed and constructed to withstand a minimum of a 50-year storm event and should not constrict the channel width.
- Temporary stream crossings should be constructed to accommodate a minimum of bank full flow.



- Roads constructed for oil and gas development shall meet Forest Service Standards for local roads (Forest Service Manual and Handbook Section 7700-Transportation System).
- During the review of Oil and Gas Management Plans of Operation, if known occurrences of federally-listed or candidate species are located in the vicinity of a proposed mineral development, this will be documented in a letter to the operator and copied to the Fish and Wildlife Service Field Office in State College, Pennsylvania. The letter will direct the operator to contact the Fish and Wildlife Service to resolve issues related to threatened and endangered species prior to proceeding with any tree-cutting or earth disturbance.
- Oil and gas operators will implement and maintain their submitted Soil Erosion and Sedimentation Control Plan and Spill Prevention Plan.
- Monitor or survey potential sources of water pollution, including trails, roads, timber harvests, and oil and gas developments, to ensure 1) standards and guidelines are implemented, 2) only minimal sediment is produced from these activities, and 3) appropriate erosion and sedimentation controls are implemented to correct any identified problems.
- The Wild and Scenic River Corridor (MA 8.1) is a 0.25-mile corridor running along both sides of the Allegheny River for most of the distance between Warren and Tionesta (BA, p. 65). Approximately 5600 acres of the Wild and Scenic River Corridor occurs within the 13 percent area (BA, p. 56). Conservation measures specific to activities in MA 8.1 include the following, as summarized from the BA (p. 70).
  - Timber harvest associated with forest management will be limited to address recreation and scenery management activities, user safety, wildlife concerns, forest health, or catastrophic events. Vegetation management is infrequent and may take place to 1) improve habitat for species of concern, restore ecosystems, or maintain existing unique or important wildlife features or plant communities; 2) maintain or expand existing facilities and trails; 3) carry out conservation, research, or education around heritage sites; and 4) conduct timber salvage and associated reforestation.
  - Existing roads or aerial harvest methods will be used for salvage harvests.
  - Roads will not be constructed on islands and will be limited to those needed for public access, or service and maintenance. New road construction will be limited to that required for designated special uses or by law to provide access to non-federal land or valid existing mineral rights.
  - Mitigate or decommission roads that are causing environmental damage, degrading outstandingly remarkable values, or to manage visitor use and access.

Further consultation will be required for the following activities:

- The proposed installation and operation of any new access sites (*e.g.*, recreational boating) to be authorized, funded, or constructed by the Forest Service on the Allegheny River.
- Any activities that do not follow the above measures in the 13 percent area of the ANF.
- Activities that are anticipated to contribute large amounts of sediment into the Allegheny River or tributaries that flow directly to it, beyond what was analyzed in the BA.
- Any activity that increases the risk or likelihood of zebra mussels becoming established in the Allegheny Reservoir, beyond what was analyzed in the BA. For example, if monitoring reveals that the risk of zebra mussel introduction due to boat launch operation has increased, measures will be implemented to reduce that risk, in consultation with the Fish and Wildlife Service.

The Forest Service has determined that implementation of Forest Plan Alternative Cm is not likely to adversely affect the clubshell or northern riffleshell. The Forest Service has committed to implement numerous conservation measures to ensure that adverse effects will be avoided. We concur with the Forest Service's effects determination. Our concurrence is based on the following 1) clubshell and northern riffleshell populations appear to be fairly healthy and are reproducing in the Allegheny River; 2) sediment accumulations in mussel habitat have not been noted, indicating that previous Forest Plan standards and guidelines have been fairly effective in reducing sediment inputs; 3) the proposed conservation measures under Alternatives B-D are more stringent than those implemented under the former Forest Plan, so sediment and contaminant inputs to the Allegheny River are not expected to increase, and may decrease; 4) timber harvesting will occur in less than one percent of the area that drains directly into the Allegheny River, and within this area, no harvesting will occur within riparian corridors; 5) ongoing remediation of erosion and sedimentation problems associated with existing roads and trails will continue, reducing sediment inputs; 6) due to the restrictions on herbicide use within the 13 percent area, and the stream buffers associated with herbicide application, herbicide will not be transported to the Allegheny River; and 7) construction of buildings, roads, motorized trails, landing, and oil and gas developments will be avoided in riparian corridors, particularly within the area that drains directly into the Allegheny River.

#### Rayed bean and Sheepnose

As federal candidate species, the rayed bean and sheepnose have been determined to warrant listing under the Endangered Species Act as endangered or threatened, but until such time as they are proposed for listing, they receive no protection under the Act. However, conservation measures taken throughout the range of these species could preclude the need to list them in the future.

Both species are known to occur in the Allegheny River, and are subject to the same types of threats as the clubshell and northern riffleshell. However, the abundance of these species,

particularly the sheepnose, is much lower than that of the clubshell or northern riffleshell. No suitable habitat for these species is known to occur within the ANF itself.

To conserve and avoid adverse effects on these species, the Forest Service will implement the conservation measures detailed for the clubshell and northern riffleshell (see above). Consequently, the Forest Service has reached a “not likely to adversely affect” determination for the rayed bean and sheepnose. Based on the rationale discussed above for the clubshell and northern riffleshell, we concur with that determination.

#### Reinitiation / Initiation Notice

The Forest Service will initiate or reinitiate consultation should any of the following occur:

- An individual project may affect a federally listed species.
- New federally listed species, or previously undocumented species (*e.g.*, northeastern bulrush, small-whorled pogonia) are found on the Forest.
- An action may have an effect not previously considered in the BA.
- An Indiana bat is captured on the ANF or found to be using the ANF.

*Please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.*

If you have any questions regarding this matter, please contact Jennifer Dombroskie or Carole Copeyon of my staff at 814-234-4090.

Sincerely,

David Densmore  
Supervisor

## REFERENCES

- Brack, V., Jr., C.W. Stihler, R.J. Reynolds, C.M. Butchkoski, and C.S. Hobson. 2002. Effect of climate and elevation on distribution and abundance in the mideastern United States. Pages 21-28 *in* A. Kurta and J. Kennedy (eds.), *The Indiana bat: biology and management of an endangered species*. Bat Conservation International, Austin, TX.
- Gardner J.E., and E.A. Cook. 2002. Seasonal and geographic distribution and quantification of potential summer habitat. Pages 9-20 *in* A. Kurta and J. Kennedy (eds.), *The Indiana bat: biology and management of an endangered species*. Bat Conservation International, Austin, TX.
- U.S. Department of Agriculture – Forest Service. 2006. *Biological assessment: Allegheny National Forest – Forest Plan Revision (November 2006)*. 163 pages.
- U.S. Department of Agriculture – Forest Service. 2006. *Allegheny National Forest – Proposed Land and Resource Management Plan (May 2006)*.

cc:

Readers file

ES file - active

Copeyon – 4 copies

Response type: custom, multiple species, programmatic informal

ES:PAFO:JD:CKC: 01/31/07

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