



United States Department of the Interior

OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT
Washington, D.C. 20240



DEC 14 2006

Mr. Scott Pruitt
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U.S. Fish and Wildlife Service
620 S. Walker Street
Bloomington, IN 47403-2121

Mr. Pruitt:

In response to the U.S. Fish and Wildlife Service (FWS) announcement in the Federal Register (71 FR 55212, September 21, 2006), the Office of Surface Mining (OSM) offers the following comments concerning the 5-year review of the status of the endangered Indiana Bat (*Myotis sodalis*). While OSM does not collect information associated with whether or not the Indiana bat should be listed as an endangered species, OSM and the State regulatory authorities are heavily involved in protection efforts associated with the Indiana Bat and coal mining.

Indiana Bats may be found in many areas of the United States where coal is mined. Coal mining is regulated under the Federal Surface Mining Control and Reclamation Act of 1977 (SMCRA) and the Federal and State regulatory programs adopted pursuant to SMCRA and its implementing regulations. Federal and State regulations require that every permit application for surface coal mining include Fish and Wildlife Service (FWS) resource information, as well as a plan for protection and enhancement of endangered species and their critical habitats. The regulations also require the regulatory agency to make a written finding that the proposed mining operation would not affect the continued existence of listed species or result in the destruction or adverse modification of their critical habitats. This combination of laws and regulations ensures that coal mining operations in the United States, if carried out in accordance with approved and properly implemented Federal and State regulatory programs under SMCRA, will not further endanger the continued existence of Indiana Bats.

1996 Biological Opinion

In 1996, the FWS issued a Biological Opinion regarding the impact of current and future surface coal mining operations on species listed under the Endangered Species Act. In the Biological Opinion, FWS concluded that surface coal mining and reclamation operations, conducted in accordance with properly implemented Federal and State regulatory programs under SMCRA, are not likely to jeopardize the continued existence of listed or proposed species and designated or proposed critical habitats. The Biological Opinion also included an Incidental Take Statement that authorized the taking of a limited, but unquantifiable, number of listed individuals when the taking is incidental to,



and not the intended purpose of, the surface coal mining and reclamation operations. In addition, the Biological Opinion identified specific terms and conditions that must be met by mining companies and SMCRA regulatory agencies, in order to minimize incidental take of listed species. Compliance with SMCRA requirements and the Biological Opinion ensures that mining companies and regulatory agencies will provide protection for the Indiana Bat during the coal mining process.

Protection of the Indiana Bat During Coal Mining & Reclamation

Coal mining activities within the OSM Mid-Continent and Appalachian Regions can cause temporary and extensive disturbance to the local environment and, in some cases, has the potential to affect summer and winter habitat used by the Indiana Bat.

OSM has sponsored a series of technical interactive forums on bat conservation and mining. Valuable information was derived from different interested parties such as the coal mining industry, FWS, and OSM. The forums provided a means of information transfer between experienced members regarding bat conservation and mining activities.

There are several contributing factors that may explain the decline of the Indiana Bat, however, there has not been an applied systematic scientific approach to validate these observations.

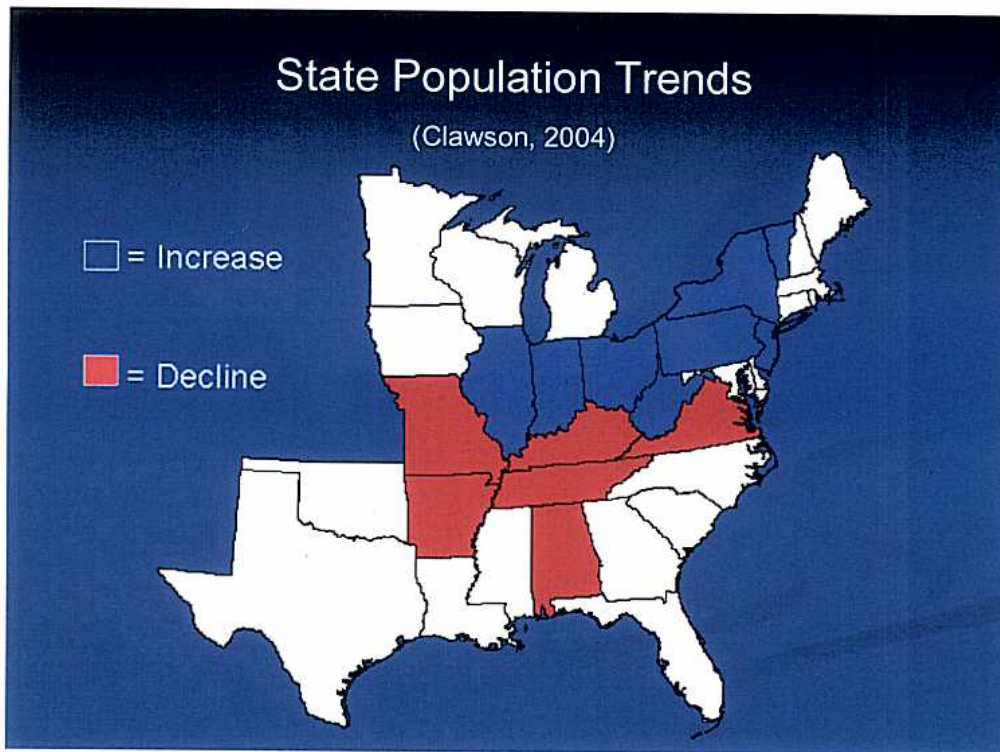
Contributing factors include the following:

- Degradation and/or loss of Hibernacula that is appropriate for the Indiana Bat's survival.
- Degradation and/or loss of forested areas.
- Degradation and/or loss of Riparian Zones.
- Unsuitable thermal environment during hibernation.
- Land disturbances.
- Direct/Indirect sources of contamination.

The information collected to date indicates a decline in the total number of Indiana Bats. However, if State specific data is extracted, bat populations are increasing in some coal producing states and decreasing in others. In an attempt to extrapolate trend data between coal production and Indiana Bat population within the States, little to no correlation can be identified.

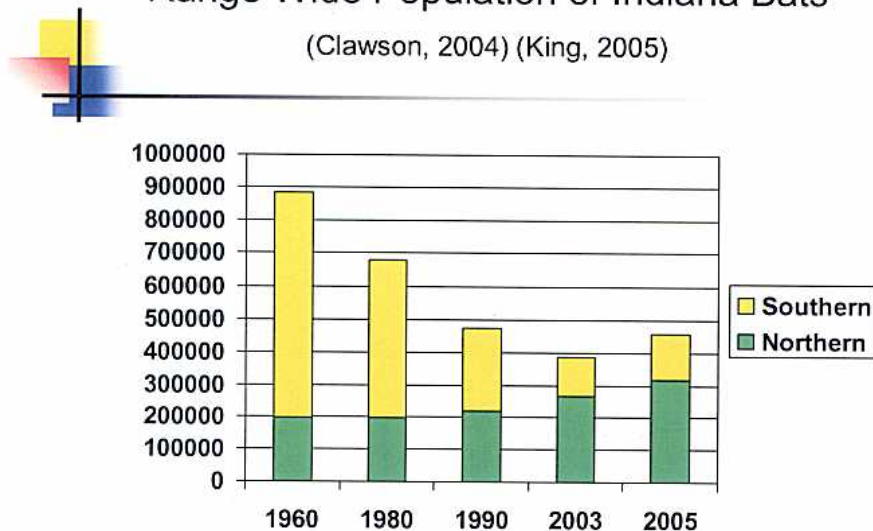
Information provided by the FWS and others during one of those forums showed a dramatic decline in the total number of Indiana bats over the last 30 years nationwide. However, on a State specific basis, bat populations are increasing in some coal producing States and decreasing in others. Research presented in this forum demonstrated trends which showed little to no correlation of Indiana bat population trends and coal production trends on a State specific basis.

Of particular interest, is that on a regional basis, the Indiana Bat population is increasing in the Northern States while decreasing in the Southern States. When comparing coal mine production and bat population, no correlation is validated.



Range Wide Population of Indiana Bats

(Clawson, 2004) (King, 2005)



Regional changes in bat population can indicate to some degree a climatic effect on the Indiana Bat. Increasing temperatures in hibernacula may indicate that the temperatures in Northern states are more suitable. Some studies have indicated that a balance between thermal conditions and minimizing disturbance are critical factors that may influence bat mortality during hibernation. Bat stimulation during hibernation amplifies metabolic rate, decreasing fat reserves necessary for bats to survive during hibernation (*Johnson et al. 1998 Currie 2002*). Also, sudden temperature modifications and other disturbances highly affect bat survival during hibernation (*Raesley and Gates 1987*). Current study trends are geared toward protection and enhancement of summer habitat. It may be worthwhile to review the suitability of winter habitat for the Indiana Bat to substantiate the population enhancement in Northern states.

In addition, a study within the coalfields of Indiana was recently completed to analyze the results of past and current reforestation efforts on active coal mines. This study was initiated to gain a better understanding of what species-specific protection measures on mine permits might be required to increase Indiana bat summer habitat. Results showed high tree survival rates accompanied by a patchwork of assorted land use patterns. These findings indicated that reforestation activities at active mines are resulting in the restoration of timbered landscapes that resemble those which existed prior to mining. However, a broadened knowledge of the specific habitat needs of declining bat populations could be used to design better reclamation and implement more effective protective measures.

Before any conclusions can be made on the listing status of the species, research gaps concerning the Indiana bat and coal mining must be filled. Investigations should be aimed at making determinations on the primary factors that are leading to population decline. Gaining a better understanding of factors which have led to population decline is needed to draw conclusions on what mining protective measures should be implemented. Likewise, studying the effectiveness of protective measures currently used on coal mines is necessary to reveal their success. Correlations between habitat type and availability (summer or winter; surface or underground) and population trends are unknown and investigations need to be undertaken to determine what, if any, impact coal mining and reclamation is having on bat populations.

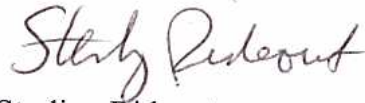
OSM Recommendations to FWS

Concerning the 5-Year Review of the Status of the Endangered Indiana Bat

1. The FWS should conduct the necessary additional research to determine the actual cause(s) of the population decline of the Indiana Bat so that it can recommend reasonable and effective measures to reverse the current population declines.
2. OSM and FWS should continue to partner on studies that increase our knowledge base concerning actual impacts of coal mining on the Indiana bat population and assess the actual impacts of already-imposed protection measures.

3. The OSM and the FWS, in partnership with the States, should increase efforts to develop effective regional or national Indiana bat conservation measures for SMCRA permits under the existing authority of SMCRA and the 1996 FWS Biological Opinion.

Sincerely,

A handwritten signature in cursive script that reads "Sterling Rideout".

Sterling Rideout
Assistant Director, Program Support

cc: Mid-Continent Regional Office, OSM