

**Proceedings of**

**Bat Conservation  
and Mining:  
A Technical Interactive Forum**

Proceedings of Bat Conservation and Mining:  
A Technical Interactive Forum held November 14-16, 2000  
at the Airport Hilton,  
St. Louis, Missouri

Edited by:  
Kimery C. Vories  
Dianne Throgmorton

Published by  
U.S. Department of Interior, Office of Surface Mining, Alton, Illinois  
and  
Coal Research Center, Southern Illinois University, Carbondale, Illinois

U.S. Department of Interior, Office of Surface Mining, Alton, Illinois  
Coal Research Center, Southern Illinois University, Carbondale, Illinois  
Copyright 2000 by the Office of Surface Mining. All rights reserved.  
Printed in the United States of America  
8 7 6 5 4 3 2 1

Library of Congress Cataloging-in-Publication Data

Bat Conservation and Mining: A Technical Interactive Forum (2000: St. Louis, Missouri)

Proceedings of Bat Conservation and Mining: Airport Hilton, St. Louis, Missouri, November 14-16, 2000/ edited by  
Kimery C. Vories, Dianne Throgmorton; sponsored by U.S. Dept. of the Interior, Office of Surface Mining, Bat  
Conservation International, Coal Research Center, Southern Illinois University at Carbondale.

p. cm.

Includes bibliographical references.

ISBN 1-885189-05-2

1. Bat Conservation--United States Congresses. 2. Reclamation of land--United States Congresses. 3. Strip  
mining--Environmental aspects--United States Congresses. 4. Coal mines and mining--Environmental aspects--United States  
Congresses. I. Vories, Kimery C. II. Throgmorton, Dianne. III. United States. Office of Surface Mining Reclamation and  
Enforcement. IV. Bat Conservation International. V. Southern Illinois University at Carbondale. Coal Extraction and  
Utilization Research Center. VI. Title

SD409.E62 1999

333.75' 153' 0973--dc21

99-38937

CIP

# Contents

<b>Foreword</b> .....	<b>xi</b>
<b>Steering Committee Members</b> .....	<b>xiii</b>
<b>Bat Conservation Steering Committee Recommendations</b> .....	<b>xv</b>
<b>What is a Technical Interactive Forum?</b> .....	<b>xvii</b>
<i>Kimery C. Vories, USDI Office of Surface Mining, Alton, Illinois</i>	
<b>The Office of Surface Mining Perspective on Bat Conservation</b> .....	<b>1</b>
<i>Kathrine L. Henry, Acting Director, Office of Surface Mining, Washington, D.C.</i>	
<b>Session 1: Why Bats?</b>	
<i>Session Chairperson: Sheryl Ducummon, Bat Conservation International, Austin, Texas</i>	
<b>Ecological and Economic Importance of Bats</b> .....	<b>7</b>
<i>Sheryl Ducummon, Bat Conservation International, Austin, Texas</i>	
<b>Importance of Mines for Bat Conservation</b> .....	<b>17</b>
<i>Len Meier, Office of Surface Mining, Alton, Illinois</i>	
<b>Challenges in Protecting Bats</b> .....	<b>29</b>
<i>Homer Milford, New Mexico Mining and Minerals Division, Sante Fe, New Mexico</i>	
<b>Eastern Bat Species of Concern to Mining</b> .....	<b>35</b>
<i>Dr. Michael Harvey, Tennessee Technological University, Cookeville, Tennessee</i>	
<b>Western Bats and Mining</b> .....	<b>41</b>
<i>Dr. Michael A. Bogan, USGS Biological Research Division, Albuquerque, New Mexico</i>	
<b>Federally Listed Threatened and Endangered Species of Concern to Mining</b> .....	<b>51</b>
<i>Robert Currie, U.S. Fish and Wildlife Service, Asheville, North Carolina</i>	
<b>Session 2: Interest Group Perspectives on Constraints, Experiences, Trends, and Needs</b>	
<i>Session Chairperson: Vance Greer, Office of Surface Mining, Washington, D.C.</i>	
<b>National Association of Abandoned Mine Land Programs</b> .....	<b>59</b>
<i>Mark Mesch, Utah Division of Oil, Gas, and Mining, Salt Lake City, Utah</i>	
<b>Perspective of the Interstate Mining Compact Commission/Eastern Regulatory Authority States on Bat Conservation and Mining</b> .....	<b>61</b>
<i>Dr. Richard Wahrer, Kentucky Department for Surface Mining Reclamation and Enforcement, Frankfort, Kentucky</i>	
<b>Bat Conservation in Mine Reclamation in Eleven Western States and the Western Interstate Energy Board Perspective on Habitat Preservation</b> .....	<b>65</b>
<i>Homer Milford, New Mexico Mining and Minerals Division, Sante Fe, New Mexico</i>	
<b>Kentucky Coal Industry Perspective on Bat Conservation and Mining</b> .....	<b>71</b>
<i>Stephen Cawood, McBrayer, McGinnis, Leslie, and Kirkland, PLLC, Lexington, Kentucky</i>	
<b>The U.S. Fish and Wildlife Service's Perspective on Bats and Mining</b> .....	<b>75</b>
<i>David Flemming, U.S. Fish and Wildlife Service, Atlanta, Georgia</i>	
<b>Bat-Compatible Closures of Abandoned Underground Mines in National Park System Units</b> .....	<b>79</b>
<i>John Burghardt, National Park Service, Denver, Colorado</i>	
<b>Sex, Lies, and Videotape: My Views on the Evolution of Federal Policy and Practice to Conserve Bats on Lands Managed by the Forest Service</b> .....	<b>99</b>
<i>Laurie Fenwood, U.S. Forest Service, Vallejo, California</i>	

<b>The Role of the Bureau of Land Management in Bat Conservation</b> .....	<b>1 0 1</b>
<i>Fred Stabler, Bureau of Land Management, Washington, D.C.</i>	
<b>International Association of Fish and Wildlife Agencies</b> .....	<b>1 0 5</b>
<i>Terry Johnson, Arizona Department of Game and Fish, Phoenix, Arizona</i>	

**Session 3: Methods for Protecting Bat Habitat Associated with Underground Mines**

*Session Chairperson: Mark Mesch, Utah Division of Oil, Gas, and Mining, Salt Lake City, Utah*

<b>Methods for Determining Local Mine Characteristics of Importance to Bats</b> .....	<b>1 0 9</b>
<i>Richard Sherwin, University of New Mexico, Albuquerque, New Mexico</i>	
<b>Pre-Mine Closure Bat Survey and Inventory Techniques</b> .....	<b>1 1 5</b>
<i>Dr. J. Scott Altenbach, University of New Mexico, Albuquerque, New Mexico</i>	
<b>An Evaluation of Alternative Methods for Constructing Bat Gates at Mine Closures</b> .....	<b>1 2 7</b>
<i>Robert Currie, U.S. Fish and Wildlife Service, Asheville, North Carolina</i>	
<b>New Mexico Experience with Bat Grates at Abandoned Mines</b> .....	<b>1 4 5</b>
<i>John Kretzmann, New Mexico Mining and Minerals Division, Sante Fe, New Mexico</i>	
<b>A Colorado Case Study to Secure an Underground Mine for Bat Habitat</b> .....	<b>1 5 3</b>
<i>Kirk Navo, Colorado Division of Wildlife, Monte Vista, Colorado</i>	
<b>Pennsylvania Case Studies to Secure Underground Mine Workings for Bat Habitat</b> .....	<b>1 5 9</b>
<i>Emanuel T. Posluszny, Office of Surface Mining, Wilkes-Barre, Pennsylvania</i>	
<b>A Midwestern Case Study to Secure an Underground Mine for Bat Habitat: The Unimin</b>	
<b>A Magazine Mine in Alexander County, Illinois</b> .....	<b>1 6 9</b>
<i>Joseph Kath, Illinois Department of Natural Resources, Divisio of Natural Heritage, Springfield, Illinois</i>	
<b>An Overview of the Response of Bats to Protection Efforts</b> .....	<b>1 7 3</b>
<i>Robert Currie, U.S. Fish and Wildlife Service, Asheville, North Carolina</i>	
<b>Evicting Bats when Gates will not work: Unstable Mines and Renewed Mining</b> .....	<b>1 8 7</b>
<i>Dr. Patricia Brown, University of California, Los Angeles, California</i>	
<b>Monitoring and Evaluating Results of Bat Protection Efforts</b> .....	<b>1 9 3</b>
<i>Dr. Kate Grandison, Southern Utah University, Cedar City, Utah</i>	

**Session 4: Protecting Bat Habitat Associated with Surface Mining and Reclamation**

*Session Chairperson: Len Meier, Office of Surface Mining, Alton, Illinois*

<b>Bats at the Surface: The Need for Shelter, Food, and Water</b> .....	<b>1 9 7</b>
<i>Dr. Alan Kurta, Department of Biology, Eastern Michigan University, Ypilianti, Michigan</i>	
<b>Impacts of Mine Related Contaminants on Bats</b> .....	<b>2 0 5</b>
<i>Dr. Thomas J. O'Shea, U.S. Geological Survey, Biological Resources Division, Fort Collins, Colorado</i>	
<b>Surface Habitat Disturbance, Protection, and Enhancement Associated with Active Surface Mining and Reclamation</b> .....	<b>2 1 7</b>
<i>Chris Yde, Montana Department of Environmental Quality, Helena, Montana</i>	
<b>Endangered Species Habitat Replacement</b> .....	<b>2 2 1</b>
<i>Sally Imhof, Kansas Surface Mining Section, Frontenac, Kansas</i>	
<b>Surface Mining Case Study from Kentucky</b> .....	<b>2 2 7</b>
<i>Dr. Richard Wahrer, Kentucky Department for Surface Mining Reclamation and Enforcement, Frankfort, Kentucky</i>	

**Session 5: Program Development**

*Session Chairperson: Dave Buchnam, Colorado Division of Minerals and Geology, Denver, Colorado*

<b>State Program/Colorado</b> .....	<b>2 3 3</b>
<i>Julie Annear, Colorado Division of Minerals and Geology, Denver, Colorado</i>	
<b>The McLaughlin Mine Bat Program: New Ideas in an Old Mining District.</b> .....	<b>2 3 7</b>
<i>Dean Enderlin, Homestake Mining Co., Lower Lake, California</i>	

<b>Implementation of a Recovery Plan for the Endangered Indiana Bat</b> .....	<b>239</b>
<i>Richard Clawson, Missouri Department of Conservation, Columbia, Missouri</i>	

**Session 6: Interest Group Recommendations to Enhance Bat Conservation Associated with Mining**

*Session Chairperson: Kirk Navo, Colorado Division of Wildlife, Monte Vista, Colorado*

<b>National Association of Abandoned Mine Land Programs</b> .....	<b>251</b>
<i>Mark Mesch, Utah Division of Oil, Gas, and Mining, Salt Lake City, Utah</i>	
<b>Interstate Mining Compact Commission/Eastern Regulatory Authority States</b> .....	<b>253</b>
<i>Dr. Richard Wahrer, Kentucky Department for Surface Mining Reclamation and Enforcement, Frankfort, Kentucky</i>	
<b>Western Interstate Energy Board/Western Regulatory Authority States</b> .....	<b>255</b>
<i>Homer Milford, New Mexico Mining and Minerals Division, Sante Fe, New Mexico</i>	
<b>U.S. Fish and Wildlife Service</b> .....	<b>257</b>
<i>Bob Currie, U.S. Fish and Wildlife Service, Asheville, North Carolina</i>	
<b>National Park Service</b> .....	<b>259</b>
<i>John Burghardt, National Park Service, Denver, Colorado</i>	
<b>International Association of Fish and Wildlife Agencies</b> .....	<b>261</b>
<i>Terry Johnson, Arizona Department of Game and Fish, Phoenix, Arizona</i>	
<b>Regional Bat Working Groups</b> .....	<b>263</b>
<i>Mary Kay Clark, North Carolina State Museum of Natural Sciences, Raleigh, North Carolina</i>	

<b>Where Do We Go From Here?</b> .....	<b>265</b>
<i>Forum Participant Recommendations</i>	

<b>Survey Results</b> .....	<b>267</b>
<i>Participant Statistics, Comments, and Individual Recommendations</i>	

<b>Appendix 1: Recorded Discussions</b> .....	<b>271</b>
<i>Edited by Kimery C. Vories, USDI Office of Surface Mining, Alton, Illinois</i>	

<b>Participants List</b> .....	<b>285</b>
<i>Addresses and Phone Numbers</i>	

## FOREWORD

It has only been within the last several years that the Office of Surface Mining (OSM) has become aware of the significant but complex relationship between bats and mining. According to the U.S. Fish and Wildlife Service, many of North America's largest remaining bat populations roost in mines. These include a majority of the 45 bat species living in the continental United States and some of the largest populations of endangered bats. More than half of these bat populations are already listed as endangered or species of concern. Closure of abandoned mines without first conducting biological surveys could endanger these and even other currently-abundant species. Given the key ecological role of bats as primary predators of night-flying insects, which cost American farmers and foresters billions of dollars annually, additional threats to bat survival are cause for concern. Closure or other alteration of old mines without a biological assessment can, in single events, eliminate some of America's largest remaining bat populations.

On December 15, 1998, OSM signed a Memorandum of Understanding (MOU) between OSM and Bat Conservation International to establish a framework for cooperative efforts between the two organizations to maintain and increase the conservation of bats and their habitats. The two organizations agreed to assist each other in educating OSM staff, States, and the Tribes about the beneficial roles of bats, cooperate in the protection of bats and their habitats, and utilize OSM authorities, including technical and financial assistance, to promote and aid the conservation of bats and their habitats on State and Tribal lands. In this MOU, OSM agreed to:

- consider the conservation of bats and their habitats in the development and implementation of abandoned mine land reclamation standards and recommendations to States and Indian Tribes.
- provide assistance in the development of program criteria, consistent with the practices of abandoned mine land reclamation, which will help manage bats and their habitats effectively and economically.
- for the Federal Reclamation Program, monitor non-emergency Abandoned Mine Land shaft and portal areas for bat activity prior to reclamation and, as appropriate, require the use of bat gates to seal the shafts or portals where bat habitation is known and would be endangered if sealed otherwise. OSM will encourage the States and Tribes to do likewise.
- promote the education of OSM staff, State agencies, and Indian tribes of the beneficial aspect of conserving bats, tested methods to safeguard bat habitat and public health, and ways to mitigate for loss of bat roosts and habitats.

In February of 1999, OSM initiated the creation of a multi-agency, multi-interest group steering committee in order to initiate planning for a technical interactive forum on the subject of Bat Conservation and Mining. These proceedings are the result of that forum and mark a major step toward increased cooperation between concerned State and Federal agencies and conservation groups interested in protecting these important species.



## STEERING COMMITTEE MEMBERS

Kimery C. Vories (Forum Chairperson)  
*Mid-Continent Region*  
*USDI Office of Surface Mining*

Sheryl Ducummon  
*Bat Conservation International*

Julie Annear  
*Colorado Division of Minerals and*  
*Geology*

Kirk Navo  
*Colorado Division of Wildlife*

Sally Imhof  
*Kansas Surface Mining Section*

Stephen Cawood  
*McBrayer, McGinnis, Leslie, & Kirkland,*  
*PLLC*

Homer Milford  
*New Mexico Mining and Minerals Division*

Dr. Michael Harvey  
*Tennessee Technological University*

Robert Currie  
*USDI Fish and Wildlife Service*

Dr. Mike Bogan  
*USDI Geologic Survey*

Mick Kuhns  
*Appalachian Region*  
*USDI Office of Surface Mining*

Vance Greer  
*Headquarters*  
*USDI Office of Surface Mining*

Becky Hatmaker  
*Knoxville Field Office*  
*USDI Office of Surface Mining*

Ron Sassaman and Sandy Vana-Miller  
*Western Region*  
*USDI Office of Surface Mining*

Len Meier  
*Mid-Continent Region*  
*USDI Office of Surface Mining*

Mark Mesch  
*Utah Division of Oil, Gas, and Mining*

## **STEERING COMMITTEE RECOMMENDATIONS BAT CONSERVATION AND MINING**

**The following are recommendations made by the Bat Conservation and Mining Steering Committee immediately following the end of the forum. The recommendations represent areas that have the potential for future efforts by the committee.**

1. Develop a Website with user friendly access to information on Bat literature, research, training, gate design, experienced contractors, monitoring, and assessment.
2. Improve public awareness and education.
3. Bat Conservation International should complete and make available its "Gate Manual."
4. Publish information on how bats react to gates.
5. Develop and make available a bat friendly closure database that would include input from all States involved with this activity (Utah's database would be a good model).
6. Distribute proceedings to the mining industry.
7. Conduct a workshop on permitting issues related to bats including habitat monitoring and assessment.
8. OSM should take a leadership role in encouraging State Abandoned Mine Land (AML) programs to become more actively involved in bat conservation.
9. Make State AML program expertise more available.
10. OSM should investigate potential partnerships with other Federal agencies such as the Bureau of Land Management, Forest Service, and the National Park Service.
11. Conduct a workshop on mine safety related to bat habitat assessment, potentially including the involvement of the Mine Safety and Health Administration, experienced bat assessment personnel, and existing Federal Agency training programs.
12. OSM should communicate to the States that the protection of bats and their habitats through the appropriate and effective use of bat friendly closures is a desirable alternative to mine closure through back filling.
13. Make success stories related to bat conservation and mining available in an attractive and user friendly format.
14. Expand contacts to include all agencies that are doing bat work related to bat conservation and mining.

## WHAT IS A TECHNICAL INTERACTIVE FORUM?

Kimery C. Vories  
USDI Office of Surface Mining  
Alton, Illinois

I would like to set the stage for what our expectations should be for this event. The steering committee has worked hard to provide you with the opportunity for a free, frank, and open discussion on issues related to the conservation of bats and their habitats associated with mining and reclamation that is both professional and productive. Our rationale for the format of the technical interactive forum is that, unlike other professional symposia, we measure the success of the event on the ability of the participants to question, comment, challenge, and provide information in addition to that provided by the speakers. We do this in the hope that, by the end of the event, a consensus will emerge concerning the issues discussed.

It has been my experience that most of the heated controversies I have been aware of, related to mining and reclamation, have been a result of:

- the lack of sufficient scientific and technical information on the issue and
- the lack of the means to communicate such information to all of those concerned with the issue.

Therefore, one of the main purposes of this event is to bring as much scientific light as possible to bear on this issue. It has been my personal experience, that the most progress I have seen, toward making advances in the field of mine reclamation, has come when we have been able to work as a team of professionals toward a consensus on:

- the facts related to the actions we have proposed, and
- the state of the science in terms of our most workable options and alternatives.

During the course of these discussions, we have the opportunity to talk about technical, regional, and local issues, while examining new and existing methods for finding solutions, identifying problems, and resolving issues. The forum gives us the opportunity to:

- C share our experiences and expertise concerning the integration of conservation efforts toward bats and bat habitats with mining operations and reclamation,
- C outline our reasons for taking specific actions, and
- C give a rationale for why we should or should not be promoting the conservation of bats and their habitats at mines in a specific manner.

A basic assumption of the interactive forum is, that no person present, has all the answers or understands all of the issues. It is also assumed that some of these issues, solutions, and concerns may be very site, regional, or State specific.

The purpose of the forum is to:

- C present you with the best possible ideas and knowledge, during each of the sessions,
- C promote the opportunity for questions and discussion, by you the participants, and
- C let each person decide what is most applicable to their situation.

We are not here to come up with new policies or regulation, but to empower you the participants with better knowledge, new contacts, and new opportunities for problem solving and issue resolution.

The format of the forum strives to improve the efficiency of the discussion by providing:

- C a copy of the abstract for each speaker's talk which you may want to read before hand in order to improve your familiarity with the subject matter.
- C We are tape recording the talks and discussions for later inclusion in a post forum publication so that you do not have to worry about taking notes. For this reason, we will require that all participants speak into a microphone during the discussions.
  - In order for us to make the most efficient use of time, we require our session chairpersons to strictly keep to the schedule.
- C In the post forum publication, issues raised during the discussions will be organized based on similar topic areas and will not identify individual names. All registrants will receive one copy of this publication. This publication will be very similar to the proceedings of earlier forums conducted by OSM and are available for your viewing at the OSM exhibit.

It is important to remember that there are four separate opportunities for you the participants to be heard:

- 5 minutes will be provided for questions at the end of each speaker's talk
- C 20 minutes of participant discussion is provided at the end of each topic session. The chairperson will recognize each participant that wishes to speak and they will be requested to identify themselves and speak into one of the portable microphones so that everyone can hear the question.
- At the end of the forum, we will conduct an open discussion on where we should go from here.
- C and finally, a blue forum evaluation form has been provided in your folder. This will help us to evaluate how well we did our job and recommend improvements for future forums or workshops. Please take time to fill it out as the forum progresses and provide any additional comments or ideas. These should be turned in at the registration desk at the end of the forum.

One of the reasons for providing refreshments during the breaks and lunch is to keep people from wandering off and missing the next session. In addition, the breaks and lunch provide a better atmosphere and opportunity for you to meet with and discuss concerns with the speakers or other participants. Please take advantage of the opportunity at break time to visit the exhibits in the break area. When the meeting adjourns today all participants are invited to a reception where refreshments will be provided.

Finally, the steering committee and I would like to thank all of the speakers who have been so gracious to help us with this effort and whose only reward has been the virtue of the effort. I would also like to thank each of you the participants, for your willingness to participate and work with us on this important issue.

# **THE OFFICE OF SURFACE MINING (OSM) PERSPECTIVE ON BAT CONSERVATION**

Kathrine L. Henry  
Acting Director  
Office of Surface Mining  
U.S. Department of the Interior  
Washington, D.C.

## **INTRODUCTION**

It is indeed a pleasure to be here today at the beginning of three days of discussion and information-sharing on an important environmental topic. I am glad that so many people from so many parts of the country are participating, from all levels of government, and from industry, universities, and the general public. This is an excellent opportunity for communicating problems, solutions, and concerns related to bat conservation and mining.

I especially want to thank our colleagues from Bat Conservation International (BCI) and Southern Illinois University at Carbondale for co-sponsoring this forum and the following organizations that helped to plan this event:

- Colorado Division of Minerals and Geology.
- Colorado Division of Wildlife.
- Kansas Surface Mining Section.
- McBrayer, McGinnis, Leslie, & Kirkland PLLC.
- the Pennsylvania Bureau of Abandoned Mine Reclamation
- the Pennsylvania State Game Commission
- Tennessee Technological University
- U.S. Fish and Wildlife Service
- U.S. Geological Survey
- the Utah Division of Oil, Gas, and Mining

Many of us in the mining community do not associate bats with mining. But as with so many other environmental aspects of both coal and non-coal mining and reclamation, it turns out there's much more to it than we may think.

It has only been within the last several years that OSM has become aware of the significant but complex relationship between bats and mining. According to the U.S. Fish and Wildlife Service (FWS), many of North America's largest remaining bat populations roost in mines. These include a majority of the 45 bat species living in the continental United States and some of the largest populations of endangered bats. More than half of the bat populations in the United States are already listed as endangered or species of concern. Closure of abandoned mines without first conducting biological surveys could endanger these and even other currently-abundant species. Given the key ecological role of bats as primary predators of night-flying insects, which cost American farmers and foresters billions of dollars annually, additional threats to bat survival are cause for concern. Closure or other alteration of old mines without a

biological assessment can, in single events, eliminate some of America's largest remaining bat populations.

A recent article in the August 2000 Issue of the West Virginia Coal Bell devoted three pages to the opportunities and concerns that the endangered Indiana Bat presents to the West Virginia mining industry. The article focused on the complicated nature of trying to protect bats associated with the coal mining industry due to their dependence upon abandoned mine sites for suitable habitat. This shortage of habitat was noted as presenting a enormous opportunity for the mining industry to make a positive contribution to wildlife conservation and to bolster the industry's public image. It also underscored the concern to miners of actions by the U.S. Fish and Wildlife Service in protecting species like the endangered Indiana Bat and citizen law suits that could present problems for mine operations that propose new permits within the bat's range.

As a lawyer, I promise not to come before this audience as a technical expert, because my area of expertise is not mining engineering, biology, reclamation, revegetation, or any of the related fields we depend on for scientific solutions to environmental problems related to mining. But I would like to summarize where we are in dealing with issues related to bat conservation and coal mining, and how we got there.

On September 24, 1996, OSM completed Formal Section 7 Biological Opinion consultation with the U.S. Fish and Wildlife Service concerning the incidental taking of listed species under the Endangered Species Act. At that time, a total of 308 species listed as threatened or endangered occurred within States with primacy, and 337 listed species occurred within States with Federal regulatory programs. I will speak in more detail about this later.

In December of 1998, OSM signed a Memorandum of Understanding between OSM and Bat Conservation International, Inc. in order to establish a framework for cooperative efforts between the two organizations to maintain and increase the conservation of bats and their habitats.

In February of 1999, OSM initiated a meeting with a multi-agency, multi-interest group to form a steering committee that would plan for this technical interactive forum we are now attending.

That brings us to today. The meetings we are now participating in are the result of the combined efforts of numerous interested parties to make this timely and much-needed discussion possible.

### **Background on SMCRA**

For those not familiar with the Surface Mining Act, I would like to give you a little background on the unique nature of the Surface Mining Control and Reclamation Act of 1977 (SMCRA) program. In fashioning SMCRA, Congress recognized the need to protect society and the environment from the adverse effects of surface coal mining operations while fulfilling the nation's need for coal. Signed into law on August 3, 1977, SMCRA was the first Federal statute specifically directed toward regulation of the environmental impacts associated with surface coal mining. The Act created two major programs:

- A reclamation program for abandoned mine lands, funded by fees that operators pay on each ton of coal mined; funds are used to reclaim land and water resources adversely affected by pre-1977 coal mining; and
- An environmental protection program to establish standards and procedures for permitting and inspecting surface and underground coal mining and for reclamation operations.

Section 101(f) of SMCRA specifies that because of the diversity in terrain, climate, and other physical conditions under which mining operations occur, the primary governmental responsibility for regulating surface coal mining and reclamation operations should rest with the States. To achieve primary regulatory responsibility (often referred to as primacy), a State must develop and obtain OSM approval of a program which demonstrates the State's capability to carry out applicable provisions of SMCRA.

At present, 24 States (Alabama, Alaska, Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Mississippi, Missouri, Montana, New Mexico, North Dakota, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Virginia, West Virginia, and Wyoming) have approved State regulatory programs (primacy) under SMCRA for non-Federal, non-Indian lands within their borders. These States are responsible for 98 percent of the nation's surface coal mining and reclamation operations. Following approval of a State program, OSM assumes a monitoring role and provides funding and technical assistance. Section 517(f) of SMCRA requires that OSM evaluate the administration of approved State programs. In this role, OSM conducts oversight inspections of selected mine sites and undertakes oversight reviews of selected topics in States with primacy.

OSM administers Federal regulatory programs for 13 States (Arizona, California, Georgia, Idaho, Massachusetts, Michigan, North Carolina, Oregon, Rhode Island, South Dakota, Tennessee, and Washington), although only Tennessee and Washington have active coal mines at the present time. OSM directly regulates all surface coal mining and reclamation operations on Indian lands, which at present consist of operations on the Navajo, Hopi, and the Ute Mountain Ute reservations. On the Crow Ceded Area in Montana, OSM and the Montana Department of State Lands administer applicable surface mining requirements. OSM also directly regulates surface coal mining and reclamation operations on Federal lands in primacy States that have not entered into cooperative agreements with the Secretary of the Interior to assume this responsibility.

### **SMCRA Requirements Regarding the Protection of Wildlife**

The specific regulations that pertain to protection of fish and wildlife and related environmental values require the following:

- compliance with the Endangered Species Act during coal exploration
- compliance with Endangered Species Act, the Fish and Wildlife Coordination Act, the Migratory Bird Treaty Act, and the Bald Eagle Protection Act during surface mining.
- notification for State and Federal Fish and Wildlife agencies whenever OSM or the State Regulatory Authority receives a permit application

- a description by the permit applicant on how the operation will minimize disturbances to wildlife and enhance and restore wildlife habitat where practical.

### **OSM Involvement in Bat Protection Associated with Abandoned Mine Land**

State and Federal agencies estimate that there are over 300,000 open underground mines across the United States. Government agencies have closed approximately 33,000 dangerous mine openings since the passage of SMCRA, the vast majority of which were funded by the OSM-administered, Abandoned Mine Land (AML) Reclamation Fund. A survey conducted by OSM this summer revealed that approximately 1,234 of the mine closures have involved some form of bat friendly closure method such as bat gates or bat pipes.

OSM has been playing an active role in Bat protection on many AML sites. Since the passage of SMCRA, 60 bat-compatible mine closures have been installed in five States through the OSM high priority and emergency reclamation programs. Three more closures are scheduled for the coming construction season. These closures include traditional bat gates and bat pipes which eliminate the possibility of human access but allow bats to use the mines for hibernation or for daily shelter. Thirteen bat gates have been installed on designated National Rivers: six at New River Gorge in West Virginia and seven at Big South Fork in Kentucky. Of the remainder, 23 are located in Washington, 8 in California, and 16 in Pennsylvania. Bat gates and pipes are planned and installed in close coordination with local land management and wildlife agencies. In California, OSM worked with the East Bay Regional Park District to close mines and install bat gates in the Black Diamond Mines Preserve. OSM also works with the Washington State Parks Department and the Kings County, Washington Parks System to gate mine openings on State and county park lands.

### **The MOU Between OSM and U.S. Fish and Wildlife Service (FWS)**

The Memorandum of Understanding (MOU) between OSM and FWS is not specifically about bats, but would apply where a listed bat species may be affected by surface mining activities. In order to be exempt from the prohibitions of Section 9 of the Endangered Species Act, SMCRA regulatory authorities must comply with the following terms and conditions:

1. The regulatory authority, acting in accordance with the applicable SMCRA regulatory program, must implement and require compliance with any species-specific protective measures developed by the Service field office and the regulatory authority (with the involvement, as appropriate, of the permittee and OSM).
2. Whenever possible, the regulatory authority must quantify the take resulting from activities carried out under this program. Whenever a dead or impaired individual of a listed species is found, the local Service office must be notified within one (1) working day of the discovery.
3. Whenever the regulatory authority decides not to implement one or more of the species-specific measures recommended by the Service, it must provide a written explanation to the Service. If the Service field office concurs with the regulatory authority's action, it will provide a concurrence letter as soon as possible. However, if the Service does not

concur, the issue must be elevated through the chain of command of the regulatory authority, the Service, and (to the extent appropriate) OSM for resolution.

In addition to the above terms, based on Section 7(a)(1) of the Endangered Species Act, FWS directs OSM to further the purposes of that Act by implementing conservation programs for the benefit of endangered and threatened species to the extent that the agencies have the authority to do so. The Service may make discretionary conservation recommendations to OSM to minimize or avoid the adverse effects of a proposed action on listed species or critical habitat. These recommendations may include assistance in recovery plan implementation and monitoring and information collection efforts.

The MOU also contains the following language “The Service recommends that OSM, in partnership with the States, develop draft candidate species conservation guidelines and procedures where those species are affected by OSM-regulated operations. The Service is committed to providing technical assistance to both OSM and the States in such an endeavor.”

At OSM, we are supportive of State efforts to develop appropriate guidelines and procedures. We will do what we can to help, on request. OSM and the States will be working with the FWS in the coming months to improve the implementation of this MOU.

### **OSM MOU with Bat Conservation International (BCI)**

The MOU between OSM and BCI was formed to establish a framework for cooperative efforts between the two organizations to maintain and increase the conservation of bats and their habitats. The two organizations agreed to assist each other in educating OSM staff, States, and the Tribes about the beneficial roles of bats, cooperate in the protection of bats and their habitats, and utilize OSM authorities, including technical and financial assistance, to promote and aid the conservation of bats and their habitats on State and Tribal lands.

OSM agreed to:

- consider the conservation of bats and their habitats in the development and implementation of abandoned mine land reclamation standards and recommendations to States and Indian Tribes.
- provide assistance in the development of program criteria, consistent with the practices of abandoned mine land reclamation, which will help manage bats and their habitats effectively and economically.
- for the Federal Reclamation Program, monitor non-emergency AML shaft and portal areas for bat activity prior to reclamation and, as appropriate, require the use of bat gates to seal the shafts or portals where bat habitation is known and would be endangered if sealed otherwise. OSM will encourage the States and Tribes to do likewise.
- promote the education of OSM staff, State agencies, and Indian tribes of the beneficial aspect of conserving bats, tested methods to safeguard bat habitat and public health, and ways to mitigate for loss of bat roosts and habitats.

## **Conclusion**

It is always true that the more we know, the more options we have. I am optimistic that constructive dialogues such as those held here will lead to better understanding of the benefits and risks involved with incorporating methods for protection and enhancement of bats and their habitats associated with mining.

Thank you for inviting me here today. I commend all the forum participants for being part of this valuable information exchange. The public and the coalfield residents can only benefit from the information that is shared and the knowledge that is gained at this event. I thank you for applying your minds to the task and I wish you success in your efforts on behalf of the coalfield environment.