

# Mine Tourism

## *Innovative uses of old mines*

Nelson R. Shaffer

Indiana Geological Survey

Bloomington, IN

*shaffern@indiana.edu*



**Tourism** is:

Practice of traveling for recreation, guidance of tourists, encouragement of touring, and the accommodation of tourists.

A **Tourist** is:

Those who make a tour for pleasure or culture (travels more than 50 miles).



Spring Mill State Park attracts thousands of visitors each year to south central Indiana.

The focus of visitor attention is an operating 1840's vintage grist mill and associated village.



History grinds on long after economic activity has changed or ceased altogether. Proper conservation, development , and promotion of old mines can be useful.

# Indiana Tourism Data:

- ❖ Indiana tourism is a \$9 billion industry
- ❖ Tourism annually attracts 59 million leisure visitors

*(Indiana Office of Tourism Development, September 2007)*

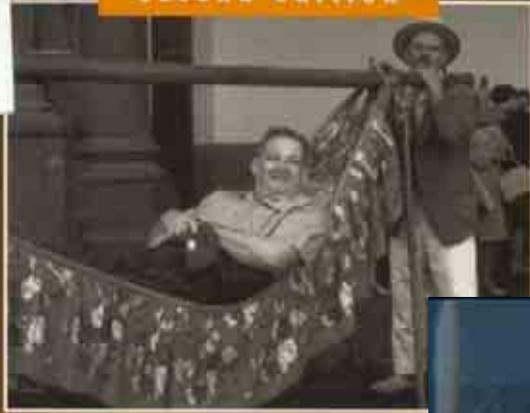
## Tourism's Economic Impact

Jobs both full-time & part-time	264,690
Payroll	\$5.83 billion
State government tax receipts	\$ 308.2million
Local government tax receipts	\$ 120.8million

*Travel Industry Association of America, 2004*

UPER  
G  
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M46  
2003

second edition



# Rethinking Tourism & Ecot

Deborah McLaren

*Cases in*

## SUSTAINABLE TOURISM

An Experiential Approach to Making Decisions

Irene M. Herremans, PhD  
Editor

# Ecotourism & CERTIFICATION

Setting Standards in Practice



EDITED BY  
Martha Honey

# Types of Tourism

- Active recreation
- Geotourism
- Cultural tourism
- Heritage tourism
- Archaeological tourism
- Agrotourism
- Mine tourism
- Health tourism
- Sports tourism

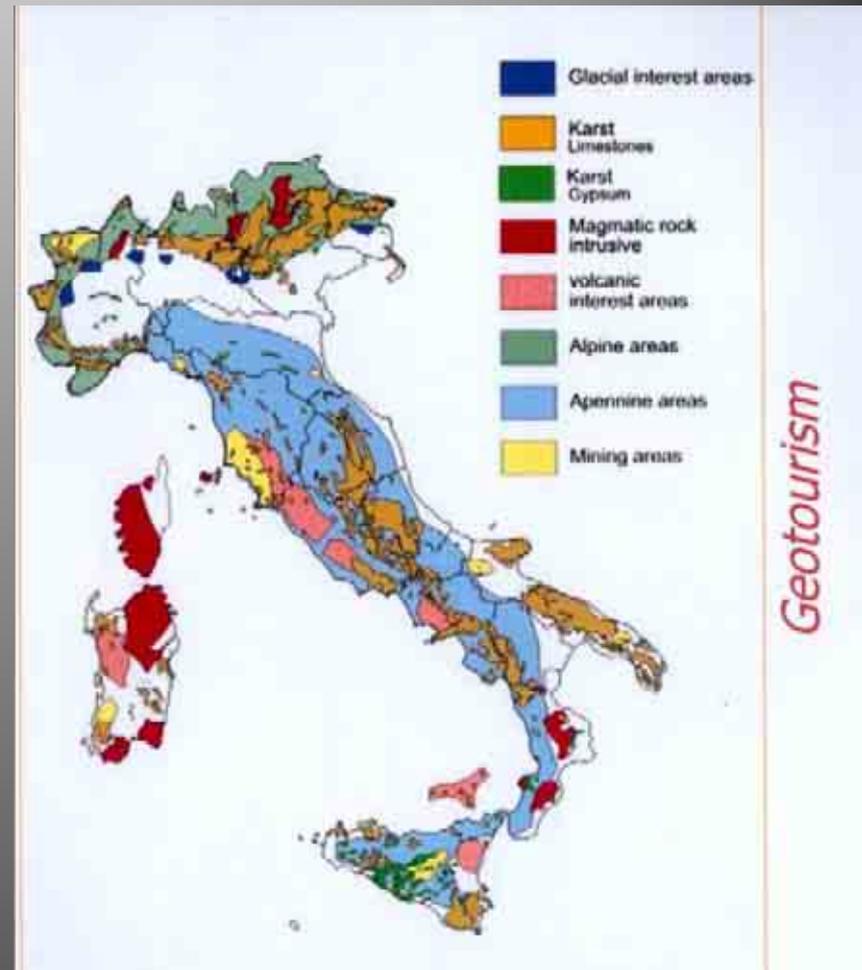
Matteo Garofano

# Geotourism

The geological attractions of Italy  
for tourists



Translated from the Italian 3rd edition  
Contains more than 80 geotouristic locations in Italy



Geotourism

Geotourism is becoming an  
important aspect of ecotourism

Tourism is important  
to Indiana's economy.



GLASS SCULPTURE, DALE CHERRY, THE CHILDREN'S MUSEUM OF INDIANAPOLIS

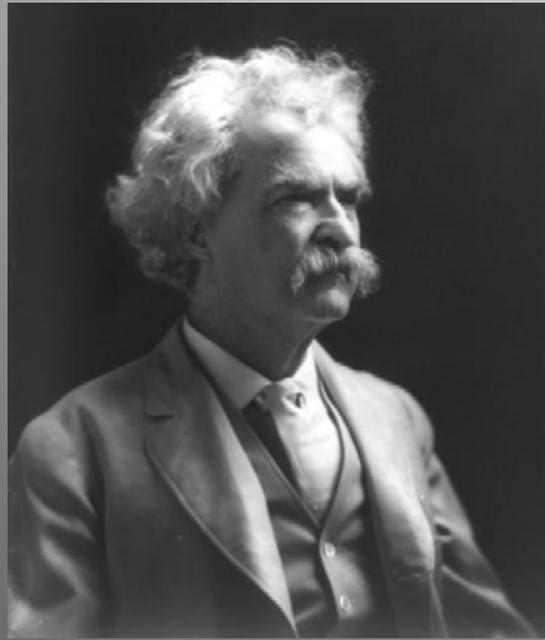
## Cultural Tourism in Indiana:

THE IMPACT AND CLUSTERING OF THE ARTS AND CREATIVE ACTIVITIES IN THIS RECESSION

MICHAEL J. HICKS, PHD AND BALITRA THAIPRASERT, PHD, CENTER FOR BUSINESS AND ECONOMIC RESEARCH | BALL STATE UNIVERSITY

# Current Locations of Mine Tourism in

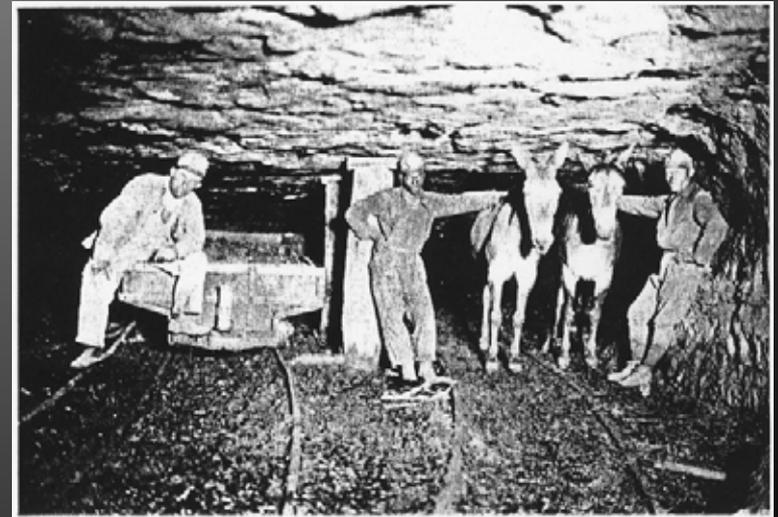
- Scales Lake
- Lynnville Park
- Old Ben Boy Scouts camp
- Sugar Ridge Fish and Game
- Bluegrass Fish and Game
- Victoria Golf Course
- Interlake Recreation Area
- Redbird ATV Park
- Greene-Sullivan State Forest
- Shakamak State Park
- Turkey Run State Park
- Spring Mill State Park
- Lincoln State Park
- Exotic Feline Rescue Center



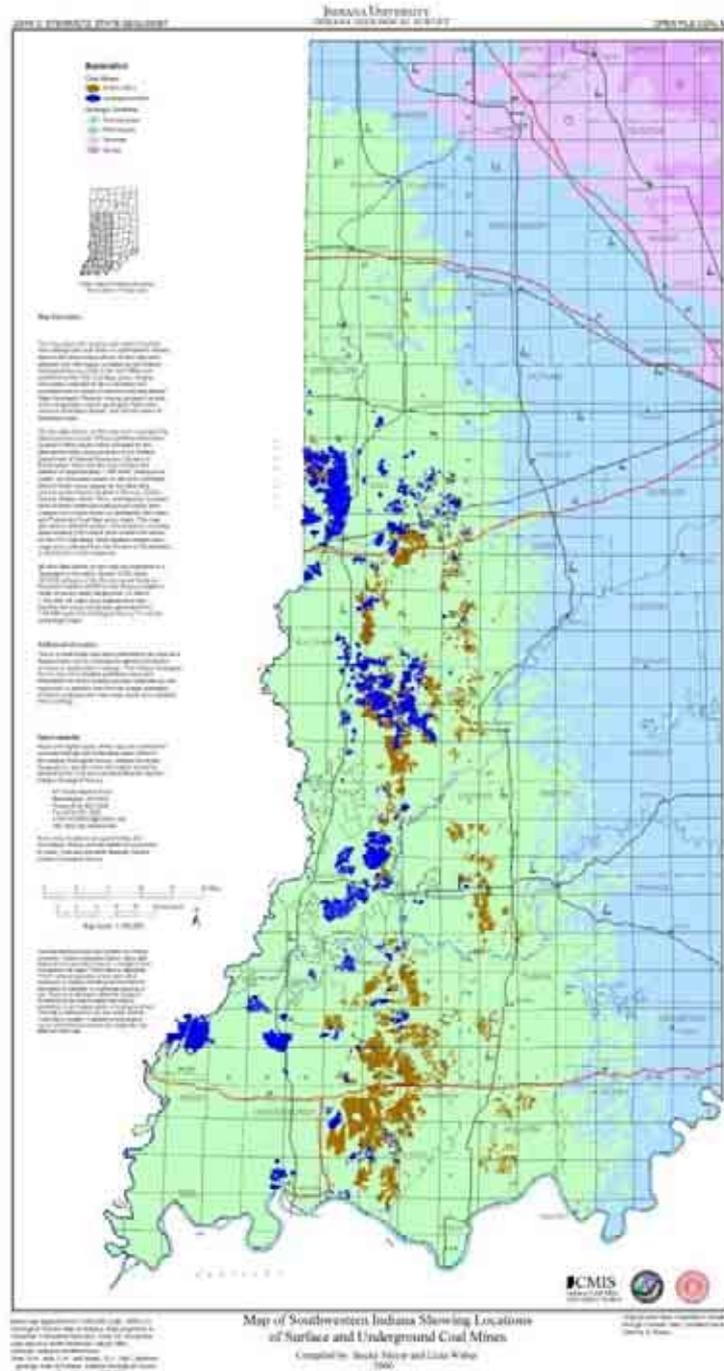
A mine is "a hole in the ground with a fool at the bottom and a liar at the top"  
Mark Twain (?)

A mine is:  
A pit or excavation of the Earth from which mineral substances are taken; an ore deposit.

Webster's Dictionary



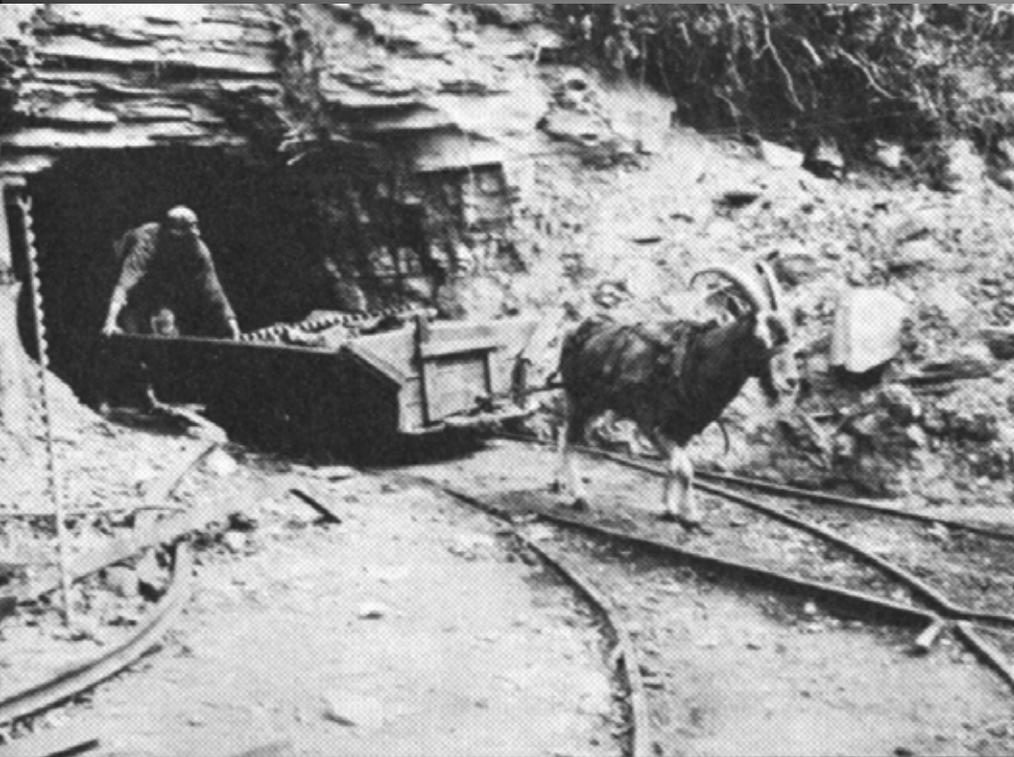
# Coal mined areas in Indiana

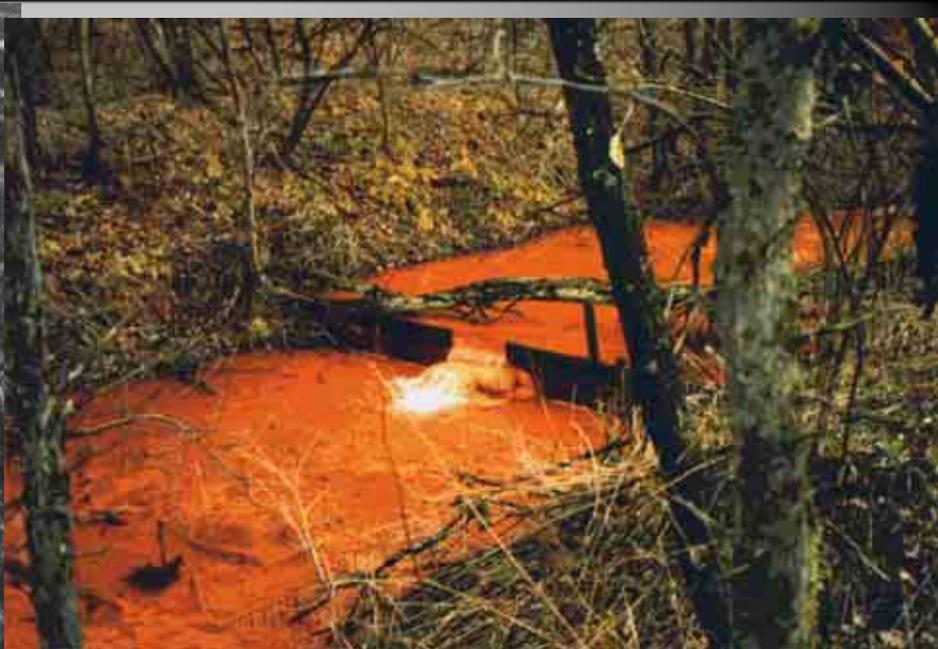


~370,000 acres  
have been  
directly  
affected

**In politics, perception is reality.**

Marty Irwin (?)





## THE CHALLENGE: Improving wildlife habitat

The acidity level in Weber Lake once measured a pH of about 3.8. Fish and other aquatic species need a pH in the range of 6 to 8 to survive.



## THE SOLUTION: Life in Weber Lake is restored!

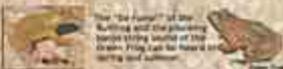
As the acidity stabilizes in Weber Lake at a level that can sustain life, many animals common in other parts of Lincoln State Park are reappearing. Look and listen for these creatures as you enjoy the view from the top of the old mine highwall.

**BIRDS**

**MAMMALS**

**REPTILES**

What wildlife do you think might find a home at Weber Lake next?



"The Frog" of the Balling and the glaucous-brown spring salamander of the Green Frog can be heard or spotted and captured.

**AMPHIBIANS** are considered indicators of healthy aquatic habitats. Amphibian means "double life," referring to the fact that they spend part of their life in water, then emerge to spend part of their lives on dry land.



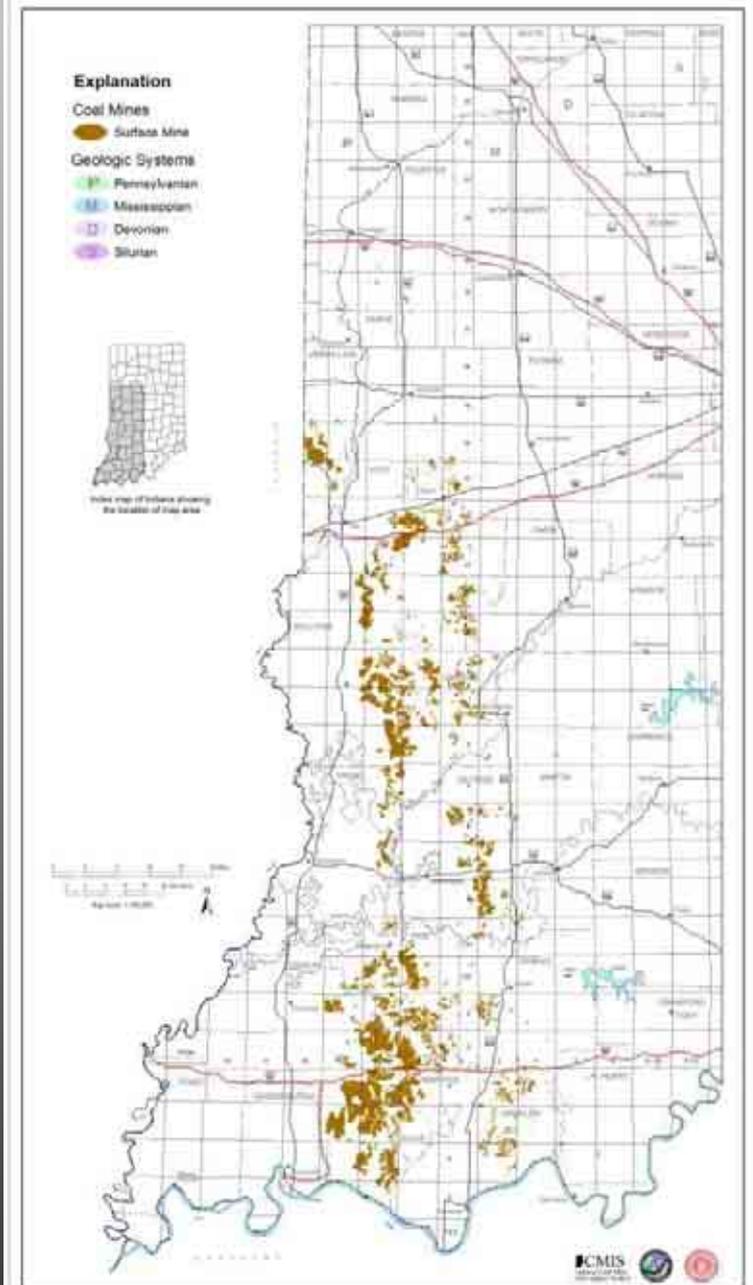
Listen for Spring Peepers in March and April as they begin to emerge from hibernation. They are hard to see, but the loud croak of their call can be heard.



Heater's Toad and New Frog are sitting high up on a log in the lake spring and early summer.



More than 284,500 acres have been surface mined along outcrops of major commercial coals

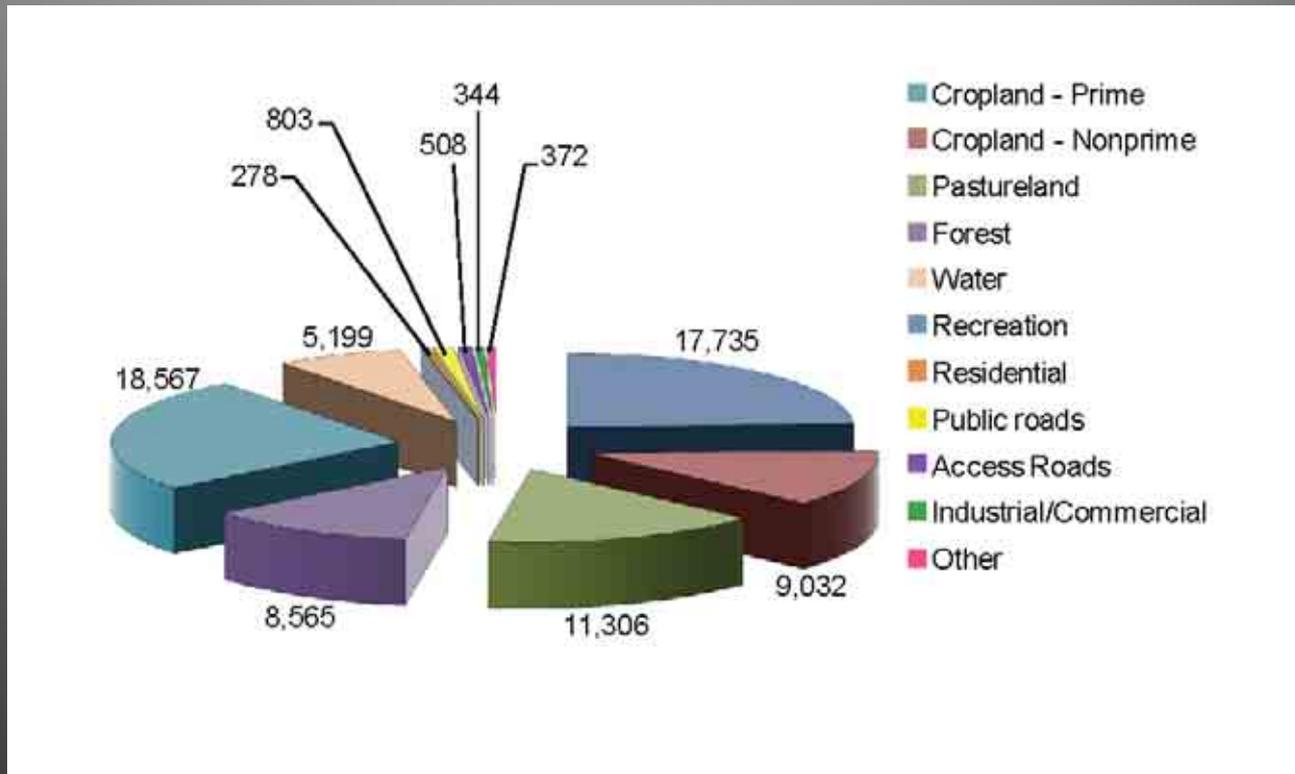


Map of Southwestern Indiana Showing Locations of Surface Coal Mines

## Uses for Mined Areas

- Dry Storage
- Cold Storage
- Water Potential
- Heat/Cool source
- Fuel Storage
- Libraries
- Bioreactors
- Education
- Tourism/Recreation
- Compressed Air/Gases

# Current Reuses of Coal Mined Lands



*From McGriffin, IDNR*

## Current Uses for Mined Lands

TYPE
Golf
Sports Venue
Hunting
Hiking
Birding
Fishing
ATV
Swimming
Education
Museums
Biking

## Potential Uses for Mined Lands

TYPE
Scuba Diving
White Water Canoeing
Mine Tours
Music/Show Venues
Theme Parks
Geocaching
Racing (?)
Movies
Equestrian
Collecting fossils
Speleotherapy
Special Events

# Some Benefits of Tourism

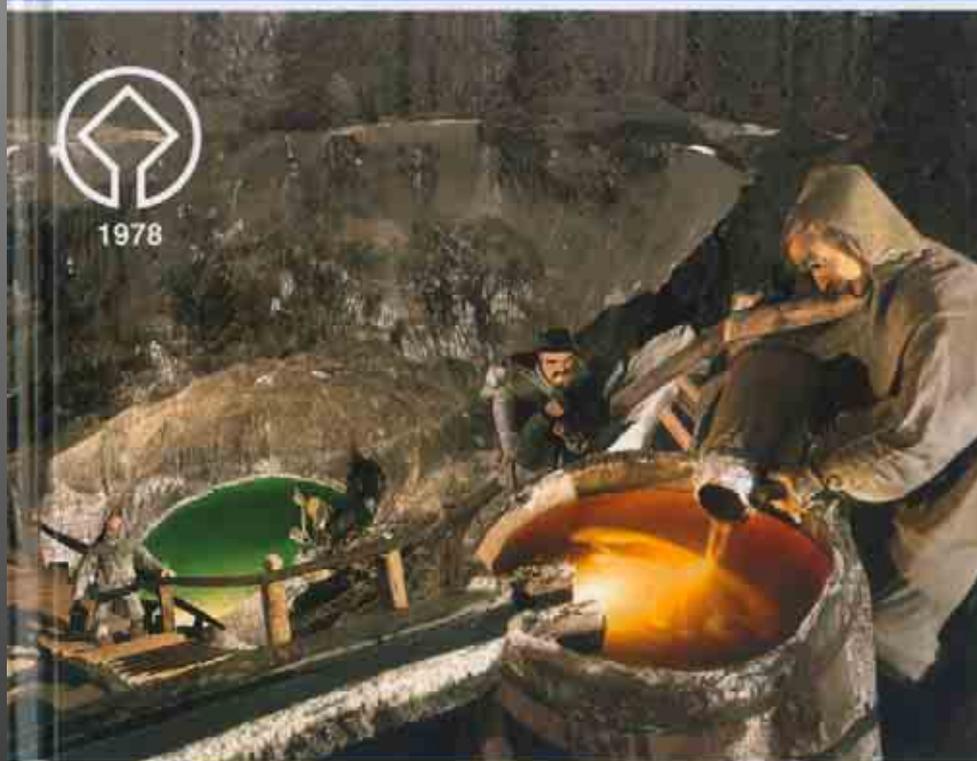
- Income for the area
- Jobs for local people
- Jobs for miners
- Enhancing local culture
- Protecting heritage/History
- Educating public and voters about mining
- Highlighting modern reclamation
- Improving recreation opportunities
- Enhancing Indiana's reputation

# WIELICZKA

HISTORIC SALT MINE



1978



JANUSZ PODLECKI

# Underground salt mine near Krakow, Poland is a major tourist attraction



# Potential Pitfalls

- Expense original and ongoing
- Change to local culture/ lifestyles
- Infrastructure needs
- Need for continuing commitment
- Symbiotic sites of questionable nature
- Need for advertising/media
- Seasonal nature



[VISITOR INFO](#) [WHAT'S HERE](#) [CALENDAR](#) [EDUCATION](#) [ABOUT US](#) [GET INVOLVED](#) [SALES](#) [HOME](#)

## TOUR

STERLING HILL  
MINING MUSEUM



Artwork and sculptures representing miner life are on display in [Zobei Hall](#).

### About Us: Mission Statement

The Sterling Hill Mining Museum is a nonprofit foundation dedicated to the preservation, interpretation, understanding, and appreciation of the history of mining, mining technology, mineralogy, and geology unique to the State of New Jersey through scientific research and educational programs.

Since the crafting of this mission statement the museum has broadened its focus considerably. We are concerned not just with the metallic resources that most people think of when they hear the word "mining", but with *all* commodities taken from the Earth — bulk rock taken from our quarries, sand and clay excavated from surface pits, and oil and gas obtained by drilling. These commodities constitute the raw materials from which almost everything else — our houses, cars, highways and bridges, computers, on and on — are made.

As an institution we are neither pro-mining nor anti-mining. Instead, we are a museum *about* mining, again with that word used in its broadest possible context. We teach not only how mined materials are produced, but also about the many uses to which mined materials are put, and we place special emphasis on the environmental and societal consequences of resource extraction. Alternatives to mining, such as recycling and the use of alternative materials, are highlighted as well.



**Hemimorphite**

The Official Website of The Sterling Hill Mining Museum

©2008-2009 The Sterling Hill Mining Museum • 30 Plant Street, Ogdensburg, NJ 07439 • Tel: 973-209-7212 • [info@sterlinghillminingmuseum.org](mailto:info@sterlinghillminingmuseum.org)

[SITE MAP](#) [HOME](#) [LOGIN](#)

Website content by Earl R. Verbeek, Ph.D. Designed by W Design

The Sterling Hill mine in New Jersey hosts thousands each year and tells the story of zinc mining in the Pocono Mountains .



## 5,000 sq. ft. Exhibit Hall

featuring mining artifacts, rare minerals  
and much, much more!



### GROUP RATES

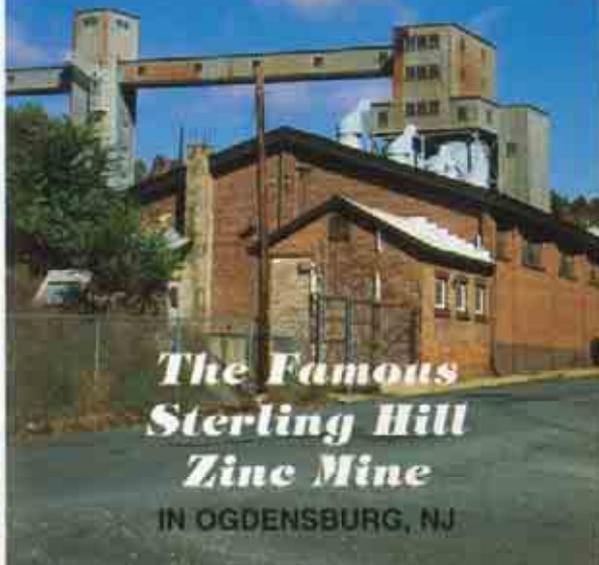
For 10 or more, reservations are required  
for a \$1.00 discount per person

Jacket or Sweater Recommended

Proper Footwear Required  
(1<sup>1/2</sup>-2 hr. walking tour)

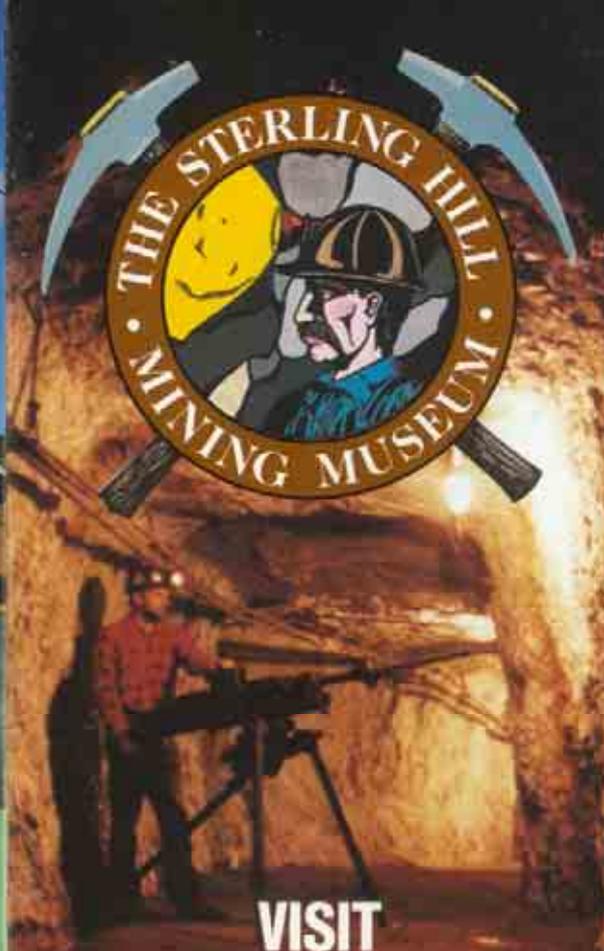
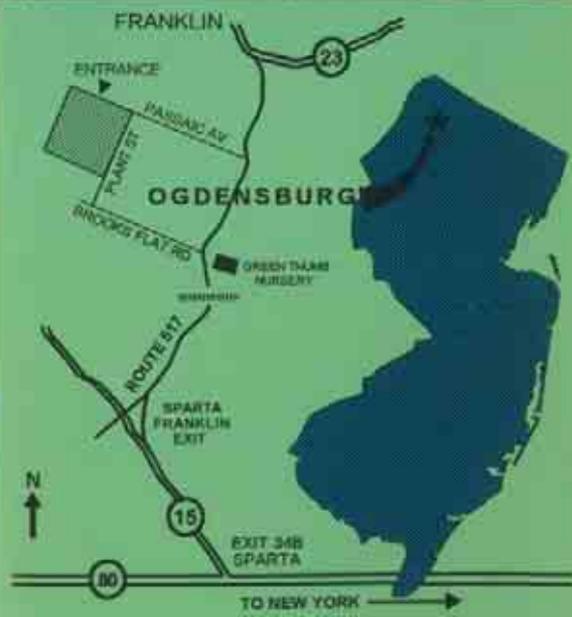
OVER 30 ACRES OF INDOOR & OUTDOOR  
AND UNDERGROUND EXHIBITS, DISPLAYS  
AND HISTORICAL BUILDINGS

**MINES, METAL & MEN**  
THE OTHER REVOLUTION



## The Famous Sterling Hill Zinc Mine

IN OGDENSBURG, NJ



# VISIT A REAL UNDERGROUND MINE

**IN OGDENSBURG, NEW JERSEY**  
A National Historic Site

*"Non Profit Foundation"*

# Mine museums usually display working machinery



# KANSAS UNDERGROUND SALT MUSEUM

[Home](#) [Reservations](#) [Calendar](#) [Special Events](#) [Exhibits](#) [Education](#) [theSCOOP](#) [Contact Us](#) [Online Store](#)

3504 East Avenue G  
at Airport Road

Hutchinson  
Kansas 67501

PHONE  
620.662.1425

TOLL FREE  
866.755.3450

FAX  
620.259.6134

[Contact Us](#)



**JOINT  
TICKETS**  
available for  
Cosmosphere  
& Salt Museum.  
[Click here.](#)



*Advance reservations are recommended and may be made by calling our ticket office. Not available online.*

#### MUSEUM HOURS (eff 9-21-10)

Tuesday-Friday 9 am - 5 pm

Saturday 9 am - 6 pm

Sunday 1 pm - 6 pm

Closed Mondays.

Last Tour Departs 2 hours before closing.

Allow 1-1/2 to 2 hours for your visit.

Thank you to the State Fair Visitors  
who included US in their day!

Fall/Winter Hours are now in effect.  
Only change is closing at 5:00 pm on Tuesday-Friday.  
Last Tour Departs at 3:00.

ADMISSION PRICES (eff 7-1-10)	Gallery Tour	with Dark Ride
Adults	\$13.25	\$15.75
Seniors 60+/ <u>Active Military</u> */AAA*	\$11.90	\$14.40
Reno Co. Residents (ID Required)	\$7.35	\$9.85
Children 4-12 (under 4 not allowed)	\$7.35	\$9.85

\* Limit 4 adults per Military/AAA ID number.

Discounted rates are available for groups of 28 or more. Call ahead for reservations.

Visit the [Reservations Page](#) for a description of the Gallery Tour & Dark Ride.

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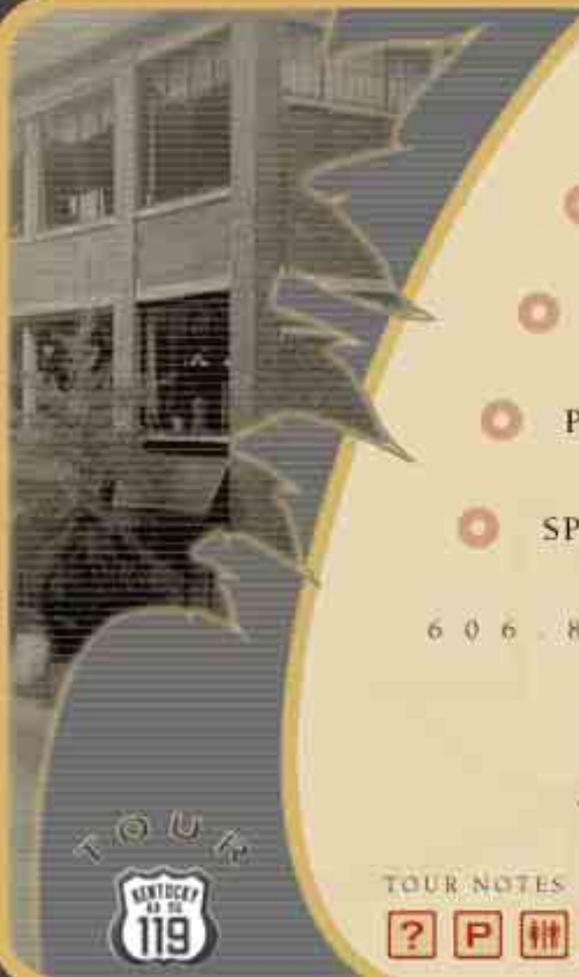
Also visit these associated sites:



COSMOSPHERE



Non-coal mines, such as this salt mine above, can also be tourist destinations.



EXHIBITS

GIFT SHOP

LOCATION

PROGRAMS

SPECIAL EVENTS

6 0 6 . 8 4 8 . 1 5 3 0



## KENTUCKY COAL MUSEUM

### TOUR NOTES



With 4 floors of exhibit space, you should budget all day for this visit. Within 2 miles, you have a range of overnight accommodations, fine dining, and specialty shops.



The Museum collects and preserves the rich history of the coal camps throughout Kentucky. Located in a historic district, the Museum is housed in the commissary built by International Harvester in the 1920s.



Museums to honor coal-mine heritage occur in Appalachia in the U.S. and in many other countries.



## The Welsh Slate Museum

**T**he Welsh Slate Museum once housed the workshops for Dinorwig, one of the greatest quarries in the world. Slate roofed the industrial revolution.

These buildings thundered to the sounds of forges, foundries, and the spectacular giant waterwheel, the largest on mainland Britain. You can see them all, still working today. Quarry workers' houses, slate-splitting craftsmen and a children's discovery area celebrate the story and skills of the generations who battled for slate.





# The Underground Tour

Big Pit: National Coal Museum

Prepare to be lowered 90 metres (300 feet) down the Big Pit mineshaft for our famous underground tour - a captivating journey around a section of original underground workings.

Visitors wear the very same equipment – helmet, cap lamp, belt, battery and 'self rescuer' – used by miners. Take a seat in the **miners Waiting Rooms** before embarking on your journey.

The attached offices were used by the colliery manager and his senior staff. Most are still used for their original purposes, with the timekeeper's office restored and the officials' lodge converted into a first aid room.



The area around the top of the shaft, or the 'pit bank' as it is usually known, was always a noisy, busy place with men and materials descending the mine and drams of coal brought to the surface. It remains so today, with visitors setting off for and returning from their underground tours.

The **Tram Circuit** nearby is the route taken by the filled drams. Raised to the surface by cage, they ran along the rails and were turned upside down, emptying the coal on to screening belts to be graded into various sizes according to market requirements.

The modern **Lamp Room** is a working area, used to maintain and charge the electric cap lamps used by both visitors and staff. The Big Pit lamp man and his staff also look after that most easily recognised symbol of the coal industry – the flame safety lamp.

Today carried only by colliery officials as gas detectors, these lamps were once the miner's only source of light.

Once underground, you will be guided (**a 50-minute walk**) around the coal faces, engine houses and stables in the company of a former coal miner.

Your guide will explain the different ways in which coal was mined and transported, and share some of his own experiences.



About the museum

**The Underground Tour**

Exhibitions – The Pithead Baths

Historic Buildings

Mining Galleries

### Information



**Blaenavon, Torfaen**

Open daily  
9.30am–5pm. Last admission 4pm.

**Phone:**  
(01495) 790 311

[» Directions and visitor information](#)

National Museum Cardiff

St Fagans: National History Museum

National Waterfront Museum

Big Pit: National Coal Museum

Abandoned mines can offer tours that educate the public about the real mining and dispel incorrect perceptions.

**big pit**  
national  
coal  
museum  
amgueddfa  
lofaol  
cymru

# Big Pit: National Coal Museum

FREE  
ENTRY

## Big Pit: National Coal Museum

- About the museum
- What's On
- Visiting
- Access Guide
- Learning
- E-cards



Sign up to our monthly e-newsletter

National Museum Cardiff



### About the museum

Big Pit is a real coal mine and one of Britain's leading mining museums. With facilities to educate and entertain all ages, Big Pit is an exciting and informative day out.

[More about Big Pit...](#)

### Information



Blaenavon, Torfaen

Open daily  
9.30am–5pm. Last admission 4pm.

Phone:  
(01495) 790 311

[Directions and visitor information](#)

### Highlights



The Underground Tour

### What's On

TALK

#### Autumn Lecture Series - Mines and Medals

Exploring the stories behind the medals awarded to miners in Wales for their bravery during accidents and disasters.



Visitor Leaflet

Web page showing national coal museum in the U.K.

Mining museums offer excellent chances to educate the young.



## Education at the Mining Museum

### A big welcome to all learners

Access for learning is important to us at the Scottish Mining Museum. Coal, coal mining and the coal cultural heritage of Scotland are punchy, relevant and fascinating topics. Coal mining is a significant part of Scotland's history and the story of coal is an exciting and inspiring tale vividly brought to life at the museum. Learners and teachers of all ages and stages, from Scotland and beyond, call us for help and ideas. The curatorial team, front of house staff, library volunteers, miner guides and Education Support Officer are happy to help and a visit to the Scottish Mining Museum itself, offers a unique, first-hand learning experience in the context of a real colliery.

### Schools

Coal is a great topic for schools... it always has been. It works effectively in both a primary and secondary setting and is well placed for the cross-curricular methodology of the new Curriculum for Excellence. The topic can pull together history, science and energy studies. It can kick start inspiration for art, creative writing and drama. Geography, politics, the built environment and more can be linked and made relevant by using the museum as a resource.

### Partnership Projects

We have successfully devised, delivered and sustained programmes through partnership working. Science, Design Technology, Geology, Dance, Local History and Art have been the subject of partnership projects at the museum. Interested? Don't hesitate to get in touch.

**Contact:** [education@scottishminingmuseum.com](mailto:education@scottishminingmuseum.com)

### Advice

The Education Support Officer is always happy to share ideas and suggest ways to make your visit suit your specific teaching needs. Don't hesitate to get in touch.

**Contact:** [education@scottishminingmuseum.com](mailto:education@scottishminingmuseum.com)

### Education Room

Move in for the day! Why not use our Education Room for a base. Lockable bunkers for bags are available.

## Resources

### The Story of Coal Exhibition



A well presented starting point to get to know the topic

### The Race Apart Exhibition



The story of the people who won the coal

### The Hands-on Interactive Suite



### Teachers Packs



Our three packs were custom-made to compliment the exhibitions!

### Loan Box



Get your hands on it! Our loan box may be borrowed FREE from the museum

Teachers often have misconceptions about mining and educating the teachers to teach the young can be very valuable.



# EXPLORE THE TOUR-ED MINE!



TRAVEL 1/2 MILE DOWN INTO WESTERN PENNSYLVANIA'S PREMIERE MINE ATTRACTION!

HOME

TOUR  
INFORMATION

TOUR-ED  
MUSEUM

TOUR-ED MINE  
HISTORY

SCHOOLS  
AND GROUPS

EVENTS

ADMISSION AND  
CONTACT INFORMATION

## TOUR-ED MINE HISTORY

The earliest record of mining activity at the site of Tour-Ed Mine was in 1850. Known later as the Avenue Mine, it was operated by Allegheny Steel and mined by the Leechburg Mining Company. The coal extracted during this period was used locally at the Allegheny Steel plant in Brackenridge and shipped by rail throughout the nation.

Ira Wood acquired the mine in 1964 and provided coal to many local concerns, including Tarentum Power, PPG and the Allegheny County Workhouse.

After modifying the mine for visitor comfort and safety, Tour-Ed Mine and Museum was officially opened in 1970. Since then over one million tours have been given by the staff of real miners.

## HOW DARK IS DARK?

## CANARY IN A COAL MINE?



In the 1800's, miners dug coal by pick and shovel and loaded it into a cart next to them. The miner would attach a brass tag with his identifying number on the cart and a mule would pull the cart to the top of the mine to be weighed. Miners were paid per ton.

Route 28, Exit 14, Tarentum  
Just 20 minutes from downtown Pittsburgh!

(724) 224-4720  
[info@tour-edmine.com](mailto:info@tour-edmine.com)

Mine tours are also important in teaching the young!



**Thousands of school children visit this mine in New Jersey where they take underground and surface tours, then collect and examine minerals that were mined at the site.**



Children love rocks and need to learn about mining. At Sterling Hill Mine, they can collect and identify rock and mineral specimens of their own.



## STINESVILLE LIMESTONE INDUSTRY

In 1827, Richard Gilbert opened a commercial limestone quarry three quarters of a mile south on Jack's Defeat Creek. Stinesville's oolitic limestone, desirable as building stone, was used in several Indiana courthouses and Soldiers' and Sailors' Monument, Indianapolis. Limestone industry has been major economic factor in area.

ERECTED 1996 INDIANA HISTORICAL BUREAU  
AND DANNY PHELIX JACOBS



# Indiana University of Pennsylvania

[Home](#) > [Academics](#) > [Libraries](#) > [Departments](#) > [Special Collections and University Archives](#)

IUP LIBRARIES

## Pennsylvania Coal Culture Exhibit

### A Walk Through Time: Pennsylvania Coal Culture

The exhibit was presented in cooperation with Indiana University of Pennsylvania, the Tri-Area Historical Society in Nanty-Glo in Cambria County, the Historical and Genealogical Society of Indiana County, and with support from private collectors. The exhibit featured photos and items that document the operations of Rochester & Pittsburgh Coal Company and other coal companies, mine disasters, coal miner strikes, and unionization. Some of the company towns in Indiana and Cambria counties that are highlighted in the exhibit are Clymer, Commodore, Coral, Ernest, Heilwood, Iselin, Nanty Glo, Sagamore, and Whiskey Run.

September 15 - December 5, 2009

The University Museum  
in cooperation with  
IUP Special Collections  
and the University Archives

**Pennsylvania  
Coal Culture**

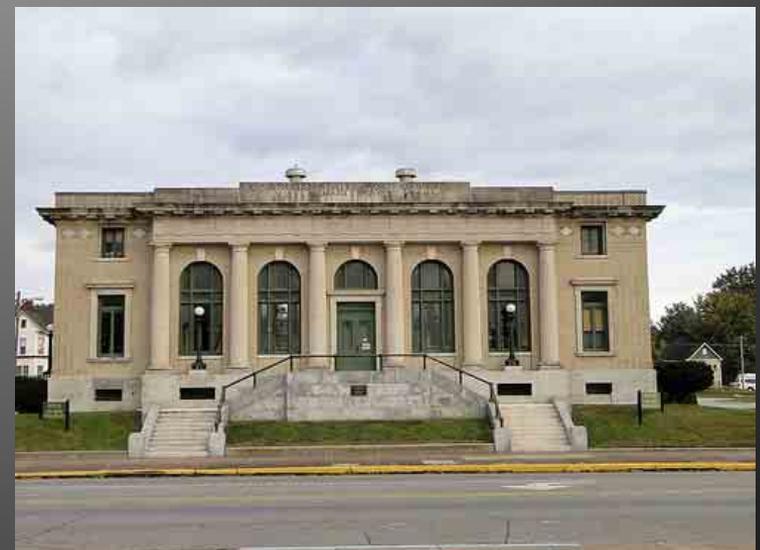
Featuring the  
Rochester & Pittsburgh  
Coal Company Collection

**A Walk Through Time**

IUP | Indiana University of Pennsylvania

IUP actively preserves coal culture through the [Special Collections and University Archives](#); the [Institute for Mine Mapping, Archival Procedures, and Safety \(IMAPS\)](#); and the [Center for Northern Appalachian](#)

Some coal museums exist at universities .



Many county museums have modest displays about local coal mining operations.



Coal mine exhibit at the Museum of Science and Industry in Chicago, Illinois is still very popular.

8178

DUGGER  
COAL  
MUSEUM





**Interesting artifacts:**  
The Dugger Coal Museum is filled with donated items from Sullivan County coal mining history (above). Volunteer Marge Miller, one of several museum supporters who will lead guided tours of the building, shows how the miners' lunch pails were divided into sections to keep food fresh (middle) and how these sections were all enclosed to keep the food fresh and coal dust out of the food (right).



# Dugger's underground past

Museum allows visitors to dig into town's coal mining connection

Stories by Michelle L. Hudson • Photos by Joe Swisher

**D**ugger's rich mining heritage can be seen through pictures, old mining equipment and other mine-related material at the Coal Museum on Main Street.

The museum gives visitors a tour of the history of coal mining as well as the history of the community. More importantly, say the museum volunteers, it tells stories about the people who work in coal mines.

"There's a lot of history here," said Martha Marlow, a coal museum volunteer.

Most of the items in the museum were donated by families of coal miners. There is a wide variety of old mining equipment with some information about how the items worked along with old photographs and newspaper clippings.

"It's all about coal mines. [Any donated museum item] has to be connected with the coal mines," said Marge Miller, a volunteer at the

museum.

For example, a coal miner's lunch pail is one of the many items that have been donated to the museum. It looks much different than what you would see people carrying today.

The round container has a place in the very bottom for water, then a pipe for a sandwich in the middle and a pan that sits on top to carry dessert. Of course, it's all enclosed to keep the food fresh and clean from coal dust.

Photographs give people a glimpse into the life of a coal miner working far beneath the surface. It also enables people to see how mining has changed over the years.

"In our parents' day they went down deep in the mines," Marge Miller said. "Now, they strip-mine and take the dirt off the coal."

The museum has a poster showing visitors how coal is made into electricity. In addition to photographs of coal



The Museum of the



INDUSTRY

**OPEN FRI SAT 8-4 SUN 12-4  
COAL IS NOT A DIRTY  
FOUR LETTER WORD**

**44 USA  
Coal Mine  
Fatalities  
this year**

A local mine museum operates near the Lynnville exit off I-64 in southwest Indiana.



A SPECIALTY IN  
PARLOR STOVE  
DONATED BY  
SHIRLEY REED

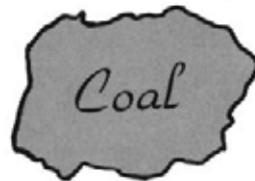
EVANS  
PARTS FOR  
U.S.A. AIR

SPECIAL  
SHOW EL

WRAY



*The Museum of the*



*Industry*

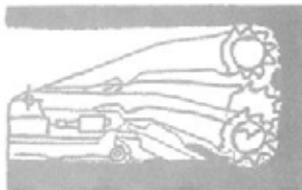
## COLLECTORS' DAY 2010

Saturday, September 18, 2010

8:00 AM – 4:00 PM

Trading All Types of Mining Items

Museum is located on Hwy 68, 1 mile west of  
Hwy 61 intersection in Lynnville.



Box 401 Highway 68W, Lynnville, Indiana 47619  
(812) 922-5659



A museum near Lynnville displays many coal mine items and even hosts special events to tell the public about coal mining.

This museum is adjacent to I-64 and could attract many visitors.

# Lynnville man displays artifacts from mines at coal museum

By Garret Mathews

Posted September 22, 2010 at midnight

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Discuss

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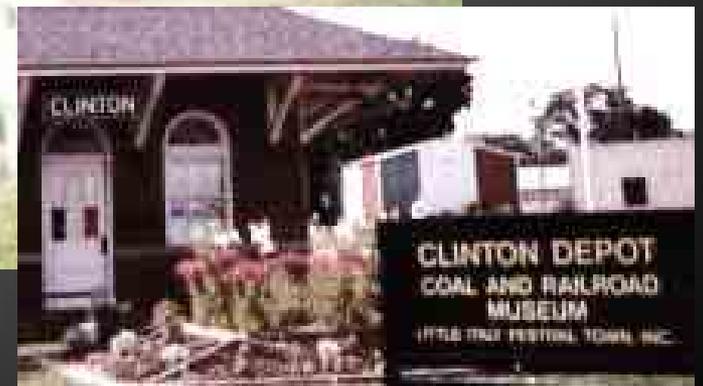


GARRET MATHEWS / Courier & Press LEFT: Nelson Shaifer, a geology professor, praises the work done at the Museum of the Coal Industry in Lynnville, Ind.

LYNNVILLE, Ind. — Aja Mason, a coal miner for more than 30 years, is both the brawn and brains behind the Museum of the Coal Industry near this Warrick County town.

Coal museums can engender positive news reporting about mining and help to better inform the general public even tourists.

# Community involvement is crucial to saving coal heritage





Small communities honor their mining heritage with parades and festivals.

# Dugger, Indiana hosts an annual coal festival in September







The Wilds is a popular animal park constructed on 10,000 acres of strip-mined lands east of Columbus, Ohio



American Electric Power (AEP) donated more than 60,000 acres of mined areas for recreation in Ohio.



**The Wilds is a strip mine morphed into a wild animal park**



A memorial to miners and the bucket from Big Muskie is all that remains of extensive strip mining near Newark, Ohio. Visitors stop to marvel at the enormous equipment.

# Cultural Tourism

The  
Partnership Between  
Tourism and  
Cultural  
Heritage  
Management



Bob McKercher  
Hilary du Cros

EDITED BY ANNA LEASK AND IAN YEOMAN

HERITAGE  
VISITOR  
ATTRACTIONS  
AN OPERATIONS  
MANAGEMENT  
PERSPECTIVE



The Eden Project is a remarkable story of post-mining regeneration. Set in an old china clay pit in a part of the UK still suffering from the collapse of its mining industry, it is a triumphant social and economic success.

SPOTLIGHT

# The Eden Project

Bodalya Pit, Cornwall, UK



# Pedreres de s'Hostal, Minorca, Spain



# Mine Heritage Trail – U.K.

## Cornish Mining World Heritage Site



Ten separate 'Areas' make up the Cornish Mining World Heritage Site. Each has its own character, opportunities for adventure, and a different combination of the features that make up the Cornish Mining landscape.

The maps in this guide give an indication of where the featured locations are. For more detail, refer to the relevant Ordnance Survey map—we've noted which is best for each Area within the Cornish Mining World Heritage Site.

**01**  
**ST JUST**  
Along on the edge of the north  
—page 17

**03**  
**TREGONNING  
& GWINEAR**  
Diverse landscapes and great houses  
—page 23

**05**  
**CAMBORNE  
& REDRUTH**  
The capital of Cornish Mining  
—page 35

**07**  
**ST AGNES**  
Iconic cliff-top engine houses  
and much more  
—page 41

**02**  
**HAYLE**  
Global mining port with natural wonders  
—page 21

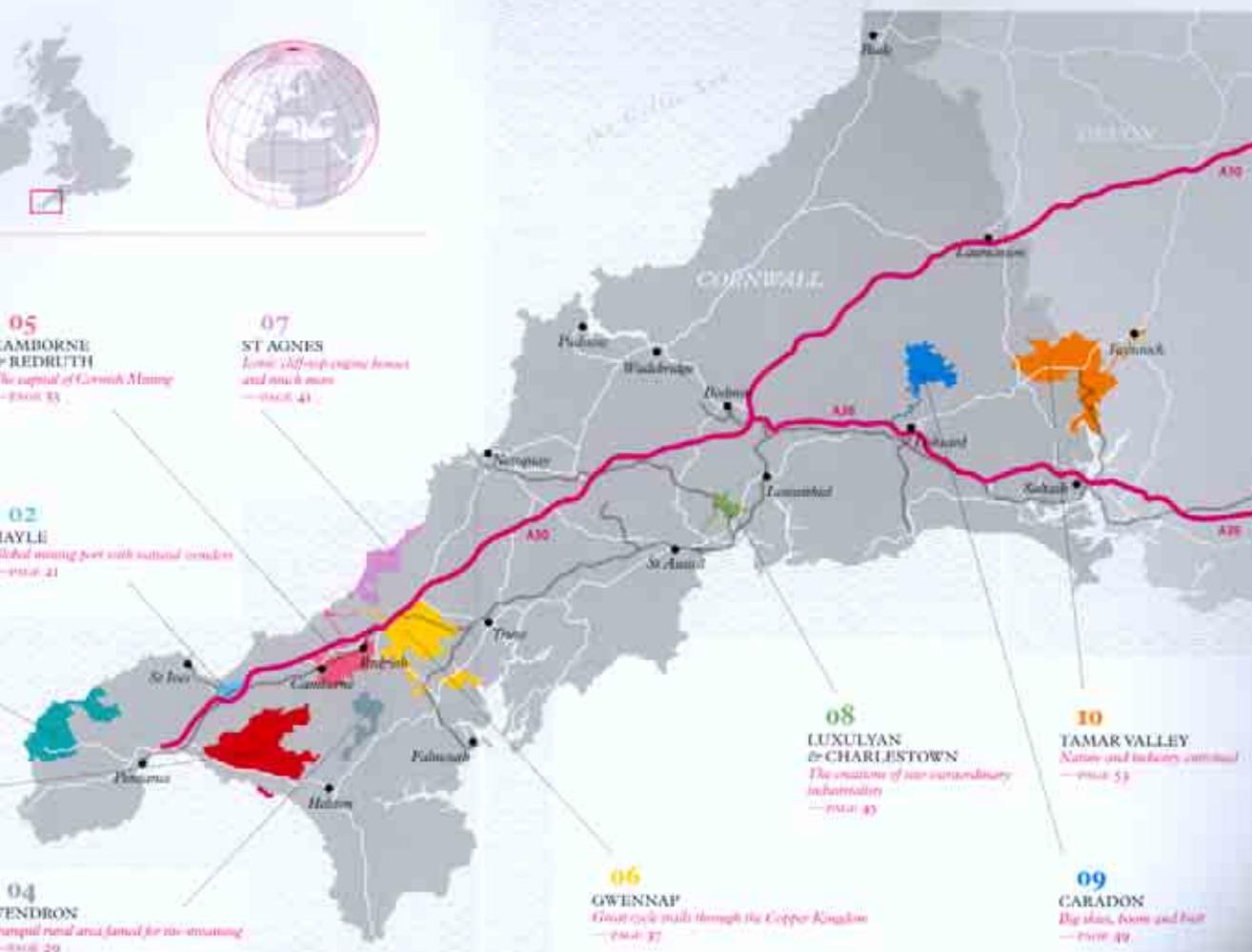
**04**  
**WENDRON**  
Tranquil rural area famed for tin-ore mining  
—page 29

**06**  
**GWENNAP**  
Great cycle trails through the Copper Kingdom  
—page 37

**08**  
**LUXULYAN  
& CHARLESTOWN**  
The cradles of two extraordinary  
industries  
—page 43

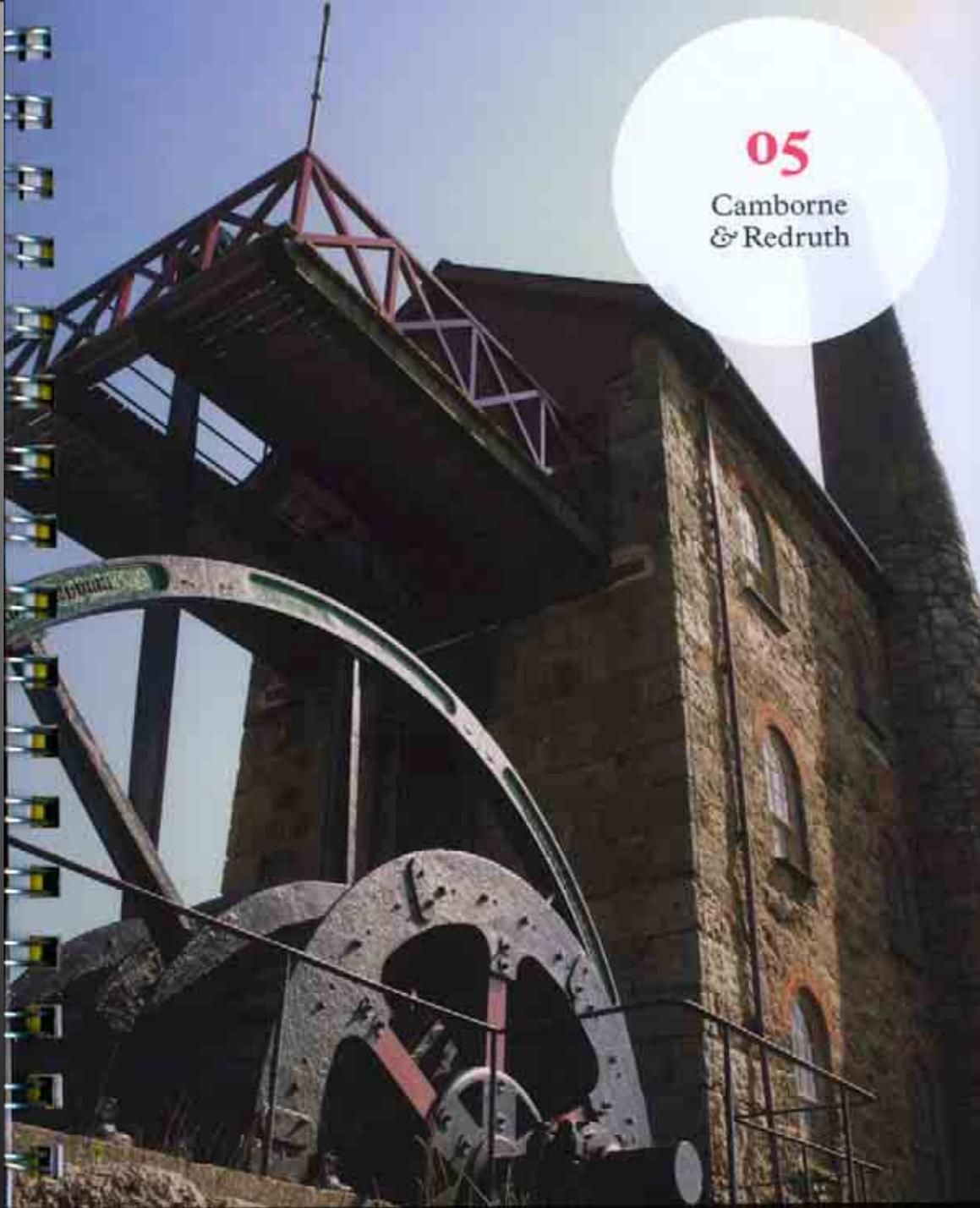
**10**  
**TAMAR VALLEY**  
Nature and industry combined  
—page 53

**09**  
**CARADON**  
Big ideas, boom and bust  
—page 49



05

Camborne  
& Redruth



# Opera House

## Pennsylvanian Mire Forest

Illinois, USA



The largest fossil rainforest, covering 1,000 hectares, has been discovered a hundred metres below the surface in a coal mine in Illinois. Unfortunately it isn't open to the public – it would be too expensive to make safe.

## Dalhalla

Dalarna, Sweden



A former limestone quarry in a forest in Dalarna, one of Sweden's most popular tourist areas, houses an astonishing music venue. Dalhalla (a name derived from the region and Wagner's Valhalla) is the brainchild of Margareta Dellefors, a former opera singer who tested the sound of her powerful voice in the quarry

to prove the site's exceptional acoustic qualities.

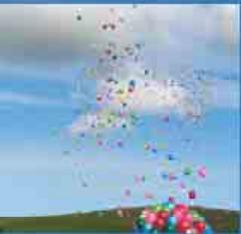
The quarrying provided a natural amphitheatre and a dramatic stage set to one side of the bright blue/green lake. Seating 4,500, Dalhalla plays host to events each summer including opera, choir, jazz and pop concerts.

# 'COUNTDOWN TO HEARTLANDS'

The Robinson's Shaft site at the former South Crofty Mine in Pool was the centre of a media launch on Friday 23rd July marking the commencement of work to construct a major new urban park for the local community with a significant mining heritage focus.

The Heartlands project will create an extensive green space for the village of Pool in addition to providing a range of community facilities including state-of-the-art conference facilities, work studios and meeting venues. It is also planned to offer regular community events including exhibitions, festivals, art fairs and farmers' markets.

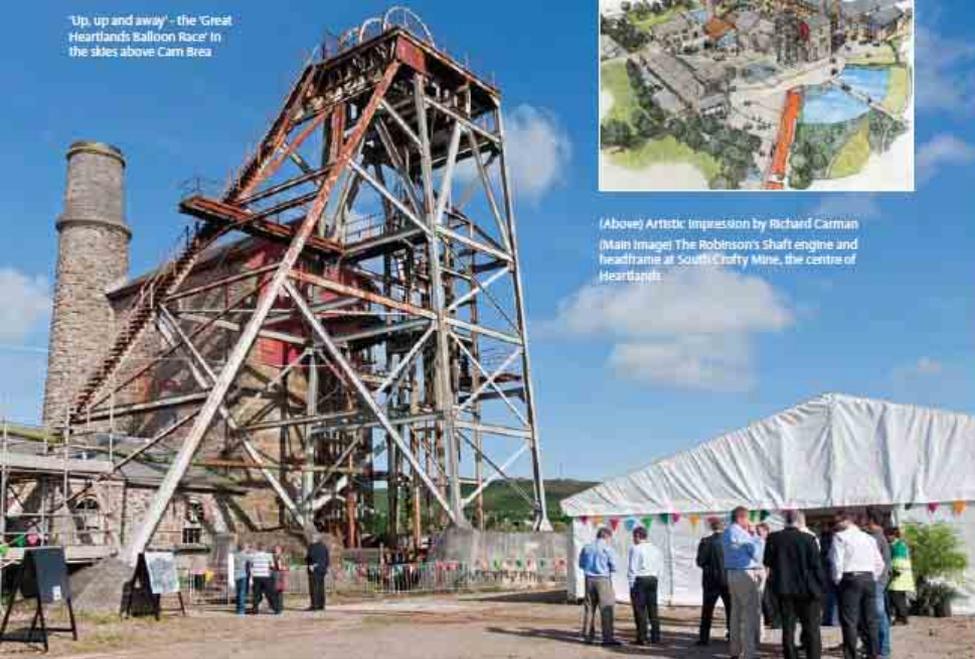
At the centre of Heartlands is the important Robinson's Shaft site itself, a Grade II\* Listed complex of buildings including the hugely significant Robinson's Shaft pumping engine. Situated within the Camborne and Redruth Mining District area of the World Heritage Site, the Robinson's engine and building complex is due to be conserved as the showpiece of the project.



'Up, up and away' - the 'Great Heartlands Balloon Race' in the skies above Cam Brea



(Above) Artistic impression by Richard Carman  
(Main Image) The Robinson's Shaft engine and headframe at South Crofty Mine, the centre of Heartlands



(Clockwise from above) Guests inspect the plans for the new park with Robinson's at its centre. Some of the many performers on hand to mark the occasion.



Constructed at the beginning of the twentieth century, the Robinson's Shaft site retains its 80 inch cylinder steam pumping engine, built by Sandys Vivian and Co, Hayle, in 1854, and which last worked in May 1955. Put into mothballs at this time, the Robinson's Engine was to be the last Cornish pumping engine to work on a metal mine and was 101 years of age when decommissioned. The Heartlands project will renovate this historic engine and it is planned that this important piece of Cornish industrial heritage will be put in motion once more using compressed air.

Groups of musicians, dancers and other performers were on hand to help celebrate the event which included the 'Great Heartlands Balloon Race' where over 800 balloons were released. Each of these came with an individual 'Hope for Heartlands' message from the many students who have been involved in the Heartlands project to date with a prize offered for the balloon furthest travelled. ■

Work on the Heartlands project is due to be completed by the autumn of 2011 and to find out more please see the Heartlands website: [www.heartlandscornwall.com](http://www.heartlandscornwall.com)



**INDIANA/  
POLIS  
MUSEUM  
OF ART  
IMA**

---

100 Acres Grand Opening

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Jeppe Hein

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Body Unbound

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Honor Roll of Contributors

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Remembering Ruth Lilly

---

Conservation Science

---

MAY/AUGUST  
2010



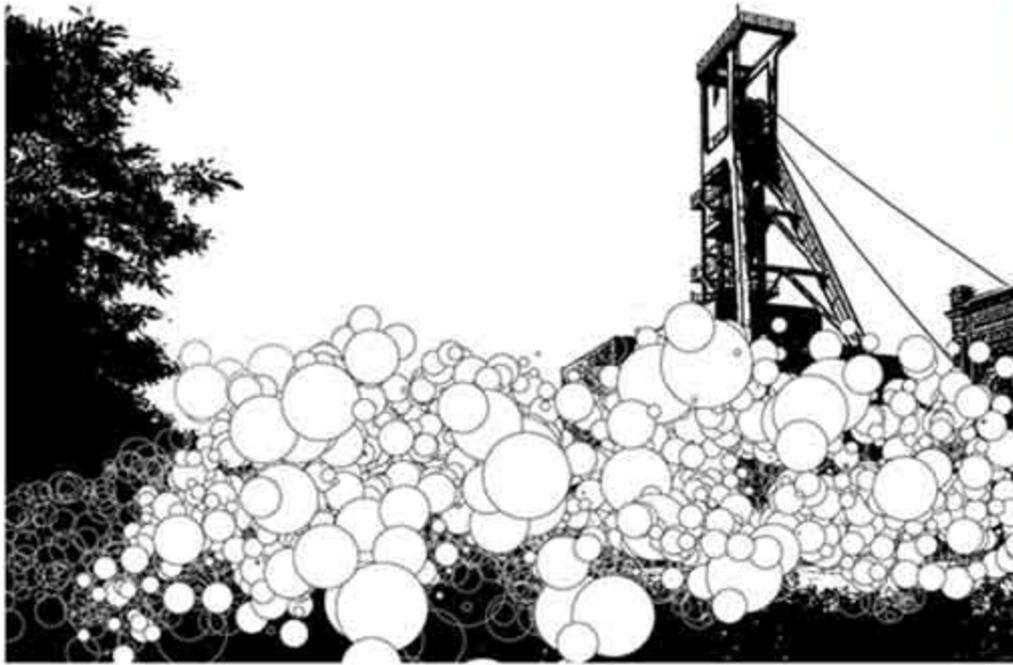
## Indianapolis Museum of Fine Arts – 100 acres

The nature area and sculpture garden occupy the site of an abandoned sand and gravel pit.

# This mine was the site of "Performance Art"

Architecture, Intervention, Scenography, situative narratives

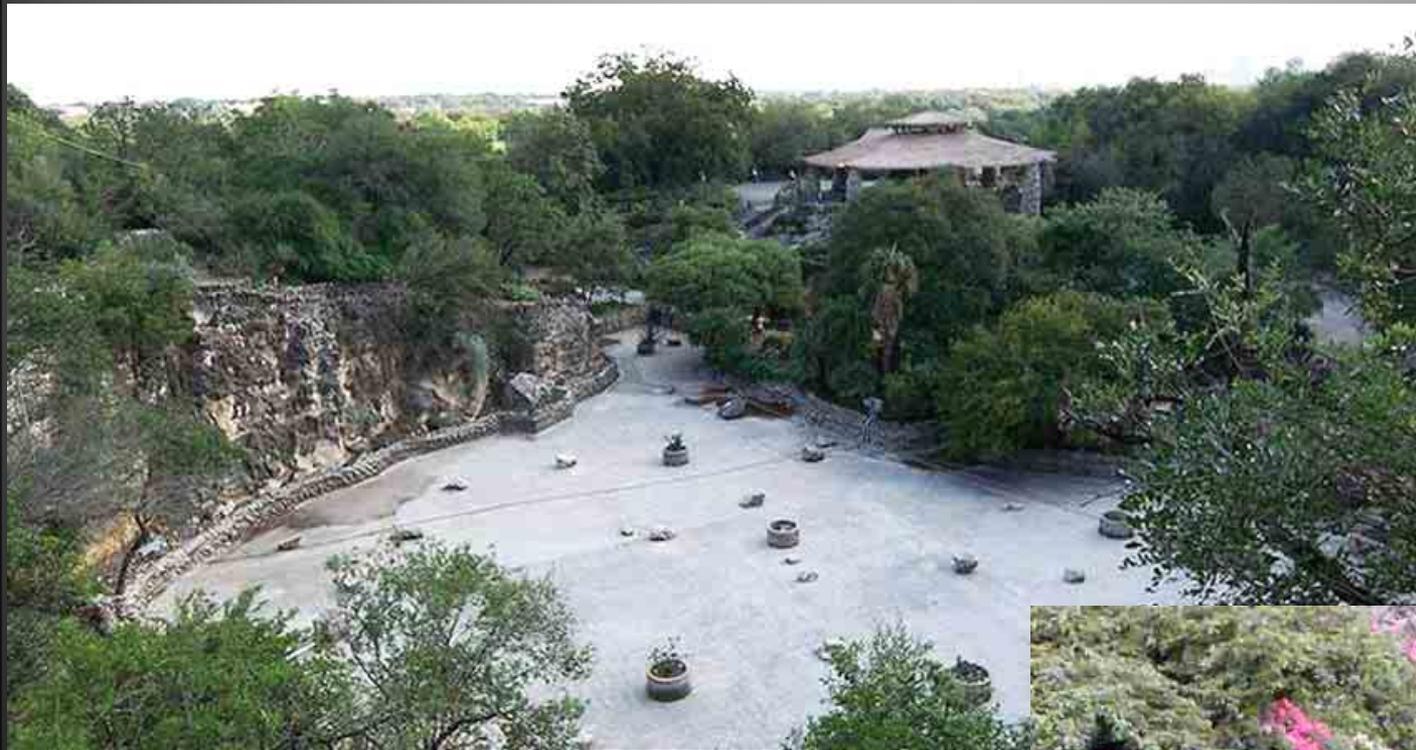
## SOAP OPERA



Black, white, dirty, clean, dressing room, locker room, coal, soap, shower baths, mine, stage.  
Theater happens right now!



# San Antonio Tea Gardens - San Antonio, Texas



# Buchart Gardens Victoria, B.C.



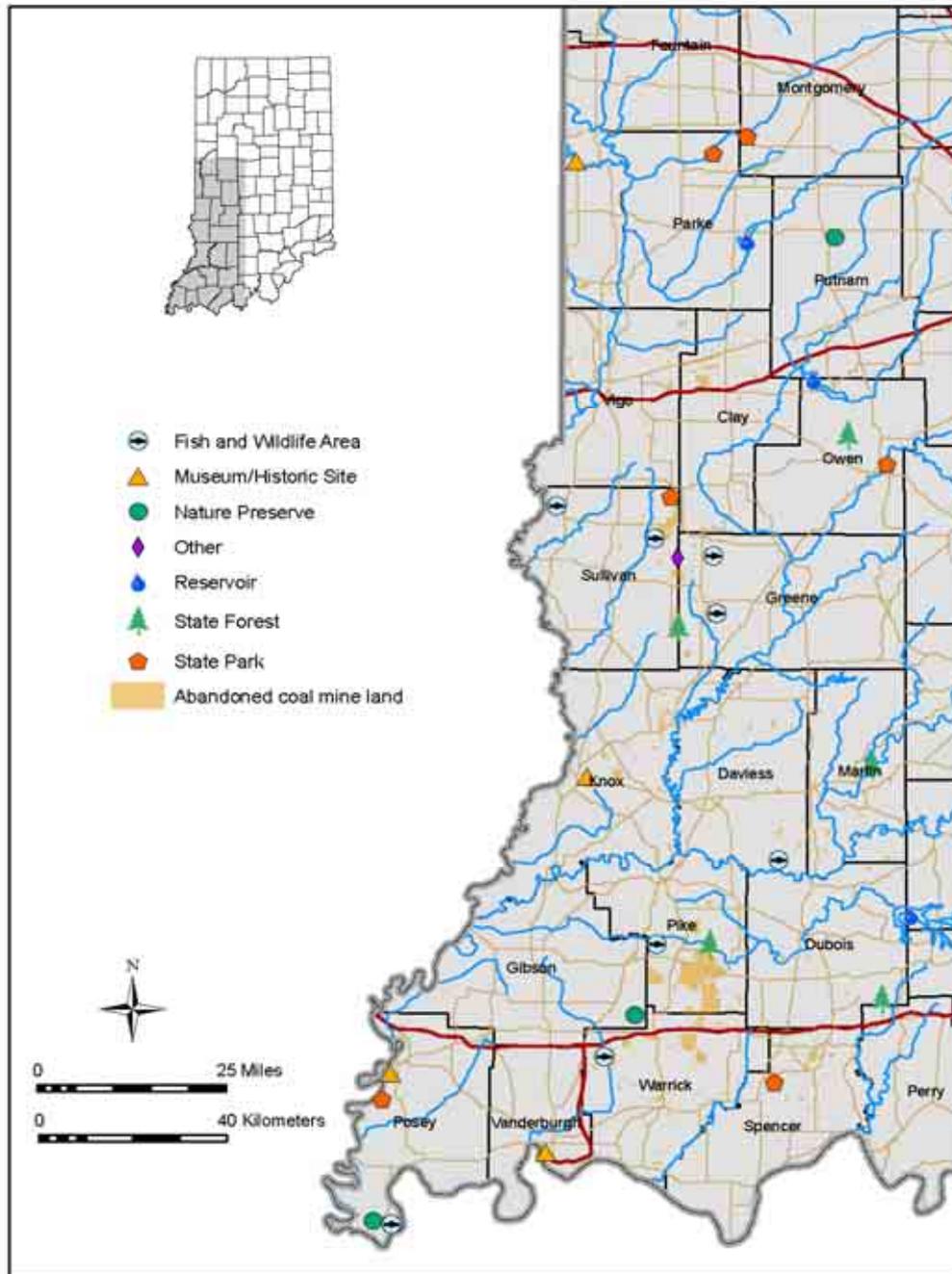


-  Fish and Wildlife Area
-  Museum/Historic Site
-  Nature Preserve
-  Other
-  Reservoir
-  State Forest
-  State Park
-  Abandoned coal mine land



0 25 Miles

0 40 Kilometers





Abandoned mines are notable for recreation potential such as this abandoned strip mine near Dugger, IN



# White Star Quarry, Gibsonburg, Ohio

By Divers for Divers

By Linda Lee Walden

**W**hite Star is another one of those ubiquitous limestone quarries that pock the landscape of the Midwestern and Eastern United States. Many of them, if deep enough, serve as ready-made local scuba destinations. Those few with special characteristics are visited by thousands of divers a year from all over the region, or even the world.

White Star Quarry is one of the special ones, with several distinguishing features, including central location, easy accessibility, adequate depth, convenient facilities and great atmosphere.

The quarry is surrounded by the 800-acre White Star Park, owned and operated as a year-round recreational facility by Sandusky County, Ohio. That county borders the heavily traveled corridor between Toledo, 30 miles (48 km) northwest, and Cleveland, just over an hour to the east.



gmn kayser photo

Abandoned mines are prime sites for mountain biking and off-road recreation.

Welcome to Appalachia Outdoor Adventures - Windows Internet Explorer

http://www.aoaonline.org/

Convert Select

Favorite RPO Blue Access 2010 Me... SJ Health Insurance Co... 2009 Information... Indiana Limestone Quarry... Learn Adobe Photoshop... Suggested Sites... CS2 LBRS B... Google Indiana Geological Survey... SCFR Services and Fees Indiana Geological Survey...

Welcome to Appalachia Outdoor Adventures

Page Safety Tools

# AOA Appalachia Outdoor Adventures

Home Calendar Forums Trails Media Officers Contact Join AOA OMRA Links

## Alert:

Youth hunting season at Dillon this weekend Nov 20 and 21st - advise not riding there this weekend.

Reminder: there is no hunting at the Wilds, but wearing orange wouldn't be a bad idea.

## Events

OMBC Race  
Dillon  
Zanesville  
Aug 29, 2010  
[2010 Results](#)

OMBC Race  
Grassman  
Gonesville  
[2010 Results](#)

OMBC Race  
The Wilds  
Cumberland  
[2010 Results](#)

## Welcome to AOA

Appalachia Outdoor Adventures strives to support, develop and participate in physically demanding outdoor activities, such as mountain biking, hiking, climbing/rappelling, cross country skiing, orienteering, paddling and trail running. Although our levels of skill and intensity of participation range from high to low, we all work hard and play harder ever mindful that in most cases pain is only temporary.



## News

[Sept 2010 Newsletter](#)

[Map of AOA trails](#)

[Recap of 2010 Muskingum Mayhem](#)



Appalachia Outdoor Adventures - Copyright 2010

Done

Internet | Protected Mode: Off

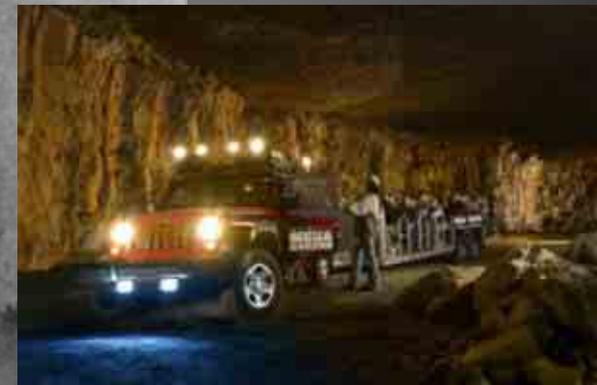
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4:04 PM 12/1/2010

**A constructed white-water course in South Bend, Indiana attracts many kayakers and canoeists, despite the generally flat landscape. Appropriate grading during final reclamation could make excellent white-water facilities in the coal fields.**



An abandoned limestone mine at Louisville, Kentucky hosts mine tours as well as serving storage companies.



By Sam Haverstick, Special to The Courier-Journal

About 400,000 square feet of Louisville Underground space has been leased to eight tenants so far, and a homeland security grant could make the location a storage spot for financial and banking data.

## Louisville Underground in line for grant, might store vital data

# Speleotherapy

## Radon Therapy

### Bad Gastein

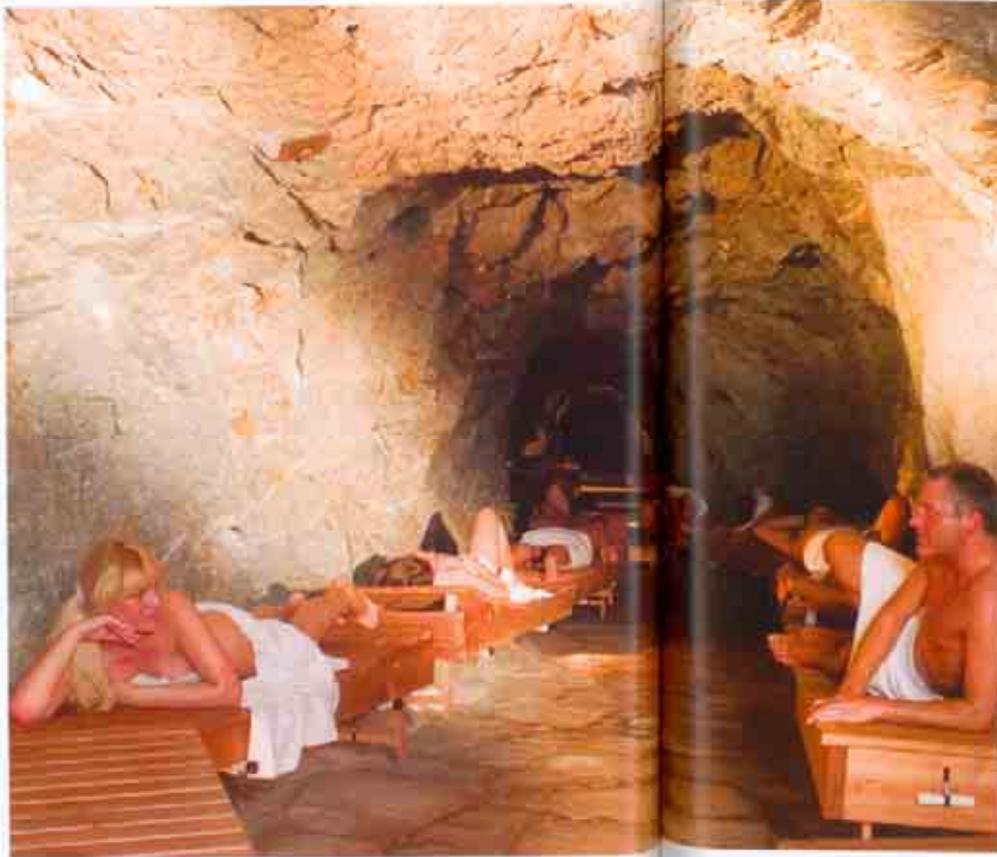
*Austria*

In the Austrian Alps, in a region where radon levels are high, up to 600 patients a day are treated underground in a former gold mine. The Gastein Heilstollen has been providing pain relief for people with chronic illnesses for over 50 years through radon therapy. The patients reach the treatment rooms via a tram that takes them along the original mineral route 2.5 kilometres into the mountain, where the warmth and humidity elevate the body's temperature to 38°C, which increases the uptake of radon. Radon is one of the noble gases, which accelerates cell metabolism through its short-wave rays.

### Basin and Boulder

*Montana, USA*

Similarly, in the USA, treatment benches line the 150 metre long shaft of an inactive gold mine which naturally emits radon gas. The Merry Widow mine near Basin, Montana, is visited by thousands seeking alternative treatment for arthritis, allergies, diabetes and many other health problems, as is an 'ionizing inhalatorium' (of radon) at a former uranium mine - Free Enterprise Health Mine, Boulder, Montana.



All Things to Do with a Hole in the Ground

## Medicinal Plant Cultivation

### Flin Flon

*Manitoba, Canada*

A disused portion of a copper and zinc mine, 300 metres below ground, has been converted into a biosecure underground growth chamber that combines strict genetic containment, accelerated plant growth and unrivalled environmental control, a new revolution in plant-based biopharmaceutical production.

### Marengo

*Illinois, USA*

A former limestone mine in southern Indiana provides a stable environment to grow crops containing pharmaceutical drugs for humans. Since there are no insects in the cave, and therefore reduced need for pesticides, the technique could support organic farming of fruit and vegetables too.

## Salt Therapy

### Sanatorium

*Wieliczka Salt Mine, Poland*

The special microclimate of the salt excavations at Wieliczka provides beneficial effects to those suffering from respiratory conditions. Treatment is given in a chamber 135 metres below ground level where the air is of exceptional bacteriological purity, a stable temperature, high relative humidity and a wealth of microelements.

## Sauna

### Pyhäsauna

*Finland*

Fundamental to the Finnish way of life, the world's deepest saunas can be found 1,440 metres underground in a shaft of a copper and zinc mine in central Finland.

Medicine and Therapy

**In addition to recreational activities, mines and mined areas offer excellent opportunities for cultural and heritage tourism.**

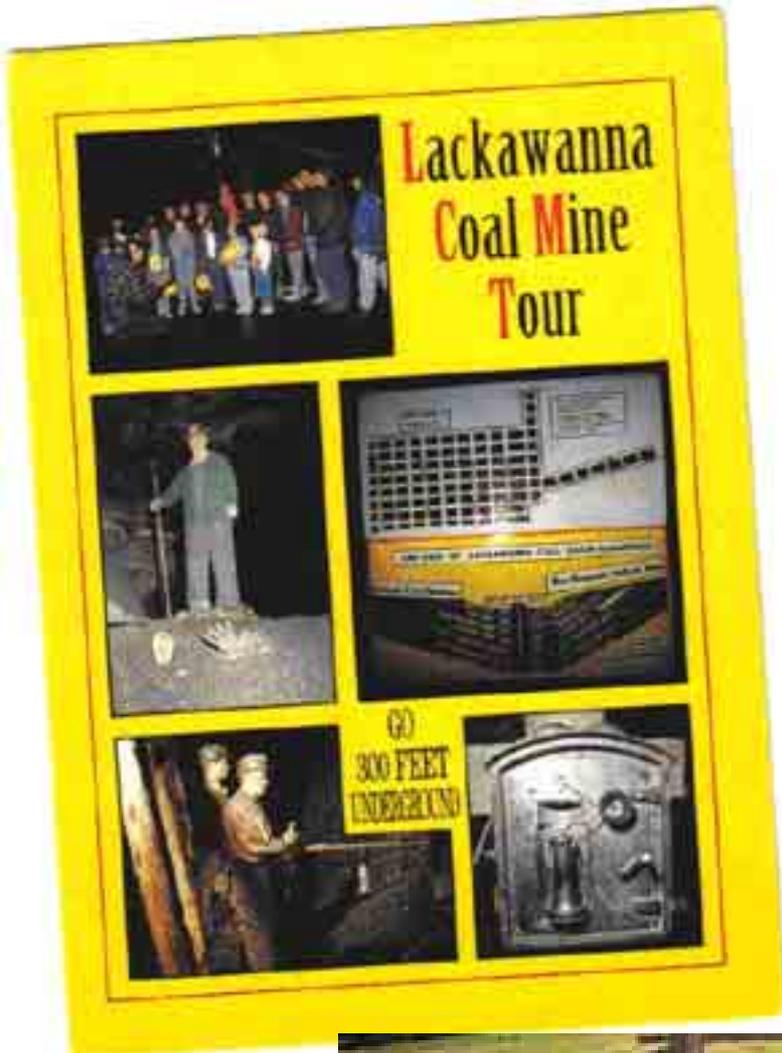


**Abandoned mill is  
Missouri museum**

**Another abandoned  
mill is New Jersey  
museum**



# Abandoned mines offer educational opportunities



A most exotic reuse of mined lands is this big cat rescue center near Center Point, IN

# Saving **the** Big **Cats**

The  
Exotic  
Feline  
Rescue  
Center

Stephen D. McCloud

*A portion of the proceeds from the  
sale of this book will be donated to  
The Exotic Feline Rescue Center!*



An opera stage built in an abandoned quarry in Sweden is renowned for its excellent acoustics.

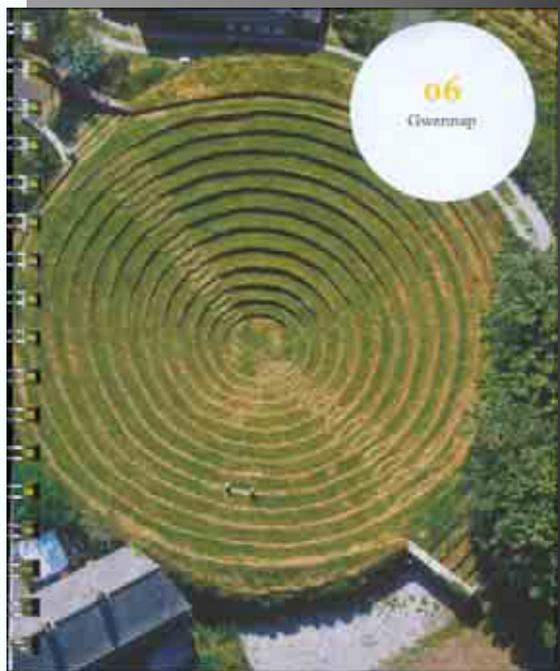


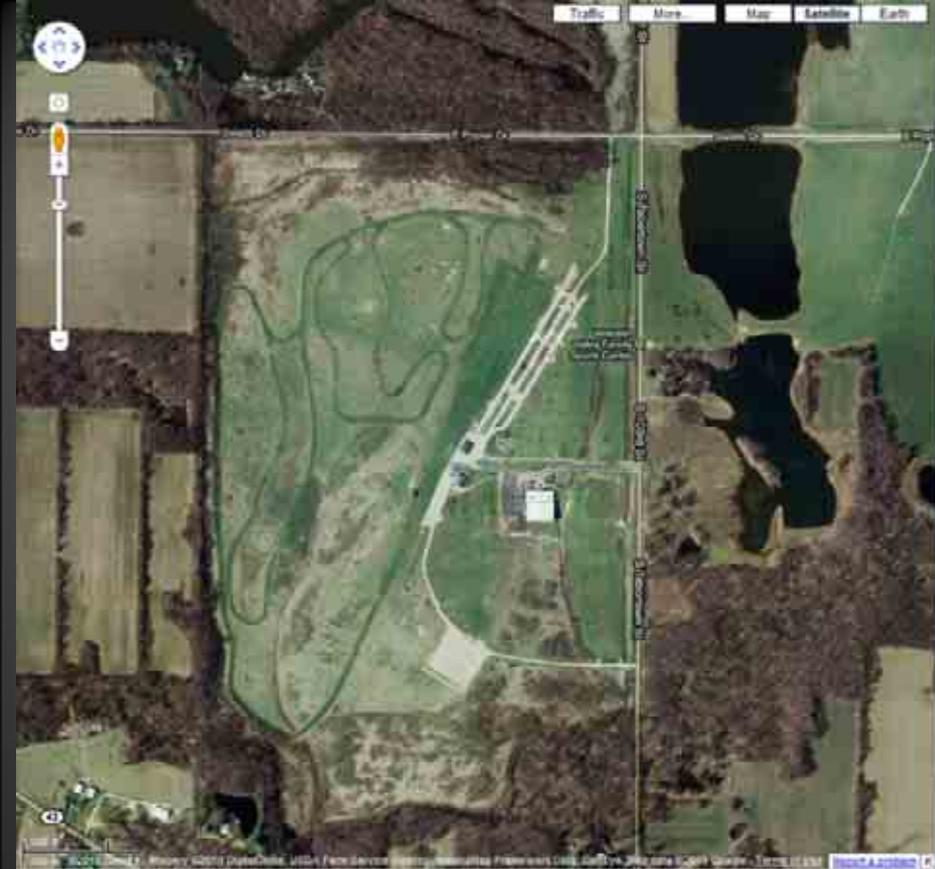
# Place of Worship – Open Air

**Gwennap Pit**  
Cornwall, UK

Famed for its use by Methodist preacher John Wesley in the late 18th century, Gwennap Preaching Pit was built in a depression caused by mining subsidence in a once thriving and densely populated copper mining district.

Thirteen rows of turf seats were added to form a stepped amphitheatre in 1806. A Whit Monday service has been held there ever since.





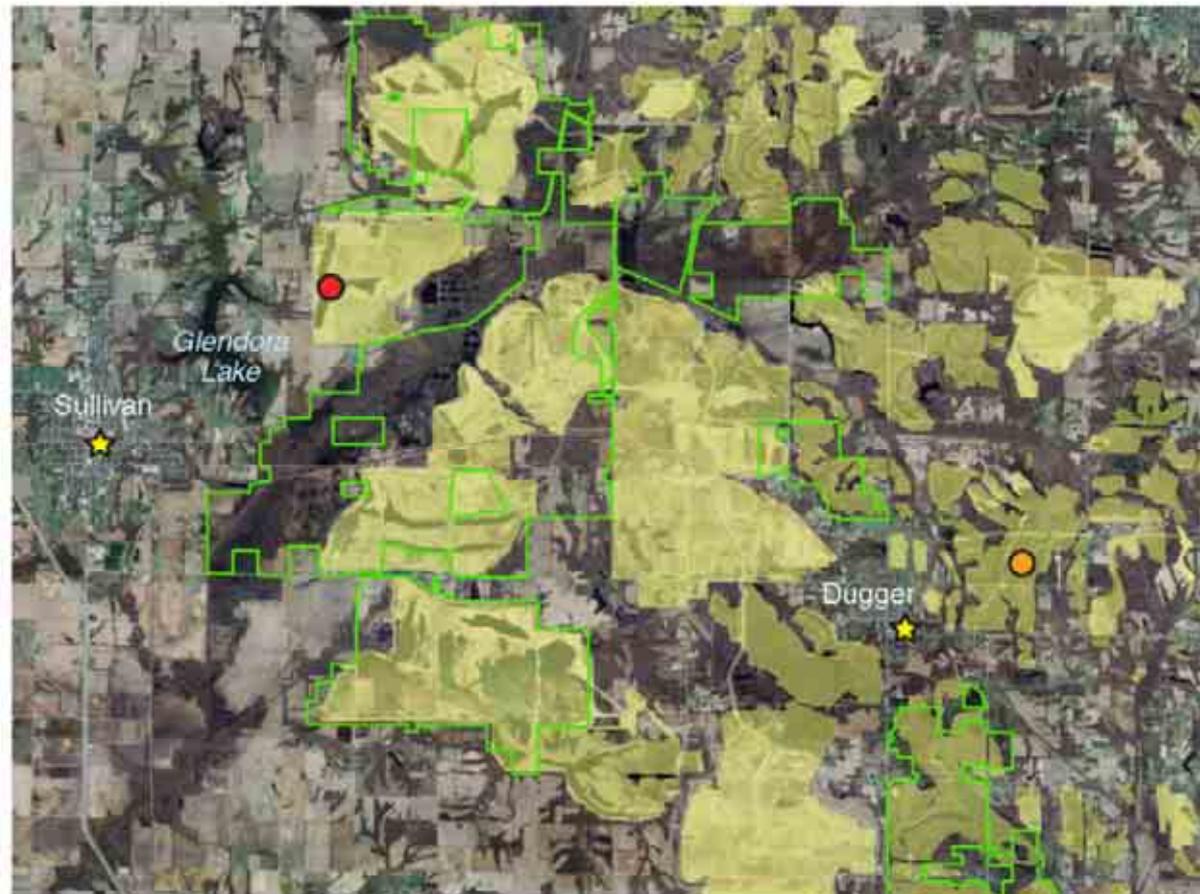
Abandoned mines can become sports venues such as the cross-country track facility near Terre Haute

# Braga, Portugal



# Current Recreational Facilities Near Sullivan, Indiana

- EXPLANATION
- Laboratory
  - ATV park
  - ★ Museum
  - DNR property
  - Surface mines





# CMIS IMS - The Indiana Coal Mine Information System's Internet Map Server Web Page

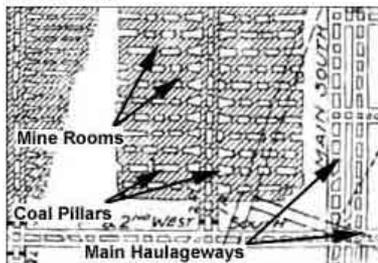
## INTERACTIVE MAP

- PURPOSE
- BACKGROUND
- INDIANA COAL MINE MAPS
- DISCLAIMER
- SOFTWARE REQUIREMENTS
- CONTACT INFORMATION
- HELP

### PURPOSE

This Web site was created to provide online access to maps showing locations of coal mines in Indiana. Funding for this page is provided through a cooperative agreement between the Indiana Geological Survey and the Abandoned Mine Lands program of the Indiana Department of Natural Resources, Division of Reclamation. Please read the accompanying disclaimer before using the interactive maps function.

### BACKGROUND



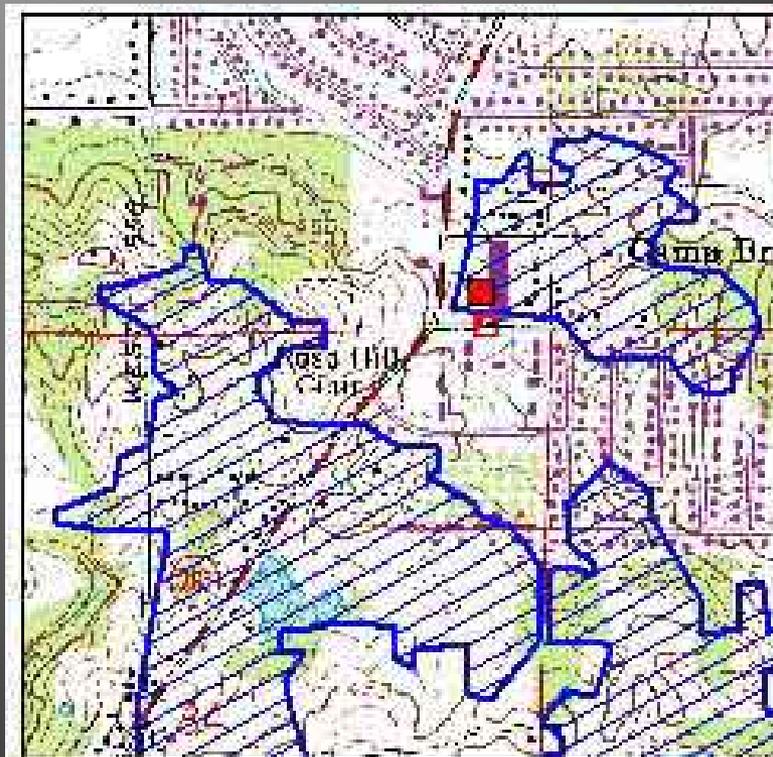
Detail view of room-and-pillar layout of a typical underground mine in Indiana.

All of Indiana's coal occurs in the west-central and southwestern portion of the state in a large geologic structure known as the Illinois Basin. Illinois Basin coal originated from plant material that accumulated in tropical wetlands during the Pennsylvanian Period of geologic time (approximately 300 million years ago).



Index map of Indiana showing the coal-bearing rocks of the Pennsylvanian System in green, underground coal mines in blue, and surface coal mines in brown.

Modern digital renditions of maps help developers, miners, and planners to avoid potential subsidence or other difficulties.

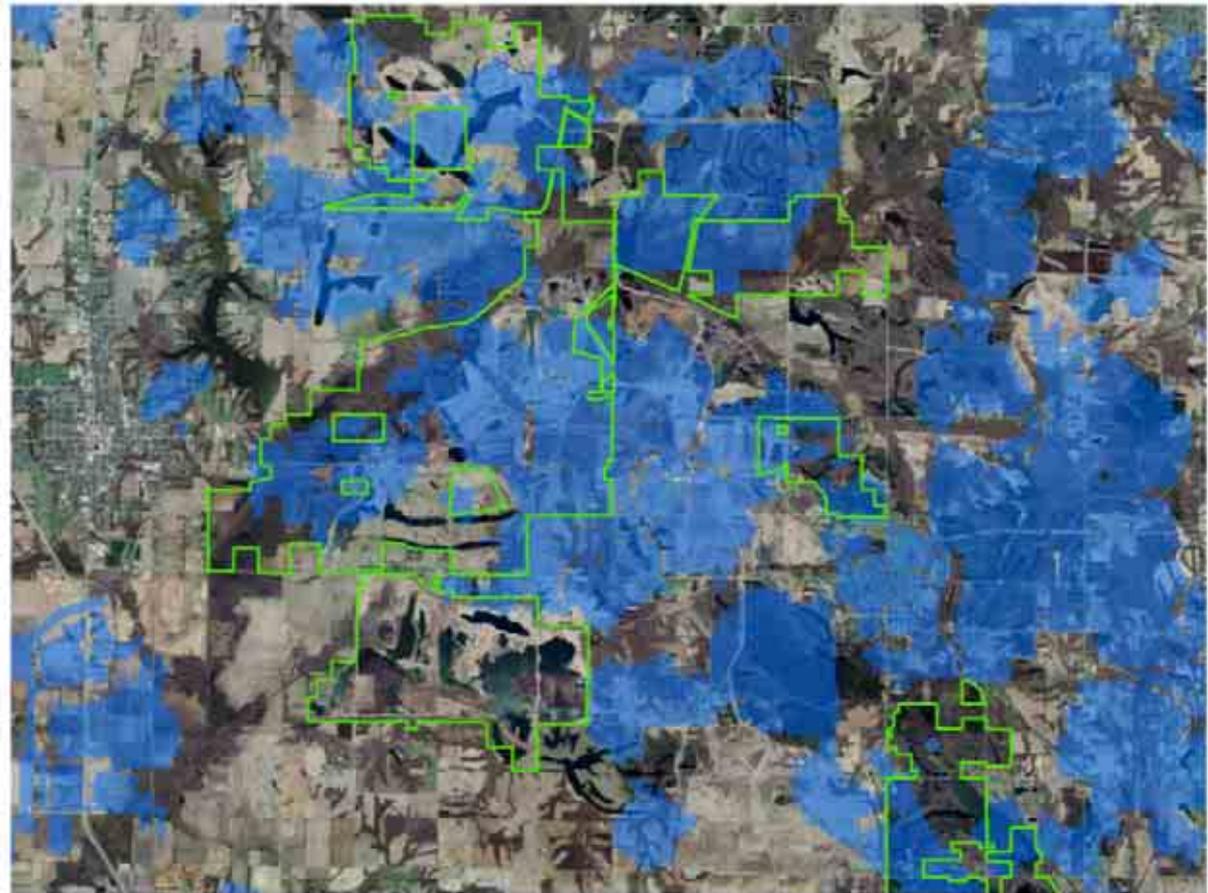


Portion of Newburgh, IN USGS 7.5-minute quadrangle map showing locations of underground coal mines and mine entrances.

# Current Underground Spaces Near Sullivan, Indiana

## EXPLANATION

- DNR property
- Underground mines





Mined areas near large cities such as Indianapolis are often used for residential and commercial building, parks, and recreational areas.

# Victoria National Golf Course Evansville, Indiana



Abandoned mines provide  
impressive water hazards

## Viewing platforms allow visitors to see mining from a safe distance







Many mines, even active mines, have overlooks that allow visitors to view mining activity, such as this overlook in Wyoming.

Mine themed buildings are quite memorable and often become small-scale tourist attractions themselves.



A number of structures made of coal have become attractions.



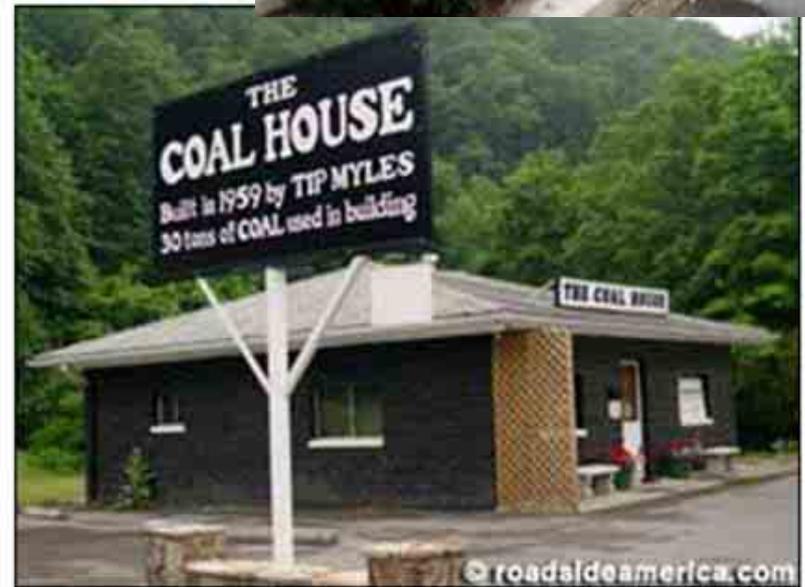
## Coal House

Field Review by  
the Team at  
[RoadsideAmerica.com](http://RoadsideAmerica.com)

**White Sulphur Springs, West  
Virginia**

Coal is a rock-solid source of energy and an excellent home-building material, too. West Virginia boasts at least three coal houses as proof of this versatility. They may not win points for beauty, but when was the last time you saw a house made out of hydropower or sunshine?

The coal house in White Sulphur Springs was



[roadsideamerica.com](http://roadsideamerica.com)

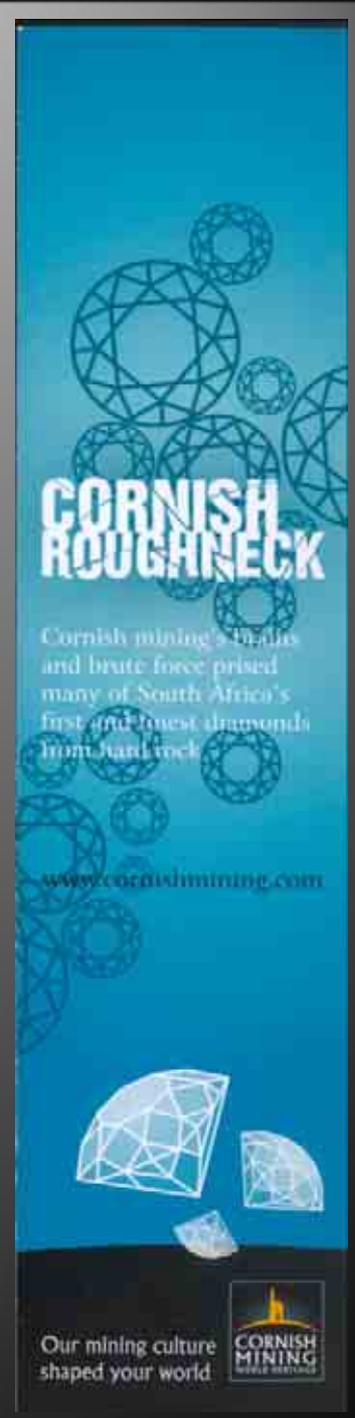


The Cornish Mining area of the UK is another World Heritage site that is a gem of mine tourism.



Carn Galver Mine - St Just

Our mining culture shaped your world



## CORNISH ROUGHNECK

Cornish mining's ingenuity and brute force prised many of South Africa's first and finest diamonds from hard rock

[www.cornishmining.com](http://www.cornishmining.com)



Our mining culture shaped your world



Geotourism is well developed in other parts of the world. Special geoparks have been set up to attract visitors. Some of these parks focus on mining or the cultural aspects of mining.

The United Nations recognizes certain areas as World Heritage sites. These special sites are granted monies for development and advertising.

## 80. Geo-mineral Park Iglesias, mines, minerals and fossil Paleozoic

Getting there

Region: Sardegna

The area dell'Iglesiente can be reached from Cagliari along for about 56 km from the SS130



Geo-mineral Park was established by UNESCO and declared as an example of the new worldwide Geosites and Geoparks network.

Iglesiente area is unique because in one day can be crossed the whole series of geological terrain, from the first appearance of life forms on Earth, over 500 million years ago, until the present day. It is a long series of different rocks, from sandstone to limestone, from granite to basalt, from schist to trachyte, each one representing a landscape.

### LEGEND OF THE SIMBOLS



MUSEUM & EXPOSITIONS



FOSSILS



VOLCANOES



MINERALS & ROCKS



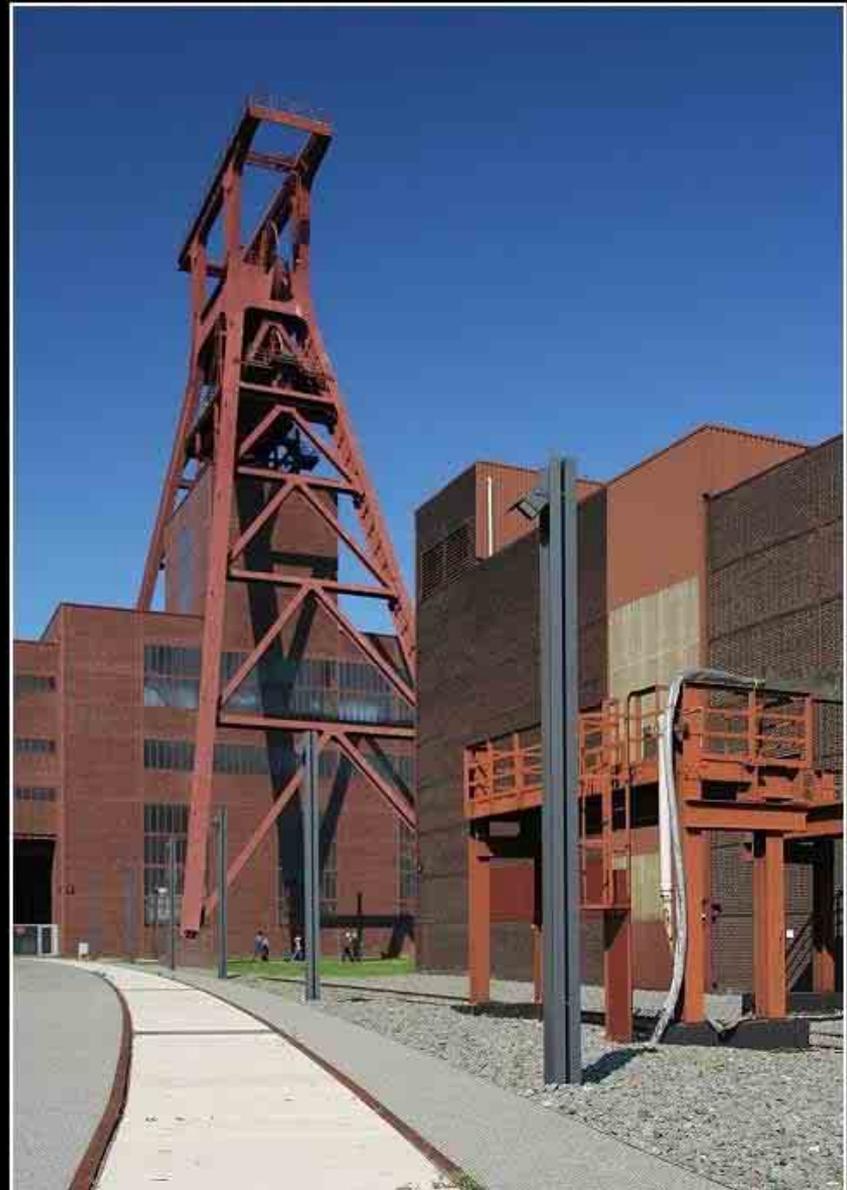
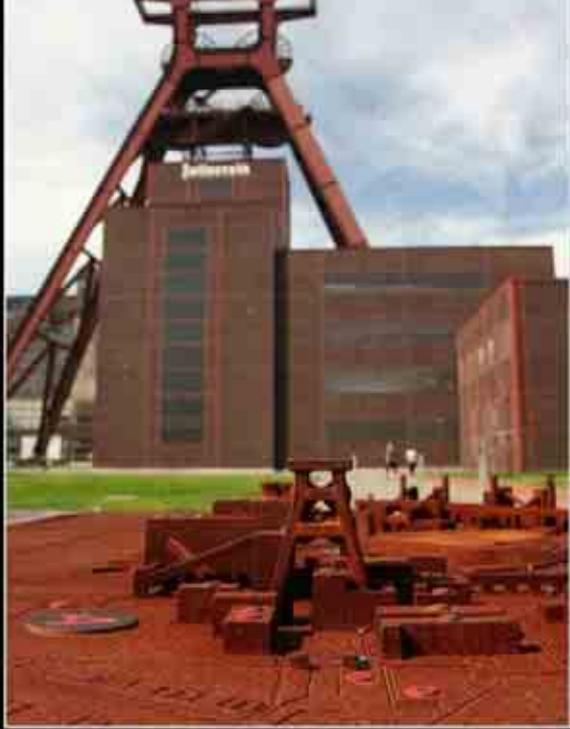
LANDFORMS



CAVES & MINES



**World Heritage site in Germany honors coal mining and iron making. It draws more than a million visitors a year.**



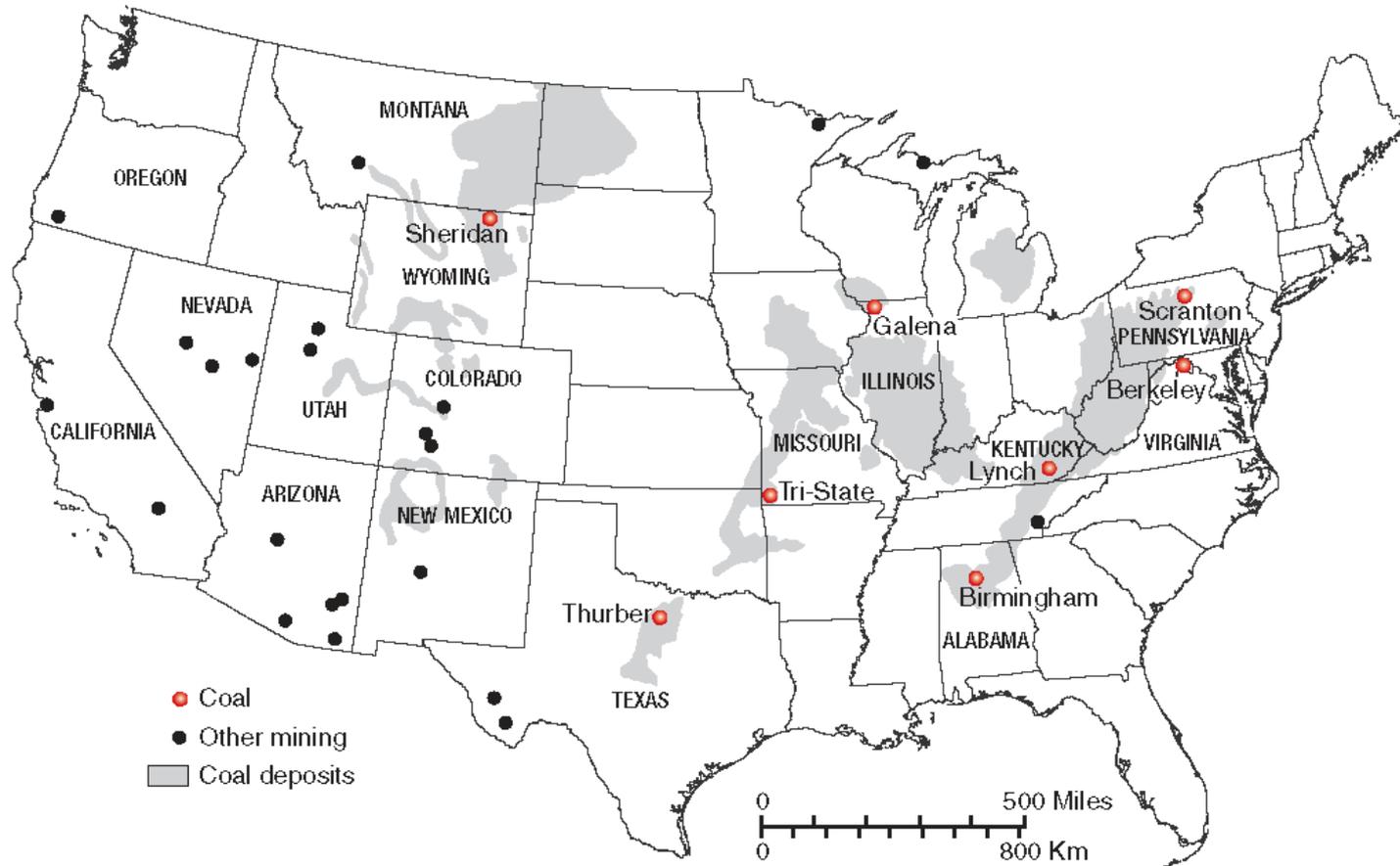
**Zollverein by daylight**

# Zeche Zollverein



**Abandoned mines can be made very attractive, such as this one in Germany!**

# Mine Museums in the U.S.

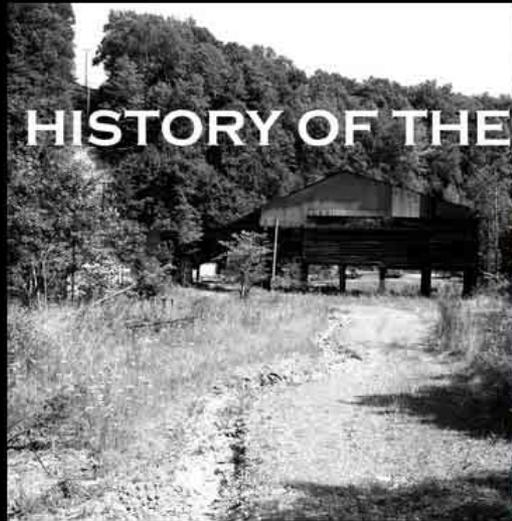


Coal or MTV mines shown in red

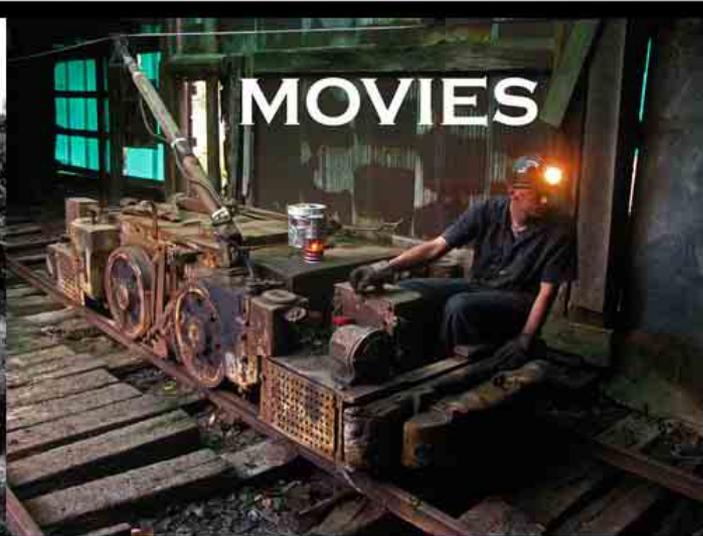
Some exhibition coal mines have excellent facilities.



# Some coal mine tours are minimal.



Enter to see the history of the last underground (2 man) Coal Mine in Ohio



The video section unlocks the mining time capsule in fall 2009.



The Mine Tipples, Fan Complex, Underground Equipment



Efforts put forth by Ohio Vintage Coal team to save this U.S. Mining Treasure



**Beckley, West Virginia**

Coal mines can be attractive children's venues.





**Some mine attractions even boast amusement park amenities.**

# Film Set

Mad Max

Hemelbach Bay, Sydney, Australia



The barren landscapes that quarrying leaves behind lend themselves naturally to stark film sets, particularly in the science fiction genre. The clay workings in western Sydney have had a number of reincarnations, including as the backdrop to Bartertown in the Mad Max epic, *Beyond Thunderdome*.

**Abandoned mines have been used as movie sets as seen here.**



Coal mines can be sites for TV programs and movies.

FROM THE PRODUCER OF "FIELD OF DREAMS"

# OCTOBER SKY

BASED ON AN EXTRAORDINARY TRUE STORY



**"A GREAT MOVIE,  
THAT WILL LIVE IN YOUR MEMORY FOREVER!"**

- Leah Kim, USA TODAY

UNIVERSAL PICTURES PRESENTS A CHARLES SORVIN PRODUCTION A JOE JOHNSTON FILM "OCTOBER SKY" JAMES FRANCO LAURA LINNEY CHRIS COOPER CHRISTOPHER YOUNG AND LINDA KEMM "MARK STRONG" "ROBERT DALVA"  
MUSIC BY DAVID JULYAN COSTUME DESIGNER TERRY MURPHY, A.S.C. EXECUTIVE PRODUCERS MARGO STEINBERG PETER CHAZAN PRODUCED BY ROBERT H. NISBAM, JR. EXECUTIVE PRODUCERS LEWIS COLICK PRODUCED BY CHARLES GIBSON LARRY FRANCO  
WRITTEN BY JONATHAN HARTMAN DIRECTED BY JOE JOHNSTON A UNIVERSAL RELEASE

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NOW AVAILABLE ON VIDEOCASSETTE AND DVD!

## Coal mines are sometimes settings for movies



[Latest News](#) > [Detailsseite](#)



### Guido Coal Mine awarded

On July 5th 2010 the formal announcement of the results of the plebiscite "Ambassador of Silesia" took place. The Historic "Guido" Coal Mine has become the winner in the category "Place". This creditable title is a great honor for the mine, mobilizing for further work. It proves, that the "Guido" mine, with its tourist and cultural offer, has become a real showcase of the region, and has got a permanent place in the awareness of many people. This success is also a proof that industrial heritage is gaining importance and becoming more and more popular.

[Guido Coal Mine >>](#)

**Mine attractions routinely win tourism awards.**

# Sylvania Fossil Park, Ohio – Hanson Aggregate



## Fossil Collecting at Mazon Creek

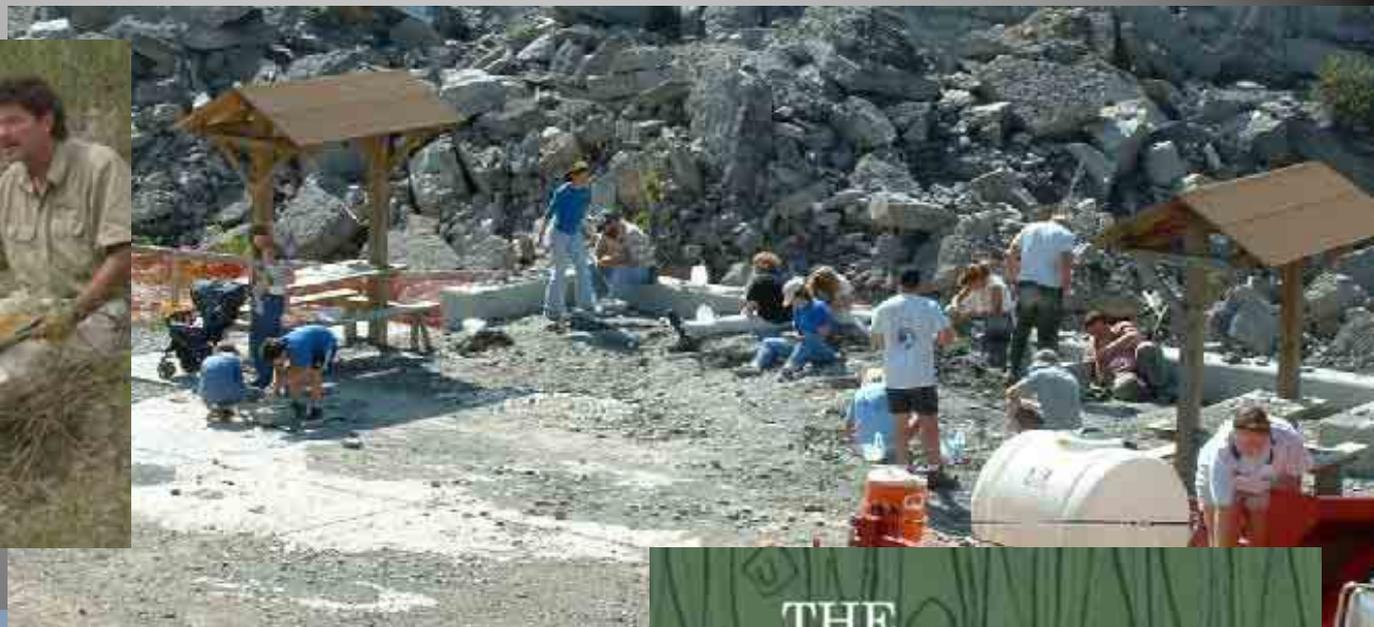
The Mazon Creek location is world famous for its exquisite preservation of soft body fauna. The fossils are found inside concretions which are scattered throughout the strip mine overburden which has been dumped in piles across the entire area. The State of Illinois acquired some of the strip mined land and has opened it as a wildlife preserve but it is open to fossil hunters too. This was my second trip to this area.



**Fossil parks attract visitors to explore abandoned mines and collect interesting fossil specimens. Mazon Creek is famous for Pennsylvanian age fossils.**

# Pennsylvanian Age Fossils





# THE MAZON CREEK FOSSIL FLORA

Jack Wittry



EARTH SCIENCE CLUB OF NORTHERN ILLINOIS  
ESCONI



## West Frankfort, Illinois coal mine museum and memorial park

Like many small mine attractions, the West Frankfort national coal museum was closed.



# Shakamak Park hosted a tourist mine in the past



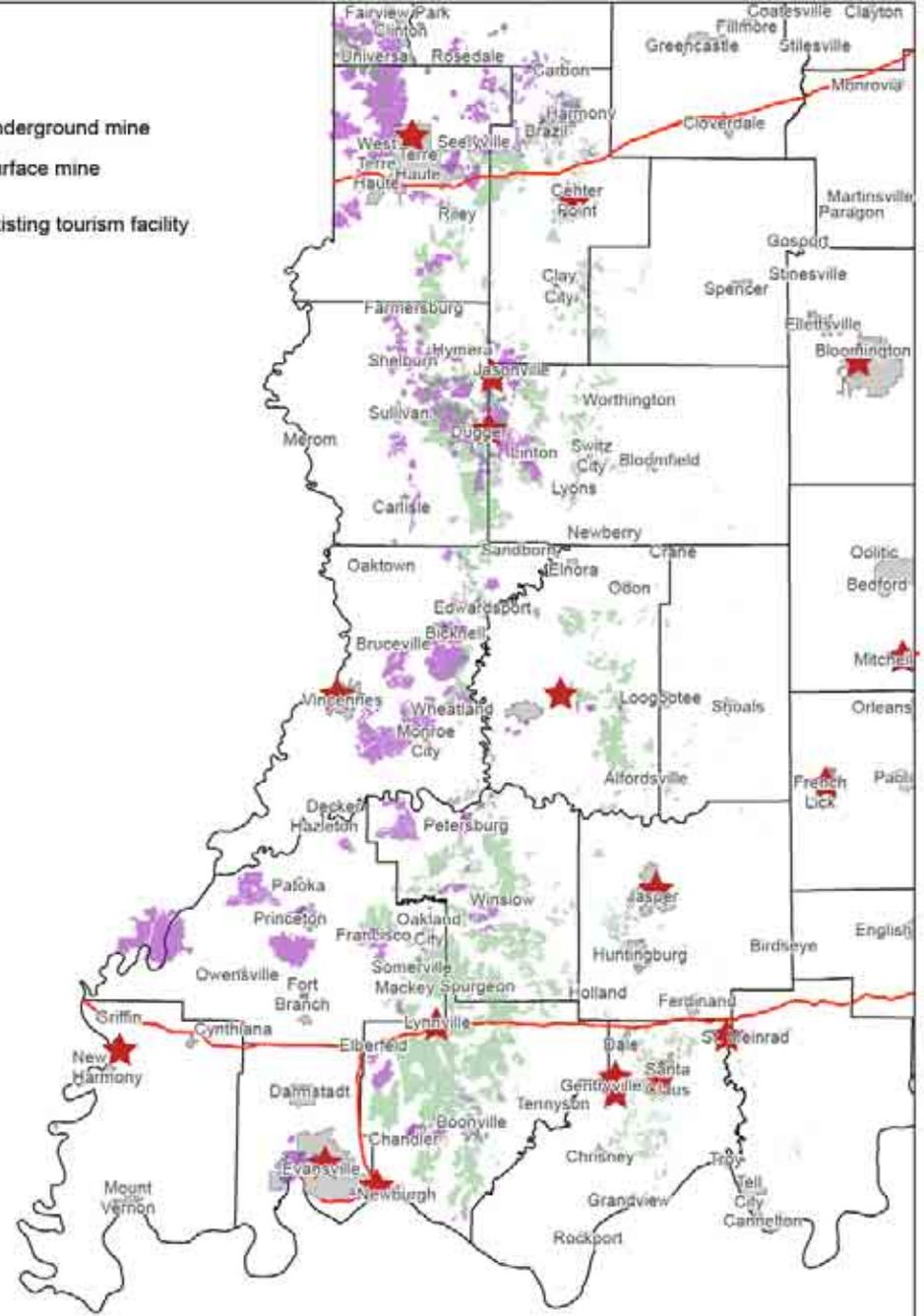
*Gold Knob Mine photo courtesy Mark Stacy, IDNR Division of Reclamation*

# Current Locations of Mine Tourism in

- Scales Lake
- Lynnville Park
- Old Ben Boy Scouts camp
- Sugar Ridge Fish and Game
- Bluegrass Fish and Game
- Victoria Golf Course
- Interlake Recreation Area
- Redbird ATV Park
- Greene-Sullivan State Forest
- Shakamak State Park
- Turkey Run State Park
- Spring Mill State Park
- Lincoln State Park
- Exotic Feline Rescue Center

Several well-established tourist sites already exist in south western Indiana.

- Underground mine
- Surface mine
- Existing tourism facility



# Towns can come together to form heritage trail attractions that can enhance tourism – West Virginia Coal Heritage Trail



Tourists already visit limestone mining areas

# Experience Indiana Limestone!

*A visitor's guide to southern Indiana's  
limestone heritage trail*



## Welcome!

**Welcome to Monroe and Lawrence Counties** where we invite you to experience the Indiana limestone heritage trail. We are very proud of the ongoing legacy of Indiana limestone, particularly the local "Salem Bell," a stone corridor only 35 miles long and 10 miles wide, which was formed from fossils in an ancient inland sea.

Many of America's famous buildings were built of stone quarried from the Salem Limestone. This stone—thick, uniform, and pure—is a preferred building material because of its warm neutral color, consistent fine quality, ease of shaping, and proven durability.

"The nation's building stone" has been used in magnificent commercial, government, and college buildings, including the Empire State Building, Chicago's Tribune Tower, the National Cathedral, the Portagen, the Immigration Center on Ellis Island, and on many college campuses and 27 U.S. state capitols.

### Using this Brochure

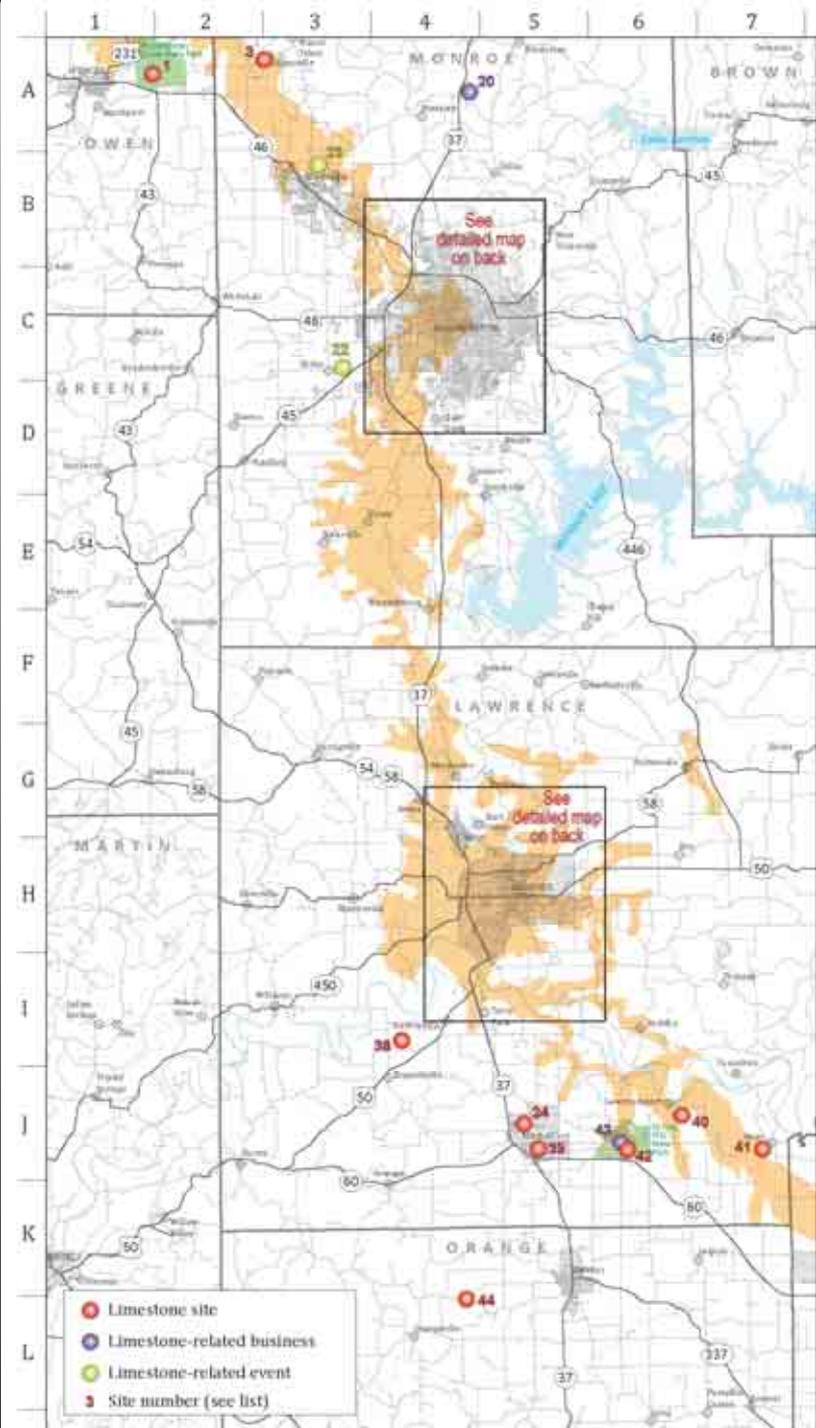
This brochure will help you navigate the sights and amenities of the limestone belt of southern Indiana, with information about the geology, the limestone industry, and where to see examples of the beauty of Indiana limestone.

Monroe and Lawrence Counties have forged a partnership to educate visitors about our proud limestone industry heritage. From monuments to walking tours, restaurants to state parks, this guide provides the visitors with many

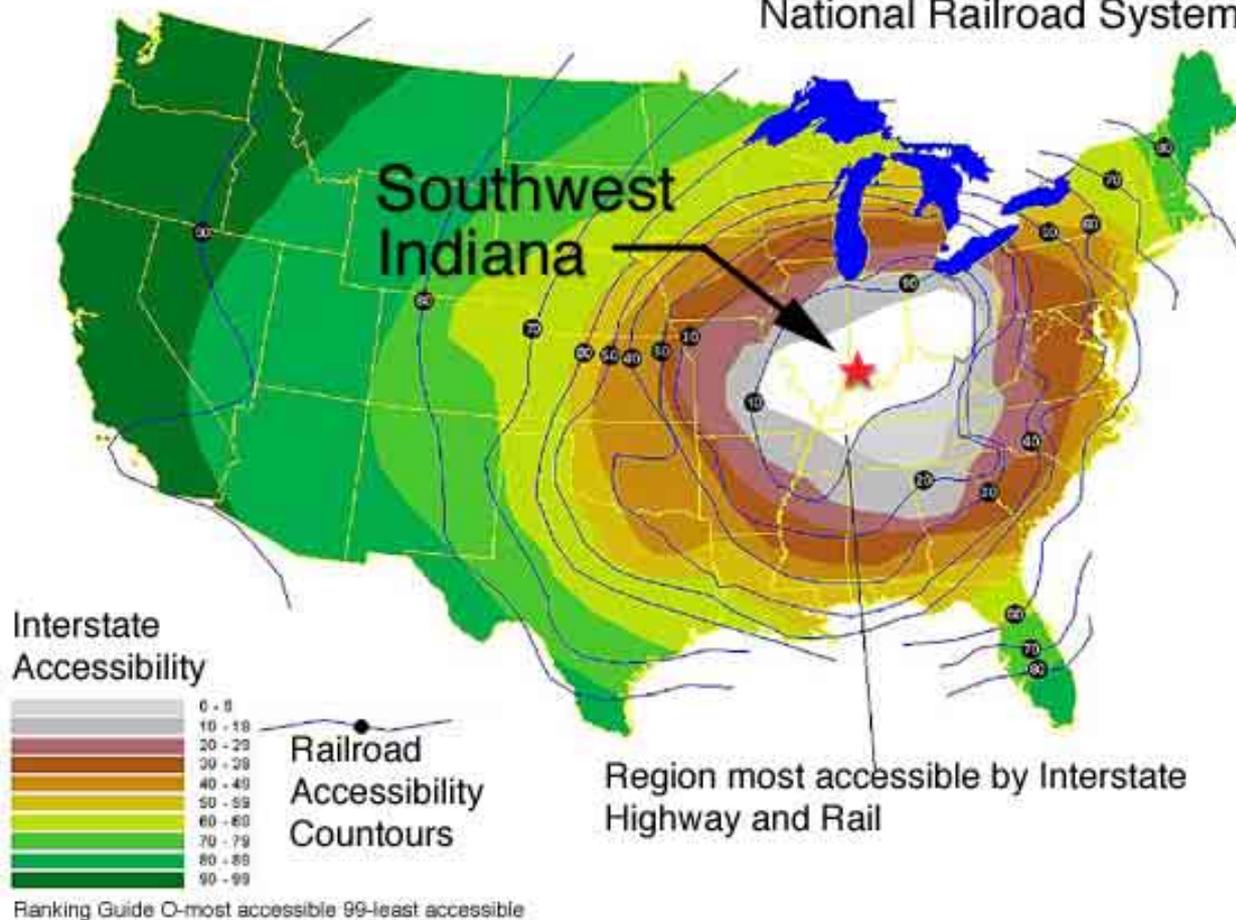


opportunities to learn more about Indiana limestone and its long history (and bright future) in south-central Indiana.

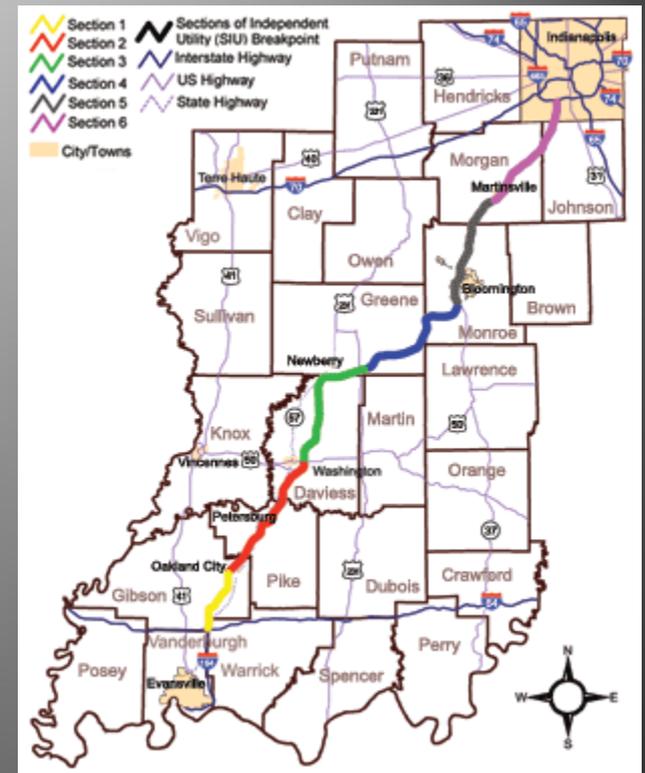
This self-guided tour features limestone sites where you are welcome to enter and explore, including parks, cemeteries, public streets, museums, and many restaurants and other businesses.



# Accessibility Ranking for the Interstate Highway System and the National Railroad System

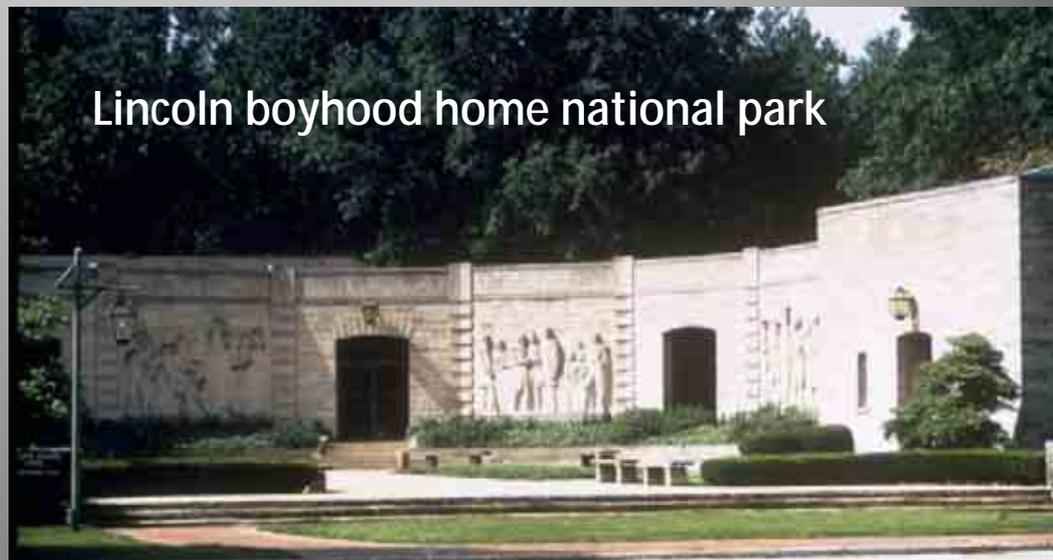


Many tourists will go through this area on a new interstate, I-69.





**Weber Lake is a popular tourist attraction, built on an abandoned coal mine. Notice the former high wall in the photo to the left.**



Lincoln boyhood home national park

Several parks related to Abraham Lincoln occur in the coal fields



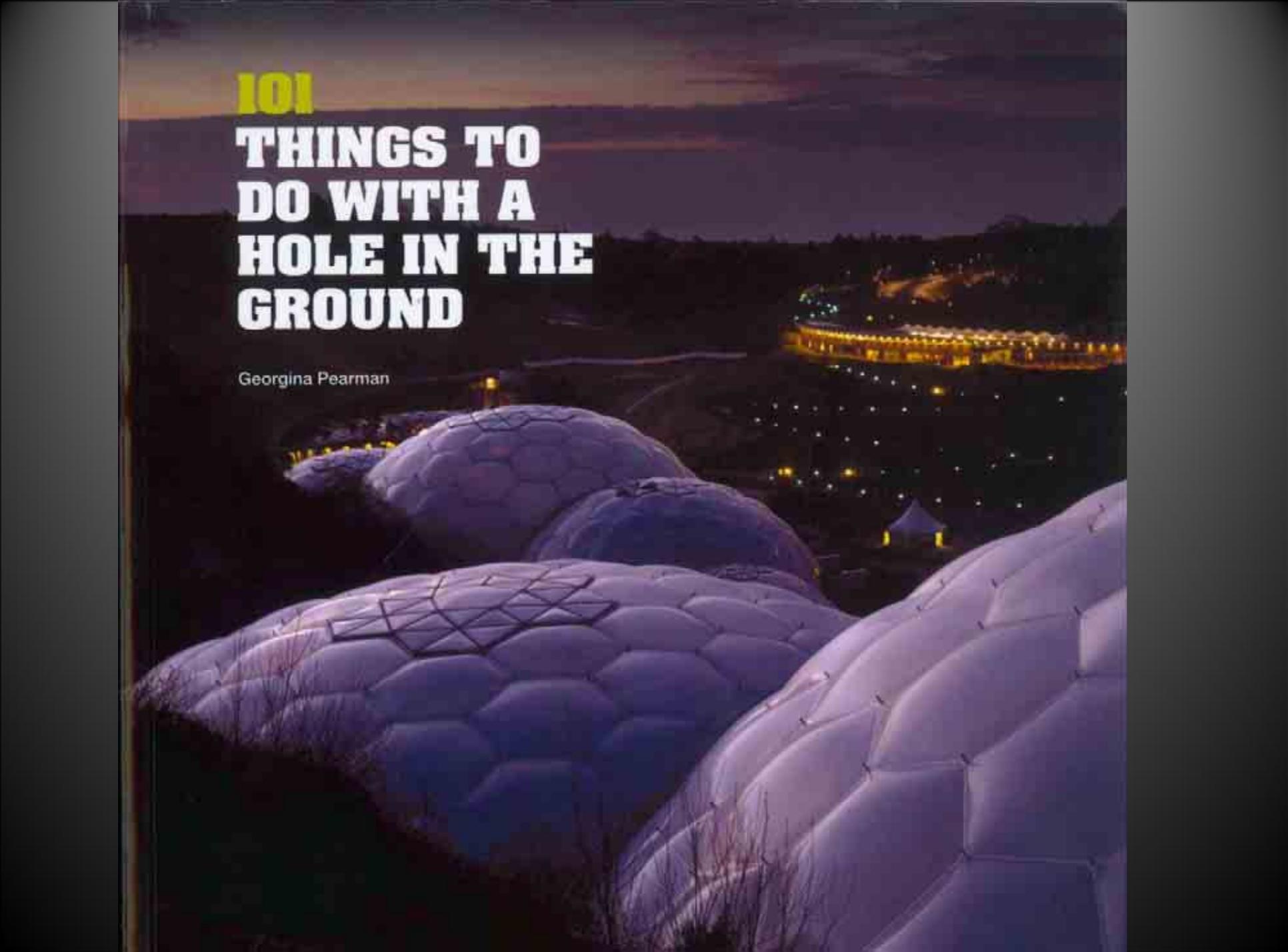
Colonel Jone's home Indiana state park

Holiday World draws more than a million visitors a year to coal-field areas of SW Indiana



Coal in your stocking is not always a BAD thing!!





**101**  
**THINGS TO  
DO WITH A  
HOLE IN THE  
GROUND**

Georgina Pearman

## Current Uses for Mined Lands

TYPE
Golf
Sports Venue
Hunting
Hiking
Birding
Fishing
ATV
Swimming
Education
Museums
Biking

## Potential Uses for Mined Lands

TYPE
Scuba Diving
White Water Canoeing
Mine Tours
Music/Show Venues
Theme Parks
Geocaching
Racing (?)
Movies
Equestrian
Collecting fossils
Speleotherapy
Special Events

# Some Benefits of Tourism

- Income for the area
- Jobs for local people
- Jobs for miners
- Enhancing local culture
- Protecting heritage/History
- Educating public and voters about mining
- Highlighting modern reclamation
- Improving recreation opportunities
- Enhancing Indiana's reputation

# Potential Pitfalls

- Expense original and ongoing
- Change to local culture/ lifestyles
- Infrastructure needs
- Need for continuing commitment
- Symbiotic sites of questionable nature
- Need for advertising/media



# THE STERLING HILL MINING MUSEUM

## ROCK DISCOVERY CENTER

### MAJOR CONTRIBUTORS

MERCK COMPANY FOUNDATION GERALDINE R. DODGE FOUNDATION  
CHARLES EDISON FUND DORR FOUNDATION

### FINANCIAL SUPPORTERS

SELECTIVE RISK INSURANCE Co.  
HOECHST CELANESE CORP.  
FRANKLIN MUTUAL INSURANCE CO.  
PUBLIC SERVICE ELECTRIC & GAS Co.

### MATERIAL DONATION

LIME CREST CORP.  
ZINC CORP. OF AMERICA  
BARTON MINES CORP. N.Y.  
EUREKA STONE QUARRY P.A.  
RIVERDALE QUARRY  
FRATTARELLI BROTHERS Inc.

Mining and other companies often help to support tourist mines and museums.

# CONCLUSIONS

- Mined lands are currently used for recreation
- Mined areas could be used for additional tourist activities
- Such activities could bring visitors, jobs, and additional revenue
- Old mines could be used for education
- Coal mine heritage could also attract tourists
- Museums could archive mining artifacts for the future

# CONCLUSIONS

- Efforts to sculpt surface mines for later tourist use are possible
- Geotourism and cultural tourism are growing rapidly
- Several existing attractions occur in coal mine areas
- Strong transportation routes already exist
- A new interstate will bring additional opportunities for coal tourism
- Proper use of coal tourism and cultural heritage can enhance public understanding and acceptance of mining



The End!

**The End**

BOSTON JUNIOR

LIQUID WATERPROOF BLACKING

GENTLEMEN'S BOOTS & SHOES

MAINTAINS THE LEATHER IN THE BEST OF ORDER

WASH OFF SNOW

PREPARED BY

W. L. DUNN & CO.

NEW YORK

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NEW YORK

FOR THE HOME

FOR THE TOURIST

FOR THE OFFICE

FOR THE CHILDREN

# SHINOLA HOME SET

Shinola Co., Rochester, N.Y., U.S.A.

SHINOLA GREAT SUGAR  
KITCHENS, SATCHELS, HARNESSES, ETC.  
SHINES INSTANTLY IN WATER  
SHINOLA

Shoe black

in  
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SHINOLA

# Underground Storage is Secure







# Coal areas routinely host sporting events of various types.



5<sup>th</sup> ANNUAL

## TOUR DE COAL

Saturday, September 25, 2010

The Coal Country Chamber of Commerce is proud to present the 5th Annual Tour de Coal Bicycle Ride.

The Tour de Coal is for riders of all ages and abilities who have an interest in cycling in the Macoupin County, Illinois area.

The ride will be held in conjunction with the 12th Annual Fall Festival held at the Benld Civic Center.

Choose from a 15-mile family ride, a mid length 30-mile ride or a metric century ride. The terrain is flat to rolling with some substantial hills. All routes start and end at the Benld Civic Center.

Restrooms are available at the civic center and the city park.

The routes will be marked and cue sheets will be provided. All routes will have rest stops with snacks, water and Gatorade. All Routes will be SAG supported (SAG ends at 3 pm, so please plan your start time to correlate).

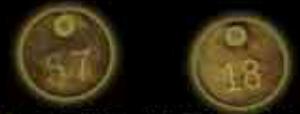
**Helmets are required for all riders. Cyclists must obey all traffic laws.**

For more information, please call (217) 839-4888 or email questions to

[mrer@madisontelco.com](mailto:mrer@madisontelco.com).



# EXPLORE THE TOUR-ED MINE!



TRAVEL 1/2 MILE DOWN INTO WESTERN PENNSYLVANIA'S PREMIERE MINE ATTRACTION!

**HOME**

**TOUR INFORMATION**

**TOUR-ED MUSEUM**

**TOUR-ED MINE HISTORY**

**SCHOOLS AND GROUPS**

**EVENTS**

**ADMISSION AND CONTACT INFORMATION**

## WELCOME TO TOUR-ED MINE!

Experience what it was like to be a coal miner in the 1850's and today. Your guides are experienced coal miners, who will treat you to an amazing, educational tour 160 feet below the Earth's surface.

[Click here to watch our virtual tour!](#)

The Tour-Ed Mine and Museum also features:

- Authentic Pittsburgh & Shawmut Railroad Caboose
- An above ground strip mine
- A 1785 log house
- And lots more!



## HAUNTED MINE

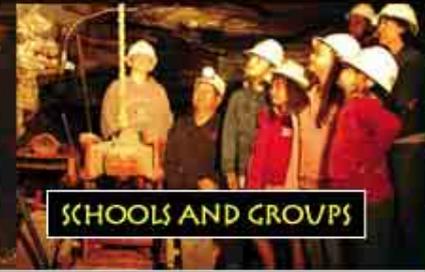
Throughout October  
**Bravery encouraged!**

Thursdays 7PM – 10PM \$10 / person  
Fridays 7PM – 11PM \$12 / person  
Saturdays 7PM – 11PM \$12 / person  
Recommended for ages 10 and up.  
More info: [thehauntedmine.com](http://thehauntedmine.com)

**TOUR INFORMATION**

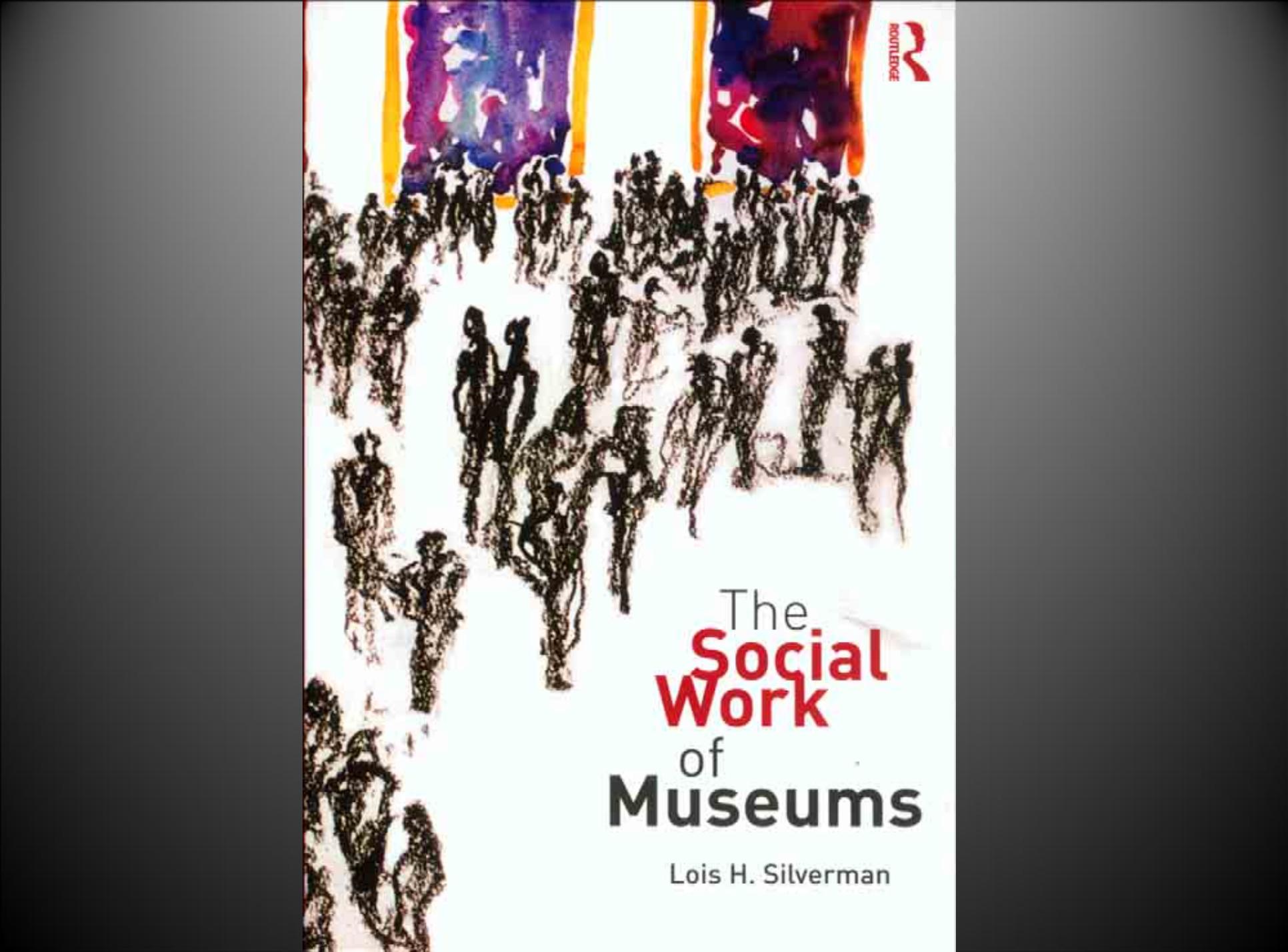


**SCHOOLS AND GROUPS**



**PARK MAP**



An abstract artwork on the left side of the cover. It features a dense cluster of dark, textured, human-like figures in various poses, appearing to be made of charcoal or ink. Above these figures are several vertical, colorful brushstrokes in shades of purple, blue, and red, with yellow highlights. The background is white.

The  
**Social  
Work**  
of  
**Museums**

Lois H. Silverman



W E L C O M E T O

SHOALS



HOME OF THE  
**JUG ROCK**

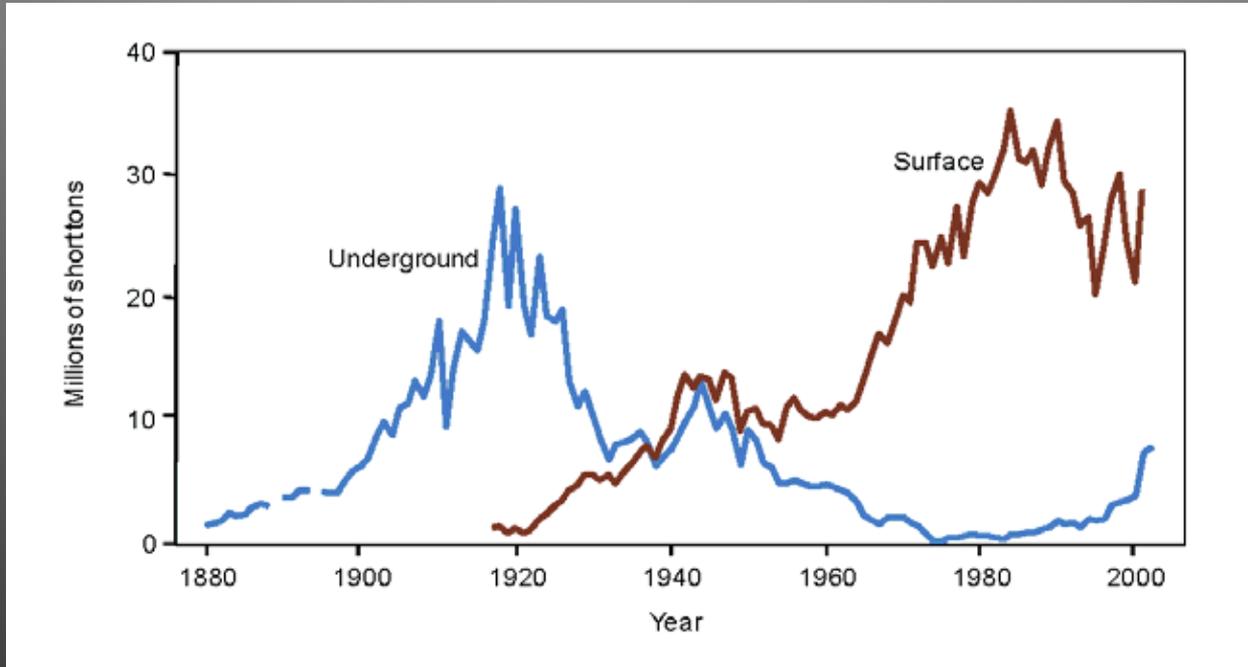
CATFISH FESTIVAL  
*July 4th*



JOHN L. LEWIS



# Indiana Coal Production



**EXPLANATION**

- Active Surface Coal Mine
- Active Underground Coal Mine
- 1** Mine ID Number
- Surface Mined Area
- Underground Mined Area
- Pennsylvanian System (coal-bearing strata)



**ACTIVELY PERMITTED COAL MINES 2007**

ID #	MINE NAME	COMPANY	TYPE	STATUS
1	Clay/co #1 Mine	RLF Chisok Properties, LLC	S	T
2	Lewis Mine	Solar Sources, Inc	S	A
3	Farmersburg #1 Mine	Black Beauty Coal Co., LLC	S	A
4	J. C. #1 Mine	Jarvis Coal, LLC	S	A
5	Farmersburg/Bear Run East	Black Beauty Coal Co.	S	T
6	Carlisle Mine	Sunrise Coal Co., LLC	U	A
7	Freelandville Mine	Triad Mining, Inc.	S	A
8	Freelandville Underground	Triad Mining, Inc.	U	A
9	Caldown Falls #1 Mine	Black Partner Mining, LLC	U	A
10	Miller Creek, Knox Pt	Black Beauty Coal Co., LLC	S	A
11	Arboch Mine	Little Sandy Coal Co., Inc.	S	T
12	Air Quality Mine	Black Beauty Coal Co., LLC	U	A
13	Carnelburg Mine	Solar Sources, Inc	S	A
14	Viking Mine, Coming Pt	Black Beauty Coal Co., LLC	S	A
15	Pride Mine	B. B. Mining, Inc.	S	T
16	Prosperity Mine	Five Star Mining, Inc.	U	A
17	Charger Mine	Solar Sources Underground, LLC	S	T
18	Shanrock Mine	Solar Sources, Inc.	S	A
19	Flat Creek Mine	Triad Mining, Inc.	S	A
20	Baron Mine	Baron Coal Company, Inc.	U	B
21	Gibson County Mine	Gibson County Coal, LLC	U	A
22	Hurricane Creek Mine	Triad Mining, Inc.	S	A
23	Francisco Mine	Black Beauty Coal Co., LLC	S	A
24	Gibson South Mine	Gibson County Coal, LLC	U	B
25	Francisco Underground Mine	Black Beauty Coal Co., LLC	U	A
26	Augusta Mine	Triad Mining, Inc.	S	A
27	Augusta South Mine	Triad Mining, Inc.	S	A
28	Somerville East Mine	Black Beauty Coal Co., LLC	S	A
29	Somerville #1 Mine	Black Beauty Coal Co., LLC	S	A
30	Log Creek Mine	Triad Mining, Inc.	S	T
31	Hismeyer Mine	Little Sandy Coal Co., Inc.	S	P
32	Rhodemaker Mine	Little Sandy Coal Co., Inc.	S	P
33	Somerville South	Black Beauty Coal Co., LLC	S	A
34	Five Star #1 Mine	B. B. Mining, Inc.	S	B
35	Cypress Creek Mine	Vigo Coal Operating Co., Inc.	S	A
36	Red Brush Mine	Vigo Coal Operating Co., Inc.	S	T

**TYPE CODES**  
 S - Surface Mine  
 U - Underground Mine

**STATUS CODES**  
 A - Active Mining  
 B - Permit Bonded  
 P - Pending  
 T - Temporary Cessation (28)

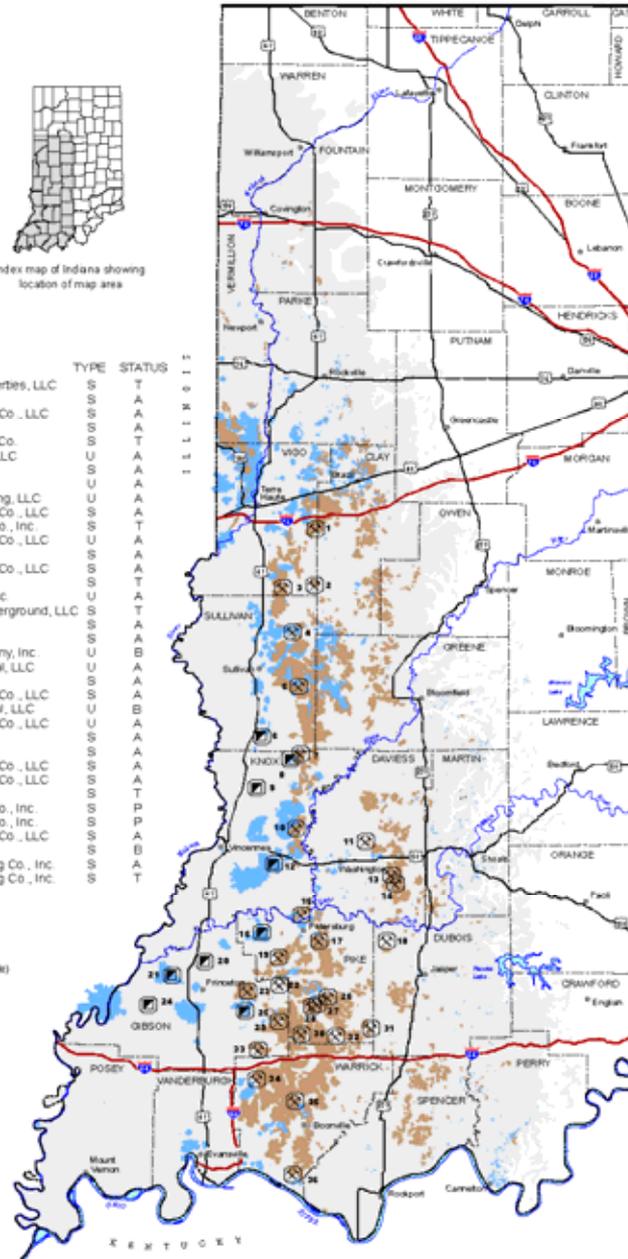
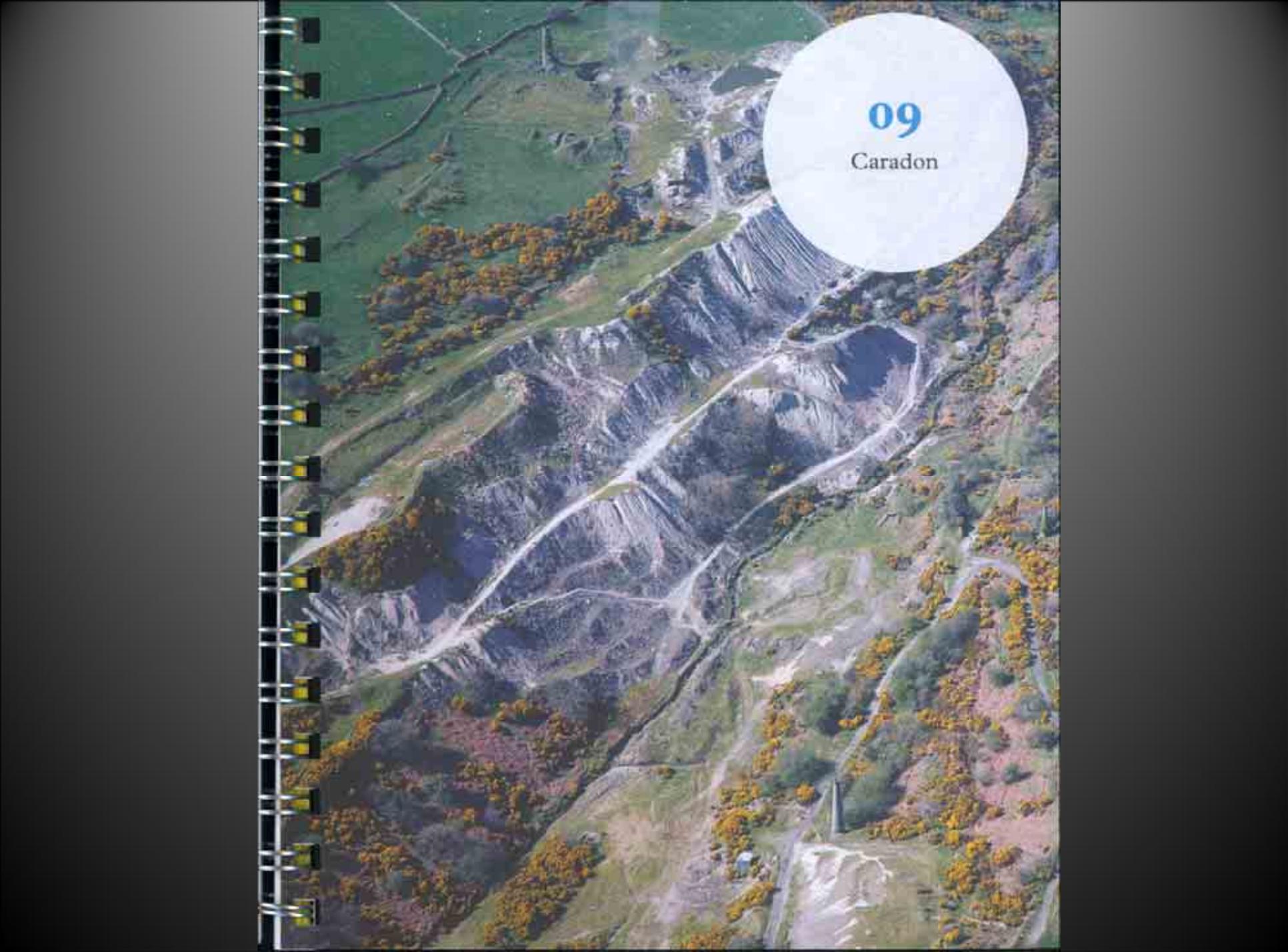


Fig 2a

An aerial photograph of a mountainous landscape, likely in the Caradon region. The terrain is rugged with steep slopes, some covered in green grass and others in autumnal foliage of yellow and orange. A prominent road or path winds through the valley. A large white circle is overlaid in the upper right corner, containing the page number '09' and the title 'Caradon'.

09

Caradon



## Marina

### **Penlee Quarry**

**Newlyn, Cornwall UK**

The former dolerite quarry, which currently has permission for armourstone excavation for nearby coastal works, is in the planning stages for a marina with commercial and housing development. The aim is to create a 120 metres channel to the sea.

# Data Store

## Hutchinson Facility

Kansas, USA



Safe from most natural or human hazards, the storage facilities at an old salt mine in Hutchinson, Kansas offer a solid rock cocoon 200 metres below the surface that is a constant temperature and humidity, and dry and gas free. Developed in the Cold War, the facilities have private vaults and maximum security but are now used by all industries and by companies large and small. They hold the largest collection internationally,

for example, of film and TV material. The same company also has stores underground in limestone mines in Louisville and Kansas City.

## Winsford Salt Mine

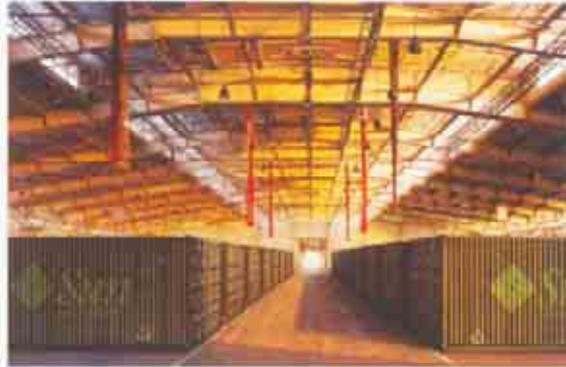
Cheshire, UK

A wide range of documents and sensitive or fragile materials are also stored in Winsford salt mine in Cheshire, UK.

# Electronic Data Centre

Chubu, Honshu

Japan



Electronic data centres need a huge amount of power to prevent servers from overheating. A pioneering consortium of information technology firms in Japan plans to overcome this by building an underground data centre in an abandoned coal mine where groundwater will be used as a coolant, consuming 50% less power than traditional facilities. The data centres are enclosed in shipping containers, called Blackboxes, each typically with 250 servers inside, and robust enough to withstand earthquakes and terrorist attacks. This site has the potential to hold 90 Blackboxes.

FIGURE 1: ART AND CREATIVE ACTIVITY CLUSTERS – INDIANA COUNTIES

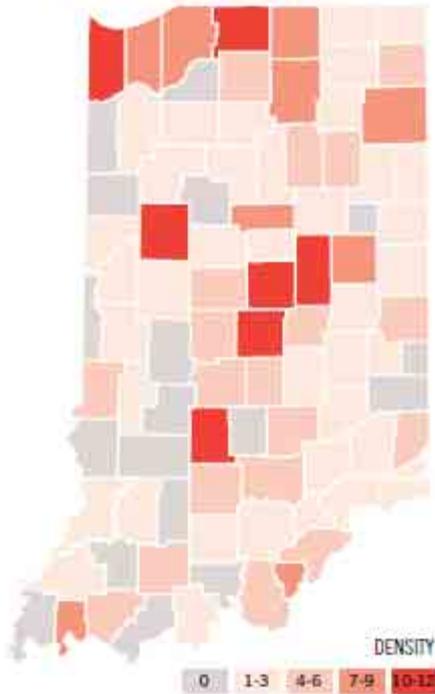


FIGURE 2: TOP TEN COUNTY OUTPUT AND EMPLOYMENT IN ART AND CREATIVE SECTORS – INDIANA COUNTIES



Much tourism involves culture or art, but many are attracted to natural features and historical sites. Mines are a big part of Indiana's history.

TABLE 1: ECONOMIC DATA OF ART-RELATED SECTORS IN INDIANA, (\$M)

	Output	Employment (Persons)	Value-Added	Indirect Business Taxes
<b>Museums and Collections</b>				
Museums, historical sites, zoos, and parks	149.6	2,155	78.4	1.9
<b>Total</b>	<b>149.6</b>	<b>2,155</b>	<b>78.4</b>	<b>1.9</b>
<b>Performing Arts, Visual Arts, Photography, Arts School and Services</b>				
Photographic services	267.4	3,819	104.4	7.2
Performing arts companies	125.0	5,839	49.9	3.7
Independent artists, writers, and performers	74.6	1,166	21.5	0.5
Promoters of performing arts and sports and agents for public figures	129.7	3,300	89.5	6.3
<b>Total</b>	<b>596.6</b>	<b>14,124</b>	<b>265.3</b>	<b>16.6</b>
<b>Film, Radio and TV</b>				
Motion picture and video industries	639.0	4,624	87.6	3.0
Radio and television broadcasting	883.8	5,163	252.6	3.1
<b>Total</b>	<b>1,522.8</b>	<b>9,787</b>	<b>340.2</b>	<b>6.1</b>
<b>Design and Publishing</b>				
Periodical publishers	207.6	1,066	73.1	1.1
Book publishers	777.3	2,972	244.5	4.6
Database, directory, and other publishers	298.1	1,064	153.1	2.2
Specialized design services	366.8	3,007	141.8	3.8
Advertising and related services	1,031.8	9,064	389.8	6.4
<b>Total</b>	<b>2,681.6</b>	<b>17,173</b>	<b>1,002.4</b>	<b>18.1</b>
<b>Grand Total</b>	<b>4,950.6</b>	<b>43,238</b>	<b>1,686.2</b>	<b>42.8</b>

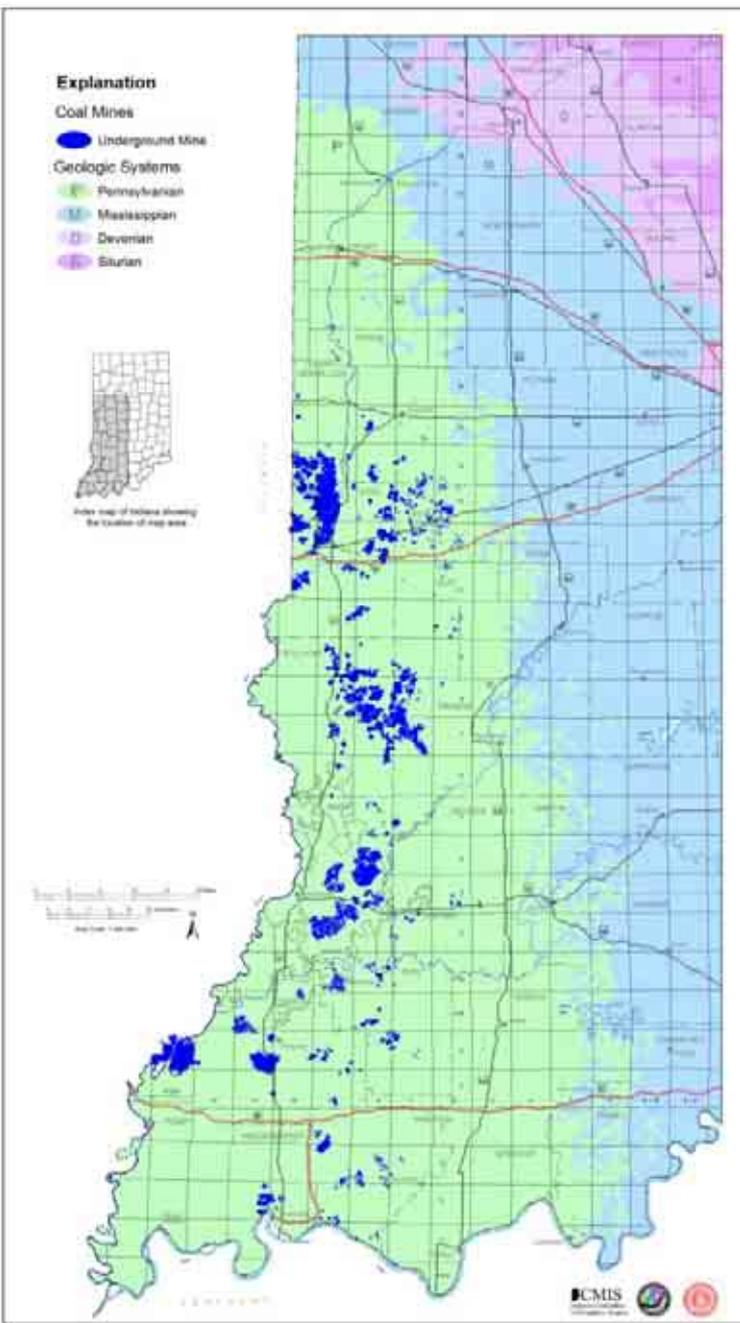
# Tourism employs many people and showcases Indiana's fine cultural background.

APPENDIX I: ART AND CREATIVE SECTORS OUTPUT AND EMPLOYMENT BY COUNTY 2006\*

County	Output (\$ Million)					Employment (Persons)				
	Museums and Collections	Performing Arts, Visual Arts, Photography, Arts School and Services	Film, Radio and TV	Design and Publishing	Total	Museums and Collections	Performing Arts, Visual Arts, Photography, Arts School and Services	Film, Radio and TV	Design and Publishing	Total
Clay	-	5.0	1.0	-	6.1	-	102	8	-	110
Davless	-	0.5	4.5	2.4	7.4	-	7	33	15	54
Dubois	0.2	3.0	11.9	2.4	17.4	6	47	84	23	161
Gibson	0.1	0.5	6.3	0.3	7.2	1	6	45	3	55
Greene	-	0.9	-	-	0.9	-	16	-	-	16
Knock	0.1	2.6	9.5	0.5	12.7	2	46	67	4	119
Owen	-	0.2	0.3	-	0.6	-	14	2	-	16
Parke	1.0	0.9	1.2	-	3.1	23	31	8	-	62
Perry	-	0.8	3.9	3.9	8.6	-	14	29	31	74
Pike	-	0.8	-	-	-	-	-	-	-	-
Posey	0.5	0.8	0.4	-	1.6	2	24	3	-	29
Spencer	-	-	0.4	-	0.4	-	-	3	-	3
Sullivan	-	0.1	1.0	-	1.1	-	5	7	-	12
Vanderburgh	1.1	21.2	126.1	66.4	214.8	27	317	755	537	1,636
Vermillion	-	1.0	-	-	1.0	-	66	-	-	66
Vigo	1.6	4.3	41.1	19.9	67.0	45	104	273	155	577
Warrick	0.4	6.8	8.6	5.3	21.2	2	85	66	49	203
Indiana	149.6	596.6	1,522.8	2,681.6	4,960.6	2,155	14,124	9,787	17,173	43,238

\* Some data suppressed due to missing values or confidentiality.

More than 186,300 acres have been underground mined

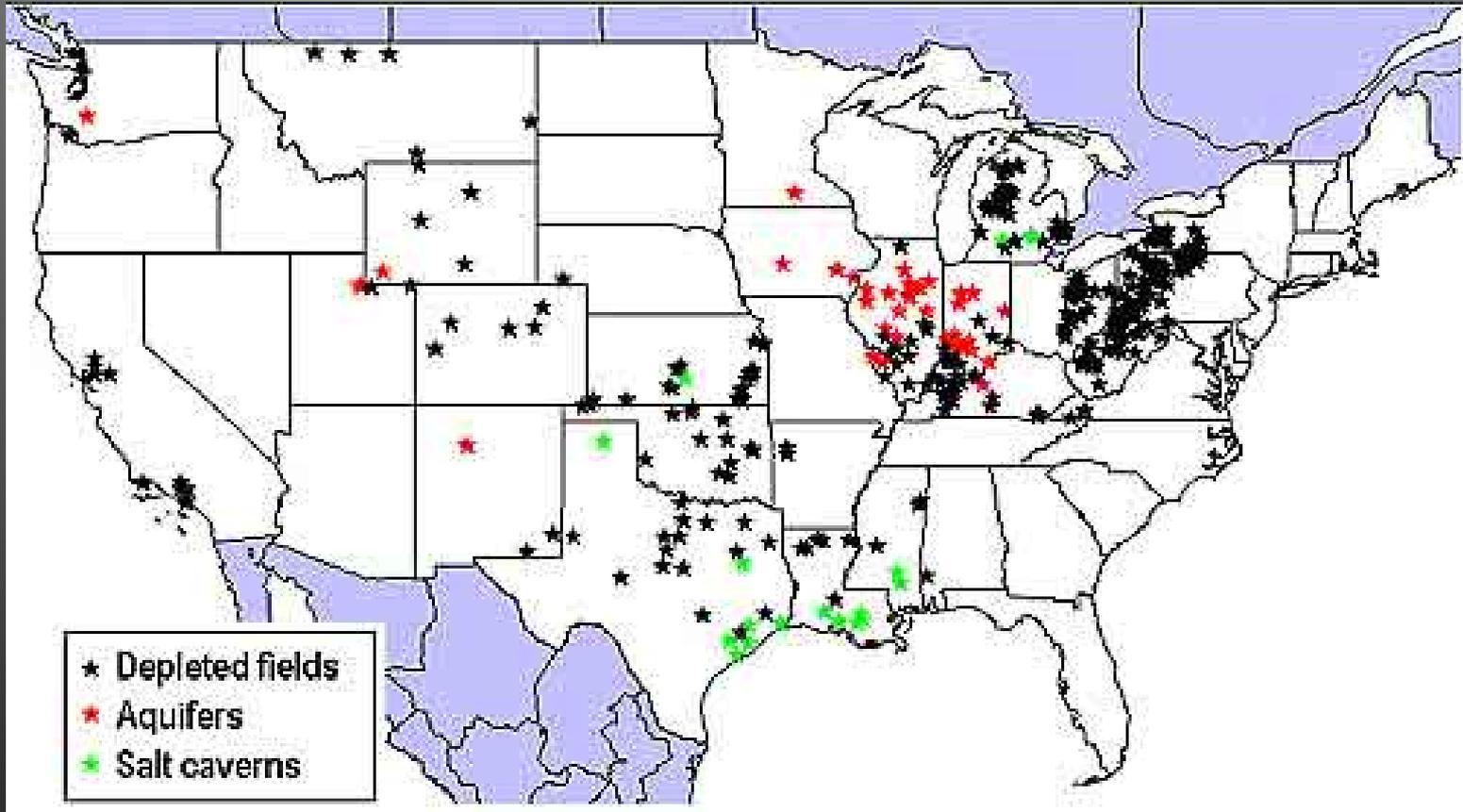


Map of Southwestern Indiana Showing Locations of Underground Coal Mines

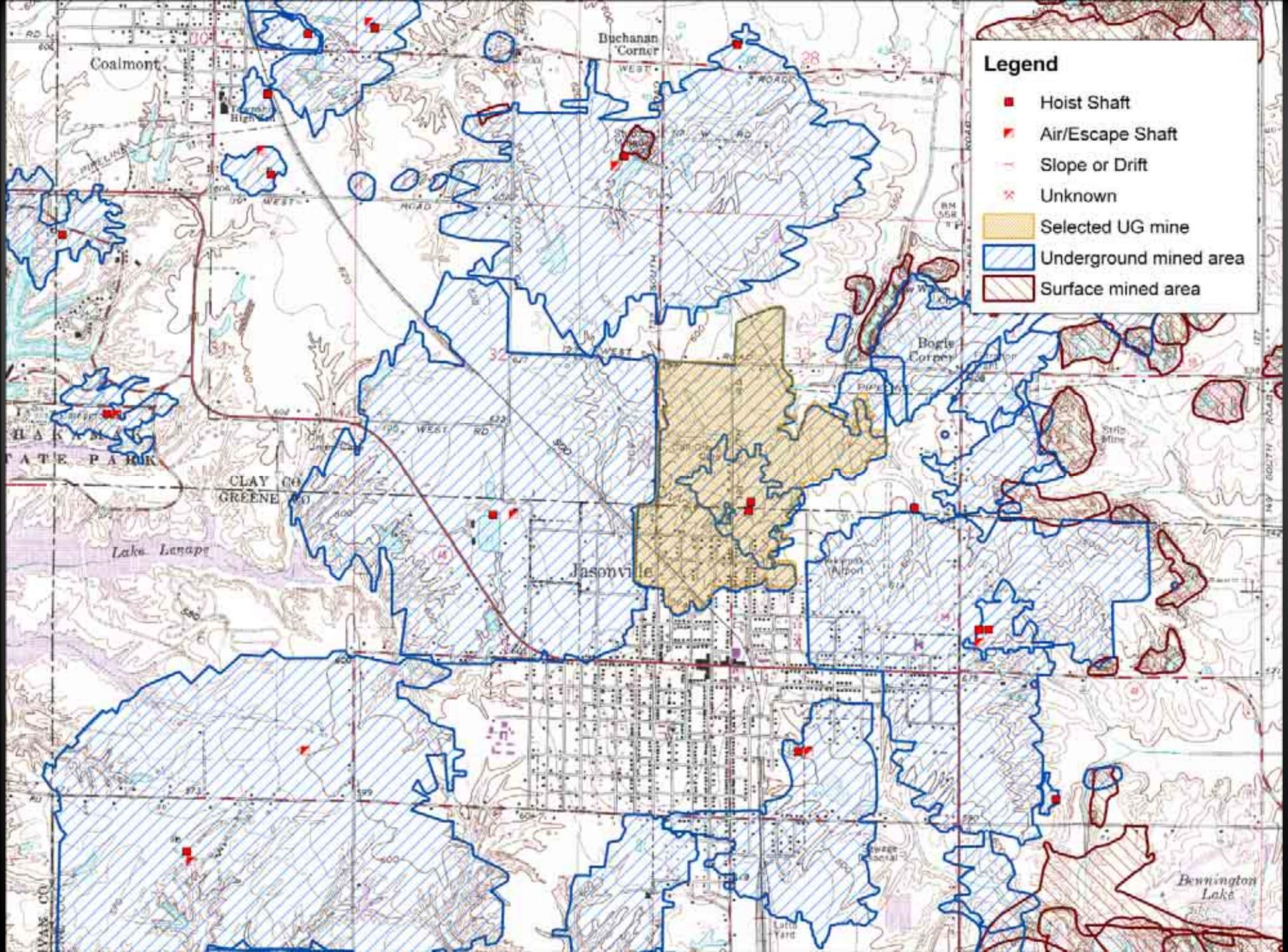


**MARENGO WAREHOUSE  
DISTRIBUTION CENTER**









# Underground Storage is Secure



# 'DISCOVER THE EXTRAORDINARY' PROJECT UPDATE

As reported in the spring edition of the newsletter the World Heritage Site 'Discover the Extraordinary' (DtE) project is well underway delivering major improvements to visitor facilities and interpretation at mining heritage attractions across the Site.

Initially conceived by the WHS team in 2007, the DtE project is applying European Union and DEFRA grant aid made available through the Rural Development Programme for England (RDPE) as part of a three-year project with a total spend of £2.5 million. Gary Jago, Project Manager for the programme, gives an update on some of the highlights at those sites which are benefiting significantly from this major tourism funding initiative.

## VISITOR RECEPTION BUILDING, GODOLPHIN, BREAGE

The National Trust have completed the restoration and conversion of a Listed historic farm building to provide the new visitor reception facilities for Godolphin House, Gardens and Estate and this is now open to the public. The new facilities include a reception desk, visitor orientation, toilets and a cosy café area. Environmental sustainability



has been a key requirement during the planning phase for the new build and the design of the interior is contemporary while remaining sympathetic to the character of this historic property.

**POLDARK MINE, WENDRON**

Transcroft Ltd has largely completed the renovation of the historic Holman's traversing winder, which is a half-scale model of a very unusual steam engine produced by Holman Brothers of Camborne for the Paris Exhibition of 1900. Designed to traverse from side to side during shaft winding operations, it was thought until recently that the model was incomplete with the original winding drum being lost. The chance discovery of the drum within a formerly sealed off area of the Poldark site has enabled the model to be restored and go on display to visitors once more. A rare photo of the winder taken at the Paris

(Below) Holman's traversing winder engine model and the partially complete timber headframe at Poldark Mine, Wendron (Gary Jago © Cornwall Council)



(Left) The newly opened visitor reception building at Godolphin, Breage (Gary Jago © Cornwall Council)



(Left) The rebuilt winder and compressor houses at King Edward Mine, Truro, now complete



(Top) The mighty Taylor's shaft pumping engine at Cornish Mines & Engines, Pool

(Above) The historic home of St Agnes Museum (© St Agnes Museum)

## HOUSES, KING EDWARD MINE, TRURO

King Edward Mine has recently seen the completion of the new winder and compressor houses which replace the original buildings destroyed by fire in 1957. Gloweth Construction of Truro have been undertaking the rebuild and while the severe winter weather has delayed works to some extent the result has been very well received.

Expertly constructed in the original Edwardian style, in keeping with the remainder of the Grade II\* Listed site, the buildings will permanently house the Holman Brothers' horizontal steam winder, installed here by 1908, and the site's Harvey's Foundry air compressor. The mine's expert volunteer staff have also been working with the DtE project team to organise an inauguration event which was held on Monday 16th August. Councillor Alec Robertson, Leader of Cornwall Council, performed the official opening following speeches of thanks by Tony Brooks (King Edward Mine) and Deborah Boden (Cornish Mining World Heritage Site Co-ordinator) in the company of an invited audience.

## CORNISH MINES & ENGINES, POOL

The National Trust's Cornish Mines & Engines site at Pool between Redruth and Camborne preserves two outstanding Cornish beam engines which once worked as part of East Pool and Agar Mine, one of the principal tin producers in the area. The DtE project team working in conjunction with National Trust staff have undertaken a refit of the

AV room with new DVD and digital projection facilities being installed. Integrated Circles, a company used by English Heritage and a number of museums nationally, have provided the new installation. A specially commissioned film has also been produced by Shark Bay Films of Porthleven which is seen by all visitors on arrival and provides an excellent introduction to both the site and the wider WHS.

## ST AGNES MUSEUM

St Agnes Museum holds an extensive collection of artefacts and documents relating to life and work in the area and the DtE project has enabled significant upgrades to facilities here. Enhanced lighting using light emitting diode units provide a low energy alternative to the former tungsten filament bulbs and have the added benefit of producing light with reduced UV wavelengths which can cause fading and damage to historic collections. Phase 2 of the project will address interpretation enhancements within the museum and work is due to be completed on this before spring next year. A local architect is also to assist the project team to compile a specification for a ramp to improve access to the museum's main entrance which will also include upgrades to the existing pathway.

In future editions we will be visiting 'Discover the Extraordinary' again and following this exciting project as work progresses. ■

Gary Jago

## Advantages

- Cheap Space
- Secure
- Stable
- Moderate Temperature
- No encroachment

## Disadvantages

- Water
- Human factor
- Water concerns

**Underground space is perfect for storing spirits**





CLINTON GORE

IS  
KENDALL

CATERPILLAR  
Certified Rebuild Machine

U.M.W.A. MINING IS EVERYONE'S FUTURE  
BOYLE THE LINE IS DRAWN  
MONDALE U.M.W.A. DISTRICT 22  
PATTERSON U.M.W.A. PENSIONER AND PROUD  
REAGAN HOOD "GOLDEN STATE"  
WHEATON U.M.W.A. PENSIONER AND PROUD  
COAL IS THE ANSWER  
UNION YES



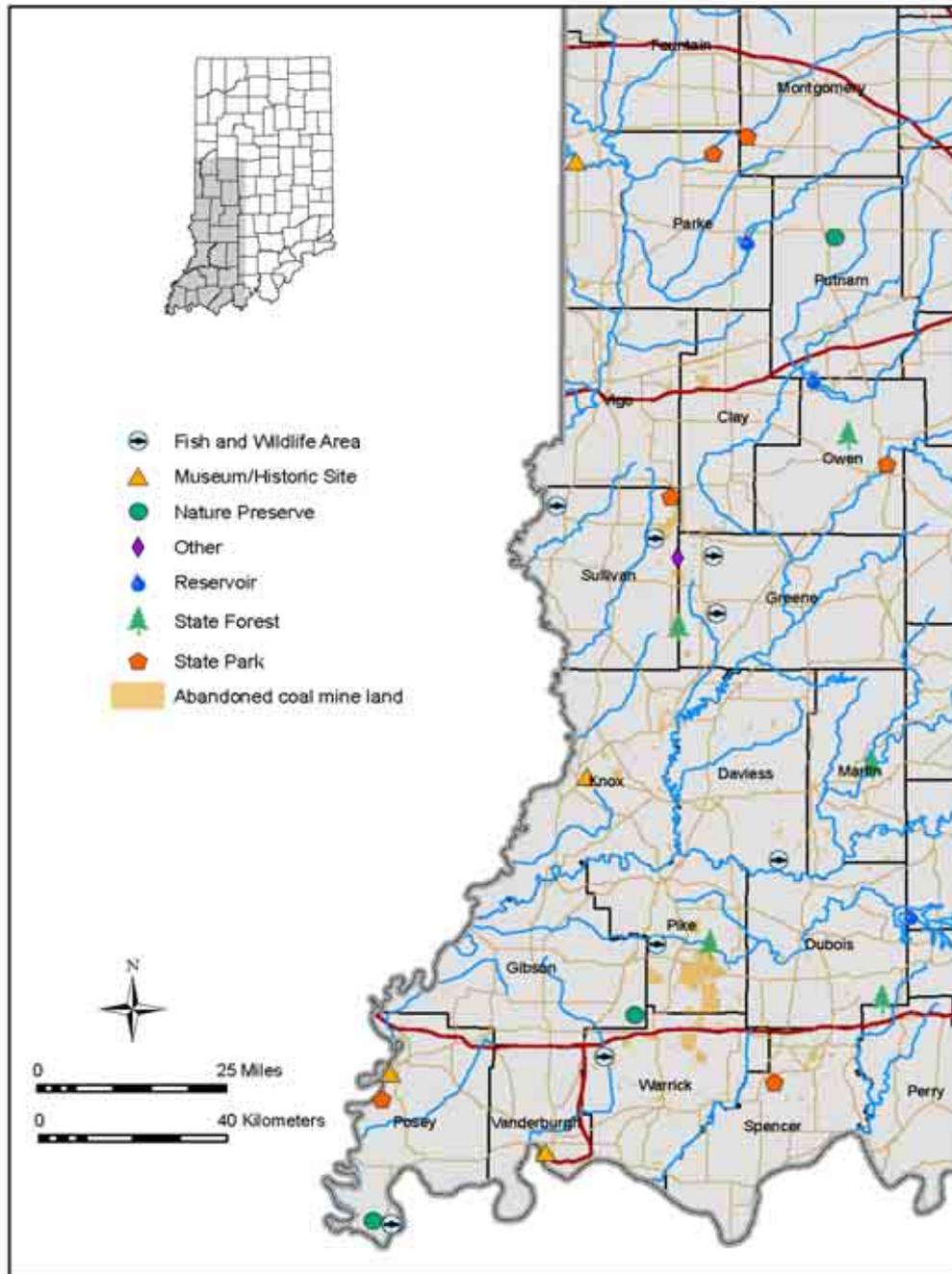


-  Fish and Wildlife Area
-  Museum/Historic Site
-  Nature Preserve
-  Other
-  Reservoir
-  State Forest
-  State Park
-  Abandoned coal mine land



0 25 Miles

0 40 Kilometers





**Abandoned mines are notable for recreation potential such as this abandoned strip mine near Dugger, IN**



JUN 24 2002

# KET Behind The Scenes

---



**The Kentucky Coal Museum has many outreach activities.**

## Current Uses for Mined Lands

TYPE
Golf
Sports Venue
Hunting
Hiking
Birding
Fishing
ATV
Swimming
Education
Museums
Biking

## Potential Uses for Mined Lands

TYPE
Scuba Diving
White Water Canoeing
Mine Tours
Music/Show Venues
Theme Parks
Geocaching
Racing (?)
Movies
Equestrian
Collecting fossils
Speleotherapy
Special Events

HRH The Duke of Kent unveils the plaque made from Cornish tin, locally sourced by Mary Goveia and made by local artist Tom Lagan, marking Goveia's World Heritage Site Key Centre status.



## GEEVOR TIN MINE BECOMES A 'KEY CENTRE' FOR VISITORS

HRH the Duke of Kent visited Geevor Tin Mine, Pendeen on Monday 28th July where he unveiled a plaque to commemorate the conferral of Cornish Mining World Heritage Site 'Key Centre' status.

**G**eevor Tin Mine is at the heart of the World Heritage Site and as such is ideally positioned to serve in this role while allowing the required facilities. Geevor became a World Heritage Site 'Key Centre' following a rigorous assessment of the quality of the visitor facilities and its displays.

During a guided tour of the mine with Geevor staff the Duke visited the new World Heritage Interpretation and Orientation rooms with new interpretation panels explaining the significance of the Cornwall and West Devon Mining Landscape. The interpretation panels and information have been funded by a European Union and

DCIFA grant through the Rural Development Programme for England (RDPE). It is part of the 'Discover the Extraordinary' project, a three year programme of investments across Cornwall and Devon developed by the Cornish Mining World Heritage Site Office to enhance the visitor experience in the World Heritage Site. The RDPE funding has been awarded through the Sustainable Rural Tourism theme, managed by the South West RDA, which aims to assist the growth of environmentally sustainable tourism in rural areas. Lachar Colcut produced the interpretation panels, following extensive research by staff at Geevor Tin Mine.

His Royal Highness was met by Lady Mary Hobdove, DCVO, Lord Lieutenant of Cornwall



William Lakin (left) Chair of Trustees, Pendeen Community Heritage, and Michael Morgan, Geevor Mine Manager explain the heritage of victory (left) Mary Goveia in Cornwall (right).

Mr William Lakin, Chair of Trustees, Pendeen Heritage Community Trust and Mr Michael Morgan, Site Manager at Geevor Tin Mine. Within the World Heritage orientation rooms, Mr Lakin introduced HRH to World Heritage Site Co-ordinator Deborah Bodin who explained the Heritage Centre and its links with the World Heritage Site.

After an informal reception in the Exhibition Gallery where His Royal Highness met invited guests, the Duke unveiled a commemorative plaque conferring World Heritage Site Key Centre status on the mine. Cornwall Council cabinet member for



As well as HRH the Duke of Kent and Lady Mary Hobdove, DCVO, Lord Lieutenant of Cornwall, introduce the Royal Highness to the hard-hat wearing Museum Storey Heale in Cornwall (right).

the Environment, Cllr Julian German, said: "I congratulate the staff and volunteers at Geevor Tin Mine on this important achievement. World Heritage Site status requires us to provide a high level of care for our internationally important landscape asset, whilst at the same time attracting more people in to learn

about and enjoy our world changing mining culture. Goveia is a complex World Heritage Site, the largest in mainland UK, but its dispersed and diverse nature offers unique tourism opportunities – many places for the visitor to engage with it, and across these a variety that offers something for everyone, whatever their interests.



(Left) Over 100th the bottom – Maurice Tombs (left) and HRH Royal Highness a plaque in showing the Geevor World Heritage Site (right) Mary Goveia (left) and HRH Royal Highness in Cornwall (right) Cornwall Council.

(Below left) Geevor guide and co-ordinator (left) Mary Goveia (right) to share his (left) Mary Heale in Cornwall (right).

(Below) Cornwall Council and Environment Authority member Julian German with HRH Royal Highness to Goveia Tin Mine (left) Mary Heale in Cornwall (right).



High quality visitor attractions such as Geevor Tin Mine are vital in presenting the World Heritage Site themes to the new audiences we are reaching out to. They have to deliver high standards if we are to meet the high expectations that people have of World Heritage Sites. For this reason the World Heritage Site Office has been working with a consortium of attractions, the Cornish Mining Attractions Marketing Association (CMAMA), in creating the 'Discover the Extraordinary' project to improve standards of interpretation, visitor care and joint promotion. The concept of Key Centres is a principal element of this integrated approach – a small group of attractions that meet a range of challenging criteria and have passed a rigorous assessment process to ensure the highest quality of experience for the visitor.

For further information on Geevor Tin Mine please visit: [www.geevor.com](http://www.geevor.com)



The online interpretation panels created through the 'Discover the Extraordinary' project.

# The economic impact of tourism in Indiana is large and affects other industry

2008 Total Impact	Direct	Indirect	Induced	Total Impact
Output (\$ million)	6,173.5	2,989.5	2,097.6	11,260.6
Employment (person)	53,924	26,673	19,338	99,935
Value-added (\$ million)	2,102.8	1,378.5	1,192.5	4,673.8
Indirect business taxes (\$ million)	53.3	100.4	122.7	276.4

**TABLE 2: ECONOMIC IMPACT OR MULTIPLIER EFFECT OF ARTS AND CREATIVE SECTORS IN INDIANA, 2006 AND 2008**

2008 Total Impact	Direct	Indirect	Induced	Total Effect
<b>Output (\$ million)</b>				
Museums and collections	149.6	55.8	90.7	296.1
Performing arts, visual arts, photography, art school and services	596.6	222.0	215.1	1,033.7
Film, radio and TV	1,522.8	1,037.9	498.3	3,059.0
Design and publishing	2,681.6	1,081.5	878.0	4,641.1
<b>Total</b>	<b>4,950.6</b>	<b>2,397.2</b>	<b>1,682.1</b>	<b>9,029.9</b>
<b>Employment (person)</b>				
Museums and collections	2,155	601	836	3,592
Performing arts, visual arts, photography, art school and services	14,124	2,431	1,983	18,538
Film, radio and TV	9,787	9,339	4,594	23,720
Design and publishing	17,173	9,019	8,094	34,286
<b>Total</b>	<b>43,238</b>	<b>21,390</b>	<b>15,507</b>	<b>80,135</b>
<b>Value-Added (\$ million)</b>				
Museums and collections	78.4	31.6	51.5	161.5
Performing arts, visual arts, photography, art school and services	265.3	120.5	122.3	508.1
Film, radio and TV	340.2	396.6	283.3	1,020.1
Design and publishing	1,002.4	556.7	499.2	2,058.3
<b>Total</b>	<b>1,686.2</b>	<b>1,105.4</b>	<b>956.3</b>	<b>3,747.9</b>
<b>Indirect Business Taxes (\$ million)</b>				
Museums and collections	1.9	2.9	5.3	10.1
Performing arts, visual arts, photography, art school and services	16.6	9.7	12.6	38.9
Film, radio and TV	6.1	29.6	29.2	64.9
Design and publishing	18.1	38.3	51.4	107.8
<b>Total</b>	<b>42.8</b>	<b>80.5</b>	<b>98.5</b>	<b>221.8</b>