

Members

Sen. Ryan Mishler, Chairperson  
Sen. Greg Walker  
Sen. James Lewis  
Sen. Richard Young  
Rep. Robert Bischoff  
Rep. Paul Robertson  
Rep. Robert Cherry  
Rep. Dan Leonard



## NATURAL RESOURCES STUDY COMMITTEE

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Authority: IC 2-5-5-1

### MEETING MINUTES<sup>1</sup>

Meeting Date: August 23 and 24, 2010  
Meeting Time: 1:00 P.M. on the 23rd, and 9:00 A.M. on the 24th  
Meeting Place: Pokagon State Park, 450 Lane 100 Lake James, Potawatomi Inn  
Meeting City: Angola, Indiana  
Meeting Number: 1

**Members Present:** Sen. Ryan Mishler, Chairperson; Sen. Greg Walker; Sen. James Lewis; Sen. Richard Young; Rep. Robert Bischoff; Rep. Robert Cherry; Rep. Dan Leonard.

**Members Absent:** Rep. Paul Robertson.

Senator Mishler (Chairperson) called the meeting to order at 1:17 p.m. The members of the Natural Resources Study Committee (Committee) introduced themselves.<sup>2</sup>

The Committee's operating procedures were reviewed along with the assigned topics and the new electronic notice for committee meetings and minutes.

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<sup>1</sup> These minutes, exhibits, and other materials referenced in the minutes can be viewed electronically at <http://www.in.gov/legislative>. Hard copies can be obtained in the Legislative Information Center in Room 230 of the State House in Indianapolis, Indiana. Requests for hard copies may be mailed to the Legislative Information Center, Legislative Services Agency, West Washington Street, Indianapolis, IN 46204-2789. A fee of \$0.15 per page and mailing costs will be charged for hard copies.

<sup>2</sup> The Committee meeting was staffed by Allen Morford and Chris Baker of the Legislative Services Agency.

## Overview of Pokagon State Park

Ted Bohman, Department of Natural Resources (DNR), Park Manager, discussed the amenities available at the Pokagon State Park. He indicated that the park has 1260 acres, making it the third smallest state park. Pokagon State Park has one of the largest refrigerated toboggan runs in the Midwest.

## DNR Update

Chris Smith, Director, DNR Legislative Relations, began his presentation by stating that in 2009, 15.7 million people visited DNR properties. However, the DNR projects visitation will decrease to 15.4 million people for 2010. In 2009, the DNR issued approximately 800,000 licenses which totaled about \$18.3 million in revenue.

In response to an inquiry from Representative Cherry, Mr. Smith indicated that, in 2009, game bird fees totaled approximately \$219,000. He explained that the revenue is used for habitat projects, to lease private property for hunting, or to enter into other projects that are game bird specific.

Mr. Smith then discussed the steps the DNR was taking to reduce costs. He noted that the DNR has reverted 15% of its General Fund appropriations. The DNR has reduced its expenditures by:

- Reducing printing costs.
- Attrition of the workforce.
- Reduction of DNR's vehicle fleet.
- Closing the State Museum on Mondays.
- Offering the option to employees to take unpaid leave.
- Reducing seasonal and intermittent employment.

Mr. Smith then described the transfer of management of Roush Lake from the Division of State Parks and Reservoirs to the Division of Fish and Wildlife. He indicated that the transition to the Division of Fish and Wildlife was made to receive federal funds from the federal Sport Fish and Wildlife Restoration Program. The federal funds are to be utilized for projects at Roush Lake.

Mr. Smith then updated the Committee on the following legislation that was passed by the 2010 General Assembly:

- HEA 1064 Establishes a procedure to collect voluntary donations when hunting licenses are sold. Specifies that the proceeds must be used to process donated wild game related to feeding the state's hungry.
- HEA 1040 Extends the final report date and expiration date of the Lake Management Work group from July 1, 2010, to July 1, 2011.
- HEA 1232 Provides that a permit is not required to remove a logjam or mass of wood debris that has accumulated in a river or stream.
- SEA 412 Provides that a commercial or residential irrigation system installed after July 1, 2010, must have a soil moisture sensor. Requires the Water Pollution Control Board to establish a program for the annual inspection of soil moisture sensors. Provides that a person must have a water well pump installer license to install or repairs water well pumps or water well

pumping equipment. Requires a water well pump installer and a water well driller to complete six hours of continuing education every two years. Establishes procedures for the DNR to approve continuing education courses. Allows the DNR to enter into a contract with the Indiana Ground Water Association to administer the continuing education program.

Mr. Smith discussed proposed changes to the deer hunting rules and distributed handouts to the Committee members. (Exhibits 1 and 2) Mr. Smith addressed the following proposed rule changes during his discussion:

- Addition of new nonresident youth deer license types.
- Addition of license requirements for the new special antler-less seasons.
- Use of hunter orange and the owner's name and address requirements on ground blinds.
- Use of rifle cartridges that have a maximum case length of 1.8 inches instead of 1.625 inches.
- Opening the firearms hunting season on designated military reserves and national wildlife refuges on October 1 instead on November 1.
- Changes in the dates and bag limits for the urban deer season.
- Expands the urban deer zones in Lake and Porter counties to the whole county.
- Changes in the firearm and muzzle loader season dates.
- Changes in the bag limit for antler-less deer in urban deer zones and under the bonus county quota.

In response to a question from Representative Bischoff, John Davis, DNR Deputy Director, indicated that the DNR was planning to have at least two public meetings around the state regarding the proposed rules. The rules are currently being reviewed by the Office of Management and Budget (OMB). He indicated that the public meetings would likely take place in January pending completion of OMB's review of the rules.

Representative Bischoff then asked where the urban deer zones were located. Mark Reiter, DNR Fish and Wildlife Division, stated that urban deer zones are located in Marion, Hendricks, Boone, Hamilton, Allen, Vanderburgh, Kosciusko, Tippecanoe, Lake, LaPorte, and Porter Counties.

Chris Smith then updated the Committee on proposed rule changes for the following topics:

- Furbearer possession.
- Taking of catfish.
- Exotic animals.
- Raccoon and opossum season changes.
- Wild animal rehabilitation permits.

Representative Cherry expressed concern about an individual's privacy rights when the individual purchases a hunting license. Currently, an individual must provide their Social Security number when purchasing a license. Mr. Davis indicated that the Social Security requirement comes from the federal government because the hunting licenses are considered recreational licenses. If the DNR did not comply with this requirement, federal funding would sunset. He indicated that the DNR is continually looking for ways to protect an individual's privacy.

In response to a question from the Chairperson, Mr. Smith described an emergency rule (LSA Document #09-987(E))<sup>3</sup> pertaining to group piers. Mr. Smith stated that the rule was necessary to address situations where a group pier may extend past riparian boundaries.

Representative Leonard inquired into the number of permits issued for goose reduction. John Davis indicated that 55 permits were issued last year with approximately 500 geese eradicated and 3,000 relocated. He indicated that several different kinds of permits are issued. A person may obtain a Trap/Transport Permit to relocate the geese. Also, a person may apply for a trap and lethal removal permit. Under the trap and lethal removal permit, all goslings are required to be relocated. In addition, if a farmer experiences crop damage greater than \$500 by Canada geese, the farmer may request a permit to eradicate or relocate the geese. The permits are issued by the District Wildlife Biologist.

Mr. Smith then discussed the DNR's legislative proposals.

### Sale of Nursery Stock

Mr. Smith distributed handouts pertaining to the DNR's Division of Forestry State Nursery System. (Exhibits 3 and 4) The DNR is required to operate and maintain tree nurseries. The nursery may sell stock to Indiana residents at a price not exceeding the cost of production. Also, the DNR is prohibited from selling or distributing nursery stock to retailers, wholesalers, or an out of state buyer. Mr. Smith indicated that the DNR would like the ability in years in which an excess stock exists to sell to out of state buyers for the purpose of reforestation. He indicated that the DNR has turned away purchase requests for approximately one million trees because of the current requirements.

Mr. Smith stated that there has been some concern from private nurseries because DNR can sell the trees for a lower price than private nurseries. He indicated that the DNR was interested in working with the private nurseries. The DNR proposes the following options:

- Sharing the state nursery inventory widely among state and private nurseries.
- Selling trees to a private nursery at cost and allow the private nursery to markup the cost.
- Assisting private nurseries with procuring their seed to assist in reducing the private nurseries' costs.
- Selling inventory to other states who in turn could sell the trees to their residents.

Mr. Davis stated that private nurseries were reluctant to purchase trees from the state nurseries because the private nurseries already have an excess stock.

Senator Walker commented that the state nurseries should be able to sell their trees to out of state buyers at market price.

Representative Leonard then commented about the feasibility of adding a fee for the difference between the market cost and the cost of production with the fee going to the State.

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<sup>3</sup> LSA Document #09-987(E) temporarily adds provisions to govern the placement of a group pier within a public freshwater lake and incorporates a guidance document to assist with delineating riparian zones.

### Personal Floatation Devices (PFD)

Mark Crider, Director, DNR Division of Law Enforcement, stated that waterways which have concurrent jurisdiction are regulated by the Coast Guard. The Coast Guard requires a child under the age of 13 to wear a PFD except when the child is below deck in an enclosed cabin or when the vessel is docked or at anchor. The Coast Guard regulations do not apply to the Indiana waterways that do not have concurrent jurisdictions. Mark Crider indicated that the DNR believes that requirements similar to the Coast Guard regulations should apply to the Indiana waterways not regulated by the Coast Guard. Mr. Crider pointed out that the surrounding states had various age requirements.

The Chairperson asked for clarification of the PFD requirements for skiing on Indiana waterways that do not have concurrent jurisdiction. Mr. Crider replied that if the individual is skiing behind a boat, a PFD must be available in the boat. However, if the individual is riding or being towed from a personal water craft, the individual is required to be wearing the PFD.

### Alcohol Sales at State Park Inns

Mr. Smith distributed copies of IC 14-18-2-3, IC 14-18-3-3, and IC 14-18-4-2 (Exhibit 5). Mr. Smith then said that the DNR was considering the sale of alcohol in some of its restaurants and inns. He discussed scenarios where a patron would rent a banquet hall and would then contract with a caterer or a bartender to serve alcohol. Mr. Smith indicated that this created some liability issues for the DNR. He stated that if the DNR played a more active role in providing this service, the DNR would have more control over who is served alcohol and how much alcohol is served. He stated that this would also allow the DNR to better serve its patrons.

Mr. Smith said that the DNR is currently working with the Alcohol and Tobacco Commission (ATC) to ensure that it has the authority to sell beer and wine on property that is owned by the DNR.

Mr. Smith stated that the law prohibits the DNR from allowing alcohol sales on property it leases to a third party. He noted that this prohibition primarily affects certain marinas. He explained that land owned by the federal government which is controlled by the DNR is exempt from the prohibition of alcohol sales.

The Chairperson recessed the meeting at 2:38 p.m.

The Chairperson re-convened the meeting at 9:20 a.m. the next morning.

### Lake Management Work Group (Work Group)

Representative Nancy Dembowski discussed the Work Group. She stated that she was the Chairperson of the Work Group in 2009. She distributed a copy of the Work Group's Interim Report (Exhibit 6) and a Report for the Natural Resources Study Committee (Exhibit 7). In addition, a copy of IC 2-5.5-3 (Exhibit 8) which describes the duties of the Work Group was distributed to the Committee members. Representative Dembowski began by describing the responsibilities of the Work Group. She then discussed the following Work Group accomplishments and issues with the Committee members:

- Providing a defined policy for the DNR when reviewing permits for dredging projects on public freshwater lakes.
- Creating a public freshwater lakes listing for lakes in Northern Indiana.

- Proliferation of piers, shore stations, aerators, and other structures.
- Group piers.
- Mandatory seasonal removal of temporary structures (piers, boat lifts).
- Lake level and dam maintenance and impacts on ecological systems.
- Control of aquatic invasive species.
- Toxic blue-green algae impacts on recreational use and drinking water supplies.
- Restricting phosphorus in lawn fertilizer.
- Conservation of wetlands adjacent to lakes.
- Promoting the economic value of lakes in Indiana.
- Communicating with other entities to implement Work Group recommendations.
- Education and outreach to lake property owners and users.
- Effectiveness of soil and water conservation districts in implementing conservation practices.
- Midwest Glacial Lakes Fish Habitat Partnership strategic planning in Indiana.
- Status and use of Lake and River Enhancement (LARE) grants and funds.
- Memorial to honor Lt. Ralph Taylor.

The Chairperson then recognized former Senator Robert Meeks. Senator Meeks praised the dedication of the individuals that serve on the Work Group. He then explained that the LARE program is funded by dedicated funds from a LARE fee paid by boat owners annually when they register their boat with the Bureau of Motor Vehicles (BMV). Senator Meeks stated that in June 2010, LARE grants were suspended due to the economic challenges facing the state. The OMB transferred \$2,415,121 from the LARE fund for other state priorities. He then expressed his concern regarding this transfer. Senator Meeks suggested that the fee should be suspended until the money goes to the LARE fund.

In response to a question from Senator Lewis, Representative Dembowski indicated that the BMV collected \$3,774,390 in LARE fees for 2009.

Senator Young questioned the Governor's authority to transfer the LARE fee from its dedicated purpose. The Chairperson responded that the State Board of Finance transferred the money under the authority of IC 4-9.1-1-7.<sup>4</sup>

#### Coal-bed Methane (CBM)

Ron McAhron, DNR Deputy Director, provided the Committee members with a handout. (Exhibit 9) He then presented a PowerPoint presentation (Exhibit 10) regarding CBM. He indicated that nationwide interest in the development of CBM is increasing as an alternative source of natural gas. In recent years, significant developments have been made to make the economical extraction of CBM possible.

Mr. McAhron stated that CBM is produced from mine voids or virgin coal seams. Artificial fracturing or entry into the seam is required for collection of the CBM.

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<sup>4</sup> IC 4-9.1-1-7 (a) states: "[t]he board may transfer money between state funds, and the board may transfer money between appropriations for any board, department, commission, office, or benevolent or penal institution of the state. After the transfer is made the money of the fund or appropriation transferred is not available to the fund or the board, department, commission, office, or benevolent or penal institution from which it was transferred."

Mr. McAhrn then explained the DNR's regulatory functions. He explained how the Division of Reclamation regulates the exploration for and the surface and underground mining of, coal with respect to public health, public safety, and environmental impacts. He then explained how the Division of Oil and Gas regulates the exploration for and production of oil, natural gas, and CBM under IC 14-37 and IC 14-38 to minimize any associated environmental impacts and to minimize waste of the produced resources. The Division also provides protection of underground water resources.

Mr. McAhrn discussed the following recommended policy changes:

- Authority to adopt temporary or emergency rules.
- A method to ensure communication with coal interests for CBM well permit applications.
- Legislative policy regarding miner safety relative to rule development for CBM production.
- A revision of well plugging procedures in IC 14-37-8. (Currently, no well plugging plan is required with well permit applications.)

Senator Walker asked how a mining company would be able to provide information regarding a well plugging plan prior to drilling. Mr. McAhrn responded that it would be helpful to receive a drilling plan, certain pressure information, as well as certain geologic information. This information could be incorporated into the application process.

Representative Cherry asked about ownership rights of CBM. Mr. McAhrn responded that the current law is unclear.

Representative Leonard commented about New York State Senate's passage of a temporary moratorium on a type of natural gas exploration known as "fracking" that combines hydraulic fracturing with horizontal drilling and the injection of millions of gallons of chemically treated water underground. Mr. McAhrn stated the extraction process for CBM is somewhat different and that one of the issues pertaining to fracking is the contamination of ground water whereas the more serious concern with CBM extraction is safety practices.

Representative Bishoff asked how other states were addressing well safety. Mr. McAhrn responded that although the policies of other states can be used as a template, it is important to create policies that are specific to Indiana's geology. He stressed the importance of being able to receive geologic input and comparing this information with a well plugging plan.

The Chairperson clarified that the purpose of Mr. McAhrn's presentation was to provide some background information in advance of the Committee's next meeting. He then directed the Committee staff to distribute a handout prepared by Nat Noland of the Indiana Coal Council in advance of the Committee's next meeting. (Exhibit 11)

#### Update on Indiana Water Resources

Mr. McAhrn provided a PowerPoint presentation (Exhibit 12) regarding Indiana Water Resources. He stated that the DNR Division of Water studies and maintains information on surface and ground water availability. The Division of Water also works with the U.S. Geological Survey (USGS) on a real time network of 165 stream gauges to measure stream flow.

Mr. McAhrn noted that the DNR is also working with the Federal Emergency

Management Agency (FEMA) regarding flood plain revisions. The DNR would like to get authority from FEMA to modify Indiana flood plans.

Mr. McAhron then discussed water sale contracts for the state reservoirs. He stated that Monroe, Patoka, and Brookville Reservoirs maintain excess capacity for future water supply.

Mr. McAhron discussed the implementation of the Great lakes St. Lawrence River Basin Water Resources Compact.

Mr. McAhron then discussed the Water Resources Task Force. He stated that the Task Force studies and makes recommendations regarding the following issues:

- Available quantities and sources of water.
- Future needs.
- Resource management.
- Determination of ownership rights.
- Drinking water delivery systems.
- Opportunities to work with neighboring states concerning shared drinking water sources.

#### Issues for Next Meeting

The Committee members discussed the following topics which the Committee may address at the next meeting:

- Roush Lake.
- Brookville Reservoir.
- CBM.
- Asian Carp.

The Committee selected McCormick's Creek State Park as the site of their next meeting on September 27-28.

The Chairperson adjourned the meeting at 10:49 a.m.

EXHIBIT 1  
NATURAL RESOURCES STUDY COMMITTEE  
AUG 23, 2010  
Summary of Proposed Deer Rule Changes

#### Definitions

- Moves the definition of crossbow to the definitions section, instead of defining it in 312 IAC 9-3-3
- Adds a definition of ground blind

#### General Requirements and Licenses

- Adds the new nonresident youth deer license types
- Adds license requirements for the new special antlerless seasons
- Requires hunter orange for 1) youth hunters during the youth special deer season, 2) all deer hunters in affected counties during the Oct. antlerless firearm season, 3) all deer hunters during the Dec. 25 – Jan 1 antlerless firearms season; hunter orange is already required for all deer hunters during the firearms and muzzleloader seasons
- Requires at least 144 square inches of hunter orange material on a ground blind used while deer hunting during a season when a hunter is already required to wear hunter orange
- Requires the owner's name and address on ground blinds used on department properties

#### Hunting Equipment

- Allows a crossbow to be used by hunters who are at least 64 years old during the early archery season
- Allows a crossbow to be used during the deer firearms and muzzleloader seasons by hunters of any age
- Allows a hunter of any age to use a crossbow in an urban deer zone during the urban deer season.
- Allows a rifle cartridge to have a maximum case length of 1.8 inches instead of 1.625 inches

#### Seasons and Bag Limits

- Allows youth hunters to take the number of antlerless deer allowed in each county during the special youth deer season (in addition to one antlered deer)
- Extends the urban deer season through January 31 of the following year
- Requires hunters to take at least one antlerless deer prior to taking an antlered deer in the urban deer season
- Expands the urban deer zones in Lake and Porter counties to all of those counties
- Changes the deer firearms season to start on the first Saturday before Thanksgiving and continue for only 8 additional days
- Shortens the deer muzzleloader season to only 9 days
- Adds an antlerless deer only firearms season in October (2 days only) in counties with an antlerless quota of 4 or more. The hunter may take the number of antlerless deer in each county allowed under the bonus county quota.
- Adds another antlerless deer-only firearms season from December 25 through January 1 of the following year. The hunter may take the number of antlerless deer in each county allowed under the bonus county quota.

#### Military Reserves and National Wildlife Refuges

- Opens the firearms season on designated military reserves and national wildlife refuges on October 1 instead of November 1
- Adds the new nonresident youth deer hunting license types

EXHIBIT 2  
NATURAL RESOURCES ~~100~~  
STUDY COMMITTEE  
Aug 23, 2010

## Commonly asked questions regarding the Deer Proposal

### ***How did the DNR come up with these proposals?***

The proposed changes to deer-hunting rules are a result of the NRC Advisory Council's Comprehensive Fish and Wildlife Rules Enhancement Project and a DNR review of Indiana deer management. The NRAC project drew more than 1,000 suggestions from the public. Some of the recommendations by the NRAC to the Division of Fish and Wildlife included:

- Conduct a review of all deer hunting seasons and bag limits to alleviate pressures upon the Indiana General Assembly,
- Consider the implementation of an earn-a-buck program,
- Consider the use of crossbows during the firearms season,
- Consider the use of crossbows during the archery seasons by hunters age 65 and older.

In addressing the NRC's recommendations, the Division of Fish and Wildlife involved stakeholder groups who have a vested interest in Indiana's deer management. The stakeholder's attending the meeting were the Indiana Sportsmen's Roundtable, Indiana Wildlife Federation, Indiana Deer Hunter's Association, Indiana Bowhunter's Association, Quality Deer Management Association, The Nature Conservancy, Indiana Farm Bureau, Bloomington City Council, Indiana Forestry and Woodland Owners Association, a sporting goods retailer, and the Division of Law Enforcement.

### ***What is DNR trying to accomplish with the proposed changes?***

Trends monitored by the DNR over the past 10 years show the deer herd to be growing across the state. In many areas, deer populations exceed the tolerance many individuals can accept. Despite years of liberalizing harvest quotas, the herd has still increased to a point where alternative measures must now be considered. The proposal is the first attempt at an alternative management plan for reducing the deer herd in a strategically targeted manner.

In cooperation with the stakeholder groups above, the Division of Fish and Wildlife developed the rule proposal to focus deer herd reduction in a strategically targeted manner to more adequately balance the ecological, recreational and economic needs of the state's citizens. This means increasing management tools and pressure on antlerless deer in areas having high deer densities and in urban deer zones, while maintaining deer densities in other portions of the state.

### ***Is the idea here to manage for trophy bucks?***

The proposal is an attempt to reduce the deer herd in a strategically targeted manner. In order to do so, greater emphasis must be placed on harvesting antlerless deer. It is reasonable to expect this will result in a smaller proportion of antlered bucks being harvested. The proposal was developed to increase antlerless deer harvest, not promote trophy deer management. However, Indiana's antlered buck harvest has been moving towards more mature antlered deer

in the harvest for quite some time, even before the One Buck Rule was implemented in 2002. We expect that this trend will continue with or without implementation of the proposed rule.

***Is it true that certain hunting groups pushed these ideas on the DNR?***

The proposal was developed with the over-arching goal of reducing Indiana's deer herd in a strategically targeted manner. Each of the proposed changes was developed as a group decision. There were several sportsmen's groups involved in the process, but decisions were agreed upon by the DNR, the sportsmen's groups, and non-sportsmen's groups alike.

***If the goal is to reduce deer numbers, why shorten the firearms season?***

Deer hunting, unlike many other kinds of hunting, is often selective in nature. Deer hunters frequently pass up multiple deer for the opportunity to take a specific deer. Longer deer seasons tend to promote delay in harvesting antlerless deer. By shortening that part of the firearms season during which antlered bucks can be harvested, some hunters may feel an urgency to harvest a deer, improving overall hunter success rates. Although the proposal limits that portion of the firearms season during which antlered bucks can be taken, other firearms hunting opportunities include a two-day antlerless firearms season in October, an eight-day antlerless firearms season in the later part of December, and a nine-day muzzleloader season in early December. Overall, the proposal reduces the number of days when a hunter can hunt with a firearm by a total of 4 days. The DNR believes that total deer harvest with the proposed shortened firearms season will be comparable to the existing longer season, though the antlerless harvest should make up a greater proportion of the harvest.

***Why take the firearms season out of the rut, when deer movement is at its peak?***

Moving the firearm season later in November was a byproduct of having a shortened firearm season and an attempt to have the firearm season coincide with those days most available for hunters to participate. We believe giving deer hunters the opportunity to hunt over the Thanksgiving holiday would allow for greatest hunter participation - many hunters will be off from work and youths will be on school break. In addition, we expect to see a shift in harvest toward more antlerless deer.

***Why shorten the muzzle loader season?***

Longer deer seasons tend to promote delay in harvesting antlerless deer. The extra days between the muzzleloader season and the late December antlerless season should enhance the opening day effect and hunter success for the late December season. Opening days tend to receive the highest participation and harvest totals during deer hunting seasons. More opening days/seasons will lead to increased deer harvest.

***What's the thinking behind the two-day October season?***

Studies have shown that early antlerless seasons can produce a higher antlerless deer harvest for the overall season, not simply shift antlerless harvest from traditional firearms season to earlier in the year. This season also takes advantage of hunter enthusiasm that is highest at the

beginning of the hunting season, and adds an additional opening day with highly efficient equipment (firearms) that often yields high harvest numbers.

***What's the thinking behind the eight-day, statewide season in late December?***

The antlerless season in December will provide an additional season for hunters wishing to harvest an extra deer, or those who were not fortunate to take a deer during the regular season, to go out and enjoy a hunting season when they are likely already on holiday break. It also allows youths who are on holiday school breaks to go out hunting with friends and family members when previous commitments at other times of the year may make that difficult. The antlerless season should, again, provide an additive component to the total antlerless harvest.

***The DNR did a survey in April asking for hunter feedback. What was its purpose?***

The purpose of the online survey conducted earlier in the year was to gauge support or opposition for potential management changes to advise the Natural Resources Commission. It was not designed or intended for decision making.

***How will we know if this management plan is successful?***

The DNR will be measuring harvest composition, hunter and landowner attitudes, and the number of deer vehicle collisions over a five year time frame to determine if it was successful in reducing the deer herd in Indiana. After the evaluation period, modifications to the Indiana deer strategy and deer rules will be considered.

***Why are other states adding firearm hunting opportunities and Indiana is taking them away?***

Each state is unique in its approach to deer management, with season lengths dictated by numerous factors (deer population, hunter population, availability of public land, terrain, topography, latitude, etc.). With that many variables, the ability to fairly and accurately compare any two states would be impossible.

One comparison that can be made is hunting opportunity. The proposal being considered for Indiana would decrease the days in which hunters would have the opportunity to harvest bucks, but the total firearms and/or muzzleloader days (28) would be similar to the current structure (32). In addition, the proposed 28 days is more liberal than Illinois, Kentucky and Ohio as well as creating four "opening days" for firearms and/or muzzleloader hunting compared to the current two.

***What happens next?***

The DNR has scheduled five public open houses in August to allow for hunters to discuss and hear reasoning behind the proposal. An administrative law judge will conduct at least two formal hearings in early 2011 to collect public comment that will be included in an official report to the Natural Resources Commission. In addition, public comments can be submitted online at <http://www.in.gov/nrc/2377.htm>.

Aug 23, 2010




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**Information Maintained by the Office of Code Revision Indiana Legislative Services Agency**
**IC 14-23****ARTICLE 23. FORESTRY****IC 14-23-1**

## Chapter 1. Duties of Department

**IC 14-23-1-1****Duties of department**

Sec. 1. The department shall do the following:

- (1) Have the care, custody, and control of the forest land owned by the state, exclusive of state parks.
- (2) Adopt necessary rules to properly enforce this chapter.
- (3) Establish, operate, and maintain nurseries for the production of trees to be used in reforestation. The trees may be:
  - (A) used to reforest land owned by the state;
  - (B) supplied to owners of private land at a price not exceeding cost of production; or
  - (C) used for planting on public roads or land under the terms that are considered by the department to be for the public benefit.
- (4) Prepare, print, post, or distribute printed matter relating to forestry.
- (5) Make investigations or experiments with regard to forestry questions.
- (6) Subject to the approval of the governor, purchase land and forests. For the purpose of acquiring land and forests, the commission may exercise the right of eminent domain in the manner provided in IC 14-17-3.
- (7) Receive and accept, in the name of the people of Indiana, by gift or devise, the fee or other estate in land or forests.
- (8) Examine the forest land owned by the state or by a state institution for the purpose of advising and cooperating in securing proper forest management of the land.
- (9) Employ, with approval of the authorities having control of the state penal institutions, convicts committed to a penal institution for the purpose of producing or planting trees, building roads, or doing other work in the forests and in clearing, draining, or developing land purchased or acquired by the state for forestry purposes.
- (10) Propagate trees and shrubs for state institutions or for planting along highways. A common carrier may transport trees or shrubs grown by the state at a rate less than the established tariff to and from points within Indiana.
- (11) Have the custody of all abstracts of title, papers, contracts, or related memoranda, except original deeds to the state, for land purchased or received under this section.
- (12) Examine private forest land:
  - (A) upon request of; and
  - (B) at the expense of;

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the owner for the purpose of advising the owner on the proper methods of forest management.

*As added by P.L.1-1995, SEC.16.*

**IC 14-23-1-2****Nursery stock and wildflower seed sales**

Sec. 2. (a) This section does not apply to the following:

(1) The sale or distribution of nursery stock or wildflower seeds to the following:

- (A) An individual who resides in Indiana.
- (B) A governmental entity.
- (C) A nonprofit organization or an educational institution.
- (D) An agricultural research program.

(2) The exchange of nursery stock or wildflower seeds with a person or an entity.

(b) The department may not sell or distribute nursery stock or wildflower seeds to the following:

(1) An individual who resides in a state other than Indiana, unless the individual:

- (A) owns land in Indiana; and
- (B) submits an affidavit that affirms that the nursery stock or wildflower seeds will be planted in

Indiana.

(2) A retail business that sells nursery stock or wildflower seeds.

(3) A wholesale business that sells nursery stock or wildflower seeds.

*As added by P.L.82-2007, SEC.3.*

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## **DNR –Division of Forestry State Nursery System**

### **Vallonia Employs**

8 Full time  
1 Tree improvement specialist  
20 -25 Dept of Corrections offenders (DOC)

### **JP Employs (distribution center only)**

4 Full time  
6 DOC offenders

### **Budgets**

Operating = \$974,000  
Preventative Maintenance = \$465,000 (Seed comes out of this ~ \$150,000)

### **Ideas**

- Share inventory widely among state and private nurseries. Follow MO. model.
- Sell seedlings to Private at our cost for them to resell at their cost. (From the start of ordering season) They come up with their customers and have an idea of what they could sell and we can supply them with seedlings.
- Assist Private with procuring their seed as to help reduce their seed cost and overall costs.
- Sell to Ohio (Govt. agencies) and let them sell to their residents. This is what Kansas and Delaware are doing. We grow for the State of Ohio which we can do within SB 357 guidelines.

### **Missouri Model**

Private nurseries feel they can't get rid of State nursery so why not work with them.

Private nurseries get lots of requests for orders that they can't supply the entire order. The State nursery provides stock to them for orders they otherwise would have lost.

Private nurseries like the quality of stock they get from State nursery.

Private nurseries grow trees for State inventory that is on the State order form but that State did not even grow. For this to happen you must assure quality from them is also high.

State provides trees for MI, IL, OH, TN, IA. No laws keeping them from trading outside of their state lines.

### **Kansas**

Has no State nursery but takes orders for sales and gets all trees from MO, OK, and a couple of private nurseries in state.

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## **Delaware**

Has no State nursery but takes orders within State and gets all stock from Maryland.

### **Surrounding states (State operated nurseries);**

IL 2 Nurseries (one has drastically reduced inventory or mothballed) Trees are given away at no cost with a management plan

MO 1 Nursery (good working relationship with Private)

IA 1 Nursery

MI No State operated nurseries

OH No State operated nurseries

KY 2 Nurseries

WI 3 Nurseries (1 discussed to be closed)

MN 2 Nurseries (1 severely cut back and possibly closed)

WV 1 Nursery

**Summary of Nursery Statistics and Information for Years Indicated**

| FY      | # of Seedlings Sold |           |           | Revenues    | Expenditures<br>(Oper + PM) | %   |
|---------|---------------------|-----------|-----------|-------------|-----------------------------|-----|
|         | Hardwoods           | Conifers  | Total     |             |                             |     |
| 90/91   | 3,248,000           | 1,644,000 | 4,892,000 | \$853,699   | \$1,040,879                 | 82% |
| 91/92   | 3,333,000           | 1,600,000 | 4,933,000 | \$986,014   | \$1,013,335                 | 97% |
| 92/93   | 3,773,000           | 1,347,000 | 5,120,000 | \$817,323   | \$1,054,361                 | 78% |
| 93/94   | 3,573,000           | 1,189,000 | 4,762,000 | \$798,381   | \$1,076,582                 | 74% |
| 94/95   | 3,286,000           | 1,111,000 | 4,397,000 | \$760,863   | \$1,135,087                 | 67% |
| 95/96*  | 3,596,000           | 800,000   | 4,396,000 | \$775,227   | \$1,095,105                 | 71% |
| 96/97   | 3,172,000           | 608,500   | 3,780,500 | \$734,963   | \$1,291,956                 | 57% |
| 97/98   | 4,066,000           | 481,000   | 4,538,000 | \$788,080   | \$1,318,527                 | 60% |
| 98/99   | 4,829,000           | 782,000   | 5,611,000 | \$1,024,320 | \$1,608,868                 | 64% |
| 99/00   | 5,013,137           | 833,110   | 5,846,247 | \$1,150,000 | \$1,672,487                 | 69% |
| 00/01   | 5,029,068           | 762,976   | 5,792,044 | \$1,236,619 | \$1,700,343                 | 73% |
| 01-02   | 4,627,610           | 706,903   | 5,334,513 | \$1,216,789 | \$1,759,415                 | 69% |
| 02-03   | 3,809,112           | 935,333   | 4,744,445 | \$1,287,993 | \$1,562,000                 | 82% |
| 03-04** | 4,914,441           | 941,117   | 5,855,558 | \$1,625,964 | \$1,886,961                 | 86% |
| 04-05   | 4,332,172           | 861,825   | 5,193,997 | \$1,422,723 | \$1,771,451                 | 80% |
| 05-06   | 3,928,387           | 737,240   | 4,665,627 | \$1,350,806 | \$1,522,838                 | 90% |
| 06-07   | 4,017,199           | 798,908   | 4,816,107 | \$1,524,784 | \$1,571,038                 | 97% |
| 07-08   | 2,918,832           | 757,151   | 3,675,983 | \$1,265,610 | \$1,458,137                 | 82% |
| 08-09   | 2,832,005           | 700,000   | 3,532,005 | \$1,283,532 | \$1,391,000                 | 92% |
| 09-10   | 2,845,280           | 384,562   | 3,229,842 | \$1,166,013 | \$1,306,479                 | 89% |
| 10-11   | 2,800,000           | 700,000   | 3,500,000 | \$1,200,000 | \$1,300,000                 | 92% |

\* Last year transplants were sold.

\*\* Includes \$200,000 workers comp payment on one claim.

**Current Season**

Hardwoods + Shrubs + Select (estimates)

Estimates

Note: Expenditures = Total Operating Disbursed and Applicable PM Disbursed that are essentially an Operating Expenditure (PM minor objects .347, .412, .437 and .438). Does not include other PM, Capital or federal.

**Increase in Budget for Production Increase:**

| <u>FY</u> | <u>Amount</u> | <u>How distributed among major points</u>  |
|-----------|---------------|--|
| 98-99     | \$200,000     | .1-\$70,000, .3-\$20,000, .4-\$20,000, .5-\$90,000 (.1 from Forestry 5% reserve) |
| 99-00     | \$290,000     | .1-\$140,000, .2-\$10,000, .3-\$25,000, .4-25,000, .5-\$90,000                   |
| 00-01     | \$290,000     | .1-\$140,000, .2-\$10,000, .3-\$25,000, .4-25,000, .5-\$90,000                   |

Operating increase retained in subsequent biennium budgets.

In 99-01 biennium, \$200,000 of Nursery C R & R Project was transferred to Nursery PM.

In 01-03, a \$200,000 increase in PM was approved in biennium PM budget for nurseries.

**Price Increase History:**

| <u>Date Approved</u>                     | <u>Season Implemented</u> | <u>Amount of Increase</u>   | <u>% Increase</u> |
|--|---------------------------|---|-------------------|
| Prior to 1994, no information available. |                           | N/A   | N/A               |
| 1994 to 1997, no price increases.        |                           | 0   | 0%                |
| June, 1998                               | 98-99                     | \$.02/seedling  | 10%               |
| April, 1999                              | 99-00                     | \$.02/seedling  | 10%               |
| 2000                                     | 00-01                     | (Included sales tax in cost to consumer)  | 5%                |
| 2002                                     | 02-03                     | \$.033/seedling + a \$10.00 per order handling charge<br>(This amounted to a 15% increase on seedlings and from a 15% to 60% increase on the order handling charge) |                   |
| 2003                                     | 03-04                     | \$.025/seedling   | 10%               |
| 2004                                     | 04-05                     | none  |                   |
| 2005                                     | 05-06                     | \$.01/seedling  | 3.6%              |
| 2006                                     | 06-07                     | \$.03/seedling  | 10%               |
| 2007                                     | 07-08                     | none  |                   |
| 2008                                     | 08-09                     | none (reduced price of Select Line by 40-50%)   |                   |
| 2009                                     | 09-10                     | none  |                   |
| 2010                                     | 10-11                     | none  |                   |

**IC 14-18-2-3**

**Contents of leases and contracts**

Sec. 3. (a) As used in this section, "inn" means a public facility that has the following:

- (1) At least twenty (20) rooms for the accommodation of overnight guests.
- (2) A dining room that offers table service for at least forty (40) individuals at one (1) time during normal dining hours.

(b) A lease and contract authorized by this chapter must include in its terms the following provisions and conditions:

- (1) The legal description of the leasehold. A survey for the description is not required.
- (2) The term of the lease. The term may not exceed forty (40)

years with two (2) additional options to renew of thirty (30) years each.

(3) Provision for the submission of complete plans and specifications to the department for review and written approval before beginning any construction.

(4) The manner of payment of rental.

(5) The facilities provided will be available to the public without discrimination and at charges designed to make the facilities available to a maximum number of the citizens of Indiana.

(6) That the rates and fees charged for goods and services on the leased area will be in accord with those charged at similar developments in the area.

(7) The disposition of the leasehold and improvements at the termination of the lease.

(8) If the lease and contract concerns state owned land under the management and control of the department, including state parks, a prohibition on the sale or public display of alcoholic beverages on the premises.

(9) If the lease and contract concerns federally owned land under the control and management of the department, the lease and contract may permit the retail sale of alcoholic beverages on the premises of an inn:

(A) for consumption on the licensed premises; and

(B) if the lessee or concessionaire applies for and secures the necessary permits required by

IC 7.1.

(c) A lease and contract may prescribe other terms and conditions that the department considers necessary and advisable to carry out the intent and purposes of this chapter.

*As added by P.L.1-1995, SEC.11.*

**IC 14-18-3-3**

**Contents of lease and contract**

Sec. 3. (a) A lease and contract authorized by section 2 of this chapter must include in its terms the following provisions and conditions:

- (1) The legal description of the leasehold.
- (2) The term of the lease, which may not exceed forty (40) years.
- (3) A stipulation that the lessor shall build and maintain access roads to a lodging and food facility constructed and operated by the lessee.
- (4) Specifications controlling the construction of any lodging and food facility to be constructed and

operated by a lessee that state the following:

- (A) The number and size of sleeping rooms and bathroom facilities.
- (B) The size and capacity of the kitchen and dining facilities.
- (C) The size of patio, lobby, lounge, and meeting room areas.
- (D) The type and quality of construction.
- (E) Other criteria and specifications that the department considers necessary and advisable.

(5) The manner of payment of rental.

(6) A stipulation that the department has control and supervision over the following:

- (A) The maximum rates to be charged guests using the lodging and food facility.
- (B) The sanitary conditions of the facility.
- (C) The quality of food and service furnished the guests of the facility.
- (D) The structural maintenance of the facility.

(7) The disposition of the leasehold and improvements at the expiration of the lease.

(8) A prohibition on the sale of alcoholic beverages on the premises.

(b) The lease and contract may prescribe other terms and conditions that the department considers necessary and advisable to carry out the intent and purposes of this chapter.

*As added by P.L.1-1995, SEC.11.*

#### **IC 14-18-4-2**

##### **Contents of contract**

Sec. 2. (a) A contract authorized by this chapter must include in its terms the following provisions and conditions:

(1) The term of the contract. The term may not exceed ten (10) years.

(2) The manner of payment of rental.

(3) The facilities must be available to the public without discrimination and at charges designed to make the facilities available to a maximum number of the citizens of Indiana.

(4) A prohibition on the sale or public display of alcoholic beverages on the contract premises.

(5) The establishment of a major maintenance and replacement fund.

(b) The contract may prescribe other terms and conditions that the department considers necessary and advisable to carry out the intent and purposes of this chapter.

*As added by P.L.1-1995, SEC.11.*

**LAKE MANAGEMENT WORK GROUP  
Interim Report  
June 2010**

H.E.A. 1040 was signed by the Governor in March 2010 as P.L. 59-2010 to continue the 26-member Lake Management Work Group until July 1, 2011, whose activities are to be directed to problems and issues associated with public freshwater lakes. Since its inception in 1997, similar work groups have existed in various forms previously, either as the result of statutory creation or on an *ad hoc* basis under the auspices of the Department of Natural Resources.

This report fulfills the legislative requirement to provide an interim report before July 1, 2010. Complete notes from all meetings are available upon request. Work group members as of May 2010 are listed below.

The work group met four times since the previous interim report was submitted (August 6, 2009; October 21, 2009; March 24, 2010; June 9, 2010). Task-related subgroups met informally between these sessions to prepare for meetings of the work group. The next meeting for the work group is tentatively planned for September of 2010.

Since the interim report was submitted in June 2009, topics under discussion include but are not limited to the following issues:

- Proliferation of piers, shore stations, aerators, and other structures.
- Mandatory seasonal removal of "temporary" structures (piers, boat lifts)
- Lake level and dam maintenance and impacts on ecological systems
- Control of aquatic nuisance (invasive) species
- Toxic bluegreen algae impacts on recreational use and drinking water supplies
- Restricting phosphorus in lawn fertilizer
- Conservation of palustrine wetlands adjacent to lakes
- Promoting the economic value of lakes in Indiana
- Communicating with other entities to implement work group recommendations
- Education and outreach to lake property owners, users, realtors, and others
- Updating the Indiana Lakes web site as a resource for work group actions
- Public trust doctrine
- Effectiveness of soil and water conservation districts in implementing conservation practices
- Midwest Glacial Lakes Fish Habitat Partnership strategic planning in Indiana
- Status and use of Lake and River Enhancement (LARE) grants and funds
- Memorial to honor retired Lt. Ralph Taylor, former LMWG committee chair

The work group developed formal recommendations for a number of topics, some of which resulted in legislation that was introduced (HB 1101 on lowering of 10-acre lakes). Non-rule policy was developed as a result of other recommendations (dredging guidelines, NRC Information Bulletin #60; listing of public freshwater lakes, NRC Information Bulletin #61; group piers on public freshwater lakes, emergency rule filed 12/17/09; aerators on public freshwater lakes, emergency rule filed 11/18/09).

NATURAL RESOURCES COMMITTEE

AUG 24, 2010

**Report for the Natural Resources Study Committee, August 24, 2010:  
Indiana Lake Management Work Group (LMWG)  
issues/concerns/accomplishments  
July 1, 2009-June 30, 2010**

- The Indiana Lake Management Work Group (LMWG) is legislatively charged (IC 2-5.5-3) with addressing problems and issues associated with public freshwater lakes in Indiana. Membership includes legislators, citizens, and representatives from agencies at local, state and federal levels. The LMWG is limited to no more than four meetings per year. The expenses for the group include travel expenses for non-agency members who choose to accept reimbursement. In 2009-2010, that cost was less than \$4,000 in total.
- One of the most important achievements that occurred in the past year was the Natural Resources Commission's adoption (in November 2009) of the Public Freshwater Lakes listing for northern Indiana. This followed years of efforts, strong support, and constant encouragement by the LMWG. This provided the statutory authority for DNR to provide consistent management, assistance or regulatory intervention and reduces questions of which lakes are covered or not and helps flesh out the lakes addressed by the LMWG.
- The issues noted in the interim report provided on June 30, 2010, are expanded below with bullet points and background information to assist in understanding the role of the LMWG in addressing them
- One of the biggest issues the LMWG worked on in this biennium included successful approach to a defined policy or rules for the DNR when reviewing permits for dredging projects on Public Freshwater Lakes. The dredging guidelines were the result of a subgroup of the biology committee that included LMWG members, DNR staff, dredging contractors and academia. This group met several times throughout the year to develop a set of consistent guidelines the Department could follow when reviewing permits. These guidelines focused on mainly two areas: which areas of a lake are permissible to dredge and the timing of dredging activities to protect aquatic resources. The biology committee brought back these recommendations before the whole group for discussion. It was recommended by the LMWG to present these to the NRC for their adoption. The NRC adopted the proposal guidelines and non-rule policy for the Department to follow when reviewing dredging permitted activities.
- The other major issue was the creation of the Public Freshwater Lakes listing after many starts, and pauses, the NRC adopted a listing of the PFLs for northern Indiana. This was a huge accomplishment because of the many jurisdictions, precedents, and impacts upon regulatory authority and enforcement that is implied by the creation of the listing. This was established by the NRC with the help of the urging and involvement of the LMWG members working with DNR. This listing approved by the NRC now provides

reference material for all parties concerned with northern Indiana's Public Freshwater lakes.

Proliferation of piers, shore stations, aerators, and other structures.

- Aerators: Following review of a proposed rule to regulate use of aerators in lakes, the LMWG suggested three changes and is forwarding those suggestions to the Natural Resources Commission (NRC). The LMWG recommended that the use of aerators be limited to within 25 feet of the shoreline, be prohibited from spraying water above the lake surface, and be limited in number to no more than one.
- Group Piers: In April of 2008 the LMWG Structural Committee started discussion on recommendations to the IAC rule for Group Piers. After much discussion on riparian rights, funneling and definitions of marinas and clubs, in June 2010, LMWG strongly supported the adoption of the proposed rule by the NRC.

Mandatory seasonal removal of "temporary" structures (piers, boat lifts)

- The specific issue is whether structures that are installed under the auspices of a "general license", and are not required to be permitted individually, should be required to be removed during the non-recreational months in order to be considered "temporary".
- Issues concerning "temporary" structures are complex, controversial, and contentious. They pit neighbor against neighbor, home-sellers or developers against established lake residents, lake users against lake residents, and include concerns for safety, private property rights, and the role of the state in its regulatory authority and responsibility. The length of time to address the group piers issue alone is indicative of the challenge of this topic. The LMWG focuses on the sustainability of lake use and access, safety issues, and challenges of enforcement of the state's authority.

Lake level and dam maintenance and impacts on ecological systems

- This issue was noted in August, 2009. In October, 2009, the LMWG heard testimony from representative of Lake George on the cost of addressing risks of a dam failure. The lack of grants or local funds makes this a very difficult issue to resolve at local level. The LMWG acknowledged the quandary, but with continuing economic challenges, funds don't exist to fix the problem.
- Most large natural lakes in Indiana have a "legal lake level" set by a local circuit court judge (IC14-26-8) outside the authority of the Natural Resources Commission and some type of outlet control structure designed to assist in lake level management.
- Many of these structures are aging and now require maintenance. Others will need eventual replacement.
- In contrast, many small lakes do not have legally-established levels and are vulnerable to drainage. However, petitioning the court for a legal level can be a lengthy and controversial process.

- The LMWG may want to examine the legal process for establishing lake levels, identify ownership responsibilities, consider the need for funding and design options for repair and reconstruction of aging structures, provide policy guidance on dealing with lake level management issues for publicly and privately-owned structures, address the educational needs of lake residents, and encourage local residents to submit data through voluntary monitoring efforts.

#### Control of aquatic nuisance (invasive) species

- Based on recommendation from LMWG, legislation passed in 2003 to increase LARE fee. The additional funds are used to control aquatic invasive species and to remove sediment from lakes.
- In 2003, IDNR Division of Fish and Wildlife developed an Aquatic Nuisance Species Management Plan and subsequently hired an Aquatic Invasive Species coordinator.
- IDNR Division of Fish & Wildlife has made it a priority to eradicate hydrilla from Lake Manitou, its first known location in Indiana. DFW has spent \$1,198,366.57 since 2007 and has achieved 94% reduction in the abundance of hydrilla tubers in the lake.
- In March 2009, 30 Projects in 14 counties including 40 lakes were awarded LARE grants for Aquatic Plant Management; these projects totaled \$993,040 and included grants for hydrilla and parrot feather eradication.

#### Toxic blue-green algae impacts on recreational use and drinking water supplies

- Blue-green algal toxins have raised concerns among the general public over the past few years as more and more people become aware of the issue.
- This summer's heat has literally caused this issue to take on much greater public awareness and concern as algae blooms occur in many locations.
- IDEM, IUPUI Center for Earth and Environmental Science, IN State Dept of Health, and IDNR working together to address this.
- Website created to address concerns: [www.in.gov/idem/algae](http://www.in.gov/idem/algae)
- No standards exist in US for toxin levels in drinking or recreational water. Typically refer to World Health Organization guidelines.
- IUPUI conducting research on blue-green algal toxins and monitoring algae levels in selected Indiana lakes.
- The impact of this issue is becoming increasingly more publicized in states such as Ohio and Wisconsin, for instance which leads directly to the next issue.

#### Restricting phosphorus in lawn fertilizer

- This has become a new "hot-button" issue in recent years.
- Clear Lake in Steuben County passed a local ordinance restricting the sale/use of lawn fertilizer that contains phosphorus ("P") in 2007, and Steuben County passed a county-wide ordinance. Both ordinances were struck down by the Office of the Indiana State Chemist (OISC) in January of 2010, since it is the OISC that regulates the storage and distribution of Commercial Fertilizers in Indiana. Such a county ordinance would set a precedent of counties implementing their own regulations. The decision is on the OISC webpage.

- 
- As a result of this, LMWG and other organizations have been working with the OISC to reduce the use of P in lawn fertilizer through various actions:
  - There has been some ongoing communications with fertilizer manufacturers (e.g. Scotts) to voluntarily reduce the amount of P in lawn fertilizer
  - Incorporating information about water quality effects of P in runoff into training and certification curriculum for applicators
  - Educational campaign to reduce homeowners' use of P in fertilizer (e.g. Clear Choices Clean Water).
  - The LMWG is engaged in discussions concerning proposed legislation for the next General Assembly to reduce or restrict the amount of Phosphorous in lawn fertilizers.

#### Conservation of palustrine wetlands adjacent to lakes

- This issue was noted in August 2009, but other priorities were addressed in this past year.
- The importance of palustrine wetlands (primarily cattail marshes located adjacent to lakes) was stressed. These areas are natural, scenic, diverse, sensitive, provide beneficial habitat, and are highly threatened by continuing lakeshore development at some lakes.
- DNR authority over fill and construction activities in a lake stops landward of the shoreline. However, delineating the shoreline in the flat, marshy fringe within a palustrine wetland can be difficult, time-consuming, and expensive. Army Corps of Engineer authority and IDEM authority is also limited when activities involve less than 0.1 of an acre.
- As a result, palustrine wetlands continue to be lost or converted to residential development and other uses. Future LMWG discussion may include consideration of landowner education, financial incentives, or expanded legal authority to protect palustrine wetlands.

#### Promoting the economic value of lakes in Indiana

- The LMWG discussion from August, 2009, included this issue.
- Lakes are recognized as one of Indiana's most notable natural resources, providing water supplies, flood control, educational opportunities, increased property values and tax revenue from lake frontage, and recreational opportunities for all Hoosiers which generate tourist income to the state.
- The global value of lakes has been estimated at over \$3,400 per acre. Studies on lakes indicate that property values are directly related to lake water quality.
- The LMWG was asked to support the need for a systematic estimate of the total economic value of lake resources in Indiana which does not exist. Statewide information would be useful in prioritizing funds and programmatic efforts for lake management in the state and could provide the rationale for investing in resource preservation and conservation.

#### Communicating with other entities to implement work group recommendations

- The actions and records of the LMWG are routinely provided to the members and a large list of interested parties in electronic format. The records of meeting minutes, etc. are proposed for addition to the Indiana Lakes Website, as staff resources permit.
- Members of the LMWG represent entities that are also part of the Indiana Conservation Partnership—a loose confederation of federal, state, and county agencies and Non-governmental Organizations to facilitate information sharing on issues of mutual concern. In this manner, issues important to the LMWG are communicated to others of similar interests.
- Pertinent reports, documents, and records are available on the internet pages maintained by IDNR and IDEM, among others. Cost-savings are implemented by not printing hard copies, however.

#### Education and outreach to lake property owners, users, realtors, and others

- It was noted at the October 21, 2009 meeting that the use of the Indiana Lakes Website could be promoted to better provide information to lake property owners, users, realtors, and others. Lack of staff resources have slowed this progress
- In the interim, existing websites of IDNR and IDEM provide information, as well as those of various non-governmental organizations including the Indiana Association of Soil and Water Conservation Districts and the Indiana Lakes Management Society.

#### Updating the Indiana Lakes web site as a resource for work group actions

- The Workgroup examined potential ways to utilize this site ([www.in.gov/indianalakes](http://www.in.gov/indianalakes)). DNR LARE staff help coordinate updates. Staff vacancies this year slowed progress on this goal. DNR will not take over the website. Impending changes in the state's internet software and protocols make it wise to delay changes until at least the fall of 2010.

#### Public trust doctrine

- HB1119 was carried by Rep. Dodge and Rep. Dembowski in 2009 Session. This bill would have required DNR to implement the public trust doctrine with respect to public freshwater lakes. It did not get a hearing, however, due to the attention this bill received the DNR proposed to better document how the PTD is utilized in permit review, it has been used, just not well documented, so the emphasis added by the proposed bill helped to achieve the goals of the LMWG.

#### Effectiveness of soil and water conservation districts in implementing conservation practices

- The Workgroup acknowledges and appreciates the Legislature's interest in SWCD's through the passage of HEA 1119 in the 2010 session, which will improve the efficiency of the SWCD's procedures.
- Indiana's 92 Soil and Water Conservation Districts (SWCDs) are key partners in the direct delivery of technical services to local landowners on watershed issues, working in cooperation with the federal partner USDA's Natural

Resources Conservation Service and the state partner at the Division of Soil Conservation and Environmental Stewardship in the Indiana Department of Agriculture.

- SWCDs also have the capacity to pull in funding resources to address environmental impacts to lakes through programs including in USDA, USEPA, as well as the Indiana Lake and River Enhancement (LARE) program.
- The LMWG recognizes the importance of working with the agricultural community when working on watershed issues that impact lakes and has welcomed the participation of representatives from SWCDs and ISDA in work group meetings, as well as investigating ways to better support SWCDs in their conservation efforts at the local level.

#### Midwest Glacial Lakes Fish Habitat Partnership strategic planning in Indiana

- Several LMWG members participated in Strategic Planning as part of this partnership in June of 2009. This was the beginning of a process to obtain feedback from the public on priorities for Indiana and the Midwest

#### Status and use of Lake and River Enhancement (LARE) grants and funds

- The Lake and River Enhancement Program of IDNR Division of Fish and Wildlife is funded by dedicated funds from the lake and river enhancement fee paid by boat owners annually when they register their boats with the Bureau of Motor Vehicles.
- In 2009, this fee amounted to \$3,774,390.00 according to the BMV. This includes amounts for the Conservation Officers Marine Enforcement Grants to County Sheriff's departments, as well as funds for LARE grants for projects involving Biological, Engineering, Construction, Watershed Land Treatment, Sediment Removal and Nuisance Aquatic Vegetation Control.
- In September of 2009, implementation of the state's new accounting system provided the opportunity to encumber funds for all previously granted active LARE projects totaling \$2,709,045. LARE staff members are actively managing these projects towards successful completion.
- In March of 2010, the only new LARE grants awarded were for "super exotics". These nuisance plants (Hydrilla, Starry Stonewort and Parrot Feather) are aggressive and can potentially destroy a lake's ecosystem and usability for recreation or as habitat for fish and wildlife. These plants are very hard to control, but DNR is taking steps to attempt to prevent their spread statewide. These grants totaled \$485,454.
- In June of 2010, LARE grants were suspended indefinitely due to the ongoing economic challenges facing the state.
- In June of 2010, the OMB transferred \$2,415,121 from the Lake Enhancement fund for other state priorities.

#### Memorial to honor retired Lt. Ralph Taylor, former LMWG committee chair

- Lt. Ralph Taylor, a retired DNR Conservation Officer with 30 years of service, was an integral member of the Lake Management Work Group for years. He exhibited a life-long dedication to protecting Indiana's natural resources and

improving access for all Hoosiers. His untimely passing left a great hole in advocacy for natural resources in NE Indiana. Plans are underway to dedicate a memorial in his honor at a DNR Public Access site in the near future.

EXHIBIT 8  
 NATURAL RESOURCES COMMITTEE  
 AUG 24, 2010

**Information Maintained by the Office of Code Revision Indiana Legislative Services Agency  
 IC 2-5.5-3**

Chapter 3. Lake Management Work Group

**IC 2-5.5-3-1**

**Lake management work group established**

Sec. 1. The lake management work group is established.

*As added by P.L.16-2009, SEC.9.*

**IC 2-5.5-3-2**

**Work group charge**

Sec. 2. The activities of the work group must be directed to problems and issues associated with lakes that meet the definition of a public freshwater lake under IC 14-26-2-3.

*As added by P.L.16-2009, SEC.9.*

**IC 2-5.5-3-3**

**Membership**

Sec. 3. (a) The work group consists of twenty-six (26) members appointed as follows:

(1) Four (4) members of the general assembly consisting of:

(A) two (2) members of the house of representatives who may not be members of the same political party, appointed by the speaker of the house of representatives; and

(B) two (2) members of the senate who may not be members of the same political party, appointed by the president pro tempore of the senate.

(2) Three (3) representatives of the department of natural resources, at least one (1) of whom must be an officer in the division of law enforcement, appointed by the governor.

(3) The commissioner of the department of environmental management or the commissioner's designee.

(4) One (1) representative of the Indiana Lake Management Society or a similar organization of citizens concerned about lakes, appointed by the governor.

(5) One (1) representative of the Natural Resources Conservation Service of the United States Department of Agriculture appointed by the governor upon the recommendation of the Natural Resources Conservation Service.

(6) One (1) representative of soil and water conservation districts organized under IC 14-32 or IC 13-3-1 or IC 14-32-3 (before their repeal), appointed by the governor.

(7) Ten (10) members appointed by the governor, each of whom is:

(A) a participant in lake related recreational activities;

(B) a resident of a lake area;

(C) the owner or operator of a lake related business; or

(D) interested in the natural environment of Indiana lakes.

(8) One (1) representative of the United States Army Corps of Engineers appointed by the governor upon the recommendation

of the commander of the Louisville District of the United States Army Corps of Engineers.

(9) One (1) representative of an agricultural organization, appointed by the governor.

(10) One (1) representative of an environmental organization, appointed by the governor.

(11) Two (2) other individuals appointed by the governor as at-large members.

(b) When appointing two (2) members of the house of representatives to the work group under subsection (a)(1)(A), the speaker of the house of representatives shall appoint one (1) representative to serve as chairperson of the work group beginning July 1, 2009, and ending June 30, 2010.

(c) To fill the positions created by subsection (a)(7), the governor shall appoint at least one (1) resident to represent each congressional district in Indiana. Each individual who was appointed by the governor as a member of the work group under P.L.65-2000 (before its expiration) is appointed to serve on the work group until the governor appoints a successor.

*As added by P.L.16-2009, SEC.9.*

#### **IC 2-5.5-3-4**

##### **Work group meetings**

Sec. 4. The work group shall meet at the call of the chairperson but may not meet more than four (4) times each year.

*As added by P.L.16-2009, SEC.9.*

#### **IC 2-5.5-3-5**

##### **Work group duties**

Sec. 5. The work group shall do the following:

(1) Monitor, review, and coordinate the implementation of the work group's recommendations issued under P.L.239-1997 and P.L.65-2000.

(2) Facilitate collaborative efforts among commonly affected state, county, and local governmental entities in cooperation with lake residents and related organizations.

(3) Conduct public meetings to hear testimony and receive written comments concerning lake resource concerns and the implementation of the work group's recommendations.

(4) Develop proposed solutions to problems concerning the implementation of the work group's recommendations.

(5) Review, update, and coordinate the implementation of new and existing recommendations by communicating with the public, the general assembly, and other governmental entities concerning lake resources.

(6) Review and coordinate the development and maintenance of an Internet web site that includes information on the management of lake and watershed resources.

(7) Issue reports to the natural resources study committee when directed to do so.

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(8) Review all funding that is used for Indiana's waterways, including potential funding sources that could be used by the general assembly to correct funding problems.

(9) Issue a final report before July 1, 2011.

*As added by P.L.16-2009, SEC.9. Amended by P.L.59-2010, SEC.1.*

#### **IC 2-5.5-3-6**

##### **Reports**

Sec. 6. The work group shall make its reports available to:

(1) the natural resources study committee;

(2) the department of natural resources;

(3) members of the house agriculture, natural resources, and rural development standing committee and the senate natural resources standing committee; and

(4) the public.

*As added by P.L.16-2009, SEC.9.*

#### **IC 2-5.5-3-7**

##### **Work group directed by department of natural resources**

Sec. 7. The work group is under the direction of the department of natural resources. The department may contract with a facilitator to facilitate the work of the work group. The department of natural resources shall staff the work group.

*As added by P.L.16-2009, SEC.9.*

### **IC 2-5.5-3-8**

#### **Member per diem; expense reimbursement**

Sec. 8. (a) Each member of the work group who is not a state employee is not entitled to the minimum salary per diem provided by IC 4-10-11-2.1(b). The member is, however, entitled to reimbursement for traveling expenses as provided under IC 4-13-1-4 and other expenses actually incurred in connection with the member's duties as provided in the state policies and procedures established by the Indiana department of administration and approved by the budget agency.

(b) Each member of the work group who is a state employee but who is not a member of the general assembly is entitled to reimbursement for traveling expenses as provided under IC 4-13-1-4 and other expenses actually incurred in connection with the member's duties as provided in the state policies and procedures established by the Indiana department of administration and approved by the budget agency.

(c) Each member of the work group who is a member of the general assembly is entitled to receive the same per diem, mileage, and travel allowances paid to legislative members of interim study committees established by the legislative council.

*As added by P.L.16-2009, SEC.9.*

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### **IC 2-5.5-3-9**

#### **Payment of work group expenses**

Sec. 9. (a) Except as provided in subsection (b), per diem, mileage, travel allowances, and other expenses paid to committee members shall be paid from appropriations made to the department of natural resources.

(b) Per diem, mileage, and travel allowances paid to committee members who are members of the general assembly shall be paid from appropriations made to the legislative council or the legislative services agency.

*As added by P.L.16-2009, SEC.9.*

### **IC 2-5.5-3-10**

#### **Expiration of chapter**

Sec. 10. This chapter expires July 1, 2011.

*As added by P.L.16-2009, SEC.9. Amended by P.L.59-2010, SEC.2.*

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EXHIBIT 9

Natural Resources Committee

August 24, 2010



**Indiana Geological Survey**  
A research institute of Indiana University



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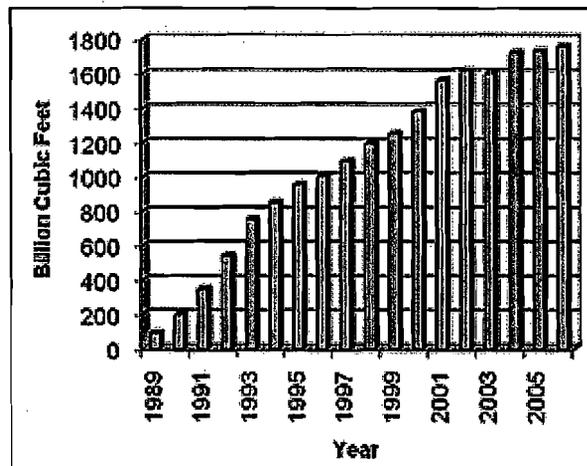
## Coal-Bed Methane Development in Indiana

### Current Status and Future Challenges

by John A. Rupp and Maria Mastalerz July 2008

#### Overview

There continues to be nationwide interest in the development of coal-bed methane (CBM) as an alternative source of natural gas, primarily because of the increase in natural gas prices coupled with an increase in demand. As the nation's demand for gas increases and conventional reserves of gas continue to decline, CBM fills an important niche in the domestic gas production portfolio. Federal energy policy recognizes the potential of CBM to help the country move toward energy self-sufficiency. Currently in 2008, CBM is estimated to be meeting 9 percent of the dry natural gas demand in the United States. Annual production is approaching 2 trillion cubic feet (Tcf) (fig. 1).



**Figure 1. Graph showing the amount of coal-bed methane produced in the United States.**  
(source: EIA, 2008)

Historically, the gas content of coals located in Indiana and in the Illinois Basin was considered to be too low for economical extraction. This same conclusion condemned much of the CBM gas resource throughout the nation. Since the year 2000, active exploration programs in several western states and also some Appalachian states have resulted in significant development of these resources. CBM is currently produced in large quantities from some basins, mainly the Powder River Basin of Wyoming, the San Juan Basin of New Mexico and Colorado, and the Black Warrior Basin of Alabama, and is beginning to be exploited in other largely untapped areas, including the Illinois Basin. Estimates by the U.S. Geological Survey estimated CBM resources in the United States at 400 trillion cubic feet (Tcf), and the Illinois Basin contains from 5 to more than 21 Tcf.

Data acquired by the Indiana Geological Survey suggest that the gas content of coals in particular areas within the basin may be much higher than previously estimated. In addition to the mining of the coal, production of CBM in Indiana may be an effective means to utilize a portion of the potential energy available in this resource.

A portion of the Illinois Basin is located within southwestern Indiana (fig. 2). This basin contains over 325 billion tons of remaining coal resources (fig. 3) that are estimated to contain 21 Tcf of natural gas. (For comparison, the very prolific Powder River Basin of Wyoming and Montana contains an estimated 39 Tcf of economically recoverable gas. Nearly 4 billion cubic feet per day of coal-bed methane is currently being produced in the United States, with about 20 percent of it coming from the Powder River Basin.) To date, however, only a very limited amount of this gas has been developed and produced in

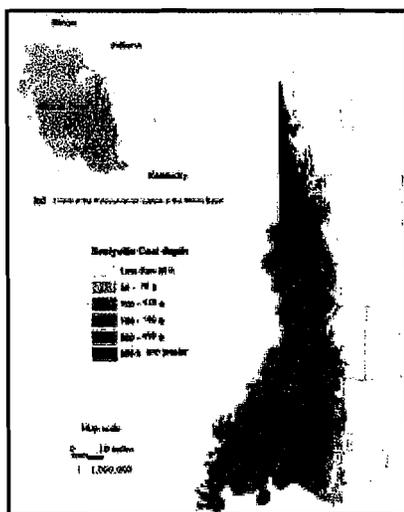


Figure 2. Map showing the location of the Illinois Basin in southwestern Indiana and depth to the top of the Seelyville Coal Member of the Linton Formation (Pennsylvanian), the principle seam that is exploited for coal-bed methane production in Indiana.

Indiana. Five counties in southwestern Indiana are currently producing (Table 1) and many others have the potential for CBM gas production.

CBM can be produced from abandoned underground coal mines or from unmined single seams, as well as from multiple seams. Gas produced from the voids created by the underground mining of coal in the past is sometimes termed "mine void gas" or "gob" gas, as opposed to gas that is produced from unmined or virgin coal seams, which is always termed "coal-bed methane" or "CBM." Two multiple-well fields that have produced CBM within Indiana are located in southeastern Sullivan County (Dugger North and Sullivan South Fields). Figure 4 shows the distribution of mine void and coal-bed methane wells in Indiana.

**Conventional versus Unconventional Gas Production**

Coal-bed methane is termed an "unconventional" gas resource. This is in contrast with most "conventional" natural gas resources. The difference lies in the way in which the gas occurs within the reservoirs. In conventional gas reservoirs, the gas resides in the small pores

within the rock. When the pressure is decreased by a well tapping the reservoir, the gas flows out of the pore spaces and into the wellbore. In an unconventional reservoir, however, the gas is attracted to or "adsorbed" onto the organic molecules that make up the coal. The gas is produced by drilling into the coal seam and pumping off the water, which maintains pressure on the coal. Once the water pressure is reduced, the gas molecules detach or "desorb" from the coal and flow to the surface through the wellbore. Because the production of CBM is unconventional and requires the dewatering of the coal reservoir to induce the gas to flow to the surface, many wells are required.

When the water from the coal is produced, it must be disposed of, as it is often salty and unfit for drinking. It is often disposed of by drilling wells into deep saltwater-filled reservoirs and injecting the water back into the subsurface. Also, CBM fields being located in the state may need considerable infrastructure development, including roads, pipelines, and electrical services. The effects on the quality of state's ground-water resources by the production of CBM in Indiana have not been assessed.

**Benefits of Coal-Bed Methane Use**

Within Indiana, the overall increase in natural gas consumption, coupled with the use of natural gas for the generation of electricity, have significantly increased the demand for gas. The production of coal-bed methane will help provide additional indigenous natural gas for household and industrial uses and for generating power in the state.

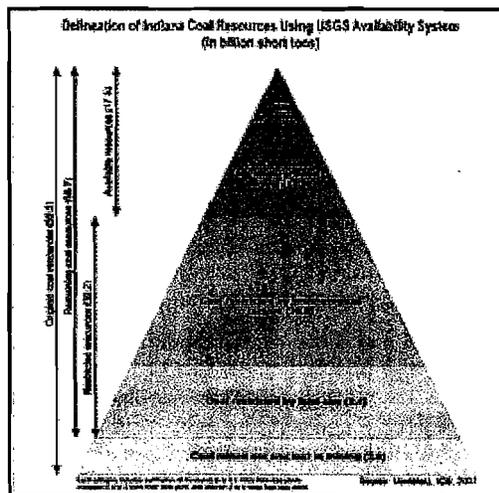


Figure 3. Illustration showing the recoverable coal resources (in billion short tons) in Indiana, using the U.S. Geological Survey (USGS) availability system.

CBM recovery also can enhance the safety of underground coal mines by reducing the



In addition, questions remain about how a new resource of gas produced within the state will be delivered to market, for example, the pipeline and underground storage capacity located within the state must be assessed.

Our understanding of the dynamics of CBM production will be increased by continued research on these topics, so decisions can be made based on sound scientific and engineering practices, sound decisions that will maximize the benefits of this energy resource and minimize any associated negative aspects. Although there are significant challenges associated with the development of this potentially very valuable and environmentally clean natural resource, these challenges are potentially surmountable. For the state to benefit from this untapped energy resource, the necessary research investment must be made so that we can address these challenges.

**Table 1. Producing coal-bed methane fields in Indiana.**

| County                                   | Field                   | Location (township and range)   | Number of Wells <sup>†</sup> |
|--|-------------------------|---|------------------------------|
| Daviess                                  | Maysville               | T. 2 N., R. 7 W., sec. 7  | 1 producing                  |
| Gibson                                   | King*                   | T. 2 S., R. 11 W., sec. 36  | 2 producing                  |
|  | King West*              | T. 2 S., R. 11 W., sec. 25  | 2 producing                  |
|  | Princeton North Consol. | T. 2 S., R. 10 W., sec. 30<br>T. 2 S., R. 11 W., sec. 24  | 3 producing                  |
| Knox                                     | Bicknell*               | T. 3 N., R. 8 W., donation 154  | 1 abandoned                  |
|  | Bruceville South*       | T. 4 N., R. 9 W., donation 73 and 74  | 4 producing                  |
| Sullivan                                 | Dugger North            | T. 7 N., R. 8 W., sec 3<br>T. 8 N., R. 8 W., sec 20, 21, 27, 28, 29,<br>30, 32, 33, 34<br>T. 8 N., R. 9 W., sec 10, 11, 14, 13, 23,<br>24, 25 | 38 producing                 |
|  | Graysville North        | T. 8 N., R. 10 W., sec. 18  | 1 producing                  |
|  | New Lebanon             | T. 7 N., R. 9 W., sec. 18, 19, 20, 21<br>T. 7 N., R. 10 W., sec. 22, 23, 26   | 12 producing<br>1 abandoned  |
|  | Paxton West             | T. 7 N., R. 9 W., sec. 28, 33   | 7 producing                  |
|  | Shelburn Consolidated   | T. 8 N., R. 9 W., sec. 3  | 1 producing                  |
|  | Sullivan South*         | T. 7 N., R. 9 W., sec. 3 and 10   | 2 producing<br>2 abandoned   |
| Vigo                                     | New Goshen*             | T. 13 N., R. 9 W., sec. 17  | 1 abandoned                  |
|  | Sandford*               | T. 12 N., R. 10 W., sec. 2 and 3  | 9 producing<br>1 abandoned   |
| *Mine gas                                |                         |   |                              |
| †Does not include confidential well data |                         |   |                              |

#### Indiana Geological Survey research on coal-bed methane potential

The Indiana Geological Survey (IGS) has been actively involved in the study of coal-bed methane. For years IGS researchers have been involved in quantifying the volume, distribution, and quality of coal available in Indiana. Large quantities of new data on the amount and the character of coal gas have been collected in recent years. The IGS maintains facilities and staffing to assess various aspects of coal quality, the physical and chemical characteristics of coal, and the properties of gas.

The following reports include Indiana coal-bed methane information and are available from the Indiana Geological Survey:

- A GIS-based evaluation of coal-bed gas potential of the Seelyville Coal in Indiana (2002)

- Coalbed methane in Indiana (1991)
- Characterization of Indiana's coal resource: availability of the reserves, physical and chemical properties of the coal, and present and potential uses (2004)
- Coal-bed gas potential in Daviess County, Indiana (1998)
- Coalbed gas potential in Gibson County, Indiana: part I (1999)
- Coal quality variation and coalbed gas content in boreholes SDH-383 and SDH-384 in Posey County, Indiana (2000)

Two databases that include stratigraphic and coal-quality data from Indiana are also available:

- The Indiana Geological Survey Coal Stratigraphic Database: an update (2004)
- Indiana Coal-Quality Database (2005)

Additionally, the following articles discuss various aspects of CBM in Indiana:

- Drobniak, A., Mastalerz, M., Rupp, J., and Eaton, N., 2004, Coalbed gas potential of the Seelyville Coal in Indiana: *International Journal of Coal Geology*, v. 57, p. 265–282.
- Mastalerz, M., Gluskoter, H., and Rupp, J., 2004, Carbon dioxide and methane adsorption in high volatile bituminous coals from Indiana: *International Journal of Coal Geology*, v., 60, p. 43–57.
- Mastalerz, M., Rupp, J., Drobniak, A., Harpalani, S., Anderson, A., Korose, K., Frailey, S., and Morse, D., in press, Assessment of CO<sub>2</sub> sequestration and enhanced coalbed methane potential in unminable coal seams of the Illinois Basin, *in* Carbon dioxide sequestration in geological media—state of the art: American Association of Petroleum Geology Special Publication.
- Solano-Acosta, W., Mastalerz, M., and Schimmelmann, A., 2007, Cleats and their relation to geologic lineaments and coalbed methane potential in Pennsylvanian coals in Indiana: *International Journal of Coal Geology*, v. 72, p. 187–208.
- Solano-Acosta, W., Schimmelmann, A., Mastalerz, M., Arango, I., 2008, Diagenetic mineralization in Pennsylvanian coals from Indiana, USA—<sup>13</sup>C/<sup>12</sup>C and <sup>18</sup>O/<sup>16</sup>O implications for cleat origin and coalbed methane generation: *International Journal of Coal Geology*, v. 73, p. 219–236.
- Strapoc, D., Mastalerz, M., Eble, C., and Schimmelmann, A., 2007, Characterization of the origin of coalbed gases from the southwestern Illinois Basin by compound-specific carbon and hydrogen stable isotope ratios: *Organic Geochemistry*, v. 38, p. 267–287.
- Strapoc, D., Mastalerz, M., Schimmelmann, A., Drobniak, A., Hedges, S., in press, Variability of geochemical properties in a microbially-dominated coalbed gas system from the eastern margin of the Illinois Basin: *International Journal of Coal Geology*.
- Strapoc, D., Schimmelmann, A., and Mastalerz, M., 2006, Carbon isotopic fractionation of coalbed gases CH<sub>4</sub> and CO<sub>2</sub> during canister desorption: *Organic Geochemistry*, v. 37, p. 152–164.
- Strapoc, D., Picardal, F., Turich, C., Schaperdott, I., Macalady, J., Lipp, J.S., Yu-Shih Lin, Ertel, T. F., Schubotz, F., Hinrichs, K.-U., Mastalerz, M., Schimmelmann, A., 2008, Methane-producing microbial community in a coal bed of the Illinois Basin: *Journal of Applied and Environmental Microbiology*, v. 74, p. 2,424–2,432.

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# Coal Bed Methane in Indiana

## Opportunities

- Home Grown Energy
- Potential miner safety benefit
- IC 14-11-1-1 (f) prevention of the waste of mineral resources

## Challenges

- Potential miner safety hazard
- IC 14-11-1-1 (f) prevention of the waste of mineral resources

AUG 24, 2010

EXHIBIT 2

NATURAL RESOURCES COMMITTEE

Natural Resources Study

Committee

**Coal Bed Methane in Indiana**

**Indiana Geological Survey**

**Wealth of Information**

**<http://igs.indiana.edu/geology/>**

# Coal Bed Methane in Indiana

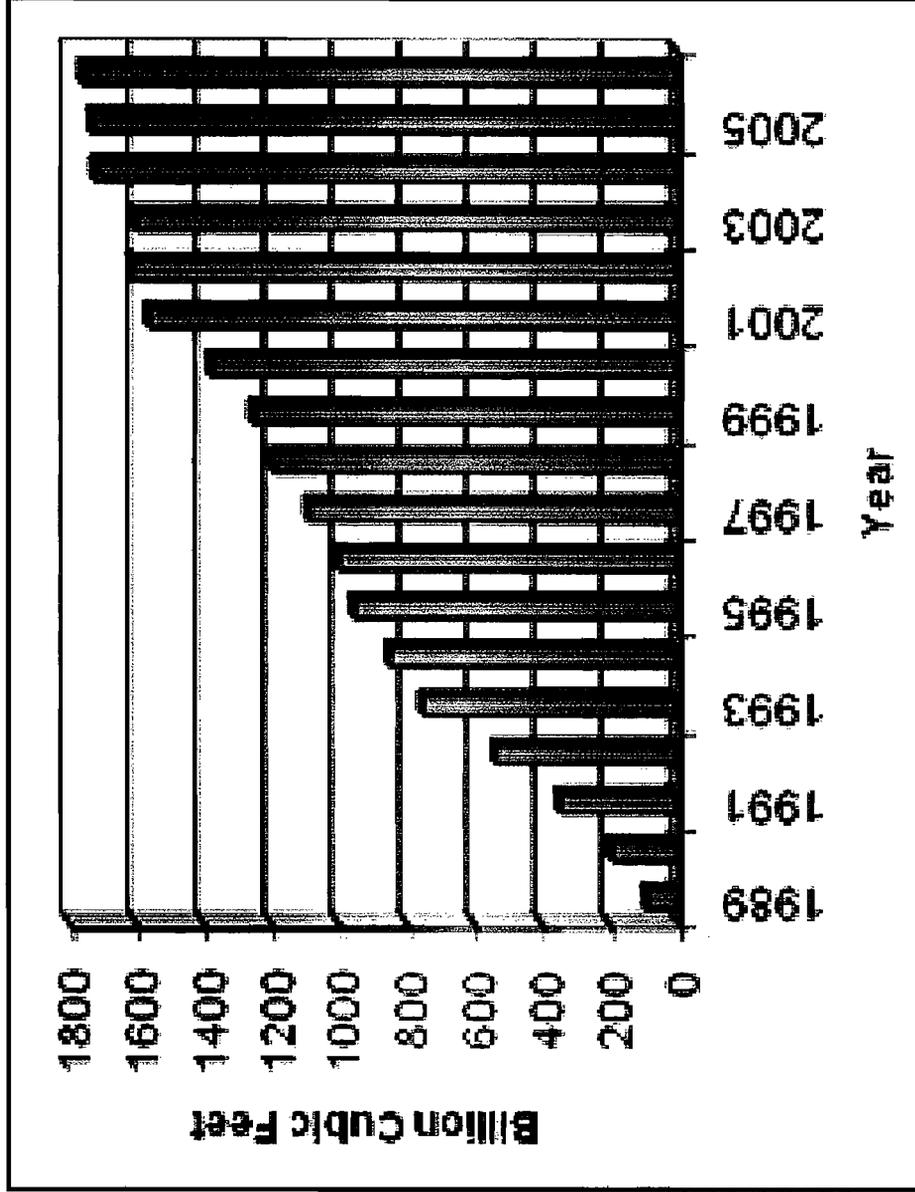
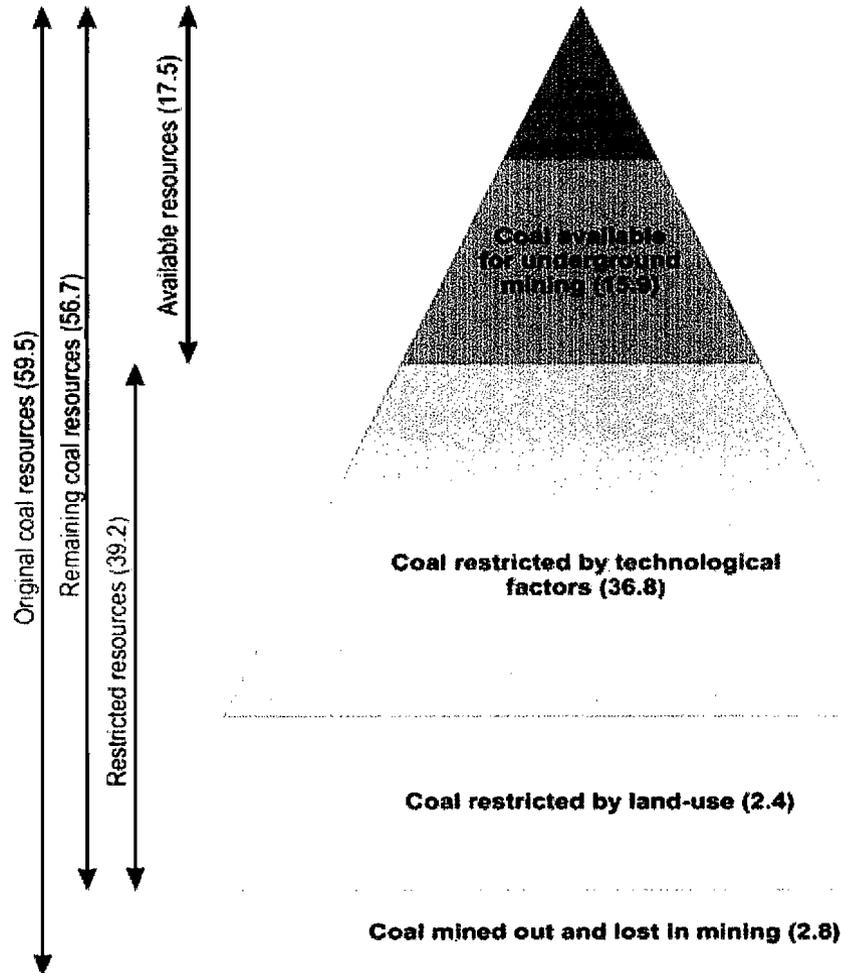


Figure 1. Graph showing the amount of coal-bed methane produced in the United States.

(source: EIA, 2008)

# Coal Bed Methane in Indiana

## Delineation of Indiana Coal Resources Using USGS Availability System (in billion short tons)



Each category includes summation of measured (0 to 0.5 miles from data point), indicated (0.5 to 2 miles from data point, and inferred (2 to 4 miles from data point)

Source: Mastalerz, IGS, 2007

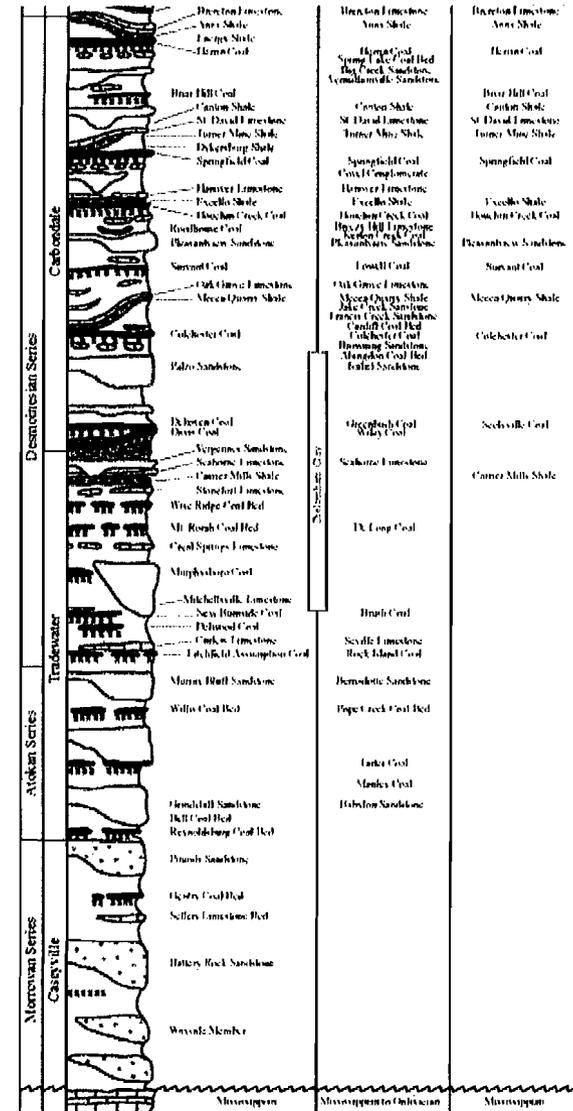
# **Coal Bed Methane in Indiana**

- **CBM created as a result of biological process**
- **CBM produced from mine voids or virgin coal seams**
- **CBM an unconventional gas resource adsorbed in coal**
- **Freed by change in hydrostatic pressure through removal of water**
- **Some artificial fracturing or entry into the seam required for collection**

# Coal Bed Methane in Indiana

|                     | Illinois       | Indiana                   | W. Kentucky         | Virginia          |              |
|---------------------|----------------|---------------------------|---------------------|-------------------|--------------|
| McLeansboro Gp.     | Mattoon Fm.    | Mattoon Fm.               | Mattoon Fm.         | Virg.             |              |
|                     | Bond Fm.       | Bond Fm.                  | Bond Fm.            | Missourian        |              |
|                     | Patoka Fm.     | Patoka Fm.                | Patoka Fm.          |                   |              |
|                     | Shelburn Fm.   | Danville (No. 7)          | Danville            | Danville (No. 14) |              |
|                     |                | Jamestown                 | Hymera              | Baker (No. 11)    |              |
|                     |                | Herrin (No. 6)            | Herrin              | Paradise (No. 12) |              |
|                     |                | Springfield (No. 5)       | Springfield         | Herrin (No. 11)   |              |
|                     | Carbondale Fm. | Houchin Creek             | Houchin Creek       | Houchin Creek     | Desmoinesian |
|                     |                | Survant                   | Survant             | Survant (No. 8)   |              |
|                     |                | Colchester (No. 2)        | Colchester          | Colchester        |              |
| Dekoven             |                | Dekoven                   | Dekoven (No. 7)     |                   |              |
| Davis               |                | Seelyville                | Davis (No. 6)       |                   |              |
| Raccoon Creek Group | Tradewater Fm. | Unnamed Staunton Fm coals | (Mining City) No. 4 | Atokian           |              |
|                     |                | Empire                    | Lead Creek/Dunbar   |                   |              |
|                     | Brazil Fm.     | Minshall/Bufaloville      | Elm Lick            |                   |              |
|                     |                | Upper Block               |                     |                   |              |
|                     | Mansfield Fm.  | Lower Block               |                     |                   |              |
|                     |                | Mariah Hill               |                     |                   |              |
| Blue Creek          |                |                           |                     |                   |              |
| Reynoldsburg        | Pinnick        |                           |                     |                   |              |
| St. Meinrad         |                |                           |                     |                   |              |
| French Lick         |                |                           |                     |                   |              |
| Caseyville Fm.      | Gentry         |                           | Battery Rock        | Morrowan          |              |
|                     |                |                           | Nolin               |                   |              |

Fig. 1. Lithostratigraphy of the Pennsylvanian System in the Illinois Basin (modified from Mastalerz and Harper, 1998; The Tri-State Committee on Correlation of the Pennsylvanian System in the Illinois Basin, 2001). The table shows lithostratigraphic positions of major coals in Indiana, Kentucky and Illinois.



Note: Rock layers shown in this column are not necessarily in the same order as they occur in nature. The column is based on the lithostratigraphic correlation of the Pennsylvanian System in the Illinois Basin, 2001.

# Coal Bed Methane in Indiana

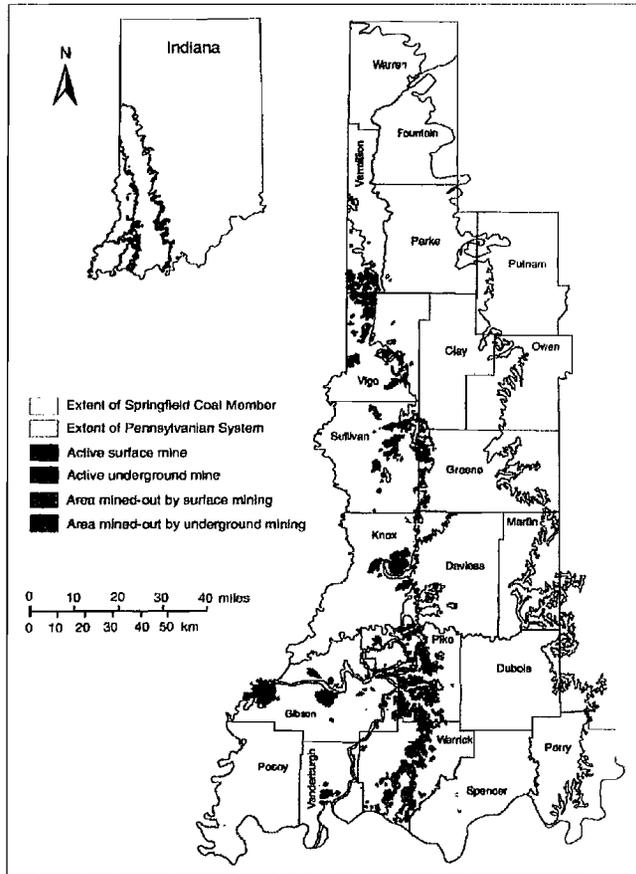


Figure 18. Map of southwestern Indiana showing the extent of the Springfield Coal Member and the Pennsylvanian System, the distribution of the Springfield coal surface, underground mines, and mined-out areas.

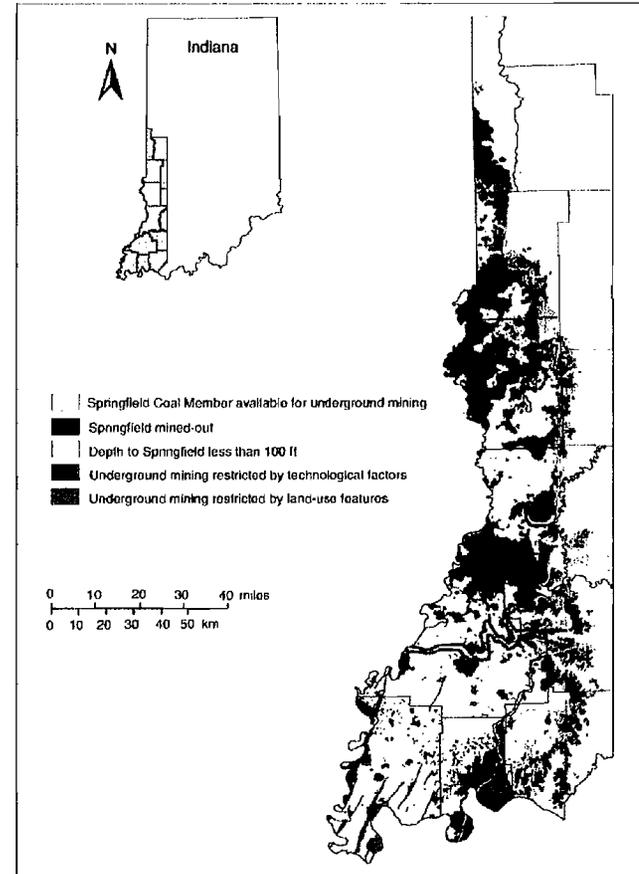


Figure 24. Map of southwestern Indiana showing areas where the Springfield Coal Member is available for underground mining and where underground mining is restricted. After Corolly and Zlotin (1999).

# Coal Bed Methane in Indiana

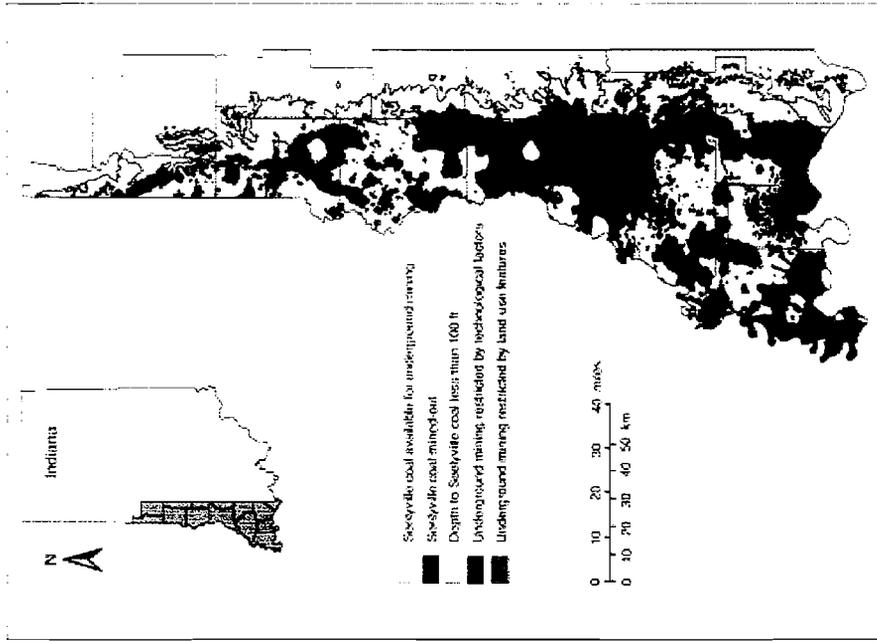


Figure 11. Map of coal bed methane potential showing the extent of the Seelyville Coal Member and the Pennsylvania System, the distribution of the Seelyville coal, and underground mining.

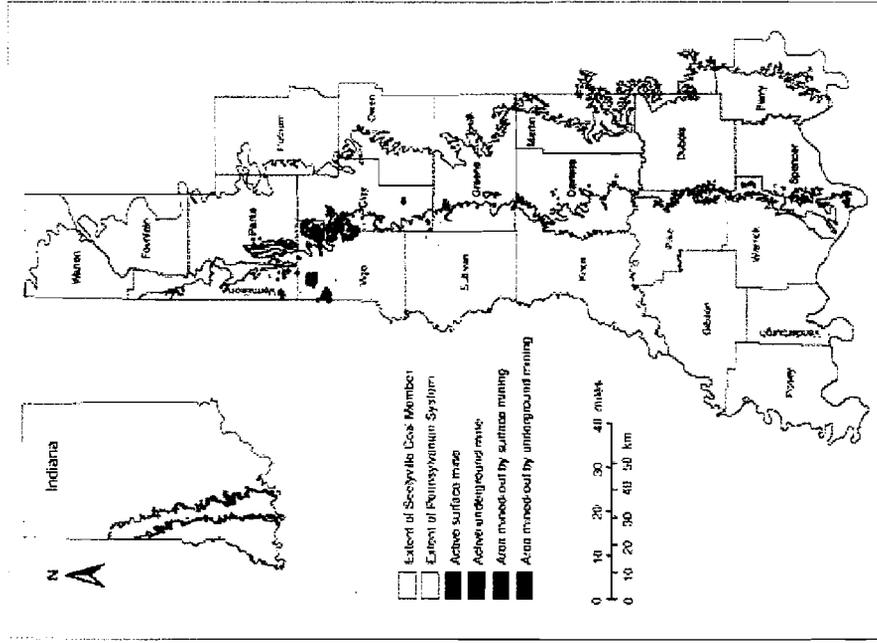


Figure 10. Map of coal bed methane potential showing the extent of the Seelyville Coal Member and the Pennsylvania System, the distribution of the Seelyville coal, and underground mining.

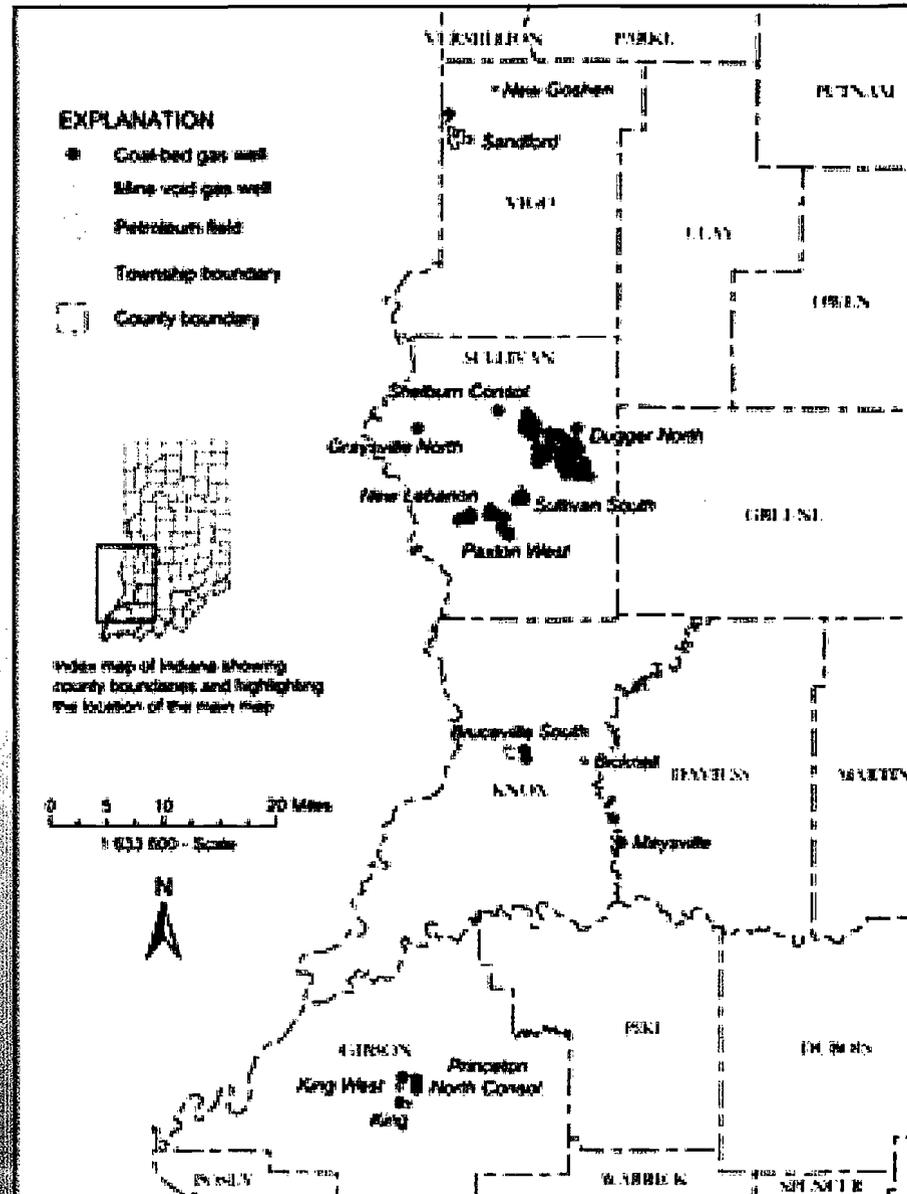
# Coal Bed Methane in Indiana

**Table 1. Producing coal-bed methane fields in Indiana.**

| County (Field)      | Number of Wells† |
|---------------------|------------------|
| Daviess (Maysville) | 1 producing      |
| Gibson (King*)      | 2 producing      |
| (King West*)        | 2 producing      |
| (Princeton N Con)   | 3 producing      |
| Knox (Bicknell*)    | 1 abandoned      |
| (Bruceville South*) | 4 producing      |
| Sullivan (Dugger N) | 38 producing     |
| (Graysville North)  | 1 producing      |
| (New Lebanon)       | 12 prod. 1 aband |
| (Paxton West)       | 7 producing      |
| (Shelburn Consol)   | 1 producing      |
| (Sullivan South*)   | 2 prod 2 aband   |
| Vigo (New Goshen*)  | 1 abandoned      |
| (Sandford*)         | 9 prod 1 aband   |

*\*Mine gas*

*†Does not include confidential well data*



# Coal Bed Methane in Indiana

## IDNR Regulatory Functions

### Division of Reclamation

- **Regulates Exploration for & Surface & Underground Mining of coal with respect to public health, public safety, and environmental impacts**
- **Has “primacy” under the Federal Surface Mining Control & Reclamation Act**
- **Does not regulate mine safety**
- **Does not arbitrate surface or mineral ownership issues**

### Division of Oil & Gas

- **Regulates Exploration & production of oil, natural gas, including coal bed methane, under IC 14-37 & 38 to minimize associated environmental impacts & to minimize waste of produced resource, protection of underground water resources & commercially mineable coal reserves**
- **Has “primacy” under the Federal Safe Drinking Water Act to administer the UIC program - Class II wells for enhanced recovery or produced water disposal**
- **Does not arbitrate surface or mineral ownership issues or mineral lease terms**
- **Does not regulate noise, odor, lighting, or local zoning**
- **Does not regulate transportation of oil or gas once it leaves the production facility**

# **Coal Bed Methane in Indiana**

## **IDNR Needs**

- **Authority to adopt temporary or emergency rulemaking authority under IC 14-10-2-5**
- **Method to ensure communication with coal interests for CBM well permit applications**
- **Legislative policy directive regarding miner safety relative to rule development for CBM production**
- **Revision of well plugging procedures in IC 14-37-8**

EXHIBIT II

NATURAL RESOURCES  
COMMITTEE

AUG 24, 2010



INDIANA COAL COUNCIL, INC.  
150 West Market Street, Suite 400  
Indianapolis, IN 46204  
www.indianacoal.com

J. Nathan Noland, President

Office (317) 638-6997  
Fax (317) 638-7031  
admin@indianacoal.com

## MEMORANDUM

**TO:** Natural Resources Study Committee Members  
**FROM:** Nat Noland, Indiana Coal Council  
**DATE:** August 24, 2010  
**SUBJECT:** Coal Bed Methane

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On behalf of the Indiana coal mining industry, we appreciate the opportunity to discuss coal bed methane (CBM) development issues with Natural Resources Study Committee. Some of the issues we will address are: coal miner safety, coal seam stimulation methods, prevention of "wasting" natural resources, public notice of CBM well permit applications, plugging of abandoned boreholes, and CBM ownership. We look forward to addressing these issues in more detail at a future meeting of the Committee.

Today I am attaching 2 documents that I believe will help provide the Committee with more background information in preparation for testimony from interested parties in the future. The following materials are attached:

1. A copy of the July 2009 Indiana Court of Appeals decision in the matter of *Cimarron Oil Corp. vs. Howard Energy Corp.* The opinion discusses many of the issues listed above and highlights the necessity for the legislature to address certain "public policy" issues. The yellow "highlights" are mine and intended just to emphasize certain points addressed in the opinion. The Court did not have to decide matters beyond the competing lease issues, but the decision is suggestive of what this Court would do in deciding the other issues.
2. A background paper on coal seam stimulation for CBM recovery prepared by Norwest Corp., a national firm with coal and petroleum expertise. Coal seam stimulation is required for CBM recovery, but the methods used must be protective of coal miner safety and not waste the coal resource.

If you have any questions or would like further information before future meetings you can contact me at 317-638-6997 or [admin@indianacoal.com](mailto:admin@indianacoal.com)



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APPEAL FROM THE GIBSON CIRCUIT COURT  
The Honorable Jeffrey F. Meade, Judge  
Cause No. 26C01-0312-PL-23

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July 24, 2009

OPINION – FOR PUBLICATION

BAILEY, Judge

Case Summary

Cimarron Oil Corp. (“Cimarron Oil”) appeals the entry of a judgment, pursuant to the Indiana Uniform Declaratory Judgment Act, Ind. Code § 34-14-1-1, et seq., decreeing that lessee Howard Energy Corp. (“Howard Energy”), as opposed to lessee Cimarron Oil, possesses the exclusive right to recover all coal bed methane gas (“CBM”) from coal seams underlying the real property of Gletus and Ernestine Hardiman (“the Hardimans”) in Gibson County, Indiana. We affirm.

Issue

Cimarron Oil presents the issue of whether a lease dated October 1, 1976, whereby the Hardimans granted Cimarron Oil’s predecessor the right to drill for and produce oil and gas,<sup>1</sup> includes the exclusive right to drill for and produce CBM.

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<sup>1</sup> The Oil and Gas Lease provided in relevant part that Marion Woods was granted a lease “for the sole and only purpose of mining and operating for oil and gas and of laying of pipe lines, and of building tanks, power stations and structures thereon to produce, save and take care of said products[.]” App. 26.

## **Facts and Procedural History**

On December 1, 2003, Howard Energy filed a complaint for a declaratory judgment, naming as defendants Cimarron Oil and the Hardimans. Argument of counsel was heard on October 10, 2008. Prior to oral argument, Howard Energy and Cimarron Oil submitted an Agreed Statement of Facts to the Gibson Circuit Court. Attachment A to the Agreed Statement of Facts, Coalbed Methane in Indiana. Occasional Paper 56, provides background information about CBM generally:

Methane is a tasteless, odorless, invisible, combustible gas (chemical formula CH<sub>4</sub>) that occurs naturally in certain rock strata, including almost all coalbeds.

Because it is lighter than air, methane accumulates in underground coal mines in pockets along the roof and in poorly ventilated areas. Miners sometimes refer to methane-rich atmospheres as “firedamp,” which has been a dreaded hazard since the 17<sup>th</sup> Century. Methane explosions are especially destructive when they initiate explosions of coal dust that may propagate through long distances in dust-filled galleries. Tens of thousands of miners have been killed worldwide in explosions, and such tragedies stimulated some of the earliest enactments of social legislation, as well as some of the earliest examples of governmentally supported scientific research (Bryan, 1975). Although much progress has been made, the potential for disaster still exists wherever coal is mined underground. Even mines that have long been abandoned can contain pockets of methane that are a hazard to drilling operations that inadvertently penetrate them.

But this menace to coal miners is also a potential resource. Methane is the principal constituent of natural gas, which is a clean-burning and highly desirable source of energy.

(App. 36.) The Agreed Statement of Facts provides in relevant part:

Plaintiff, Howard Energy, is an Illinois Corporation, incorporated in and under the laws of said state, duly registered in the State of Indiana.

Defendant, Cimarron Oil Corp. is an Illinois Corporation, incorporated in and under the laws of said state, duly registered in the State of Indiana.

On or about October 1, 1976, Gletus Hardiman and Ernestine Hardiman were the record owners of the surface and all minerals in a certain tract of property located in the County of Gibson and State of Illinois [sic] described as follows:

60 acres, more or less, lying in the Northwest part of the Northeast Quarter of Section 7, Township 2 South, Range 11 West, the boundaries of which being shown by the public records of Gibson County, Indiana.

Which property is hereinafter referred to as the "Subject Tract."

On or about October 1, 1976, an oil and gas lease covering the Subject Tract was given by Gletus Hardiman and Ernestine Hardiman, as lessors, to Marion W. Woods, as lessee, which lease was duly recorded on October 26, 1976, in the Gibson County Recorder's Office in Miscellaneous Record Drawer 2, Card 8256. This lease remains in force. A copy of said oil and gas lease is attached, marked "Exhibit 1" and is hereby incorporated into and made a part of this statement. It is hereinafter referred to as the "Hardiman Lease."

Cimarron is engaged in, among other things, the business of exploration for oil and gas in the state of Indiana. Cimarron is the current assignee of the Hardiman Lease and possesses the exclusive right of recovery of the minerals underlying the Subject Tract which are covered by the Hardiman Lease.

Howard Energy is engaged in, among other things, the business of exploration for minerals in the state of Indiana. On or about January 30, 2001, a coalbed gas lease covering the Subject Tract was given by Gletus Hardiman and Ernestine Hardiman, as lessors, to Howard Energy, as lessee, which lease was duly recorded on February 1, 2001, in the Gibson County, Indiana Recorder's Office as instrument number 200100000895. This lease remains in force. A copy of said coalbed gas lease is attached, marked "Exhibit 2," and is hereby incorporated into and made a part of this statement. Said lease is referred to herein as the "Coal Bed Methane Lease."

A controversy exists between Cimarron and Howard energy regarding the right of recovery of coalbed methane from the Subject Tract.

It is the position of Cimarron that it holds the leasehold under the Hardiman Lease; that the Hardiman Lease grants to Cimarron the exclusive right to recover gas; that the right to recover coal bed methane gas is covered by the express provisions of the Hardiman Lease; that Howard Energy's rights to produce coal bed methane from the Subject Tract are subordinate to the rights of Cimarron to produce it; and that any extraction of coal bed methane gas by

Howard Energy will constitute a trespass against Cimarron and a conversion of Cimarron's property.

It is the position of Howard energy that coal bed methane is part of the coal estate; that the Hardiman lease is a conventional oil and gas lease covering only the oil and gas estate; that gas, as that term is used in the Hardiman Lease, includes only conventional natural gas and not substances emanating from coal, even if extracted in gas form; that the Hardiman Lease does not therefore include the right to extract coal bed methane; that Howard Energy holds the leasehold under the Coal Bed Methane Lease and has the exclusive right to produce coal bed methane by virtue of that lease; and that Cimarron's claim that it has a right to produce coal bed methane under the Hardiman and similar leases has created uncertainty preventing Howard Energy's undertaking full exploration and sale of coal bed methane in Gibson County and elsewhere.

The publications attached to this Agreed Statement of Facts contain agreed facts concerning coal bed methane and related industries:

- a. Harper, D., Methane in Indiana. Occasional Paper 56, State of Indiana, Department of Natural Resources, Geological Survey, at Indiana University (Attachment A).
- b. Mastalerz, M. and Harper, D., Coal in Indiana: A Geologic Overview, Indiana University, Indiana Geological Survey Special Report 60 (Attachment B).
- c. Mastalerz, M. Drobnia, A., Rupp, J., and Shaffer, N., Characterization of Indiana's Coal Resource: Availability of the Reserves, Physical and chemical Properties of the Coal, and Present and Potential Uses, Open-File Study 04-02, July 2004, Indiana Geological Survey, Indiana University, Sections 5.6, 6.3, 9.0, Table 61 (Attachment C).

Coal bed methane gas is present in all coal and when separately produced, originates from coal. It is in gas form after it is desorbed from the surface in the coal upon release of pressure. Any coal bed methane extracted from the Subject Tract would be in gas form at the well head.

No coal has ever been mined on the Subject Tract. Any production of coal bed methane gas would be from virgin coal seams and would require fracturing the virgin coal seam by use of high pressure in order to stimulate economically viable production of coal bed methane gas. Fissures in coal create space in the coal seam, relieve pressure and thus permit desorption of the CH<sub>4</sub> molecule from the surface of the coal into gas form. Fracturing coal may impact the ability to later mine that coal.

In Gibson County, and throughout Indiana and the Illinois Basin, coal mine operations have included handling of coal bed methane which is necessary for the safe operation of coal mines. This control has generally been exercised for the purpose of venting coal bed methane gas into the atmosphere in order to reduce the danger to coal miners. Until approximately ten years ago, nearly all extraction of coal bed methane gas by the coal owner or lessee has been for that purpose, there being only limited and sporadic commercial sale of such gas by the coal bed methane owner and such sales generally being secondary to coal extraction operations.

Approximately ten years ago, coal bed methane gas production unrelated to coal mining began in Sullivan County, Indiana, which is near Gibson County. This production has resulted in continuing commercial sales of coal bed methane gas. The producer of coal bed methane gas in Sullivan County, Indiana claims it has the right to produce the gas and does so on the basis of its control of the coal estate. It does not control the oil and gas estate. This field is hereafter referred to as the "Dugger Field."

Maria D. Masterlerz, Ph.D., Research Scientist, Indiana University, Indiana Geological Survey, and John A. Rupp, Assistant Director for Research, Indiana University, Indiana Geological Survey, are experts on coal bed methane. Further information regarding the qualifications of these experts are attached as Attachments D and E.

Dr. Mastalerz is an expert in the field of coal bed methane. She has stated the following to counsel for both parties, as a supplement to and analysis of her statements in the above publications, and it is presented to the court in lieu of her expert testimony:

There are two types of Coal Bed Methane Gas ("CBM Gas"): Biogenic and Thermogenic. The Biogenic CBM Gas is formed when bacteria reaches coal through the water systems, feeds on coal and generates gas which adsorbs to the coal. Thermogenic CBM Gas is formed by long term pressures which chemically produces [sic] the CBM Gas. Most CBM Gas, including all in Indiana, is Biogenic in origin. CBM gas is composed almost entirely of CH<sub>4</sub>. The CH<sub>4</sub> is located within the coalbed and is an integral part of the coal, where it primarily attaches itself to the surface of pores in the coal. It is released, in gas form, when exposed to a free space allowing desorption from the coal. Small amounts of CH<sub>4</sub> may exist in free gas form within a pore or fracture system in the coal but most exists within the solid matrix of the coal and is released during production by fracturing the coal seam to create open spaces into which the CH<sub>4</sub> may desorb from the pores. The origin of coal bed

methane is bacterial action on the organic material from which the coal was formed. It remains in the coal until it is separated by desorption, generally by artificial means such as mining (creating entries or open spaces) or fracturing for purposes of pre-mining degasification (for safety) or for CBM Gas production, whereupon it is in free gas form. The gas in shale is generally produced in the same manner as gas in coal.

John A. Rupp is agreed to be an expert in the field of coal bed methane, has stated the following to counsel for both parties, as a supplement to and analysis of his statements in the above publications, and it is presented to the court in lieu of his expert testimony:

He concurs in the statements of Dr. Mastalerz. Most CH<sub>4</sub> does not exist in free gas form in virgin coal seams. Conventional natural gas, from gas fields long existing in Indiana, is all in free gas form and is in a non-organic matrix (and, limestone, etc.). The process of desorption, that is, the CH<sub>4</sub> molecule coming off the solid material, is caused by a drop in hydrostatic pressure.

Chemically, the gas molecule in "conventional gas" is essentially [the] same as the gas molecule present in coalbed methane. It is hereinafter referred to as the "CH<sub>4</sub> molecule." The molecule of CH<sub>4</sub> is formed as the result of bacterial action on organic matter in the coal or shale formations or some other organic substance present in the surface of the earth. The difference in the physical characteristics of coal bed methane (hereinafter "CBM") and shale gas and free gas ("conventional gas") is illustrated in the attached diagram and marked Exhibit "3." Gas in coal and shale formations in Indiana is the same as conventional gas and almost all formed by the biogenic process. If the gas is formed in coal or shale, the CH<sub>4</sub> molecule generally attaches itself to the surface of the pores within the coal or shale bed. See Illustration A on Exhibit "3." Even in coal there is a small percentage of free gas, i.e. gas that has not attached itself to the surface of the pore in the coal. This mechanism of the gas molecule attaching itself to the surface of the pores in the coal is called adsorption. Conventional gas is also formed by the reaction of bacteria on organic matter. However, the formed gas flows through seams, fractures and other voids in the material where it was formed and collects in voids in rocks such as limestone or sandstone. The gas molecules do not attach themselves to the surface of the pores in these formations. This is illustrated by the diagram labeled B in Exhibit "3." Conventional oil or gas is free to flow out, usually under pressure, without the necessity of being desorbed from the rock formation.

Indiana is one of two states that does not require reports of produced volume of CBM Gas. It is known that CBM wells are low yield worldwide, generally each well yields only 30 to 80 mcf (thousand cubic feet) per day.

Most produce a substantial amount of water, which must be removed by lengthy dewatering procedures before optimum production is achieved. CBM Gas, like conventional natural gas, must be pressurized and piped to a user and usually must be treated to reach pipeline quality. All of these factors mean that many wells are needed for a CBM Gas field to be economically viable. It is not economically viable to drill and produce one, or a few, coal bed methane gas wells because the amount of production will not sustain the high infrastructure costs for gathering, pressurization, treatment and transportation. The Dugger Field has for nearly ten years been the only commercial CBM Gas production field in Indiana. It contains approximately 37 wells, produces 1 to 2 million cubic feet per day and taps into a nearby gas trunkline at a pressurization station. There are 9,000 acres currently in production in the Dugger Field. It handles waste water with specialized injection wells on site. It also has a purification plant for the purpose of removing nitrogen. One of the reasons for slow development of coal bed methane production in Indiana is uncertainty over the right to produce it between owners of coal and owners of conventional oil and gas or their lessees.

At the time the Hardiman Lease was executed, the parties did not contemplate the possibility of gas production, from the coal strata, nor did they contemplate prohibition of such production. For this reason, either the intent of the individual parties to the lease with regard to authority to produce coal bed methane is unknown and indeterminable or there was no intent either way, the matter not being contemplated by the parties.

There has been mineral production in Gibson County, Indiana, for over a century. Minerals underlying land have economic value independent of the surface of the land and are often severed from the surface of the land. Over time, this has resulted in fractionalized ownership of the oil and gas estate in Indiana on a large percentage of property which is located in the mineral producing regions of Indiana.

Fractionalized ownership of the coal estate also exists in the mineral producing regions of Indiana but to a lesser extent than oil and gas ownership. A single oil well or small oil bearing property may yield economically viable production. Coal mines require assembly of large areas of coal reserves. For this reason, there exists in Gibson County and elsewhere in Indiana large areas where control of coal reserves is consolidated into one entity.

There are producers currently in southern Indiana attempting to assemble large land areas to produce gas from the New Albany Shale Formations.

(App. 16-24.)

On January 12, 2009, the trial court issued its findings of fact, conclusions of law, and order. The trial court's order addressed the presumed intent of the parties, relevant public policy, and persuasive authority of other jurisdictions, stating in relevant part:

There can be no higher goal of our state's public policy than protection of Indiana coal miners from one of the oldest and most threatening danger to miners – a methane gas explosion. . . . The property before the court is very near an active underground coal mine here in Gibson County and it was in this county that some of the nation's most deadly CBM mine explosions have occurred. To now take control of CBM away from the coal mine operator would not serve the public's interest. Coal producing states in the Eastern basins, where coal is mined underground, have special concerns relating to CBM production. In West Virginia, that state's Supreme Court held that the parties could not have intended to include oil and gas [sic?] in a conventional oil and gas lease because such a grant would include the right to invade coal seams and make them more difficult and dangerous to later produce coal – this could not reasonably have been the parties' intent in a state that produces coal from underground mines. . . . This Court feels that the same could be said for the parties in Gibson County, Indiana. Production of the gas on this property would require fracturing the coal seam, impacting the ability to later mine the coal. Absent an express statement, the Court does not think any owner of coal would have intended to grant, as a consequence of his oil and gas grant, the right to seriously damage his valuable coal seam, nor does the Court think the lessee intended to acquire such a right.

(App. 10-11.) (internal citations omitted). Ultimately, the trial court issued a declaratory judgment in favor of Howard Energy, concluding, "CBM is part of the coal estate and no interest in CBM passed by reason of the 1976 oil and gas lease." (App. 10.) Cimarron Oil now appeals.

## **Discussion and Decision**

### **I. Standard of Review**

This case involves the interpretation of a lease: no factual disputes were presented for

resolution by the trial court. The construction of a written contract, such as a lease, is a pure question of law. Four Seasons Mfg., Inc. v. 1001 Coliseum, LLC, 870 N.E.2d 494, 500 (Ind. Ct. App. 2007). We review de novo such questions of law. Allstate Ins. Co. v. Bradtmueller, 715 N.E.2d 993, 996 (Ind. Ct. App. 1999), trans. denied.

## II. Analysis

The parties have agreed that neither contemplated in 1976 that technological advances would permit production of CBM for commercial gain. Accordingly, there was no explicit written expression of intent to either grant or reserve the right to drill for and produce CBM. We are asked by the parties to determine presumed intent as a matter of law.

When considering the presumed or surmised intent in the grant of oil and gas leases pre-dating the current technology of commercial CBM production, courts of other jurisdictions have reached divergent conclusions, with CBM alternately considered part of the coal bed estate, part of the oil and gas estate, or a distinct mineral estate. The earliest such case arose in Pennsylvania, a state with a long history of substantial coal production. See U.S. Steel Corp. v. Hoge, 503 Pa. 140, 468 A.2d 1380 (1983).

Hoge involved a surface owner's deed of coal, with a specific reservation of "the right to drill and operate through said coal for oil and gas." Id. at 144, 468 A.2d at 1382. The Court found adsorbed or physically intertwined CBM<sup>2</sup> to be part of the coal estate as opposed to the gas and oil estate, declaring, "the coal owner may mine his coal, extract the gas from it,

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<sup>2</sup> Adsorbed CBM is present in the coal strata, adhered in a thin layer of molecules. Pursuant to the "capture rule," CBM gas that has escaped the coal strata may be captured by the gas estate holder. Hoge, 503 Pa. at 147, 468 A.2d at 1383.

or both.” Id. at 148, 468 A.2d at 1384. Upon its examination of the severance deed in question for evidence of the parties’ intent, the Court recognized that the parties were concerned with that which was “commercially exploitable” at the time of the deed and that the grantor would not have intended to reserve the right to extract a “valueless waste product.” Id. at 150, 468 A.2d at 1385. Ultimately, the Hoge Court held: “the reservation intended only a right to drill through the seam to reach the unconveyed oil and natural gas generally found in strata deeper than the coal.” Id.<sup>3</sup>

Jurisdictions subsequently addressing CBM ownership reached varying results. See Cont. Res. of Illinois, Inc. v. Illinois Methane, LLC, 364 Ill. App. 691, 693, 847 N.E.2d 897, 900 (2006) (observing “No one answer is right for every state and/or every lease or grant” and ultimately concluding that CBM found in coal seams and/or in mine voids is controlled by the coal estate); Harrison-Wvatt, LLC v. Ratliff, 267 Va. 549, 556, 593 S.E.2d 234, 238 (2004) (where parties to the deed of coal could not have contemplated CBM would become a valuable energy source, surface owners retained the right to produce CBM); Energy Dev. Corp. v. Moss, 214 W.Va. 577, 591 S.E.2d 135 (2003) (in the absence of specific language to the contrary or other indicia of intent, a 1986 standard oil and gas lease did not permit leaseholder’s invasion of the coal bed to recover CBM)<sup>4</sup>; NCNB Texas Nat’l Bank, N.A. v. West, 631 So.2d 212, 229 (Ala. 1993) (finding, in the absence of clear contrary intent, ownership is dependent on location at the time the gas is captured, with the coal owner

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<sup>3</sup> The Hoge Court referred to “natural gas” as that “generally found in strata deeper than coal veins, though it shares many of the characteristics of coalbed gas.” Hoge, 503 Pa. 145, 468 A.2d at 1382.

<sup>4</sup> As CBM commercial production developed, West Virginia enacted the West Virginia Coalbed Methane Act, W. Va. Code § 22-21-1, et seq. (1994).

owning CBM recovered from wells drilled directly into coal beds and having the right to recover in situ gas found in the coal seam, and the gas owner having rights to CBM that migrated out of the coal seams). But see Amoco Prod. Co. v. S. Ute Indian Tribe, 526 U.S. 865 (1999) (surface patentees, not the Indian tribe holding equitable title to reserved coal, owned CBM because the term “coal” in the 1909 and 1910 Acts did not encompass CBM); Cent. Nat. Res., Inc. v. Davis Operating Co., 288 Kan. 234, 244, 201 P.3d 680, 687 (2009) (declining to adopt an “artificial rule” of “first severance/container theory,” rejecting assertion that CBM is “part and parcel of the coal estate,” and focusing on actual agreement); Newman v. RAG Wyoming Land Co., 53 P.3d 540, 550 (Wyo. 2002) (Considering unambiguous language of the deed, “Coalbed methane, being a gas, remained the landowners’ property”); Caballo Coal Co. v. Fidelity Exploration & Prod. Co., 84 P.3d 311, 319-20 (Wyo. 2004) (acknowledging that Newman recognized CBM to be a gas, but declaring that the deed under consideration was dissimilar to that of Newman, intent was the key, and a grant conveying all minerals associated with deposits of coal included CBM); and Carbon County v. Union Reserve Coal Co., 271 Mont. 459, 474, 898 P.2d 680, 689 (1995) (applying an ownership in place rule, with the gas developer having the right to drill for and produce CBM and the coal operator having a simultaneous right to capture CBM for safety purposes incident to coal mining operations).

For the most part, the decisions of other jurisdictions have avoided a flat declaration that CBM is either “coal” or “gas.” Here, the trial court essentially followed the so-called “eastern rule.” that is, CBM is a component of coal, and ultimately determined that, because

public policy dictates optimal mining safety, CBM production and coal mining are best left in the control of a single entity. Cimarron now urges our adoption of the so-called “western rule,” that is, the holder of a broadly-defined gas and oil estate may have rights to CBM, which is a form of gas.<sup>5</sup> Regardless of the application of the “eastern rule” or “western rule,” the various cases have in common the primary focus on intent, and most refuse to recognize the silent conveyance of a mineral interest in a deed or lease, construed as of the date of its execution.

Focusing upon the contract language used in this case, it is clear that there was no contemplation of profitable CBM production. The gas estate owner was not granted permission to invade the coal seam. Further, Agreed Finding of Fact No. 12 provides that “Any production of coal bed methane gas would be from virgin coal seams and would require fracturing the virgin coal seam by use of high pressure in order to stimulate economically viable production of coal bed methane gas.” (App. 19.) The Hardimans did not explicitly agree to Cimarron’s invasion of the coal bed in this manner; it is not reasonable to presume that the intent was to permit invasion of a valuable land asset, the coal bed, should a means of making profits arise in the future. As observed by the Moss Court: “a court will not find an implied right to conduct a given activity (not mentioned in the lease) unless that activity is clearly demonstrated to have been a common practice in the area, at the time of the lease’s execution.” Moss, 214 W.Va. at 587, 591 S.E.2d at 145.

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<sup>5</sup> Cimarron notes that Indiana property law broadly defines “oil and gas.” Indiana Code Section 32-23-7-2 (2002) defines “oil and gas” as meaning “petroleum and mineral oils and gaseous substances of whatever character naturally lying or found beneath the surface of land.” Nevertheless, the 1976 lease executed between the Hardimans and Cimarron’s predecessor-in-interest did not reference a statutory provision.

We do not find that the adoption of a regional rule is necessary to disposition of this particular case, where lack of intent to convey CBM rights to Cimarron's predecessor is apparent. That said, we agree with the trial court that public policy would militate toward considering CBM to be part of the coal bed. CBM is derivative of the coal and, traditionally, coal mining operations have dealt with removing CBM with miner safety as the foremost concern. Public safety would be disserved by pitting the miner who needs to dissipate CBM to prevent explosions against the gas estate owner whose financial resource is being depleted. Nevertheless, it is within the province of the Legislature, to which we defer, to make policy decisions.

### **Conclusion**

The Cimarron lease does not convey a right to the gas estate holder to invade the coal seams to produce CBM. The Hardimans retained the rights to CBM production, which they conveyed to Howard Oil. The trial court properly concluded that Howard Oil, as opposed to Cimarron Oil, could produce CBM on the subject property.

Affirmed.

DARDEN, J., and ROBB, J., concur.

## **Coal Seam Stimulation in the Eastern Illinois Basin**

This letter report was prepared by Norwest Corporation for the Indiana Coal Council, Indianapolis, IN.

### **The Issues**

With the focus on moving toward cleaner burning fossil fuels, there is an increasing interest in safely and productively extracting gas from the coal beds in Indiana. This focus on coal bed methane (CBM) development brings the CBM operators and underground coal mining operations into very close proximity. This can provide benefits to coal mining by reducing the amount of coal face methane to be ventilated. However, the Indiana Coal Council (ICC) is concerned that stimulation of the CBM wells may pose safety hazards when performed too close to existing mine operations and when mine-through of the stimulated area is conducted. Specifically, two technical and safety issues are in the forefront; (1) that future stimulation projects are performed at a sufficient distance from current mining operations so as to not endanger mine worker safety, and (2) that CBM stimulations do not damage the integrity of the roof rock which would compromise mining operations in the future. Additional administrative issues are (3) the amount of notice that is provided in advance of drilling and stimulation and, (4) the amount of information documented regarding stimulation, such as precise location, injection pressures, and injected volumes (currently none). The Indiana Coal Council believes that appropriate legislation, similar to that already enacted in other coal, gas, and oil producing states, can provide for the safe, economic and wise extraction of both the coal bed methane and the coal from Indiana's underground resources, to the mutual benefit of both industries and the State of Indiana.

### **Unique Geologic Setting**

Geology is seldom consistent from one area to another. A multitude of variables, including environment of deposition, mineral composition, grain size, burial depth, burial temperature, organic content, etc. create a seemingly endless variety of rock types, all with very different properties. Shale, sandstone, and coal deposits in one basin usually have very different properties from their counterparts found in a neighboring basin, even within the same State. Indeed, for the above reasons similar rock types can have varying properties within the same geographic basin. In addition, rock behavior when stimulated is affected by existing tectonic stresses (the forces that cause faulting and folding in rocks), which adds another overlay of complexity and variability, and furthermore complicated by the local changes in these stress fields caused by mining.

Simply put, because of this inherent variety in the geologic and mechanical properties of rocks, any discussions on producing methane from coal beds in the Illinois Basin must be restricted to this basin. Analogies to CBM operations in the Black Warrior Basin of Alabama, the Powder River Basin in Wyoming, Appalachia, or anywhere else are referencing coals and adjacent strata with completely different properties from the coals and adjacent strata in Indiana.

Evidence of this is presented in numerous technical reports from the National Institute for Occupational Safety and Health (NIOSH), the Illinois State Geological Survey, Mine Safety and

Health Administration (MSHA) District 8, and the Illinois Mining Institute. To broadly summarize, all these reports indicate that some of the most difficult coal mine roof rock in the United States is in the Illinois Basin. Factors contributing to the high rate of roof fall include weak, moisture-sensitive rock, jointing, natural fractures, and high horizontal stresses.

Not all roof rocks are of equal concern. Specifically the Dykersburg shale is of concern. The Dykersburg is a thick gray shale that is typically weak and moisture sensitive. Rocks that deteriorate on contact with water can generate high swelling pressures that can “bulk” the roof and result in roof falls, a process locally known as “air slacking”. The Dykersburg’s sensitivity to water is such that the roof fall rate notably increases during the humid summer months. Currently Illinois Basin operators have adopted roof control methods aimed at improving safety during mining. The Dykersburg shale overlies the Springfield #5 coal, one of the main target coal seams for CBM stimulation and currently the coal seam that is actively underground mined.

### **Hydraulic Fracturing**

Hydraulic fracturing, commonly referred to as fracing, is the process of creating fissures, or fractures, in underground formations to allow water and natural gas to flow into the wellbore. Typically water, sand, and other additives are pumped under high pressure into the formation to create fractures. The newly-created fractures are propped open by the sand, which creates a permeable path for the fluids and gas to flow into the wellbore and be pumped to the surface. Normally a hydraulic fracturing operation is only performed once in the life of a well; however, healing, or closing, of the fractures over time may necessitate additional fracture treatments.

The development of an artificial fracture network is dependent upon several factors including the rock type, injection pressure, amount of fluid and sand being pumped, and the magnitude and direction of the regional tectonic stresses. Fractures form when the injection pressure exceeds the minimum confining pressure plus the rock’s cohesive strength. To determine whether a hydraulic fracture will propagate in a vertical or horizontal plane, it is necessary to know the magnitude and direction of the minimum principal stress. Added complexity is caused by variability in the rock’s cohesive strength, and pre-existing joints or fractures. It is also possible to have a stress contrast between the coal and the surrounding strata where the coal is more stressed than the surrounding rock. This contrast inhibits fracture growth in the coal and promotes fracture growth in the surrounding strata. Studies in which fractures are subsequently mined-through, or mapped using indirect methods, have shown that fractures rarely follow the theoretical pattern. For most CBM operations that are not in proximity to active coal mining, or not in commercially mineable coal seams, this uncertainty is not an issue: the primary concern is simply that the additional gas produced should more than pay for the cost of the stimulation.

### **Horizontal Drilling**

An alternative to stimulation of vertical wells is to drill horizontal wells within the coal seam. While individual horizontal wells are more expensive, fewer wells are required and they provide far better contact with the coal and higher gas production. With improved contact, stimulation is not required, but proper plugging to meet Mine Safety and Health Administration regulations would be critical.

## **Discussion and Recommendations**

Coal miners face numerous obstacles to their safety and they have developed methods to control these adverse conditions. Fracing of coal seams in advance of mining operations presents new hazards to the mining operations. Of immediate importance is the proximity of new frac jobs to existing mine operations.

Hydraulic fracturing creates a complex fracture network in the coals and surrounding rock and insufficient data exists to even begin to anticipate the extent of the fracture network created during a coal bed frac job in the Illinois Basin. Conducting hydraulic fracturing too close to current mining operations and in commercially mineable coal seams is inherently dangerous to the mining operation as there is no control on the length or direction of fracture development during the fracing operation. It is recommended that CBM operators be required to file detailed plans involving, among other things, well location, total depth, anticipated productive interval and frac program specifics. These plans need to be available for public comment for no less than 30 days to allow nearby mine operators sufficient time to review the pertinent data and to allow the mine operators to work with the CBM operators in planning the safest operation possible.

Also of major concern is the integrity of the roof strata in future mine sites. Roof rock in the Illinois Basin is some of the worst in the nation. Developing artificial fractures in an already weak rock can only worsen the unstable conditions that miners continually battle. Furthermore, hydro fracing may introduce water and other chemicals into an already water-sensitive shale rock. Studies have shown that frac water typically propagates much further than the propped fracture itself. Swelling of the clay particles in the shale can create abnormal swelling pressures in the area of the artificially created fractures making for a potential, and unknown, danger area when the mine reaches the swollen rock. Again, this is another very important reason to allow the mine operator access to detailed stimulation plans and final documents. The mine operator needs to be aware of where hydro fracing has taken place, the size of the frac, any estimates of the extent of the created fracture network, and the quantities of both water and gas produced from the well over time.

Under certain conditions the hydro fracture network may propagate into a wet formation. Well production records would shed light on this potential problem. Excessive water production, meaning quantities of water that exceed the amount of water the coal could reasonably hold, are indications that an external water source has been connected with the fractures. This would be a serious concern to mine operations as additional water flowing into the coal seam from adjacent strata is now a possibility.

CBM operators should be encouraged to perform research into the applicability and economics of horizontal drilling. Horizontal drilling has many advantages for CBM, but does not mean that regulation is unnecessary. Appropriate practices should include good directional control during drilling to maintain centrality within the coal seam, and a well-planned and implemented post-production plugging and abandonment program that satisfies both DNR and MSHA regulations.

## **Closure**

The ICC appreciates the work being performed by the Indiana legislature to investigate these serious issues. What the Coal Council is seeking in legislation is not unrealistic or unique. Other states with long-established histories of hydrocarbon exploration and production have established reasonable and protective regulations. Implementing a permit process that requires an appropriate period of notice and solicits input from nearby operators and the general public is the best way to allow for the safe, efficient, and least wasteful development of all the natural resources of the State of Indiana.

EXHIBIT 12  
NATURAL RESOURCES COMMITTEE  
AUG 24, 2010

**Indiana Department of Natural Resources  
Division of Water**

- The Division of Water studies and maintains information on surface and ground water availability
- & cooperates with USGS on a real time network of 165 Stream Gages

<http://waterwatch.usgs.gov/?m=real&w=map&r=in>

8/24/2010

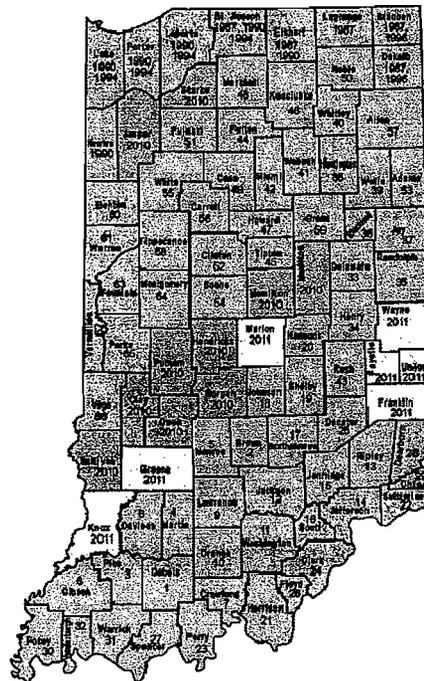
**Division of Water Aquifer  
Systems Mapping**

<http://www.in.gov/dnr/water/3468.htm>

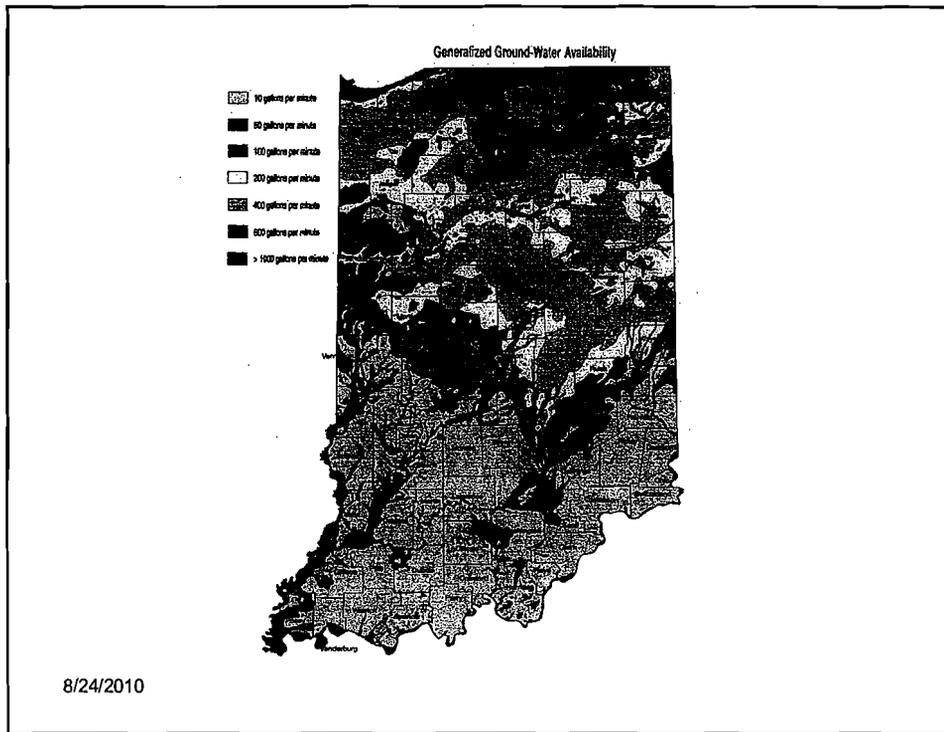
**66 Counties Completed  
Through 2009 (shown in blue)**

**9 Basin Study Counties  
Adapted to County Format  
(shown by Basin Study  
completion dates)**

<http://www.in.gov/dnr/water/2454.htm>  
#basin%20studies



8/24/2010



## Department of Natural Resources Division of Water

- **Related Links**
- [Floodplain Management & Homeowner Information](#)
- [Hydrologic / Hydraulic Modeling Guidelines & Information](#)
- [Interim Digital FIRMs \(2004\)](#)



<http://www.in.gov/dnr/water/3484.htm>

8/24/2010

Available Preliminary Digital Flood Insurance Rate Maps are shaded in yellow, final maps are blue and will redirect you to the FEMA website:

**Department of Natural Resources  
Division of Water**

- Drainage areas available on DOW website or completed by office staff:  
**<http://www.in.gov/dnr/water/4936.htm>**
- Coordinated discharges for Streams available on DOW website:  
**<http://www.in.gov/dnr/water/4898.htm>**
- Long term stream flow information available from USGS at:  
**<http://in.water.usgs.gov/dvstats>**

8/24/2010

**Water Resource Management  
IC14-25-7-17:**

- Every person who has a SWWF shall register it with the Natural Resources Commission
- All SWWF completed after July 1, 1984, must be registered within 3 months after installation
- The owner of the SWWF shall report water use within three months after the end of each calendar year
  
- **<http://www.in.gov/dnr/water/4841.htm>**

8/24/2010

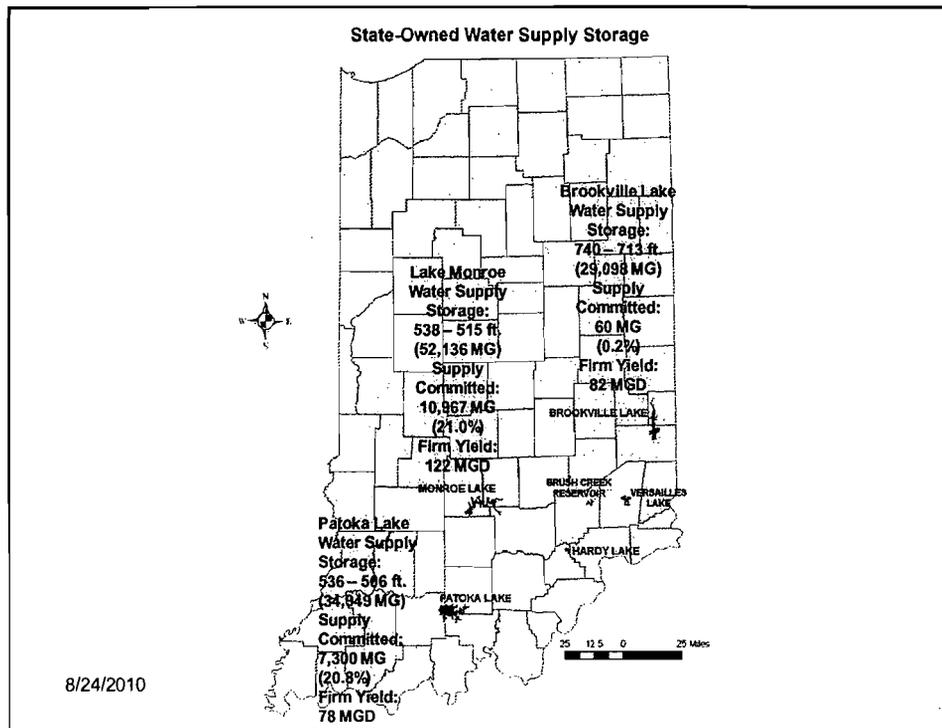
## 2009 STATE TOTALS

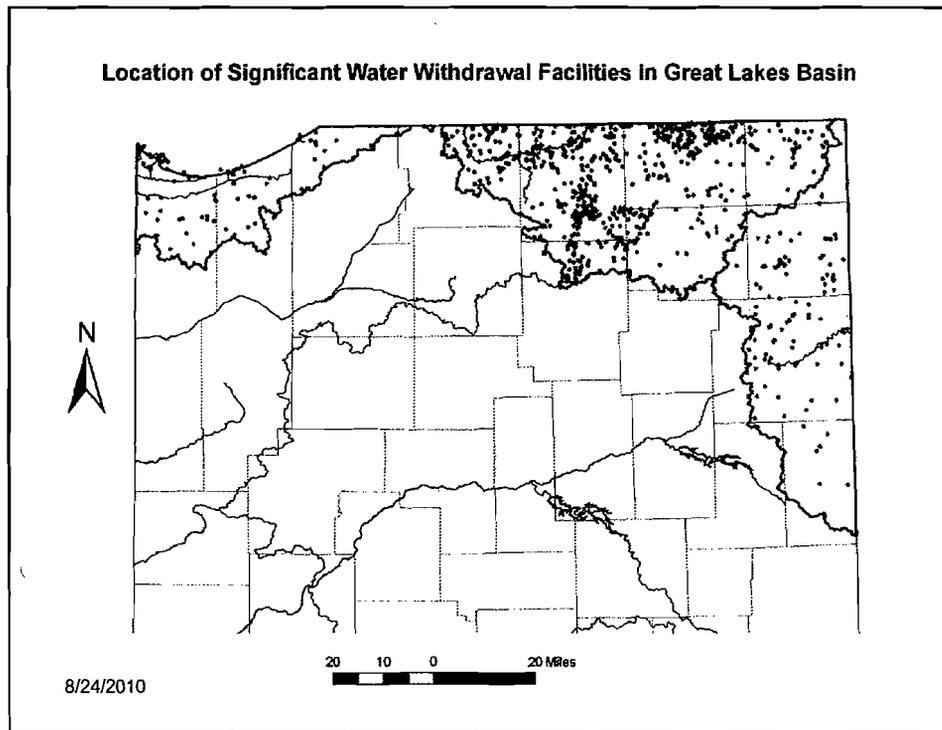
|                   | <i>Withdrawals<br/>(BG)</i> | <i>Capacity<br/>(MGD)</i> | <i>Withdrawals<br/>vs Capacity</i> | <i>Number</i> |
|-------------------|-----------------------------|---------------------------|------------------------------------|---------------|
| Surface Intakes   | 2792.8                      | 17940                     | 42.6%                              | 1386          |
| Wells             | 217.1                       | 5010                      | 11.9%                              | 6310          |
| <b>TOTAL</b>      | <b>3009.9</b>               | <b>22950</b>              | <b>35.9%</b>                       | <b>7696</b>   |
| <b>Facilities</b> |                             |                           |                                    | <b>3600</b>   |

### Minimum Stream Flow and Water Sale Contracts IC 14-25-2

- State of Indiana may sell water for water supply purposes from reservoir impoundments financed by the state.
- State of Indiana may contract for minimum stream flows or for the sale of water on a unit pricing basis for a period of no more than 50 years.
- After June 30, 1991, State of Indiana must be compensated at the rate of thirty-three dollars (\$33) per one million (1,000,000) gallons of water.

8/24/2010





## **Water Resource Compact Indiana Implementation**

- **Completed baseline determination for Indiana facilities in timely fashion**
- **Policy and guidance development for Compact Council**
- **Water Conservation Goals & Objectives for Indiana**
- **Rules for permit process and new water use reporting**

8/24/2010

**Update of Indiana Water Shortage Plan IC 14-25-14**  
<http://www.in.gov/dnr/water/files/watshplan.pdf>

**The Water Shortage Task Force:**

- Reviewed existing water availability and use data & found
  - Effective conflict resolution mechanisms in place
  - Few areas of chronic shortage
- Developed a model water conservation ordinance
- Established priorities for allocation during shortages

**The Water Shortage Task Force advised that:**

- There is merit in additional efforts to improve understanding of water use as well as long term supply and demand
- There is a need to improve regional water management or the resource

8/24/2010

**Water Resources Task Force**  
**(IC 14-26-16)**

**Task Force to study and make recommendations concerning the following issues:**

- Available quantities and sources of water
- Future needs
- Resource Management
- Determination of ownership rights, particularly in ground water
- Drinking water delivery systems
- Opportunities to work with neighboring states concerning shared drinking water sources
- Other related issues

8/24/2010

### **Water Resources Task Force Members**

- 1. Scott Bell – OUCC**
- 2. Patrick Bennett – Indiana Manufacturers Assoc.**
- 3. Lynn Dennis – Indiana Nature Conservancy**
- 4. Pamela Fisher – IN Economic Development Corp.**
- 5. John Lee – Ag. Economist, Purdue University**
- 6. Kumar Menon – City of Fort Wayne**
- 7. Kay Nelson – Northwest Indiana Forum**
- 8. Stan Pinegar – Indiana Energy Assoc.**
- 9. Sarah Simpson – Indiana State Dept. of Agriculture**
- 10. Mike Stewart – Retired, Indiana-American Water Co.**

8/24/2010

### **Water Well Licensure SEA 356**

- Added licensure provisions for persons who install or repair water well pumps
- Continuing education and testing requirements for water well tradesmen
- DNR Division of Water finalizing implementation of the program
- <http://www.in.gov/dnr/water/6110.htm>

8/24/2010