



Office of Water Management
Indiana Department of
Environmental Management

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1997 Indiana Lake Management Conference Dates and Site

The Ninth Annual Indiana Lake Management Conference will be held Friday and Saturday, April 4 and 5 at the Potawatomi Inn in Pokagon State Park near Angola. This year's conference will have the theme: *Life on the Edge—Enhancing Lake Stewardship*. Planning thus far includes sessions on: buying waterfront property; living on a lake; shoreline landscaping; state regulations affecting shorelines and shoreline structures; and zoning approaches for protecting lakes. Of course, there will also be talks on current Indiana lake research and other interesting topics.

The Potawatomi Inn, featured recently in an article entitled, "What's New at 25 Top Midwest Resorts" in *Midwest Living* magazine, is located on a bluff overlooking 2,200-acre Lake James, Indiana's second largest natural lake. The Inn recently underwent a \$7.6 million expansion and renovation. Facilities include: restaurants, indoor pool, beach, fishing, boat rentals, horseback riding, hiking trails, naturalist programs, and exercise/fitness facilities.

Mark your calendar now!

A block of rooms for the period April 3 through 5, will be held until March 3 for conference participants (mention Group Master #2642883). Rates start at \$49.68 including taxes for a double bed. Use the form on the back page of this newsletter to FAX or mail in your lodging reservation.

Conference registration forms and a semi-final program will be included in the next issue of *Water Column*.



Tips for Ice Safety

Winter lakes offer a variety of recreational activities enjoyed by many Hoosiers, including ice fishing, snowmobiling, ice skating and hiking. The Indiana Department of Natural Resources has published the following guide for evaluating the strength of winter lake ice.

Ice Strength Table	
(applies to only moving loads, not stationary ones)	
<i>Ice Thickness (in inches)</i>	<i>Permissible Load (clear, blue lake ice)</i>
2	One person on foot
3	Group, single file
7.5	Passenger car (2 tons)
8	Light Truck (2.5 tons)
10	Medium Truck (3.5 tons)
12	Heavy Truck (7-8 tons)
15	10 tons
20	25 tons
25	45 tons
30	70 tons
36	110 tons

Reduce strength values by 15% for clear, blue river ice and 50% for slush ice.

Other useful winter ice tips to insure your safety include:

- Always travel with a "buddy"
- Carry a rope or pole for rescue if the ice should break

Pollution and Access Top Angler Concerns

Pollution control and public access top a list of concerns among northern Indiana natural lake anglers, according to a survey conducted by the Indiana Division of Fish and Wildlife. As many as 80% feel strongly that more emphasis is needed to protect lakes from pollution and nearly half feel strongly that better access is needed.

The survey was part of a statewide poll conducted in 1994 by Stu Shipman, DFW fisheries biologist, and solicited responses from 716 anglers who said they primarily fished Indiana's natural lakes.

Natural lake anglers also want more emphasis on boating and fishing law enforcement, stocking predatory fish such as walleyes, and more information on local fishing conditions.

Fishermen were generally less interested in protecting nongame fish species, supporting programs to eradicate rough fish species, or stocking trout and catfish.

"Although the question was not specific, we know fishermen are very concerned about chemical contamination, excessive inputs of sediments and nutrients, runoff of animal waste, and septic tank leaching," says Shipman.

According to the survey, 78% agree or strongly agree that the availability of free public access is important when deciding where to go fishing. Few anglers are interested in programs which might limit the fishermen on a lake but 46% strongly agree that speedboat operators often detract from their fishing enjoyment.

"We found a lot of support for the creation of idle zones in lakes," says Shipman. "As many as 81% support or strongly support adopting idle zones at some lakes."

Despite complaints by some lake residents and anglers, only 28% feel that tournaments harm fishing but over half (52%) would support tighter rules on bass tournament activities.

Shipman says results of the survey, along with all comments and suggestions expressed during an upcoming public meeting to be held at Tri-State University in Angola on August 20, will be considered during development of the DFW's long-range natural lakes management plan. (*Indiana DNR.*)

DNR Issues Beach Guidelines

Now that summer is over, northeastern Indiana lake residents may no longer be thinking of swimming. But residents who are considering refurbishing their beach for next season need to follow permit rules and guidelines developed by the Department of Natural Resources.

"Some lakefront property owners like to put sand on the ice in the winter in order to fix up their beach," says Gwen White, DNR staff biologist with the Division of Soil Conservation. "But we don't recommend it."

White says installation over ice is not recommended because the location of the fill cannot be precisely directed. White recognizes that putting sand on the ice may be more convenient, but says the sand may end up in front of a neighbor's house.

Where appropriate White says use of pea gravel will better assure it will drop in the right place.

White also suggests that anyone wishing to refurbish their beach should use pea gravel instead of sand because pea gravel (small rounded #12 stones about 3/8-inch in diameter) is much more

stable than sand and is less likely to be washed away by waves. Erosion can remove as much as 20 to 50 percent of the original filler after installing a sand beach and may completely wash away in one to six years.

Regardless of whether sand or gravel is used, lake residents must first obtain a permit from the DNR to put the material in the lake. It is also illegal for beach owners to repeatedly put sand or gravel in the same area without a permit.

Indiana rules provide that beaches can be no wider than one-half of the frontage and extend no farther than 50 feet lakeward or beyond a depth of six feet. The material can be no thicker than six inches. Use of an impermeable sheet under the beach is prohibited.

"We're working to see that lake residents do the least amount of damage to the lakebed and aquatic plants," says White. "To help lake residents who want to establish or maintain beaches, we've developed a brochure with a lot of helpful suggestions."

A copy of the beach brochure can be obtained by writing to IDNR-Division of Soil Conservation, 402 W. Washington Street, W265, Indianapolis, Indiana 46204-2748.

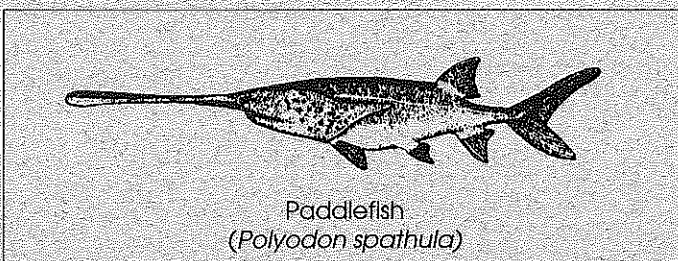
New State Record Paddlefish Caught in Knox County Sand Pit

A paddlefish weighing in at 106 pounds has broken the Indiana state record for the species set in 1994. The paddlefish was caught in early August in a sand pit in Knox County by John J. Kotter of Vincennes, Indiana.

Kotter used a baitcasting rod and reel with a rubber worm to catch the 70.25-inch fish. The catch is a rare occurrence because paddlefish are filter feeders and do not go after baits or lures.

The previous state record paddlefish reigned for 14 years. Kenneth Parkers held the previous record title for a 79-pound, 6-ounce paddlefish caught in a Posey County sand pit in 1982.

The DNR sponsors two award programs in recognition of outstanding catches by sport anglers. The "Indiana Record Fish" program recognizes new



state record catches. The "Fish of the Year" program recognizes anglers who catch and report the largest fish in each species each year, short of a new state record.

To be considered for record fish programs, the fish must be taken lawfully by hook and line from Indiana waters. Complete rules and entry forms are included in the *1996 Indiana Fishing Guide*, available where hunting and fishing licenses are sold and at DNR properties. (Indiana DNR.)

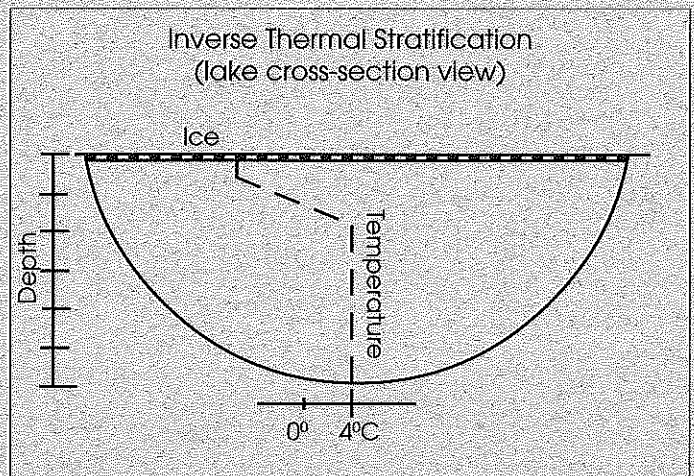
Your Lake in Winter

by Bill Jones

As winter blankets our lakes in ice cover and fluffy coats of snow, all looks peaceful. Few of us, save for ice anglers, snowmobilers, and ice skaters, venture out onto our winter lakes and even fewer of us contemplate the winter world beneath the ice. Let's take a closer look at some of the changes taking place in your lake in winter.

As the sun moves lower on the horizon and air temperatures cool, lake water temperatures cool rapidly. Once most of the heat in the lake is lost, an ice layer may form on the water's surface. Unlike most other liquids, water is most dense at 3.94°C. As water cools below 3.94°C or warms above 3.94°C, it becomes less dense. (That is why ice floats and warm water lies on top of cooler water in summer!) The heavy, dense water at 3.94°C sinks to the lake bottom. The profile of water temperatures measured from the lake surface to bottom has an inverted appearance and is called *inverse thermal stratification*.

Cooler winter water temperatures affect a number of lake processes. Fish metabolism decreases and this lower activity rate helps the fish survive the winter when some important food



(YOUR LAKE IN WINTER . . .

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sources are scarce. Plant growth rates are reduced and the rates of many chemical reactions are slower as well. If it gets cold enough, ice can form on the lake's surface.

The ice cover causes a whole series of other changes in your lake in winter. For example, ice restricts light penetration into the water. This results in less light available for plant (algae and rooted plants) photosynthesis. If nutrients are adequate, photosynthesis still occurs under the winter ice but it may occur only in a very narrow band (*photic zone*) immediately beneath the ice where there is still sufficient light. If there is heavy snow cover on top of the ice, the lake can be plunged into virtual darkness and little, if any, photosynthesis may occur.

Cool water and lower light levels cause a shift in the types of algae found in winter lakes. The community of winter algae is usually dominated by small forms, many of which can move through the water using flagella. The ability to move is important in keeping the algae positioned up in the photic zone. Otherwise, the reduced water currents under the ice may cause the denser algae to sink into deeper water. The most common types of algae inhabiting our winter lakes are: small green algae, yellow-brown algae, dinoflagellates, and some diatoms.

Photosynthesis by algae and rooted plants not only produces plant material that is food for other aquatic organisms, but it also produces much-needed oxygen. In fact, photosynthesis and inflow from streams are the only oxygen sources to ice-covered lakes. Thus, oxygen can be in short supply under the ice. Oxygen is required for respiration of fish, insects and zooplankton, but the largest consumer of oxygen may be the bacteria which

decompose organic litter that has settled onto the lake bottom from the previous summer's growth. In shallow, eutrophic lakes, the rate of oxygen consumption may exceed the rate of oxygen replacement and *winter kill* of fish can occur. Even in the cooler water, few fish can survive on less than 2 parts per million of dissolved oxygen.

By-products of organic litter decomposition, such as ammonia and soluble phosphorus, often build up in the bottom waters of winter-stratified lakes. Ice cover prevents water circulation and mixing of these materials. In Indiana lakes without ice cover, winter winds frequently mix the surface and bottom waters.

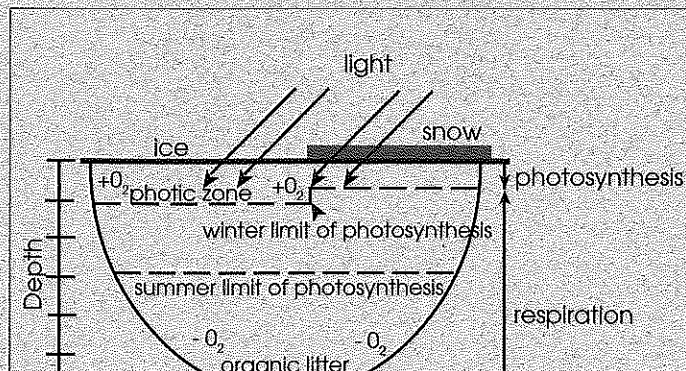
So, when you look out on the calm and peaceful surface of a winter lake, think about all the changes that are taking place beneath the ice and rest assured that these changes are part of a natural, seasonal cycle in the life of your lake.

Highlights of the NALMS 16th Annual International Symposium

People, Lakes and Land: Puzzling Relationships was the theme of the 16th Annual International Symposium of the North American Lake Management Society (NALMS). NALMS is a 2,000-member national organization dedicated to lake and watershed management. This year's conference was held in Minneapolis and over 700 people attended.

Besides stimulating technical sessions on such diverse and important topics as eutrophication standards, drinking water supplies, fisheries, economic lake values, toxics monitoring, watershed management, blue-green algae and constructed wetlands; there were also a number of workshops designed specifically for citizens. There were citizen workshops on: plankton identification, water quality modeling, conference planning, developing leadership skills, conflict resolution, fundraising, legal issues, and habitat management. These workshops were interspersed throughout the three-day conference so citizens could attend virtually all the workshops.

Results of the annual election for NALMS offices had Bill Jones, editor of this *Water Column* newsletter, selected president-elect. Bill will assume the presidency of NALMS in November, 1997.



To receive free quarterly issues of *WATER COLUMN*, send your name and address to:

WATER COLUMN
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DNR Public Access Sites Rely on Sponsor Support

The Department of Natural Resources is turning to sponsor support and volunteer manpower to do basic maintenance and upkeep on the public access sites. Currently, 23 individuals and community groups have signed up as public access site sponsors through the DNR Division of Fish and Wildlife's "Adopt-An-Access Site" program.

"Access sites provide a vital link between Hoosiers and the state's public waters," said Gary Doxtater, director of the Division of Fish and Wildlife. "We have more than 270 public access sites through Indiana to watch over."

"Community support through the Adopt-An-

Access Site program allows us to maximize our efforts in providing clean, safe areas for anglers and recreational boaters to enter public waters," Doxtater said.

The Adopt-An-Access Site program seeks volunteer site sponsors to pick up litter and trash or to mow the property. Sponsors sign one-year agreements with the Division of Fish and Wildlife to care for their sites.

The program is open to individuals, families, and organized groups—from sportsmen's clubs to youth groups.

For more information on the Adopt-An-Access Site program, contact the Division of Fish and Wildlife's Mitchell, Indiana office, Route 2, Box 477, Mitchell, Indiana 47446, or call 812/849-4586.

Indiana Lake Management Conference Lodging Reservation Form

Please FAX or mail your reservation by 3/3/97 to assure availability to:

Potawatomi Inn
6 Lane 100 A Lake James
Angola, IN 46703
FAX: 219/833/4087
PHONE: 219/833/1077

Arrive _____

Depart _____

Name _____

Address _____

Phone _____ # Adults _____ # Children _____

Please Check Room Preference (subject to availability):

2-DBL (\$56.16) _____ **1-DBL (\$49.68)** _____ **Patio (\$90.72)** _____ **QQ (\$66.96)** _____

Non-smoking _____ Smoking _____

An advance deposit in the amount of the first night's stay is required to guarantee your reservation. You may send a check, money order or credit card number in that amount.

Credit Card # _____ Exp. Date _____

Visa ___ Mastercard ___ Discover ___ American Express ___

Group Master # 2642883 Leader Reservation # 28998

Meetings

January 12-15, 1997. *54th Annual Indiana Soil and Water Conservation Districts Conference.* Indianapolis, IN. Contact: Randy Braun, (317) 233-3870.

February 19-21, 1997. *1997 Midwestern Rare Plant Conference.* Missouri Botanical Garden, St. Louis, MO. Contact: Kayri Havens, (314) 577-9487.

April 4-5, 1997. *Life on the Edge—Enhancing Lake Stewardship,* Ninth Indiana Lake Management Conference, Potawatomi Inn, Pokagon State Park, Angola, IN. Contact: Kim Shipley, (812) 855-4556.

May 1, 1997. *Community Water Education for Youth.* A national live interactive satellite videoconference available at locations around the country (TBA). 12:45-3:00 p.m. CDT. For more information, contact: (888) 928-3794 (toll free); <http://www.uwex.edu/erc/ywc>

May 1-3, 1997. The 12th Annual Illinois Lake Management Association Conference. Holiday Inn and Conference Center, Decatur, IL. Contact: Mari Gilford, (217) 854-2628.

May 7-9, 1997. *Communities Working for Wetlands.* An American wetlands month celebration. Radisson Plaza Hotel, Alexandria, VA. Contact: Terrene Institute, (800) 726-4853.

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William W. Jones, Editor
Cynthia Mahigian Moorhead, Production Manager

Address all correspondence to:
SPEA 347
Indiana University
Bloomington, IN 47405

Phone: (812) 855-4556
FAXL (812) 855-7802

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School of Public and Environmental Affairs
Room 347
Indiana University
Bloomington, IN 47405

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