



Office of Water Management
Indiana Department of
Environmental Management

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Environmental Accomplishments & Social Rewards of Volunteer Monitoring Programs

By: Steve Lundt, Indiana Clean Lakes Program, Indiana University

The North American Lake Management Society (NALMS) annual symposium in Banff, Canada, featured many sessions about volunteer programs and public-based cooperation projects. A common thread noticeable throughout the sessions, was the accomplishment and social rewards volunteers create from doing "good" in the environment.

A great example of what a volunteer effort can do for our environment and community is what 450 middle school students in Pewaukee, Wisconsin did to restore a local river. The students moved over 300 tons of rock by hand to help stabilize over 800 feet of river bank and create more suitable habitat for wildlife. That's over 1,300 pounds of rock per child and not one finger was squashed!

The students also built walkways, benches, and fishing platforms for public use. Fish habitat was greatly improved by deepening the stream channel by natural scouring, increasing macroinvertebrate populations, and by increasing shade and refuge habitat for small fish. Water clarity improved since the highly eroded river banks were stabilized. Even Great Blue Herons have returned to the area.

Besides the accomplishment of a restored river reach, the school children gained a strong appreciation for the river. The children were so proud of their accomplishments that they even gave tours and demonstrations to older high school students and local citizens. By having young volunteers involved, they were able to spread the word of environmental stewardship to parents, relatives, and older siblings. The largest reward from this project was that a new seed of caring for local water resources was planted in the community. These young volunteers will grow up knowing what can be done to restore environmentally unbalanced ecosystems and the power of volunteer actions.

Our own Indiana Volunteer Lake Monitoring Program can also boast about environmental accomplishments and social rewards. More than 100 lakes throughout Indiana have dedicated citizens volunteering their time and talents toward lake stewardship. As a result, these communities are more closely connected to their lakes and watersheds, and to the problems they face.

In our pursuit of enhanced environmental stewardship, let us note another lesson from the Wisconsin case—the role of students. Students in our local schools are a source of tremendous volunteer energy. Besides doing environmental good, such student efforts further strengthen ties between school and community while teaching the students the importance of public service.

Schools can have an important role in the Indiana Volunteer Lake Monitoring Program. During 1998, we trained Matt Neu (14 yrs old) as a new volunteer monitor on Adams Lake in LaGrange County. We also have several volunteers who are schoolteachers. We must continue to identify more opportunities to involve school children in this and other environmental stewardship programs.

Got a question about your lake? Or lakes in general? Or about something you've read? Write to us at the *Water Column* and we will do our best to answer it.

Spread of Eurasian Watermilfoil Costs Lake Users

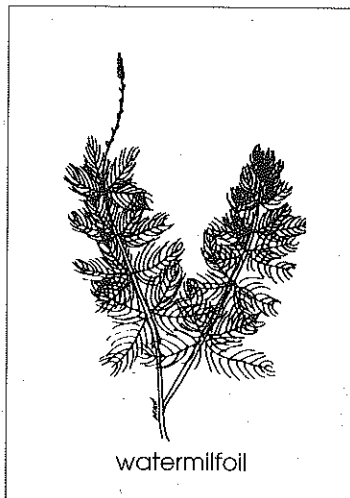
by: Gwen White, IDNR, Division of Soil Conservation

Lake associations are currently spending an estimated \$800,000 per year for herbicides to reduce the level of nuisance aquatic plants in northern Indiana lakes. The exotic invasive plant Eurasian watermilfoil congests many lakes in Indiana. This plant is not native to North America. It thrives in colder waters and sprouts earlier in the spring than most native plants. Milfoil rapidly grows to the surface, shading out native species, competing for nutrients in the water, and crowding out plants that provide food and habitat for native species. The plant looks like a long green bottlebrush with feather-like leaves arranged in whorls on the stem. A flowering spike protrudes above the water. Because the canopy extends across the water's surface in mats, this plant becomes entangled in boat motors and fishing lines and impedes swimming.

Recent estimates from the IDNR Division of Soil Conservation indicated that this plant occurs in over 170 of the 616 lakes in northern Indiana. In comparison, the Wisconsin DNR lists only 190 lakes as affected by milfoil out of a total number of 3,620 lakes in that state. Therefore, the problem in Indiana can be considered extreme. According to permits issued by the IDNR, milfoil was the target species for over 80 percent of the lake area that has been chemically treated for weed control in Indiana. Based on the surface area where milfoil was reported, over \$1.2 million per year would be needed for several years to reduce the Eurasian watermilfoil in the state's lakes.

Several ecological and social factors appeared to have a relationship to problems with nuisance aquatic plants. Lakes that requested plant control tended to be larger, shallower, with more lakefront homes, and were not dominated by blue-green algae. Because adequate information does not exist for native plants in Indiana lakes, the impact of milfoil on beneficial plants is not known.

Control of Eurasian watermilfoil can be very difficult. Mechanical harvesting removes plant biomass and can weaken remaining shoots, but



cut pieces that aren't collected can drift and root in new areas. Chemical control can bring temporary relief but is expensive and usually requires several years of consistent treatment. Grass carp (*Ctenopharyngodon idella*) prefer to eat nearly all other species of plants before resorting to milfoil. Native water weevils may provide some control, but are untested in Indiana waters and have produced variable results in other areas.

Taking precautions to remove all aquatic plants from boats and trailers before entering another water would reduce the problem of spreading these noxious plants. A draft report on the St. Joseph River basin in northern Indiana and southern Michigan indicated that "lakes with public access sites have a greater tendency to have problem densities of weeds, because species are transferred by boats and trailers" (Wesley and Duffy, 1998). Across Indiana, nuisance exotics were more common in lakes and reservoirs that were located in state parks with high recreational use or were near large metropolitan areas.

Because aquatic plant control is a complex process, lake associations should consider developing a long-term aquatic plant management plan for their lake. For further assistance in aquatic plant management call your IDNR District Fisheries Biologist or a professional plant control specialist.

Is Help on the Horizon?

The native North American aquatic weevil species (*Euhrychiopsis lecontei*) has been reported across several northern states as a potentially effective biological control of the watermilfoil. The first known Indiana record of this weevil was reported from Saugany Lake, in northeastern LaPorte County. Staff of the IDNR Division of Entomology identified the weevil that was found crawling on milfoil collected by Robin Scribailo, a professor at Purdue University-North Central. Fisheries biologists in the region report that beneficial aquatic plants may be regaining a foothold in the lake, presumably due to effects of the weevil on stands of milfoil.

The weevil is slightly larger than the head of a pin. Adults lay eggs on the plant, the eggs hatch within a week, and larvae feed on the plant before forming a pupa in the lower stem. The feeding action causes the stem to weaken and fall. In autumn, adult weevils move to the edge of lake for winter. In spring, adults fly back to the exposed tips of the milfoil in the lake. There are native species of milfoil found in North America, including Indiana. The exotic Eurasian milfoil apparently lacks a defensive chemical that occurs in native milfoils and deters insect grazing. Therefore, the weevil prefers to eat the exotic.

The weevil also may have been observed in the Flint Lake chain (Porter County) and Shriner Lake (Whitley County) and may be present in other northern Indiana lakes.

Although tested in commercial releases in several Michigan lakes, the weevil has not been intentionally introduced into Indiana lakes. Please be on the lookout for a weevil with black stripes along a tiny golden body and report any sightings to the IDNR Lake and River Enhancement program at (317) 233-5468. Additional information including photos of the weevil is on the Internet at: <<http://www.fw.umn.edu/research/milfoil/milfoilbc/weevil.html>>.

[Information on weevil biology was taken from: "Fact sheet on the application of an aquatic weevil for biological control of Eurasian water milfoil" by EnviroScience, Inc., Cuyahoga Falls, Ohio.]

Telephone Locator for Lake Assistance

When you have a lake-related question, do you know whom to contact for assistance? Below is a list of people and places to contact if you have a question regarding your lake, stream or watershed.

Local Health Department

- Septic system problems or complaints

Indiana State Department of Health

- Fish Consumption Advisories: Public Information Officer, (317) 233-7162.
- Swimming beaches or pools: Mike Hoover, (317) 233-7183.

Indiana Department of Environmental Management (IDEM)

- Biological Communities Monitoring: Assessment Branch, Steve Newhouse, (317) 308-3186.
- Clean Lake Program: Office of Water Management, Carol Newhouse, (317) 308-3217.
- Environmental Emergencies: EnviroLine, 24 hours a day, (800) 232-8603.
- Fish Tissue and Sediment Contamination Monitoring: Assessment Branch, Jim Stahl, (317) 308-3187.
- Non-Point Source Pollution/Watershed Management: Planning Branch, Susan McLoud, (317) 232-0019.
- Stream Water Quality Surveys: Assessment Branch, Arthur Garceau, (317) 308-3381.
- Toxic Chemical Monitoring: Assessment Branch, Arthur Garceau, (317) 308-3381.
- Volunteer Lake Monitoring: Indiana University, SPEA, Bill Jones, (812) 855-4556.

- Wastewater Treatment Facility Inspections: Office of Water Management, Jeff Feller, (317) 232-8624.
- Water Quality Regulations: Planning Branch, Dennis Clark, (317) 233-2482.
- Wetlands: Planning Branch, Marty Maupin, (317) 233-2471.

Indiana Department of Natural Resources (IDNR)

- Aquatic Chemical Application: Division of Fish and Wildlife, Randy Lang, (317) 232-4080.
- Dam Inspections: Division of Water, George Crosby, (317) 233-4576.
- Fisheries Surveys: Division of Fish and Wildlife, Bill James, (317) 232-4094.
- Lake and River Enhancement Program: Division of Soil Conservation, Jim Ray, (317) 233-3870.
- Lake Shoreline Modifications: Division of Water, Andrea Gromeaux, (317) 233-5635.
- Nuisance Wildlife: Purdue Extension Service, 1-800-893-4116.
- Streambank Modifications: Division of Water, George Bowman, and (317) 232-5660.
- Volunteer Stream Monitoring: Hoosier River Watch, Lyn Hartman, (317) 541-0617; E-mail: <HoosierRiverwatch@ameritech.net>.

Indiana Lakes Management Society (ILMS)

- Greg Bright, President, (317) 888-1177

Trained Dogs Provide Novel Solution to Goose Problem

CLEVELAND — Specially trained dogs are finally getting the upper hand (or should we say paw) in a battle to keep Canada geese from nesting in urban areas. It's the job of Pat Hrovat and her Border Collie, Trap, to keep the numerous and always messy geese from making the lagoon at the Cleveland Museum of Art their permanent playground.

Since early spring, Hrovat and her dogs, have been employed by the museum as well as two cemeteries and a golf course around Cleveland to make their goose problems fly away.

"My dogs don't chase the geese, they push them up into the air," explains the experienced trainer. "We apply strategic pressure and then let geese make the best decision as to what to do.

So far, the best decision has been to go elsewhere. The efforts seem to be working.

This spring for the first time in 18 years, the art museum had no nesting geese. Knollwood Cemetery, which once had to use a snowplow to scrape up goose droppings in front of its mausoleum, has found itself practically goose-free.

(continued p. 4...)



"Four months ago we had flocks of 100 to 150 geese," says delighted cemetery manager George Howe. "Now we have basically zero. We're ecstatic!"

It took Hrovat about a year and a half to train her dogs, two Border Collies and a Labrador

Retriever, to watch the sky for flocks, carefully flank geese, then push them into the wind so they could fly off.

Her main concern is that no harm comes to either dogs or geese, so the dogs must be extensively trained and disciplined.

But the dogs aren't the only ones she's training. In effect, she's training the geese, too, trying to put their natural instincts into them. As suburbs sprawl into the nesting grounds of geese, they become more acclimated to people and cars and commotion. Hrovat wants the geese to once again become wary of people.

The key is to maintain a presence in each place long enough so that geese will leave without establishing a nesting ground or comfort zone.
[adapted from Associated Press]

Making Sense of "No Wake" Zones

By: Bill Jones

Suppose you are boating through the channel between Webster Lake and The Backwaters, or boating in the upper end of Monroe Reservoir. How do you interpret the signs that designate these as "No Wake" or "Idle" zones? More importantly, how do the Conservation Officers interpret these zones? What does "No-Wake" or "Idle" really mean? Is it a specific speed? How big can a "No-Wake" wake be? Are the "No Wake" and "Idle Speed" regulations too vague to be enforced?

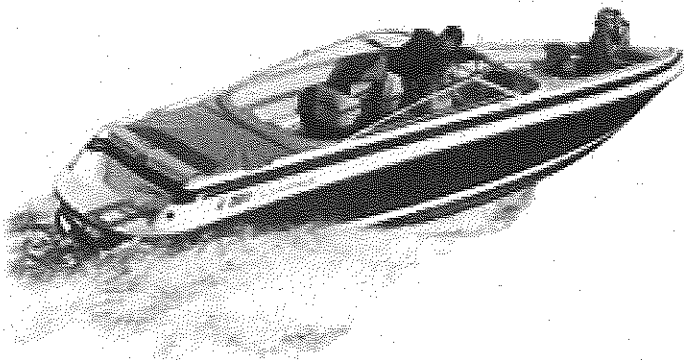
According to Indiana Code (IC 14-8-2-129), "Idle speed" means the slowest possible speed, not exceeding five (5) miles per hour, that maintains

steerage so that the wake or wash created by the watercraft is minimal.

In a "No Wake" zone, watercraft cannot travel so fast as to leave a "Wake" or "Wash" which, according to Indiana Code (IC 14-8-2-301), means a track left by a watercraft causing waves that: (1) disrupt other water sport activities; or (2) may cause injury or damage to individuals, watercraft, or property.

The upshot of this is that boat speeds in a "No Wake" zone are generally slower than those in an "Idle" zone.

These special boat speed limits may be imposed in confined areas, narrow channels or along shorelines to protect moored boats, shorelines, boats passing each other, or significant environmental resources from damage caused by excessive wakes. There are safety issues as well as environmental protection issues considered in the posting of such zones.



Recent court cases in Florida, Minnesota, Ohio, and South Carolina have upheld similarly defined slow- or no-wake regulations. A Federal Appeals Court in the Minnesota case held that the slow-no wake regulations are not unconstitutionally vague. The Constitution requires that a statute define the offense with sufficient definiteness that ordinary people can understand what conduct is prohibited and in a manner that does not encourage arbitrary and discriminatory enforcement. The slow-no wake regulations use ordinary words that are readily understood by persons of ordinary intelligence.

The Courts in the Florida and South Carolina cases ruled that a watercraft causing injury to others by her swell must be held responsible for any failure to appreciate the reasonable effect of her own speed and motion.

So next time you find yourself in a "No Wake" or "Idle" zone, slow down and enjoy the scenery. By complying with the reduced speeds, you'll be protecting private property and natural resources.

Indiana Waterways Slated for State Grants to Improve Water Quality

State grants totaling more than \$1 million will help fund efforts to reduce soil erosion and protect the water quality of Indiana lakes and streams.

"These funds will allow us to do more to control erosion and run-off to protect our drinking water supplies, to reduce the threat of flooding and to improve habitat for fish and wildlife," Gov. Frank O'Bannon said.

"In 1998, the DNR helped Hoosiers install protection measures that each year will prevent more than 150,000 tons of soil from being eroded and washed into lakes, rivers and creeks," Indiana Department of Natural Resources Director Larry Macklin said. "The additional funds we now have will allow us to expand on the work already done and further protect Indiana's lakes and rivers."

Authorized by the DNR's Soil Conservation Board, the Lake and River Enhancement grants will supplement local funds for projects in the following areas (county site in parentheses):

- Diagnostic studies:

Brooks Creek Watershed (Jay)—\$37,050,
Flat/Fleming/Griffin/Somers Creeks Watershed (Wells/Huntington)—\$33,250,
Greenwood Lake (Martin/Greene)—\$40,500,
Silver Lake (Kosciusko)—\$18,000
Upper Mississinewa River Watershed (Randolph)—\$37,430.

- Design study:

Cedar Lake (Lake)—\$40,000.

- Construction projects:

Flint Lake (Porter)—\$86,100,
Lake Manitou (Fulton)—\$20,160
Little Barbee Lake (Kosciusko)—\$36,383.

- Combination design/construction projects:

Lake Lemon (Brown/Monroe)—\$86,100,
Lake Tippecanoe (Kosciusko)—\$140,730
West Boggs Lake (Davies/Martin)—\$58,875.

- Post-construction monitoring project:

West Boggs Lake (Davies/Martin)—\$8,100.

- Watershed land treatment projects:

Brewster Ditch (Adams)—\$40,000,
Bruce Lake (Fulton/Pulaski)—\$6,000,
Brush Creek (Owen/Putnam/Morgan)—\$25,000,
Glenn Flint Lake (Putnam)—\$35,000,
Goose/Loon Lakes (Noble/Whitley)—\$40,000,
Indian Creek (Tippecanoe)—\$30,000,
Kokomo Creek (Howard)—\$30,000,

Lake Waveland (Montgomery/Parke)—\$30,000,
Lake Wawasee (Kosciusko/Noble)—\$20,000,
Middle Fork of Busseron Creek (Sullivan)—\$30,000,
Middle Fork of White River's East Fork (Wayne/Randolph)—\$50,000,
North Fork of Muscatatuck River's Vernon Fork (Jennings/Ripley/Decatur)—\$50,000,
Pike Lake (Kosciusko)—\$30,000,
Twelve-Mile Creek (Cass/Miami)—\$35,000,
West Boggs Lakes (Davies/Martin)—\$10,000,
Wildcat Creek (Clinton)—\$35,000
Witmer Lake (LaGrange/Noble)—\$30,000.

Lake and River Enhancement is a statewide water quality protection initiative administered by DNR's Division of Soil Conservation. Funded from a \$5 portion of state-collected annual boat license, the program provides technical and financial assistance to local organizations for solving erosion- and nutrient-related problems affecting public-access lakes and streams.

For more information: Mike Massonne, DNR Div. of Soil Conservation, (317) 233-3870

Beach Safety a Concern of EPA

The U.S. Environmental Protection Agency established the BEACH Program in 1997. The BEACH program is designed to encourage governmental agencies at the federal, state, tribal, and local level to strengthen beach water quality standards and testing methods, use predictive water pollution models to better inform the public about beach water quality conditions, and make information about the risks associated with swimming in contaminated beach water available to the public. Under the BEACH Program, EPA will improve laboratory test methods for detecting contaminants in beach water, invest additional resources in beach water quality health and testing methods research, and will help state, local and tribal government agencies adopt and carry out effective water quality monitoring.

EPA conducted the second annual National Health Protection Survey of Beaches in the spring of 1999. This was a voluntary survey of government agencies to collect information on beach health activities carried out at local beaches. Survey participants were asked the following: Which beaches are being monitored? How often are they monitored? Who conducts the monitoring? Where and how often have advisories or closings been issued? What methods are used to determine beach advisories and closings? How often are water

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(BEACH SAFETY . . .
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quality standards exceeded at the beaches? The results of the 1999 survey are available on EPA's BEACH Watch web site at <<http://www.epa.gov/OST/beaches/>>. Although the database includes a significant number of coastal and Great Lakes beaches, it does not include all U.S. beaches. The database contains information for only those beaches where officials participated in the survey.

EPA distributed 322 questionnaires to beach health protection agencies in 33 states requesting information on local beaches. The Agency received 193 responses that included information on 1,403 beaches. The respondents were almost exclusively local governmental agencies from coastal counties, cities, or towns bordering the Great Lakes, the Atlantic Ocean, the Gulf of Mexico, and the Pacific Ocean, although a few respondents were state or regional (multiple-county) districts.

In Indiana, responses came only from Lake and Porter counties. Several Lake Michigan beaches were included as were beaches on Cedar, Dalecarlia, Hidden and Wolf lakes in Lake County and Flint, Lakes of the Four Seasons, Long, Loomis and Wauhob lakes in Porter County. Advisories or closures were issued for 8 of 12 Lake Michigan beaches responding in 1997 and for inland beaches on Cedar, Dalecarlia, Hidden, and Wolf lakes and Lakes of the Four Seasons.

EPA intends to conduct the survey each year, and as new information becomes available, it will be added to the BEACH Watch web site. EPA plans to add more inland (freshwater) beaches to the survey next year. The EPA BEACH Watch website will eventually become the gateway to up-to-date information on beach health protection activities throughout the United States, including water quality, local protection programs, and other beach-related programs.

WATER COLUMN

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Meetings

September 24-26, 1999. **International Joint Commission's 1999 Biennial Forum On Great Lakes Water Quality**, Milwaukee, Wisconsin. Contact: Jennifer Day, phone: (313) 226-2170 ext. 6733; e-mail: <dayj@windsor.ijc.org>.

October 13-15, 1999. **The Midwest Groundwater Conference**, St. Paul, Minnesota. Contact: James Lundy, phone: (800) 657-3864; e-mail: <jim.lundy@pca.state.mn.us>.

November 8-9, 1999. **Lake Michigan: State of the Lake '99**, Muskegon, Michigan. Contact: Dr. Janet Vail, phone: (616) 895-3048; e-mail: <vailj@gvsu.edu>.

November 16-17, 1999. **Wetlands & Remediation: An International Conference**, Hilton Hotel, Salt Lake City, Utah. Contact: phone: (800) 783-6338; fax: (614) 488-5747; e-mail: <conferencegroup@compuserve.com>.

December 1-4, 1999. **NALMS'99 - Water: 21st Century Gold**, Reno Hilton, Reno, Nevada. Contact: Terry Thiessen, phone: (608) 233-2836; fax: (608) 233-3186; e-mail: <thiessen@nalms.org>.

February 14-18, 2000. **10th International Aquatic Nuisance Species and Zebra Mussel Conference**, Westin Harbour Castle, Toronto, Ontario, Canada. Contact: Elizabeth Muckle-Jeffs, phone: (800) 868-8776; fax: (613) 732-3386; e-mail: <profedge@renc.igs.net>; webpage: <www.zebraconf.org>.

April 26-28, 2000. **13th Annual National Conference: Enhancing the States' Lake Management Programs**, Chicago, Illinois. Contact: Bob Kirschner, phone: (312) 454-0401, ext. 303; fax: (312) 454-0411; e-mail: <bobkirs@nipc.org>.

The Flint Creek Watershed Project: Local Leadership as the Key to Improving Water Quality

By: Kevin Beale, Indiana Clean Lakes Program,
Indiana University

When the Environmental Protection Agency (EPA) initiated a water quality project to improve the waters of the 290,000-acre Flint Creek watershed in

northwest Alabama, area waterways were badly degraded. Years of agricultural runoff had produced a stream system so low in dissolved oxygen that it could no longer support native fish communities. In addition, the system was choked with duckweed and was unsuitable for swimming or use as a drinking water source.

Many area residents, however, were unaware of the problems and were reluctant to get involved with a project led by a government agency.

In an effort to bolster local leadership, the local Soil and Water Conservation Districts (SWCDs) formed the Flint Creek Watershed Conservancy District (FCWCD) in 1994. This eleven-member panel of elected landowners had a personal stake in the community and rapidly assumed responsibility for improving water quality with several key strategies.

First, they sought to educate the residents of the watershed. They accomplished this with an annual Wet 'n Wild festival demonstrating principles of fisheries management, groundwater flow, and surface water pollution; an urban environmental park illustrating the benefits of constructed wetlands and streambank stabilization; a wheelchair accessible fishing pier; and a goal of 52 newspaper articles per year about water quality.

Second, they initiated a volunteer water quality monitoring program to get residents involved with data collection and a streambank stabilization program to curb erosion. By the end of 1998, project participation had skyrocketed and the FCWCD had raised over \$1.4 million to encourage urban and agricultural Best Management Practices. Most importantly, Flint Creek has seen significant improvements in dissolved oxygen concentrations and several native fish species are making a

comeback. Although Flint Creek has a long way to go, local leadership has been the key to its recent success—another example of how citizens really do make the difference.

For more information on the Flint Creek Watershed Project, contact:

Brad Bole
Flint Creek Watershed Project
400 Chestnut Street NW
Hartselle, AL 35640

Teaming with Wildlife Initiative

Black-crowned night heron, Tippecanoe darter, Blanding's turtle, Lake sturgeon, Hellbender, Swamp rabbit, Wavy-rayed lampmussel, Blue-spotted salamander. . . . Over 550 species of Indiana birds, mammals, fishes, molluscs, reptiles, and amphibians do not receive the benefit of research and management due to lack of funding; 138 of these species are classified as endangered, threatened or of special concern. Title III of the Conservation and Reinvestment Act, now pending before Congress, would provide \$6 to \$8 million annually for conservation and education in Indiana.

Funds for the Conservation and Reinvestment Act will come from offshore oil and gas revenues. Not since the Pittman-Robertson Act, or the Dingell-Johnson Act, has there been legislation with greater potential to protect and conserve wildlife and wildlife habitats. Legislators in the U.S. Congress are voting now on whether to provide funding for this important initiative. For more information, contact the Division of Fish and Wildlife at (317) 232-4080.

PERSPECTIVES

If the Earth's biota—all the plants and animals and microorganisms—sent a bill for their 1997 services, the total would be \$2.9 trillion, according to an analysis by Cornell University biologists. That's the economic and environmental benefits of such services as: organic waste disposal, soil formation, biological nitrogen fixation, biological control of pests, plant pollination, pharmaceuticals and other nature-based products, ecotourism, and sequestration of carbon dioxide that otherwise would contribute to global warming.

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