Third Indiana Lake Mangement Conference

The 3rd Indiana Lake Management Conference will be held on April 19-20, 1991, at Tri-State University in Angola, Indiana. The conference, sponsored by the Indiana Department of Environmental Management, is an opportunity for people from Indiana to get together to talk and learn about lakes. The preliminary agenda includes: a Technical Session Friday afternoon where results of research studies of Indiana lakes and watersheds will be presented; a General Session on Saturday with a theme of local lake protection initiatives; and an exhibit area for lake management products and services. A field trip to visit a local lake management project is also planned. More information and a preliminary program will be sent out in late February. Mark your calendar now!

Section 319 Grant

Earlier this year, the State received a $565,000 grant which was authorized by Section 319 of the Federal Water Pollution Control Act. Portions of the grant are being distributed by IDEM to fund a variety of nonpoint source (NPS) water pollution control activities. Some of the money is being used by IDEM to fund a study of agricultural pesticides in surface waters, and another portion is being used to fund the evaluation of construction projects that might pollute lakes, streams, or wetlands. Several different groundwater studies are also being funded. The majority of the money, though, is being used to fund projects performed by other agencies or universities, as follows:

- IDNR's Division of Reclamation will conduct an abandoned mine land demonstration project which will eliminate a source of acid drainage.

- Indiana University will evaluate the effects of NPS remediation effects at selected lakes.

- DePauw University is evaluating the effects of NPS pollution on the Eel River and its tributaries.

- A groundwater and surface water data base is being developed to assist in documenting NPS controls in the USDA Upper Tippecanoe River Hydrologic Unit project.

- 319 funds will help the LaGrange County Soil and Water Conservation District develop a model farm in the Martin-Olin-Oliver watershed.

- IDNR's Division of Forestry will develop a demonstration area to illustrate timber harvesting practices that will limit NPS pollution.

- The Lake County SWCD will evaluate the origins of urban NPS pollution in the Grand Calumet River watershed, to "target" priority areas and to propose appropriate BMPs.

(See GRANT, continued on page 2)
Land Treatment Cost-Share Element Added to Lake Enhancement

The State Soil Conservation Board at its August meeting adopted policy revisions for T-by-2000 lake enhancement that establish a lake watershed land treatment cost-share program. This action allows landowners to control non-point nutrient inflows to lakes and reduce nitrogen and phosphorus loading.

The program, to be carried out locally by Soil and Water Conservation Districts, is in cooperation with the Division of Soil Conservation, provides "cost-sharing assistance to landowners for applying practices (agronomic or structural) that reduce nutrient loading from agricultural sources entering a project lake." Such assistance is applicable where landowners show that those sources are indeed contributing significantly to the lake's problems.

The State Soil Conservation Board annually will determine qualifying practices and their maximum cost-share rates (presently set at 50% within a mile of a project lake or half-mile of a perennial stream, and 65% beyond those distances). Landowners must apply/install the practices according to field office technical guide standards and specifications and must operate/maintain them according to their prescription.

Application for cost-share assistance must be made by local SWCD. Funding will be on a project rather than a practice basis, with the amount allocated to any one project determined by fund availability. (These monies come from T-by-2000's land enhancement program allotment, from its cropland erosion control cost-share program.) The new program is scheduled to begin after the first of the year.

Glander Replaces Lake as Division AD for Lake Enhancement

Citing family considerations, Jim Lamer resigned as Division assistant director for lake enhancement, effective September 1, to return to his position as Area II Extension soil conservation education specialist. He will work out of the Area II SCS office in Huntington, assisting with information/education efforts related to all aspects of T-by-2000, including the new watershed land treatment element of lake enhancement.

Selected to replace Lamer is Paul Glander, the Division's lake management biologist. As AD for lake enhancement, he will be responsible for coordination of the program, coordination of services, and supervision of the five-person staff.

Glander joined the Division last October, succeeding Gary Duster, who is now INDIAN deputy director. Previously, Glander was a fisheries research technician, then fisheries biologist with INDIAN's Division of Fish & Wildlife. He holds B.A. and M.S. degrees from Millerfield (PA) State and Ball State, respectively; is a member of the Indiana Academy of Science; and is past president of the Indiana Chapter, American Fisheries Society.

Did You Know?

The use of a white disk to measure water transparency seems to have originated with a casual observation by a certain Captain Berard who observed a dish contained in a net at a depth of 40 meters while on a journey through the Indian Ocean. However, it was not only after Commander ClaiId of the Papal Navy commissioned the services of Professor P.A. Secchi to conduct observations of the disk in 1856, that the disk achieved the fame it now has. Professor Secchi's work established the experimental procedure for measuring transparency and today, the disk bears his name—the Secchi disk.

T-by-2000 is a DNR-administered program aimed at significantly reducing soil erosion and resulting sedimentation throughout Indiana by the year 2000. The lake enhancement component provides technical and financial help to control sediment and associated nutrient problems in public-access lakes, such as Shipshewana.

Clemens is a 1984 Hampton College graduate. He served four years as environmental coordinator with the St. Joseph County Soil & Water Conservation District (SWCD) before joining the Elkhart County Health Department, where he dealt with surface and groundwater quality-related problems.

As Shipshewana project manager, Clemens will work out of the LaGrange County SWCD office, 400 Union Street, LaGrange.

DNR Hires Clemens as Shipshewana Lake Enhancement Project Manager

A water quality specialist with the Elkhart County Health Department has joined the Division of Soil Conservation, Indiana Department of Natural Resources (DNR), as manager of the T-by-2000 lake enhancement project for Shipshewana Lake in LaGrange Co. Larry J. Clemens, 28, assumed the newly created position April 30. His job will be to coordinate all activities associated with the four-year, $2.4 million lake restoration effort, which is being financed through the Build Indiana Fund.
Words for Thought...

Before 1866, the government of the United States had asked Chief Seattle, leader of the Suquamish Indians, about purchasing tribal lands for use by new settlers. The following is Chief Seattle's letter in reply:

"The President in Washington sends word that he wishes to buy our land. But how can you buy or sell the sky? The land? The idea is strange to us. If we do not own the freshness of the air and the sparkle of the water, how can you buy them?

"Every part of this Earth is sacred to my people. Every shining pine needle, every sandy shore, every mist in the dark woods, every meadow, every humming insect. All are holy in the memory and experience of my people.

"We know the sap which courses through the trees as we know the blood which courses through our veins. We are part of the Earth, and it is part of us. The perfumed flowers are our sisters. The bear, the deer, the great eagle, these are our brothers. The rocky crests, the juices in the meadow, the body heat of the pony and man all belong to the same family.

"The shining water that moves in the streams and rivers is not just water, but the blood of our ancestors. If we sell you our land, you must remember that it is sacred. Each glistening reflection in the clear water of the lakes tells of events and memories in the life of my people. The water's murmur is the voice of my father's father.

"The rivers are our brothers. They quench our thirst. They carry our canoes and feed our children. So you must give to the rivers the kindness you would give to any brother.

"If we sell you our land, remember that the air is precious to us. That the air shares its spirit with all the life it supports. The wind that gave our grandfather his first breath, also receives his last sigh. The wind also gives our children the spirit of life. So if we sell you our land, you must keep it apart and sacred, as a place where man can go to taste the wind that is sweetened by the meadow flowers.

"Will you teach your children what we have taught our children? That the Earth is our mother? What befalls the Earth befalls all the sons of the Earth.

"This we know: the Earth does not belong to man, man belongs to the Earth. All things are connected like the blood that unites us all. Man did not weave the web of life; he is merely a strand in it. Whatever he does to the web, he does to himself.

"One thing we know: our God is also your God. The Earth is precious to him, and to harm the Earth is to heap contempt on its creator.

"Your destiny is a mystery to us. What will happen when the buffalo are slaughtered? The wild horses tamed? What will happen when the secret corners of the forest are heavy with the scent of musty men, and the view of the riped hills is blotched by talking wires? Where will the thicket be? Gone. Where will the eagle be? Gone. And what is it to say goodbye to the swift pony and the hunt? The end of the living and the beginning of survival.

"When the last Red Man has vanished into his wilderness, and his memory is only the shadow of a cloud moving across the prairie, will these shores and forests still be here? Will there be any of the spirit of my people left?

"We love this Earth as a newborn loves its mother's heartbeat. So if we sell you our land, love it as we have loved it. Care for it as we have cared for it. Hold in your mind the memory of the land as is it when you receive it. Preserve the land of all children, and love it as God loves us all."


Best Management Practices

Lakes are products of their watersheds. By this we mean that land use activities in the watershed help determine water quality in the lake. For example, poor timber or farming practices can allow nutrient-laden runoff, pesticides residues, and eroded soil to contaminate a lake far downstream. Likewise, proper land use management upstream can help protect a downstream lake. For this reason, we say that lake management begins in the watershed.

While it is unrealistic to expect that all watershed sources of pollution can be eliminated, best management practices (BMPs) can be used to minimize the problems from nonpoint sources of pollution. BMPs were originally designed to control agricultural soil losses but they are now applied to urban, forestry, and construction activities as well. Managers of lakes and streams focus on BMPs to control four primary, interactive processes: (1) erosion control, (2) runoff control, (3) nutrient control, and (4) pesticide or toxic controls.

In this issue of Water Column, we begin a regular feature which will focus on different best management practice in each issue. This month's BMP is conservation tillage.

Best Management Practices

Conservation Tillage: A farming practice that leaves stalks or stems and roots intact in the field after harvest. Its purpose is to reduce water runoff and soil erosion compared to conventional tillage where the topsoil is mixed and turned over by a plow. Conservation tillage is an umbrella term that includes any farming practice that reduces the number of times the topsoil is mixed. Other terms that are used instead of conservation tillage are (1) minimum tillage where one or more operations that mixed the topsoil are eliminated; and (2) no-till where the topsoil is left essentially undisturbed.

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Effectiveness</td>
<td></td>
</tr>
<tr>
<td>a. Sediment</td>
<td>Fair to excellent, decreases sediment input to streams and lakes. (40-90% reduced tillage, 50-95% no till)</td>
</tr>
<tr>
<td>b. Nitrogen (N)</td>
<td>Poor, no effect on nitrogen input to streams and lakes.</td>
</tr>
<tr>
<td>c. Phosphorus (P)</td>
<td>Fair to excellent, can reduce the amount of phosphorus input to streams and lakes. (40-90% reduced tillage, 50-95% no till)</td>
</tr>
<tr>
<td>d. Runoff</td>
<td>Fair to excellent, decreases amount of water running off fields carrying sediment and phosphorus.</td>
</tr>
<tr>
<td>2. Capital Costs</td>
<td>High, because requires purchase of new equipment by farmer.</td>
</tr>
<tr>
<td>3. Operation and Maintenance</td>
<td>Less expensive than conventional tillage. Potential increase in herbicide costs. Potential increase in net farm income.</td>
</tr>
<tr>
<td>4. Longevity</td>
<td>Good, approximately every five years the soil has to be plowed over.</td>
</tr>
<tr>
<td>5. Confidence</td>
<td>Fair to excellent</td>
</tr>
<tr>
<td>6. Adaptability</td>
<td>Good, but may be limited in northern areas that experience late cold springs, or in heavy, poorly drained soils.</td>
</tr>
</tbody>
</table>

nated state contact agency for the federal Clean Lakes Program, it must review the proposals and submit the formal application to the EPA. Therefore, completed proposals must be sent to IDEM by December 15, 1990.

For additional information regarding the EPA Clean Lakes Program, contact John Winters at (317) 245-5058.

Meetings


Federal Clean Lakes Program Receives Funding

The Federal Clean Lakes Program, authorized by Section 314 of the Clean Water Act and administered by the U.S. Environmental Protection Agency, received $7 million dollars from Congress for funding programs during 1991. Of this total, Region V of EPA (MI, WI, IL, IN, OH) expects to receive $1.2 million.

Region V funding priorities for this money are:
1. additional lake water quality assessment grants to the state;
2. new Phase I Diagnostic Feasibility Studies;
3. Phase II implementation projects.

In order to stretch the available money, Region V will give preference to Phase I proposals requesting only a 50% federal share and a maximum of $50,000 of federal funds. Phase I diagnostic/feasibility grants require an extensive one-year sampling effort. Phase II grants are awarded only for projects having a completed and approved Phase I study.

Due to the delayed federal budget approval, EPA could not notify the Indiana Department of Environmental Management of the availability of Clean Lakes Program funds until mid-November. On November 26, IDEM sponsored an informational meeting for Indiana communities interested in applying for the federal funds. Don Roberts, EPA Region V Clean Lakes Program Coordinator, attended the meeting and answered questions.

Applications for this year’s program are due to EPA by January 9, 1991. Since IDEM is the design...
WATER COLUMN
School of Public and Environmental Affairs
Room 347
Indiana University
Bloomington, IN 47405

NON-PROFIT ORG.
U.S. POSTAGE
PAID
Bloomington, IN
Permit No. 2