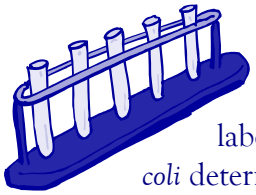
BASIN BITES and TECHNICAL TIDBITS

A Publication of the **St. Joseph River Basin Commission**

FOURTH QUARTER– WINTER 2004

FOURTH-QUARTER MEETING SCHEDULED

The fourth-quarter meeting of the St. Joseph River Basin Commission has been rescheduled for January 11, 2005. The meeting location has been changed to the Elkhart County Commissioners' Meeting Room, 117 No. Second Street, Goshen starting at 9:00 a.m. Election of 2005 officers will take place at this meeting.



The guest speaker is Jim Larkin, of Scientific Methods, Inc. Larkin will discuss new laboratory analysis techniques for *E. coli* determination, focusing on sources.

E. coli is a bacteria found in the intestines of warm-blooded animals. It is used as an indicator organism in the analysis of water contamination by sewage or manure. The analytical method goes a step further in the analysis, by identifying the source as human, domestic animal or wildlife.

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2005 QUARTERLY MEETING SCHEDULE

The St. Joseph River Basin Commission meets on a quarterly basis. All meetings begin at 10:00 a.m., are held at the Elkhart County Public Services Building (4230 Elkhart Road, Goshen) and are open to the public.

- March 1
- June 7
- September 13
- December 6

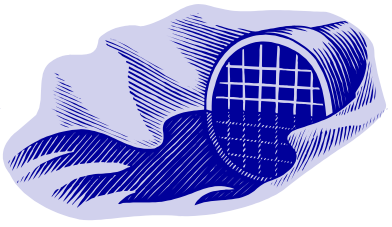
THE DRAIN GAME

It helps farmers get into fields. It reduces localized flooding. It contributes added volume and velocity of water into neighboring waterways. It's DRAINAGE!~The network of tiles, ditches, streams and rivers that move water through an area.

On February 7, 2005 *The Drain Game; A Workshop on Drainage Education and Innovation* is set to focus on this complex topic. The workshop will be held at the Kendallville Banquet and Conference Center.

Planned topics include the mechanics of drainage, an overview of current drainage regulations, innovative approaches to maintaining drainage ways, the wetlands component and the importance of planning and partnerships to solve drainage issues.

The planning committee for the workshop has consisted of a number of agencies and organizations including the Wood-Land-Lakes R.C.&D, the St. Joseph River Watershed Initiative, the DeKalb County Soil and Water Conservation District, and the Hoosier Environmental Council in addition to the St. Joseph River Basin Commission.



Others contributing topic and speaker ideas include County Surveyors, the Nature Conservancy, the Indiana Farm Bureau, the Izaak Walton League and the City of Fort Wayne.

A registration form can be obtained at the St. Joseph River Basin Commission website. Deadline for early registration at the rate of $20.00 is January 21.

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WHY ALL THE CONCERNS ABOUT PARKING LOT RUNOFF

The control of stormwater runoff is a concern in our communities. We usually don't equate storm water runoff from parking lots or other hard surfaces as having the potential to cause water pollution.

Recent regulations related to stormwater management, and the need to consider innovative design practices, in particular those that reduce storm water runoff, will aid in cleaning the water before it enters our streams and rivers or reduces it ever entering our waterways.

Research conducted by R. Bannerman and R. Dodds and published in *Water Science Technology* on parking lot runoff in a Wisconsin community showed that a multitude of impurities are contributed each rain and snowmelt event.

Did you know–

The typical number of parking spaces per 1000 square feet of shopping center space, is 4-6.5 spaces. The actual average parking demand is 3.97 per 1000 square feet of shopping space!

Parking Generation. Institute of Transportation Engineers, 1987.

Additional studies conducted in Washington D. C. and other communities on the east coast, and in Spokane, Washington have shown that runoff, once considered low in pollutants, actually contribute high levels of heavy metals, oils and greases, and suspended solids in addition to bacteria such as *E. coli*. These pollutants contaminate receiving waters, deteriorate aquatic habitat and contribute to the mortality of aquatic life.

Some information discovered in the research include:

Storm Water Runoff volume: The increase in volume of water leaving a parking lot compared to the pre-developed runoff ranged from 48 to 52 percent. Not only does the volume increase, but as the rain or snowmelt runs across the hard parking lot surface, it increases in energy. Energized storm water runoff cuts into streambanks and accelerates erosion.

Suspended solids: No parking lot is free of soils and other particles of dirt. The Wisconsin study showed an increased contribution of nearly 24 percent suspended solids in a commercial parking lot and 61 percent in industrial parking lots. Soils and dirt particles entering receiving streams cover valuable habitat needed by aquatic insects that sustain fisheries.

Total zinc (heavy metal): The wear and tear of vehicle parts results in a contribution of zinc to parking lot and street surfaces. Runoff contributed 32 percent from commercial parking lots and 35 percent in industrial parking lots to nearby waterways.

Total copper(heavy metal): The same held true for copper. Nearly 31 percent of the copper load came from commercial parking lots, while 62 percent came from industrial parking lots in the Wisconsin study area.

There is strong support for and growing evidence, which indicates that softer, more natural attributes, such as grassed islands, filter swales and grassed overflow parking can reduce, retain or temporarily store stormwater runoff to reduce the volume and velocity of the water entering neighboring waterways

Some design solutions provide added benefits such as:

- Shortening the distance between parking space and building, by centering the building in the parking lot rather than at the end
- Cushioning noise transmission by strategically placing vegetation between high traffic areas
- Providing visual barriers between landuses by installing trees and shrubs as property dividers.

At the same time, islands of greenery and concave porous surfaces between rows of parking spaces break up the overall flat surface of the asphalt—improving aesthetics. These green areas can be designed and installed, to maximize water retention in and around the hard surface area as well as aid in the infiltration of stormwater—thus reducing runoff.

Consistently using these techniques may make a big difference. As one example cited, total suspended solids (soils and other materials) are reduced by nearly 91 percent! Metals are reduced by up to 80-90 percent.

Controlling stormwater runoff under the new management guidelines begins with a look at how development sites are chosen and designed.

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Filter Strips—A Great Way to Reduce Water Pollutants

Deep-rooted grasses, shrubbery and trees installed in a series along waterway corridors, serve a number of purposes—they anchor soils, stabilize banks, filter out impurities from stormwater runoff, cool waterways, and serve as habitat for wildlife.

According to the Natural Resources Conservation Service, the Agricultural Extension Service, the Conservation Technology Information Center, and numerous other agricultural organizations, planned buffer and filter strips are capable of:

- Reducing up to 50 percent or more of nutrients and pesticides
- Reducing up to 60 percent or more of certain pathogens. What pathogens
- Reducing up to 75 percent or more of sediment.

Shape and size of buffers are dependent on the location and the region, and concessions need to be made to allow for the maintenance of the waterway.

Numerous opportunities exist to aid producers installing these proven techniques to reduce water pollution, and yet they are frequently passed by. Farm Bill programs provide incentive payments of $100-150 per acre, maintenance payments of up to $10 per acre, and cost-share to install the practices of up to 50 percent and in some cases an additional 40 percent of the installation costs.

Producers are encouraged to contact their local Natural Resource Conservation Service office to determine eligibility, and take advantage of these conservation practices. Not all producers qualify for all practices.

Although residential property owners do not have all the financial incentives attached to the Farm Bill, the use of buffers is equally beneficial. Many techniques are simple and inexpensive, but residents can investigate potential grant funding for practices, since such funding is occasionally available to assist in residential buffer installations.

Landscaping along waterway corridors, using deep-rooted flowering plants, in addition to

ornamental grasses provides a picturesque backdrop, reducing cost of landscape maintenance, especially mowing. As waterway banks are stabilized, less property loss occurs as a result of erosion and the value of a waterway parcel is preserved or improved.

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PLANNING UNDERWAY FOR 5TH ANNUAL INDIANA/MICHIGAN ST. JOSEPH RIVER BASIN SYMPOSIUM

Fernwood Botanical Gardens and Nature Center will once again serve as the gathering place for the Indiana/Michigan St. Joseph River Basin Symposium. The date of the Symposium is Friday, April 22. A speaker for the workshop has not yet been announced.

The Symposium is an opportunity for all elected and appointed policy makers in the St. Joseph River Basin to learn of activities they can participate in that will ultimately protect or improve our great water resources.

St. Joseph River Basin Commission
227 W. Jefferson Blvd.-#1120
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MISSION

The St. Joseph River Basin Commission exists to conserve, enhance and promote the natural resources and benefits of the Watershed for present and future generations by providing vision, leadership and means.

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