

Polluting rain water creates new waves in water management

By SHERRY KAHAN

Rain water refreshes the soil. But as it runs off the land, buildings, parking lots and streets, it carries pollutants into streams, rivers and lakes.

This situation was troubling water experts who met recently at Schoolcraft College to immerse themselves in stormwater management problems. It is a topic that several years ago may have been expected to draw 10-20 people to a meeting.

But today with reports of contaminated water in this area, plus awareness that water gets so full of sand, dirt or fertilizer and other substances that alter water quality, the conference attracted close to 200 participants.

Among those on hand were G.E. Siemert, city engineer of Livonia; his assistant, Gary Clark; and Ken West, head of Plymouth's building department. A delegation from Plymouth Township included Lee Fidge, township trustee; Thomas Hollis, water and sewer superintendent; Mike Bailey, township engineer; and Joe Attard, building department inspector.

The event was sponsored by the Michigan State University Institute of Water Research together with the Rouge River Watershed Council, whose

headquarters are in Livonia. Also involved was the Michigan Department of Natural Resources, Southeast Michigan Council of Governments (SEMCOG) and the Office of Research and Technology.

SPEECHES REFLECTED a new wave in thinking about water management.

"Historically, the engineering approach to storm water management has been to get the water off the streets and into the nearest stream or lake as fast as possible with little regard to the impact of this runoff on the receiving water."

These were the opening remarks of John Eastman, assistant professor of the department of civil and sanitary

engineering at Michigan State University.

"In the modern era, this blind approach is no longer acceptable," he continued. "Pollutants carried by stormwater can severely degrade water quality. In some cases, stormwater pollutants may be the major causes of low water quality."

Eastman and the speakers who followed laid the blame for these pollutants on a variety of sources. As it hurries toward the storm drains, water picks up chemicals used to kill weeds and pests, and it sweeps up salt laid down for ice control.

It pulls with it oil dropped by millions of vehicles, or poured down the nearest drain by a home mechanic. Leaves, animal droppings, phosphates in detergents and fertilizers flow into rivers and lakes where they permit algae to grow. This chokes the water and causes most marine life to die off.

The residue of Michigan rich industrial life also can be carried into the water system as toxic wastes. Air pollution settling down can produce problems such as acid rain.

IN HIS REPORT W. David Morrison Jr., environmental planner with SEMCOG, indicated that his organization had found "evidence that urban storm water was a major pollutant source in southeast Michigan."

He also mentioned studies being done

in the area that could be the first steps toward dealing with stormwater runoff generally and its pollutants in particular. One of these projects is in Oakland County, the other in Ann Arbor. Both are part of the U.S. Environmental Protection Agency's Nationwide Urban Runoff Program (NURP).

The projects are examining both the quantity and the quality of this runoff "to develop integrated, comprehensive, and more easily implementable stormwater management strategies," Morrison pointed out.

They aim to develop effective management strategies making use of management policies that have proved effective in southeast Michigan and other parts of the country. Morrison pointed out that policies being tested included techniques for street sweeping, catch-basin cleaning, wetland treatment and stormwater retention and detention.

Street sweepers can catch pollutants before they get into the water supply. Cities like Garden City and Livonia make use of these machines that put the material left on roads into hoppers and collect it. Wayne County also uses them on some roads under its jurisdiction.

Detention basins are also used in the area, more to prevent flooding than as pollution catchers. One was built in Livonia when it was recognized that development at Six Mile and Newburg roads would mean rain water would no

longer be able to soak into the vacant land.

According to Siemert, it was built to hold the runoff from nearby Schoolcraft College, while the Laurel Park runoff made its way down the drains. He added that developers worked on the pond with the college biology department, which will study its effectiveness.

Plymouth Township also slows up its runoff with a detention pond in Township Park. Smaller ponds exist in several subdivisions throughout the area.

TO WATER experts, pollutants can mean anything that has a bad effect on water. This could refer to suspended solids like sand and clay that can smother fish eggs, or phosphates that cause algae to grow, as well as more toxic substances.

To the public, pollutants often means toxic materials which also mean question regarding he effect these pollutants are having on drinking water.

In an interview, Henry Lane, chief of water treatment for Detroit, said that the condition of water is from 66-75 percent better now that it was 15 years ago.

The Detroit Water and Sewerage Department supplies the area with its drinking water from three points — one in Lake Huron near Port Huron, and the others in the Detroit River. One of these is near Belle Isle, the other in the downriver area.

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longer be able to soak into the vacant land.

In Lane's opinion, water users in this area are benefiting from the vast quantity of water in the Great Lakes system. Pollution is greatly diffused by the amount of water available.

"We don't have problems in our raw water with heavy metals such as cadmium, lead, nickel or mercury," he said.

After the water is pulled from the river and lake it is sent through a treatment plant before heading for area faucets.

A NEW THRUST in water management, according to several of the speakers at the Schoolcraft conference, is regional cooperation. Richard Carlisle underlines this point in his remarks. Head of the water planning department of an Ann Arbor consulting firm, he said, "Cooperation among local units of government is essential." He added:

"Recognizing no political boundaries, water flows across municipal, township and county lines. The proper management of watersheds requires communication and cooperation among affected governmental units."

"The leadership role for proper watershed management must come from local government. It is your constituents or the constituents of your downstream neighbor who will suffer or benefit most from those local decisions."

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