

# The Watershed Approach

The Milwaukee Metropolitan Sewerage District (MMSD), with help from citizens like you, the Wisconsin Department of Natural Resources (WDNR) and the Southeastern Wisconsin Regional Planning Commission (SEWRPC), is beginning a long-range planning process to look at how we can best meet the future water quality needs of the Greater Milwaukee Watersheds. No single agency, group or person can solve all the water quality issues facing our region; however, by collectively working together in a coordinated and cooperative manner, our common goal to improve water quality can be achieved. This collaborative planning process is called the **Water Quality Initiative**. The plan focuses on a "watershed approach," which is endorsed and encouraged by the United States Environmental Protection Agency (USEPA). The watershed approach uses public input and strong science to address and resolve watershed issues. The watershed approach balances environmental protection, sustainable growth, economic prosperity, and quality of life issues within a watershed's drainage boundaries.

In addition, the watershed approach integrates watershed goals with public expectations and desired outcomes. Since we all live in a watershed, what we do on the land impacts the quality and quantity of our water. Homes, farms, businesses, forests, small towns and big cities make up the various land uses of our watersheds.

This document is intended to help the general public and other concerned watershed stakeholders ask themselves key environmental and quality-of-life questions as they begin the watershed planning process. It provides information that will assist the public in establishing goals and objectives for the watershed, and later for making water quality improvement recommendations based on drainage area boundaries.

## What is a Watershed?

A watershed comes in all shapes and sizes. It is an area of land that captures water and drains it to a stream, river, lake or marsh. Similar to a funnel, if a drop of water falls outside of the boundary, it becomes part of another watershed.



# Watershed Health Indicators

*The State of the Watershed Report provides a quick reference and a brief description of current conditions. It is based on specific environmental performance indicators that are related to public uses such as fishing, swimming and boating.*

To best understand what factors impact water quality and water resource issues facing the Kinnickinnic River Watershed, a common understanding of the current state of the watershed is needed. This "state of the watershed" report for the Kinnickinnic River is one of a series of reports that will provide you with information about the watersheds in the Greater Milwaukee area. While future assessment activities (slated for late 2004) will provide comprehensive and more detailed information about the Kinnickinnic River Watershed conditions, this report card offers you a quick "snapshot" of conditions within the Kinnickinnic River Watershed today!

The water quality of the watershed is based upon indicators that either relate to recreational use, wildlife habitat potential, or overall quality of the watershed's water. Many of these indicators also have "State Water Quality Standards or recommended criteria" associated with them. This technical report provides information regarding land use, dissolved oxygen, habitat, nutrients (nitrogen and phosphorous), and fecal coliform bacteria. For some of the watershed indicators, the area is also mapped as the percent of time meeting the water quality standards.

*The State of the Watershed Report as presented here is not meant to represent all water quality conditions and complex interactions at all times, but rather it is designed to provide the people who live, work, and play in the watershed with easily understandable general information about the land use, habitat and other water quality indicators within the watershed.*

*For more detailed information please contact the MMSD (see back cover).*

## Examples of Watershed Health Indicators

- **Stream Flow**
- **Dissolved Oxygen**
- **Habitat**
- **Nutrients**
  - Nitrogen
  - Phosphorous
- **Fecal Coliform Bacteria**
- **Others**
  - Heavy Metals
  - Pesticides
  - PCB's & PAH's
  - Chlorides

| Indicators<br>(Water Quality Standard or Criteria)                              | Kinnickinnic River |        |       | 43rd Street Ditch | Upper Wilson Park Creek/Edgerton Channel | Lower Wilson Park Creek | Indicator Description  |
|---|--------------------|--------|-------|-------------------|--|-------------------------|--|
|   | Upper              | Middle | Lower |                   |  |                         |  |
| Dissolved Oxygen Warmwater Standard (5 mg/L)                                    | ▲                  | ■      | ●     | ▲                 | ▲  | ▲                       | Dissolved oxygen indicates a waterbody's ability to support desirable life. Consistently high amounts represent healthy water.   |
| Habitat   | ■                  | ■      | ▲     | ■                 | ▲  | ▲                       | A habitat is healthy if it supports a diversity of high quality species. Diversity is directly affected by habitat deterioration.  |
| Nutrient Criteria Eco-Region VII, Sub region 53<br>Total Phosphorus (0.08 mg/L) | ■                  | ■      | ▲     | ■                 | ■  | ■                       | Phosphorous and nitrogen are nutrients that are readily available to biological organisms and best reflect the ability of a waterbody to stimulate aquatic plant or algae growth.  |
| Total Nitrogen (1.88 mg/L)  | ▲                  | ■      | ▲     | ●                 | ▲  | ▲                       |  |
| Fecal Coliform Bacteria Standard (200 counts per 100 mL as a geometric mean)    | ■                  | ■      | ▲     | ■                 | ■  | ■                       | These bacteria are a strong indicator for the potential to have other disease-causing organisms in the water. Fecal coliform bacteria are found in human and animal waste and their presence in water indicates fecal contamination. |

● Meets Water Quality Standards at least 85% of the time.

▲ Meets Water Quality Standards between 50% and 85% of the time.

■ Meets Water Quality Standards less than 50% of the time.