

# STREAM HYDROLOGY MONITORING

## PURPOSE

To document stream flow and water levels. These data are used:

- To document flooding and low water periods, so that proper management actions can be taken to avoid damage to property or natural resources. For example, new homes built near a waterway should take into consideration how high the water can get.
- To predict how a given stream will respond to a rain event of a certain magnitude. This allows drainage systems to be designed to handle expected flood events without endangering nearby property.
- To provide a record of flows into and out of lakes as part of nutrient or water budget studies of lakes. Our water quality monitoring documents the *concentration* of a pollutant, but we cannot know the actual amount of the pollutant unless we also know the rate of water flows.

## METHODS

The Anoka Conservation District utilizes electronic devices to continuously monitor water levels in area streams. The devices, called WL-40's or WL-80's, and an upgraded model called the Ecotone, are made by Remote Data Systems, Inc. Each unit is capable of measuring water levels on a programmed schedule, with accuracy of plus or minus 3 mm, and resolution of plus or minus 1 mm. We program them to record water level every four hours. These devices are mounted to a fencepost, and downloaded periodically throughout the open water season. Readings are converted into sea level elevations by surveying to a nearby benchmark provided by Anoka County Surveyor.

