

TIER 1: STATEWIDE BASELINE MONITORING

Trend establishment & problem identification

Tier 1 of this *Strategy* facilitates collection of baseline information using statewide representative sampling designs, including physical, chemical, and biological parameters necessary to satisfy Water Division information needs at a broad spatial scale. This level of monitoring determines water quality and fisheries status and trends in each waterbody type based on ecologically based indicators, and identifies potential problem areas.

Tier 1 monitoring is organized by resource type. For each type of resource (coldwater and warmwater streams, rivers, lakes, wetlands, Great Lakes, the Mississippi River, and groundwater), sampling sites are chosen annually according to designs constructed to best evaluate that resource. For resources that are too numerous to individually evaluate, such as streams, a dispersed sampling effort allows information from sampled waters to be used, through inference, to provide technically rigorous and credible information on all of the state's waters of that type. Where environmental problems are discovered through Tier 1 monitoring or other credible sources of information, these problem areas are identified and prioritized for further study under Tier 2. Tier 1 data may also be used to determine broad-scale effectiveness of management actions by comparing groups of waterbodies before and after management actions are implemented to waterbodies of the same type where no management actions are taken.

A provisional suite of sampling parameters has been established for each resource type. Historically, ecological monitoring and ambient water quality monitoring were conducted independently of one another, resulting in duplications of staff effort and incomplete and inconsistent support of water quality data needs. Tier 1 monitoring has been restructured to incorporate both ecological monitoring and ambient water quality monitoring in a coordinated sampling effort to improve efficiencies and more adequately supply data that is needed for management decision-making. Once each sampling site is chosen, it will be individually evaluated to determine which additional parameters will be sampled for, depending on variables specific to each location.

Monitoring Technical Teams are in place for most of these resource types. The monitoring Technical Teams will meet the following goals:

- Annually establish a sampling schedule for each resource type, appropriate to meeting the specific data needs for that resource.
- Meet on a regular basis to ensure that the sampling design is being adhered to and that goals and data needs are being met.