

Ohio is a water-rich state with more than 25,000 miles of named and designated streams and rivers and a 451-mile border on the Ohio River. The suitability of these waters for beneficial uses (e.g., recreation and drinking water) and to maintain healthy ecological conditions or “biological integrity” (a key goal of the Clean Water Act) is important to Ohio's economy and standard of living.

Ohio EPA uses multiple chemical, physical, and biological measures to assess the health and integrity of surface water resources. The biological measures are emphasized because the fish and invertebrates that comprise this measure serve as living indicators of the health and well-being of Ohio's waterways. They also serve as a direct measure of the biological integrity goal of the Clean Water Act. These organisms are sensitive indicators of water pollution because they inhabit the water all of the time and all aspects of their life cycles are dependent on water. A healthy fish or invertebrate community is also associated with high quality recreational opportunities (e.g., fishing, swimming, canoeing, etc.).

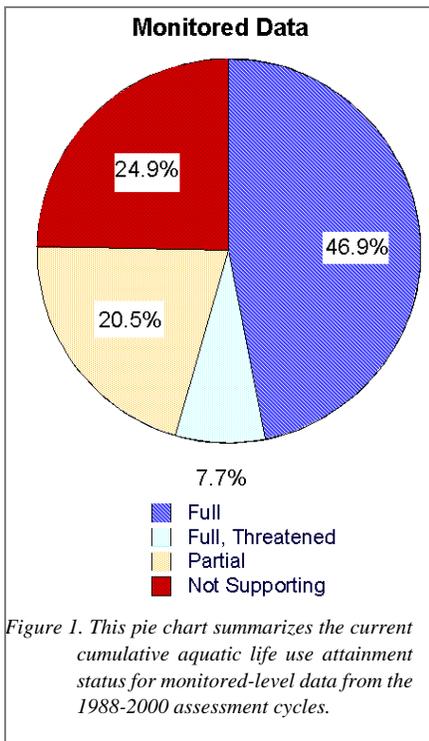


Figure 1. This pie chart summarizes the current cumulative aquatic life use attainment status for monitored-level data from the 1988-2000 assessment cycles.



Ohio's goal is for 80% of stream and river miles to fully meet the applicable aquatic life goals and standards (called “uses”) by the year 2010. Progress towards this goal is tracked by this report. The statistics reported here indicate that just over one-half (54.6%) of the streams and rivers that have been monitored and data is considered current by Ohio EPA are fully supporting their applicable aquatic life use designation (Figure 1). This means that more than one-half of Ohio's streams and rivers harbor good or exceptional quality

assemblages of aquatic life. Statistics for the most recent two-year reporting cycle alone (representing data collected in 1997-98) showed 52.3% of streams and rivers meeting uses (dotted line on Figure 2) which is a break in the trend of increasing attainment that has been observed since 1994. There are multiple factors that are responsible for this change. Almost all of the improvement noted in these statis-

tics since 1988 (Figure 2) is the result of the abatement of the point source impacts dating from before

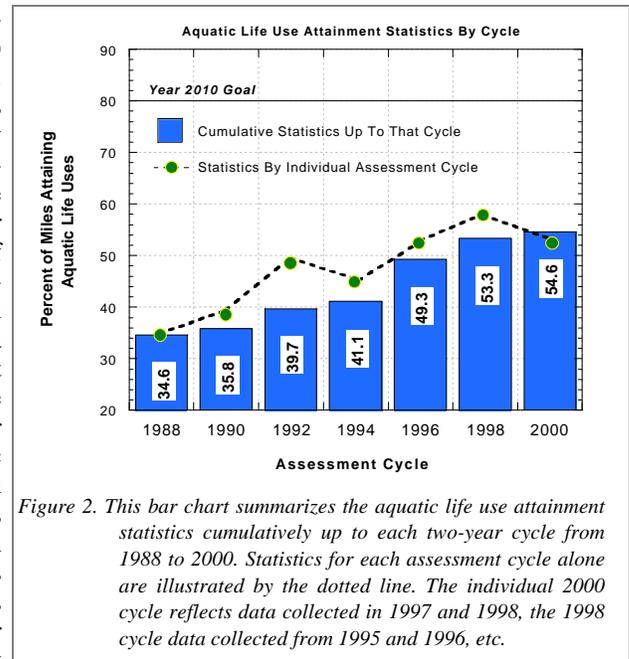


Figure 2. This bar chart summarizes the aquatic life use attainment statistics cumulatively up to each two-year cycle from 1988 to 2000. Statistics for each assessment cycle alone are illustrated by the dotted line. The individual 2000 cycle reflects data collected in 1997 and 1998, the 1998 cycle data collected from 1995 and 1996, etc.

the 1970s and 1980s that were the original impetus for the Clean Water Act. Reducing the effects of these sources was amenable to the type of permitting and funding assistance that was widely available in the 1980s. The remaining point and nonpoint source impacts present greater challenges and thus a leveling off of the comparatively rapid rate of restoration seen between 1988 and 1998 was

TMDL Program

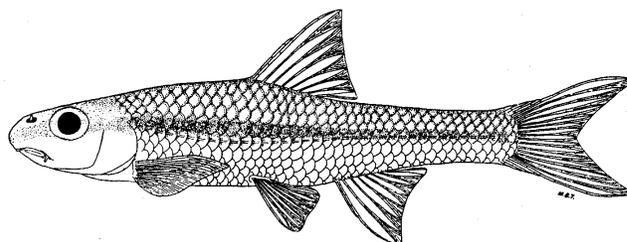
The TMDL process will be used as a starting point to restore impaired waters. This includes nonpoint (NPS) impairments as well as the remaining point source related impacts. TMDL stands for "Total Maximum Daily Load" and is mandated by the Clean Water Act. The objective of a TMDL is to derive the loadings of pollutants that a water body can receive and maintain "water quality standards" (i.e., that needed to protect and restore aquatic life and other uses). The data and statistics presented here are the basis for Ohio's list of impaired waters that need restoration and/or protection to meet and maintain standards. The analysis involved in developing a TMDL represents a key component of the strategic focus that is needed to restore degraded waters and make progress towards the goal of 80% full attainment by 2010.

expected. An increasingly greater proportion of the remaining impairment is associated with nonpoint sources, which includes polluted runoff (such as sediment, nutrients, and toxic chemicals), habitat modification and destruction, and alteration of flow regimes, that have always been present during the past 20 years, but in which there has been comparatively little progress in abating. Other factors contributing to the decline includes a shift to monitoring a larger number of small streams, spatial bias in where monitoring is conducted each year, and formerly attaining streams and rivers which have since become impaired. Small, headwater streams are the most common stream type in Ohio (80% of streams drain <20 sq. mi.) and are the primary interface between non-point source pollutants and watersheds. These streams tend to be proportionately more impaired than larger streams and rivers.

Addressing the impairments in these streams will be crucial to the success of the TMDL program (see inset). More detailed analysis of this information is available in a companion fact sheet (Fact Sheet FS-3-EAS-2000).

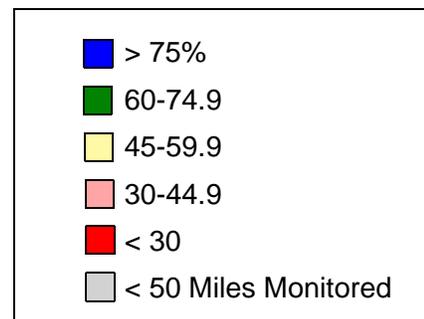
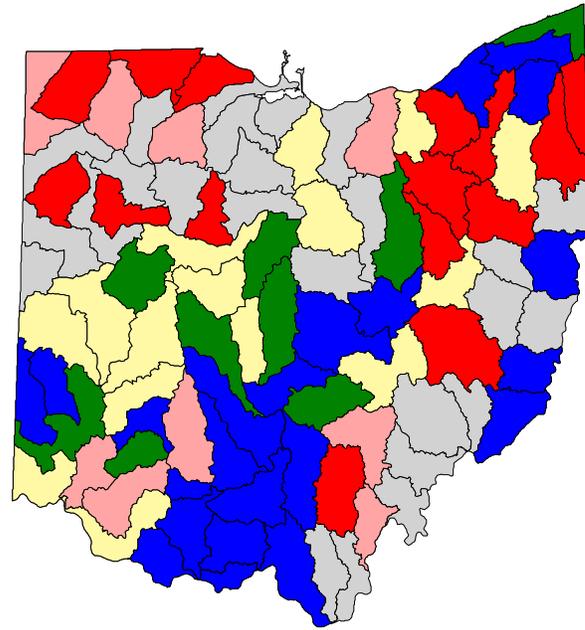
Map 1 illustrates the variation in attainment of aquatic life uses in Ohio streams and rivers across the state. Some subbasins (central, south-central, far north-east) are approaching or have exceeded 75% of assessed miles in full attainment while others are far below that threshold (much of northwest Ohio, most urban subbasins).

The list of impaired waters generated by the 305b report and the assignment of causes and sources associated with the impairments will be the basis for developing restoration requirements over the next 10-15 years (see TMDL process sidebar). Ohio EPA's monitoring and assessment program, supplemented by newly developed tools, will provide a method for determining whether pollution abatement strategies are working and whether public or private dollars are having the intended effect.



Bigeye chub - a species sensitive to NPS pollutants such as sediment

Aquatic Life Use Status -All Monitored Level Data-



Map 1. Map illustrating aquatic life use attainment status in Ohio subbasins based on monitor-level data (data that is considered current and meets QA/QC standards).

As such this process serves as a feedback loop which documents the efficacy of our combined efforts, provides information about new or emerging problems, and ensures that the progress made over the past 20 years continues.

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