



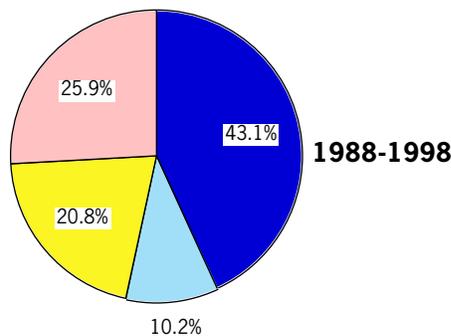
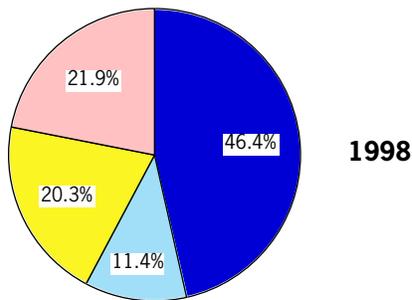
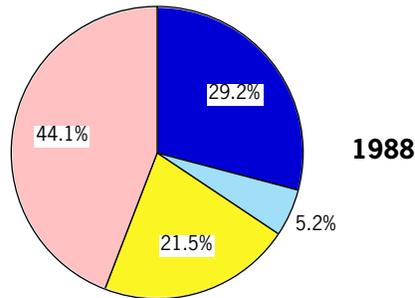
# *The State of the Aquatic Ecosystem:* Ohio Rivers & Streams: 1998 Status



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 to support human uses (e.g., recreation and drinking water) and to maintain healthy ecological conditions or "biological integrity" is critical to the sustainable future of Ohio's economy and standard of living.

Ohio uses the fish and invertebrate communities that inhabit streams to assess the health and well-being of Ohio's flowing waters. Aquatic animals are generally the most sensitive indicators of pollution because they inhabit the water all of the time and because of the direct contact of their gills with the water. A healthy stream community is also associated with high quality recreational opportunities (e.g., fishing and other outdoor-related activities).

Ohio's short-term goal is for 75% of the stream and river miles to fully attain the applicable aquatic life standards



■ Full ■ Threatened ■ Partial ■ None

(called "uses") by the year 2000. The most recent Ohio Water Resource Inventory statistics reported here indicate that 52.3% of streams and rivers were fully supporting the applicable aquatic life "uses." This means that more than one-half of Ohio's streams, other than a small proportion of waters maintained as ditches or other physically limited waters, and rivers harbor good or exceptional quality fish and/or aquatic invertebrate assemblages. Statistics of aquatic life use attainment for the most recent two-year cycle (1998 cycle representing data collected in 1995-96) were at 57.8%, continuing a restoration trend of a little over 2 % per year.

In addition to estimating miles meeting aquatic life use goals, in 1998 we categorized streams into narrative ranges of excellent, good, fair, poor, and very poor. For this analysis, the most limiting biological index was used to determine the narrative range. For example if the fish were excellent, but the macroinvertebrates were good,

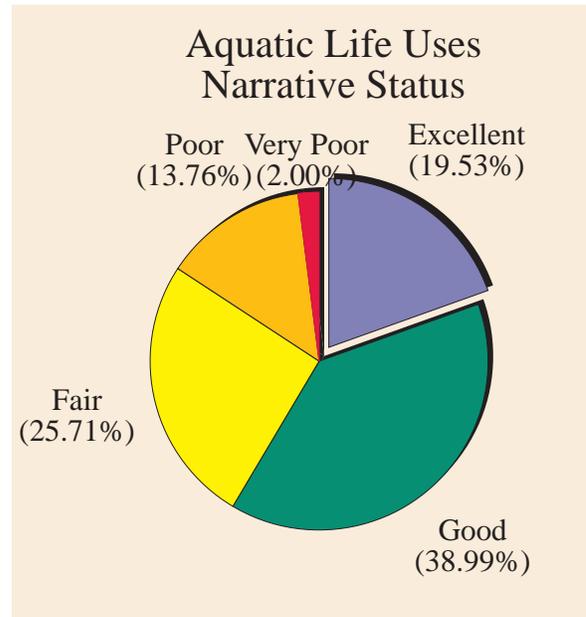
the reach was classified as good. One important conclusion based on these statistics is the very small proportion of streams categorized as poor or very poor (15.8% combined). Nearly sixty percent of waters are at least in good condition and of these almost 20% are in excellent condition. Non-attainment has been commonly, but erroneously considered to the equivalent of a "dead" stream. As summarized in the pie chart on the right, very few streams approximate such a state (2%, i.e., those classified as very poor).

Many of the 25.7% of streams that are in the fair range would be candidates for restoration along with some of the waters that rate as good, but that have the potential to be exceptional. For headwater streams habitat and related non-point causes such as siltation, nutrients and flow alteration dwarf other causes of impairment. Most small streams have had some direct modification to their morphology. The map of aquatic life attainment status on the next page reflects the regional magnitude of hydromodification across Ohio with most streams in the northwest part of the state remaining impaired after the effects of

point sources were reduced between these time periods. A fact sheet on the causes and sources of impairment (FS10-MAS-98) describes these impacts in more detail.

The map on the next page does illustrate the great strides in point source abatement over the past 10-15 years in Ohio in many watersheds. The greatest improvement has occurred in parts of the state (e.g., central Ohio) where habitat was intact enough for aquatic life to rebound when chemical stressors from discharges were reduced.

Ohio's list of impaired waters (see map on next page) and the causes and sources associated with the impairment will be the basis for planning a process for stream restoration over the next 10-15 years. Ohio's baseline monitoring program, if maintained, will provide a robust tool for determining whether abatement strategies are



working and whether tax or private capital is being spent wisely. Without such a feedback loop there is a great opportunity for the inefficient application of abatement efforts and for the progress documented over the past 20 years to stagnate.

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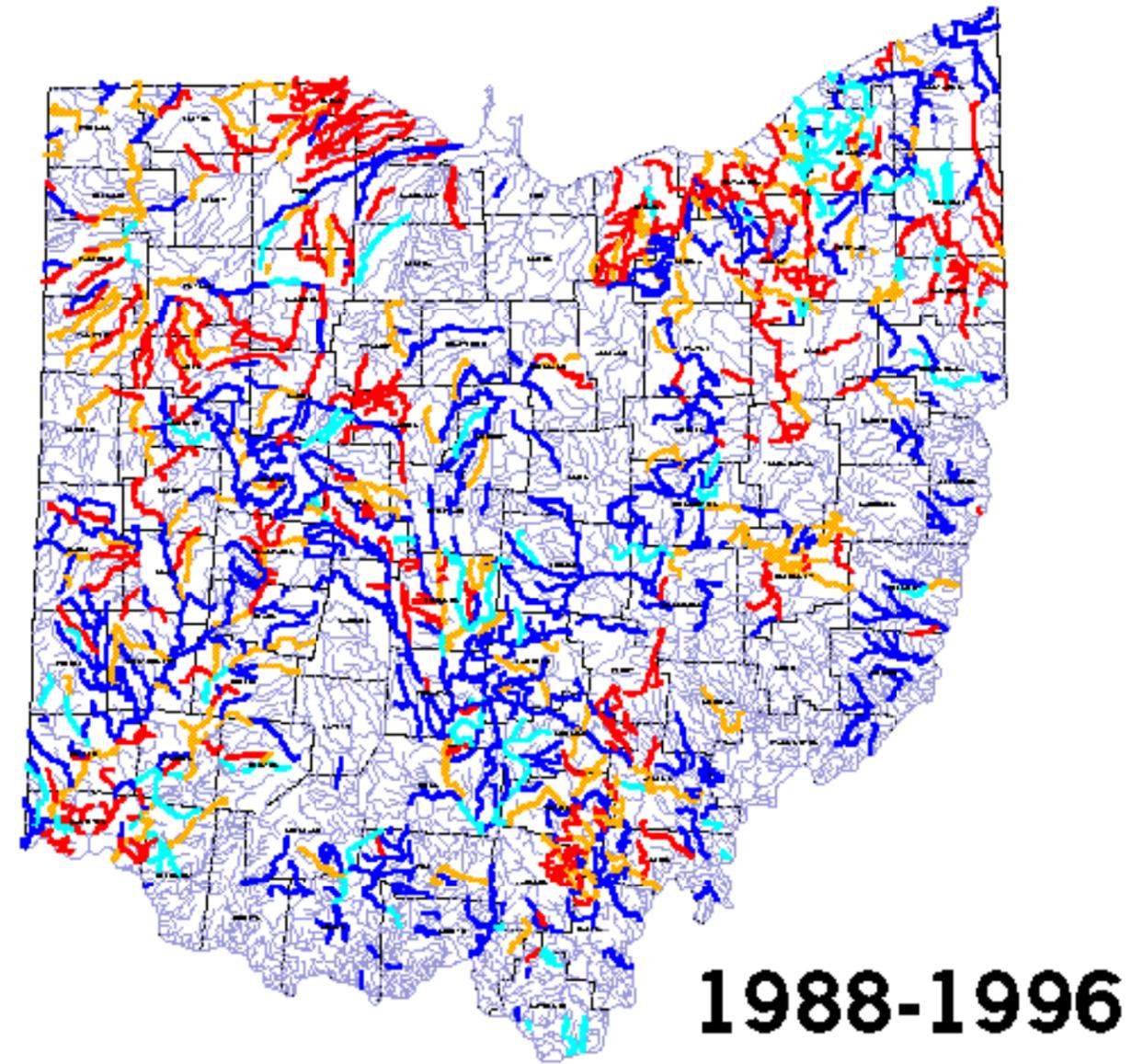
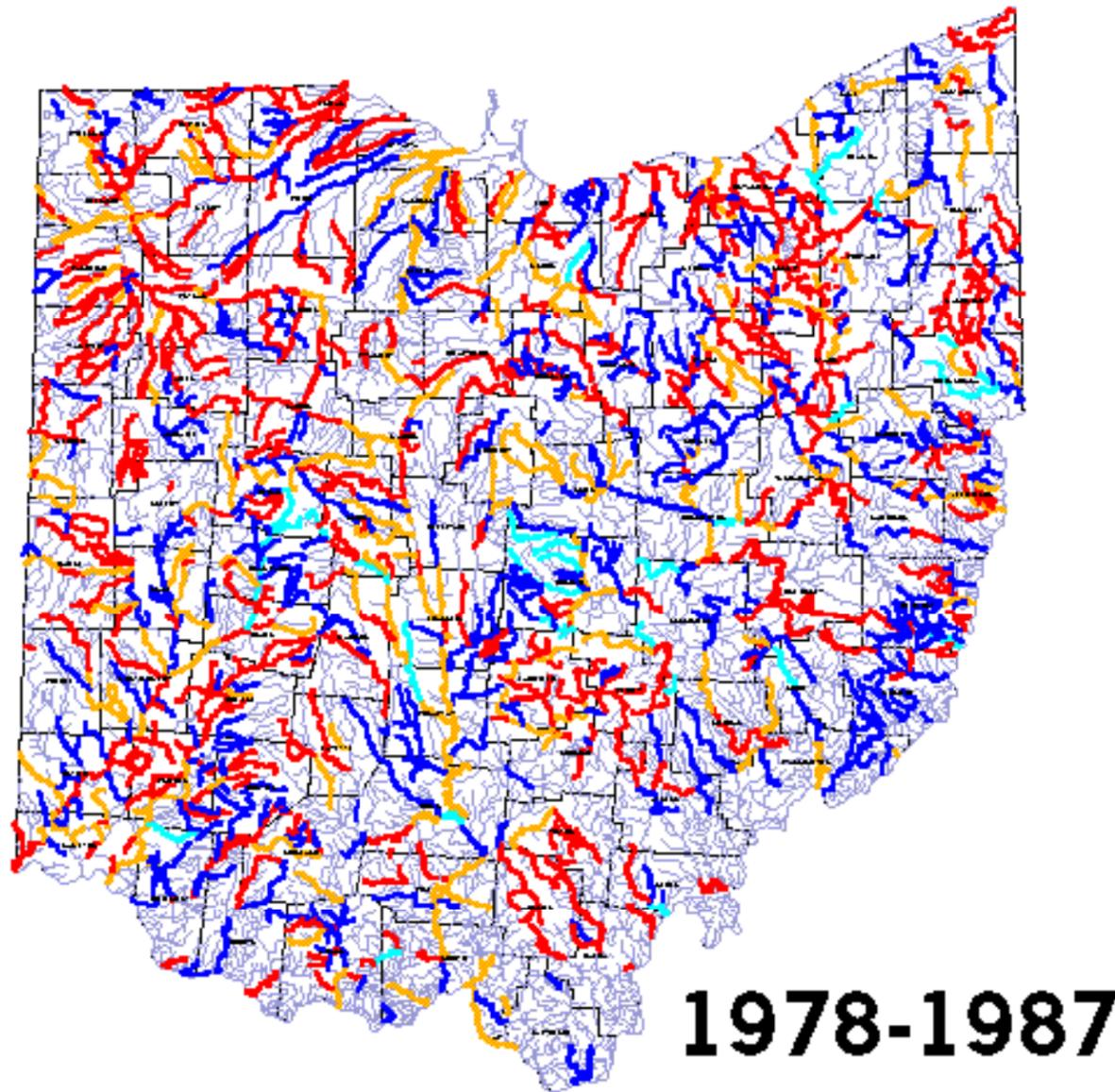
This and other publications are available on the Division of Surface Water Web Site:

<http://chagrin.epa.state.oh.us/>



Rosyside dace - an inhabitat of high quality headwater streams in extreme south-central Ohio.

# Aquatic Life Use Attainment in Ohio



**Key:**



- Fully Attaining



- Partially Attaining



- Not Assessed



- Fully Attaining,  
but Threatened



- Not Attaining