

WATER QUALITY STANDARDS FOR LAKES: LEGISLATIVE BACKGROUND

Fritz Wagner

AUTHOR: U.S. EPA Region IV, Water Management Division, 15th Floor, Tower Building, 345 Courtland St., Atlanta, Georgia 30365.
REFERENCE: *Proceedings of the 1993 Georgia Water Resources Conference*, held April 20 and 21, 1993, at The University of Georgia, Kathryn J. Hatcher, Editor, Institute of Natural Resources, The University of Georgia, Athens, Georgia.

INTRODUCTION

The framework for water quality standards for all types of water bodies was established in the Clean Water Act of 1972. Although this federal statute has been amended several times since, the basic requirements for all State water quality standards regulations are essentially the same as established in 1972. All State waters, including lakes, must be designated as having beneficial uses; these uses must be supported by water quality criteria which are sufficient to protect the designated beneficial uses; and the water quality standards must also include a statement of antidegradation policy which applies to all State water bodies.

The Clean Water Act does not include a specific mandate or requirement for States to adopt standards which address lake eutrophication. General language is included for the purposes of protection of aquatic life, recreation, water supplies, wildlife, and aesthetic uses of lakes, but there is no specific provision in the Act that requires States to address the issues of lake standards, and EPA has not developed detailed national guidance values for use by the States to serve as a basis for controlling eutrophication.

A general explanation will be given of the relationship between EPA's water quality criteria guidance values (not enforceable) and State water quality standards (legally enforceable and transferred into regulatory requirements through various permitting mechanisms).

EPA's position has historically been that due to the site specific physical, biological and chemical nature of lakes, the best approach is to start from a general narrative which establishes a level of water quality protection, and to apply that narrative to derive scientifically defensible criteria for a lake or for a group of lakes with similar characteristics.

When appropriately written, such narrative criteria provide a firm legal basis for application and interpretation for a specific water body. These interpretations can result in numeric criteria for certain parameters, including nitrogen and phosphorus, among others.

Over the past 12 years, EPA's national water quality criteria research program was directed toward the development of numeric criteria values which were chemical

specific and based on an endpoint of toxicity. These toxicity-based criteria are derived using information on a wide spectrum of aquatic organisms and represent a predetermined level of protection for this "laundry list" of aquatic resources.

This water quality criteria research program has been redirected to include other types of criteria which provide new means of measuring the relative health and attainment of designated uses in water bodies. These criteria, when adopted as State water quality standards will represent a new group of regulatory tools for use by the States for control of lake eutrophication.

These new forms of criteria include biological criteria, wildlife criteria, and sediment criteria. EPA, in the next two years, will be proposing these new criteria as requirements for all State water quality standards, as a part of the revision to the water quality standards regulation contained in 40 CFR Part 131.

Of these three criteria forms, biological criteria (biocriteria) may be the criteria most encouraging for eutrophication control. Implementation of biocriteria involves comparison of biological communities for a given site to data for a reference site. If this comparison results in the conclusion that the designated uses are not being fully attained, a State should diagnose the cause of the impairment and implement controls for the sources involved. For lakes, this could result in reduction of nutrients into the system, or some type of management practice to improve the diversity, biomass or abundance of species at the impaired site.

Another mechanism which is sometimes overlooked is a State's antidegradation policy. This policy allows a State to limit the amount of degradation occurring in a water body based on a public decision process. A decision is reached by the State Regulatory Agency regarding the significance of the activity proposed which will result in water quality degradation. This may result in the State's denial of the proposed activity, modification of the activity based on the estimated water quality impact, or granting of a permit for the activity or discharge.

A summary of antidegradation provisions, including the designation process for Outstanding National Resource Waters will be given. The applicability of this process for control of nutrients will be discussed.