

BIOCRITERIA

HANDOUT

EXAMPLES OF GENERAL NARRATIVE AQUATIC LIFE STANDARDS AND BIOCRIPTERIA

EXAMPLES OF GENERAL NARRATIVE AQUATIC LIFE STANDARDS:

(Usually not considered to be Biocriteria)

Narrative Water Quality Standards

A. A surface water shall be free from pollutants in amounts or combinations that:

1. Settle to form bottom deposits that inhibit or prohibit the habitation, growth, or propagation of aquatic life or that impair recreational uses;
2. Are toxic to humans, animals, plants, or other organisms;
3. Cause the growth of algae or aquatic plants that inhibit or prohibit the habitation, growth, or propagation of other aquatic life or that impair recreational uses;

Narrative Standards

It shall be unlawful, and a violation of these regulations, for any person to discharge or place any waste or other substance in such a way as will be or may become offensive such as color, odor or taste; or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substance which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other test performed in accordance with standard procedures.

EXAMPLES OF NARRATIVE BIOCRIPTERIA:

Narrative Biological Criteria

a. Goal. The biological condition of surface waters shall be similar to that of sites or waterbodies determined by the department to be regional reference sites.

Class A(1) Ecological Waters

B. Water Quality Criteria for Class A(1) Ecological Waters

3. Aquatic Biota, Wildlife, and Aquatic Habitat - Change from the natural condition limited to minimal impacts from human activity. Measures of biological integrity for aquatic macroinvertebrates and fish assemblages are within the range of the natural condition. Uses related to either the physical, chemical, or biological integrity of the aquatic habitat or the composition or life cycle functions of aquatic biota or wildlife are fully supported. All life cycle functions, including overwintering and reproductive requirements are maintained and protected.

Biological Criteria

Class 1, 2, and 3 waters of the state must be free from substances, whether attributable to human-induced point source discharges or nonpoint source activities, in concentrations or combinations which will adversely alter the structure and function of indigenous or intentionally introduced aquatic communities.

Biological Criteria

Waters of the state shall be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.

a) Criterion

Reservation waters shall be free from substances in concentrations or combinations that would adversely alter the structure and function of aquatic communities, as defined by the reference condition. For the Missouri River, water quality shall be maintained sufficient to fully support the aquatic life designated use. No adverse changes in aquatic community composition may occur.

EXAMPLES OF NUMERIC BIOCRITERIA:

Special provisions for Ouachita Mountains wadeable streams.

The determination of whether the use of Fish and Wildlife Propagation is supported for wadeable streams located in the Ouachita Mountains ecoregion shall be made according to the application of Appendix C of this Chapter, together with this subsection, as follows:

- (1) Where designated, the subcategory of Warm Water Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 35 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 24 or less. If a score is 25 to 34 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.
- (2) Where designated, the subcategory of Habitat Limited Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 27 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 18 or less. If a score is 19 to 26 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

Definition of Existing Water Quality in the Delaware River Between Hancock, NY and the Delaware Water Gap:

Parameter	Mean	95 Percent Confidence Limits of Mean	10 th and 90 th Percentiles	Additional
Biocriteria: Shannon-Weiner	3.6	3.4 to 3.8	2.7 and 4.3	May - Sept; reachwide
Biocriteria: Equitability	0.8	0.7 to 0.9	0.5 and 1.1	May - Sept; reachwide
Biocriteria: EPT	15.5	13.8 to 17.2	8.0 and 24.0	May - Sept; reachwide