

TABLE 3.6 Example Water Quality Standard (4)

Basic Water Use

All waters of the State shall be protected for the basic uses of water contact recreation, fish, other aquatic life, and wildlife. These uses compose Class I. Criteria for Class I Waters shall apply to all waters of the State unless contravened by more restrictive criteria for other specific classes. Criteria to protect Class I waters are sufficiently stringent to afford protection also for public water supply in freshwater areas (with treatment by filtration and disinfection), agricultural water supply, and industrial water supply. More restrictive criteria are established to protect shellfish harvesting waters, natural trout waters, and recreational trout waters.

General Water Quality Criteria

The waters of the State at all times shall be free from:

- (1) Substances attributable to sewage, industrial waste, or other waste that will settle to form sludge deposits that are unsightly, putrescent, or odorous to a degree as to create a nuisance, or that interfere directly or indirectly with water uses;
- (2) Floating debris, oil, grease, scum, and other floating materials, attributable to sewage, industrial waste, or other waste in amounts sufficient to be unsightly to a degree as to create a nuisance, or that interfere directly or indirectly with water uses;
- (3) Materials attributable to sewage, industrial waste, or other waste which produce taste, odor, or change the existing color or other physical and chemical conditions in the receiving waters to a degree as to create a nuisance, or that interfere directly with water uses; and
- (4) High-temperature, toxic, corrosive, or other deleterious substances attributable to sewage, industrial waste, or other waste in concentrations or combinations which interfere directly or indirectly with water uses, or which are harmful to human, animal, plant, or aquatic life.

Class I: Water Contact Recreation and Aquatic Life. Waters which are suitable for:

- (i) Water contact sports;
- (ii) Play and leisure time activities where the human body may come in direct contact with the surface water; and
- (iii) The growth and propagation of fish (other than trout), other aquatic life, and wildlife.

These criteria shall apply during periods of flow greater than or equal to the 7-day, 10-year low flow. Where the waters of the State are or may be affected by discharges from point sources, these standards shall apply outside of any mixing zones which may be designated by the Administration. It is recognized that in some cases the natural water quality of a stream segment may not be consistent with the criteria established for the stream. In these cases, it is not intended that these natural conditions constitute a violation of the water quality standards, or that the water quality to be maintained and achieved be substantially different from that which would occur naturally.

Criteria for Class I Waters: Water Contact Recreation and Aquatic Life

1. Bacteriological. There may not be any sources of pathogenic or harmful organisms in sufficient quantities to constitute a public health hazard. A public health hazard will be presumed if the fecal coliform density exceeds a log mean of 200 per 100 ml, based on a minimum of not less than 5 samples taken over any 30-day period, or if 10 percent of the total number of samples taken during any 30-day period exceed 400 per 100 ml, unless a sanitary survey approved by the Department of Health and Mental Hygiene disclosed no significant health hazard.
2. Dissolved Oxygen. The dissolved oxygen concentration shall be not less than 5.0 mg/liter at any time.
3. Temperature. For all discharges of heat, the maximum temperature outside the mixing zone may not exceed 90°F (32°C) or ambient temperature of the receiving waters, whichever is greater. In addition, a discharge of heat may not create thermal barriers that adversely affect aquatic life.
4. pH. Normal pH values may not be less than 6.5 or greater than 8.5.
5. Turbidity. Turbidity may not exceed levels detrimental to aquatic life. Turbidity in the receiving water, resulting from any discharge may not exceed 150 NTU (nephelometer turbidity units) at any time or 50 NTU as a monthly average. NTU are equivalent measures to FTUs (formazin turbidity units) and JTUs (Jackson turbidity units).
6. Toxic Materials. The toxic materials listed here may not exceed these designated limits at any time:
 - (i) Polychlorinated Biphenyls (PCBs)—0.001 µg/liter;
 - (ii) Endrin—.004 µg/liter;
 - (iii) Toxaphene—.005 µg/liter;
 - (iv) DDT—0.001 µg/liter;
 - (v) Benzidine—0.1 µg/liter;
 - (vi) Aldrin-Dieldrin—0.003 µg/liter

SOURCE: Corbett, R. A., "Standard Handbook of Environmental Engineering," McGraw-Hill Book Co., 1990.