

a contaminant which is associated with most land use activities. It is therefore a good indicator of the impacts on the natural resources.

### Water Quality Standards

In accordance with the Pinelands Protection Act, the Commission has adopted a policy for the preservation, protection, and enhancement of the quality and quantity of the surface and groundwaters. Section 6(i) of the act mandates that the Pinelands Commission recommend water quality standards to the New Jersey Department of Environmental Protection (DEP). Studies conducted during the development of the Comprehensive Management Plan indicate that there are several key water quality parameters which characterize the Pinelands' surface and groundwaters and which are suggested as essential to the maintenance of the Pinelands ecosystem. The values associated with these parameters, which are used to describe the ambient water quality conditions in the undisturbed areas of the Pinelands, are:

- pH—less than 5.0
- Nitrate-Nitrogen—about 0.17 parts per million (seasonably higher in winter)
- Ammonia-Nitrogen—about 0.036 parts per million
- Total Phosphate—about 0.019 parts per million
- Dissolved Oxygen—about 85 percent saturation
- Total Dissolved Solids—less than 100 parts per million.

On January 23, 1978, the New Jersey Department of Environmental Protection adopted the Central Pine Barrens Water Quality Standards. These standards are in effect throughout what is known as the "Critical Area" as depicted in Figure 7.2. The surface and groundwater standards which have been adopted together with proposed revisions are:

Parameter	Criteria (equal to or less than)	
	Surface Water	Groundwater
1. pH (standard units)	3.5 - 5.5	4.2 - 5.8
2. Dissolved Oxygen (% saturation)	85%	—
3. Biochemical Oxygen Demand	5.0 mg/l	3.0 mg/l
4. Nitrate-Nitrogen	2.0 mg/l	2.0 mg/l
5. Ammonia Nitrogen (un-ionized NH <sub>3</sub> )	—	0.5 mg/l*
6. Total Phosphate	0.7 mg/l	0.7 mg/l
7. Total Dissolved Solids	100 mg/l	100 mg/l‡
8. Suspended Solids (non-filterable residue)	40 mg/l	—
9. Turbidity (Jackson Units)	20 JTU's	—
10. Total Alkalinity (as CaCO <sub>3</sub> )	10 mg/l	—
11. Barium	1.0 mg/l*	1.0 mg/l*
12. Chloride	—	10 mg/l*
13. Fluoride	—	2.0 mg/l*
14. Foaming Agents	—	0.5 mg/l*
15. Iron	—	0.3 mg/l*
16. Manganese	—	50 µg/l*
17. Sodium	—	10 mg/l*
18. Sulfate	—	15 mg/l*
19. Arsenic	50 µg/l*	50 µg/l*
20. Cadmium	10 µg/l*	Natural background*
21. Chromium (Hexavalent)	50 µg/l*	Natural background*
22. Copper	—	1.0 mg/l*
23. Cyanide	—	200 µg/l*
24. Lead	50 µg/l*	Natural background*
25. Mercury	5 µg/l*	Natural background*
26. Phenol	—	1 µg/l*

27. Selenium	10 µg/l*	Natural background*
28. Silver	50 µg/l*	10 µg/l*
29. Zinc	—	5.0 mg/l*
30. Aldrin/Dieldrin	0.003 µg/l*	0.003 µg/l*
31. Benzidine	0.1 µg/l*	0.1 µg/l*
32. DDT and Metabolites	0.001 µg/l*	0.001 µg/l*
33. Endrin	0.004 µg/l*	0.004 µg/l*
34. Polychlorinated Biphenyls (PCB's)	0.001 µg/l*	0.001 µg/l*
35. Total Residual Chlorine	3.0 µg/l*	—
36. Toxaphene	0.005 µg/l*	0.005 µg/l*
37. Color	Natural background	None noticeable*

**\*Proposed standards**

‡100 mg/l is proposed revision; 250 mg/l is the current standard

**Floating, colloidal, and settleable solids; petroleum hydrocarbons and other oils and grease:**

- Surface water—(1) None noticeable in the water or deposited along the shore or on the aquatic substrata in quantities detrimental to the natural biota. None which render the water unsuitable for the designated uses of a Class FW-Central Pine Barrens stream. (2) For petroleum hydrocarbons the goal is non-detectable utilizing the U.S. Environmental Protection Agency's Environmental Monitoring and Support Laboratory Method. The present criteria, however, are those in (1) above.
- Groundwater—No recommendation.

**Taste and odor producing substances:**

- Surface and groundwater—Allowing for natural conditions, none offensive to humans or which would produce offensive taste and /or odors in water supplies and biota used for human consumption. None which would render the waters unsuitable for the designed uses.

**Temperature and heat dissipation areas:**

- Surface water—Not to deviate more than 2.8°C (5.0°F) from ambient stream temperature.
- Groundwater—No recommendation.

**Bacterial quality:**

- Surface water—Fecal coliform levels shall not exceed a geometric mean of 200 MPN/100 ml, with not more than 10 percent of the total samples during any 30-day period exceeding 400 MPN/100 ml.
- Groundwater—The most stringent of the following criteria: (1) As determined by the membrane filter method, coliform bacteria shall not exceed 4 per 100 ml in more than one sample when less than 20 are examined per month; or (2) As determined by the fermentation tube method, with a standard portion of 10 mg/l, coliform bacteria shall not be present in three or more portions in more than one sample when less than 20 samples are examined per month; or (3) The prevailing criteria adopted pursuant to the Federal Safe Drinking Water Act (PL 93-523).

**Radioactivity:**

- Surface and groundwater—Prevailing regulations adopted by the U.S. Environmental Protection Agency pursuant to Sections 1412, 1445, and 1450 of the Public Health Services Act, as amended by the Safe Drinking Water Act (PL 93-523).

The Pinelands Commission recommends that the New Jersey Department of Environmental