

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

|                            |                                         |
|----------------------------|-----------------------------------------|
| Lake: STEVENS POND         | Lake Area (ha): 6.27                    |
| Town: MANCHESTER           | Maximum depth (m): 5.2                  |
| County: Hillsborough       | Mean depth (m): 2.8                     |
| River Basin: Merrimack     | Volume (m <sup>3</sup> ): 176000        |
| Latitude: 42°59'43" N      | Relative depth: 1.8                     |
| Longitude: 71°25'22" W     | Shore configuration: 1.21               |
| Elevation (ft): 315        | Areal water load (m/yr): 13.75          |
| Shore length (m): 1075     | Flushing rate (yr <sup>-1</sup> ): 4.90 |
| Watershed area (ha): 180.0 | P retention coeff.: 0.51                |
| % watershed ponded: 0.0    | Lake type: natural                      |

BIOLOGICAL:

|                                    |    | 12 January 1998    | 23 July 1997        |
|------------------------------------|----|--------------------|---------------------|
| DOM. PHYTOPLANKTON (% TOTAL)       | #1 | SYNURA 95%         | CERATIUM 55%        |
|                                    | #2 |                    | PERIDINIUM 15%      |
|                                    | #3 |                    | COELOSPHAERIUM 7%   |
| PHYTOPLANKTON ABUNDANCE (units/mL) |    |                    |                     |
| CHLOROPHYLL-A (µg/L)               |    |                    | 9.27                |
| DOM. ZOOPLANKTON (% TOTAL)         | #1 | RHIZOPODA 32%      | NAUPLIUS LARVA 21%  |
|                                    | #2 | NAUPLIUS LARVA 26% | CLADOCERAN SPP. 19% |
|                                    | #3 | BOSMINA 18%        |                     |
| ROTIFERS/LITER                     |    | 7                  | 103                 |
| MICROCRUSTACEA/LITER               |    | 110                | 354                 |
| ZOOPLANKTON ABUNDANCE (#/L)        |    | 173                | 522                 |
| VASCULAR PLANT ABUNDANCE           |    |                    | Common/Abun         |
| SECCHI DISK TRANSPARENCY (m)       |    |                    | 1.3                 |
| BOTTOM DISSOLVED OXYGEN (mg/L)     |    | 9.0                | 0.4                 |
| BACTERIA (E. coli, #/100 ml)       | #1 |                    | 33                  |
|                                    | #2 |                    | 17                  |
|                                    | #3 |                    |                     |

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 3.3  
Hypolimnion volume (m<sup>3</sup>): None  
Anoxic volume (m<sup>3</sup>): 20750

**CHEMICAL:**

Lake: STEVENS POND

Town: MANCHESTER

|                               | 12 January 1998 |       | 23 July 1997 |  |        |
|-------------------------------|-----------------|-------|--------------|--|--------|
| DEPTH (m)                     | 1.0             | 3.0   | 1.0          |  | 4.0    |
| pH (units)                    | 6.5             | 6.6   | 7.7          |  | 7.0    |
| A.N.C. (Alkalinity)           | 20.6            | 26.3  | 31.8         |  | 34.9   |
| NITRATE NITROGEN              | 0.52            | 0.49  | < 0.05       |  | < 0.05 |
| TOTAL KJELDAHL NITROGEN       | 0.40            | 0.40  | 0.50         |  | 0.90   |
| TOTAL PHOSPHORUS              | 0.016           | 0.013 | 0.028        |  | 0.028  |
| CONDUCTIVITY ( $\mu$ mhos/cm) | 780.0           | 917.0 | 696.0        |  | 674.0  |
| APPARENT COLOR (cpu)          | 11              | 13    | 36           |  | 28     |
| MAGNESIUM                     |                 |       | 4.29         |  |        |
| CALCIUM                       |                 |       | 24.3         |  |        |
| SODIUM                        |                 |       | 102.8        |  |        |
| POTASSIUM                     |                 |       | 2.98         |  |        |
| CHLORIDE                      | 230             | 265   | 198          |  | 192    |
| SULFATE                       | 16              | 16    | 11           |  | 11     |
| TN : TP                       | 58              | 68    | 18           |  | 32     |
| CALCITE SATURATION INDEX      |                 |       | 0.7          |  |        |

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1997**

| D.O. | S.D. | PLANT | CHL | TOTAL | CLASS  |
|------|------|-------|-----|-------|--------|
| **   | 4    | 4     | 2   | 10    | Eutro. |

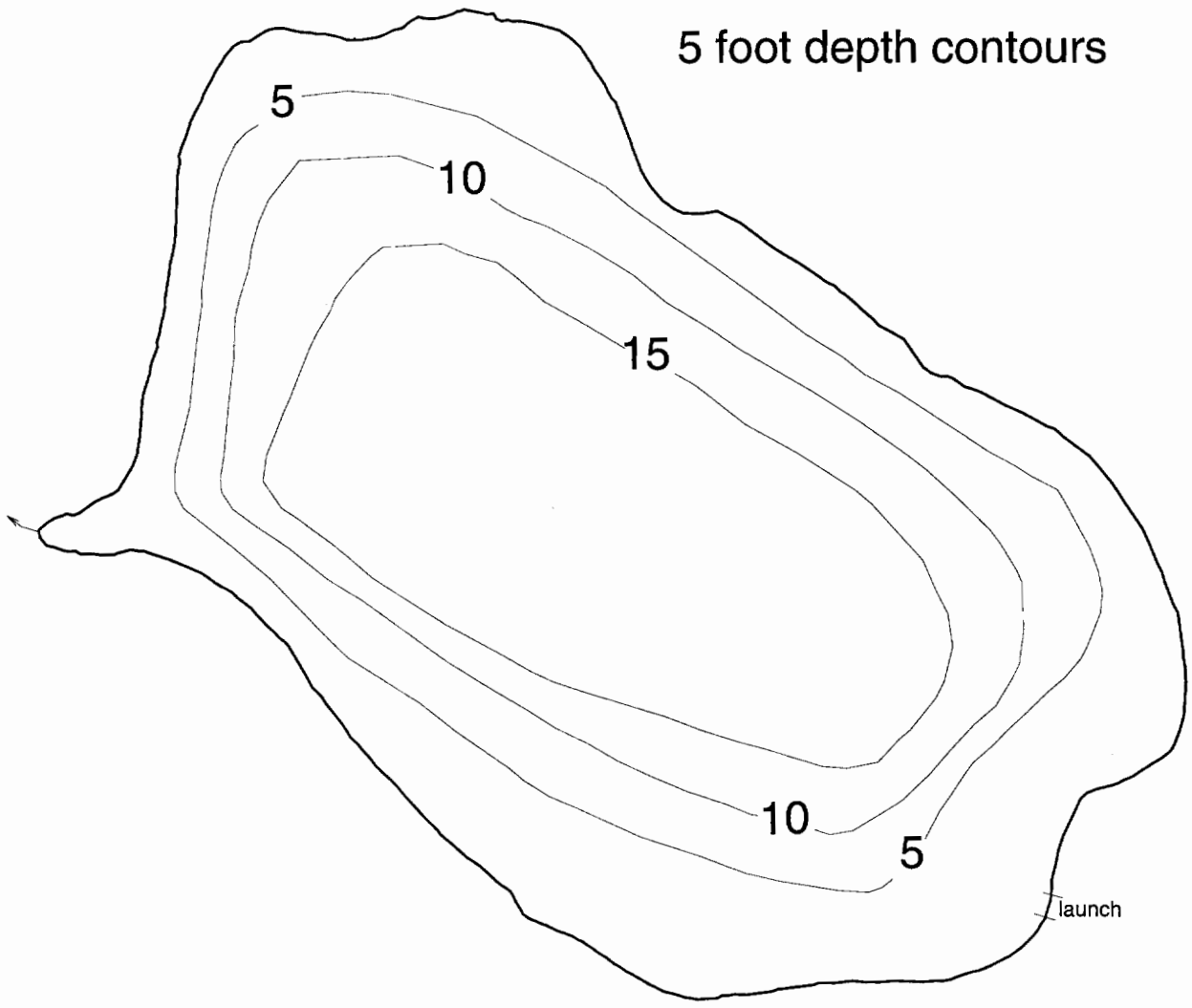
**COMMENTS:**

1. Stevens Pond was also classified eutrophic in 1981 as the result of a previous survey. The chlorophyll value was much less in 1997 (it was greater than 20 mg/m<sup>3</sup> in 1981).
2. Interstate 93 passes along the northern shoreline of the pond. Elevated conductivity, sodium and chloride levels in the pond reflect the presence of salt runoff into the pond.
3. Paved boat launch; no facilities or parking (park along city street).

# Stevens Pond

## Manchester

5 foot depth contours



0 0.2  
Km

N

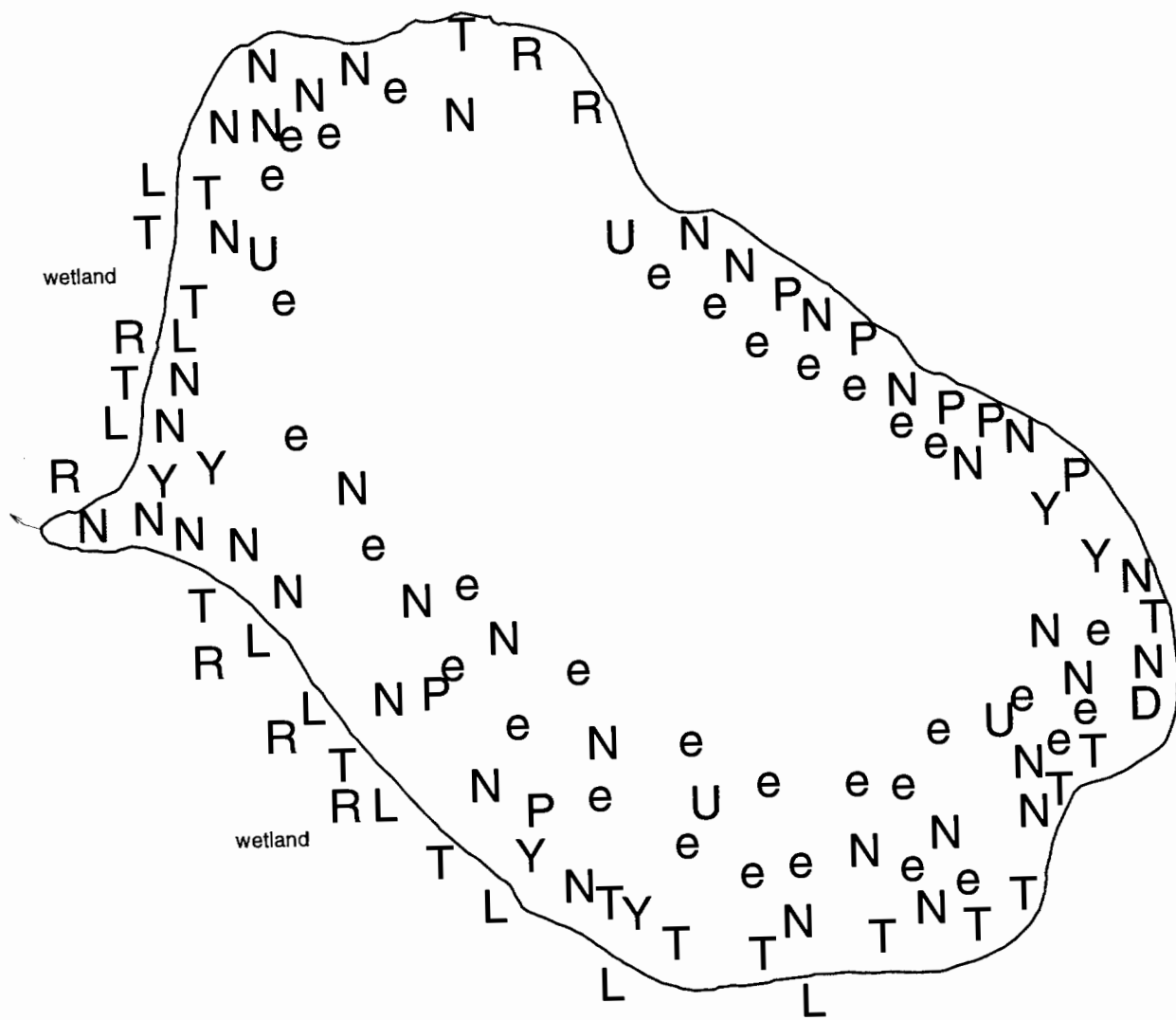
[illegible]

COMMENTS :

\*Dissolved oxygen values are in mg/L

# Stevens Pond

## Manchester



0 0.2  
Km

[illegible]