A characterization of the aquatic macrophyte communities in North Pond, 
Chenango County, NY

Willard N. Harman, Matthew F. Albright and Darcy King

INTRODUCTION

North Pond is a 27.5 ha (67.95 acres) dimictic body of water, 6.7m (22 ft.) in depth, 4km (2.5mi) north-west of Gilford in Chenango County NY (N42° 26.31', W75° 30.17'). On 6/23/98 total phosphorus and NO₂ +NO₃ concentrations were 0.073 and 0.102mg/l, respectively, implying potential nitrogen limitation. Secchi transparency was 4.2m. Figure 1 is a map of North Pond illustrating the estimated extent of rooted aquatic vegetation, including the distributions of the more abundant macrophytes.

METHODS

We visited North Pond on 6/24/98, for about 3 hours, utilizing a john boat, plant rake and free diving equipment to observe, collect and sample macrophytes around the entire perimeter of the lake.

RESULTS

We collected the following macrophytes:

Submergents:

- *Nuphar variegatum* Bullhead lily
- *Nymphaea odorata* White water-lily
- *Potamogeton amplifolius* Broad-leaved pondweed
- *Ranunculus aquaticus* Aquatic buttercup
- *Ceratophyllum demersum* Coontail
- *Heteranthera dubia* Yellow starflower
- *Elodea canadensis* Waterweed
- *Nitella* sp. Stonewort

Emergents:

- *Eleocharis* spp. (2 species) Spike-rush
- *Eriocaulon septangulare* Pipewort
- *Pontederia chordata* Pickerel-weed

---

1Oswego County Planning internship
Figure 1. Distribution of aquatic macrophytes in North Pond, Chenango Co., NY. Dot represents deepest area in basin: Plankton and water quality analysis collection site.
Dominant planktonic algae included:

*Anaebeana* sp.
*Aphanizomenon* sp.
*Dinobryon* sp.
*Ceratium* sp.
*Arcella* sp.

Common zooplankters found were:

*Daphnia pulex* (Branchiopoda)
calanoid and cyclopoid copepods
*Keratella* sp. (Rotifera)
*Arcella* sp. (Sarcodinia)

**DISCUSSION**

There are none of the aggressive alien plants (e.g. Eurasian milfoil or crispy pondweed) present that cause so many problems in lakes in the northern tier of the States and Canada. There are tremendous populations of large crustacean zooplankters cropping planktonic algae as fast as they grow, maintaining water clarity.

*Potamogeton amplifolius* was the most obvious submergent macrophyte (the only taxon reaching the surface of the water) of the eight species we encountered. All maintained the same relationships with each other that we have observed in other New York State inland waters (Vertucci *et al.*, 1981; Harman *et al.*, 1998a, 1998b) resulting in four distinct communities as illustrated (Figure 2).

**REFERENCES**


Figure 2a. A diagrammatic view of the vertical structure of Community type I (Vertucci et al., 1981).

Figure 2b. A diagrammatic view of the vertical structure of Community type II (Vertucci et al., 1981).
Figure 2c. A diagrammatic view of the vertical structure of Community type III (Vertucci et al., 1981).

Figure 2d. A diagrammatic view of the vertical structure of Community type IV (Vertucci et al., 1981).