

April the pH went from 4.5 to 6.0. Sampling and analyses are expected to continue for years. The lake was stocked with brown trout in June 1981. A smaller lake draining into Hovvatn was not limed and serves as a control.

#### 9.2.2.3 United States

A paper by Pfeiffer (1982) reported results of a January 1981 questionnaire he circulated to Fisheries Chiefs or Directors in the 50 United States. Forty states responded to his acidic deposition questions. Nonrespondents included the states of Florida, Louisiana, Maryland, Michigan, Missouri, New Mexico, North Carolina, North Dakota, Vermont and Virginia. Seven of 40 states replied that they are presently engaged in a liming program for ponded waters. The summary is as follows:

State	Ponded Waters Treated Per Average Year	
Kansas	5	(10 ha)
Massachusetts	2-3	(81 ha)
New Jersey	2	( 8 ha)
New York	7	(81 ha)
West Virginia	1	(17 ha)
Wisconsin	2	(12 ha)

West Virginia was the only state that indicated that they were liming streams. The figures provided were 16 km, representing approximately 12 ha. There were no questions on future considerations for liming programs.

Festa (pers. comm.) reported that the New York Department of Environmental Conservation had treated 16 small ponds (0.5 to 3.0 ha) which were operated mainly as put-grow-and-take brook trout fisheries. The treated lakes had a simple food chain with only one fish species stocked. Fish growth was good and the fish were harvested by angling in the autumn. There was no attempt to establish a self-sustaining population.

#### 9.2.2.4 Ontario, Canada

Limestone and slaked lime were added to Middle, Hannah, Lohi and Nelson Lakes, four acidic lakes near Sudbury, Ontario between 1973 and 1976. Contamination by metals, especially Cu and Ni, prevented reestablishment of trout populations in the first three lakes which are situated within 13 km of Sudbury (Yan et al. 1979), even though pH was increased from about 4.4 to >6.0. Nelson Lake (3.09 km<sup>2</sup>) was acid-stressed (pH ~5.5-6.0) prior to additions of crushed limestone (51 metric tons) and slaked lime (68 metric tons) in the fall of 1975 and the spring of 1976 (Yan et al. 1977). The decline of the lake's fisheries was indicated by the dominance of yellow perch and the disappearance of smallmouth bass. Lake trout