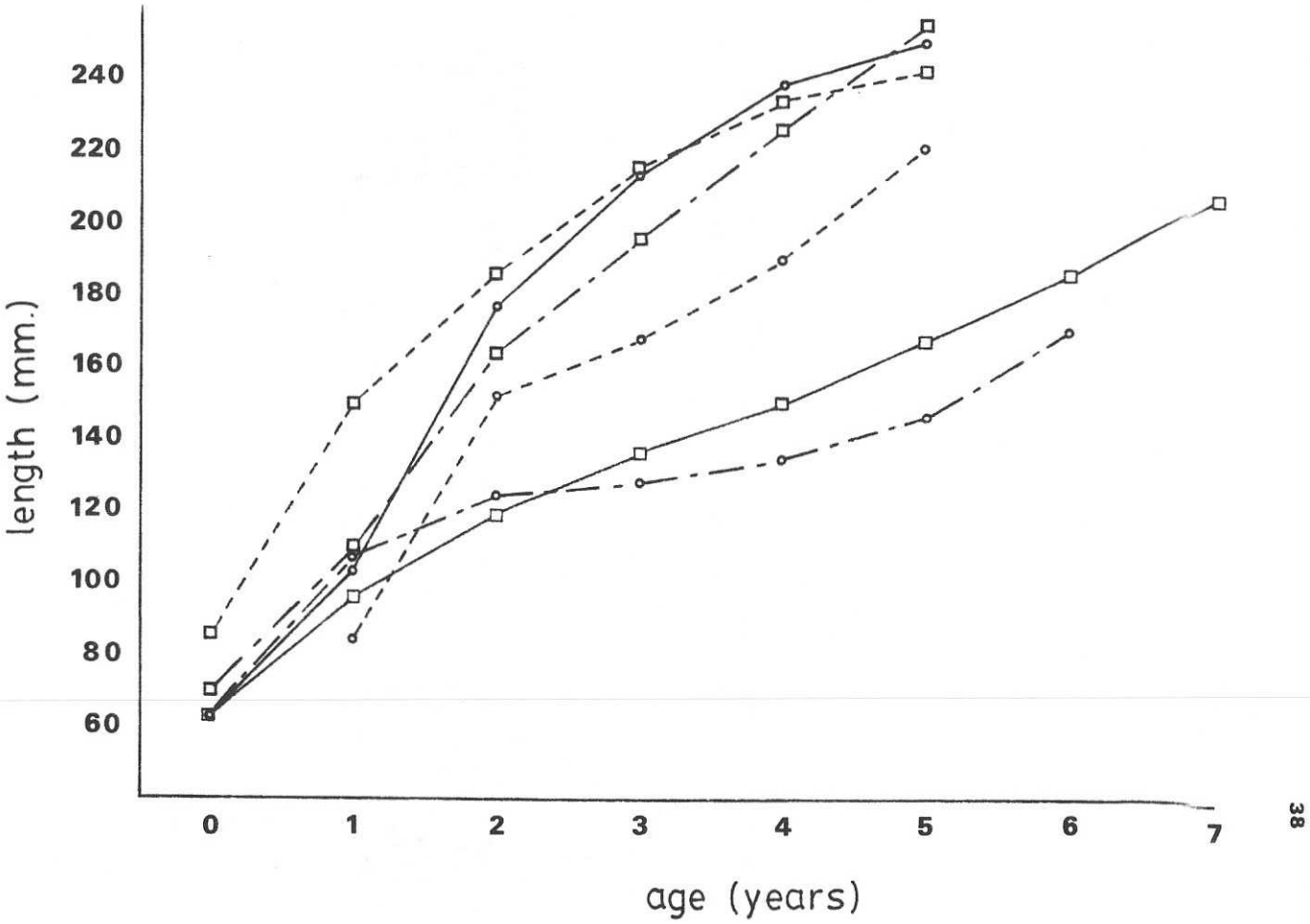
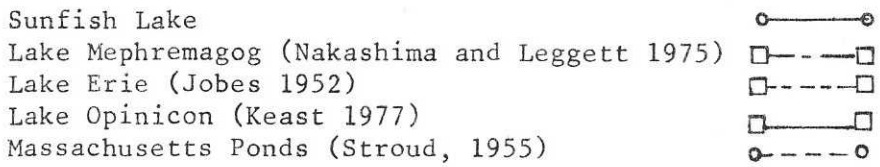
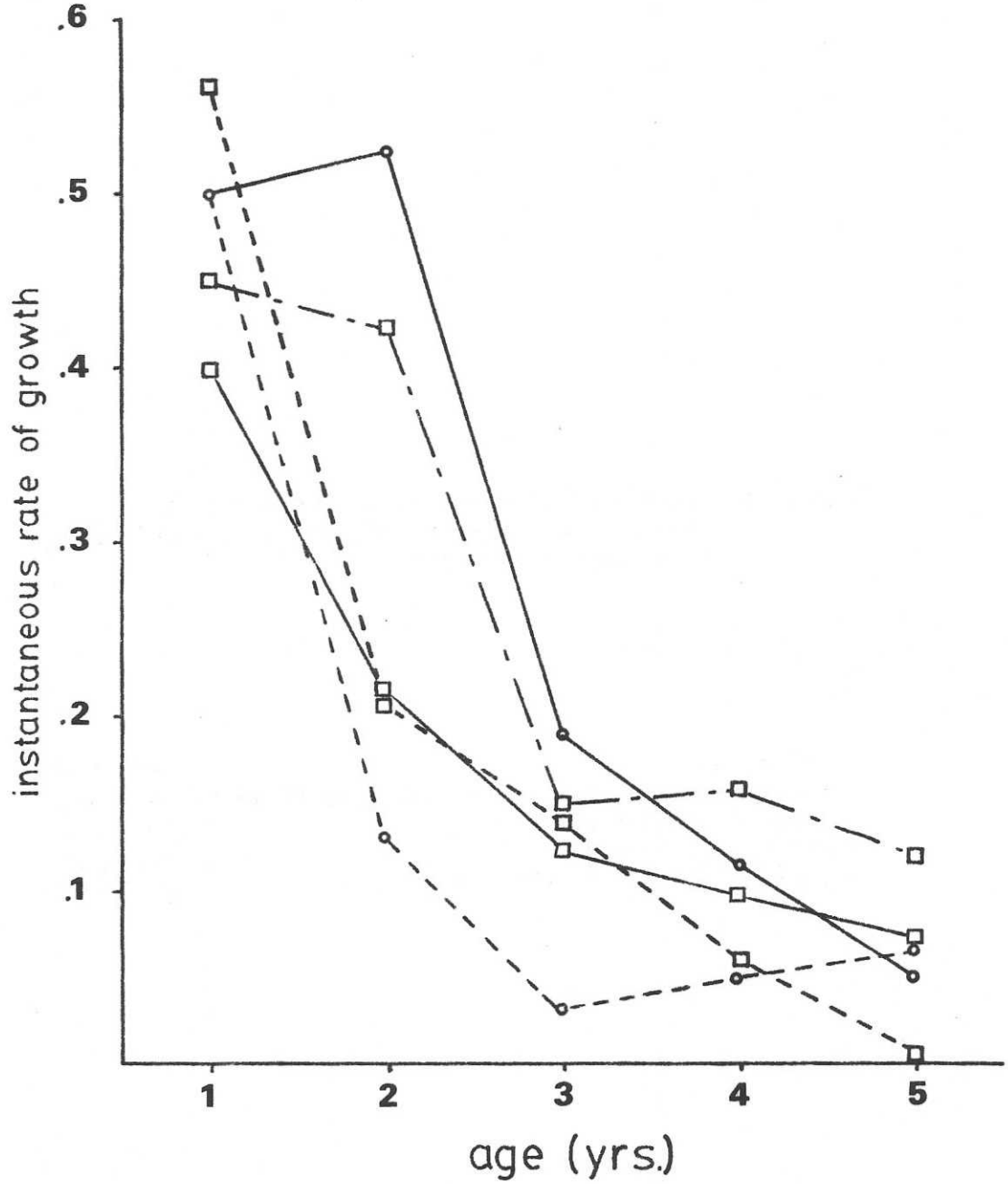

240
220
200
180
160
140
120
100
80
60
length (mm.)
0
1
2
3
4
5
6
7
age (years)

Additional evidence can be found in the instantaneous growth rates of the various age classes. A diet of zooplankton is generally considered to be most beneficial to juvenile perch because of their lower energetic cost of maintenance and small mouth size (Keast 1977, Keast and Webb 1965). Therefore, one would expect high zooplankton densities to result in increases in the growth rates of juvenile individuals (Warren et al. 1964, Haines 1973, McConnell 1965). Such increases were observed in Sunfish Lake. Figure 16 shows how Sunfish Lake growth rates compared to growth rates from other lakes in the region. High growth rates were observed in first year fish and continued in their second year. This continued high growth rate appears unusual since one would expect the greater energetic requirements of a larger body size to decrease the net energetic gain of zooplankton consumption. However, one must also realize that an increased body size results in lessened predation pressure. Therefore, juveniles in their second growing season may venture farther into the water coulumn to utilize the zooplankton more fully. This increased utilization of zooplankton may have offset energetic decreases related to a larger body mass.

Comparisons with Lake Mephremagog (Nakashima and

Figure 16. Comparison of Sunfish Lake yellow perch instantaneous rate of growth to data collected from other regional lakes.




.6
.5
.4
.3
.2
.1
instantaneous rate of growth
1
2
3
4
5
age (yrs.)