

Status of the Amphipod *Diporeia* spp. in Lake Superior

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The amphipod *Diporeia* has historically been the dominant benthic macroinvertebrate in deeper waters of the Laurentian Great Lakes. Although *Diporeia* populations in the lower Great Lakes have experienced severe declines in recent years, densities have remained relatively stable in Lake Superior. In 2006 we used a probability based sampling design to assess population density of *Diporeia* in Lake Superior. *Diporeia* were sampled at 52 sites using a Ponar grab. Thirty-five sites were in the nearshore (0-150m depth) stratum and 17 in the offshore (greater than 150m) stratum. The lake-wide mean density of *Diporeia* was $435 \pm 63(\text{SE}) \text{ m}^{-2}$. In nearshore and offshore regions, mean densities were $856 \pm 112 \text{ m}^{-2}$ and $158 \pm 29 \text{ m}^{-2}$, respectively. These values are above the minimum objectives set by the Great Lakes Water Quality Agreement. The observed densities are also higher than those reported from the only previous comprehensive lake-wide survey of *Diporeia* populations, conducted in 1972. These results suggest that the conditions causing the observed reductions in *Diporeia* populations of the lower Great Lakes are not present in Lake Superior.