Effects of Early Mdewakanton Dakota Settlement Patterns on the Ecology of Mde Maka Ska (Lake Calhoun) in Minneapolis, MN

Two Bulls, Grant

This study examined impacts of an early 19th century Mdewakanton Dakota settlement on the ecology of the lake Mde Maká Ská (called Lake Calhoun today) in Minneapolis, MN. Lacustrine coring techniques were used to take two core samples from Lake Calhoun at 44.94362 latitude and -93.31303 longitude and at 44.94192 latitude and -93.31292 longitude, each representing over 400 years of sediment accumulation. To date the cores, loss-on-ignition was run on segments of the cores that visually showed a marked rise in organic matter. Loss-on-ignition results were compared to loss-on-ignition/lead-210 dating results reported by Engstrom, Balogh, & Swain (2007) for Lake Calhoun. Counts of pollen in core segments showed that the shoreline around Lake Calhoun remained predominately oak from the peak of the organic matter (AD 1750) to the time of the settlement (AD 1830-40), with no significant change in oak pollen in lake sediments over that period of time ($p = 0.096$). However, results did show a significant increase in ragweed ($p = 0.039$) and grass pollen, which includes corn ($p = 0.040$) at the time of the settlement. This study succeeded in using two highly reproducible methods for examining historical lake ecology over time that may prove useful in future studies. Pollen types were identified in sediment from Lake Calhoun, and the loss-on-ignition data matched well to data reported in the study by Engstrom, Balogh, & Swain.

Awards Won: