
Shell Midden Isotope Sclerochronology and the History of Seasonal Subsistence Networks on the Pacific Northwest Coast of Canada

Meghan Burchell*¹

¹Memorial University of Newfoundland (MUN) – 210 Prince Philip Drive, St. John's, NL, A1C 5S7, Canada

Abstract

Identifying the timing of seasonal site occupation of hunter-fisher-gatherer activity on the Pacific Northwest Coast of Canada has been a central question for interpreting resource management strategies, and understanding patterns of sedentism and mobility. High-resolution stable isotope sclerochronological analysis of archeological shells reveals both a precise season of shellfish collection and age estimates of the harvested shellfish population. The high-resolution stable isotope analysis of over 200 valves of the butter clam (*Saxidomus gigantea*), recovered from over 25 distinct shell middens distributed along the coast, shows local variability in the season(s) of shellfish gathering. Through further analysis of the growth patterns in thousands of shell valves, relative age assessments of shells recovered from over 50 shell middens demonstrates regional and site-level variation in the rate of harvest collection. By examining clusters of villages and camps from three distinct regions of the coast, encompassing over 6000 years of history, a comprehensive understanding of the importance of shellfishing and variation in seasonal-subsistence strategies can be achieved. Addressing local and regional variability is essential for nuanced interpretations that consider the specific temporal, environmental and cultural contexts that shape the actions surrounding shellfish harvesting. The results demonstrate varied patterns of locally-based shellfish harvesting practices, challenging the ethnographic record and previous interpretations of the role of shellfish, subsistence and sedentism on the Pacific Northwest Coast.

Keywords: shell middens, stable isotopes, sclerochronology, hunter fisher gatherers, coastal resources, seasonality, Pacific Northwest Coast

*Speaker