Inter-site variability in the season of shellfish collection on the central coast of British Columbia

Meghan Burchella,¹,* Aubrey Cannona,¹ Nadine Hallmannb,² Henry P. Schwarczc,³ Bernd R. Schönéb,⁴

¹Department of Anthropology, McMaster University, 1280 Main Street West, Hamilton, Ontario L8S 4L9, Canada
²Department of Applied and Analytical Paleontology and INCREMENTS Research Group, Earth System Science Research Center, Institute of Geosciences, University of Mainz, Johann-Joachim-Becher-Weg 21, 55128 Mainz, Germany
³School of Geography and Earth Sciences, McMaster University, 1280 Main Street West, Hamilton, Ontario L8S 4K1, Canada

* Corresponding author. Tel.: +1 905 525 9140x23913; fax: +1 905 522 5993.
E-mail addresses: burchelle@mcmaster.ca (M. Burchell), cannona@mcmaster.ca (A. Cannon), hallmann@cerege.fr (N. Hallmann), schwarcz@mcmaster.ca (H.P. Schwarz), schoeneb@uni-mainz.de (B.R. Schöne).

¹ Tel.: +1 905 525 9140x23913; fax: +1 905 522 5993.
² Fax: +49 6131 39 24768.
³ Tel.: +1 905 525 9140x23913; fax: +1 905 546 0463.
⁴ Tel.: +49 6131 39 24775; fax: +49 6131 39 24768.

1. Introduction

The investigation of seasonality has been the subject of research on the Pacific Northwest Coast for over thirty years. A major goal has been to examine the timing of site occupation and to place sites within a framework of a larger seasonal-settlement system. Another aim has been to find evidence for multi-seasonal, permanent village settlements, or sedentism. Most seasonality studies have focused on the presence of an assumed ‘seasonal round’ (Ames, 1981), which was based on the need to procure and process food in the late summer and autumn to sustain village populations through the winter months.

This pattern of residential mobility has been heavily generalized for most of the North Pacific Coast and is influenced by observations from the early European contact era (Ford, 1989). After European contact, during the ethnohistoric era, residential mobility was frequently noted (Barnett, 1938; Mitchell, 1983; Mitchell and Donald, 1988), and this model of the ‘seasonal round’ has permeated archaeological interpretations (Ford, 1989). Using ethnography to understand long-term behavioural patterns, such as settlement or shellfish gathering, does not account for change over time, nor does it permit consideration of year-to-year variation on a seasonal scale (Jochim, 1991). For example, Pomeroy (1980) coined the term ‘Central-Based Seasonally Mobile’ with regards to Bella Bella (Heiltsuk) settlement patterns (1978: p. 210) without the analysis of any precise seasonality indicators. Although a model of seasonal movement between site locations is widely assumed for the Northwest Coast, no archaeological studies have been of sufficient scale to document any particular model of seasonal movement in any region of the coast.

Bivalves are ideal for seasonality studies since they are sensitive geo-cultural archives that record the changes in sea surface temperature and salinity in their shells, and stable oxygen isotope analysis (δ¹⁸Oshell) provides a means to interpret these seasonal changes. The application of shell oxygen isotope studies has permitted the seasonal identification of shellfish collection, and by proxy the season of site occupation in a variety of geographic contexts (i.e., Andrus and Crowe, 2000; Deith, 1986; Kennett and Voorhies, 1996; Mannino et al., 2003, 2007; Rick et al., 2006;