DISPOSING OF THE DEAD
A SHELL MIDDEN CEMETERY IN BRITISH COLUMBIA'S GULF OF GEORGIA REGION

by

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Abstract

Archaeological excavations undertaken at the Somenos Creek site (DeRw 18) in 1994 were designed to evaluate the model of the site as an exclusive burial enclave for social elites during the last half of the Marpole culture phase (2400-1000 B.P.). The site first came to the attention of archaeologists in 1992, when land modification activities on the north bank of Somenos Creek resulted in the accidental disturbance of human burials. Burial data from a subsequent archaeological salvage operation raised the possibility that all the individuals interred at this south-eastern Vancouver Island site may have been social elites. The fact that these apparently high-status burials were found in an inland shell deposit suggested that crushed shell may have been imported and placed in order to designate symbolically an exclusive burial location.

Evaluating the burial enclave model involved a stratigraphic analysis of the shell deposit, an analysis of the cultural and temporal relationship of the shell deposit to the human burials, and a comparison of the Somenos Creek burial pattern with that of the nearby False Narrows site (DgRw 4). Expectations stemming from the model were that the shell deposit would not exhibit stratigraphic evidence for *in situ* development of a shell refuse midden. Further, had shell been imported to the site from an existing midden, one would expect the shell material to be older than the associated burials. Finally, all the Somenos Creek burials would be expected to correspond to the high-status burials found at False Narrows.

Results show the Somenos Creek shell deposit to be a shell midden, in all likelihood the accumulated refuse from a small settlement. The Somenos Creek burial pattern appears to reflect at least two social strata. Significantly, all the Somenos Creek burials post-date the shell midden, indicating a shift in site use from settlement to cemetery. These results contradict the long-held view among archaeologists that Marpole societies interred their dead in shell middens behind occupied villages. In addition, researchers conducting cross-cultural analyses of ethnographic societies have found that when cemeteries occur, they tend to represent corporate groups which control crucial resources. These corporate groups are likely to legitimize rights of membership, resource control and inheritance by invoking claims of lineal descent from the dead.

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CHAPTER 1 GENERAL INTRODUCTION AND OVERVIEW

The Research Issue and Objective

Archaeological excavations undertaken at the Somenos Creek site (DeRw 18) in 1994 were designed to evaluate the model that the site served as an exclusive burial enclave for social elites during the last half of the Marpole culture phase (2400-1000 B.P.). All three crania recovered in the course of a 1992 archaeological salvage operation at this Northwest Coast site (Figure 1) exhibited signs of cultural head deformation (Cybulski 1993:15), a practice deemed by some researchers to reflect the high social status of the deceased (Burley and Knusel 1989; Matson 1976:301-304; Mitchell 1971:54). In addition, the report on the 1992 Somenos Creek salvage operation describes an infant burial which included a dentalia shell necklace and evidence of copper staining on the mandible (Warner 1993:14). Many archaeologists view the association of valuable grave inclusions with infant burials as a critical factor in the test for ascribed social ranking (Binford 1971; Peebles and Kus 1977; Saxe 1970; see also Hayden 1995; Schulting 1995). Taken together, burial data derived from the 1992 salvage operation hinted at the possibility that all the individuals interred at the Somenos Creek site may have been of high social status. Of further interest was the fact that these apparently high-status burials were found in an inland shell midden, a relatively rare site type in the Gulf of Georgia region.

Shell midden sites dominate the archaeological record of the western Gulf of Georgia region, and rarely have extensive excavations of these shell deposits failed to encounter human burials (Burley 1989:59). With few exceptions however, these shell deposit sites are found on or very near the coast in close proximity to shellfish beds (Stein 1992:12). The aspect distinguishing the Somenos Creek site from most shell deposit sites is its location on a tributary of the Cowichan River, today almost seven kilometers inland from the coast (Figure 1).

The burial enclave model stems from an idea put forth by Jerome Cybulski. Cybulski (1992:168), describing the Greenville burial site (GgTj 6) on the Nass River in west-central British Columbia, remarks that the shell deposit containing 36 burials appeared to be foreign to the site.

He suggests the shell deposit may have been brought to the Greenville site from a nearby village and deposited as part of a burial ritual. The ritual deposition of imported shell would have marked the place as a cemetery, a formalized area dedicated exclusively to disposal of the dead (Goldstein 1981). The hypothesis that an imported shell deposit may have been used to create a cemetery on the bank of Somenos Creek helped account for a number of aspects of the site prior to full-scale excavations.

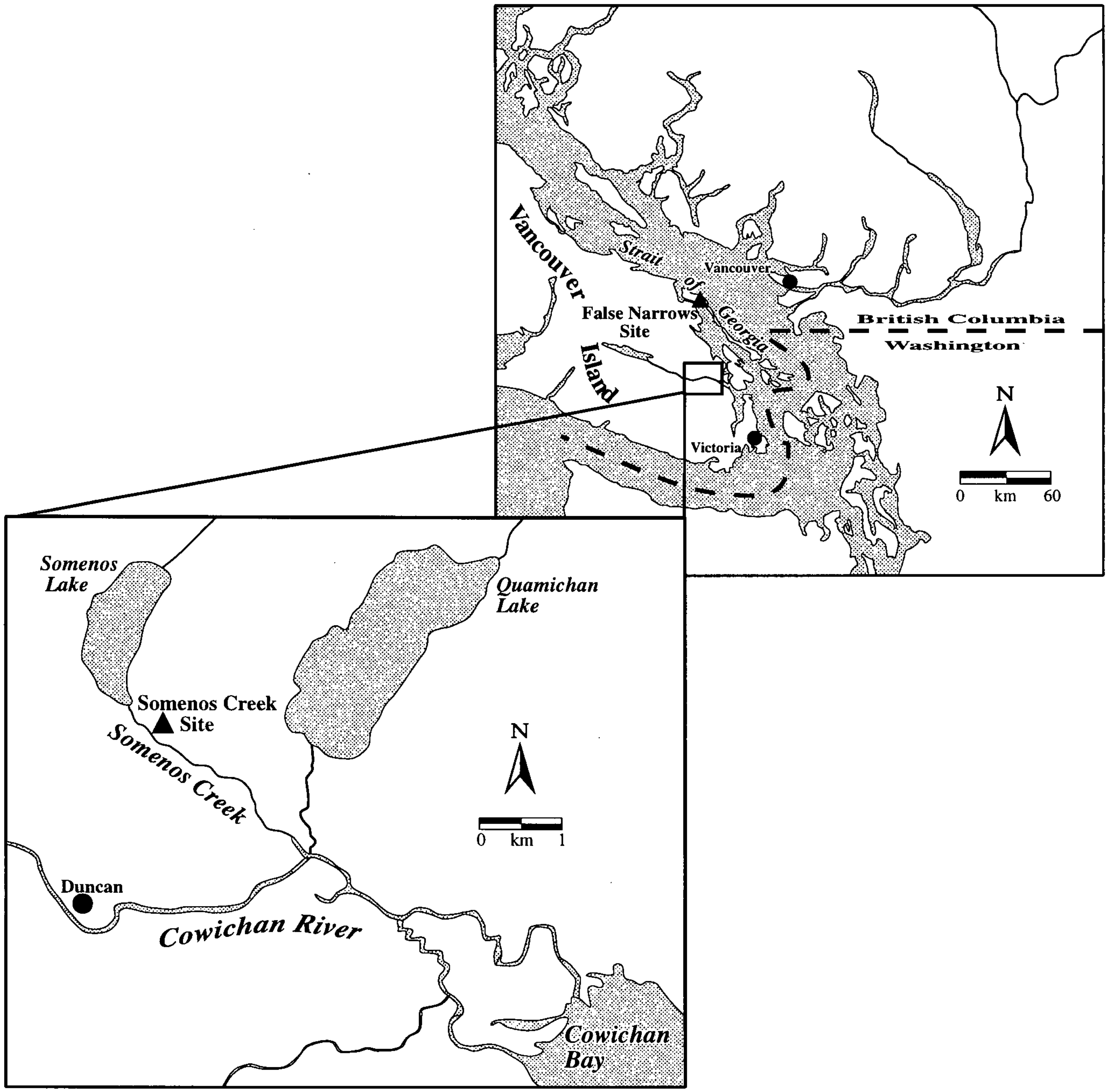


Figure 1. Location of the Somenos Creek Site.

The distance of the Somenos Creek site from coastal shellfish beds indicated shell had been imported to the site. This does not necessarily mean, however, that fresh shellfish were consumed at the site. A dearth of artifactual evidence indicating the site had served as a camp or village (Warner 1993:21) supported the view that crushed shell, as opposed to intact fresh shellfish, had been transported to the site. The hypothesis that shell had been imported to the Somenos Creek site from an existing shell midden as part of a burial ritual provided a plausible explanation for the considerable range between the results of the initial ^{14}C assays for the site, one on shell (2510 ± 70; AECV-1689Cc) and the other on bone collagen (1540 ± 70; Beta-58221) from one of the intact burials (Warner 1993:22)(Table 1). Had the shell been imported from an existing shell midden, one would expect the re-deposited shell to be older, perhaps much older, than the burials with which it was associated.

In summary, initial data on the Somenos Creek site provided support for the burial enclave model. The distance of the Somenos Creek site from sources of live shellfish and an apparent disparity in radiocarbon dates between the shell deposit and associated burials supported the hypothesis that a shell matrix may have been imported to the site in order to designate symbolically a formal disposal area for the dead. In addition, initial information on the burial pattern at the site— cultural head deformation and a "rich" child burial— raised the possibility that all or most of the burials associated with the shell deposit were of individuals with high social status. Integrating this information produced an image of the Somenos Creek site as an exclusive burial enclave for social elites of the Marpole culture. Extensive excavations of the Somenos Creek site in 1994 provide the means by which to test this model against a much larger body of archaeological data.

Theoretical Perspective

The burial enclave model was constructed using elements from two interpretative frameworks: (1) the correlation of formal, permanent and specialized disposal areas for the dead with corporate control of crucial resources, and (2) the presence of ascriptive social ranking.

Saxe (1970), using ethnographic data on societies from around the world, developed a set of hypotheses correlating mortuary practices with social action and societal organization.

Saxe's Hypothesis 8 states that when control of restricted resources is crucial, groups are more likely to maintain formal places for the disposal of their dead than dispersed or random grave sites (1970:119).

Goldstein (1981:61) reviewed the ethnographic data studied by Saxe and restated Hypothesis 8 in three interrelated sub-hypotheses. She is precise in stating her definition of a cemetery, and the conditions under which the cemetery hypothesis accounts for details of ethnographic societies. Goldstein points out, for example, that corporate control over crucial resources does not necessarily mean the group will have a formal disposal area. She does, however, note that

> if a permanent, specialized bounded area for the exclusive disposal of the group's dead exists, then it is likely that this represents a corporate group that has rights over the use and/or control of crucial but restricted resources. This corporate control is most likely to be attained and/or legitimised by means of lineal descent from the dead, either in terms of an actual lineage or in the form of a strong, established tradition of the critical resource passing from parent to offspring (1981:61).

In addition, Goldstein argues that the more organized and formal the disposal area, "the fewer alternative explanations of social organisation apply"(1981:61).

Interpretations derived from the cemetery hypothesis typically focus on sedentary agricultural societies in which limited arable land sets the conditions for the development of control mechanisms. Ingold (1986) broadens the scope of analysis by drawing a distinction between tenure and territoriality, using the former term with reference to "a mode of appropriation, by which persons exert claims over resources dispersed in space" (1986:133). Tenure emphasizes the manner in which a resource location is woven into the biography of the individual or the history of those groups of which he or she is a member (Ingold 1986:137). This perspective holds interpretive promise for the Northwest Coast, where the availability of a wide variety of resources is tempered by geographic, seasonal and long-term availability (Suttles 1960; 1990).

I rely on burial data from the False Narrows site (DgRw 4) to test the hypothesis that only social elites were interred at the Somenos Creek site. The False Narrows site is a coastal village site located on the south-west side of Gabriola Island, 50km north of the Somenos Creek site (Figure 1). Excavations in 1966 and 1967 of this large shell midden deposit yielded the remains of 86 individuals, 67 of which have been assigned to the Marpole culture phase (Burley 1989:54-55). The False Narrows burial sample is the best-documented large sample of Marpole burials currently available. The size of the False Narrows burial sample and the proximity of the site to Somenos Creek make it an ideal standard of comparison in the analysis of the Somenos Creek burial sample.

Burley, assuming "wealth and social position to be interrelated variables of prehistoric Coast Salish society" (1989:59), identified social stratification in the False Narrows sample in the form of upper and lower social classes (Burley 1989:62). An implication of the burial enclave model is that the Somenos Creek burial sample should correspond to the upper-class burials from False Narrows.

Burley (1989:59), in concluding that Marpole society at False Narrows was structured at least in part on the basis of ascribed social inequality, invokes the popular anthropological principle that material indicators of ascribed social status cross-cut social categories defined by age and sex. This principle is best manifested archaeologically by the presence of rich sub-adult burials in a cluster which includes unadorned adult burials. Simply put, such patterning is thought to characterize a society structured to some degree on the basis of two or more heritable or ascribed statuses, in that a child lacks the means by which to attain wealth independently (Binford 1971; Peebles and Kus 1977).

A number of studies have questioned the use of variability in the distribution of wealth within a burial sample as a means by which to gauge the presence and/or degree of social stratification in archaeological cultures (see, for example, McKay 1988; Pader 1982). In my view, however, the premise that wealth, grave inclusions and social status were entwined elements of Marpole societies is sound (Burley 1980:29; Mitchell 1971:54). Certainly the interment of a few individuals lavishly adorned with items of material wealth in elaborate and costly monuments (Blake 1995; Brown 1996a; Thom 1995) while, during the same period, many more individuals were buried with no property in simple, shallow pits (Burley 1980; Burley and Knusel 1989) serves to underscore dramatically the presence of social stratification among Marpole societies.

Some Implications for Modeling Gulf of Georgia Prehistory

The research model for the Somenos Creek site carried implications for a number of other issues in Northwest Coast archaeology. Information on the nature and characteristics of the Somenos Creek site as an inland shell midden site could aid in our understanding of subsistence and settlement patterns in the region, and could serve as a basis for investigating other inland shell midden sites such as those found at False Narrows Bluffs and Sechelt (Wilson 1987; Wilson and Smart 1990).

A structure of ascribed social stratification symbolized by hereditary inequality in wealth, prestige, and power characterized the historic indigenous societies of the Northwest Coast. The evolutionary development of this pattern of social stratification is of ongoing interest to Northwest Coast researchers, and a number of explanations have been offered to account for the transformation from egalitarian to stratified societies (see Matson and Coupland 1995). Several models suggest that a stratified social structure developed when individuals or small segments of the population gained control of access to valued resources (Matson 1983, 1985; see also Hayden 1995). Over time, a disparity in status would develop between those members of a household or community who controlled access to productive resources and those who did not.

Studies in both the Old and New World (Chapman 1995; Charles 1995) have demonstrated the use in prehistory of formalized disposal areas for the dead as a means of asserting control over resources (Goldstein 1981). In this sense, the Somenos Creek site provides an excellent opportunity to test models for the development of social stratification in Gulf of Georgia prehistory.

Organization of Chapters

A comprehensive presentation of the excavation and analytical methods, results, and archaeological interpretation of the 1994 excavations may be found in the site report on the Somenos Creek Project submitted to the British Columbia Archaeology Branch (Brown 1996b). In the four chapters that follow, I focus primarily on an examination and discussion of those data that are useful in understanding the relationship of the shell deposit to the human burials.

Chapter 2 describes the location and natural ecology of the Somenos Creek site, provides an overview of the project history, presents the set of hypotheses developed to address the research question, and describes the methods of data collection and analysis designed to satisfy both the mitigation and research requirements of the project. Chapter 3 presents the results of the excavations and analyses, beginning with a section on radiocarbon results which provides the rationale for a three-period archaeological sequence for the Somenos Creek site. I summarize and interpret the results, and evaluate the research hypotheses in Chapter 4. Chapter 5 entails a discussion of the research findings and some implications for modelling Gulf of Georgia prehistory.

CHAPTER 2 THE SOMENOS CREEK SITE

Site Location and Ecological Setting

The Somenos Creek site is located on the north bank of Somenos Creek near the city of Duncan on south-eastern Vancouver Island (Figure 1). Somenos Creek forms the boundary between a swampy plain and upland environment within the Coastal Douglas Fir zone (CDF). The CDF zone is home to a unique group of ecosystems characterized by stands of Garry oaks (*Quercus garryana* Douglas). In dry places with deep soil, Garry oak parklands form an open tree cover over plant communities which include great camas (*Camassia leichtlinii*) and common camas (*Camassia quamash*), tiger lily (*Lilium columbianum*) and chocolate lily (*Fritillaria lanceolata*), gooseberries (*Grossulariaceae*) and elderberries (*Sambucus cerulea*) (Eagan 1995:2; Turner 1995). Western crabapple trees (*Pyrus fusca*) are found, often in dense stands, along waterways and in swampy areas. Crabapples, Garry oak acorns, camas bulbs, and the roots of the tiger and chocolate lily were all steamed and consumed by aboriginal peoples of the area. Gooseberries and elderberries were eaten raw (Turner 1995).

Camas bulbs are especially rich in carbohydrates, and were a staple food for aboriginal peoples of the region. "Among the Vancouver Island Coast Salish, aboriginal harvesting and crop maintenance practices for camas can be termed semi-agricultural."(Turner 1995:43). Productive camas areas were divided into plots which were owned and passed down through families from generation to generation (Turner 1995:43).

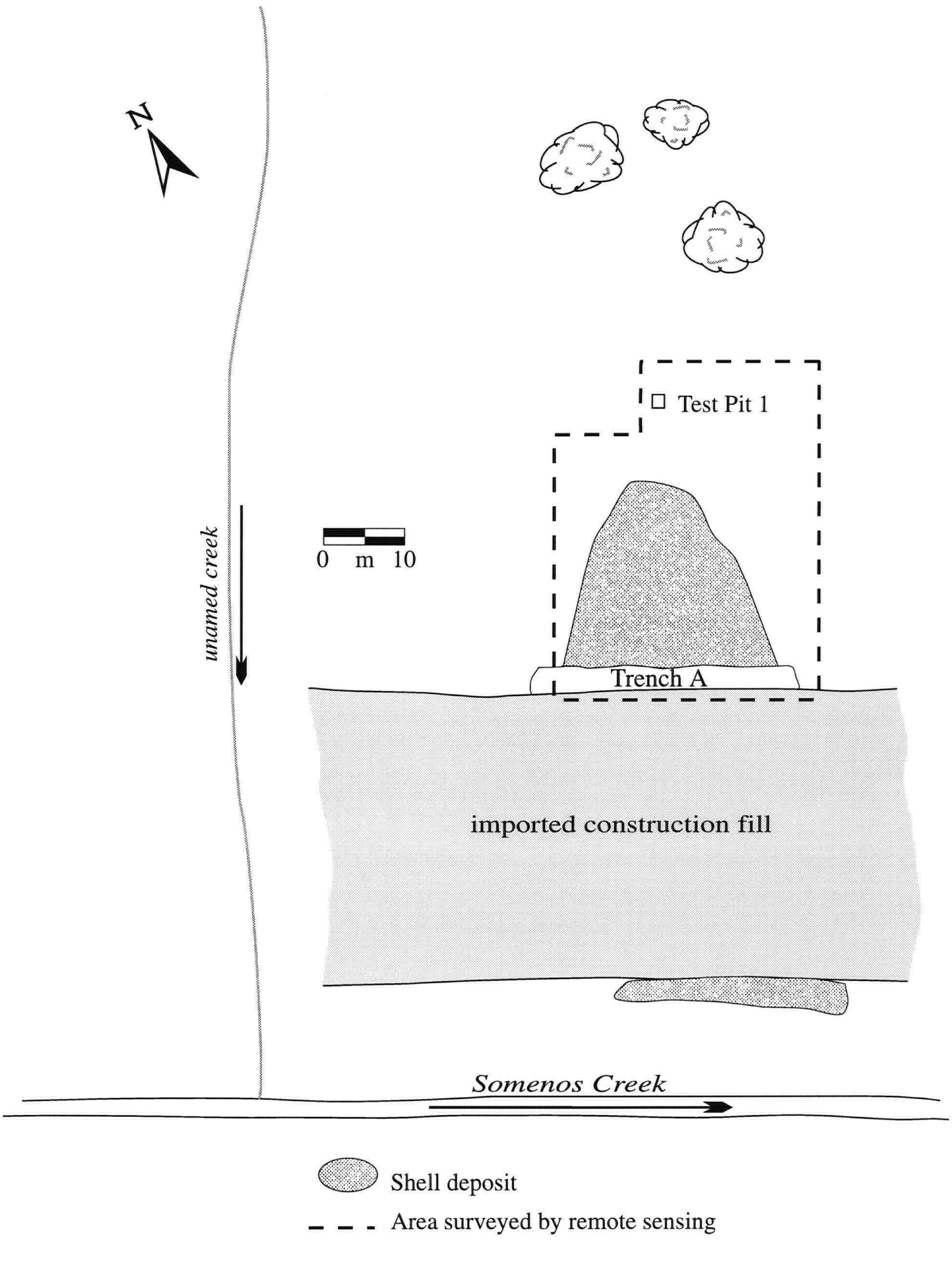
An open stand of Garry oaks covers the slope immediately north of the Somenos Creek site, blending into the Douglas-fir forest on top of the hill overlooking Somenos Creek. Scotch broom (*Cytisus scoparius*), an aggressively invasive exotic introduced to southern Vancouver Island in the mid-nineteenth century, now covers most of the landscape in the vicinity of the Somenos Creek site. Crabapple stands have disappeared (Wes Modeste, personal communication 1996).

Somenos Creek is one of two major tributaries of the Cowichan River, a system which drains some 90,000 hectares of the Cowichan Valley (Bell and Kallman 1976:44). An extensive system of accessible, low-gradient tributaries and waterways, and ample spawning gravel and rearing habitats make the Cowichan River one of the most important rivers on Vancouver Island in terms of variety and abundance of salmonid species (Bell and Kallman 1976). The Cowichan River system supports large runs of chinook (*Oncorhynchus tshawytscha*), coho (*O. kisutch*) and chum (*O. keta*) salmon. A few sockeye (*O. nerka*) and pink salmon (*O. gorbuscha*) are reported to enter the system, but only rarely (Bell and Kallman 1976:84). A literature review turned up no references to Somenos Creek fish resources, though Cowichan Elder Wes Modeste (personal communication 1994) reports that chum salmon continue to ascend the creek in significant numbers.

The low-lying topography of the valley to the south and west of Somenos Creek and surrounding nearby Somenos Lake provides a slough environment for numerous species of waterbirds. Blacktail deer (*Odocoileus hemionus*) are the most abundant large ungulate in the vicinity of the site, though Roosevelt elk *(Cervus elaphas)* inhabited the area prior to conversion of much of the Cowichan Valley to agricultural and urban use. Black bear (*Ursus americanus*) and cougar (*Felis concolor*) are still found in undeveloped areas of the region (Nuszdorfer et al. 1991:88).

In summary, the Somenos Creek site is located within a Garry oak parkland in the Coastal Douglas-fir zone. The potential of this resource-rich environment is enhanced even further in the immediate vicinity of the site by virtue of its location in a transition zone between a lowland river/slough system and an upland area. Such transition areas display greater diversity and density of plant and animal species than the biological communities flanking them (Campbell 1995:12).

Figure 2. The Somenos Creek Site.



Project History

1992 Archaeological Salvage Project

The Somenos Creek site first came to the attention of archaeologists in 1992, when land modification activities by Timbercrest Estates Ltd. of Duncan, B.C. resulted in the accidental disturbance of human burials on the north bank of Somenos Creek. Archaeologists called to the site recovered skeletal remains representing at least 11 individuals (Warner 1993). Archaeological evaluations showed the horizontal dimensions of a thin shell layer associated with the burials to be approximately 25m by 30m (Warner 1993:11) (Figure 2). This shell deposit was designated DeRw 18, the Somenos Creek site. The type of grave inclusions associated with five reasonably intact burials, evidence of fronto-occipital cranial deformation, and two radiocarbon assays, one of 1540 ± 70 years B.P. on human bone (Beta-58221) from an intact burial and another of 2510 ± 70 years B.P. on marine shell (AECV-1689Cc), led to the assignment of the known component at the site to the Marpole culture phase (Warner 1993).

Timbercrest Estates Ltd. planned to develop a residential subdivision on the fifty acre parcel of land which includes the Somenos Creek site. Under the development plan, the site would have been destroyed completely through land-modification operations. The Somenos Creek site is located within the traditional territory of the Cowichan First Nation. At the request of Cowichan Tribes Councillor Wes Modeste, I agreed to meet with Mr. Modeste and George Schmidt of Timbercrest Estates Ltd. in order to advise them on options for mitigating the damage that the proposed development would have on the archaeological site. Cowichan Tribes accepted a proposal that Timbercrest Estates Ltd. would arrange for the recovery through systematic archaeological excavation of any human remains at the site and provide another location in a nearby designated park for re-interment.

1994 Remote Sensing Survey

The mitigation objective in excavating the Somenos Creek site was to locate and recover through controlled excavation all human remains, and discover the characteristics and associations of cultural features and artifacts at the site. Although the Somenos Creek site was known to contain human burials, little information was available with which to estimate the number of remaining burials and the overall complexity of the site prior to full-scale excavation. I therefore proposed that the site be surveyed using electronic remote sensing equipment. It was anticipated that subsurface soil conductivity measurements would (a) confirm the boundaries of the shell deposit associated with the burials, and (b) detect conductivity anomalies which may indicate the presence of additional human burials or other cultural features within and around the shell deposit.

Guy Cross of Golder Associates Ltd. surveyed the Somenos Creek site in May 1994 (Cross 1994) using an instrument designed to measure soil conductivity characteristics. The subsurface survey covered a 35m by 45m block encompassing the known boundaries of the site as defined by the shell deposit north of Trench A (Figure 2).

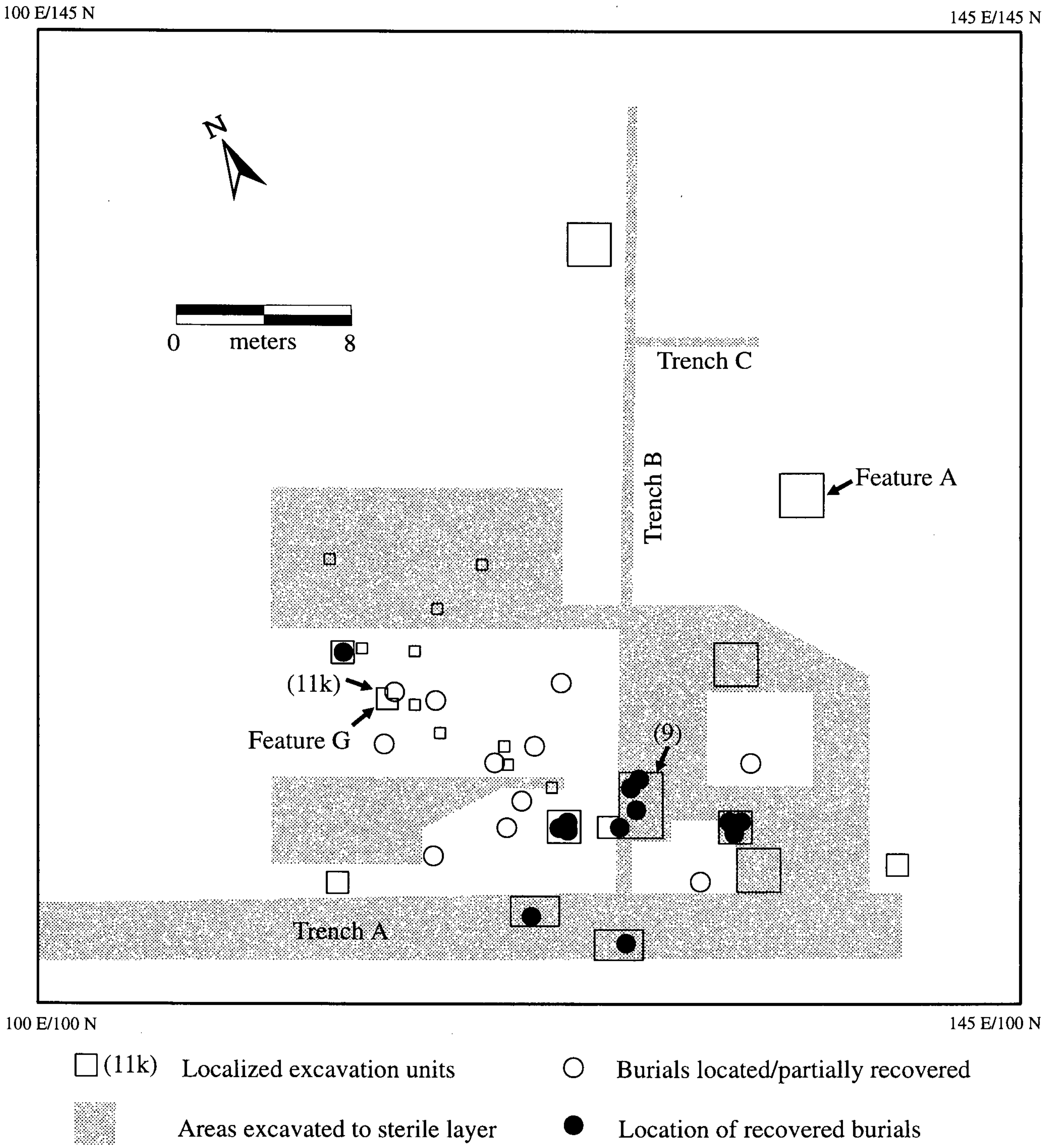
1994 Test Excavations

Remote sensing identified a number of localized subsurface peculiarities defined by anomalous conductivity measurements. The question was whether these subsurface patches of anomalous conductivity represented natural or cultural features. A test pit (Test Pit-1, Figure 2) excavated in 1994 revealed a correlation between at least one area of anomalous conductivity and the presence of an archaeological feature, in this case a series of burning episodes (Brown 1994a). The information garnered from this limited investigation showed that results from the electronic remote sensing could serve as a blueprint for guiding more extensive archaeological excavations at the Somenos Creek site. Since the tested anomaly was located outside the boundary of the shell deposit, and the survey revealed additional anomalous conductivity patches outside the boundary of the shell deposit, the limits of the Somenos Creek site were adjusted outward to the arbitrary boundary of the remote sensing survey (Figure 2) (Brown 1994b).

Excavating the Somenos Creek Site

Full-scale excavation of the Somenos Creek site took place over a five week period beginning on September 19, 1994. Under the original mitigation proposal approved by the British Columbia Archaeology Branch (Heritage Investigation Permit 1994-122), the site would have been excavated in its entirety. Excavations ceased in the fifth week of field work at the request of Cowichan Tribes. By that point, approximately seventy percent of the shell deposit had been excavated, resulting in the recovery of the remains of 14 individuals and the partial recovery of an

Figure 3. Excavation units and archaeological features.



additional 10 burials (Figure 3). Although the intended goal of one hundred percent excavation was not achieved, sufficient archaeological data were obtained to test the proposed model of the Somenos Creek site.

Archaeological Implications of the Burial Enclave Model

Introduction

Normative thinking, according to Cheryl Classen, has fostered the view that all shell-bearing sites are functionally equivalent, that all archaeological shell debris is food debris and consequently "all forms of shell-bearing deposits must be secondary refuse deposits" (Classen 1991:250). Normative thinking tends to dismiss observed variability in favour of a search for characteristics which match the typical, the average, or the expected. A corollary of normative thinking in the analysis of archaeological shell deposits is the extension of normative language to forms of human activity which result in the creation of shell deposits. Ethnographic and archaeological studies throughout the world have demonstrated the need to speak of the ranges of variability rather than the average, the mean, or the typical, with respect to both human behaviour and shell deposits. These studies call for a refinement in terminology and site typologies (Blukis Onat 1985; Lightfoot 1985; Waselkov 1987). One approach to the refinement of shell site typologies is to identify shell deposits in terms of the systemic context in which the shell deposit originated and developed.

Systemic typologies, if they are to have any explanatory power in terms of prehistory, must provide the opportunity to detect meaningful differences between archaeological deposits. If the burial enclave model for the Somenos Creek site was correct, what traits in terms of site configuration and content would help identify the site as a burial enclave for social elites?

Hypotheses

A Cemetery?

One of the two principle hypotheses tested in the 1994 excavations was that the Somenos Creek shell material had been imported to the site in order to designate a cemetery, a permanent, specialized, bounded area used exclusively for disposal of the dead. I derived a set of expectations from this hypothesis regarding stratigraphy, composition, and chronological characteristics of the shell deposit.

The removal, transportation, and placement of shell material from a storage or refuse context to the Somenos Creek site should have resulted in a thorough mixing of shell material. Therefore:

(1) Stratigraphic patterning of the shell deposit should exhibit characteristics consistent with "basket loading" rather than the interwoven pattern of banding or superimposed strata often found in undisturbed shell middens. There should be no indication of consolidated, continuous stratigraphy, nor should I encounter discrete clusters of shell from a single species suggestive of primary or secondary disposal of food refuse.

(2) Radiocarbon values on the shell deposit should not reflect *in situ* shell midden development. The principle of geological superposition holds that older deposits will underlay younger deposits. One result of importing and dumping shell material would be a thorough mixing of materials. Therefore, I would not expect a series of radiocarbon samples obtained from the bottom, middle and top of the shell matrix to fall into a chronological order of bottom/older and top/younger.

Expectations 1 and 2 derive from the assumption that the Somenos Creek shell deposit reflects a single event in terms of cultural deposition. Alternatively, the shell material may have been imported in smaller, discrete quantities and deposited in the course of a mortuary ritual for each individual interred at the site. Such a scenario would have resulted in the gradual development of the shell deposit over the period of time in which the site served as a cemetery. Stratigraphic breaks and facies may be visible, and the stratigraphic pattern would adhere to the principle of superposition in that the bottom layer would represent the oldest cultural event. Since the shell material was still presumed to have been basket-loaded, hypothesis 2 should hold with respect to radiocarbon values for the contents of the layers; the radiocarbon values would not necessarily correspond to older layer/earlier shell date and vice versa.

Under the cemetery hypothesis, a formalized burial enclave would have been used only as a place to dispose of the dead. Under these circumstances:

(3) Evidence of activities unrelated to a mortuary program should not be found in the same space as the burials during the period in which the place served as a burial site. This would include, for example, evidence of residential structures and *in situ* tool manufacturing. The focus here would be on archaeological features rather than individual artifacts inasmuch as artifacts could have been brought in with the shell midden material. Conversely, with regard to corporate control of critical resources, evidence of features reflecting other activities pre-dating or post-dating the burials would not be unexpected. Any evidence of *in situ* burning found within the shell deposit should be correlate temporally with the burials.

The second hypothesis stemming from the burial enclave model states that most or all of the individuals found at Somenos Creek would have been of high social status. Testing this hypothesis involved an inter-site comparison of data on the False Narrows and Somenos Creek burials.

Data Collection and Analysis

Mitigation and research objectives for the Somenos Creek site required a methodological approach which would permit an examination of the various conductivity features revealed by the remote sensing survey, and as well provide assurances that all archaeologically significant features of the site would be exposed and systematically evaluated. The fieldwork, therefore, was divided into four general stages. The first stage began with site mapping followed by a program of controlled, manual excavation in areas of potential archaeological significance identified through remote sensing. This entailed the excavation of four 2x2m and two 1x1m units by arbitrary 5, 10, or 15cm levels within stratigraphic layers (Figure 3). Excavated materials were screened at a rate of 50 percent using 6.5mm mesh. This stage provided controlled measures of the content, composition, and stratigraphy of the shell deposit and the opportunity to collect the radiocarbon samples necessary to date the shell deposit and attendant features. In addition, excavations conducted at this stage served to test the efficacy of remote sensing in a Northwest Coast archaeological context.

The second stage of fieldwork involved wide-area excavations using a small tractor equipped with a front-end loader and a back hoe with a 26 inch wide smoothing bucket (a wide back hoe bucket with a toothless cutting edge) designed to allow the efficient removal of material in thin layers. Mechanical skimming allowed us to remove quickly the overburden from a substantial portion of the shell deposit, at which point we returned to a program of controlled excavations for the third stage of investigation.

In the third stage, a series of 0.5m square units were excavated in order to probe particular features of the shell deposit revealed in the course of mechanical skimming (Figure 3). Again, these units were excavated in arbitrary levels within stratigraphic layers. A number of the features probed by means of these small units turned out to be archaeologically significant, in which case the excavation units were expanded accordingly. All pit fill material from burials was screened through 3.2 mm mesh; all excavated materials unrelated to burials was screened using 6.5mm mesh.

Mechanical skimming of the site commenced again in the fourth stage of fieldwork. The primary objective in this stage was to excavate the balance of the cultural deposits in order to locate remaining burials. The back hoe operator would position the machine and skim through all cultural deposits within reach of the back hoe boom in arbitrary levels of approximately 10cm. The machine would then be repositioned and the process repeated, with excavated material dumped into the pit formed by the previous excavation episode. Again, burial features encountered in this skimming operation were recovered through controlled manual excavation, with all burial pit fill screened through 3.2mm mesh.

Laboratory analysis of archaeological material included the description, typing and cataloguing of artifacts, the identification and quantification of shellfish and other faunal remains, and the submission of radiocarbon samples for dating. Stable carbon isotope analysis provided data on dietary practices. Metric and non-metric data on human remains garnered from an osteological analysis provided insights into the demographic profile, mortality pattern, and paleopathologies of the Somenos Creek individuals.

CHAPTER 3 EXCAVATION RESULTS

Radiocarbon Dating and Site Chronology

Chronological information on the Somenos Creek site is provided by twelve radiocarbon assays (Table 1). Ten of the twelve radiocarbon samples were recovered during the 1994 investigations and submitted for analysis to the Department of Geology Radiocarbon Dating Laboratory at Washington State University. The other two dates derive from the 1992 salvage operation (Warner 1993).

Values on human bone collagen have been corrected for isotopic fractionation, as has the value for marine shell provided by Warner (1993). All dates have been calibrated using Radiocarbon Calibration Program Rev 3.0.3c developed by the Quaternary Isotope Lab at the University of Washington (Stuiver and Pearson 1993). Uncorrected, corrected and calibrated values from radiocarbon assays appear in Table 1. Unless stated otherwise, I will use the uncalibrated, corrected radiocarbon values for bone, and the uncalibrated values on charcoal throughout this paper.

With the exception of sample WSU-4618, each value is deemed to date the feature or stratigraphic unit with which it was associated. WSU-4618 was recovered from the bottom of Layer D some 40cm below the shell deposit, yet is younger than four other dates associated with the shell deposit. WSU-4618 was therefore rejected.

Results of the radiocarbon analysis show that prehistoric use of the Somenos Creek site divides readily into three temporal periods, each reflecting a distinct cultural activity (Figure 4). In order to facilitate data presentation and discussion, I have labelled these three chronological/activity units Periods I, II and III. Period I begins approximately 4000 radiocarbon years B.P. and ends with the initial deposition of shell at the site around 2300 B.P. Period I is the earliest, longest, and least understood segment of the archaeological sequence at the Somenos Creek site. Period II immediately follows Period I, and covers the four hundred and fifty year period which included the development of the shell deposit at the site. The first dated burial marks the transition to Period III some 1850 years ago. For the following five or more centuries, the Somenos Creek site was used exclusively as a place to bury the dead. There is no archaeological evidence of prehistoric use of the site following Period III.

Table 1. Radiocarbon dates for the Somenos Creek site.

Lab #	Material	Archaeological Association	14C Age (years B.P.)	Corrected for Isotopic Fractionation	Calibrated Age (years B.P.) 1 Sigma	Relative Contribution to Probabilities
[1]WSU-4618	charcoal	Layer D	2080 ± 70		2123-1952	1.00
WSU-4619	charcoal	shell deposit	2230 ±70		2320-2284	0.21
					2276-2151	0.79
WSU-4620	charcoal	Feature A	3750 ±190		4403-4370	0.05
					4356-3872	0.95
WSU-4621	charcoal	shell deposit	2220 ±70		2317-2222	0.57
					2218-2147	0.43
WSU-4622	charcoal	shell deposit	2190 ±85		2318-2108	0.97
					2084-2077	0.03
WSU-4623	charcoal	burial (Ind. 19)	1335 ±60		1295-1226	0.69
					1215-1179	0.31
WSU-4624	bone	burial (Ind. 23)	1350 ±60	1530 ±60	1500-1466	0.22
					1450-1425	0.16
					1420-1344	0.63
WSU-4625	bone	burial (Ind. 15)	1540 ±70	1720 ±70	1699-1643	0.36
					1638-1541	0.64
WSU-4626	bone	burial (Ind. 20a)	1380 ±70	1560 ±70	1519-1385	0.94
					1368-1358	0.06
WSU-4627	bone	burial (Ind. 22a)	1660 ±60	1775 ±60	1738-1601	0.89
					1596-1574	0.10
[2]AECV-1689Cc	shell	shell deposit	2510 ±70	2100 ±70	2143-1981	0.95
					1971-1958	0.05
[2]Beta-58221	bone	burial (Ind. 1)	1540 ±70	1690 ±70	1696-1648	0.26
					1635-1520	0.74

[1] Rejected.
[2] Samples recovered and reported by Warner (1993).

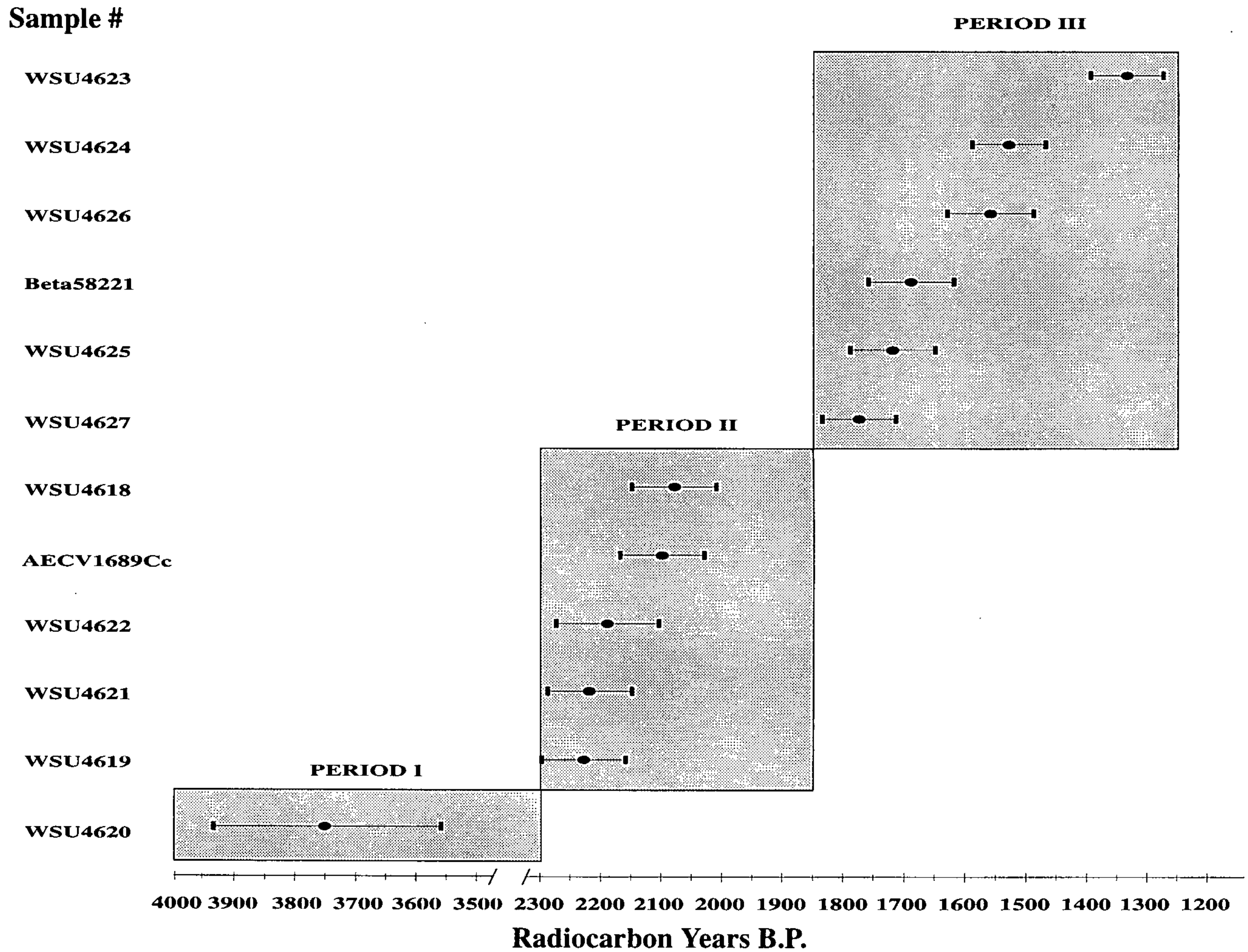


Figure 4. Radiocarbon dates and period-boundary estimates for the Somenos Creek site.

Period I (4000-2300 B.P.)

The remains of what appears to have been a large steaming or roasting oven marked the known initial use of the Somenos Creek site (Feature A, Figure 3). A sample of charcoal (WSU-4620) recovered from a thin, continuous layer of charcoal, ash and oxidized silt near the bottom of a densely packed mat of fire-altered rock (FAR) in Feature A returned a date of 3750±190 radiocarbon years B.P. (Table 1) which places Feature A within the last half of the Charles culture phase (Matson and Coupland 1995; Pratt 1992).

Roughly circular in shape and lenticular in profile, Feature A measured approximately 4.5m in diameter with a maximum thickness of about 30cm. The rocks forming Feature A ranged in size from 2cm angular fragments to small boulders, the largest of which measured 26cm in length. Most of the larger pieces had intact cortical surfaces in addition to angular fracture surfaces produced by thermal stress (Bangs 1995; Latas 1992). Thoms (1989:403) argues that articulated fragments of FAR indicate *in situ* fracturing; conversely, the absence of articulated fragments of angular rock suggests the reuse of rocks. No articulated fragments of angular rock were observed in the excavated portion of Feature A. Many of the rocks composing Feature A were unfractured, and a few were soot-stained. Fragments of charcoal were found in abundance scattered throughout the rocks of Feature A and the surrounding matrix. There was no evidence of a pit or depression under the rock mass.

Dana Lepofsky (Department of Archaeology, Simon Fraser University) identified two wood species in the charcoal sample from Feature A that was submitted for radiocarbon dating (WSU-4620)-- western red cedar or western hemlock (*Thuja plicata* or *Tsuga heterophylla*), and western crabapple (*Pyrus fusca*). Crabapple appears to have been an enduring element on the landscape in the vicinity of the Somenos Creek site, given that crabapple wood charcoal was recovered from another feature on the site that was composed in part of fire-altered rock. Feature G (Figure 3) post-dates Feature A by some 1700 years, and resembled closely the image of Coast Salish steaming pits described in ethnographic accounts (Smith 1940; Barnett 1955; Thoms 1989; Turner 1995) and excavated at other Northwest Coast sites (Bangs 1995; Latas 1992; Thoms 1989). A shallow, oval pit approximately 2m in diameter by 0.6m deep penetrated the silt layer underlying the shell deposit. Fire-altered pebbles and cobbles embedded in a 30cm thick charcoal-rich black matrix lined and partially filled the pit. Lenses of charcoal were also evident in a profile of the pit fill. The number of discrete lenses of charcoal and the thickness of the pit fill suggests the feature was used repeatedly, probably as a steaming or roasting pit. A thin band of charcoal and ash visible in the north profile of the excavation unit extended up the side wall of the pit, and is thought to represent one of the first burning episodes associated with Feature G. A radiocarbon sample (WSU-4621) extracted from this layer of charcoal and ash returned a date of 2220±70 radiocarbon years B.P. (Table 1).

Period II (2300-1850 B.P.)

Two of the four dates considered to date reliably the shell deposit, WSU-4619 (2230±70 B.P.) and WSU-4621 (2220±70 B.P.), were from charcoal samples recovered from separate thin bands of charcoal and ash directly underlying the shell deposit. WSU-4619 was collected from the west wall of Excavation Unit 9 (Figure 3); WSU-4621 came from the north wall of Excavation Unit 11k more than twelve meters away from Excavation Unit 9 (Figure 3). WSU-4621 was extracted from a layer of charcoal and ash that lined the side wall of Feature G. The shell deposit capped Feature G and rested directly on top of the charcoal and ash stratum which yielded WSU-4621. WSU-4619 and WSU-4621 are assumed to correspond to the initial deposition of shell at the site.

Sample WSU-4622 (2190±85 B.P.) was collected from a charcoal-rich lens found within and at the approximate mid-depth of the shell deposit in Excavation Unit 9, within two meters of the location which yielded WSU-4619. Taken together, the dates provided by WSU-4619, WSU-4621 and WSU-4622 reflect a calibrated age range from 2077 to 2303 radiocarbon years B.P. for the lower half of the shell deposit (Table 1). At 1 sigma, the calibrated and corrected date of 1981 to 2143 B.P. on marine shell collected by Warner (1993) overlaps with the date range on the three samples tested by the WSU radiocarbon lab. Unfortunately, Warner (1993:22) provides no information on the stratigraphic position of the shell sample submitted for dating other than to note its association with a human burial.

Though no dates are available to provide a fix on when deposition of the shell ceased, the close correspondence of the four available dates and the lack of stratigraphic evidence for a hiatus in the deposition of shell material indicates the shell deposit developed continuously over a relatively short period of time. Extrapolating from the available chronological information, it seems reasonable to suggest that the shell deposit at the Somenos Creek site developed over a 400 to 500 year period beginning around 2300 years B.P. This age range corresponds to the first half of the Marpole culture phase (2400-1000 B.P.) (Burley 1980; Matson and Coupland 1995; Thom 1995).

The Shell Deposit

Stratigraphy and Composition

The 3m wide trench forming the southern boundary of the shell deposit (labelled "Trench A" in Figure 2) is a product of the land modification activities which first revealed the presence of the Somenos Creek site in 1992. Mechanical and manual scraping of the north wall of Trench A along with further manual excavation and mechanical trenching of other portions of the site in 1994 exposed over 125 linear meters of wall profiles. These profiles provided a clear view of the stratigraphic results of natural and cultural deposition at the site. Since the central question regarding the Somenos Creek site focuses on the nature of the shell deposit and its relationship to the human burials, I limit my description of site stratigraphy in this paper to the shell deposit. A full description of the Somenos Creek site stratigraphic pattern may be found in the report on the 1994 excavations (Brown 1996b).

The Somenos Creek shell deposit took the form of a continuous, homogeneous layer of crushed shell measuring approximately 25m east to west and extending approximately 30m north from Trench A (Figure 2). The north wall of Trench A provided a profile view of the shell stratum along the east/west axis. Along this dimension, the shell deposit appeared in profile as a low symmetrical mound overlain by the A-horizon. The interface between the shell deposit and the underlying stratum was distinct and almost horizontal along the east/west axis. The eastern and western extremities of the shell stratum appeared in the north wall profile of Trench A as a thin stratum, rising gradually to a maximum thickness of 0.30m at the mid-point of the stratum along this dimension.

Trench B (Figure 3) provided a view of the shell deposit along the north/south axis. Here, the deposit appeared as a wedge-shaped stratum, with the thickest portion at the southern edge adjacent to Trench A where an undetermined portion of the deposit had been cut away by a bulldozer in 1992. The shell deposit feathered out gradually toward the north. Along this dimension the interface of the shell stratum with the underlying silt layer was again distinct, though the interface plane declined slightly from north to south, corresponding to the natural 5 degree incline of the slope.

The internal stratigraphy of the Somenos Creek shell deposit exhibited some continuous discrete strata, but for the most part consisted of discontinuous layers and lenses of consolidated coarse to finely crushed shell in a very dark gray (10YR 3/1) silt matrix (Figure 5). Intact and largely intact shellfish valves were found scattered throughout the deposit. With few exceptions, these intact and large fragments were positioned horizontally to the bedding plane of the deposit (Figure 5). Occasionally, excavators encountered a discrete cluster of whole and nearly whole shellfish valves of a single species. Shell content of the deposit ranged from 5-85 percent by volume. The shell fraction consisted of the remains of cockles (*Clinocardium nuttallii*), bay mussel (*Mytilus edulis*), little-neck clam *(Protothaca staminea*), butter clam (*Saxidomus giganteus*), a variety of barnacle species (*Balanus spp.*), and limpets (*Fissurella volcano*) ranging from fine fragments to intact valves and plates. A seasonality study based on a small sample of 9 pieces of shell (3 each of butter clam, little neck clam, and basket cockles) shows they were gathered between early spring and late summer (Vanags 1996).

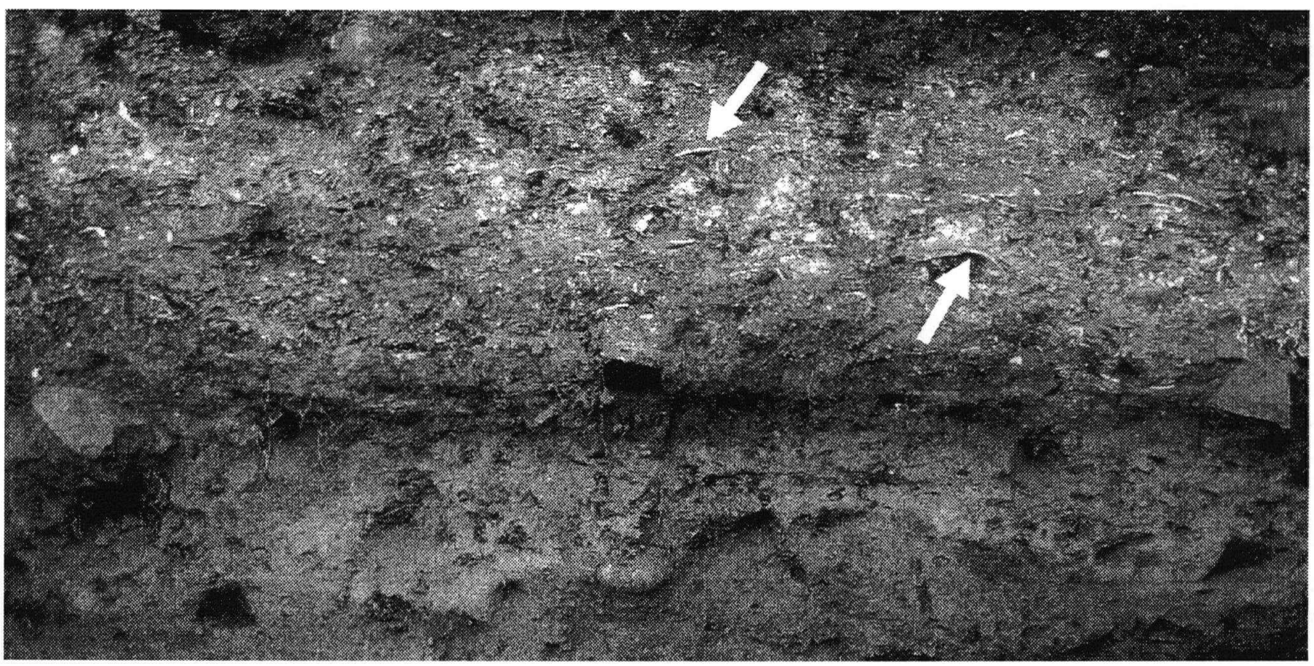


Figure 5. Profile view of the Somenos Creek shell deposit. Arrows indicate examples of shell fragments positioned horizontally to the bedding plane of the deposit.

Cultural Contents

The shell deposit produced artifacts of stone and bone consistent with the Marpole culture (Burley 1980; Mitchell 1971). Abraders of various sizes and shapes dominate the artifact assemblage, followed by the products of ground stone and bone industries, including ground stone and bone points, ground stone knives, celts, bone awls and toggling harpoon valves. Celts and palm-size abraders indicate woodworking activities likely took place at the site as well. One of the most interesting artifact classes associated with the shell deposit is a collection of chipped slate blades. Some of these have abraded surfaces, and all appear to be preforms for large ground stone blades or points. The abundance of abraders, the relative abundance of these so-called preforms, and a dearth of chipped slate debitage indicates tool blanks were probably roughed out elsewhere and brought to the site for final finishing.

NISP (number of identified specimens) values for vertebrate fauna show that fish remains dominate the assemblage associated with the shell deposit. They are represented by such species as Pacific herring (*Clupea harengus pallasi*), salmonid (*Oncorhyncus* sp.), and spiny dogfish (*Squalus acanthius*). Mammalian remains include those of deer (*Odocoileus* sp.), harbour seal (*Phoca vitulina*), and unidentified fragments of large and small land mammals. Of the few bird remains recovered from the shell deposit, most were waterfowl (Family *Anatidae*).

Fire-altered rock was found dispersed throughout the layer, as well as in several dense lenses and concentrated patches. Lenses and thin, continuous bands of charcoal and ash were also encountered, as were lenses of burned shell and ash. Fragments of charcoal were ubiquitous throughout the shell deposit. The shell deposit also contained a few scattered fragments of human bone.

Period III (1850-1250 B.P.)

Shortly after the period which witnessed the deposition of shell, the Somenos Creek site began to be used as a place for burying the dead. Five corrected dates on human bone collagen range from 1530± 60 (WSU-4624) to 1775±60 (WSU-4627) radiocarbon years B.P. (Table 1). The addition of a sixth date on wood charcoal associated with Individual 19 (WSU-4623) shifts the early end of the range slightly to 1335±60 B.P., though this figure dates wood thought to have been used in a partial cremation rather than the human remains. In any event, disposal of the dead was an activity carried out at the Somenos Creek site for at least 250 years. Mortuary activities at the Somenos Creek site occurred during the second half of the Marpole phase and mark the last known use of the site in prehistory.

Introduction

This study focuses on the remains of fourteen individuals fully excavated in 1994. I will not discuss the ten burials encountered, but not fully excavated, other than to note that at least four were slab burials and the rest were unelaborated shallow pit burials.

As mentioned earlier, land modification activities destroyed a portion of the southern or down-slope side of the shell deposit (Figure 2). Precisely how much was destroyed is unknown. A 1992 site survey revealed the presence of a narrow strip of shell along the bank of Somenos Creek (Figure 2) (Warner 1993), a feature which may mark the original southern extent of the shell deposit prior to land development. How many, if any, burials the missing portion of shell deposit contained is not known. However, based on the number of burials recovered and/or encountered in the 1992 and 1994 excavations, it seems likely that at least fifty individuals were interred in the intact portion of the site, that is the area north of Trench A (Figure 2).

The human remains recovered at Somenos Creek in 1994 were in generally poor condition. In many cases crania and long bones were crushed and fragmented; some remains dissolved into powder during recovery, and some skeletons were incomplete. Moreover, all of the burials were encountered in the course of mechanical skimming, an operation which all too frequently damaged the burials prior to controlled excavations. The overall poor condition of the human remains and the time constraints arising from the desire on the part of the Cowichan First Nation to re-inter the remains as soon as possible set limits on obtainable data. Nonetheless, analyses produced enough information to make some useful statements regarding the burial population at Somenos Creek.

Table 2. Burial features and population data for the Somenos Creek site (1994 excavations).

No.	Age	Sex	$\delta^{13}C$	Radiocarbon Age (Years bp)	Interment Type	Body Pos.	Cranial Deformation	Grave Inclusions
15	17-25	female	-13.9	1715 ± 70	pit(?)	flex	?	175 ground stone beads
16	2.5	?	-16.6	?	cairn	flex	?	no inclusions
17	15-20	female	-14.8	?	pit(?)	flex	?	no inclusions
18	15.5-16.5	?	-13.6	?	multiple/pit	flex	possible fronto-lamb.	no inclusions
18a	2.5	?	?	?	multiple/pit	disartic.	fronto-lamb.	332 ground stone beads; 71 pieces dentalium shell
19	?	?	-19.9[1]	1335 ± 60	cairn	semi-flex	?	?
20a	35-39	female	-13.9	1560 ± 70	multiple/pit	disartic.	fronto-lamb.	1 hammerstone
20b	16-25	?	-14.6	?	multiple/pit	flex/ disartic.	fronto-lamb.	?
23	3-4	?	-14.6	1515 ± 60	multiple/pit	flex	?	693 ground stone beads
21	?	?	?	?	slab	flex	?	1 worked bone fragment; 1 obsidian microblade
22a	~45	male	-18.3	1765 ± 60	multiple/pit	disartic.	none	22 ground stone beads
22b	25-35	female	-13.7	?	multiple/pit	flex	?	1 nephrite adze
22c	~5	?	-14.8	?	multiple/pit	disartic.	?	9 ground stone beads
25	?	?	?	?	box	semi-flex	?	no inclusions

[1] Rejected

Human Osteology and Isotope Analysis

Appendices A and B in the site report (Brown 1996b) contain, respectively, the reports on the osteological and isotope analysis of the Somenos Creek population conducted by Brian Chisholm at the University of British Columbia. Some of the results from Chisholm's analysis are presented here in Table 2.

Briefly, Chisholm found the Somenos Creek individuals to be generally more robust in comparison to the individuals of the Marpole period recovered from the Tsawwassen site on the British Columbia mainland. He is quick to caution, however, that the measurable Somenos sample contained only five poorly preserved adults, making it impossible to state definitively whether the two groups represent the same or different populations. Non-metric traits, on the other hand, provide no indications that the Somenos Creek individuals were from a different population than those from

Tsawwassen on the British Columbia mainland. Chisholm suggests the two groups may represent different lineages within the same population.

Turning to the isotope analysis, Chisholm found that, with two exceptions, the eleven measurable individuals from the Somenos Creek site obtained about 80±10 percent of their protein from marine sources. This is about 5 percentage points lower than the expected values for people living in the Gulf Islands and lower Fraser River region and suggests that the individuals interred at Somenos Creek were subsisting at a lower trophic level than others in the region. For example, isotopic values for 14 individuals found at the Departure Bay site near Nanaimo averaged -13.4 (Arcas 1994) compared to a mean value of -14.2 for the Somenos Creek burial sample. The variation in the two values represents a difference of one trophic level in the dietary practices between these two groups.

The most likely explanation for the unexpectedly low carbon isotope values for the Somenos Creek sample is that they were consuming less salmon and more lower trophic level marine foods such as shellfish. Another possible explanation is that the people buried at Somenos Creek had relied more heavily on plant foods and/or terrestrial animals than other people in the region. The two outliers in the sample, Individuals 16 and 22a, had marine protein intake values of 52 percent and 32 percent respectively. C:N ratios for these two individuals are within the acceptable range, which means that these values are the result of actual dietary differences; they ate more terrestrial protein than the other individuals. Individual 16 is an infant. Individual 22a is an adult male and the oldest member of the group.

The possibility that age was a factor in diet cannot be ruled out (see for example Jenness 1934-35:71 on historic variability by age in Coast Salish diets). However, it is worth noting that Individual 18, an infant of approximately 16 months, Individual 23, an infant of three or four years, and Individual 22c, a child of approximately five years of age, all exhibit stable carbon isotope values which correlate closely with most of the adult members of the burial sample. In addition, Cybulski (1993) reports a single carbon isotope value from the 1992 salvage project (Individual 1) of -15.5 per mil, which translates to a protein intake from marine sources on the order of 65 percent.

This individual was an adult male between 24 and 28 years of age. The fact that remarkably low stable carbon isotope values cross-cut age and sex lines suggests that these factors alone cannot explain the apparent dietary difference, at least in this small sample.

A gradual shift in emphasis on resource exploitation may explain the three incongruous carbon isotope readings for Individuals 1, 16, and 22a. Direct radiocarbon values are available on two of these three individuals (Individuals 1, Beta-58221 and Individual 22a, WSU-4627). The radiocarbon values show the individuals to have been among the earliest dated burials for the site, with Individual 22a *the* earliest burial. The difference in diet reflected in the stable carbon isotope values may therefore represent a change in dietary practices over time rather than variability in diet among members of the group at a particular moment. Again, the sample is too small to allow anything more than speculation as to the possible cause of the observed variability in diet.

Burial Pattern

With one exception (Individual 25), all the burials excavated in 1994 showed evidence of a shallow pit, though a number of variations on this common theme will be described. In all cases where it was possible to make the determination, the burial pits appear to have been excavated into the surface of the shell deposit, though most pits, because the shell layer was thin, intruded into the underlying strata. Most of the burials were located within 10 meters of Trench A along the southern margin of the shell layer (Figure 2). This may reflect relatively better preservation conditions due to a thicker layer of shell in this area rather than the reality of an ancient burial pattern.

Five interment types characterize the excavated burials from Somenos Creek: (1) slab burial, (2) unelaborated individual shallow pit burial , (3) multiple interments in a shallow pit, (4) box burial, and (5) cairn burial (Table 2). With one exception, this typology follows that used by Burley (1989) for the False Narrows burial sample. In a departure from Burley (1989:56), I treat multiple burials here as an exclusive burial form. I take this approach based on evidence from Somenos Creek which shows multiple burials to be a deliberate practice, with examples occurring regularly throughout the period during which the site was used as a cemetery. Some researchers reason that individual and multiple burials each have distinct implications for socio-cultural interpretations (Keswani 1989; O'Shea 1995).

Slab Burial (n=1)

The fully-excavated slab burial at the Somenos Creek site featured a single boulder or stone slab weighing some 20 kg over a shallow burial pit. Some of the partially excavated slab burials appeared to follow this pattern as well. In all cases where body position could be determined, the individual had been interred in a flexed or semi-flexed position.

Pit Burial (n=2)

Unelaborated pit burials formed the second, and perhaps most problematic, burial class at the Somenos Creek site. It is difficult to gauge whether the absence of a boulder over a burial pit reflected the actual burial practice, or is attributable to historic land modification and agricultural activities. Mary Stone (personal communication 1994) reported to me that her grandfather was the first to farm the land on which the site is located. This occurred in the 1870's. She related how, after especially cold winters, human remains and artifacts would appear on the surface. Given how close the shell deposit/burials are to the ground surface, boulders capping burials would have projected from the surface as well. It therefore seems likely that, given their size, any such boulders would have been removed so as not to damage farm implements. In addition, two burials (Individuals 15 and 17) were encountered in Trench A, where the shell deposit had been removed by land-clearing activities in 1993. Though categorized as pit burials, this assignment carries with it the caveat that any boulders would have been displaced prior to our excavations. In short, the known and probable historic disturbance of boulders capping burials makes the so-called unelaborated pit burials at the Somenos Creek site the most analytically problematic of the five burial types.

Multiple Interment (n=3)

Two shallow-pit multiple interments of three individuals each, and one containing two individuals were encountered in the course of the 1994 excavations. A careful reading of the report by Warner (1993) on the 1992 salvage operation indicates that at least one set of burials recovered at that time also may be interpreted as a multiple burial.

One of the multiple interments excavated in 1994 included an adult female, and an infant and juvenile of indeterminate sex (Table 2). The partial, unarticulated remains of Individual 20a, an adult female, were found adjoining, almost touching, the articulated lower skeleton of Individual 20b, a juvenile. Found immediately above these remains was the flexed, fully articulated skeleton of an infant, Individual 23 (Figure 6). Clustered adjacent to Individual 23 were the missing skeletal elements, including the crania, of Individuals 20a and 20b (Figure 7). It appears as though the inhumation of Individual 20b resulted in an initial disturbance of Individual 20a. In turn, the interment of Individual 23 resulted again in the disturbance of Individual 20a, and the partial disturbance of the remains of Individual 20b. The skeletal elements of these two individuals removed in the course of digging the burial pit for Individual 23 were re-interred with Individual 23. The re-interred remains of Individuals 20a and 20b were not scattered in haphazard fashion within the pit. Rather, the tight clustering of the remains shows they were probably wrapped or somehow bound together prior to re-interment with the remains of Individual 23 (Figure 7).

The details of this multiple interment point to a series of deliberate acts as opposed to the random, accidental disturbance of burials. Radiocarbon analysis of two of these three individuals shows that, in all likelihood, they were each buried within a short time of each other (Table 2). Finally, 693 ground stone beads formed a multi-strand necklace around the neck of Individual 23, the infant, making it the richest burial encountered in the 1994 excavations (Figure 6). Two other artifacts are assigned to this multiple burial--a hammer stone and a partially worked bone fragment found near the lower-most remains of Individual 20a.

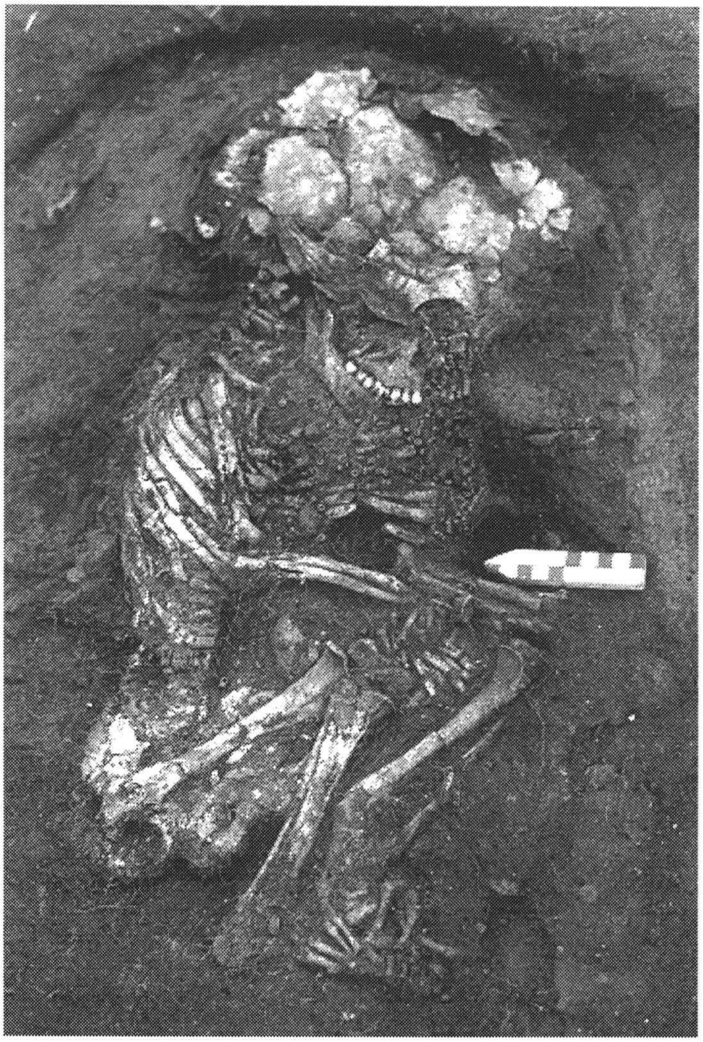


Figure 6. (left) Individual 23. Ground stone beads are visible below mandible.

Figure 7. (below) Clustered remains of Individuals 20a and 20b. Note burial pit rim.

The second multiple interment encountered in the 1994 excavations included an adult male, an adult female, and a child of approximately 5 years of age (Individuals 22a, 22b and 22c). The remains of all three were largely disarticulated and intermingled. Artifacts associated with this burial include a nephrite celt and a number of ground stone beads (Table 2).

Individuals 18 and 18a, an adolescent and an infant of unknown sex, form the third multiple interment encountered in 1994. Unfortunately, the burial was disturbed by the back hoe in the course of excavating Trench B. Several hundred ground stone beads and 71 dentalia shell fragments recovered from the backdirt of Trench B have been assigned to Individual 18a, the infant, based on the fact that no beads were found with the intact upper skeleton of Individual 18.

Of interest is the fact that the richest burial recorded by Warner (1993) from the 1992 salvage operation was also that of a child that appears to have been part of a multiple interment. A necklace composed of 17 dentalia shell fragments adorned Individual 4, a 2.5 year old of indeterminate sex. In addition, a small copper wafer found in the screen was attributed to Individual 4 based on copper salt stains on the front of the mandible (Cybulski 1993; Warner 1993). Warner does not indicate whether the remains of Individual 4 were articulated. She does report, however, that the remains of Individual 4 "were interred directly below those of Individual 1"(Warner 1993:14), represented by the articulated, flexed *post-cranial* remains of a 24-28 year old adult male. The cranium of Individual 1 was recovered along with the disarticulated remains of two adults, one female and one probable female, and a juvenile of approximately 10 years of age. A radiocarbon assay on bone collagen from Individual 1, the only dated burial from the 1992 salvage operation, returned a corrected date of 1690±70 B.P. (Beta-58221) (Cybulski 1993; Warner 1993).

Radiocarbon dates on Individuals 23 and 20a show them to have been interred around the same time, perhaps within a few decades of each other. This leads me to infer a similar pattern for each of the other three multiple interments, whereby each represents a series of inhumations over a fairly short period of time intended to group a particular set of individuals. In addition, available radiocarbon values on the multiple interments (Table 2) shows this to have been an ongoing practice at Somenos Creek, covering virtually the entire period during which the site served as a cemetery.

Box Burial (n=1)

The fourth interment type found at Somenos Creek is represented by a single box burial. Individual 25 was found in a semi-flexed position embedded within a silt matrix stained several shades darker than the surrounding Layer D material (Figure 8). This dark patch was clearly rectangular in shape with three straight sides and three distinctly right-angle corners. The fourth side, the end near the head, was irregular rather than straight. A single boulder disturbed by the back hoe is thought to be associated with this burial, and likely served either as a grave marker or lid weight. Burley (1989:55) suggests that such boulders may have served as lid weights for box burials or lids for box burials without wooden lids, though he questions the need for lid weights for below-ground burials. An alternate explanation is that the boulders served as grave markers, an explanation I would offer as well to account for other burials at the site which featured boulders and rock slabs.

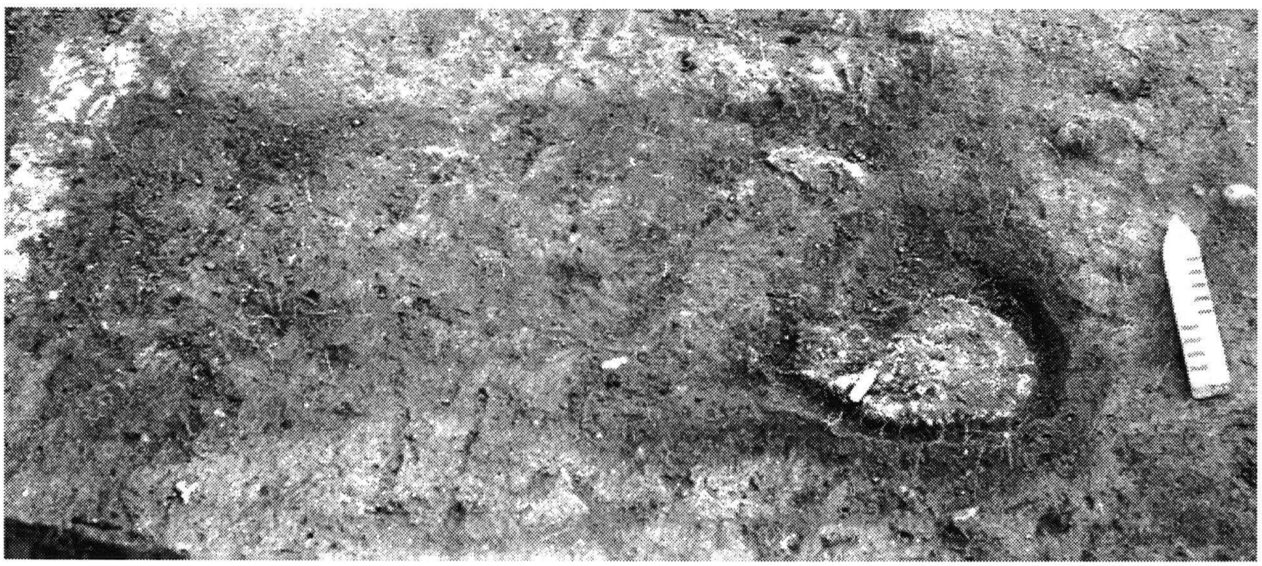


Figure 8. Box burial of Individual 25.

Cairn Burial (n=2)

Two cairn burials represent the fifth burial type. They were located within half a meter of each other, and both were partially disturbed by the back hoe during the excavation of Trench B. Three boulders unearthed by the back hoe were associated with these two burials, though there is no way of knowing to which burial each boulder belonged. Controlled excavation revealed additional boulders *in situ* over each burial. Two boulders, each weighing approximately 20kg, along with numerous cobbles, were found in place over Individual 16, an infant interred in a flexed position. One of the boulders forming the intact portion of the cairn showed heavy abrasion wear on one surface. No artifacts were found in clear association with this individual.

The intact portion of the cairn capping Individual 19 featured four boulders, again each weighing approximately 20kg. Carefully positioned atop the burial cairn was the charred fragment of a large mammal cranium (Figure 9). Unusual in and of itself, this cairn burial is reminiscent of a burial described by Burley (1989:56) at False Narrows in which a number of intact horse clam valves were found clustered on top of a small cairn.

Figure 9. Rock cairn over Individual 19. Note the charred cranial fragment of a large mammal resting on top of the center boulder. The pit outline is visible along the bottom and right sides of the photo.

The remains of Individual 19 were extremely fragile and showed evidence of having been burned. Oxidized soil lined the burial pit and overlaid the burial itself (Figure 9). The hottest portion of the fire appears to have been concentrated near the cranium, which was white. The lower extremities were black and yellow-brown, colours indicative of lower burning temperatures (McCutcheon 1992). Several large chunks of charred wood accompanied the burial, giving the impression that the body was burned after having been placed, in a semi-flexed position, in the shallow pit. Incomplete combustion of the wood and the oxidization of some of the overlying pit fill indicates the burial pit was probably filled in before the fire was extinguished. No artifacts were found in association with this burial.

CHAPTER 4 SUMMARY AND INTERPRETATION OF RESULTS

Introduction

According to the burial enclave model, the placement of the shell deposit and the burials should have been concurrent events, even though the shell matrix itself could have pre-dated the burials by quite some time. Archaeological investigations revealed a chronological sequence for the site which shows that the creation of the shell deposit and the placement of human burials were discrete, temporally sequential episodes. The excavations also exposed evidence of human activity which predated the shell deposit by at least 1600 years. Since the focus of this study is on the relationship of the shell deposit to the human burials, I limit my review and interpretation to Periods II and III in a section which includes an evaluation of the research hypotheses. The results lead me to conclude that, by at least 1800 years ago, the Somenos Creek site was part of a social system in which cemeteries served to express corporate rights to resource locations through ancestral descent.

Summary and Archaeological Interpretation of Periods II and III

Temporal Relationship

Figure 4 illustrates in graphic form the manner in which radiocarbon dates for the Somenos Creek site cluster in accordance with each of three distinct activities reflected in archaeological remains. Of interest in this study is the temporal relationship between the activities related to shell deposition and those related to disposal of the dead. Exactly when people stopped depositing shell on the site is not clear. However, the dates for the shell deposit and the dates for the human burials form two discrete clusters, and the relationship is sequential from older shell material to younger burials. A Monte Carlo two sample test for significance using a mean value of 2213 for the three radiocarbon dates on the shell deposit against the six values on human burials showed that the mean value (2213) came up only 13 times out of 500, or 2.6 percent of the time. This translates to a probability of only 0.026 that the two sets of dates come from the same population.

Period II. The Shell Deposit

A comparison of the ranges for radiocarbon dates on wood charcoal associated with the shell deposit (WSU-4619, WSU-4621, WSU-4622) shows that all three dates overlap significantly at 1 sigma. The dates cluster so closely in fact that they are of little value in terms of testing the hypothesis that the shell deposit may have been imported as crushed shell. They may or may not reflect the mixing of shell material assumed to occur in a process of removal, transportation and re-deposition. However, the two earliest dates do correspond with the bottom of the shell deposit against a later date on the mid-point of the deposit. In addition, each sample was extracted from a clearly defined band or lens of charcoal and ash, which is not the sort of stratigraphic patterning likely to occur if the entire shell deposit had been imported in a single event.

Neither the stratigraphic nor the radiocarbon data on the shell deposit indicate the mixing expected with basket-loading. The discontinuous layers and lenses of crushed shell interlaced with thin bands of charcoal and ash, the small, discrete clusters of shellfish valves of a single species, and the orientation of intact or nearly intact shell valves in a position horizontal to the bedding plane of the deposit are indicative of the continuous, though gradual, *in situ* development of a shell midden. This interpretation is further supported by the presence of burned shell and ash lenses within the shell deposit.

The fact that the shell deposit stratigraphy did not conform to expectations does not, in and of itself, constitute sufficient reason to reject the hypothesis that the shell had been imported in order to designate a burial enclave. In stating the hypothesis, I suggested that shell may have been imported in small quantities over a long period of time as part of a mortuary ritual for each individual interred at the site. This alternate scenario is not, however, supported by the chronological data. The three dates on three distinct bands of charcoal associated with the shell deposit show them to be at least three hundred years older than the first dated burial. Further, these dates on wood charcoal overlap at one sigma with the corrected date on marine shell, indicating that the shell forming the deposit was approximately contemporaneous in age with the wood charcoal forming the bands observed within the shell deposit (Table 1).

Taken together, the radiocarbon and stratigraphic evidence supports the view that the Somenos Creek shell deposit was a refuse midden which developed gradually and continuously over four or five centuries, no doubt in association with a small settlement. As mentioned earlier, recent land modification activities destroyed the down-slope portion of the shell deposit between Trench A and Somenos Creek (Figure 2), the very area in which one would expect to find evidence of dwellings.

The relatively high frequency of abraders in the artifact assemblage supports the view of a base camp type of settlement, as does the wide range of faunal remains, including the relative abundance of marine fish species and, of course, the shell debris itself. The presence of herring, likely obtained in the late winter or early fall, spring and summer-gathered shell fish, and the inferred processing of plant foods available from early summer to late fall indicate the site was or could have been occupied, perhaps annually, from late winter to late fall. The possibility of a relatively permanent, year-round occupation cannot be discounted.

Significantly, none of the recovered burials are associated temporally with the occupation which resulted in the formation of the shell deposit. Instead, and for some as yet unknown reason, about 1850 years ago site use shifted abruptly from settlement to cemetery.

Period III. The Cemetery at Somenos Creek

The Somenos Creek burial pattern bears a strong resemblance to the larger False Narrows sample analyzed by Burley (1989) in terms of both burial types and variability in artifact associations. Approximately 25 percent (n=17) of the Marpole-phase burials from the False Narrows site contained grave goods, compared with approximately 50 percent (n=8) of the sample from Somenos Creek. In Table 3, I have ordered the Somenos Creek sample according to the criteria of relative abundance and relative value of artifacts established by Burley (1989:59-61).

Though quite similar, the two samples differ in two aspects. First, burials containing what Burley classifies as utilitarian artifacts appear at a higher frequency in the Somenos Creek sample (n=3; Individuals 22b, 20a, and 21) relative to the much larger False Narrows sample (n=1). Of further note is the fact that of those burials containing grave goods, individuals are associated either with wealth items or utilitarian items, but not both.

The second aspect in which the two samples differ is in the range of wealth artifact types, and the relatively greater "richness" of the high-status False Narrows burials. This disparity between the two samples may be a product of the difference in sample size. Neither of these two aspects hinder an analysis of the Somenos Creek sample for social stratification using Burley's approach. On the contrary, the appearance of utilitarian artifacts and the exclusivity of wealth and utilitarian artifacts to particular individuals aids in the analysis.

Table 3. Somenos Creek individuals ranked by grave good association (1994 excav.).

No.	Age	Sex	Radiocarbon Age (Years bp)	Interment Type	Body Pos.	Cranial Deformation	Grave Inclusions
23	3-4	?	1515 ± 60	multiple/pit	flex	?	693 ground stone beads
18a	2.5	?	?	multiple/pit	disartic.	fronto-lamb.	332 ground stone beads; 71 pieces dentalium shell
15	17-25	female	1715 ± 70	pit(?)	flex	?	175 ground stone beads
22b	25-35	female	?	multiple/pit	flex	?	1 nephrite adze
22a	~45	male	1765 ± 60	multiple/pit	disartic.	none	22 ground stone beads
22c	~5	?	?	multiple/pit	disartic.	?	9 ground stone beads
20a	35-39	female	1560 ± 70	multiple/pit	disartic.	fronto-lamb.	1 hammerstone
21	?	?	?	slab	flex	?	1 worked bone fragment; 1 obsidian microblade
25	?	?	?	box	semi-flex	?	no inclusions
16	2.5	?	?	cairn	flex	?	no inclusions
17	15-20	female	?	pit(?)	flex	?	no inclusions
18	15.5-16.5	?	?	multiple/pit	flex	possible fronto-lamb.	no inclusions
19	?	?	1335 ± 60	cairn	semi-flex	?	?
20b	16-25	?	?	multiple/pit	flex/ disartic.	fronto-lamb.	?

In a departure from Burley, I view ground stone beads as wealth items and, by extension, a status marker. Burley (1989:60) argues that ground shell and ground stone beads could be manufactured locally, and are reported ethnographically as having served as clothing decoration, bracelets, and necklaces. In addition, ground stone and shell beads form a relatively minor part of the overall artifact assemblage for False Narrows, and are far outnumbered in absolute terms by exotic dentalia shells. However, an examination of Table 3 shows that the criterion of relative abundance figures prominently in the distribution of ground stone beads in the Somenos Creek sample, and I therefore include them in assessing relative status.

Returning again to Table 3, and using the criteria of relative value and relative abundance, I have divided the Somenos Creek sample into two groups: Group 1 includes Individuals 23,18a and 15; the remaining burials, including those with no associated artifacts, are included in Group 2. These results mirror those from False Narrows, pointing to the representation of two social strata in the Somenos Creek sample, rather than the single elite stratum stipulated by the burial enclave model. This comparison of the Somenos Creek burial sample to that from False Narrows compels me to reject the hypothesis that the individuals interred at the Somenos Creek site were exclusively of high social status.

In summary, analysis of the Somenos Creek data leads me to reject the priniciple hypotheses of the burial enclave model-- the shell deposit was not imported to the site in order to designate an exclusive burial enclave for social elites. This does not mean, however, that the model can be rejected in its entirety. The model specified that the shell forming the shell deposit would be older than the burials. Ten radiocarbon dates not only support this view, but indicate as well development of the shell midden ceased at or about the time the first of fifty or more individuals were interred at the site. The relationship of the shell deposit to the human burials is diachronic and sequential. In other words, the people responsible for creating the Somenos Creek shell midden did not bury their dead in the midden. This information contradicts the widely accepted view of Marpole burial practices in which "the dead were buried on the inland slope of the village midden"(Borden 1970:105; Burley 1980:28). Once created however, the Somenos Creek shell midden became a cemetery. The discussion that follows explores some implications of these observations.

CHAPTER 5 DISCUSSION

Research results from the Somenos Creek site bear on a wide range of topics concerning Gulf of Georgia prehistory. The discussion here concentrates on two related issues: (1) the commonly held view that midden burials were coeval with occupied settlements, and (2) the socio-economic organization of Marpole society.

Shell Middens, Settlements, and Human Burials

In 1970, Charles Borden produced a five-phase culture history sequence for the Fraser Delta region. Significantly, all information on what Borden then held to be the two earliest phases, Locarno Beach and Marpole, came from excavations of shell midden deposits. Describing the Locarno Beach phase, Borden (1970:99) pointed out that the limited data available from only two sites, (Locarno Beach, type site for the phase, and Whalen Farm) provided no clues to the prevalent dwelling type, though he concluded that the artifact assemblage was not consistent with a woodworking industry on the scale necessary to produce the large plank houses of later periods. Unavailable too were data on the Locarno Beach settlement pattern. The small size of the two sites did prompt Borden to suggest they may have been occupied only seasonally by people living in larger centres located on the Gulf Islands (1970:99).

Clearly cautious in his interpretation of settlement patterns, Borden was much more confident in his explanation of the Locarno Beach mortuary pattern, writing that burial practices "resemble those of later phases. The dead were buried, sometimes with a few grave additions, on the inland slope of the midden mound" (Borden 1970:99).

The much larger body of data available to Borden on the Marpole phase included information on structure and settlement types. Borden was therefore more explicit in defining the relationship between mortuary practices, shell middens, and villages. Data on four sites led Borden to surmise that, in general, the Northwest Coast culture pattern was in place by the Marpole phase. Marpole people resided in villages, likely in large plank houses arranged in rows along the shore. These semi-sedentary groups buried their dead "on the inland slope of the village midden" (Borden 1970:105).

Borden understandably linked occupied villages with their accumulating shell middens. However, inadvertently or otherwise, he conjoins occupied villages and active shell middens with shell midden burials, making all three coeval cultural phenomena. Subsequent influential analyses of Marpole mortuary practices reiterate Borden's remark (Burley 1980:28; 1989:59), giving rise to the untested, though durable, assumption that Marpole villagers buried their dead in the refuse accumulating behind the houses in which they lived.

In a recent overview of Northwest Coast burial practices, Cybulski points out that there is little evidence on which to base the conclusion "that the past, prehistoric midden cemeteries on the British Columbia coast were contiguous and coeval with village occupations, although this is generally assumed by most archaeologists" (1992:167). Drawing on evidence from the Greenville excavations mentioned earlier, Cybulski suggests instead that villages may have been abandoned periodically, "during which time the accumulated shell refuse was used as a repository for the dead from neighbouring occupied areas" (1992:167; see also Arcas 1992:130). In other words, the dead were not placed in active shell middens, but rather in shell midden deposits which served as cemeteries.

Research results from Somenos Creek undermine the long-held assumption that shell midden burials were always coeval with active refuse middens and occupied settlements. The evidence supports instead the view that burial assemblages found in shell deposits may signal the presence during a particular period of a cemetery, not a village or settlement. To be sure, only a portion of the Somenos Creek site remained intact prior to the excavations described here. The intact portion was, however, the inland slope of the settlement midden; presumably dwellings, if present, would have stood between the intact shell deposit and Somenos Creek. Further, the very existence of the shell deposit and associated marine food refuse implies the existence of a settlement. The important point is that none of the burials found in the Somenos Creek shell midden date to the period during which the refuse was accumulating. At some point people abandoned this settlement, and it became a cemetery, a function it served for at least two hundred and fifty years.

This model of shell midden cemeteries appears to account for observations reported for other Gulf of Georgia sites. For example, evidence from recent excavations at the Departure Bay site (DhRx 16) near Naniamo indicates "the burials were placed into the midden deposits after the deposition of the shell during the early Marpole period" (Arcas 1994:130; see also Arcas 1991).

Cemeteries and Corporate Groups in Gulf of Georgia Prehistory

Goldstein (1981), in her version of the cemetery hypothesis, is precise and conservative in stating the conditions under which it accounted for details of the ethnographic societies she studied. She observed that groups do not *necessarily* use formalized burial sites as a means by which to substantiate claims to resources. She did find, however, that when cemeteries occurred, they tended to reflect a corporate group which held rights over the use and control of crucial but restricted resources. These corporate groups were likely to invoke lineal descent from the dead in terms of an actual lineage, or a well-established tradition of rights to the critical resource passing from parent to offspring (1981). In short, cemeteries symbolize corporate membership, rights, and lines of descent and inheritance.

Contrary to criticisms put forth by Hodder (1982:198; see also Pader 1982; Parker Pearson 1982), the cemetery hypothesis does not stipulate a necessary association between residence and control of critical resources. Nor does it state under what conditions resources might become restricted. Finally, crucial but restricted resources may range from arable land, pasture, forests or livestock, to fishing, hunting or gathering sites, to exchange goods.

Archaeologists have found the cemetery hypothesis to be useful in studies of western European Neolithic societies (Chapman 1981) and agricultural societies of the U.S. Southeast (Charles 1995; Charles and Buikstra 1983). How effective is it in accounting for aspects of Gulf of Georgia prehistory? The existence of a cemetery at Somenos Creek, and perhaps other Gulf of Georgia sites, implies a form of socio-economic organization in which corporate groups "function as individuals in relation to property" (Hayden and Cannon 1982:134; see also Hayden et al. 1996). These groups would be expected to invoke ancestral connections in order to validate membership, rights, and inheritance schemes. A brief description of ethnographic Coast Salish social organization and economic practices will serve as a blueprint, and the cemetery hypothesis the analytical tool, for constructing some interpretations for the Somenos Creek data.

The most significant unit of Coast Salish political, social and economic activity was the "genealogical" family (Jenness 1934-1935:52) or "household" (Suttles 1990:464) composed of a set of kin-related nuclear families occupying one or more large plank houses. Jenness (1934-1935:52) likens the Coast Salish extended family to the "Houses" of aristocratic Europe. On occasion, the House might consist of a group of brothers and their married sons and grandchildren, although this configuration seems to have been rare. More commonly, the group also included "first cousins and relatives even more remote" (Jenness 1934-1935:54).

Theoretically, all members of this corporate kin group, whether residing in the village or elsewhere, were descendants of a noble ancestor and as such held rights to the shared assets of the House. These assets took the form of both corporeal and incorporeal property, such as the plank shed-roofed house occupied by House members and others, resource locations, ancestral names or titles, knowledge about family history in the form of stories and songs, and knowledge about ritual procedures (Jenness 1934-1935:52; Suttles 1990:464). In practice, however, control of these resources tended to remain "in one house and tended to become concentrated in the hands of an elite, through a preference for primogeniture modified by a policy of restricting technical, ritual, and other information to children who showed special aptitude" (Suttles 1990:464).

Suttles (1960) characterizes the Gulf of Georgia environment as one in which a wide variety of foods are available, though availability is dependent on three factors—the geographic distribution of various food resources, their seasonal availability, and long-term fluctuations in the availability of critical resources. Suttles documented how part of the adaptive strategy adopted by people of the region to the vagaries of their environment included a pattern of seasonal rounds in which people moved from one resource area to another over the course of a year. He makes it clear that this annual movement was neither haphazard nor random, but rather saw people going to particular places at particular times for particular resources (1960:302; see also Barnett 1955:22). Suttles (1974:271-272) also notes that, in general, individual nuclear families consisting of a husband and wife, their children, and perhaps some unmarried or widowed relatives operated as independent economic units in acquiring and processing resources.

Wason has pointed out that "many aspects of burial practice are overtly symbolic, over and above the sense in which all products of human activity embody meaning [and] ...symbols are unlikely to be arbitrary *in relation to each other*"(1994:67, emphasis in original). Wason's concern is with material markers, but his observation holds as well for behaviour. Following this logic, the overt expression of descent and corporate membership expressed through the cemetery may be repeated in other aspects of a mortuary practice. In the case of Somenos Creek, multiple interments and rich child burials may reflect behaviours as overtly symbolic of descent and corporate membership as the establishment and use of the cemetery itself.

Multiple Interments

The appearance of multiple interments at the Somenos Creek site is consistent with a culture which emphasized lineal descent and ancestry. These multiple interments occurred regularly throughout the period in which the cemetery was in use. Their appearance seems to reflect a deliberate practice designed to group related individuals, no doubt kin, as opposed to the accidental disturbance of older burials (see also Burley 1989:56). Wason, in a study of the few available ethnographic examples of collective or multiple burials, found that the "groupings were always "family" based, either extended or lineage" (1994:89). This was true for the mortuary houses of the Tlingit (Krause 1956:91), and appears to have held as well for the historic use of mortuary houses among the Coast Salish (Barnett 1955; Duff 1952; Suttles 1974; also J.E.M. Kew personal communication 1996).

Eells (1985) documents a case among the Twana in which two children died. It was the intention of the family that the children be buried together, and the remains of their "deceased relatives would be moved and put in with them, in one common grave"(1985:344). On another occasion, again among the Twana, Eells reports that a father intended to bury his deceased young son "in the same grave with a cousin of his, and immediately on the latter, but someone else had left a child on that grave above ground; so it was left undisturbed, and the new grave was dug by the side of the old one"(1985:338). These and other ethnographic examples demonstrate the sort of overt behaviour expected in attempts to express ideas of kinship and connection, as do the multiple burials at Somenos Creek.

Rich Child Burials

Of interest is the fact that the two richest burials in the Somenos Creek sample were infants (Individuals 18 and 23), as was the richest burial encountered by Warner at the Somenos Creek site in 1992. Two, and possibly all three of these individuals were part of multiple interments. These rich child burials contrast with two other infant burials, one with no associated grave goods in an individual grave (Individual 16), and the multiple interment which included Individual 22c, with whom 9 ground stone beads were found. The logic that the appearance of rich child burials signals a degree of ascribed social status implies that the social status of *all children* will be based entirely on ascription; a child can achieve nothing. For example, Barnett writes that among the Coast Salish,

> without a sponsor, it was impossible for a young person to get anywhere socially. His name had to be known in important places. In other words, he had to be among those invited to receive gifts; and the only means to this end was to use the one mechanism which would publicize him and put value upon his name. This mechanism was the distribution of gifts. Since an *early start* was imperative, *parents, uncles, and grandparents* put children forward and acted on their behalf at property distributions while they were still too young properly to represent themselves (1955:142, emphasis mine).

Presumably, the child in a position to distribute wealth within such a system was also in a position to receive it, and take it to the grave. In the recent past at least, it appears as though wealth was not always bestowed directly onto a child simply in the form of gifts from his or her parents or close relatives. Rather the child was drawn into a system of wealth exchange by parents and members of the extended family willing to act as sponsors, or perhaps more accurately, investors.

Hayden (1995), arguing for the functional similarities between child payments and bridewealth, suggests that by making investments in children at critical life stages such as birth, namings, and so on, and in the form of exclusive training for social roles, "the parents (or corporate group) successively raises a child's value, especially as a marriage partner" (Hayden 1995:45). Anyone proposing to marry such a child would have to provide compensation to the investing group for the loss of this explicitly valuable member of the group (Hayden 1995). A similar practice in prehistory would account for the association of rich child burials with multiple interments, and as well provide a context for understanding social stratification among Marpole societies.

Economic Practices and the Corporate Group

A thorough discussion of possible evolutionary trajectories for corporate groups lies well beyond the scope of this paper. I would like, however, to close this thesis by addressing briefly the question of why corporate groups may have emerged as an institution for controlling property, particularly resource locations.

I mentioned earlier the idea put forth by Ingold (1986:137) that tenure emphasizes the manner in which a resource location is woven into the biography of the individual or the history of those groups of which he or she is a member. Tenure seems to describe accurately the sort of economic activities reported by Suttles, in which small groups, usually nuclear families, moved seasonally to traditionally used locations in order to exploit particular resources. By virtue of the regularity of this seasonal round of site use, a specific but very limited number of resource locations would become integral features of a person's biography and a family's history.

However, as Suttles also pointed out, resource availability is not a stable constant on the Northwest Coast. In the western Gulf of Georgia region and possibly elsewhere on the Northwest Coast, the development of the residential corporate group might be a social response to the vagaries of resource availability over time and space (Suttles 1990). Access rights through corporate membership to a wide range of sites would help mitigate problems of resource availability at locations traditionally frequented by a family. Food gathering and processing may have been an activity carried out by the nuclear family, but maintaining over the long term rights of access to more than a few frequently used resource locations would be beyond the capability of such a small group, especially if those rights of access had to be sustained over a period of generations or centuries. The invocation of common ancestry would provide the social mechanism whereby an individual or nuclear family could justify claims to a large number of resource locations as a sort of collective, including those in active use by other families, and those temporarily "abandoned" in favour of other locations.

Somenos Creek provides an example in support of this view. Evidence indicates the site was first used at least four thousand years ago. A shift in site use occurred about 2300 years ago when those using the site no doubt took advantage of the local plant and animal resources, but also travelled to the coast to fish, hunt sea mammals and gather shellfish. All of these marine and coastal resources were transported back to the site. This pattern of site use appears to have lasted for some 500 years, until another shift occurred in which the site fell out of active use in terms of resource exploitation, and instead became a cemetery. The site remained a cemetery for up to 500 years.

The history of the Somenos Creek site could be viewed in a regional context in which site use might fluctuate under social or environmental forces. Under these circumstances, a social strategy involving long-term corporate control expressed through cemeteries would not be unexpected.

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