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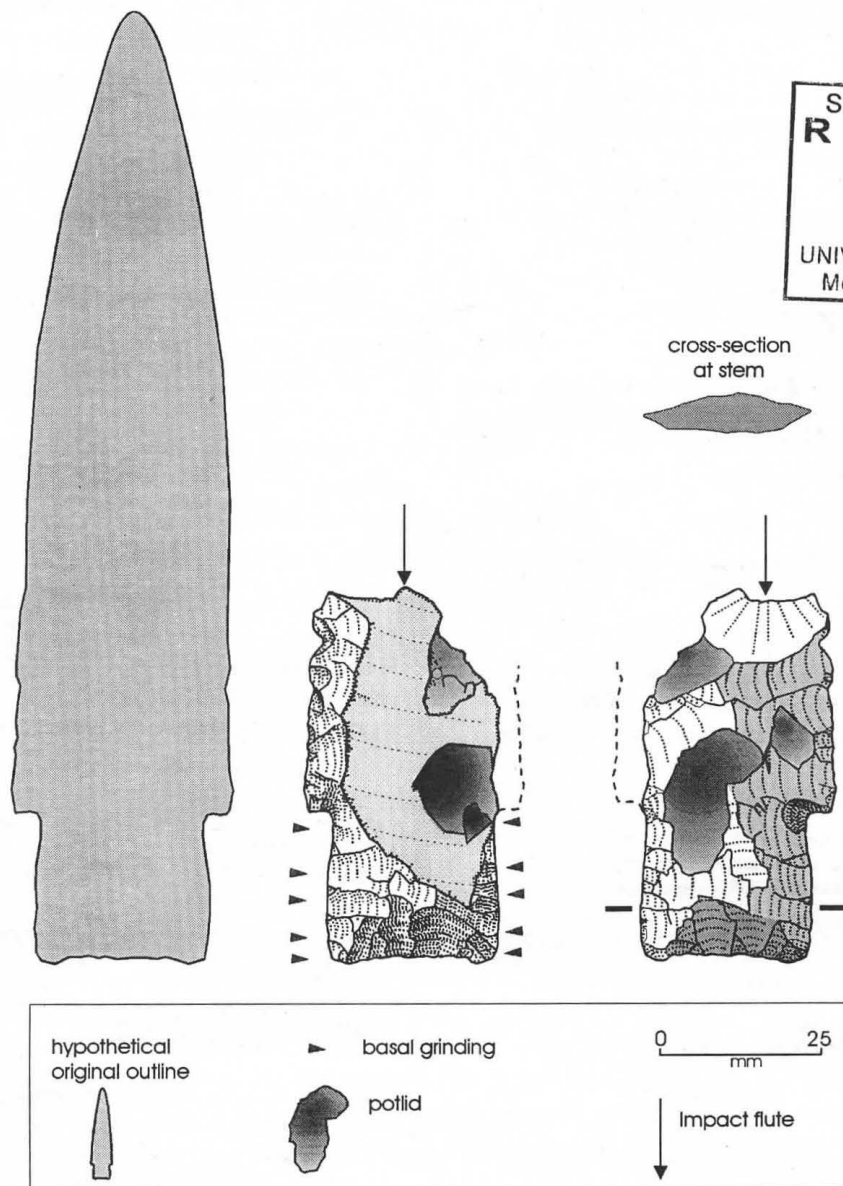
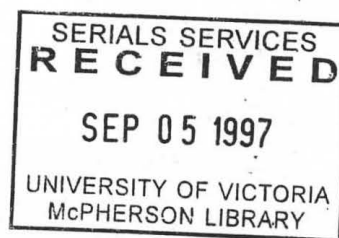


MIDDEN

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SHELL MIDDENS, SEA LEVELS AND A SCOTTBLUFF-LIKE POINT

THE MIDDEN

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Contributors this issue

Don Abbott, Grant Beattie, Richard Brolly, Robbin Chatan,
Bruce Dahlstrom and Sharon Keen

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Royal British Columbia Museum, Victoria.

FRONT COVER:

An artifact illustration of the base of a Scottsbluff-like pro-
jectile point, recovered by **Millennia Research** and
Kwantlen First Nation in a archaeological survey of Stave
Reservoir.

(Illustration courtesy of Millennia Research)

See also FIELD NOTES, Duncan McLaren on page 7

ASBC DIARY:

MEETINGS featuring illustrated lectures are held on the second
Wednesday of each month (except July and August) at 8:00 pm.
Meetings are usually held in the Auditorium of the Vancouver
Museum at 1100 Chestnut Street in Vancouver.

New members and visitors are welcome!

September 10 **David Pokotylo, UBC**

Public Opinion and Archaeology



MIDDEN

INTRODUCTION

The Midden crew has experienced some changes over this past spring. Both Geordie Howe (Chief Editor) and Alison Biely (Production Manager) have left due to their busy job loads and work schedules. Their involvement in the Editorial Committee and conceptual inputs will be missed. In fact, they had a decisive role in the planning of this and several upcoming issues. We thank them for their contribution to *The Midden* and wish them well with their careers. No doubt, we will hear from them again in future pages in this quarterly.

At the same time we would like to welcome Fred Braches, a long-time member of the ASBC, who has enthusiastically stepped into the vacancy of Production Manager. He was responsible for the layout of the last issue (Vol. 29, No. 1, 1997), and we look forward to his contributions in the production of *The Midden*. The Chief Editorship remains unfilled, and we presently are both acting as interim Chief Editors.

The content of *The Midden* relies on the co-operation and goodwill of its various members, subscribers, and practitioners in B.C. archaeology. Without their interest and support this quarterly could not exist in its present form. We would like to personally thank all the contributors to this issue - Don Abbott, Grant Beattie, Richard Brolly, Bruce Dahlstrom and Sharon Keen. and look forward to new and interesting articles and reviews.

Robbin Chatan and Heather Myles, Chief Editors

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IN MEMORIAM:

ELIZABETH JANE HILL

(1924-1997)

by Donald Abbott and Sharon Keen

Beth Hill's dying, like everything she undertook, was entered into with gusto. The cancer, after allowing her a characteristically productive reprieve, finally took her on the 24th of January this year. The book Beth found time to write about the process and the new insights it provided her, *Moonrakers*, is being published by Horsdal & Schubart this June. It is a fitting closure to the life and multifaceted career of this vibrant and thoughtful woman who contributed so much to B.C. Coastal Archaeology and to many other fields and causes as well.

Beth was born Elizabeth Jane Quinsey, 21 November, 1924 near Fort Erie, Ontario. She graduated from McMasters with an honours degree in English in 1946, then obtained a degree in Library Science from the University of Toronto in 1947, and took employment with the Regional Library in Prince George, B.C. The following year she was asked to found a library on the Alaska Highway, based in Dawson Creek but covering the 700 miles of Highway to the Yukon Border. With a quarter ton truck, an unlimited budget, and a boss in Victoria, she "had a marvellous time" setting up and servicing both school and public branch libraries in the region — and learning about survival in 40° below zero conditions. She also met Ray Hill, a young Industrial Arts teacher. They married in 1950 and their son John was born in 1951. After a year in Prince Rupert, they moved to Burnaby for six years while

Ray taught in Point Grey. Their daughter Frances was born in 1953. Beth returned to work part-time driving the bookmobile for the Vancouver Public Library. She also helped found the Burnaby Public Library. Both Beth and Ray became extremely busy with work, family and other commitments — clearly too busy. In 1959



Photo courtesy Ray Hill

they decided to make a radical change. They bought a big old house at the end of a point jutting into Ganges Harbour (with a prehistoric shell midden, DfRu 4, on the property), quit their jobs, and became island people. Ray secured a new teaching job in Duncan — an easy commute from Saltspring.

Now Beth's intellectual interest in archaeology began to take a practical mani-

festation. Our first meeting was a memorable one. I (Donald Abbot) had been asked to speak on archaeology to a gathering of the Gulf Islands Historical Society at Miners Bay on Mayne Island in 1960 or '61. Most of us there had come by ferry and car but we were quite impressed with the arrival of one well-dressed woman — Beth — who came barrelling down Active Pass in a small open boat, beached it smartly, then stepped out to join our discussions with a degree of intellectual fervour and practical determination that we had never before encountered. My wife, a recent immigrant from Europe was particularly impressed. "So this is what Gulf Islands women are like," she thought. We became good friends with the Hills after that.

Beth never affiliated with an institution but her contributions to archaeology were both considerable and valuable. She undertook a detailed archaeological survey of Saltspring Island, and other Gulf Islands, meticulously recording sites and private collections and doing a typology of them. Since she did not collect artifacts herself and did not represent government or an institution she had excellent success in winning the trust of local collectors.

She shared information, ideas and insights with Wilson Duff and myself at the Provincial Museum. When Wilson, whom she considered a mentor, advocated that she study archaeology at Cambridge, then at the forefront of archaeological methodology, she found the suggestion shocking -- but followed it! By 1969 Ray would have put in the two decades of teaching that he had planned and the children were nearly finished high school. It

was again time for a major change and it "all worked out".

"Cambridge", she said, "was quite willing to have me," and the family spent 1969-'70 there. Beth completed two years of tripos to receive a Certificate in Pre-historic Archaeology while Ray learned to fly, studied German, photography and aluminium welding. For Beth, Cambridge was an extraordinarily rewarding and stimulating learning experience, working with scholars at the leading edge of the profession Mellars and Ian Hodder.

She was gratified that these men regarded her, "with great interest and continually questioned me to see what insights I might have." Her particular interest was in prehistoric art.

With their funds used up the Hills returned home in 1970 and had to resume making a living. Ray became a building contractor but Beth was at first uncertain about her next steps. She was offered a position at the University of Calgary but she neither wanted to become a teacher nor move to Calgary. It had been a request of the Cambridge department that she prepare a report on the rock art of British Columbia and in 1972 Beth became one of four participants in a Local Initiatives Project (LIP) to record Vancouver Island petroglyphs by rubbings and photographs. In 1973, the second petroglyph expedition by herself and Ray was to cover the sites between the northern end of Vancouver Island and Prince Rupert. The Hills obtained a \$2000 Koerner Foundation grant, bought an old fishboat (rechristened *Liza Jane*), and, with the co-operation of Native bands, spent three months completing their meticulous compilation of coastal petroglyphs, which resulted in their 1974 book, *Indian Petroglyphs of the Pacific Northwest*, a landmark of professional and popular publishing in British Columbia Archaeology.

Also in 1973, the Hills hosted an excavation crew at the midden on their property. In 1976, Beth became the archaeological warden for Saltspring and remained in that appointment for the duration of the warden programme. She was a member of the ASBC and a founding member of the Canadian Rock Art Research Association (CRARA).

Her career increasingly took on a new tack as a professional author, not only

about archaeology but also on a wide variety of other topics. Over the remaining twenty-two years of her life, in addition to numerous professional and popular articles, she published seven books and completed at least two unpublished book-length manuscripts. Several of these involved adventurous research trips to western and eastern Europe with Ray.

In addition to her writing she reached out to people in many ways: through book tours, conferences, public speaking,

teaching night school courses and active participation in organizations such as the Voice of Women and the Council of Canadians. She was an ardent reader and constantly seeking new ideas and insights about humanity. Her need to be close to good library facilities led them to move to Victoria about nine years ago.

Last June, while on a trip to Wales, the cancer that Beth had been fighting for some time reasserted itself and she had to cut the trip short to return home. The Hills decided to move back to Saltspring for her last months and her final book.

Select Bibliography of Elizabeth Jane Hill

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- 1978 *The Remarkable World of Frances Barkley: 1769-1845*. Gray's Publishing Limited, Sidney.
- 1981 *Times Past: A Guide to the Photographic Exhibit of Some of the Earliest Houses on Salt Spring Island*. Gulf Islands Community Arts Council, Ganges.
- 1981 "Bedrock and Boulder Bowls" In *The World is as Sharp as a Knife. An Anthology in Honour of Wilson Duff*, Donald N. Abbott, ed., pp 127-142. British Columbia Provincial Museum, Victoria.
- 1983 *Times Past: Salt Spring Island Houses and History Before the Turn of the Century*. Gulf Islands Community Arts Council, Ganges.
- 1985 *Upcoast Summers*. Horsdal and Schubart, Ganges.
- 1987 *Sappers: The Royal Engineers in British Columbia*. Horsdal and Schubart, Ganges.
- 1989 *Exploring the Kettle Valley Railway*. Polestar Press Ltd., Winlaw.
- 1992 "Small Painted Stones from Salish Territory". *Northwest Anthropological Research Notes* 26(1): 89-99.
- 1994 *Seven-knot Summers*. Horsdal and Schubart, Victoria.
- 1997 *Moonrakers*. Horsdal and Schubart, Victoria.
- 1975-1983: Innumerable articles, too many to cite, published in venues such as the Daily Colonist "Islander" and "Westworld" magazine on archaeology and local history.

UNPUBLISHED MANUSCRIPTS

- 1971 "Archaeological Site Survey Salt Spring Island". Two Volumes. Royal British Columbia Museum, Archaeology Collections, Victoria.
- 1973 "Petroglyph Sites from Queen Charlotte Strait to the Alaska Border: Petroglyph Survey". Archaeological Sites Advisory Board, Victoria. Permit 1973-34.
- 1988(?) *A Cargo of Petticoats*. Women in the Industrial Revolution.
- 1992 *Road to Atlantis*.

A complete list of Beth Hill's publications is available upon request from Don Abbott, 311 Masters Road, Victoria, B.C.; or bound reprints of her articles can be found in the Culture Library, Ministry of Small Business, Tourism and Culture, Victoria.

Sharon Keen is a Heritage Resource Consultant based in Victoria. She interviewed Beth in 1996 as the first of an on-going series on women archaeologists

Donald Abbott is a Curator Emeritus (Archaeology) of the Royal British Columbia Museum in Victoria where he worked from 1960 to 1995.

TEST EXCAVATIONS AT DdSc 12 ON THE JUAN DE FUCA MARINE TRAIL

by Bruce Dahlstrom

In 1994, B.C. Parks contacted *I.R. Wilson Consultants Ltd.* regarding proposed trail construction of the Juan de Fuca Marine Trail, a hiking trail currently under construction that is planned to connect Port Renfrew to Jordan River. Three archaeological projects were carried out in cooperation with the Pacheenaht First Nation. The first was an overview of recorded archaeological sites and ethnographic places in proximity to the proposed trail (Wilson and Bouchard 1994). The second study was an archaeological inventory and impact assessment of the proposed trail and associated facilities (Wilson and Macnab 1995). Based on the results of the field programme, additional work was proposed involving, among other tasks, a small mitigative test excavation. This test excavation consisted of a single 1x1 m test unit at DdSc 12. This article summarises the results of this project which are presented in more detail in Dahlstrom and Wilson (1996).

DdSc 12 is a small shell midden which overlooks a rugged rocky open coast environment. A small unnamed drainage is present within the site boundaries. The excavation unit was placed in the centre of the site to test the deepest area of deposit. The ground surface was covered by dense salal with fir and cedar adjacent to the site. Once the brush and duff was cleared, a reddish brown loam was uncovered. With the possible exception of one herring vertebra, this horizon did not contain cultural materials. The soil had apparently accumulated after occupation of the site had been discontinued. A decision was made to remove and selectively screen this soil as a single stratigraphic unit. At 36 cm below surface, a change to a darker siltier soil which contained 10%

fine shell was noted, and excavation continued from this point in 5 cm levels with all deposits screened through 1/4" and 1/8" mesh. Shell and ash lenses of varying widths and compositions were noted until there was a sharp transition to a sterile brown loam at 150 cm.

A single radio-carbon date of 4120 ± 130 BP was obtained from charcoal at 145-150 cm below surface. This repre-



Photo courtesy Bruce Dahlstrom

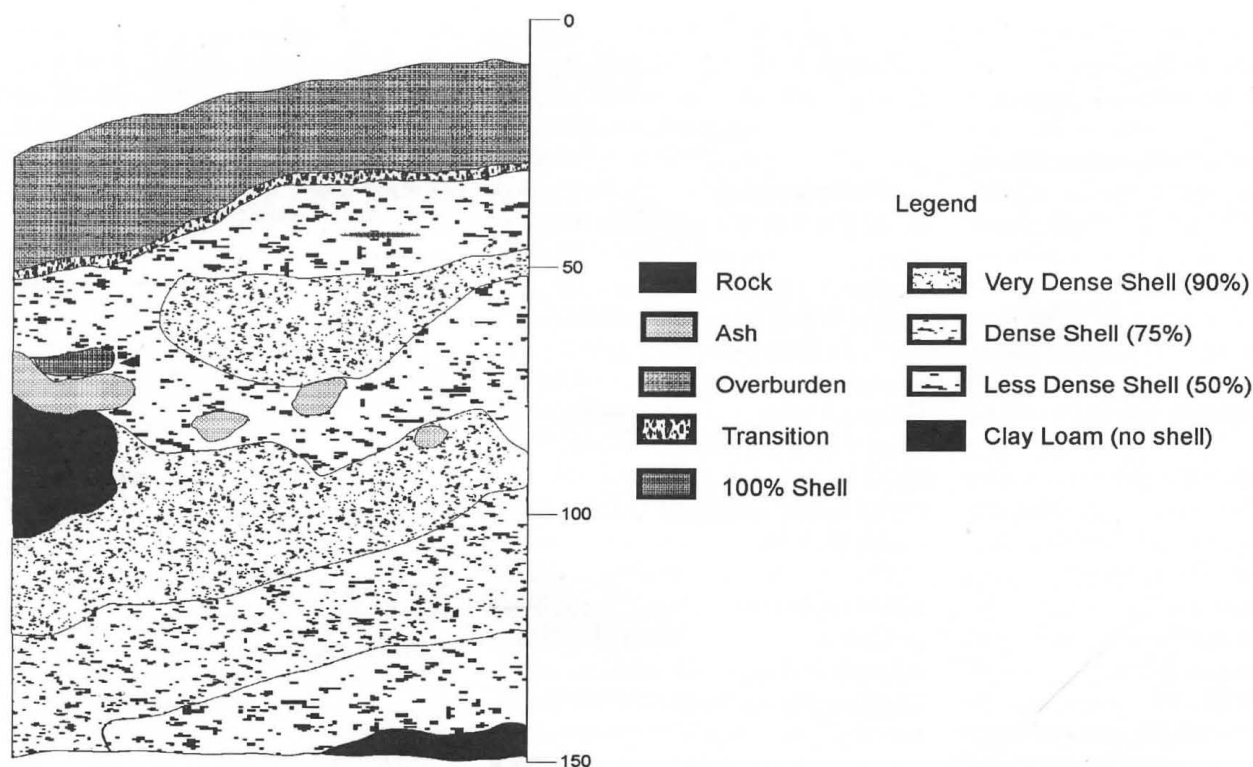
sents the basal cultural deposits of the site and the date likely reflects the earliest use of the site. It is unquestionable that later use took place on the site and it is possible that other spatially and temporally discrete occupations of the site occurred.

Faunal analysis was conducted by *Pacific Identifications*. Of the species rep-

resented fish were the most diverse, followed by mammal, and birds were represented by a few non-diagnostic fragments. The limited representation of mammal, consisting of a few deer and racoon elements, is in part a result of sample size. Fish, being smaller bodied, are likely to be better represented in small excavations because of their greater number of elements and smaller size.

The fish identified from the project consist predominantly of greenling, rock fish and herring. Both greenling and herring are well-represented from all levels of the column sample and greenling is the dominant taxa collected. Rockfish is common from 110-135 cm below surface. A small concentration of salmon is present from 110-120 cm in depth. Other fish follow a more sporadic distribution throughout the unit with cod, dogfish, skate and anchovy present in the upper layers of the deposit, and lingcod and great sculpin present in the lower layers. The size range of greenling recovered indicates possible basket trap collection. The presence of small fish species such as anchovy, herring, small greenling, and small cod suggests that hook and line fishing may have been practiced, with these species possibly representing bait. The presence of gorge hooks is consistent with this interpretation.

Shellfish was well-represented throughout the deposit. Most of the species present are abundant in this locality including California mussel and black katy chiton. Both of these species are common on open rocky coasts and mussels are particularly visible on the rocks overlooking the site. Also present are two species associated with mussel colonies: *Nucella* (a mussel predator) and barnacle (often



Stratigraphic profile from excavation unit DdSc 12 (Courtesy of B. Dahlstrom, I.R. Wilson Consultants Ltd.)

found in association with mussel beds). Limpets and periwinkles are also associated with rocky environments, and may have been introduced incidentally or intentionally. Urchin was collected at the lower levels of the excavation unit but was absent from upper deposits. Their abundance in deeper levels is a result of the presence of an urchin cooking feature. Urchins are common on rocky coasts.

More unusual are horse clam that are represented in small but consistent numbers throughout the deposits. Such mollusc species are not common to rocky open coasts, and are more often found in more protected areas. These may have been procured in another location and transported to the site, or collected in a protected environment, such as a small bay, that may once have been present in the area.

In total, thirty-three artifacts were recovered from the single 1m² excavation unit. Eight pieces of basalt debitage were retrieved as were six unformed flake tools. Two formed basalt tools were also collected. One is a projectile point preform fragment while the second is a complete basalt projectile point made from a fine

grained blade-like flake. The artifact exhibits extensive dorsal modification including an isolated step fracture. The ventral face has less modification. It has a contracting stem with possible hafting-related rounding on one side of the stem. This artifact may represent a lost or cached item. It measures 77.3 mm x 22.3 mm x 11.2 mm, with a blade length of 62 mm and a hafting length of 16.6 mm.

Slate tools were not well-represented apart from a single biface fragment. However, six pieces of slate were recovered and may represent tool manufacture debris. Bone tools are better represented with ten artifacts including a possible net spacer, and a possible herring rake tine. A single possible shell bead consisting of a spire-loped oolivella was also recovered.

The artifacts collected are suggestive of a variety of subsistence related activities, including the procurement of both terrestrial and marine animal resources. The projectile point and preform suggest hunting of large terrestrial or marine mammals. The nature of the materials used as well as presence of shatter and cortical flakes in the debitage suggest the procurement of locally available materials, while

the amount of debitage argues for sporadic task specific procurement. The unformed flake tools indicate a variety of activities with a slight emphasis on cutting (based on acute to obtuse angled flakes) and some evidence of wood working (based on the number of use related step fractures). The bone tools are consistent with general tool manufacture and repair with an apparent concentration on fishing technology.

The faunal data suggest a reliance on local resources including shellfish and fish. This is most consistent with a seasonal camp at which local resources were procured. Such a camp might well have been occupied in spring or summer. Evidence of seasonality is weak, but it points to a possible spring occupation. Apparently some collection of terrestrial resources also took place but was less important.

It is difficult to compare materials from this site with others on the west coast of Vancouver Island because of the limited amount of work which has occurred. Also, most sites excavated along this coast are much more recent than the earliest occupation of DdSc 12 as confirmed by ra-

diocarbon dating elsewhere. Components contemporaneous to the DdSc 12 occupation include the basal component of Little Beach in Ucluelet, possibly the Zone 1 Yuquot component in Nootka Sound, and the Layer E Shoemaker Bay component in Port Alberni. Each of these sites is briefly discussed for comparative purposes.

Little Beach yielded dates in its basal component of 4000 ± 170 years B.P. (charcoal) and 4000 ± 90 years B.P. (charcoal). The site also had later components dated at 2510 ± 60 years B.P. (organic sediment) and 3310 ± 70 years B.P. (human bone collagen). Little Beach is thought to have affiliations with Shoemaker I in Port Alberni that yielded similar chipped stone and ground stone artifacts. Twenty-nine burials, many associated with cairns, were noted during excavation. A single greenish basalt or dacite leaf-shaped point, described as having a diamond shaped cross-section and a slightly contracting stem, was recovered in the lower portion of the deposit. This artifact has some similarities with the contracting stem point from DdSc 12 in terms of morphology. The range of lithic materials used at Little Beach and DdSc 12 is somewhat similar, although Little Beach includes a wider range of materials including argillite, sandstone, siltstone and jasper. A more diverse artifact assemblage is present at Little Beach, consisting of choppers, ground slate points, abraders, labrets, and a slate saw. Bone tools at Little Beach consist primarily of non-diagnostic fragments with a whale bone club fragment and a possible herring rake tine. A single shell bead was also recovered. The Little Beach faunal assemblage was dominated by fish with lingcod, rock fish and greenlings being the most common. Marine mammals, including cetacea (whales, dolphins, porpoises), northern fur seals and harbor seals, were collected, and land mammals were uncommon. It should be remembered when comparing assemblages that the sample from DdSc 12 is very small, and undoubtedly, does not reflect the full range of materials that are likely present at the site.

The lower components of the Yuquot site have dates ranging from 3090 ± 100 to 4357 ± 100 years B.P. The assemblage associated with these dates is termed Zone 1 and consists of a relatively sparse sam-

ple of artifacts and fauna, many of which are water-worn. The artifacts include abraders, celts, saws, a possible labret, and bone tools including awls, needles, bone points, harpoon parts and one shuttle. Artifacts are seen as broadly similar with those recovered from later levels at Yuquot. Only one utilized basalt flake was recovered. This assemblage is largely dissimilar to that recovered from DdSc 12. This may be in part a result of a different season of occupation. However, the different assemblage may also point to cultural differences between Nootka Sound and sites further to the south.

The lowest stratigraphic layer of the Shoemaker Bay site has been dated to 4030 ± 150 years B.P. This component contained a sparse assemblage of water-worn artifacts which were combined with later materials to form the Shoemaker I assemblage. Of particular interest within this assemblage is a large water-worn basalt point measuring 58 mm x 26 mm x 8 mm with a generally leaf shaped form. It is somewhat similar to the projectile point recovered from DdSc 12. This point was recovered from the top of layer E at Shoemaker Bay associated with the earliest radiocarbon date of the site. A fragmentary basalt point was also recovered from layer E.

Materials recovered at DdSc 12 are also similar to those from the Gulf of Georgia culture area. This is an area in which a considerable amount of archaeological work has been conducted and cultural sequences are relatively well-defined for the later periods. It has been suggested that materials from Shoemaker Bay and Little Beach are related to those from the Gulf of Georgia culture area (McMillan and St. Claire 1982; Stryd 1991). Gulf of Georgia prehistory has been summarized in Mitchell (1990), and the Charles Phase, dating between 5,490 to 3,280 B.P., has been discussed in detail in Ham *et al.* (1984) based on work at the St. Mungo site (DgRr 2). Ham describes leaf-shaped contracting stem bifaces which, although shorter, have similar widths and morphologies to that from DdSc 12 (Ham *et al.* 1984:72). Similar bifaces have been recovered from several Charles Phase sites including the St. Mungo site in Vancouver. The evidence is suggestive of close ties to Salishan groups in sites between Ucluelet, Port Alberni and Port

Renfrew in early occupations. It is possible that these areas may have even been Salish occupations at this early date, and suggesting later population movement. It certainly appears that early occupations on the southern west coast of Vancouver Island are markedly different from those to the north.

Bruce Dahlstrom received his BA in Anthropology from the University of California, Berkeley, in 1988, and is presently in the MA programme at Sonoma State University. He has worked in British Columbia since 1994, and specializes in coastal archaeology and computer applications. He currently works for I.R. Wilson Consultant Ltd. in Victoria as a consulting archaeologist.

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FIELD NOTES

ARCHAEOLOGICAL SURVEY OF STAVE RESERVOIR DRAW DOWN ZONE

Duncan McLaren of MILLENNIA RESEARCH writes that in association with a construction related draw down of Stave Reservoir, an inventory and impact assessment of the inundated lands of this reservoir was conducted in March and April of this year. The Stave watershed, which drains into the Fraser River, is located within the traditional territory of the Kwantlen First Nation and is situated 8 km north of Mission and 65 km east of Vancouver. The Millennia study focused on the inundated shoreline which surrounds the reservoir north of the Stave Falls dam site. These lands lie between 72 and 80 metres above sea level.

The project was carried out as a result of the combined efforts of B.C. Hydro, the Kwantlen First Nation, and Millennia Research. All stages of this project, including permitting, field preparation, field survey, site mapping, artifact cataloguing, drawing and analysis, photography, and report writing, involved representatives of both the Kwantlen First Nation and Millennia Research. Training for this project included three days of pre-field training sessions as well as hands-on and in-field training.

After 12 days of survey, 28 sites were identified and over 1,600 artifacts had been collected. The majority of artifacts were recovered from the surface of the sites. Most were individually mapped to enable analyses of inundation-related artifact movement and settlement pattern research. Artifact types included in this assemblage are dominated by chipped stone. A large number of formed tools are represented, including projectile points, microblades, and retouched flakes, as well as flaking detritus. Lithic raw materials include a variety of cherts, as well as basalt, andesite, crystalline quartz, and a material thought to be [Garibaldi] glassy rhyodacite were identified. The base of a Scottsbluff-like projectile point and several other points demonstrating masterful stone-knapping technique were

collected. A crossroads of coastal and interior influences is demonstrated by the raw material types and artifact styles present.

Evidence of palaeomarine shorelines was discovered when marine shells and sediments were identified between 76 and 80 m asl. A sample of shells was conventionally radiocarbon-dated to $12,880 \pm 100$ BP (Beta-104529). Beneath this layer of marine sediments, ancient forest floor and freshwater peat deposits were present. Cultural materials were found near the marine sediments, but a direct association between them has not been conclusively proven.

All of the sites located now lie beneath the waters of the reservoir. Archaeological research in the Stave watershed continued when the Hayward Reservoir was drawn down in late May. Millennia Research is hopeful that research on past occupations of inundated lands in the Stave watershed will continue into the future.

CLAYOQUOT SOUND INVENTORY PROJECT

Andrew Mason writes that between 13 January and 15 February 1997, GOLDER ASSOCIATES LTD. and SHORELINE ARCHAEOLOGICAL SERVICES INC. jointly directed an archaeological inventory in Clayoquot Sound, on the west coast of Vancouver Island. This project was funded by Forest Renewal B.C., and represents the first phase of a proposed multi-year project whose objectives are to conduct an archaeological site inventory of all land in Clayoquot Sound (exclusive of Meares Island and lands under federal jurisdiction) — an area of 265,419 hectares. Localities that were examined this winter included the Sydney River watershed, a portion of the Catface-Herbert watershed and the Bedwell-Warn-Fortune watershed.

This study has both general and specific objectives. The primary objective is to conduct an archaeological inventory of the study area while integrating Clayoquot Sound Nuu-chah-nulth communities into

archaeological resource management practices. More specifically, the inventory work sought to generate baseline information on archaeological site locations and distribution, particularly culturally modified trees (CMTs). An important outgrowth of the inventory project is the development of a predictive model for the location of CMTs. This model will help First Nations and development proponents identify potential conflicts between proposed forestry operating areas and CMT site locations early in the forestry planning process.

The involvement and training of local First Nations in this archaeological inventory increased local capacity to collect, maintain and update the archaeological site inventory database, and to participate in the management of archaeological resources in their traditional territories.

The first season of inventory fieldwork identified 77 new archaeological sites, revisited 16 previously recorded sites, and provided additional information for 3 previously recorded sites. A total of 286 CMT's were recorded during this survey. Equally important, the inventory revealed where sites are not found, which is necessary for the development of a predictive model.

Two CMT predictive models were developed for this study, based entirely upon terrain-related variables (e.g., distance to fresh water). The lack of suitable forest cover database prevented the incorporation of this data type into the modeling process thus limiting the success of the modeling effort. One model was designed to predict the location and density of aboriginally-logged red cedar CMTs while the other modeled bark-stripped red cedar CMTs. The logged CMT model was found to be 82% accurate for predicting known site locations and 76% accurate for predicting logged CMT density. In contrast, the bark-stripped CMT model was shown to be far less reliable at 42% and 34% accurate for location and density. These preliminary findings provide valuable data that will serve as the basis to improve and refine the modeling approach during future phases of this study.

PREHISTORIC RESPONSES TO SEA LEVELS AND DELTA GROWTH AT THE BEACH GROVE SITE

By Richard Brolly

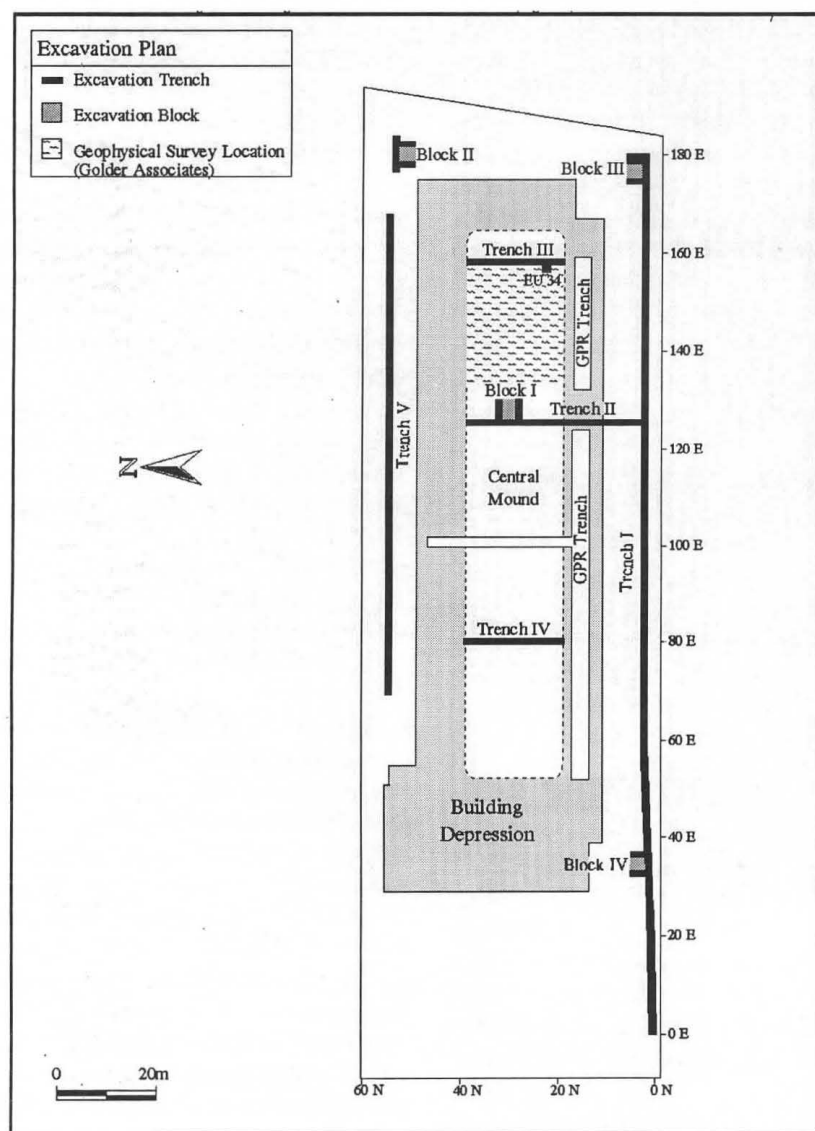


Figure 1: Excavation plan of Pillars Property at the Beach Grove Site; trenches dug during 1994 impact assessment; GPR Trench dug for geomorphological investigations; building depression from razed Pillars Inn structure.

INTRODUCTION

Northwest Coast archaeologists often pay lip service to the influence of sea level variations in this region. Development of the Fraser River delta had profound implications for pre-Contact lifeways in the Lower Mainland. Ironically, despite the fact that many excavations have taken place throughout the Fraser River delta, few archaeologists have considered how such changes affected its prehistoric inhabitants. Recent excavations at the Beach Grove Site (DgRs 1) in Tsawwassen, has shed some light on how sea levels and delta growth influenced First Nations people at this site over the past 4500 years.

The Beach Grove Site will be familiar to many readers of *The Midden*. No fewer than 10 excavations have taken place here between 1956 and 1995. Originally, this was a very large shell midden, distinguished by ten or eleven house depressions on its southern half. Due to suburban growth in Tsawwassen, only scattered remnants of the site exist. During a detailed survey of the site in 1978, just over 68,000 m² were calculated to remain from an original estimate of 197,000 m²!

1995 PROJECT BACKGROUND

In 1994, Molnar Capital Corporation acquired the Pillars Motor Inn, a familiar landmark on 56 Street in Tsawwassen, intending to redevelop the property for high-density housing. The inn stood east of the street, immediately south of the South Delta Recreation Centre. This location is within the northern half of the site. The Archaeology Branch ordered an archaeological impact assessment prior to approval of the

Summary of Radiocarbon Dates from the Beach Grove Site, 1995.

Lab #	Age Estimate ¹	Calibrated Date ²	Culture ³	Provenience	Comments
Beta-83110	340 ± 60	AD 1440 - 1665	—	Layer I-B2	Rejected: probable burned root
Beta-83113	970 ± 70	AD 970 - 1225	St	Feature II-1	Date on ash spread
Beta-83112	1010 ± 50	AD 970 - 1165	St	Feature II-1	Date on ash spread
Beta-89974	2290 ± 80	515 - 165 BC	L - M	Peat layer	Dates final infilling of backwater lagoon
Beta-83121	2910 ± 70	1295 - 905 BC		Hearth #7	Extended count date on beach hearth
Beta-89695	cor 3230 ± 70	1275 - 890 BC	StM - L	Layer I-B1	Marine shell date
Beta-83120	3300 ± 90	1760 - 1400 BC	StM - L	Hearth #1	Date on beach hearth
Beta-89696	cor 3440 ± 80	1520 - 1150 BC	StM - L	Layer I-D1	Marine shell date for lower cultural stratum
Beta-83111	3470 ± 60	1920 - 1630 BC	StM - L	Feature 6-1	Basal date for Block I midden
Beta-83118	3800 ± 60	2450 - 2030 BC	StM	Layer IV-B	AMS date for shelly stratum
Beta-89697	3860 ± 230	2910 - 1685 BC	StM	Layer IV-B?	Extended count on sample from backdirt
Beta-83115	3890 ± 60	2490 - 2175 BC	StM	Layer IV-B	AMS date for shelly stratum
Beta-83117	3900 ± 60	2555 - 2535 BC & 2495 - 2190 BC ⁴	StM	Layer IV-C	AMS date for non-shelly stratum
Beta-83116	3900 ± 50	2485 - 2205 BC	StM	Layer IV-C	AMS date for non-shelly stratum
Beta-93401	cor 4530 ± 70	2905 - 2565 BC	StM	Deep Midden	Marine shell date on stratum exposed during monitoring

¹ Conventional dates BP; shell dates corrected for isotope fractionation and marine reservoir effects

² Calibrated date = date in calendar years

³ St = Stsela Phase; M = Marpole Phase; L = Locarno Beach Phase; StM = St. Mungo Phase

⁴ Signifies two intercepts of calibration curve (at 2 sigmas only)

development, and Arcas Consulting Archaeologists Ltd. (ARCAS) carried out the assessment in 1994. This investigation established that intact midden deposits were present on the property, beneath the parking lot and the central courtyard of the demolished motel. Salvage of a sample of intact deposits prior to the onset of construction was recommended, with follow-up monitoring during ground preparation. These recommendations were accepted by Molnar, the Archaeology Branch, and the First Nations communities. ARCAS was requested to undertake these investigations by Molnar Capital Corporation, whose financial support for all stages of this project is gratefully acknowledged.

A research design was developed in consultation with the Semiahmoo and Tsawwassen First Nations, and excavations were carried out in February and March of 1995. Twenty crew members (including five members of the Tsawwassen and Semiahmoo First Nations) under the direction of Richard Brolly (ably assisted by Karen Preckel and Sue Woods) worked on the site during the excavation. Construction monitoring began in October and continued into November of 1995. Two or three

people were involved with the monitoring, under the direction of Brolly or Vicki Feddema, though burial recovery parties from the Semiahmoo First Nation attended on two occasions when human remains were discovered.

RESULTS SUMMARY

The site plan (Figure 1) shows the location of the blocks excavated during this project. Four blocks were laid out, configured to backhoe trenches dug for the 1994 impact assessment. Six or nine separate excavation units were present in each block, although only one was excavated in Block III, an extra unit was dug in Block I, and a single unit was also dug in Trench III. To assist geological research carried out by geomorphologist June Ryder, a trench was excavated across the middle of the property for a Ground Penetrating Radar (GPR) traverse. Some beach hearths were exposed in this trench, and we decided to also investigate these features. Monitoring focused on installation of underground service lines and excavations for a sub-grade parking lot.

The age of the cultural deposits excavated on the Pillars property was established by 15 radiocarbon dates, that are summarized in the accompanying table.

The midden deposits observed on the property are associated with four particular geomorphological events that influenced the occupation and development of the Beach Grove Site:

A layer of **Deep Midden** seen during monitoring was about 60 cm below the lowest level of the oldest deposits in nearby Block IV. This midden is 41 cm above mean sea level, but when deposited around 4500 years ago would have been about 200 cm above the prevailing sea level.

The **Block IV Midden** deposits were about 4000 years old, and were deposited on a marine beach. This would have been a favourable location for camping until approximately 3600 years ago, when two converging beach ridges blocked off seaward access to the west and created a fetid backwater lagoon immediately adjacent to the Block IV midden.

Blocks I/III, Trench III Midden and GPR Trench Hearths are all configured to an active marine beach east of the Block IV midden. Deposition of the Block I midden, which commenced about 3500 years ago, was coeval with formation of the hearths exposed in the GPR Trench. However, the midden was

apparently situated on a stable beach ridge while the hearths were constantly being buried by beach sediments. Midden build-up continued at or very near the edge of an active beach in Trench III and Block III until about 3000 years ago, when marine effects end at Beach Grove. Because the top half of the Block I midden had been stripped when the Pillars Inn was built, it is impossible to state how much longer midden accumulation continued in this location after about 3000 BP.

The **Block II Midden** accumulated on top of stabilized marine sediments about 1000 years ago, after most other midden deposition on the northern half of the site had ceased. No further deposition appears to have taken place at Beach Grove after this, and the village on the southern half of the site was also abandoned around this time.

GEOARCHAEOLOGY OF THE BEACH GROVE SITE

Figure 2 represents a geomorphological map of Point Roberts. Before being joined to the Mainland by the advancing Fraser River delta, Point Roberts was for all intents and purposes a "Gulf Island" (which we call **Roberts Island**). The island emerged from the Strait of Georgia around 12,000 years ago, when post-Ice Age sea levels (about 75 m higher than modern levels in this area) began to recede. As shown by the plot of local sea levels (Figure 3), the decline did not stop until it was nearly 12 m lower than modern levels around 9000 years ago. Resubmergence stabilized sea levels at their current elevation about 2500 years ago.

The effect of sea level variation upon Roberts Island was profound. In particular, the post-9000 BP resubmergence caused intense wave erosion of the glacial drift bluffs around the island. Based on modern erosion rates of the UBC Bluffs above Wreck Beach, it was conservatively estimated that the ancient shoreline of Roberts Island could have been eroded back over 1000 m! This erosional process freed up huge volumes of sandy sediments that were transported around the margins of the island by longshore currents. Offshore from the eroded bluffs remained the boulders, rocks, and other materials too heavy to be carried by water — Cannery Point Reef, at the southeastern tip of Point Roberts, appears to be

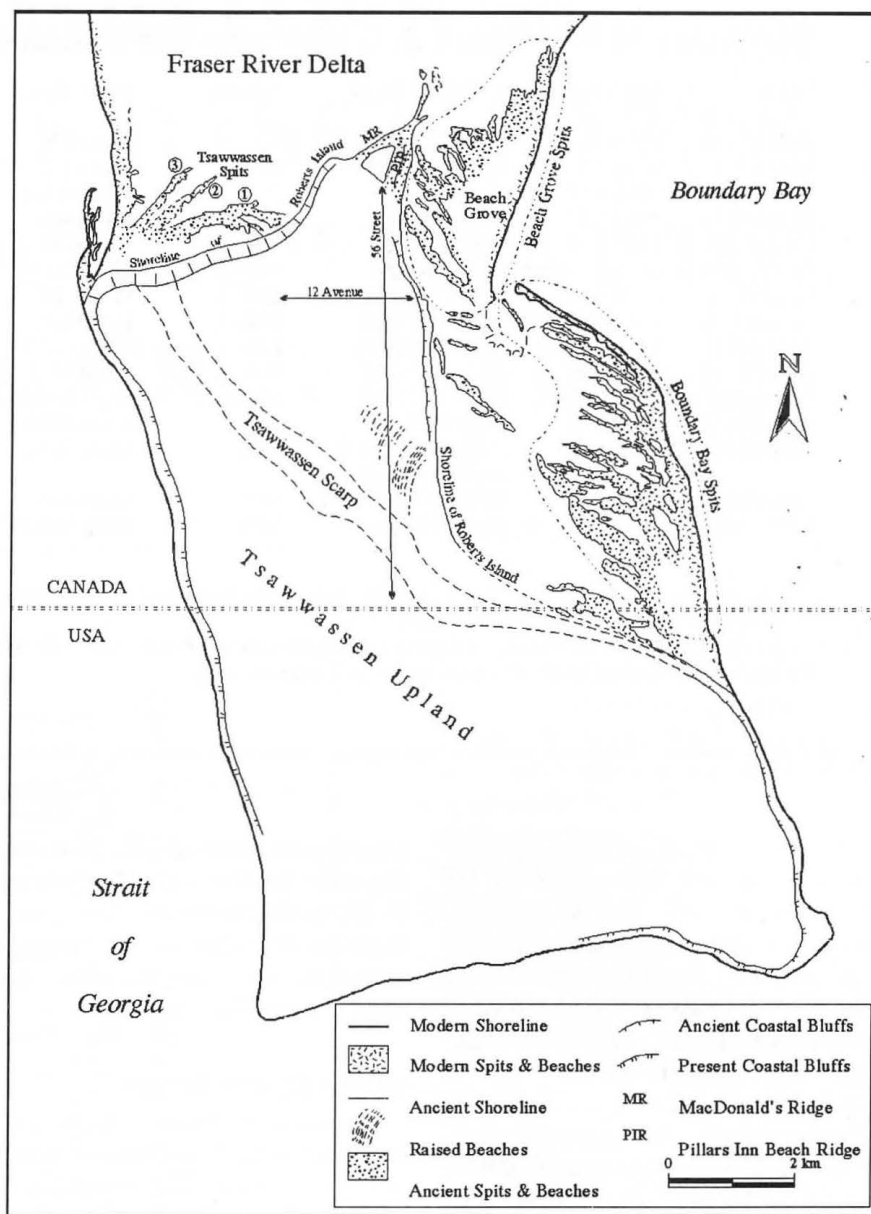


Figure 2: Geomorphological map of Tsawwassen - Point Roberts locality (by June Ryder and Tina Van Gaalen).

the remains of a completely-eroded headland of Roberts Island. Sediment-laden longshore currents, flowing up the western and eastern shores, converged at the northeastern tip of Roberts Island. There, a sandy beach ridge built northwards out from the shoreline around 6000 years ago, when sea levels were between 3 and 4 m lower than they are today. As sea levels rose to about -2 m (relative to today), a new beach ridge was deposited on top of the original beach. We call this ridge, which began to form before 4500 years

ago, the **Pillars Inn Ridge**. At a later date, a beach ridge forming northeasterly from a point further west along the northern shore of Roberts Island (called the **McDonald's Ridge**), joined the Pillars Inn Ridge at the approximate location of the South Delta Recreation Centre. The joining of these two ridges created a triangular-shaped backwater lagoon between them. Over the next millennium or so, successional vegetation infilled the lagoon, until only a peat bog existed here by 2300 years ago.

Don Abbott, who conducted excavations at the Beach Grove Site in the 1950s and 1960s, perceived that the site had developed on ancient beach ridges that must have formed before the Fraser River delta joined Roberts Island to the Mainland. Surprisingly, the results of our geological research revealed that the beach ridges at the northeastern tip of the island were deposited on top of Fraser River sediments. This means that the last stage of beach formation at Beach Grove occurred after the so-called "subtidal platform" of the delta reached the island. A shallow, probably tidal, sea channel would have continued to separate the island from the "subaerial" (above high water mark) portion of the delta until about 3000 years ago. At this point, the former channel was cut off, creating Boundary Bay. For most of the time that the Beach Grove Site was occupied, vast intertidal flats would have dominated the marine foreshore, but they disappeared as the shoreline of Boundary Bay receded east to its modern position by around 1000 years ago.

People may have occupied the ancient shoreline of Roberts Island at the Beach Grove Site before the sandy beach ridges developed. However, significant midden accumulation did not begin until the sand ridges were present. Only the Pillars Inn Ridge was utilized — no evidence of archaeological remains has ever been identified on the McDonald's Ridge, which was exposed to the full force of northwesterly storms. The earliest midden deposits on the Pillars property (the Deep Midden and the Block IV deposits) are clearly oriented to the western side of the Pillars Inn Ridge. After the backwater lagoon formed, subsequent midden development continued on the eastern part of the ridge. The basal date for the Block I deposits is 3470 BP, suggesting that the backwater lagoon made the Block IV location unusable by then.

Pioneer archaeologist Harlan I. Smith first visited this site in the 1890s, and observed midden mounds on the northern half of the site — doubtless similar to those still present at the nearby Tsawwassen Site (DgRs 2). Although post-1900 land use on the property made it hard to be certain, it is possible that midden deposits were not continuous between the eastern and western halves of

the Pillars Inn Ridge. For example, no midden deposits were associated with a cluster of burials discovered during the monitoring, which had been interred in weathered sandy soil during Locarno Beach times.

The village on the southern half of the site was founded around 2200 years ago. Midden on the northern half of the site probably continued to accumulate while the village was occupied, though the shellfish harvesters and fishers to the north may not have been related to the villagers. The locations of the shellfish harvesting camp and village both became uninhabitable around 1000 BP, when the shoreline of Boundary Bay receded to the east, following which a new midden (DgRs 7) accumulated near the modern shoreline. Some parts of the Beach Grove Site were later used as a burial ground, possibly including the Pillars property, but the site apparently fell into disuse after about 600 BP.

CONCLUSION

The results of the 1995 investigations at Beach Grove demonstrate that First Nations people occupied this site between about 4500 and 600 BP. In that time, regional sea levels rose approximately 2 m. A shallow marine channel between Roberts Island and the mainland was

choked off by the advancing Fraser Delta, creating Boundary Bay. The shoreline of Boundary Bay receded from its original position at the eastern edge of the Beach Grove Site, stranding the midden builders that utilized the northern half of the site and the villagers that settled on its southern half. As the original marine nearshore environment of Roberts Island evolved first into an estuarine setting, and later still into a landlocked delta lowland, the prehistoric occupants of the site adapted to these changes. The most obvious adaptation is one of abandonment, when the receding shoreline of Boundary Bay stranded both halves of the site at an uneconomic distance from tidewater. More subtle changes are also expressed in the archaeological record, such as the shift from the western side of the Pillars Inn Ridge (Block IV) to its eastern side (Block I/III) when creation of a backwater lagoon cut off access to nearshore resources.

Richard Brolly has worked in B.C. archaeology since graduating from SFU in 1977. He has been a full-time Senior Archaeologist with Arcas Consulting Archeologists since 1989.

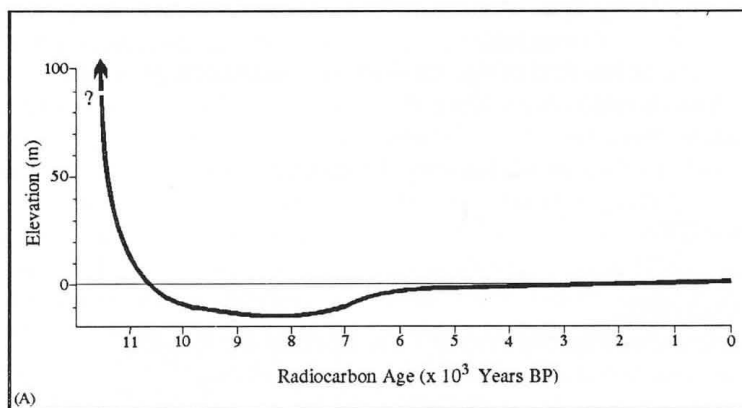


Figure 3: Sea level curve for the Fraser Lowland.

RECENT PUBLICATIONS

ARCHAEOLOGY

Drennan, Robert D.

- 1996 *Statistics For Archaeologists: A Commonsense Approach*.
Plenum Press, New York. 300 pp., illus..
Price: ISBN 0-306-45327-4 (Hc) \$42.50 US; ISBN 0-306-45326-6
(Pb) \$24.50 US.

Fagan, Brian ed.

- 1996 *Eyewitnesses to Discovery: First Person Accounts of More Than Fifty of the World's Greatest Archaeological Discoveries*.
Oxford University Press, Oxford.
Price: ISBN 0-19-508141-2, (Hc) \$34.95 CDN.

Fagan, Brian, ed.

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Oxford University Press, Oxford.
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Plenum Press, New York. 396 pp., illus..
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MUSEOLOGY

Davis, Joy, Martin Segger, and Lois Irvine.

- 1996 *Curatorship: Indigenous Perspectives in Post-Colonial Societies*.
Canadian Museum of Civilization Mercury Series,
Directorate Paper No. 8, Hull, PQ. 224 pp..
Price: ISBN 0-66-15957-0 (Pb) \$24.95 CDN.

THE MANAGEMENT OF SPATIAL DATA

Archaeology and Geographical Information Systems: a European Perspective

edited by GARY LOCK and
ZORAN STANCIC.

Taylor & Francis, London, 1995.
xvii + 392 pp., illus., refs., index.
Price: ISBN 0-74840-208-X
(Hc) \$99.95 US.

For many archaeologists involved in Cultural Resource Management (CRM) in British Columbia the use of a Geographic Information System, or GIS, has become an essential part of the work they are contracted to perform. If a consultant has to review archaeological potential for an entire Forest District, for example, he or she might be looking at hundreds of thousands of hectares of terrain, and some means of mechanically performing a coherent analysis of that large amount of space is necessary. Measuring distances with rulers and overlaying maps on light tables are techniques that soon lose their effectiveness when dealing with hundreds of paper map sheets. Add to this the need for multiple layers of mapped information from various sources, often at different scales, and the non-automated approach becomes impossible.

Archaeology and Geographic Information Systems resulted from a conference held in Ravello, Italy in late 1993. A number of European and British archaeologists from universities and cultural resource management situations came together to describe and discuss the sorts of problems they were having with analyzing and managing spatial data and

BOOK REVIEWS

to relate their experiences with GIS. The results show many similarities with an earlier collection from the same publisher which dealt with North American projects - *Interpreting Space: GIS and Archaeology* (1990).

Topics in this volume include the mapping and display of large inventories of sites, analysis of the relations between individual features across individual sites, assessments of pre-existing survey data, and experiments with different landscape variables and how useful they might be in understanding particular site distributions and settlement patterns. The major difference between this research and the work described in *Interpreting Space*, is a much greater focus on a generalized landscape approach rather than relating archaeological site locations to specific local environmental features.

One of the most basic functions of a GIS is to organize various types of terrain data into layers or *coverages* which can then be measured and compared with each other. A typical application would have a coverage containing archaeological site locations, another containing the slope of the land, a third with soil areas, a fourth with water features such as lakes and rivers, and so on. Each coverage, once it is spatially referenced in the computer, can be assessed by itself or in relation to other coverages. A site location in the site coverage, for example, can be related to a water coverage in order to measure distances to river and lake edges. A database containing this information for all sites in the study area can then be output for further statistical analysis that will assess whether nearness to water was a critical factor in determining these locations. This in turn can be fed back into models of archaeological site potential, or in some cases site *prediction*. This sort of data manipulation and analysis is fairly typical of most CRM use of GIS.

A more advanced application for these systems comes from the analysis of landscape surfaces. This includes the 3D visualization of certain map areas, terrain difficulty analysis, and a technique known as *viewshed* analysis. This last type is

when the GIS is used to analyze the land around a particular point to determine what is visible from that point. The goal is to recreate the visual landscape of the spectator, which, in the case of a prehistoric location, is supposed to be someone using that location hundreds or thousands of years ago. Terrain difficulty analysis can be used to check for ease of traverse, determining optimal routes from A to B.

The high number of projects in this volume that attempt to use landscape surfaces not only distinguishes it from those in the earlier American volume, but also puts GIS technology in the thick of current debates dealing with environmental variables in land use and settlement analysis. The perceived overuse of these variables in typical CRM applications has brought on claims that the people who perceived these landscapes have been ignored or deleted from the picture; such analysis is guilty of, in the words of one of the authors as "the conceptual poverty of ¼ environmental determinism." The writers in this book hope that techniques such as viewshed and other surface analyses will counter this tendency.

One problem with this approach is that it overemphasizes the importance and abilities of GIS. While certainly more complex than something like CorelDraw or Microsoft Word or Access, these are still basically tools to help the archaeologist, forester, geologist, or whoever to deal with the high volumes of data in their spatial modeling and related decision making. The writers in this book have then engaged in one of those curious debates where they are ostensibly talking about one thing, the application of GIS technology, and in turn use it to try and resolve old questions of how to describe prehistoric human land use and the overemphasis on scientific interpretation. The most interesting part of the entire book highlights this - the Postscript by Van Leusen and Gaffney, with the former defending the use of a GIS, at least in CRM settings, and the latter condemning the technology for reinforcing mechanistic models of human adaptation.

With such conference volumes we tend

to expect unevenness, but what we have in this book is a mess. Out of the 23 chapters that describe the application of a GIS to an archaeological problem, only one, a discussion of the distribution of early metal working in the region around Madrid, Spain, is presented as a complete project (Baena, et al). All the rest are either at the progress report level, or else so preliminary they appear as little more than proposals for future work. Although it can be assumed that for a majority of the authors, English is not their first language, no attempt seems to have been made to correct or touch up the writing. Some of the chapters are so mangled as to be incomprehensible. There is a definite sense here that anything submitted got published.

Finally, one of the more useful entries discusses design and presentation issues for GIS outputs (Miller). Many of the images, figures, and maps scattered throughout this volume, however, are simply bad, often appearing as if someone tried to photograph the display as it appeared on their computer monitor. Map and figure legends are often either non-existent or incomplete. Both these issues of atrocious writing and shoddy graphics are unacceptable in a volume costing over \$135.00 CDN.

Geographic Information Systems could be playing a much more important role in both describing and explaining the spatial distribution of the prehistoric record than they are at present. One much-needed aid to this end is a study showing the *planned* application of this technology right from the inception of the project on through the modeling, analysis, and presentation stages. With all the experience that a publisher like Taylor & Francis should have gained since publishing *Interpreting Space* in 1990, a better book should have resulted.

Grant Beattie received his MA in Anthropology from UBC in 1995. His thesis research concentrated on settlement pattern analysis using GIS. Since 1996 he has been working for Arcas Consulting Archaeologists Ltd. as a GIS analyst.

A TALE OF ENCLOSURE AND COMMODIFICATION

An Archaeology of Capitalism

by MATTHEW JOHNSON

Basil Blackwell Publishers, Ltd., Oxford, 1996.

xiv + 244 pp., illus., glossary, bib., index. Price: ISBN 1-55786-348-2, (Pb) \$27.75 CDN.

An Archaeology of Capitalism is the tenth volume in the "Social Archaeology" series under the general editorship of Ian Hodder. The appearance of this series is due to the recognition of the increasing role that social theory plays in current archaeology. Social archaeology includes such diverse topics as meaning, structure, text, power, and ideology through combining archaeology, anthropology, sociology, economics, historical geography, social and cultural history, and architectural history. In this book, Matthew Johnson looks at the material and textual manifestations that mark the transition from feudalism to capitalism in post medieval England, dating between ca. 1400 and 1750.

The emergence of nascent capitalism is documented in aspects of space (landscape) and objects (material culture). Borrowing Michel Foucault's definition of archaeology, Johnson (p.1) states that: "I want to 'excavate' below the surface of pre-industrial material life; I want to sketch some of the lines of the genealogy, the underlying geology, of certain social, cultural and mental processes that came together in the post-medieval period." Using both material culture and

landscape the author looks at their history and context, the way they were classified, used and re-used, by individuals and groups to gain insights about the "structuring of modernity". The two aspects that are discussed at length in this text are enclosure, the changing patterning of mental and physical/material space, and commodification, the changing role of objects as foci of cultural, social, and economic relationships.

Following the introductory chapters in which he sets out his theoretical approach and provides an historical context to post medieval England, Johnson launches his discussion on enclosure. In chapter 3 he critically examines the enclosure debate. Enclosure is the term that refers to the replacement of unbounded open furlong and strip fields and medieval agrarian practices with a modern system of hedged and ditched fields and profit farming (agrarian capitalism). Johnson sees enclosure as "a narrative of change." To his mind the models of conflict, climate, and economic improvement previously presented by scholars are inadequate to explain enclosure. Rather, he believes that closure should be seen in the wider sphere of contexts, including the agrarian, domestic and cultural realms. In chapter 4 the author tries to define or re-define an "archaeology of closure" by examining the ordering or closure found in post-medieval British architecture, field systems, agrarian treatises, and maps. The author observes that enclosure is part of a changing set of English cultural attitudes and practices from the mid-fifteenth century onwards. Johnson observes that the imposition of a planned landscape on a relatively "unenclosed" wilderness also occurred in British colonies, such as Ireland and New England.

Johnson next addresses the "archaeology of texts" in chapter 5. He believes that historical records should be treated as artifacts rather than just documents. Researchers, therefore, should look for changes in both the material and mental landscapes in the creation of social prac-

tice. Post medieval documents order space, people and knowledge, both socially and topographically. Documents, such as probate inventories, illustrate the emergence of the so called middling order, and the commodification of land and goods.

The following chapter looks at the "archaeology of authority", principally the large-scale and monumental architecture of the English aristocratic elite. In this chapter Johnson describes the transition from feudal castle architecture to "polite" mansions and palaces. He also discusses the manipulation of the landscape, such as in formal gardens and the development of the "gaze", to create spatial order. On the other hand, chapter 7 concentrates on the "archaeology of the ordinary, vernacular, and small-scale" by looking at the middling expressions in architecture, furniture, and portable material culture associated with notions of "comfort". This emphasizes new materialist attitudes towards the world, including the discerned increase in patriarchalism in society associated with emergent capitalism. Along with the metamorphosis of space and material culture seen in both aristocratic and middling spheres, social forms also changed, reflecting the transition related to the values of nascent capitalism.

Chapter 8 focuses on the increased consumption of new forms of material culture and the development of commodification. This is linked to increased secularism, an increase in both frequency and variability of new forms and styles of objects, and urbanism. Johnson emphasizes the importance of the social and cultural context of the feudal/capitalist transition in which artifacts were made, distributed, used, and discarded.

The concluding chapter of the book discusses the appearance of the Georgian Order in the eighteenth century. The author notes that the ordering of space, people, knowledge, time, and discipline were necessary precursors to the Industrial Revolution and mass production. The Georgian Order is defined by architecture, material culture, and lifeways, that is char-

A letter from Sage Birchwater

Feb. 2, 1997

The MIDDEN, Box 520 Bentall Station, Vancouver V5C 2N3

Many thanks to Cindy English for her very kind review of my book, *CHIWIID*, in the Fall issue of *The MIDDEN*. I found it interesting to view the book through the eyes of an ethnologist.

I wish to clarify two points brought up by Cindy.

1) With respect to the inconsistency use of "Cochin" (the official name found on the government maps) and "Kwatsine" Lake, the vernacular used by most Tsilhqot'in speakers. The two terms are both in common use in the Chilcotin today, and refer to the same body of water. Some individuals use either term intermittently, depending who they are talking to.

The name of this lake has an interesting, if not somewhat muddled origin. In fact people can't really agree on what it should be called. You see, a couple of kilometres away, at the bottom the Tatlayoko Hill, there used to be a lake that was identified on old maps as Quitsin or Kwatsine. On these same maps, the present Cochin Lake was listed as "Cochin" Lake.

Then one day a settler by the name of Charley Parks, drained the lower lake and made a hayfield out of it. So the original Quitsin or Kwatsine Lake no longer existed.

One can only speculate whether Cochin Lake was indeed called "Cochin" by Tsilhqot'in speakers before "Quitsin" Lake was drained. Or whether the original map makers erred.

One thing is certain though, Cochin (Quitsin or Kwatsine), the lake that exists today, was always renowned for its prolific abundance of big, delicious sucker fish that the Tsilhqot'in made a point of catching. Especially in winter through ice.

2) Again for your information, I did have the generous assistance of translators in compiling the material for *CHIWIID*. Douglas Myers translated for his mother, Helena Myers; Jane Mueller translated for her mother, Louisa Jeff; the late Rosalie Dawn Haines translated for her mother, Julianna George Setah; Donald Ekks translated for his wife Emily Lulua Ekks; and Zaloway Setah for his friend Charlie Quilt.

There were indeed other Tsilhqot'in individuals I spoke to, whose anecdotes sadly did not appear in the book, just as there were a number of non-native story tellers whose wonderful tales were eliminated by the merciless delete button of the publisher. They fell victim to publishing space constraints.

Anyway, thanks again for acknowledging *CHIWIID* in *The MIDDEN*.

Sage Birchwater, Box 55, Tatla Lake, B.C. VOL 1V0

acterised by symmetry, balance, order, and an increasing emphasis on individualism. These patterns are related to the development of capitalist relations in both England and in her North American colonies.

The book is well-written and illustrated. Johnson's narrative is both enjoyable to read as it is intellectually stimulating. Although the subject matter discussed in the text does not directly relate to North American or British Columbia archaeology, the theoretical approach used by Johnson may be applicable. For example, future archaeological research could investigate the impact of Anglo notions of "property" and enclosure in the frontier landscape of the Pacific Northwest. Such studies could concentrate on the material manifestations of capitalism in the transition from the fur trade to settlement eras, thus augmenting current historical research. In any case, an understanding of the development of capitalism in post medieval England through archaeology is an important step in recognising the material manifestations of mercantile and industrial capitalism in both the Old and New Worlds.

Robbin Chatan

ASBC member Robbin Chatan obtained his MA in Archaeology from the University of Calgary in 1992. He has an interest in historical/industrial archaeology of the North American West, and has worked on historical period sites in both Alberta and British Columbia, including the McLean Mill National Historic Site in Port Alberni.

PERMITS

PERMITS ISSUED BY THE ARCHAEOLOGY BRANCH, JANUARY - MARCH 1997

The assistance of Mr. Ray Kenny (Manager, Assessment and Planning Section) in providing this information is gratefully acknowledged.

Types of permits are Insp(ection), Alt(eration) and (Inv)estigation.

Other abbreviations which may be found are:

AIA — Archaeological Impact Assessment
 AIS — Archaeological Inventory Survey
 AIM — Archaeological Impact Management
 AOA — Archaeological Overview Assessment
 CMT — Culturally Modified Tree
 CP — Cutting Permit

DL — District Lot
 FD — Forest District
 MoF — Ministry of Forestry
 SBFEP — Small Business Forest Enterprise Programs
 TFL — Tree Farm License
 TL — Timber License
 TSA — Timber Supply Area
 TSL — Timber Sale License

1997-001	Vicki Feddema	Insp.	AIA for City of Abbotsford's proposed Atkinson Reservoir and Waterline development, Sumas Mountain
1997-002	Joseph LeBlanc	Alt.	Alteration by West Fraser Mills to site in FL A16885, Bish Creek Operating Area
1997-003	Clinton Coates	Insp.	AIA for subdivision and proposed residential construction, west side of Tunkwa Lake Road north of Logan Lake
1997-004	Andrew Mason	Insp.	AIA of MoTH Highways Maintenance Yard, Coquitlam
1997-005	Rob Shortland	Insp.	AIA for proposed Pacific Natural Gas pipeline loop, southeast side of Skeena River, east of the Gitnadoix River, Rge.5, Coast Land District
1997-006	Morley Eldridge	Insp.	AIA of Western Forest Products forestry operations within TFL 25 at Spiller Inlet and Eilerslie Lake, Mid-Coast FD
1997-007	Murray Carvey	Alt.	Alterations to sites DjPw 20 and DjPw 21 by construction of City of Cranbrook's east side watermain project, Cranbrook
1997-008	Morley Eldridge	Insp.	AIA for Saanich Peninsula Sewerage System North and South Trunk lines, located between Sidney, Saanichton, & vicinity of Tsawout IR#2
1997-009	John Maxwell	Insp.	AIA at 2920 Comox Road, Comox Land District
1997-010	Lindsay Oliver	Insp.	Inventory and evaluation of MoTH Deroche Highways Yard, 42769 Loughheed Highway, Mission
1997-011	Tina Christensen	Insp.	AIA of proposed residential development within part of DeRu 12, Strata 21, Section 53, southern Saltspring Island
1997-012	Christopher	Alt.	Excavation/levelling/moving heavy equipment on EaRe 26, Hardwick near Merritt
1997-013	Peter Hryko	Alt.	Excavation and relocation of archaeological deposits during house construction, from DkSf 24 at 2920 Comox Road, Comox
1997-014	Jean Bussey	Insp.	AIA of McMahon Lumber Company forestry operations in the Mission - Dewdney area, Chilliwack FD
1997-015	Brian Hayden	Inv.	Excavations at the Keatley Creek Site (EeRI 7), near Lillooet
1997-016	Rick Howard	Insp.	Site inventory and AIA of forestry operations within Woodlot 1474 and an adjacent parcel of Crown Land, Port Alberni FD
1997-017	Ian Wilson	Insp.	Post-construction AIA for AEC West Ltd. pipeline from Alberta border to wellsite in SE 1/4 Sec.12, Tp.26, southeast of Pouce Coupe
1997-018	Lindsay Oliver	Insp.	AIA of proposed septic field for Anderson Lake Resort, Lillooet Land District
1997-019	Dan Weinberger	Insp.	AIA for subdivision within DL 9511, Cariboo District, except Plan 29013, located south of Puntataenkut Lake
1997-020	Moe Attalla and Eleanor Attalla	Alt.	Alterations within DgRs 9, at 380 Tsawwassen Beach Road, Delta
1997-021	Morley Eldridge	Insp.	AIA of Western Forest Products Ltd.'s forestry operations in cut blocks 102H, 103H, 104H, 106H(North), 109H and 110H in Green Inlet, Mid-Coast FD

1997-022	Henry Gil	Alt.	Westcoast Gas Services pipeline trench excavations within HiRg 1, HfRI 1 and HfRm 11 for construction of Highway Gas and Liquids Plant and Pipeline Project, NE B.C.
1997-023	D'Ann Owens-Baird	Insp.	AIA of geotechnical drilling program on Bees IR#6 and adjacent portions of Bish Cove, Douglas Channel
1997-024	Geordie Howe	Insp.	AIA of MacMillan Bloedel (Juskatla Division) forestry operations within TFL 37, Moresby and Graham Islands, QCI
1997-025	Heather Pratt	Insp.	AIA of Canadian Forest Products (Englewood Logging Division) forestry operations within TFL 37, NW Vancouver Island
1997-026	Susan Woods	Insp.	AIA of MacMillan Bloedel (Eve River Division) forestry operations within TFL 39, E coast of Vancouver Island
1997-027	Susan Woods	Insp.	AIA of Hecate Logging Ltd. forestry operations in FL A19236, between Port Eliza and Espinosa Inlet, Nootka Sound
1997-028	Larry Hewitt	Alt.	Alterations to HJRm 3, 6, and 7, HiRm 1 and 2, HhRm 2 and 3, HfRm 1, 9 and 10, by construction of Westcoast Gas Services' Jedney Expansion Plant/Pipeline Project, NE B.C.
1997-029	Heather Pratt	Insp.	AIA of TimberWest Forest Ltd. (Honeymoon Bay Ops) forestry operations within TFL 46 and associated tenures in the Port Alberni FD, western Vancouver Island
1997-030	Vicki Feddema	Insp.	AIA of MacMillan Bloedel (Kelsey Bay Division) forestry operations in TFL 39, Block 2 and associated tenures, Campbell River FD
1997-031	Vicki Feddema	Insp.	AIA of MacMillan Bloedel (Port McNeill Division) forestry operations in TFL 39 and associated tenures, Port McNeill and Mid-Coast FDs
1997-032	Richard Brolly	Insp.	AIA for proposed road and other facilities in Boundary Bay Regional Park, Delta
1997-033	Morley Eldridge	Insp.	AIA for proposed bare-land strata subdivision in Section 19, near Sointula on Malcolm Island, Rupert District
1997-034	Bruce Dahlstrom	Insp.	AIA of property development near Langford Lake, District of Langford
1997-035	Stephen Lavigne	Alt.	Alteration of CMTs by Western Forest Products within TFL 25, Block 5 in Green Inlet, Mid-Coast FD
1997-036	Duncan McLaren	Insp.	AIA of BC Hydro's Stave Lake Reservoir drawdown, NW of Mission
1997-037	Ian Wilson	Insp.	AIA of International Forest Products Ltd. forestry operations in FL A19235, Arrowsmith TSA
1997-038	Donald MacKay	Alt.	Alteration to CMTs on or near EiSt 3, within TSL A48401, Smith Inlet, Mid-Coast FD
1997-039	Fred Parkin	Alt.	Trench excavations within DkSf 4 for installation of a storm sewer drain, Section 56, Comox Land District
1997-040	Clifford West	Alt.	Trench excavations within DkSf 4 for installation of a storm sewer drain, Section 56, Comox Land District
1997-041	Ian Wilson	Insp.	AIA of Western Forest Products Ltd. forestry operations within TFLs 6 and 25, Port McNeill FD
1997-042	Dan Weinberger	Insp.	AIA for proposed development of Lots 4 - 14, Section 2, Plan VIP61203, located E of Thetis Cove and NW of Admiral/Hallowel Road junction, Esquimalt District
1997-043	Barbara Kulle	Insp.	AIA of Novagas Clearinghouse Ltd. proposed Taylor Straddle Plant and associated pipeline, Taylor
1997-044	Arnoud Stryd	Insp.	AIA of MacMillan Bloedel (Franklin Woodlands Division) forestry operations within TFL 44 and associated tenures, southern Vancouver Island
1997-045	Arnoud Stryd	Insp.	AIA of Interfor Ltd. (West Coast Operations) forestry operations within TFL 54 and associated tenures, west coast of Vancouver Island
1997-046	Donald MacKay	Alt.	Alteration of CMTs on or near EhSv 8, within TSL 48402, Smith Inlet, Mid-Coast FD
1997-047	Normand Canuel	Insp.	AIA for Rustad Bros. & Co. Ltd. forestry operations within FL A18167, Prince George FD
1997-048	Robert Howie	Alt.	Alteration of CMTs within FL A19236, Campbell River FD
1997-049	Peter Merchant	Insp.	AIA of Sherwood Estates development near DgRI 10 on Teskey Road, Chilliwack

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*indicates illustrated article

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British Columbia Museum Association Conference '97
"The New Frontier: Has a Museum Renaissance Begun?"
PRINCE GEORGE, British Columbia

The 1997 conference will challenge the status quo, discussing the unique ways large and small institutions are responding to their communities. Discussions will examine and encourage the optimism and opportunity museums are now creating, highlighting the efforts institutions are making towards success in the new millennium.

Contact: Glen Mikkelsen, Fraser Fort George Regional Museum, PO Box 1779, Prince George, BC, V2L 4V7; Tel (250) 526-1612; Fax (250) 562-6395; E-mail: ffgrm@solutions-4u.com

November
(T.B.A)

Sixth Annual BC Archaeology Forum
STÓ:LO NATION, Chilliwack, British Columbia

Contact: Heather Myles, Stó:lo Nation, Bldg. #1 - 7201 Vedder Rd., Chilliwack, BC, V2R 4G5; Tel. (604) 858-3366; Fax (604) 824-5226.

November 13-16

Chacmool 30th Annual Conference, "The Entangled Past" Integrating History and Archaeology
UNIVERSITY OF CALGARY, Calgary, Alberta

Archaeologists and anthropologists who study culture contact around the world have recently sought to integrate archaeology with history as a means of understanding significant cultural transformations, within the context of large-scale, long term traditions in cultures. Researchers have increasingly turned to historical sources in order to re-construct the transition from a pre-contact to a post-contact world. This approach has begun to impact archaeologists investigating all forms of culture change. The recognition of the numerous historical sources, such as oral history, folklore, art, and photography, has also been implicit in this approach. This new synthesis of history and archaeology has allowed the discipline of archaeology to play a leading role in the critical reappraisal of historical events and culture change around the world.

Confirmed Sessions: Archaeology as Long-Term History; Archaeology as Historical Anthropology in Polynesia; Beyond the Baseline: Placing Post-Contact Histories into Long-Term Perspectives; Linguistic and Archaeological Structures; Mythology and Archaeology; Text as Material Culture/Material Culture as Text: Alternative Readings of the Archaeological Past; Tangible Histories: Time, Historicity and Material Realities; From the Edge of History.

Plenary Session includes Dr. Thomas Patterson, Temple University; Dr. Ann Stahl, SUNY Binghamton; and Dr. Jennifer Brown, University of Winnipeg.

Contact: Nancy Saxberg, Chair, 1997 Conference Committee, Department of Archaeology, University of Calgary, 2500 University Drive N.W., Calgary, AB, T2N 1N4; Tel. (403) 220-5227; Fax (403) 282-9567; Email: njsaxber@acs.ucalgary.ca

1998

March 26-29

SAA, Society for American Archaeology, 63rd Annual Meeting
SEATTLE, Washington, USA

The 1998 meeting of the Society for American Archaeology will be held at the Seattle Convention Center. Deadline for papers, submissions, and symposia is September 3, 1997.

Further information: Society for American Archaeology, 900 Second Street NE #12, Washington, DC, 20002-3557, USA; Tel. (202) 789-8200; Fax (202) 789-0284; E-mail: meetings@SAA.org; WWW: <http://www.saa.org>

EXHIBITS

Vancouver Museum

Through My Eyes: Northwest Coast Artifacts As Seen By Contemporary First Nations People

Through September 20, 1998

Produced in cooperation with the Museum of Anthropology at UBC, this exhibit is designed to help us appreciate the artistry and significance of First Nations artifacts as seen through First Nations eyes. It encourages the visitor to experience the artifact as a whole, examine its details, and understand the power and history it contains for those who look into it and beyond.

COURSES

Cultural Resource Management

University of Victoria, Division of Continuing Studies and Faculty of Fine Arts

The Cultural Resource Management Program at the University of Victoria is offering the following course for museum, heritage, and cultural professional, designed to address the essential role of effective public relations and marketing in the survival of museums and cultural heritage organizations in today's competitive environment.

September 22-27 Museums in the Marketplace: Public Relations and Marketing Strategies

To be successful in the crowded "edu'tainment" marketplace, museums need strong marketing and public relations strategies that are grounded in a clear commitment to mission, community and collections. This course emphasizes the central role of effective public relations and marketing in the management of contemporary museums, and focuses on the processes that are vital to effective communication with your target audiences. The course is designed to develop your ability in: relating institutional mission and goals to community needs; defining current and potential audiences; building staff commitment to positive public relations; creating effective public relations, communications and marketing strategies; designing publications to communicate and reinforce your image and programs; working with media; and balancing marketing with development activity.

Instructor: Pamela Johnson, consultant

Location: University of Victoria

Registration deadline: August 29, 1997

Fee: \$589 (credit and non-credit)

For further information on this and other courses contact Brenda Weatherston or Joy Davis, Cultural Resource Management Program, Division of Continuing Studies, University of Victoria, PO Box 3030, Victoria, BC, V8W 3N6. Tel. (250) 721-8462; Fax (250) 721-8774; Email: bweatherston@uvcs.uvic.ca or joydavis@uvcs.uvic.ca; Web site: <http://www.uvcs.uvic.ca/crmp/>
To receive bi-monthly updates send a request to bweatherston@uvcs.uvic.ca



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