THE MIDDEN

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THE MIDDEN

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FRONT COVER:

Cover photograph by Tappan Adney in 1898 of the "Skookum Gulch Stampeders" dining by their tent, Chilkoot Trail, Yukon. Note the number and variety of metal containers. Photograph courtesy of the Notman Photographic Archives, MP 114/79 (37), McCord Museum of Canadian History, Montreal, P.Q.

ASBC DIARY:

1996

April 10	**Grant Beattie, UBC** Archaeology of Vancouver and vicinity
May 8	**Cathy Yasui** "Village 'Far Enough', Triangle Island - A Kwakwaka'wakw Settlement"
June 12	**Milton Wright** Heritage Conservation Branch, Victoria

THE MIDDEN

BY WAY OF THANKS

This is the first volume of *The Midden* under my editorship but in fact the theme and organization of this issue (and hence credit) belongs to Robbin Chatan. I wish to extend my thanks to Robbin and the rest of *The Midden* staff for their assistance with this issue. Robbin also deserves credit for his Guest Editor stint on the special Donald Mitchell volume a few issues back. I would also like to take this time to thank Terry Spurgeon for the Roy Carlson issue.

In order to find space to include all the articles Robbin had obtained for this issue we have had to put on hold some of the regular features of *The Midden*. We have included as an insert the Index for last year. Planning for the rest of 1996 is starting to fall into place and we look forward to interesting articles and news to bring to your attention.

The current staff of *The Midden* have taken their time and trouble to bring me up to speed on the policies and practices of getting each issue together and out. It still has a few bugs that need to be worked on but the excellent team Joyce Johnson put in place has been wonderful. As all the staff work as full-time archaeologists, getting together to discuss, plan, and finalize this issue has been difficult. We are trying to work out a system that will allow for the timely publication of *The Midden* and still allow us to do fieldwork.

Joyce Johnson is no longer the editor of this journal and we (and here I use the "we" in the sense of the readership of *The Midden*) can not thank her enough. When back in December of 1991 Joyce took over the reins of editorship from Kathryn Bernick this journal was still a one-person show. Slowly Joyce put together a production team and changed the look of *The Midden* to what it is today. From my brief time as editor I have a hard time imagining how Joyce managed to put together those other issues without some team in place. There is a great deal of unacknowledged time and work that Joyce put into this journal and she deserves our praise and thanks. However in my opinion there is one thing that Joyce Johnson did for *The Midden* that really stands out. Joyce's creation of the production team is and will be her lasting legacy for this journal.

I would like to dedicate this issue of *The Midden* to Joyce but somehow that does not seem to do justice to all of Joyce's time, energy, and love that she put into this journal. So to Joyce, on behalf of the staff, the Executive, and all Archaeological Society of B.C. members much heart-felt thanks. The future direction and pride we take in *The Midden* is Joyce's tribute.

NO MOOSE

Apologies for a couple of errors that slipped into the Don Bunyan article in the last *Midden* (Vol. 27, No. 4). The archaeologists Don met in Iraq were Hans Helbaek and Diana Kirkbride-Helbaek. Don photographed the latter's artifact collection, while his assistance to Robert Braidwood involved analysis of Braidwood's tar samples. And, most important, Don insists that he never hunted moose nor anything else in his entire life!

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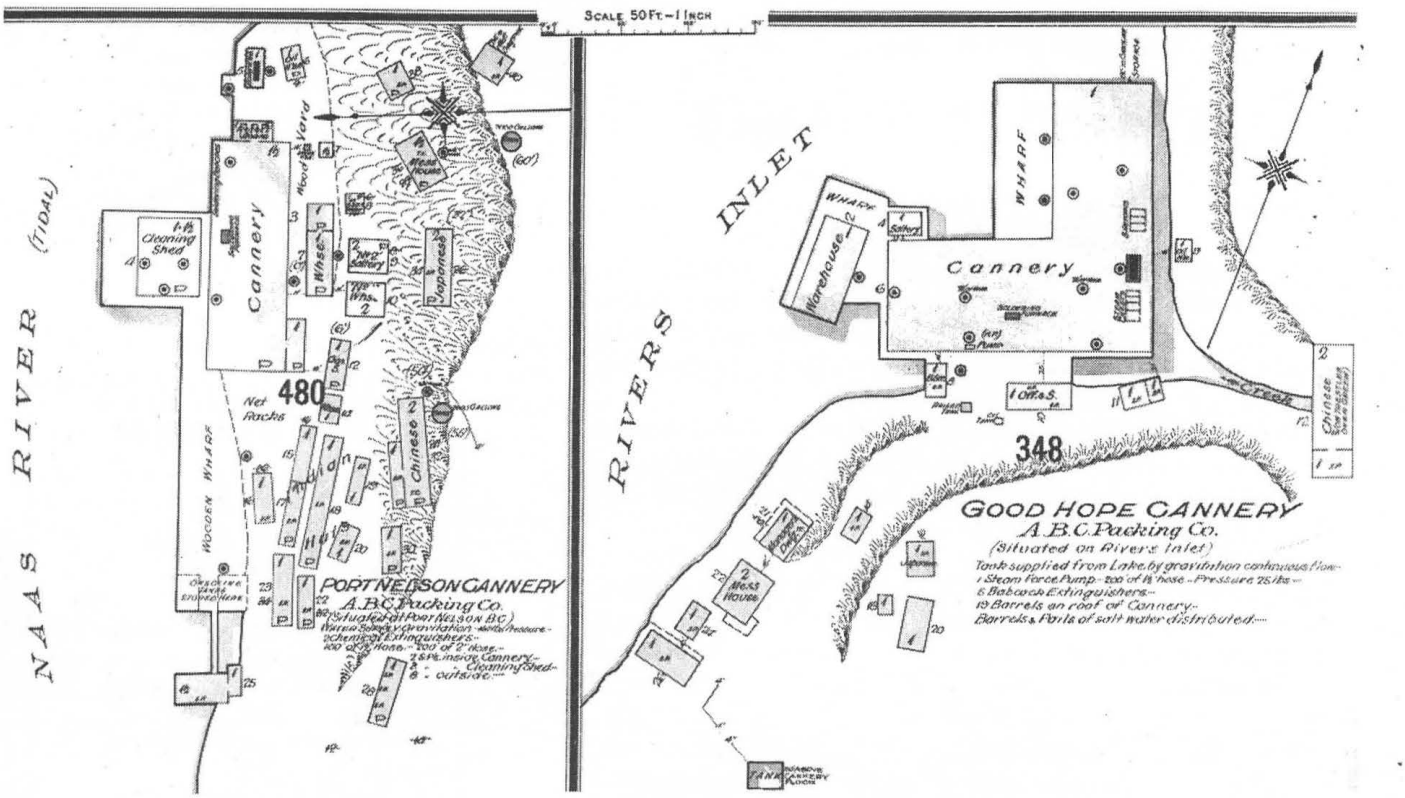
ARCHAEOLOGICAL SURVEY OF THE COASTAL SALMON-CANNING INDUSTRY

by Dianne Newell



Charles E. Goad, Northern Canneries of British Columbia (1915), Port Nelson Cannery, Nass River, and Good Hope Cannery, Rivers Inlet. Please note: the north arrow on insurance plans for coastal canneries are not accurate; also, the stage of the tide is never indicated for the representation of the shoreline. Photo credit: Public Archives of Canada (NMC 10457, sheets 3 and 8).

The Pacific Coast fisheries, while not yet in the sorry shape of the Newfoundland industry, is fraught with debate and racial tensions. Issues of Native land claims and treaty negotiations in BC routinely focus on access to and control of fisheries, provoking growing hostility among the non-Native population. The struggle today is a direct consequence of a conflict between two very different historical relationships to fish. For over a century, salmon and the salmon-canning industry were at the centre of that drama.

The historical importance of North American coastal salmon canneries and the alarming rate at which the remaining older plants had recently disappeared by the mid 1980s, led to an attempt by Dr. Arthur Roberts, from the Geography Dept. at S.F.U., and myself, to document the various cannery operations and assess the present physical condition and layout of each cannery site in BC. The original two-year project (1984-86), on the industrial archaeology of the Salmon Canneries of BC, received the first research award for a project in historical archaeology funded by the BC Heritage Trust. First Nations fishers and plant workers, Chinese contract labourers, Japanese fishers, and to a lesser extent plant workers, kept the canneries productive for nearly a century. Therefore, a study of the canneries provides an understanding of the intermeshing of Native and industrial economies, and an important but understudied conjunction of Asia in North American industrialization. Also of significance is the general importance of the salmon cannery camps of BC for explaining social and technological developments and vernacular architecture on the western resource frontier.

The salmon canneries, like many historic industrial sites, are at tidewater locations. Coastal environments pose particular challenges for industrial archaeologists. This is especially so in the case of a mountainous, flooded coastline typical of the Pacific Northwest of North America, as well as Scandinavian countries, New Zealand, and Japan, where for example, the major-

ity of the coast is accessible only by water and air. The ultimate purpose of the original project in industrial archaeology was to develop inexpensive survey strategies for generating a data base on industrial tidewater sites. This included several complementary procedures to assist in a photo-reconnaissance survey, the interpretation of which is reported in eight volumes submitted to BCHT (Roberts, Newell, and Higginbottom, 1986). The significance of the preliminary findings is discussed in a separate report to BCHT (Newell, 1986) and in several journal articles (Newell, 1987; 1988a; 1991) which I summarize below, and my investigations in a range of issues in the history of Canada's Pacific Fisheries has continued over the past decade (Newell, 1988b; 1989; 1993).

Of the over 200 cannery sites, only a handful still operate today in Vancouver, Prince Rupert, and Port Hardy. Approximately half of the historic sites are located in isolated rugged settings, and therefore difficult to locate and reach. Thus, the only practical way of locating, mapping, and recording hundreds of complex sites across a vast, largely inaccessible terrain, is by air. Because many of the buildings were constructed over the tidal foreshore, on rocky beaches or areas now largely obliterated by urban sprawl, and occupation of these sites was seasonal and relatively brief, there is little possibility of productive archaeological excavations at most of them. The time and cost of the aerial-photo survey and archival work amounted to a fraction of what a ground reconnaissance and surface survey would have cost. Aside from being so efficient and relatively low in cost, the aerial survey also produced a comprehensive, detailed, and scientifically-derived record of many complex historic industrial sites, their physical and cultural attributes, and local resource environment. They also provided a rational basis for representative sampling. Visits to a sampling of sites could be conducted very productively. It is unlikely this could have been accomplished by any other historical or archaeological methods.

In order to plan a photo-reconnaissance survey of historic salmon cannery sites, it was first necessary to learn as much as possible about the basic physical structure and history of the industry and the history and layout of individual cannery sites. This required extensive library and archival research which involved six student research assistants working under my direction at UBC during the summer of 1984. The type of historical background information they compiled was tested and supplemented in the late summer through photo-reconnaissance and ground-based surveys of the sites.

The team eventually identified 223 individual salmon-cannery sites. During the heyday of the industry (1871-1950s), the canneries only operated during fishing season (Newell, 1988a). They housed the fishing fleets of both the province as well as a variety of industrial enterprises. Some operated for only a few seasons, while others lasted for 50 or 60 years. By 1900, over half the sites had been developed, with a final construction boom between 1914 to 1928. The last cannery site developed was in 1966.

Historic fire insurance plans provided the most plentiful, early, and comprehensive coverage for the layout and features of these industrial sites (Newell, 1987; 1991). Industrial archaeologists generally find these plans useful, because they yield physical descriptions of the relevant premises and provide ground plans to scale showing internal and external details of the main workplaces and their position relative to neighbouring structures and housing quarters. In the case of salmon canneries, these plans contain detailed information about activity areas, building functions and construction, processing techniques, organization of work, material handling, transportation technology, and social practice at various times and places. And social data abounds.

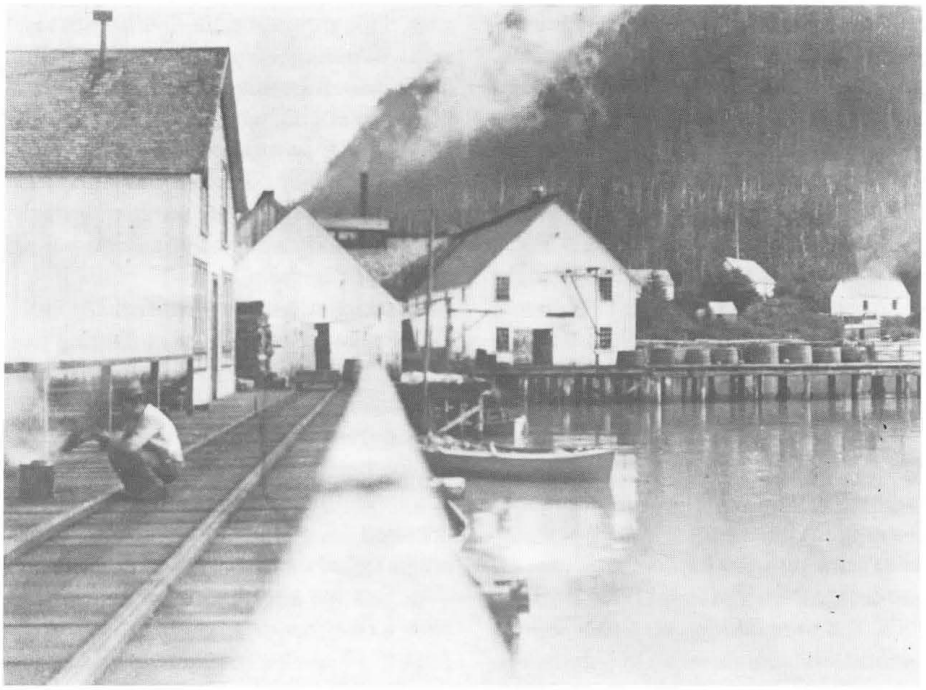
Discovered during the course of this project, were a total of 318 sets of fire insurance plans of BC salmon canneries, and 75 completed inspection data forms listing machinery and equipment inventories, and plant and equipment values. The plans relate to 144 of the 223 (64%) individual cannery sites, and in total cover a long period of time (1885-1960), with excellent, special coverage for the years 1897, 1911, 1915, 1924, and even later for one packing company operation: Canadian Fishing Co. I later established a machine-readable data bank based on the information in these plans, which indicate that cannery camps comprised upwards of 60 distinctive building types other than the main canning plant and buildings categorized as dwellings (Newell, 1987, 10). The plans suggest (and subsequent oral testimony confirms) quite extensive and varied housing - 46 different categories of dwellings, in total - and despite the spatial limitations of cannery sites, racial and occupational boundaries were maintained in housing (Newell, 1991, 30-33). Further historical research indicates that these boundaries were maintained both on and off the job (Newell, 1988b;1989).

Of special interest for field survey work, before WW II, solid foundations were rarely constructed, or were materials other than wood used in construction, although metal fuel storage and water tanks and their metal boilers and brick foundations, are indicated on most insurance plans. From business records we know that the tidewater location meant everything, fish, people, supplies, buildings, construction materials, machinery, equipment, and the canned-salmon pack travelled by tidewater. Cannery operators could rearrange or enlarge buildings on the site, even move structures from one site to another to meet the exigencies of the largely unpredictable, ever-changing industry. The very adaptability, portability, and 'recyclibility" of the various components of cannery sites kept capital costs for cannery operators low, but now pose problems for those wishing to conduct field surveys where no buildings remain above ground. The main canning complex was inevitably built over the tidal foreshore on pilings or mud sills. An extensive network of boardwalks connected the cannery to housing quarters and other activity sites. Indeed, the key determinant in locating and inventorying these sites is the presence of wooden piling driven into the tidal foreshore. Whatever changes may have taken place at the sites since the canneries were erected, we assumed that many of the pilings would remain and be visible from the air at low tide. If these could be located, it would be possible to confirm, even to detect, the precise location and possibly aspects of the layout of cannery sites, regardless of the state of the archival record (Newell, 1987). From this hypothesis, it was possible to work out an inexpensive and efficient strategy for the photo-reconnaissance survey.

Survey planning required a team of four student researchers. The first step was to

identify a set of modern National Topographic Series maps (NTS 1:50,000, or 1:25,000 for built-up areas), marking on them the approximate location of known cannery sites, from which to guide us in ordering contact prints of government aerial photographs. Determining a complete list of all sites on which salmon canning had taken place and their precise geographical location using the Universal Transverse Mercator map co-ordinate system was extremely difficult, but essential to the project's success. From studying various cartographic and archival sources, especially old aerial and surface photos (over 1,000 images were collected for this project), land-use, settlement and topo maps, fire insurance plans, land survey records, municipal directories, street maps, canned-salmon pack statistics, hydrographic charts, and company records, it was eventually possible to convert our preliminary list of fish-packing operation names and approximate locations into a comprehensive list of salmon-cannery sites and their precise locations. Refinement of the list continued for another ten years after the aerial survey work.

The historic, cartographic and photographic record suggested there were three essential requirements for a suitable cannery site in remote locations: a convenient source of fresh water; a relatively protected harbour with good access for fishing boats and supply vessels at high tide; and a section of flat beach and an extensive tidal foreshore on which to erect the canning plant and other buildings. Thus, even before surveying the sites from the air, we knew they (aside from those located in river deltas and urban harbours) were likely to involve beach areas formed by small stream deltas in small deep-water coves or embayments with gently sloping foreshores. Given the traditional coastal orientation and importance of salmon to the First Nations of the Pacific Northwest, the locational requirements for salmon canneries were similar to those for aboriginal fishing sites, therefore many of the canneries became located near Indian reserve lands and villages (Newell, 1989; 1993). Archaeological excavations of middens and village sites at or near historic salmon cannery sites, such as the Glenrose and St. Mungo cannery sites on the south bank of the Fraser (for example, Boehm, 1973; Calvert (Boehm), 1970; Imamoto, 1974; Loy, 1973; Matson, 1975), and Namu (Conover, 1972), on the central coast, tend to treat the presence of a cannery as a "disturbance," rather than as the continuation of an aboriginal, fish-based activity.



Nass Harbour cannery, Nass River, c. 1912. Photo credit: UBC, Special Collections, Doyle Papers, vol. 5, file 18.

There were numerous airborne requirements for the aerial survey. We needed two series of high-quality stereoscopic vertical photographs, in colour and infrared photography, to assist with interpreting the layout and environmental condition of the sites and to document their present condition. These photos had to be taken along the full length of specific flight lines, at fixed intervals, with the correct orientation, and at the specified low altitude. All this all had to be done in daylight hours during low tide, under optimal weather conditions. The aerial work required photographing from relatively low altitudes (between 1,000 and 2,000 feet above land/sea), where good visibility was likely. This was hazardous and difficult in both mountainous districts and urban areas with heavy air traffic. We used a light, single-engine aircraft with a wheeled undercarriage in order to reduce costs and improve flying efficiency, but the restriction to land bases necessitated by using this type of aircraft was a practical disadvantage in coastal BC. Careful planning and coordination were required in order to avoid costly delays and repeat visits.

Art Roberts, a student assistant, and I completed the basic photo-reconnaissance survey of over 200 sites (only a handful of sites were not covered) in just six weeks, working on a part-time basis under ideal weather conditions. Roberts organized and supervised the air photo reconnaissance and piloted the aircraft. He also arranged funding for and coordinated a special project to comply with BCHT research funding requirements: a 20-minute video on the project that is on file with the BCHT.

Two 35 mm cameras were mounted to the photohatch of the plane. One was fitted with colour infrared film and a 24 mm focal length lens to give small scale, synoptic, high-contrast, "false colour" images, with which to pick up the cultural features and general areas of operation and separate them from the surrounding landscape. This type of film is the most valuable of all types for filming through haze, a common condition in a marine environment. The second fixed camera, using regular colour film and a 50 mm focal length lens, provided detailed views of the site layout, surface features, and large objects. This type of film had the advantage over colour infrared of providing good water penetration to detect submerged shoreline features.

Photographing the sites at low tide

Cont'd on page 12

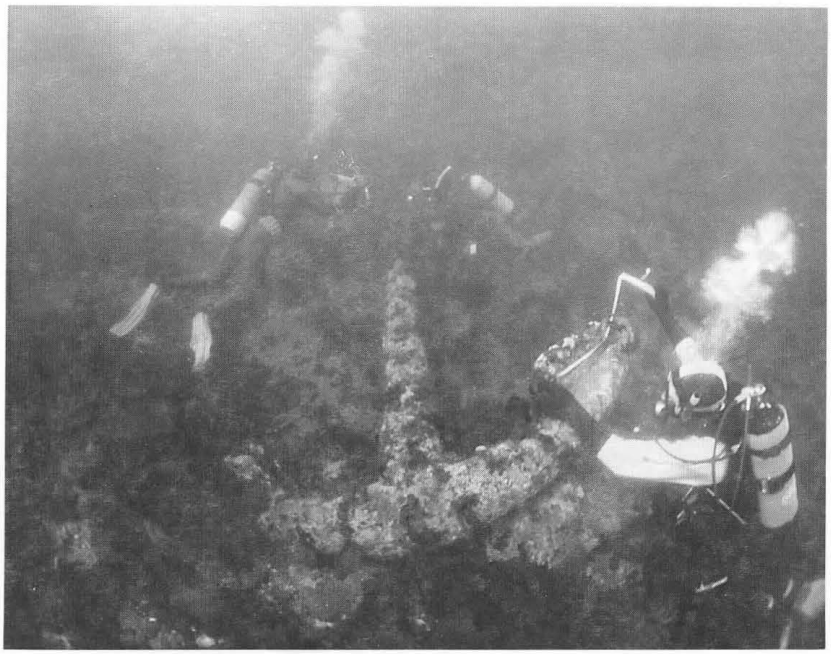
TWENTY YEARS OF EXPLORATION AND EDUCATION

THE UNDERWATER ARCHAEOLOGICAL SOCIETY OF BRITISH COLUMBIA

by Robyn P. Woodward

British Columbia's coastal and inland waters are the storehouse of a rich yet fragile heritage resource. Prehistoric First Nations settlements lie submerged by sea level changes. Literally thousands of ships have been lost due to storms, fire, collisions, navigational hazards, or drunken skippers. Items from every era have been lost or tossed in the water.

Twenty years ago this resource was little appreciated by government, academia, or the general public Ð with one exception. Souvenir hunters and salvors were systematically plundering our old shipwrecks. The artifacts they removed lost their historical context and ultimately disintegrated from lack of conservation.



UASBC divers measuring an anchor from the sailing ship Fanny, *sunk near Victoria in 1868.* (UASBC photo)

In 1975 the University of British Columbia's Continuing Education Department sponsored a course in maritime archaeology. Twenty graduates from the class founded the Underwater Archaeological Society of British Columbia (UASBC) that summer. a non-profit, avocational organization, it was dedicated to "promoting the science of underwater archaeology and to conserving, preserving and protecting B.C.'s maritime heritage lying beneath our coastal and inland waters." From the outset, we stressed explorations and education.

Explorations got underway with a training "dig" on the old sailing ship Panther. Very soon, however, we came to favour non-intrusive surveys and archival research. We found that our niche was heritage conservation.

B.C. has never had a provincial underwater archaeologist or submerged cultural resource program. In the early 1980s, UASBC undertook to fill the gap. The Society began to assess and map submerged sites, providing the Archaeology Branch with data on which to base site management decisions. Members contributed their labour, equipment, and most of their own costs. They also wrangled donations from the private sector, particularly the use of high-tech survey and positioning equipment from subsea companies. In return, Bjorn Simonsen, then Provincial Archaeologist, helped secure B.C. Heritage Trust funding. As the scope, complexity, and professionalism of our surveys has grown, so has the province's support. Core funding and specific project funding is now supplied in return for a pre-approved program of site surveys, inventory data, historical research, and management advice.

The Society's major accomplishment is a series of regional shipwreck inventories. So far we have reported on five areas: the Gulf Islands, Clayoquot and Nootka Sounds, Barkley Sound, Southern Vancouver Island, and Howe Sound/ Burrard Inlet. We have just begun another, a three-year inventory of shipwrecks off northeastern Vancouver Island (Marc 1994:3). There is also our ongoing Southern Interior Survey. Members in the Kootenays have been working to find, identify, and map more than 50 steamers, barges, and train wrecks in the region's lakes and rivers.

These inventories document the names and locations of sunken vessels, their histories and significance, construction and unique features, how they sank, what was salvaged, disturbance, present condition, and recommendations for managing the site. Maps, plans, video and still photographic records are made of all visible features. Copies are deposited with the Archaeology Branch and B.C. Heritage Trust; our archive of raw data is also available for study. Our most recent survey information is going onto a computerized

UASBC survey team measuring the former schooner Thomas J. Lipton, *stranded in Howe Sound.* (UASBC photo)

shipwreck database developed by the 'Branch with UASBC assistance. It is accessed through the Canadian Heritage Information Network (CHIN).

Aside from the regional shipwreck inventories, we have done another thirty or so projects on specific sites. Some are mini-inventories, such as the 1994 exploration of the bottom of Friendly Cove. Others are detailed work on a single site. These have ranged from a dugout canoe in Shuswap Lake to the Ericsson, the only "caloric"-powered ship ever built. One wreck was saved from pile-drivers only when it proved to be the barque Lord Western, sunk in 1853 and thus the oldest discovered wreck in B.C. We are currently mapping the SS Beaver in Vancouver harbour, arguably the coast's most historic shipwreck.

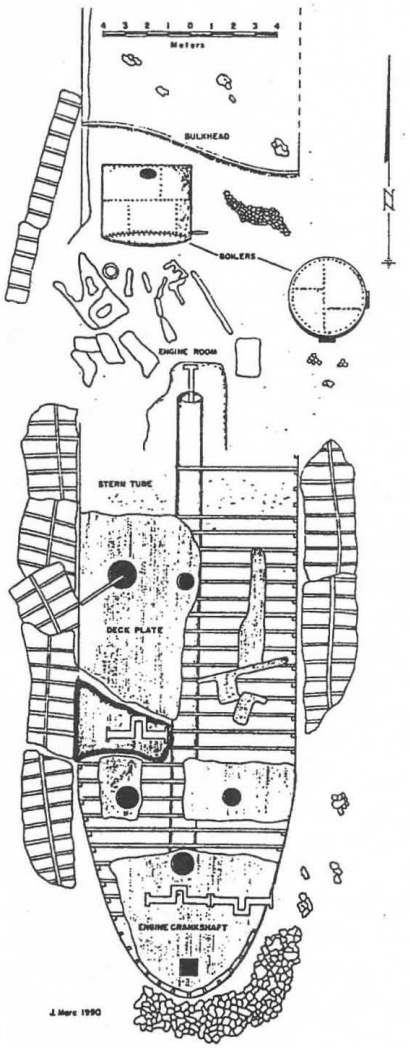
A very special project was the test excavation of a prehistoric midden at Montague Harbour, Galiano Island, from 1989 to 1992. Sea levels just after the last Ice Age were a hundred metres or more below today's level. Therefore, the earliest settlement sites on the coast are probably underwater. The question was whether the existing methodology could get meaningful results from sites battered by millennia of sea action. The midden at Montague Harbour was excellent for the experiment, being only partially inundated by a fairly recent water level change. Norm Easton led the research team comprised of UASBC and ASBC members (Easton 1991:1-4). The work from 1989 to 1992 produced a wealth of archaeological and paleo-environmental data. It proved that this line of investigation has potential. Parks Canada used the same methods for a similar project in the Queen Charlotte Islands last summer.

With government and private support, many of the site-management proposals in our reports have been implemented. For instance, the paddlewheeler Del Norte was being damaged by anchors so we installed a boat-mooring buoy. The big iron screw steamer Barnard Castle, sunk off Victoria in 1886, is another popular dive spot. We created an interpretive trail, with eight plaques identifying the boilers, crankshafts, stern tube, cargo, and other important features. We have also put plaques on nine designated heritage sites. Each plaque gives a brief history of the ship and a plea to leave the artifacts untouched.

Not all of our work is underwater. Education and public awareness campaigns have been a focus of the Society throughout its twenty-year history.

In the 1970s, wreck diving meant "brass-hunting". Laws against diving on shipwrecks could not enforced, especially since many of B.C.'s wrecks are too remote to be policed. Besides, as divers themselves, Society members opposed any restriction on public access to wrecks. The UASBC preferred to change people's behaviour through education. In particular, we stressed that artifacts, the key to understanding our past, are a non-renewable resource.

Society members presented slide shows to schools, service clubs, boaters, and historical societies. We built public exhibits for showing at shopping malls, trade shows, museums, libraries, and schools. After each regional survey, our members speak to neighbouring communities, instilling a sense of public stewardship toward their local heritage. Television news clips helped spread the message to a wider audience. Above all, we targeted sport divers, speaking to scuba classes and clubs. They, of course, will enjoy better



Detail of a UASBC site plan depicting the stern of the SS Barnard Castle, *beached near Victoria in 1886.* (UASBC photo)

dives if the artifacts remain for all to see. Not coincidentally, charter-boat operators were early converts. The Code of Ethics of the B.C. Dive Tourism Operators Association forbids any collecting of artifacts or destruction of cultural remains.

The education campaign has become quite large-scale. Each spring we host an annual "Shipwrecks" Conference. In 1994 the UASBC and Simon Fraser University co-hosted the Society for Historical Archaeology Conference, attracting seven hundred delegates from all over North America and Europe. The Society works closely with maritime museums in both Vancouver and Victoria, as well as universities. UBC periodically offers night courses in maritime archaeology through the Classics Department and SFU has offered third-year courses in nautical archaeology taught by UASBC members.

Publications are also part of our education mandate. Three of our more recent surveys have been condensed, illustrated, and published for the general reader. We also published a guide to sailing ship artifacts, intended to help sport divers understand what they are seeing without having to raise anything. In practice, it has become something of a standard text for underwater archaeologists, who say nothing like it exists anywhere else. We have sold copies to places as distant as Tasmania and Mauritius, as well as in B.C.

By the mid-1980s, the conservation ethic caught on, enforced mostly by peer pressure. Brass-hunters remain - quite a few, in fact - but it is no longer de rigueur for divers to take home a trophy. The interesting thing is that "finders keepers" still prevails in the United States. The new values have taken hold despite the influence of American dive magazines. Right now, our main challenge is that many people regard recent wrecks as non-historic, and therefore fair game. Most do not understand that the Heritage Conservation Amendment Act of 1994 protects all abandoned shipwrecks more than two years old. This is something our public education campaign will have to address in coming years.

Within the group, we are trying to upgrade our own survey skills. The Society aims to create a cadre of members who are formally trained as archaeological technicians. Last year, with federal assistance, twenty students from across Canada were taught in basic-level techniques by instructors from the Nautical Archaeology Society (NAS) of the U.K. This year, UASBC begins to teach the course itself. Additionally, our Explorations projects are being tailored to enable some members to work towards their NAS Level II certificate. Eventually we plan to present all four levels of NAS' internationally-recognized training program.

Diver among mast rings frm the barque Orpheus, *wrecked in Barkley Sound in 1875.* (UASBC photo)

In future our NAS training may allow us to do more research-driven archaeology. Pile-drivers and bulldozers seem to set the agenda for most professional archaeologists. They are too busy recording and protecting threatened sites to pursue research. As an avocational society, the UASBC enjoys a degree of flexibility and independence not afforded the professional community. We hope to develop a research program which will benefit the archaeological profession as a whole (Robinson 1995:12).

As governments everywhere grapple with deficits, they are decreasing their financial support for heritage. Educating the public on conservation issues and empowering volunteers may be the alternative to doing less with less. Twenty years ago the government in British Columbia encouraged a group of concerned sport divers to take responsibility for our undersea heritage. Today these avocationals are working alongside government agencies, dive operators, academic institutions, and First Nations, rather than in conflict or competition. A huge amount of work has been done for a relatively small investment on the government's part. Most importantly, the resources are now being preserved and managed in a manner that benefits the site, government, academia, and the sport diving population.

References

Marc, Jacques, "Protecting Shipwreck Sites", *UASBC FogHorn*, vol.5, no. 1:3.

N. Alexander Easton, "More Findings From Down Under", *The Midden*, vol. 23, no. 3:1-4

Robinson, Kevin, "Sea of Data", *UASBC Foghorn*, vol. 6, no. 2:12.

Robyn Woodward is President of the UASBC and immediate Past President of the Vancouver Maritime Museum. She has undergraduate degrees in Art History and Archaeological Science and a Masters Degree in Nautical Archaeology. Robyn also has had an extensive career in conservation, archaeological research and project management in Jamaica and the Cayman Islands, and more recently, in marketing and community consulting. She is currently the Vice Chair of the Vancouver Regional Health Board and a member of the Academic Advisory Committee of the Vancouver Foundation.

FOOD FOR THOUGHT

by Sharon Keen

A riddle: What are two of the most numerous, yet often overlooked items in coastal B.C. archaeological sites?

Clues: They are abundant, used once, then discarded, and, when excavated later on, are usually broken or in poor condition. In the eyes of the beholder they are often viewed as unglamorous and unessential, even though they frequently represent major dietary items.

Did you guess them? Clam shells and tin cans! One is food in the shell, and the other is food in the can. Both clam shells and tin cans represent a continuum for anyone who is doing foodways studies of pre-contact and post-contact sites. Shellfish faunal remains were a largely neglected and underutilized body of archaeological data until quite recently, as represented by the work of people such as Cheryl Claassen in southeastern U.S.A., and Madonna Moss on the Northwest Coast. Similarly, metal containers are a major class of food related artifacts that, even now, are not being analyzed to their fullest potential by archaeologists working on post-contact sites.

Metal containers often form a relatively large proportion of the total artifact remains in nineteenth and twentieth century sites in North America, but the potential for inferring past cultural behaviours from tin cans is dependent on knowing the primary functions of the containers, or knowing the original contents. All too frequently, however, these items are physically deteriorated when excavated and the product information, generally provided by paper labels, has been lost. During the 1970's, these conditions often resulted in metal containers being virtually eliminated from artifact analyses for sites in which they were found, or instead, only the readily diagnostic items were described, dated, and functionally interpreted. In other words, often the largest and most functionally meaningful part of a tin container assemblage was neglected and under-analyzed. Examples of this include fruit and vegetable containers and less distinctively shaped meat and fish cans. At that time, the main difficulty in analyzing metal containers in general, and non-reclosable food containers in particular, seemed to be that an adequate functional typology based on the attributes had not been developed yet. Thus, in the late 1970's, while with Parks Canada in Winnipeg, I created a cataloguing system for metal containers that included functional interpretations (Keen 1982a). Many sites, then in the jurisdiction of the Parks Canada Prairie Region, included ones in the Yukon and the Northwest Territories, have immense collections of metal containers. This research still is in manuscript form and not readily known, so the sharing of this source and other references by colleagues also working on "tin cans" should help alleviate the on-going archaeological neglect of this significant artifact class.

A computer form was developed for cataloguing all metal containers from pots and pans to barrels and food cans. It was designed for field lab use by fairly inexperienced cataloguers to code data for later computer entry in Winnipeg. Unfortunately, a copy of this form was too long to include in this article. Also, the complete "Metal Containers" manuscript that goes along with this coding form is about one hundred pages in length. If you wish to obtain further details on this artifact classification system, please contact Jennifer Hamilton in Winnipeg at the Canadian Heritage Professional and Technical Centre (204-983-0037), or me (604-383-4933). This manual contains definitions, figures, and chronological information for each attribute, along with a five page bibliography of useful references up to 1982.

An earlier version of the metal container cataloguing form had been devised by Barbara Wade (1978). With the further development of this metal container cataloguing system, additional Parks Canada tin can collections have been analyzed by myself and others. These reports are available as in-house manuscripts or microfiche reports from Parks Canada, Department of Canadian Heritage, copies of which are held at the B.C. Archives. To receive a catalogue of these titles write: Publications, Parks Canada, Department of Canadian Heritage, 1600 Liverpool Court, Ottawa, Ontario, K1A 0M5. A 1995 catalogue was just released.

The largest Parks Canada metal container collection studied so far, representing 85 types, and dating to the 1898 gold rush period from the Chilkoot Trail, was reported by Jeffrey Murray and Jennifer Hamilton (1986). Only a representative sample of the inventoried artifacts was collected, with the remainder being left as found. A ten page table (Table 2 "Metal Container Types"), with forty accompanying photographs, plus part of "Appendix A" and forty line drawings in "Appendix B" on manufacturers' and producers' marks all deal with the metal container types recovered in this study. The majority of the tin can assemblage consisted of food containers used for packaging such products as milk, baking powder, lard, sardines, meat, biscuits, tea, coffee, and juice. Non-food products represented in this collection included cans for fuel, oil, and tobacco. Although a wide variety of artifacts were inventoried, metal containers or "tin cans" easily constituted the largest single category, comprising 1330 of 4976 total artifacts or 26.7% (after Murray and Hamilton 1986:108-111, 201). There are two paper copies of this report at the Heritage Branch Library in Victoria under Permit Number 1984-18, and one of these copies may be borrowed.

The author analyzed all of the artifacts from the Pocahontas coal mining site in Jasper National Park, which was occupied between 1910 to 1921. Within the sample were 762 minimum number of metal containers out of a MNI site total 2744. As with the Chilkoot project, all of the cans were counted, but only a diagnostic sample was collected. The research results are reported in Gryba (1989). "Table 7" includes the functional distributions of this assemblage in which milk cans predominated, followed by not identified food storage, fruits/vegetables, fruits, food spread/

syrup, meat and the like. The fourteen page "Table 18", along with line drawings and photographs (Figures 57 to 63), deals in detail with the twenty-seven major "tin can" types. A 30 page "Bibliography" and "Table 36: Manufacturers and Producers of Artifacts" provides useful sources and product information for not only metal containers, but all classes of artifacts. A paper copy of this report also is available for loan from the Heritage Branch Library in Victoria. Contact Romi Kasper at 604-356-1440.

Precedent setting studies of metal containers from seven nineteenth century Chinese miners' habitation sites in Central Otago, New Zealand were done by Neville Ritchie and his colleagues (Anson 1983; Bedford 1985; Ritchie 1986; Ritchie and Bedford 1985). In a sample of 1099 cans, an unusually high number of 512 consisted of matchboxes, followed by "smokables" (tobacco and opium), preserved foods (general foods, meat and fish), and dry food products. This material on metal containers then became a small part of Ritchie's 1986 PhD dissertation, an invaluable 711 page body of research that provides incredible amounts of comparative material and acculturation ideas for many sites we find here in B.C., such as Barkerville.

In the 1980s, several researchers in the United States published articles on tin cans starting with Jane Busch (1981), followed by Michael McCarthy (1977), James Rock (1984a, 1984b, 1987), and then D.B.S. Maxwell (1993). William Rathje, who has directed the Garbage Project at the University of Arizona since 1973, also coauthored a paper with McCarthy in 1977, part of which dealt with metal food containers that lacked diagnostic functional attributes. McCarthy (1977) uses recent can size and content information to estimate the content/nutritional value of the archaeological can sizes recovered. I (Keen 1982b) wrote a response to this paper mentioning overlooked historical food pack documents, and other factors that were not controlled for (i.e., importation and exportation of certain canned foods), in calculating relative food frequencies and can sizes. Since then, Rathje and colleagues have published numerous publications on the archaeology of contemporary landfills (see Rathje and Ritenbaugh 1984;; Rathje and Murphy 1992). Only a small part of the garbage dealt with by the Garbage Project pertains to metal containers, but their catalogue form and pull-tab typologies from pop to beer cans are useful. See the chapter by Wilson Hughes on the field methods of item collecting, sorting, and recording in Rathje and Ritenbaugh (1984:41-50), plus the seven pages of references in this monograph. The pull-tab typology is reproduced in several publications by Rathje (1991:131; Rathje and Murphy 1992:26).

A monograph entitled "A Brief Commentary on Cans" written by Jim Rock (1987) contains much the same information as that found in my manual on metal containers (Keen 1982a). This work was recently brought to my attention by Olga Klimko, Archaeology Branch, Victoria, who purchased a copy of this publication in 1988. At present, it is not known if Rock's study is still available.

Poor archaeological preservation means we are missing many perishable staple foods plus their packaging. This situation makes it even more imperative that we pay attention to the abundant, yet overlooked remains that we do have, such as cans and clamshells. During the 1800's, bulk quantities of major foods were bought in wood, fiber, or paper containers. Barrels, kegs, chests, sacks, and boxes of these materials predominated over metal containers, for items such as flour, dried beans, rice, potatoes, hominy, hard bread, preserved meats (bacon, pemmican, pork, ham), dried apples, tea, coffee, sugar, salt and syrup. However, many supplementary foodstuffs and non-food products, such as kerosene and tobacco, did come in metal containers, as the above mentioned studies show.

This paper is a plea to all "Midden" readers to think about the ignored, seemingly mundane, and copious food remains that we have, be they in the forms of shellfish, or tin cans, along with other food-related remains that tend to be neglected, such as carbonized seeds, pollen, and soils. Only by putting together all of these surviving pieces of the archaeological puzzle, and then combining them with any extant oral and written records, that we can truly recreate dietary and subsistence scenarios from the past, and the not so distant past. And, when next confronted with a huge, rusty, broken metal container collection, grab this article to quickly find the necessary reference materials to adequately deal with it.

References

Anson, Dimitri.
1983 Typology and Seriation of Wax Vestra Tin Matchboxes from Central Otago: A New Method of Dating Historic Sites in New Zealand. *New Zealand Journal of Archaeology* 5:115-138.

Bedford, Stuart H.
1985 A Simplified Classification System for Tin Wax Vestra Matchboxes. *New Zealand Archaeological Association Newsletter* 28(1):44-64.

Busch, Jane.
1981 An Introduction to the Tin Can. *Historical Archaeology* 15(1):95-104.

Gryba, Eugene (compiler).
1989 Historic and Prehistoric Heritage Resources at Pocahontas in Jasper National Park. *Microfiche Report Series No. 379*. Parks Canada. Ottawa.

Keen, Sharon.
1982a Metal Containers. In *Artifact Analysis Manual for Historic Archaeology* edited by Dana-Mae Grainger. Archaeology Division, Parks Canada, Prairie Region, Winnipeg.
1982b McCarthy's 'It's in the Can': Comments and Additional Considerations. *The Conference on Historic Site Archaeology Papers 1979 Volume 14,* ed. Stanley South, pp.128-136.

Maxwell, D.B.S.
1993 Beer Cans: A Guide for the Archaeologist. *Historical Archaeology* 27(1):95-113.

McCarthy, Michael.
1977 It's in the Can" *The Conference on Historic Site Archaeology Papers 1976 Volume 11*. ed. Stanley South, pp.69-97.

Murray, Jeffrey and Jennifer Hamilton
1986 Cultural Resource Inventory, Proposed Chilkoot Trail National Historic Park: Summary of 1984 Archaeological Survey. *Microfiche Report No. 349*. Parks Canada, Ottawa.

Rathje, William L.
1991 Once and Future Landfills. *National Geographic* 179(5):116-134.

Rathje, William L. and Michael McCarthy
1977 Regularity and Variability in Contemporary Garbage. In *Research Strategies in Historical Archaeology*, ed. Stanley South, pp.261-286. Academic Press, New York.

Rathje, William and Cullen Murphy
1992 *Rubbish! The Archaeology of Garbage*. Harper Collins, New York.

Rathje, William L. and Cheryl K. Ritenbaugh (editors)
1984 Household Refuse Analysis. Theory, Method, and Applications in Social Science. *American Behavioral Scientist* 28(1):5-160.

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HISTORICAL AND ARCHAEOLOGICAL INVESTIGATIONS OF THE D'ARCY ISLAND LEPER COLONY, 1891-1924

by Diana French

Approximately 100 years ago, six men sat silently on a wharf in the inner harbour of Victoria, awaiting an uncertain fate. They were to become the first of more than forty individuals to be incarcerated in a leprosarium, located in Haro Strait on the south-east side of Vancouver Island. They were all Chinese labourers who had come to British Columbia to make better lives for themselves, and for their families at home in China. Unfortunately, they had all contracted Hansen's Disease, commonly known as leprosy, and would never realize their dreams.

Figure 1. Close-up photograph of main dwelling, Little D'Arcy Island (photograph courtesy Visual Records, B.C. Provincial Archives catalogue No. 93305).

The D'Arcy Island leper colony was originally constructed in 1891. It comprised a large wooden building divided into six small rooms (Figure 1). Chicken houses and wood sheds of driftwood, and a vegetable garden were added by the colony occupants. A second cabin was erected in 1894 to house the growing population, which peaked at nine lepers that year. During its first fourteen years of operation, the institution was funded by the municipal government of Victoria, which provided the colony with food and supplies once every three months. Medical care was minimal, and the only drug made available was opium. Of the twenty-two men admitted to the institution, thirteen eventually succumbed to the disease, and were buried in coffins also supplied by the government, in a small cemetery located near the cabins.

During the year 1905, the provincial government administered the colony; however, there were only minor improvements in the lives of the Chinese men. In 1906, coincident with the implementation of the Leprosy Act which facilitated the deportation of individuals with the disease, the federal government took over the facilities. All of the lepers were deported in 1907. The old wooden buildings were burned, and new concrete cabins erected in order to temporarily house any newly discovered lepers before deporting them. Several dozen men were shipped back to their country of origin, before appropriate medical treatment became more readily available. In 1908, the construction of a custodian's house was completed on the larger neighbouring D'Arcy Island. Nine years later, with the eventual discovery by the federal government that the custodian and the lepers did not inhabit the same island, two new building were erected on the larger island, south of the custodian's homestead.

The historical documents concerning the leprosarium are varied, and raise many questions about the existence of the disease-ridden men who lived there. These records provide an opportunity to evaluate the socio-political circumstances surrounding the establishment of the colony, why it was created, and why and how the form of the institution changed over its thirty-four years of operation. Archaeological investigations were undertaken in an attempt to fill in some of the gaps concerning the material and social conditions of the unfortunate lepers, in contrast to those of a series of changing colony caretakers.

Archaeological research on the leprosarium employs aspects of two theoretical approaches of contemporary archaeology. Symbolic archaeology is used to show how material culture, cultural landscape, and architectural form are utilized

to symbolically reinforce the ideology of a White dominant society about perceived racial and social differences of the predominantly Chinese lepers. Processual archaeology is employed to provide a framework for evaluating the relationship between racist ideology, both institutionalized and populist, and the material manifestations of the colony.

Excavations were initiated on D'Arcy Island, in and around the remains of two substantial buildings located on a promontory with a spectacular view of Saanich Peninsula. According to the historic records and the local folklore, this was reportedly the "leper hospital." Our investigations, however, indicated that these were the remains of a well-to-do homestead. A large workshop associated with carefully tended gardens, and terraced landscape surrounded by a substantial fence were not commensurate with the historic descriptions of the facilities provided for the sick men. Additional stories further confused the issue by suggesting that the custodian's house was on Little D'Arcy Island. There was no available explanation for the two houses we had recently discovered during survey of the larger island.

In an effort to clarify the confusing situation, we then turned our attention to Little D'Arcy Island. Indeed, the concrete cabins reported in the historic documents were located here, but they had been incorporated in the ground floor of a newly constructed house. Intensive probing and testing revealed that considerable historic disturbance had taken place in the locality of the new home. Historic artifacts, many evidencing burning, were recovered from deeply disturbed deposits overlying intact shell midden. It appeared that we had found all that was left of the early component of the colony. Not a shred of evidence of the nature of the site and the ethnicity of its former occupants was discovered.

Lastly, we investigated the remains of the two other houses on D'Arcy Island. Located close to a swamp which had been drained by a ditch likely constructed by the colony inhabitants, this locality was cold and windy on even the more pleasant days of summer. These remains were enigmatic; while one structure retained its fallen wooden walls, and even its front steps, with the exception of the concrete foundations, there was nothing left of the second nearby building. However, behind the latter, sticking out tantalizingly from the thick littermat, was an feature of bricks. After several days of painstaking excavation, the hopes of finding an intact feature dissipated as we gazed on the badly disturbed remains of a chimney fall.

Figure 2. Photograph of Chinese medicine bottles used in the treatment of leprosy from DdRt 31, D'Arcy Island.

Excavations of the better preserved structure were more rewarding. Following the removal of an active wasps nest from the floor, the entire interior and the area behind the back wall were excavated. Many details of construction were recorded, including evidence of extensive building modifications. Unlike the house of the custodian with its thick concrete walls, lathe and plaster walls, linoleum and hard wood floors, curtained windows, and indoor plumbing, the lepers lived in the most humble of huts. Walls were of tongue-and-grooved planks, light was provided by lanterns, and water came from a well situated behind the houses.

Our most exciting discovery of the project came from this site. Very close to the end of investigations, two Chinese bottles were discovered behind the better conditioned house (Figure 2). Translation of the Chinese characters on the identical artifacts indicated that the Chinese men who lived here had hoped for a cure from traditional medicines. By the time these houses were constructed, medical care had improved greatly, including regular attention provided by a nurse, who was the wife of one of the custodians. However, these small bottles contained "Medicine for Leprosy" and had been imported from Macao. The only other evidence that the Chinese had ever been present on these islands was the base of a soya paste pot, which had been thrown over the bank in front of the houses.

The overall recovery of artifacts from the three archaeological sites comprising the colony was quite limited. A total of thirty-seven artifacts was found at Little D'Arcy Island, mainly broken hardware and household items. Nearly 300 artifacts were collected from the house, workshop, and rubble pile of the custodian's property. Eleven artifact classes were identified. Many items were broken woodworking tools, household goods, building and construction materials, electrical fixtures, as well as household and personal artifacts. A total of seventy-one artifacts were found at the more recently constructed leper huts. The majority came from the floor of the more intact house, primarily broken household items, including liquor bottles, enamel ware and tin cans.

Meaningful inter-site statistical analysis is difficult to make, because of the different sampling techniques, varying degrees of disturbance of archaeological deposits, and differences in the sizes of the assemblages. What is significant, however, is that a much wider range of artifact

classes came from the caretakers, reflecting both the function of the site and the status of its former occupants. The overall paucity of material culture from the locations formerly occupied by the lepers signifies both their low status and their austere way of life imposed upon them by changing government administrations. Erosion along the beach fronts of all three sites, and site abandonment practices involving razing at the earlier site, and removal of goods at closure in 1924 from the two later sites, also contribute to the low number of artifacts recovered.

Faunal remains from the three sites were relatively insignificant. Evidence of cattle, which may have been on D'Arcy Island prior to the establishment of the colony, and the presence of pigs, chickens, and sheep were found at the later component of the site. Because of the extent of the disturbance on Little D'Arcy Island, faunal remains from the pre-contact midden deposits were impossible to separate from those possibly associated with the post-contact occupation.

Historic documents played a major role in this project They enabled an understanding of the particular historical context in which the D'Arcy island leper colony existed, and provided the details of many of the social and material conditions in which the colony inhabitants lived. The archaeological data, on the other hand, were important in clarifying the nature and relationship of the three sites involved. They also provided important details of both the cultural landscape and the colony buildings. These all reflected the perceived inferior status of the lepers, and reinforced the power and dominance of the Euro-Canadians, in helping to maintain social distance and contributing to social inequality as products of racialization.

The D'Arcy Island leper colony represented a successful attempt by the Victorian elite to further exclude the Chinese from Canadian society. Not only was this accomplished by suppressing medical knowledge about the disease of leprosy, but also by reinforcing stereotypical racist ideas about Asian immigrants. Racist ideology was embedded in government policy and legislation dealing with the lepers. These administrative views can be linked to the changes in the form of the leprosarium, which had nothing to do with evolving medical treatment and knowledge about the nature of leprosy. When the D'Arcy Island facilities were closed in 1924, a new leprosarium was constructed on Bentinck Island. Conditions and medical care provided were vastly improved, and the fear of contagion once used to fuel racism was no longer considered an issue. Today, while Little D'Arcy Island is privately owned, D'Arcy Island is a Marine Park.

Diana E. French teaches anthropology and archaeology at Okanagan University College. While she continues to have an interest in Overseas Chinese archaeology in the province, her current research interests are in the pre- and post-contact archaeology within the traditional territory of the Cheslatta Carrier Nation.

Archaeological Survey of the Coastal Salmon-Cannery, cont'd from page 4

proved extremely rewarding (Newell, 1987, 12-14). Locating the pilings of a former cannery operation is comparable to discovering the solid foundations of a building which no longer stands. For approximately 90 % of the old cannery sites photographed, vestiges of the pilings remained visible from the air in 1984. At 20 % of the sites, at least one building from the active cannery period still stands, and even more in the case of 50 of the sites. Two historically important cannery complexes have recently become historic sites open to the public (Gulf of Georgia Cannery at Steveston on the Fraser River, the most important district, and the North Pacific Cannery at Port Edward on the Skeena River, the second most important district). Close examination of the colour and infrared photography using magnified stereoscopic viewers frequently revealed ruins, even surface artifact litter. The quantity of surface remains is remarkable, given that many of these complexes were abandoned or razed by fire 50 or more years ago, but partly explained by the fact that many sites continued to be used for fishing or related purposes.

In conclusion, archaeological work on this remarkable heritage resource has barely begun.

References

Boehm, Sheila Gay.
1973 "Cultural and Non-Cultural Variation in the Artifact and Faunal Samples from the St. Mungo Cannery Site B.C. DgRr2." M.A. thesis, University of Victoria.

Calvert, Gay [Boehm].
1970 "The St. Mungo Cannery Site: A Preliminary Report." In Roy L. Carlson, ed., *Archaeology in British Columbia*. Special issue of *B.C. Studies*, 54-76.

Conover, Kathryn June.
1972 "Archaeological Sampling at Namu: A Problem in Settlement Reconstruction." Ph.D. dissertation, University of Colorado.

Imamoto, Shirley.
1974 "Analysis and Interpretation of Faunal Remains from a Complex Site in the Fraser Delta Region of British Columbia: Glenrose Cannery, DgRr6." M.A. thesis, University of British Columbia.

Loy, Thomas H.
1973 "Glenrose Midden Yields Early C-14 Dates." *The Midden* vol. 5, no. 4, 4-5.

Matson, Richard G.
1975 "The Final Report of Progress. Prehistoric Adaptations at the Glenrose Cannery Site, Fraser Delta, B.C." Unpublished manuscript, Department of Anthropology and Sociology, University of British Columbia.

Newell, Dianne
1986 "A Final Report on the Historical Research and Analysis Aspects of the Industrial Archaeological Survey of the BC Salmon Canneries Project, 1984-86." Submitted to BC Heritage Trust, Heritage Conservation Branch.

1987 "Surveying Historic Industrial Tidewater Sites: The Case of the BC Salmon Canning Industry." *IA: Journal of the Society for Industrial Archaeology* 12, 1:1-16.

1988a "Dispersal and Concentration: The Slowly Changing Spatial Pattern of the British Columbia Salmon Canning Industry." *Journal of Historical Geography* 14, 1: 22-36.

1988b "The Rationality of Mechanization in the Pacific Salmon-Canning Industry Beforethe Second World War." *Business History Review* 62, 4: 626-55.

1989 *The Development of the Pacific Salmon-Canning Industry: A Grown Man's Game*. McGill-Queen's University Press.

1991 "The Industrial Archaeology of the Organization of Work: A Half Century of Women and Racial Minorities in BC Fish-Packing Plants." *Material History Review* 33, Spring: 25-36.

1993 *Tangled Webs of History: Indians and the Law in Canada's Pacific Coast Fisheries*.University of Toronto Press, Toronto.

Roberts, A; Newell, D.; Higginbottom, E.
1986 "SFU/UBC Inventory of Historic Salmon Cannery Sites." Submitted to BC Heritage Trust.

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BOOK REVIEWS

SUNKEN SHIPS AND RUSTY BITS

THE WRECK DIVER'S GUIDE TO SAILING SHIP ARTIFACTS OF THE 19TH CENTURY

by DAVID LEIGH STONE

Underwater Archaeological Society of British Columbia, Vancouver, 1993.
94 pp., illus. Price: (Pb) $19.95 CDN.

VANCOUVER'S UNDERSEA HERITAGE: SHIPWRECKS AND SUBMERGED CULTURAL SITES IN BURRARD INLET AND HOWE SOUND

by DAVID LEIGH STONE

Underwater Archaeological Society of British Columbia, Vancouver, 1994.
71 pp., illus. Price: (Pb) $11.00 CDN.

These two monographs are part of a series of publications by the Underwater Archaeological Society of British Columbia (UASBC) that have been financed by the BC Heritage Trust. As a non-diver myself I have attempted to provide as balanced a review as possible but apologize in advance for any gaffs (no pun intended) I may make during the course of this review article.

The Wreck Diver's Guide to Sailing Ship Artifacts of the 19th Century opens by stating that BC waters contain over 1,000 shipwrecks dating from the 1700s to the present. Those of you who have spent time along the BC coast probably would not find this fact surprising, however one may be surprised to learn just how many of these wrecks still remain on the sea floor after countless years of exposure to the elements.

This book is not just concerned with wrecks and ship parts. It also addresses preservation and the importance of leaving the remnants of these wrecks in the water for others to appreciate through visits or to learn from through research. The guide's goal is to take the reader through the various parts of a ship to explain how different pieces of machinery or elements of the ship functioned and where they might be found on the sea floor today.

The preface sets the tone for this volume and challenges divers to "learn to read wrecks" rather than to strip them of their artifacts. By laying down this challenge, Stone promotes a good conservation ethic without being preachy or heavy handed. The message is simple - "Take nothing but photos, leave nothing but bubbles."

The introduction describes the purpose of the book and explains why Stone chose the type of ships to include. Stone indicates that sailing ship artifacts are largely unfamiliar to most people in this age of motors and propellers; hence the focus of the book is wooden merchantmen (ships used for commerce) from the latter half of the 19th century. Warships were excluded as they already receive too much attention. Similarly, steel, iron or composite ships are excluded for they were manufactured differently from wooden ships. An effort was made to trace the evolution of equipment on these ships over the years and emphasis was given to diagnostic artifacts which can be used to help determine the type, date, section, nationality or name of the wreck.

The first chapter "From Ship to Shipwreck", describes the processes which transform a vessel to the ruin which divers find. The following 14 chapters systematically take the reader through shipwreck remains describing artifacts and discussing what such artifacts can tell the diver about the wreck. The fourteen chapters are divided by artifact type beginning from the bottom of the hull progressing to the top of the masts and generally from bow to stern. These chapters describe the following topics: anchors and cables; ballast; keel, frames and planking; ends, decks, and amidships; reinforcements; fasteners; mooring fittings; lifting machines; pumps and plumbing; accommodations; navigation and steering gear; masts and spars; rigging, blocks and sails; and woods and scantlings.

These chapters are followed by a list of references and an index. The list of references is somewhat puzzling as it is not clear whether this section is a guide to further reading or an actual list of the works which were used in writing the guide but not cited in the text. Either way, the references appear comprehensive although some of the works seem as though they may be difficult to obtain.

The book has an attractive format with clear, well drawn figures and numerous photographs. The quality of some of the photographs is wanting but this is likely a result of poor underwater visibility and/or the limitations of underwater photographic equipment. Another shortcoming is the absence of direct references to the figures. Figures are numbered but are not directly referenced in the text except in some cases where the reader is referred ahead or back in the text. Fortunately this does not pose a great problem as the figures are in logical places throughout the text and are more or less self explanatory.

The book is generally well written although in some chapters the writing is stilted as fact after fact is provided to the reader in an effort to provide as much information as possible in this short book. Unfortunately, this tends to make parts of the book read like a list of 'factoids'. For example,

"Copper and its alloys become greenish

carbonates. Brass may hold up well depending on composition. Lead coats over with white chlorides but is quite impervious in large masses."

As a nautical neophyte, the greatest benefit that I received from reading this book was the information provided on general ship construction, operation and evolution. I was surprised to learn that most masts tended not to be made from a single tree but were more often constructed from several small pieces. I also found the definitions of nautical terminology throughout the text informative. These terms are defined when first used in the text and identified in the index. This is slightly cumbersome but more detailed and helpful than a glossary.

Stone states that the location, size and material of an artifact encountered underwater can aid a diver in its identification. These characteristics can certainly help to a degree but Stone does not necessarily prepare the reader for what to expect when exploring a wreck. For example, what would 100 years of corrosion do to a nail or an iron bracket? Would it look like a nail or a bracket? Would it be completely corroded away? How is the lump of corrosion recognizable? I realize answers to such questions are far from simple as a great number of variables must be taken into account. However, Stone's discussions concerning the identification of specific artifact types is too optimistic and the photographs appear to represent "best case" examples. I do not argue against Stone's approach and I understand his objective, I simply question the guide's usefulness when trying to identify badly deteriorated wreck elements on the sea floor.

This book would benefit from an expanded section addressing the transformations artifacts undergo when submerged for prolonged periods and how to interpret the artifacts or unrecognizable masses that are found underwater. To this end, I feel too much time is spent describing all the artifact variations (e.g. 10 anchor styles) and not enough time on showing the range of artifact conditions the diver may encounter underwater. Showing the variation of specific artifact styles is important, but it is equally important to illustrate what a best case example, a worst case example, or a fragmentary example may look like underwater.

The second book reviewed, *Vancouver's Undersea Heritage: Shipwrecks and Submerged Cultural Sites in Burrard Inlet and Howe Sound*, is the fifth in a series of regional status reports prepared by the UASBC with the long term goal of developing a province-wide inventory of underwater heritage resources. This publication is an outgrowth of the UASBC's Burrard Inlet and Howe Sound Submerged Cultural Sites Survey which chose the Greater Vancouver area due in part to pressure on the resource from recreational divers, industry and foreshore development. By undertaking these studies the UASBC is assisting the Archaeology Branch in establishing policy before conflicts arise. The specific study area encompasses all salt water east of Gibsons and north of the Fraser River including Point Grey, Howe Sound, Indian Arm and Vancouver Harbour.

A project overview section follows a brief preface and introduction and outlines the criteria chosen for site selection as far more wrecks exist than could be surveyed. In general, sites were chosen based on their historic significance, industrial and recreational impact and accessibility. Some sites were studied because they were unique while others are examples of important types. Sites that recreational divers now use or might enjoy in the future were specifically targeted.

Background research identified a number of shipwrecks which warranted attention including 'mystery [unidentified] wrecks' and others which face external threats or structural deterioration. Some wrecks could only be located and surveyed using high-tech tools due to their great depth. A series of wrecks in Porteau Cove were researched but not dived as they are not historic and they are monitored by BC Parks. This study is also ground-breaking for the UASBC as it is their first study to include non-wrecks in the form of other submerged cultural sites such as the remains of docks, industrial plants and Native communities. These locations were chosen for their experimental value so methodological advances may be applied to other locations in future. The survey included 13 wrecks, 1 Native shell midden, 1 cannery, 1 mine facility, 1 breakwater/ship, 1 artificial reef, 1 steamer dock and a whaling station. Each shipwreck or submerged cultural site is presented as a discrete chapter.

Methods included locating sites, archival research, consulting with members of the diving community, sonar survey and shoreline survey. Condition reports were prepared for each site documenting prominent features. Still photographs and video footage was obtained for each site and those sites which require ongoing management were mapped. The project had a no disturbance policy where no excavation took place nor were artifacts removed.

Each wreck or submerged cultural site entry ranges from 2-5 pages in length and includes photographs, maps, line drawings and references. The section on the S.S. *Beaver*, perhaps the best known wreck in BC, includes a section on its registry, construction, operational history, loss, salvage, search/discovery, status, conclusions/recommendations and references. The UASBC survey found that much more of the *Beaver* survives in the water off Stanley Park than was previously thought. The resulting condition report of these remains was instrumental in having the wreck of the *Beaver* receive protection as a designated heritage site in 1994.

The Belcarra Park midden (DhRr 6) was one of the non-wreck submerged cultural sites that was examined. UASBC activities at this site were restricted to determining whether cultural materials extended below the waterline by examining the surface of the submerged shoreline. As with the other entries, basic topics such as site description, history, status, conclusions/recommendations and references are provided. Unfortunately this section suffers from the author's lack of familiarity with prehistoric archaeology as illustrated in the following passage.

> "Charlton's site plan could be interpreted as showing a relatively sharp drop-off below low water. This made possible another and older exposure of primary deposits...No non-modern artifacts were seen by our teams."

The strong site protection and conservation message that is provided in the introduction to this monograph seems to have been forgotten by Stone in the Belcarra Park midden section as he chose to include the "*Collector's Guide to B.C. Indian Artifact Sites*" as a reference and presents the following passage in his historical background section for the site:

Cont'd on page 16

BOOK REVIEW

SOOT, OIL, AND RUST

INDUSTRIAL ARCHAEOLOGY: TECHNIQUES

Edited by EMORY L. KEMP

Kreiger Publishing Company, Malabar, FL, 1996.
xviii + 212 pp., illus., notes, refs., index.
Price: (Hc) $32.50 US.

My initial experience in Industrial Archaeology occurred at the R.B. McLean Mill National Historic Site, situated in Vancouver Island's Alberni Valley. At this site I monitored the remediation of contaminated slag and forge clinker deposits from the refuse dump of the mill's blacksmith shop. My curiosity was piqued when I read about this book in a flyer, considering that I was inundated with twentieth century industrial junk at the time. As defined, industrial archaeology is essentially a materialist study of monuments associated with the development of industrialisation: factories (including ancillary structures and features), power sources (hydraulic and steam power), and transportation (canal systems and railways).

Industrial archaeology has its origins during the post WWII years in Great Britain, where amateurs began to study local industrial sites dating from the late eighteenth and nineteenth centuries. Ironbridge Gorge, in Shropshire, England, is a well-known monument of early Biritish industrialisation. In the United States, the interest in industrial archaeology has been a more professional pursuit than in the U.K.. As it is presently practised, industrial archaeology is an interdisciplinary field, which combines civil engineering, architectural history, history, and supposedly historical archaeology. The major concerns in industrial archaeology are to research site histories, document existing structures, and emphasize site preservation, where possible. In Canada, the preservation of industrial sites has been largely the mandate of the federal government (Canadian Heritage, Parks Canada), which the Gulf of Georgia Cannery (Richmond) and the R.B. McLean Mill (Port Alberni) National Historic Sites in British Columbia amply illustrate.

This book was published as a text on industrial archaeology techniques for students, professionals and interested laypeople. The inter-disciplinary approach to industrial archaeology is exemplified by the contributors to this volume. However, not one of the contributors is an archaeologist, an implication which I will address below. This text does provide a working reference for those who are involved in the study of industrial sites and structures, and emphasises the techniques used in documenting these manifestations. As the foreword by Billy Joe Peyton (p.x) emphatically states: "Let us hope that your copy gets marked-up, torn, tattered and dog-eared, because it means you took it off the shelf and used it in the field where it belongs!"

The organisation of the chapters presents a logical sequence in the identification, documentation, study and interpretation of industrial sites, structures and artifacts. The foreword (Billy Joe Peyton) and chapter 1 (Emory L. Kemp) describe the historical context of the development of industrial archaeology in the USA and the Institute for the History of Technology and Industrial Archaeology, West Virginia University, Morgantown, WV. Chapter 2 (Kemp) presents an example of an industrial site history, concentrating on the nineteenth century Shepardstown Cement Mill, WV, including the completed national register of historic places registration form. Chapters 3 (Ruth Ann Overbeck) and 4 (Barbara J. Howe) are concerned with historical sources and repositories to research contextual industrial site histories. Chapters 5 (Robert M. Vogel) and 6 (Peter H. Stott) deal with industrial site location using topographic maps and the UTM (Universal Transverse Mercator) system. Chapter 7 (Paula A.C. Spero) looks at the photogrammetric recording of structures. Chapter 8 (Ronald W. Eck) discusses aerial photography and remote sensing. Chapter 9 (Richard K. Anderson, Jr.) talks about the utility of measured field drawings in industrial archaeology. Chapter 10 (Robert J. Hughes) is on large format photography. Chapter 11 (Edward H. Winant) is on surveying techniques. Finally, chapter 12 (Trevor M. Harris and Gregory A. Elmes) deals with the application of GIS (Geographic Information System) in industrial archaeology. With the exception of two chapters, the remaining sections were specifically written for this book. Chapters 5 and 6 by Vogel and Stott are reproduced articles that originally appeared in the *Journal of the Society for Industrial Archaeology*.

Most of the methodological chapters in this text are applicable anywhere, as they would be in the United States. However, the book has been written for a largely American readership. Chapter 3 by Overbeck deals with US federal and state repositories and archives specifically, and the translation to Canadian institutions is not so straight forward. Chapter 4 by Howe, on the other hand, provides a handy reference of written, visual, and oral sources for researching industrial site histories, and is also applicable for historical archaeology. The types of documentational information she discusses can be readily located in Canadian archival contexts.

Industrial archaeological studies have largely emphasised the history of Western technological invention, at the expense of the socio-political context in which this development occurred. This lack of social history or historical anthropology is noted by Kemp (p.5) when he states that research into the social and political effects of industrialisation still needs to be done. This,

I believe, is the most interesting aspect of industrialisation. Despite the emphasis of the "key role" of the industrial artifact in industrial archaeology (Kemp p.2), it does seem that this discipline is largely confined to the tangible remains of industrial technology — architectural structures, and associated features and machinery. There are no chapters dedicated to "dirt" archaeology or excavation techniques. Archaeological data recovery from features, such as dump sites, privies, and wells, can provide pertinent information on the socio-economic factors associated with industrial activities. These factors would focus on the relations of production (i.e., factory labourers vs. factory owners), ethnicity, and gender, as well as other socio-economic and ideological aspects which arose during the development of Western capitalistic industrialisation. Historical archaeologists would acknowledge that such information is just as important as, and would complement the documentation of, the development of industrial technology.

On the whole, however, this book is well-written, and the editor should be commended for producing such a cohesive work. Each chapter is well illustrated with drawings and black-and-white photographs. Tables are used when required. References are provided at the back of each chapter. For anyone who has an interest in industrial archaeology and site documentation and research, this publication is a must have. However, for those "dirt" archaeologists, like myself, who will continue to work in industrial site contexts, this book augments or supplements, rather than supersedes, the anthropological archaeological field guidebooks. The next time I find myself at the R.B. McLean millsite, I'll have to try my hand at photogrammetric structural drawings — it should keep my hands clean.

A.S.B.C. member Robbin Chatan is the Publications Editor for *The Midden*. For the past year he has been a consulting archaeologist for Millennia Research. He has an interest in historical and industrial archaeology, and has worked on late nineteenth and twentieth century historical sites in Alberta and British Columbia.

Food for Thought, cont'd from page 9

Ritchie, Neville A.
1986 Archaeology and History of the Chinese in Southern New Zealand During the Nineteenth Century: A Study in Acculturation, Adaptation and Change. Ph.D. Dissertation, University of Otago, Dunedin.

Ritchie, Neville A. and Stuart H. Bedford
1985 An Analysis of the Metal Containers from Chinese Sites in the Cromwell Area, Central Otago, New Zealand. *New Zealand Journal of Archaeology* 7:95-115.

Rock, James T.
1984a Cans in the Countryside. *Historical Archaeology* 18(2):97-111.
1984b Evaporated Milk: Its Archaeological Contexts. *Northwest Anthropological Research Notes* 18(1):108-116.

Rock, Jim.
1987 *A Brief Commentary on Cans*. Facsimile Reprint, Coyote Press, Salinas, CA. [P.O. Box 3377, Salinas, CA 93912]

Wade, Barbara
1978 Manufacturing Typology for Tin Containers from the Arctic Salvage Project. *Manuscript Report Series No 299*. Parks Canada, Ottawa.

A.S.B.C. member Sharon Keen is a heritage resource consultant in Victoria, who specializes in Northwest Coast shellfish analysis and Western Canadian/ Yukon post-contact archaeology. She can be reached at #203-821 Linden Avenue, Victoria, BC V8V 4G8. Phone (604) 383-4933 or Fax (604) 361-1812.

Sunken Ships and Rusty Bits, cont'd from page 14

> "Belcarra Park midden has long been picked over by amateur collectors seeking surface finds of native Indian artifacts. It has produced stone points from arrows, spears, and harpoons, bone awls, and even some jade [nephrite] items. One collector reportedly got more than 2,000 artifacts from the spot in just two years."

Not only does this passage and the reference to the collector's guide suggest artifact collecting is acceptable, it completely fails to mention that legislation presently exists which prohibits such activities.

Vancouver's Undersea Heritage is generally well written and researched although it would have benefited from a stronger editorial hand. For example, a passage such as "The elusive Chehalis remains elusive" should not have been missed. Similarly, Stone's description of "the Western Dispatcher's rudder and shaft sans propeller" (my emphasis) is colloquial and detracts from the general professionalism of the monograph.

Stone is to be complimented for producing two well researched and well thought out monographs. I recommend The Wreck Diver's Guide to Sailing Ship Artifacts of the 19th Century for both divers and non-divers as a good reference book to late 19th century sailing ship artifacts on the BC coast. The Cultural Sites in Burrard Inlet and Howe Sound, is slightly more specialized and narrowly focused than the preceding monograph. I recommend this second volume to the recreational diving community and to those with an interest in BC maritime history.

The minor shortcomings of both books should not overshadow their overall contribution to the documentation and appreciation of BC's maritime history. I believe Stone and the extremely ambitious UASBC have yet again demonstrated the capabilities of dedicated volunteers to which similar groups could aspire.

Copies of both monographs can be obtained from the Vancouver Maritime Museum book shop located at 1905 Ogden Avenue, Vancouver.

A.S.B.C. member Andrew Mason received his MA from U.B.C. in 1994 and is currently working as an archaeologist for I.R. Wilson Consultants Ltd.

CONFERENCES

1996

April 18-20 **Pacific Northwest History Conference,** "Town and Country on the North Pacific Slope"
CORVALLIS, Oregon, USA

The 1996 Pacific Northwest History Conference will focus on papers centred in economic, political, and cultural discourse that emphasize issues of conflict, friction, and separateness. Suggested sessions include urban-hinterland relations, issues of local control, nativism, and tensions between separate realms.

Contact: Garry Schalliol, Washington State Historical Society, Tel. (206) 597-4226.

April 20-21 **Underwater Archaeological Society of B.C.,** 11th Annual Shipwrecks Conference
VANCOUVER MARITIME MUSEUM, Vancouver, B.C.

Seven speakers will present papers on April 20th, followed by dinner. Presentations: John Pollack, *Run Silent, Run Cheap: Wreak Hunting in the Kootenays;* Neil McDaniel, *The Legacy of Truk Lagoon;* Dr. Hector Williams, *Amphorae: Shipping Containers of the Ancient World;* Erica-leigh Haley, *The 'Transpac' Expedition 1995 Canada's First High-Tec Expedition;* Fred Rogers, *The History of Hardhat Diving in B.C.;* Rick James, *Recycling Maritime Heritage: Ships as Breakwaters;* Brendan Coyle, *War on Our Doorstep: The Secret War on the West Coast.,* Bill Huot, *Shipwreck Law in B.C.*. A tour of International Hardsuits will take place on April 21st.

May 2-5 **CAA, Canadian Archaeological Association,** 29th Annual Meeting
HALIFAX, Nova Scotia

Communication, including the public awareness of archaeology, will be the central theme of this year's conference. One suggested session, which has tremendous relevance to B.C.'s archaeology community, is the use of archaeology in treaty negotiations and land claims issues.

Conference coordinator: Dr. Stephen A. Davis, Dept. of Anthropology, Saint Mary's University, Halifax, Nova Scotia, B3H 3C3; Tel. (902) 420-5631; Fax (902) 420-5119; E-mail: sdavis@husky1.stmarys.ca

Program coordinator: Rob Ferguson, Dept. of Canadian Heritage, Historic Properties, Upper Water Street, Halifax, Nova Scotia, B3J 1S9; Tel. (902) 426-9509; Fax (902) 426-7012; E-mail: rob_ferguson@pch.gc.ca

Gathering for Prince Ruperites

As a 30 years celebration of THE DIG(S), there will be a reunion of Prince Rupert Harbour field personnel, 1966 to the present, at the 29th Annual Meeting of the Canadian Archaeological Association in Halifax. A symposium is scheduled for Thursday afternoon, May 3rd, followed by a general gathering in Peddlars' Pub in the Delta Barrington, the conference hotel. Those of you diggers who have revealing photos of your colleagues, please consider sending them to Jerry Cybulski at the Canadian Museum of Civilization, 100 Laurier Street, Hull, Quebec, J8X 4H2. Jerry and Pat Sutherland will launch an exhibit of the photos for the pleasure of those in attendance at the reunion and other CAA attendees.

Conferences, cont'd from page 17

October (TBA) B.C. Archaeology Forum, Fifth Annual
UNIVERSITY OF NORTHERN B.C., Prince George, B.C.

Contact: Tanya Hoffman, Tel. 1-800-667-UNBC, local 5671, E-mail: hoffman@ugrad.unbc.edu

November 14-17 CHACMOOL, 29th Annual Conference, "EUREKA!! The Archaeology of Innovation and Science"
UNIVERSITY OF CALGARY, Alberta

This year's conference will focus on the beginnings of science and further innovation from around the world, as determined by the archaeological record. The conference's aim, is to reveal how archaeologists identify various techniques, technologies, and sciences that were utilized by past cultures. In this situation, they have defined science as "systematic observation leading towards an understanding of the universe in a multitude of cultural contexts."

Avocational archaeologists, students, and professional archaeologists are all invited to participate in the conference.

Confirmed sessions include: Environmental Perception; Contributions of Experimental Archaeology; and Industrial Archaeology.

Contact: 1996 Conference Committee, Department of Archaeology, University of Calgary, 2500 University drive N.W., Calgary, Alberta, T2N 1N4; Tel. (403) 220-5227; Fax (403) 282-9567, E-mail: 13042@ucdasvm1.admin.ucalgary.ca

LECTURE

Underwater Archaeological Society of British Columbia

The Vancouver branch of the UASBC meet on the last Wednesday of each month (expect December), at the Vancouver Maritime Museum, 1905 Ogden Avenue, Vancouver. Admission is free, and non-members are welcome.

April 24 7:30	Annual General Meeting. Divemaster Jim Willoughby describes the pristine wreck of the Union Steamship 'Capilano I'.
May 29 7:30	UASBC Directors Erika Laanela and Bryan Cuthill discuss the Nautical Archaeology Society (U.K.) Training Program, now adopted as the standard for the UASBC.

THE MIDDEN

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