ICOM COMMITTEE FOR CONSERVATION
WORKING GROUP ON WET ORGANIC ARCHAEOLOGICAL MATERIALS
NEWSLETTER NO. 24 APRIL 1993

NEWS FROM THE COORDINATOR

Our WOAM Meeting is taking on promising dimensions. I have received submissions for about 20 papers so far. Nice, diverse and interesting subjects.

At the Washington Meeting there will be 4 to 5 lectures in the session for our Working Group. This restricted programme enables our colleagues to centre their interest looking into other Working Group Sessions.

All for now, and I look forward to seeing many of you in Portland, Maine and/or Washington D.C

Per Hoffmann
German Maritime Museum
D-2850
GERMANY

NEWS FROM THE USA

I am gathering information and ideas on long term (1-7 years) temporary storage of untreated waterlogged hull remains. Has anyone put a hull into long term deep refrigeration? Would those of you with this kind of experience contact me with details of how it was accomplished? I will be happy to cover the costs of sending information.

In other news, the conference registration is proceeding nicely. If you have not already sent in your registration please be sure to get it in to us by July 14, 1993. See you in August!

Molly Horvath Conservator
Spring Point Museum
at SMTC, Fort Road1
South Portland, Maine
04106 USA

2ND AND FINAL NOTICE

ICOM-WOAM '93 SPRING POINT MUSEUM CONFERENCE
THE 5TH TRIENNIAL MEETING
AUGUST 14 - 20TH, 1993

The Spring Point Museum staff and WOAM coordinators warmly welcome you to Portland, Maine, USA, for the 5th triennial meeting of the Wet Organic Archaeological Materials working group. Surrounded by water on three sides, Portland is a scenic peninsula city. The renovated waterfront area is called the Old Port Exchange. Let the cobblestone streets and gas lanterns lead you through this area to the many boutiques, art galleries, pubs and restaurants. There are several museums in Portland alone! Explore whale watching, deep sea fishing, camping or hiking, or white sandy beaches. In August temperatures can reach 90° F during the day and drop to 60° F at night. Bring your swimming suit for a refreshing dip into the 65° F ocean! The conference site will be the Sonesta Hotel located in the heart of the downtown area. Portland is a beautiful city with something for everyone.

Travel arrangements (please read this carefully)

We were unable to receive an airline discount for the WOAM meeting; however, we do have information concerning the ICOM-CC meeting that many of you can take advantage of. The ICOM-CC meeting dates are from August 21 - 29th, 1993 and will be hosted by the Conservation Analytical Laboratory in Washington D.C. The following arrangements are quoted from their travel company:

"Conventions in America" is the official travel company for ICOM-CC and will guarantee the lowest fares on any airline. American Airline is offering a 5% discount when travelling to ICOM-CC's meeting. Some restrictions apply, and travel dates must be between August 17 -September 2, 1993.

Win a free trip!! "Conventions in America" customers automatically become eligible to win two free round-trip tickets for travel worldwide. You must call their 800 number to become eligible. (drawings held bi-monthly)

To make your reservations, call "Conventions in America" at 1-800-535-1492, ask for Group #640. You will also receive free flight insurance of $100,000 and dream vacation vouchers including free airfare to exotic destinations like Hawaii, the Bahamas and Mexico (ask agent for details). If you call American directly at 1-800-433-1790, refer to Starfile #S0183V7.

Call today! 1-800-535-1492 -- Group #640. Reservation hours M-F 6:30 am - 6:00 pm Sat 8:00 am - 2:00 pm Pacific Time (24 hour toll free message line)

This means that if you are going on to the ICOM-CC meeting and book your airline travel on American Airlines directly or through "Conventions in America" you are eligible for the 5% discount flying from Maine to Washington D.C. and back to your home (continental USA), providing your travel is completed by September 2, 1993. In addition you are eligible for the drawing for two free world-wide tickets.

The Sonesta Hotel is offering registered guests free parking in the adjacent garage and free shuttle service to and from the Portland International Jetport. A courtesy telephone near the baggage area will connect you directly to the Sonesta Hotel to summon your shuttle.

CONFERENCE SCHEDULE

Saturday, August 14, 1993

On Saturday, early arrivals can check into the hotel after 3:00 pm. Unwind and enjoy both the panoramic view of the harbour and the hotel's hospitality for an hour of complimentary domestic beer, and inexpensive liquors or mixed drinks in the "Top of the East" lounge from 5:30 - 6:30 pm. Many fine restaurants are within walking distance of the Sonesta Hotel... explore and relax at a leisurely pace.

Sunday, August 15, 1993

For those of you who are in town and wish to tour some of the most popular destinations in Maine, we have arranged an optional luxury motorcoach tour. In the morning we will depart from the Sonesta for a tour of Kennebunkport, a classic New England coastal village with a sparkle of elegance. A row of Victorian and Federal mansions, built in the 18th and 19th centuries by sea captains and wealthy merchants stand impressively along the road leading into the village. One of the homes looks like a large wedding cake,

icing and all! We'll also enjoy a lovely drive along Maine's famous rockbound coast including a drive past our previous President George Bush's "Summer White House" (occasionally this road is closed for security reasons). Other highlights include Kennebunk Beach and the classic fishing village of Cape Porpoise. We will have time for lunch, browsing and picture taking in Dock Square, described as "a town square even Walt Disney could not have designed better." Our second destination is the City of Portland, the most populated city in Maine. Our tour will include a drive by such highlights as the Longfellow House, the Portland Observatory, the working waterfront, the Portland Museum of Art and the retail/restaurant section known as the Old Port Exchange. We will make a stop at the Museum at Portland Head Light, one of the oldest lighthouses in the country. We must have a minimum of 25 people to make this work, 44 people maximum.

9:00 am	Pick up group at Sonesta Hotel
10:00 am	Arrive in Kennebunkport for tour of area
11:30 am	Group has free time in "Dock Square"
1:00 pm	Depart Kennebunkport for Portland
1:30pm	Tour of Portland and stop at Portland Head Light
3:30 pm	Tour ends at Sonesta Hotel

Cost: $17.00 per person. **Register on the conference sheet.**

Sunday evening there will be a conference registration early check-in and hors d'oeuvres with a cash bar from 8:00 - 9:00 pm in the Portland Room of the Sonesta Hotel. Come and check in, bring your family and enjoy the company of new and old friends.

Monday, August 16, 1993

Guests of the Sonesta Hotel can enjoy a complimentary hot breakfast in the "Sand Dollar Cafe" from 7-11:00 each morning. Conference registration check-in will be set up in the lobby. Conference welcome will begin at 9:00 am, followed by papers. There will be mid-morning and mid-afternoon coffee and tea breaks each day. Lunch is on your own and there are many places nearby to enjoy. We anticipate the papers ending about 5:00 pm. There will be a cash bar set up in the ballroom at 6:30, followed by a banquet dinner at 7:30 pm: choose Roast Prime Rib of Beef or Chicken and Bay Scallops on your conference registration sheet. The Portland Folk Club's professional group "Roll and Go" will present a program of Sea Music. Hoist a beer and sing along!

Tuesday, August 17, 1993

Complimentary breakfast will be served in the "Sand Dollar Cafe" from 7 - 11:00 am. Papers will begin at 9:00 am, with coffee breaks mid-morning and mid-afternoon. Lunch is on your own in one of the many places nearby. Papers will continue until approximately 5:00 pm. Take the evening to enjoy Portland at your leisure.

Wednesday, August 18, 1993

Complimentary breakfast will be served in the "Sand Dollar Cafe" from 7 - 11:00 am. Papers will begin at 9:00 am, with coffee breaks mid-morning and mid-afternoon. Lunch is on your own in one of the exotic places nearby. Afternoon papers will end early at 3:30 pm. At 4:00 pm transportation will be provided to the Spring Point Museum for an informal good old Maine picnic and visit to the conservation laboratory and Snow Squall Project.

Transportation back to the Sonesta Hotel will be provided at 7:30 pm. A bus trip is immediately available for those wishing to

go to Freeport, Maine, for a little shopping spree. Freeport is a factory outlet capital, with over fifty stores of all varieties, including L.L. Bean (the outing store with a trout pond inside... honest). Excellent bargains can be found. We will leave Freeport about 10:30 pm.

Thursday, August 19, 1993

Complimentary breakfast will be served in the "Sand Dollar Cafe" from 7 - 11:00 am. Papers will begin at 9:00 am. Lunch will be served at the hotel (Garden Salad, Tomato Basil Chicken, Sliced Fruit Assortment), followed by a "round table discussion" leading into the end of the conference and time for a farewell drink together. People can informally go out to dinner together.

Friday, August 20, 1993

The optional Friday fun is a group trip to House Island in Casco Bay for a traditional Maine lobster feast and historical tours. The bus will leave the Sonesta Hotel at 9:30 am. If necessary, luggage can be checked with the bellman or brought to a (free) secure wharfside storage area. We will have a narrated harbour tour by private boat on the way to House Island. Once on the island we will tour the island and civil war era Fort Scammel. We will have a traditional Maine Lobster Bake, with salads, corn on the cob, blueberry cake, a choice of lobster or steak and coffee and tea and a special couple of beers brewed for us by the Maine Ale and Lager Tasters (M.A.L.T.) homebrew beer club! Recreational facilities are available and there are accommodations for us on the island in case of rain. We will leave the island at 2:00 pm, and the bus will pick us up at the wharf and return us to the Sonesta Hotel. Those with overnight reservations can relax and enjoy Portland's many attractions at their leisure. Those leaving for ICOM-CC's meeting will depart accordingly. The House Island optional Friday fun trip will cost $50.00 (US) each. Make your menu selection on the conference registration sheet.

SPECIAL NEEDS

If you have special dietary or other needs, please indicate on your conference registration sheet and we will do our best to accommodate.

CONFERENCE REGISTRATION FEE AND REFUND POLICY

The conference registration fee is $300.00 (US) per person for payments postmarked no later than July 14, 1993 and goes up to $ 350.00 (US) per person after July 14. This price includes a copy of the ICOM-WOAM 93' Spring Point Museum Conference Proceedings once they are printed. Student price is $200.00 (US). Walk-in registration will be accepted at the Conference, but there is no guarantee that meals and special events will be available for late registrants.

REFUNDS:

If you are unable to attend, seventy-five percent of you conference registration fee will be refunded only if your request for a refund is received by the Spring Point Museum (by mail, telephone or fax) by 5:00 pm [local time] on Thursday, August 19, 1993! Payments for meals and special events cannot be refunded.

CONFERENCE DETAILS

For those of you who will be bringing family members there is an additional conference meal ticket available at $82.00/person which will allow your significant friend to join you for hors d'oeuvres, all coffee breaks, the banquet dinner and the formal lunch.

Those of you planning to bring your family and looking for vacation ideas can contact the Convention and Visitors Bureau of Greater Portland at 305 Commercial Street, Portland, Maine 04101;
Telephone: 1-207-772-5800;
Fax: 1-207-874-9043

If you think you will attend, please drop us a postcard with your name and how many people you plan to bring. We are interested in having a general head count as soon as possible. Send to:

Molly Horvath
Conservator
Spring Point Museum, at SMTC
Fort Road
South Portland, Maine 04106 U.S.A.
Telephone and Fax: 1-207-799-6337

NEWS FROM THE UK

The chief excitement of the past few months has been the discovery last September of a very well preserved Bronze-Age boat during road construction work in the centre of Dover. The flat bottom of the boat is constructed of thick oak planks fastened with cross battens and vertical side planks sewn together with twisted yew withies. The boat survives to a length of 9.5 meters, representing just over half its original estimated length. It was lifted in sections by members of staff of the Ancient Monuments laboratory of English Heritage, and its condition is being assessed by Jacqui Watson and team prior to putting forward a treatment strategy. It is planned to treat the boat (as far as is possible) whilst on public display in Dover Museum. Watch this space for further news on this exciting project!

Other interesting finds of bronze-age wood, from excavations at Caldicot in South Wales, are currently undergoing pretreatment prior to freeze-drying at the York Archaeological Wood Centre. This collection contains stitched boat planks, structural timbers with square mortices, a range of carved and whittled artifacts, and a number of twigs and branches with the clear signs of having been gnawed by beavers. Although classed as ecofacts rather than artifacts, evidence of beaver activity is extremely unusual in British archaeology, beavers having become extinct sometime in the 12th Century A.D., it is thought.

On the northern side of the Severn estuary, also in South Wales, more remains of iron-age huts and boat parts have been eroding out of the mud during high winds and storms. These remains have been salvaged, and are being stored and recorded by conservator Katie Hunter at Newport Museum, and a selection will be conserved by Carina O'Conner at the Department of Archaeology, University College, Cardiff.

Also from the iron-age, the 12.8 meter Hasholme dugout boat is entering the next stage of its novel method of treatment in the archaeology gallery of Hull museums. Found in 1984, the boat has been continuously spayed with cold water. Peter Sweeney, conservator in charge of the project, is preparing to commence spraying with hot wax solution, once he has solved the problem of leaks around the viewing windows. He is also concerned about the safety and comfort of those working inside

the "boat lab" at elevated temperature and humidity and is investigating the use of air-cooled wet suits fitted with a external air supply.

Meanwhile, in Scotland, a well preserved 17th Century shipwreck in the Sound of Mull is producing some important finds, including a wooden panel carved with the coat-of-arms of the Prince of Wales. Uncovered by turbulence from modern ships, the wreck is suffering badly from the effects of erosion and gribble, and is to be the subject of a large scale excavation by the Scottish Institute of Maritime Studies, at St. Andrews. Also at St Andrews, Drs Cole-Hamilton and Barry Kaye of the university department of chemistry, have been investigating new synthetic polymers for the conservation of waterlogged wood. Early results with one of the new materials, named polyPET, show much promise. High ASEs have been achieved, and material appears stable within wood samples at humidities as high as 90% RH. Treatment solutions appear to have a strong cleaning effect on wood, producing an end product with a very light colour. The polymer, which still requires proper characterization, is made by the action of sulphuric acid on pentaerythritol, and the researchers hope that the process can be applied without the need for freeze drying. Staff at the National Museums for Scotland conservation laboratories will be involved in testing these new materials.

Theo Skinner, of the National Museums of Scotland, is currently investigating the non-solvents water method for the determination of fibre saturation points in wood, using PEG as a solute. It is hoped that this will provide information on the penetration of different PEGs into wood, and the amount required to stabilize the cell wall. He hopes that the method will also be applicable to other organic materials such as leather and horn.

received from:
Jim Spriggs
York Archaeological Trust
1 Pavement, York Y01 2NA
ENGLAND

Since Janey Croyn left the University of Durham conservation course in 1988, and I took over we have evolved the course from a 3 year Postgraduate Diploma, to a 2 year MA entitled; MA in Conservation of Historic Objects (Archaeology). Archaeological material including waterlogged organics get a notable place on the course, and colleagues such as Jim Spriggs assist in teaching this course. If anyone would like more details about the course don't hesitate to get in touch.

Since taking over I have endeavoured to develop the conservation research activity of the Durham Laboratories. We have recently started our third SERC supported PhD research student. His research area is a detailed physical and chemical analysis of naturally deposited iron salts in waterlogged wood and other porous archaeological media. If any of the newsletter readers have carried out research in this area, or have specific extreme examples of this phenomena I would be grateful if they could contact; Jonathan Marshall, c/o Dept. of Archaeology, 46 Saddler Street, Durham, DH1 3NU. ENGLAND

Our other research projects have included; work on waterlogged chars, which was described in an earlier newsletter, and which is currently being revised for inclusion in `Studies in Conservation'. We will shortly be seeking to modify a non-vacuum freeze drying unit which was constructed last year by one of our students for her MA dissertation. We hope to be engaged in further experimentation with this system by the spring. This years crop of MA dissertations has included one done, whilst the student was on placement in the

National Museum of Wales, on developments in the use of the `Sucrose' treatment. Further work on this topic, probably in conjunction with Historic Scotland is planned for the future.

Finally I am carrying out research into problems in characterising waterlogged anaerobic environments. It is necessary for accurately characterising these waterlogged anaerobic environments in order that we can utilise such conditions for reburial of waterlogged archaeological material, and the problems encountered in characterising such environments. The need for a large multidisciplinary project, which we are currently seeking to develop, is evident.

Therefore, I am currently seeking other active research workers who are working on anaerobic environments and reburial projects. If any of the readers of the newsletter know of such projects I would be grateful if they could get in touch with me.

received from:
Dr. Chris Caple
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46 Saddler Street
Durham, DH1 3NU
ENGLAND

NEWS FROM AUSTRALIA

Sydney Cove Update:

Conservators, Linda Clark (Queen Victoria Museum and Art Gallery) and Antonia Syme (National Maritime Museum) spent two weeks in March at the `Sydney Cove' (1797) shipwreck site off Preservation Island in Bass Strait. The site was first excavated in the early 1980s and again in 1991 and 1992. All excavated material is being conserved and stored at the QVMAG. Organic material raised from the `Sydney Cove' includes ship timbers, wooden barrel staves and artifacts, rope, leather shoe parts and hides and wool, which is thought to have been present as a lining between the ship's timbers and exterior copper sheathing.

All objects were initially desalinated in changes of fresh, then deionized water.

Leather

Shoe parts raised in the 1980s were treated using various solutions of PEG 4000, PEG 1500, Luviskol and glycerol in various concentrations followed by freeze drying. By 1992, pieces treated with PEG 400 remained flexible but were very dark and had a damp feel. All other pieces were dry and brittle. Shoe parts raised in 1991 were a crimson colour, identified by CSIRO scientists as being due to the presence of iron, possibly from a pigmented dye called Indian red. Leather was immersed in 10% glycerol for three weeks followed by vacuum freeze drying. Treated leather has a pleasant red brown colour, moderated flexibility and minimal shrinkage (except for one piece which shrank by 10%). Because of concerns about the long-term stability of this treatment, in 1992 glycerol pretreatment was substituted with 20% PEG 400. Shrinkage of treated hides was generally higher, averaging 7%. Flexibility was considered satisfactory although the `feel' and appearance would probably benefit from a surface dressing.

Rope

All 1980s rope was treated with 2-5% Luviskol K30 for 2-4 weeks followed by vacuum freeze drying. Following treatment rope was said to have a natural colour although some of the material was friable. By 1992 this rope had deteriorated considerably, being extremely brittle, friable and grey in colour. Rope raised in 1991

was examined under the microscope and found to be very fragmented coir. It was treated by immersion in a solution containing 5% PEG 400, 1% ethulose, 2% glycerol and 0.1% panacide for two weeks followed by vacuum freeze drying. Treated rope has a really unpleasant smell even after a year. In 1992 the treatment was varied by reducing the glycerol to 1%, ethulose to 0.8% and stirring frequently to prevent the solution separating into layers. Results are more satisfactory with a more even colour and no smell.

All rope remains extremely fragile and a storage system that allows handling is required. Any suggestions would be most welcome.

Wood

Ship's timbers (identified as teak and sissoo) have been allowed to dry out slowly, buried in sawdust. Other wooden objects have been divided into three groups: (1) soft and spongy, (2) moderately soft and (3) lignum vitae pulley sheaves that appear hard and solid. A small sample from group (1) gave a moisture content of 573% and from group (2) 176%. Treatment of groups (1) and (2) consisted of immersion in PEG 400 (increasing concentration from 5-40% over one year) followed by immersion in PEG 3500 (increasing concentration from 40-70% over one year) followed by vacuum freeze drying. Objects from group (3)) were freeze dried immediately after PEG 400 immersion. On removal from the freeze dryer their surface had developed a herring bone pattern of cracks that closed to an extent following repeated surface applications of 20% PEG 3500. Wood from groups (1) and (2) is still undergoing treatment.

WA Maritime Museum

Ian MacLeod spent a week surveying wrecked barges and paddle steamers in the Murray River from Goolwa to Renmark. With Sarah Kenerdine and Bill Jeffery, from the SA Department of Environment, they managed to collect data on metal fittings at depths from zero to eight meters under zero visibility conditions. The water was a cool 10-11 degrees centigrade. The most important factors to emerge are that (1) reproducible data can be obtained, (2) differences in corrosion potentials reflect different rates of corrosion and (3) that water movement is also a major factor in determining the micro-environment. Inspection of wood degradation patterns showed the most unexpected result that the iron corrosion products in the planking had minimised the anaerobic degradation of the timber. The data is now being used as base line measurements for site management studies. The corrosion potentials were measured using a communications system, a torch, 18 meter long cables and a conservator reading the voltages on board the boat while Bill got wet!

Nikki King Smith, Vicki Richards and Ian Godfrey have completed the preliminary experiments on the removal of iron corrosion products from waterlogged rope, utilising different combinations of a consolidating solution of 5% (w/v) PEG 400, 2% (w/v) glycerol and 1% (w/v) ethulose in distilled water, a complexing agent, tri-ammonium citrate and a reducing agent , sodium dithionite.

Currently Vicki Richards is examing the possibilities and the viability of new research projects investigating the degradation and subsequent conservation of composite metal/organic artifacts recovered from shipwreck sites. The emphasis will be on understanding the deterioration processes of PEG solutions and the effect of these degradation products on organic/metal composites. The

effectiveness of corrosion inhibitors and antioxidants will be examined with respect to PEG degradation, ion removal from the metals, organics and metal corrosion.

Vicki Richard and Ian Godfrey were part of a maritime archaeological team, led by Mike McCarthy, which recently visited Shark Bay and dived on the wreck of the `Gudrun' (1901). The 900 ton wooden vessel foundered after a disgruntled carpenter drilled holes in the hull. The wreck is in very good condition with a wonderful assortment of large iron and copper alloy artifacts visible. The site is also the home for an amazing variety of fishlife (including a couple of 2 meter long groper!). In-situ measurements of corrosion potentials demonstrated that the artifacts were in surprisingly good condition, considering the rather aggressive nature of the wreck site.

received from:
Ian Godfrey
Western Australian Maritime Museum
Cliff Street
Fremantle
Western Australia 6160

CONFERENCES

CELEBRATION OF WOOD

June 2 -4, 1993
York
The `Celebration of Wood' workshop (June 2-3) and Conference (June 4) is for anyone interested in archaeological wood technology and conservation. Through in-depth seminars and demonstrations led by recognised specialists, delegates will be introduced to the latest thinking on wood recovery and assessment; technology, sampling and recording; conservation and display. Workshop places are strictly limited.
Contact: Jim Sprigg, YAT laboratories, Galmanhoe Lane, Marygate, York Y03 7DZ. Tel: 0904 6433211 or Fax: 0904 640029.

ICOM-CC

The 10th Triennial Meeting of the ICOM Committee for Conservation in Washington, D.C from 22-27 August, 1993.

For further information contact:
ICOM-CC
Conservation Analytical Laboratory
Smithsonian Institution (MSC)
Washington, D.C. 20560
U.S.A

SHA MEETINGS

The 1994 Annual Meeting of the Society for Historical and Underwater Archaeology will be held at the Hotel Vancouver, Vancouver British Columbia, Canada, between January 5 and 9th, 1994.
All correspondence for the 1994 Vancouver meetings, including abstract submission and requests for further information, should be made to SHA - 94, Department of Archaeology, Simon Fraser University, Burnaby, British Columbia, Canada, V5A 1S6.

FROM THE EDITOR

For your submissions to be placed in the next Newsletter please send them to me or Per Hoffmann by the end of August 1993

Thank you

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