

SAVE
SOS ONTARIO
SHIPWRECKS

ISSN NO 1180-1972

SOS NEWSLETTER

AUGUST 2007



SOS NEWSLETTER

P.O. Box 2389
Blenheim, Ont. N0P 1A0
Fax: 519-676-7058

<http://www.saveontario-shipwrecks.on.ca>

Editor/Designer:

Jody Bulman
tacking@sympatico.ca

The *SOS Newsletter* is published four times a year in February, May, August, November. This issue is published August, 2007.

The *SOS Newsletter* is published by *Save Ontario Shipwrecks (SOS)*, a non-profit charitable organization dedicated to furthering public knowledge and appreciation of Ontario's Marine Heritage.

We encourage reproduction of our newsletter contents. Credits should read: From the *SOS Newsletter*, date of issue, a publication of *Save Ontario Shipwrecks*.

Opinions expressed by contributors to the newsletter are not necessarily those of the editor or the board of SOS.

Save Ontario Shipwrecks gratefully acknowledges the support and financial assistance of the Ministry of Culture.

Deadline submission for next issue is October 1, 2007.

The Editor

Thanks to the contributors of this issue. It is great to get articles from members for the newsletter.

I encourage all chapters to submit a brief article with their upcoming events to ensure everyone is involved and informed. Deadline for submissions for next issue will be October, 2007.

In this issue, I have brought together a slew of stories and articles to help you expand your knowledge of our marine heritage and SOS. My goal is to expand the newsletter and welcome from the members and the public articles, studies and reports for publication.

Have a great summer season.

Jody Bulman

The mission of Save Ontario Shipwrecks is the preservation and promotion of marine heritage through research, conservation and education.

The View From The Bridge

By Brian Prince

The summer is here and we are having our share of sun and rain. Now only if I had time for diving as much as I'd like! Viz this year is down. Was last year too. Are those Zebra Muscles (ZM) dying off? Recently I've seen many rocks totally clean with not one ZM to be found. New rocks??? I do not think so... there are a lot of funny bumps on the rock where ZM's used to be. The Gobies must be having a feast, or we have some other factor at play. If anyone can enlighten us, I'm sure it would be of great interest to all. Everything goes in cycles and ZM's seem to be on a downward spiral.

The last of the SOS NAS 1 courses for 2007 was this weekend here in the 1000 Islands. Erika Laanela was here to teach it and everyone had a great time. With a bit of luck we got in a recreational dive in on Sunday evening. We dove the *Robert Gaskin* partly because it was close and I heard reports that part of the *Gaskin* was damaged. I inspected it and two sizable chunks of the Starboard bow and stern have collapsed. The bow outward and the stern inward. There was no visible signs of impact (like an anchor), but simply the falling apart of timbers and the decay process has caused these portions to fall given their weight and lack of support. More chunks will likely fall in coming years, so low impact diving is needed more than ever on all our sites, but especially the *Robert Gaskin*.

In other areas of the *Robert Gaskin*, metal objects like chain and turnbuckles have visible fresh orange rust (from movement). A wooden box of washers that appeared some time ago, that I wrote of previously, is missing! There are fresh orange rusty screws, washers and bolts on the deck now. Where's the box? Who did this? Do they really think they are helping the site and divers in general? Please folks... help spread the word... is a \$50,000 fine going to help deter anyone? I know I'm preaching to the converted here, so please help me convert the rest! Make it a point of telling your diving peers and people on charters and private boats to respect the heritage sites. Please do it more now than ever!

Since our Code Of Ethics passed in February, was then ratified at the SOS AGM in May and published in the SOS newsletter, I was wondering how many people understand SOS supports in-situ preservation (item number three) as the first priority. I'm not saying never take

anything up for a museum under license, but lets keep as much on the site as possible. I'd suggest everyone have one more read of this document online at:

http://www.saveontarioshipwrecks.on.ca/code_of_ethics.htm

You can find the link to the Code of Ethics, the Privacy Policy and many more interesting places on the SOS website near the bottom of the home page. Take a moment to ponder each item in the Code of Ethics and why you think this is good or bad for you. We have spent a year working on that one page document and consulted with many, so it is well thought out and in a language people can understand.

We would enjoy a discussion about it on the SOS List with you. The SOS List called SOS-L can be subscribed to via the main page of the website under "EMAIL LIST". Typically it is pretty quiet, so you can subscribe and not be worried about too many emails a day. Every email has the instructions to un-subscribe, so you can opt out whenever you like. I post world marine related articles and other announcements in general about projects, events and conferences on the list as well. Just remember, that when you reply or post, that you are doing so to 100's of people at one time. So be appropriate in subject and take one-to-one replies offline by emailing directly to that person. The list is a great tool and we thank Neumes Consulting for donating the List Service to SOS.

A call for more volunteers... I know everyone is busy more and more, but a run out to your favourite dive site can help by taking along a buoy for deployment. We have a lower than normal buoy deployment this year. Maybe because people just do not know they can help. Well you can and we'd appreciate it. Every buoy deployment gets logged in our online database and so does your name. We know who puts in the effort and we'd like to add you to the list. I was approached last night by some great guys and a new charter operator Frank Malette of Wet Beaver Charters who want to help in the Cornwall area; I just want to thank them personally and publicly for lending a hand.

Lastly, in case you haven't heard, Erika has resigned her post at the Ministry of Culture to pursue her PhD in the USA. This is a big loss to the Ministry and is a great concern to SOS. We wish Erika well in her studies and hope to have her back on the Ontario scene again when she is done. SOS previously had lobbied hard to get her position filled

for years after Peter Engelbert retired. We would like to stay focused on our projects, as I'm sure they would, rather than getting side tracked spending time writing letters. We hope that they can come through quickly and find someone suitable so that we have NAS courses for you next season too. You can email the Minister of Culture, to the attention of the Honourable Caroline Di Cocco at info.mcl@ontario.ca or write a letter to Minister of Culture at 900 Bay Street 5th Floor Mowat, Toronto, Ontario M7A 1L2. The more letters and emails the better.... so please each one of you, add some voices to ours. Focus on expediency of filling the roll with one person that focuses totally on marine archaeology licensing as there is enough work doing marine licensing, database and programs alone. They need another person to do land based archaeology. Ask a question so they have to reply. Please copy me so I can wave these at the next meeting with them.

Safe Diving,

A handwritten signature in cursive script that reads "B. Prince".

Brian Prince
SOS President
president@SaveOntarioShipwrecks.on.ca
P.O. Box 2389
Blenheim Ontario N0P 1A0

SOS Directors Award 2007

Save Ontario Shipwrecks (SOS) is pleased to announce that Joyce Hayward of Bellevue, Ohio has been presented with the 2007 SOS Director's Award. The plaque is inscribed: "For her contribution and dedication to the preservation of our shared marine heritage". The award was presented in Ohio on June 16th 2007 by SOS President Brian Prince.

Joyce has been the Committee Chair of the Ohio Chapter of Save Ontario Shipwrecks for over 20 years and is also a founding Board Member of the Maritime Archaeological Survey Team (MAST). She has worked as a main contributor sharing the happenings on each others side of the Great Lakes. She personifies the ethics of marine heritage groups such as SOS and MAST. Joyce is the only member of SOS to receive two Director's Awards and has also been awarded an Honorary Membership.

Joyce began diving in 1982. During her diving career she has served as the Great Lakes Director of the Atlantic Alliance for Maritime Heritage, and the Vice President of the Association for the Great Lakes Maritime History, where she served as chair of the Divers Coordination Committee. Joyce has held various offices with the Ohio Council of Skin and Scuba Divers, where she is currently the Secretary and serves as Chair of the Legislative Action Committee.

Joyce has been named the "Diver of the Year" on three occasions from the State of Ohio. She was also appointed by the Governor of Ohio to serve on the Submerged Lands Advisory Council, a management advisory committee for the shipwrecks of Lake Erie.

She has received the Order of Excellence from the Atlantic Alliance for Maritime Heritage Conservation, the Distinguished Service Award from the Ohio Council of Skin and Scuba Divers, and the Directors Achievement Award from Save Ontario Shipwrecks, and was inducted into the Women Diver's Hall of Fame in 2001. Joyce is an Assistant Scuba Instructor, Master Diver, Technical and Trimix diver and member of IANTD. She has been involved in deep (over 160ft/50m) diving since 1988. Joyce has organized and helped to instruct archaeological training workshops in Ohio, Michigan, Illinois and Indiana. She has been featured in several videos and television documentaries including Michigan in Depth and been featured in Voices

of the Lake and The Best Adventure Yet. Her photography has appeared in various publications and she has given presentations all over the United States and Canada. She is often referred to as “The Lady of the Lakes”.



Joyce Hayward and Brian Prince

Marine Archaeological Sites

By Erika Laanela

This article was previously published in CHO News, the newsletter of Community Heritage Ontario (March 2007).

The beds of the Great Lakes and other bodies of water in Ontario contain countless marine archaeological sites. The Ontario Heritage Act defines a marine archaeological site as an archaeological site that is fully or partially submerged or that lies below or partially below the high-water mark of any body of water. In addition to shipwrecks, Ontario's marine archaeological sites include submerged prehistoric aboriginal sites, ancient fish weirs, historic wharves and piers, marine railways, historic canals, derelict vessels, submerged aircraft, and other resources of cultural heritage value or interest. In practice, the Ministry of Culture recognizes any shipwreck that sank more than fifty years ago as a marine archaeological site. More recent sites, such as the *SS Edmund Fitzgerald*, may also be recognised based on cultural significance.

The Ministry of Culture's marine archaeological conservation program manages and protects Ontario's marine archaeological sites by:

- Providing policy direction and technical advice;
- Promoting integration of marine archaeological resources in land use planning and environmental assessment processes;
- Issuing licences for marine archaeological fieldwork;
- Ensuring that marine archaeological fieldwork, analysis, and reporting reflect acceptable standards;
- Maintaining a marine archaeological site database;
- Promoting stakeholder engagement and stewardship through training and partnerships; and,
- Developing tools to promote the conservation of marine archaeological resources.

The Great Lakes are an international dive destination because of their unique range of marine sites. Due to the absence of shipworms in the freshwater environment, Ontario's shipwrecks are among the best preserved in the world. The estimated 4,000 vessels lost in the lakes and rivers of Ontario comprise an underwater museum of maritime history. Only a fraction of these vessels have been located. The Ministry has records for over 500 shipwreck sites, but this represents only those reported by divers, archaeologists, and other concerned members of the

public. Marine archaeological sites are a non renewable resource. Once damaged, a site is forever altered and cannot be effectively repaired or replaced. To appreciate and learn from these sites, we each have a responsibility to preserve and protect them. Archaeologists, divers, and regional planning authorities in particular should have a proactive interest in their long-term preservation. Impacts to these sites can be reduced through education, appropriate planning policies, and by applying the provisions of the Ontario Heritage Act and other legislation such as the Planning Act.

Certain types of development activities are known to disturb and damage marine archaeological sites. Examples include laying pipelines or cables across the bottom of a lake or river; driving pilings or footings for bridges, drilling rigs, or hydro towers; constructing piers and wharves; dredging; waterfront redevelopment projects; and other alterations to lakebeds, riverbeds, and shorelines. Before undertaking these developments, it is important to first review the available data for known and potential sites. It may be necessary to conduct remote-sensing or other types of survey under the supervision of a professional marine archaeologist. Sites can be identified, assessed for their cultural heritage value or interest, and an avoidance or conservation strategy implemented.

The increasing popularity of scuba diving is affecting, sometimes inadvertently, Ontario's fragile marine heritage. The Ministry does not oppose the recreational enjoyment of heritage shipwrecks by divers, when undertaken in a responsible manner consistent with the preservation of these sites. Although few divers now would take a souvenir from a heritage wreck, the unauthorized removal of artifacts, machinery, or other elements was once a common practice. Unfortunately, these artifacts are typically left in the diver's basement or garage where they decay due to inadequate conservation and storage, rather than remaining as an integral part of the archaeological site where other visitors could view them.

Looting diminishes the enjoyment of future divers, as well as the aesthetic, historical, and archaeological value of a site. Section 48(1) of the Ontario Heritage Act prohibits the alteration of archaeological sites or the removal, without a licence, of artifacts or other physical evidence of

past human activity. Most dive charter operators in Ontario have adopted a “zero tolerance” policy toward wreck stripping and artifact recovery.

Recreational use of marine archaeological sites can also result in subtle impacts. These can be minimized if visitors employ appropriate boating and diving techniques. Boaters should be careful not to drop anchors or other objects onto wrecks. Many popular heritage wrecks now have mooring buoys for the convenience of divers and protection of the site. Fishers should be cautious not to entangle wrecks in their lines or nets. Excessive propeller wash can also damage shallow wreck sites.

By practicing low impact diving techniques, it is possible to minimize the disturbance of these sites and ensure their preservation for future generations. Monitoring of wreck sites has shown that divers constantly bumping or rubbing parts of a wreck cause damage over time. Divers should avoid resting on, grabbing, or hanging onto the hull or machinery. These seemingly harmless actions cause visible stress on the structure when repeated by numerous divers over the years. Improper buoyancy control disturbs silt and other protective barriers on wrecks, accelerating the natural deterioration processes.

The Ministry is now further empowered to prescribe specific sites in regulation to enhance their protection by prohibiting diving or operation of survey equipment near the site without a licence. Due to their significance and sensitivity, two sites are currently included in this regulation: the War of 1812 schooners *USS Hamilton* and *USS Scourge* in Lake Ontario, and the *SS Edmund Fitzgerald* in Lake Superior.

Ideally, all marine archaeological sites in Ontario should be documented after their discovery. This provides baseline data for assessing future disturbances from natural and human factors. The challenge is that marine archaeological work is time-consuming, expensive, and difficult, and resources are limited. Several volunteer organizations are active in the preservation and documentation of shipwrecks and other marine archaeological sites in Ontario. These include Save Ontario Shipwrecks (SOS), the Ontario Marine Heritage Committee (OMHC), and Preserve Our Wrecks - Kingston (POW). These organizations have an extremely important role in promoting, documenting, and protecting Ontario's marine heritage sites.

There are opportunities for recreational divers to have a role in collecting baseline and monitoring information. A popular marine archaeology training program is offered by the Ontario Ministry of Culture in conjunction with SOS and other volunteer organizations. Using a system developed by the Nautical Archaeology Society in the UK, the NAS Level I course provides divers with an overview of marine archaeological resources and an opportunity to develop the basic skills needed to record a site. No previous experience is required. The weekend course includes lectures, and practical mapping sessions on land, in the pool, and at an open water site. It is anticipated that three to four NAS Level I courses will be offered in 2007. Divers interested in documenting a heritage wreck should contact the Ministry of Culture about training and to obtain an archaeological licence.



Kingston diver Ken Fuller doing survey work at HMS St. Lawrence, 1814-1834.
(Jonathan Moore, Parks Canada)

Site Formation Processes and the Sligo

By Helen R. Haines and Elaine Wyatt

“...it is often said that wrecks are sealed time capsules from the moment of wrecking.”

(Muckelroy 1976: 283)

Shipwrecks, with access limited only to those able to dive, carry with them the undeniable cachet of being exotic. Yet, as Muckelroy attempts to demonstrate in his work on shipwreck site formation, the idea that wrecks are “sealed time capsules” is false. Sunken ships do not remain constant and immutable from the moment of their loss, but, as many divers will attest, change and deteriorate over time. The changes that take place at an archaeological site through natural events or deliberate actions are referred to as site formation processes.

Recently, SOS Toronto initiated a five-year monitoring project of the *Sligo*, a late 19th century vessel that sunk in Humber Harbour, Lake Ontario, in 1918. This research was designed to monitor the condition of the ship, track its deterioration and identify factors involved in site formation processes on shipwrecks in the Great Lakes.

The History of the *Sligo*

According to a comprehensive history of the *Sligo* compiled by Kimberly Monk in her 2003 Masters thesis, the *Sligo* was originally a barkentine, built in 1860 to carry goods on the Great Lakes and Atlantic Ocean. Fourteen years after her launch she was reconfigured as a schooner for use only on the Great Lakes (Monk 2003:68). In 1908 she was modified again to serve as a tow barge and the shipping of coal and stone (Monk 2003:68, 92).

It was during her service as a tow barge that the *Sligo's* first serious mishap was reported. She was docked at the base of the Adamson Elevator in Toronto when the mechanism carrying a load of stone collapsed. Despite “bearing the brunt of the collapse” the *Sligo* was deemed “none the worse” (Monk 2003:95) and continued to serve on the Great Lakes.

In September, 1918, the *Sligo*, was en route from Point Anne to Toronto with a cargo of 500 tons of stone (Monk 2003:95). She was being towed by the steam barge City of New York, when the ships ran

into a storm and experienced difficulties (Monk 2003:95). With the hull of the *Sligo* filling with water the City of New York had insufficient power to pull the stricken vessel and was herself in danger of floundering. A decision was made to cut the *Sligo* loose in the hopes that the crew could keep her afloat until the Geary, on her way to assist, could arrive (Monk 2003:95).

Despite the crew's best efforts to save her, the siphons failed before the Geary could arrive and the crew was forced to abandon ship. The crewmembers reached shore safely, but the *Sligo* sank early in the morning on September 5, coming to rest upright in roughly 20 metres of water two kilometres south of Toronto Harbour (Monk 2003:98, 100). There she remained undisturbed, except for natural marine processes, until she was rediscovered roughly 60 years later.

In 1979, Dan McIntyre and a group of Toronto divers conducting a remote sensing operation in Humber Harbour discovered the site (Monk 2003:98). The location of the ship was not released to the dive community until 1983, although regular looting of the site made it evident that other divers were aware of the wreck. SOS Toronto members participated in the first survey of the site conducted in the early 1980's by SOS Toronto President Tutty Lee. However, it wasn't until September 5, 1987 that McIntyre was able to identify the shipwreck as the *Sligo* (Monk 2003:99).

Ten years later, in 1997, a second survey of the *Sligo* was conducted. This time the work was conducted under Kimberly Monk, then President of SOS Toronto. Monk continued her work on the *Sligo* in 2001 as part of her Masters thesis research on Welland sailing and canal ships for East Carolina University. During the 2001 field season SOS Toronto member Serena Oyama painstakingly compiled a photo mosaic of the site. Measurements of the vessel were taken and samples of the wood from which the ship was constructed and the cargo were collected for testing. A report from Dr. Lee Newsom at Southern Illinois University Carbondale indicates the *Sligo* was constructed largely of hardwoods (likely *Quercus* sp.) and softwoods (*Pinus* sp., *Picea* sp., and/or *Larix* sp.) (Monk 2003: Appendix A).

In 2006, the members of SOS Toronto launched their third study of the *Sligo*. The aims of this new project include tracking changes to the site,

experimenting with new ways of surveying and monitoring shipwrecks and developing a better understanding of site formation processes on submerged archaeological sites in the Great Lakes.

Site formation processes

Site formation processes are defined as actions “that have transformed the archaeological (or historical) record” (Fagan 2006:204). These actions can be natural (environmental factors) or cultural (caused by human behaviour). It is the results of these actions that alterations to shipwrecks occur. Moreover, it is precisely because shipwrecks are exposed to these actions that the idea that shipwrecks are immutable time capsules is false.

This is not to suggest that shipwrecks are useful sources of information about a specific moment in time, only that shipwrecks should not be viewed through the lens of the “Pompeii principle” (Binford 1981). Rather, the effects of the site formation processes must be taken into account when studying a shipwreck. Moreover, site formation processes and their impact on the physical state of the ship should be included in any discussions of the site (Schiffer 1985).

Muckelroy in his study of the Kennemerland identified five possibly stages of wreck site development: 1) process of wrecking, 2) salvage operations, 3) disintegration of perishables, 4) seabed movement, and 5) excavation (Muckelroy 1976: 282, Figure 6). These categories, although originally developed for presenting a means of integrating the historical and archaeological records for the Kennemerland, proved to be extremely useful in opening the discussion of the various factors involved in wreck formation. Subsequent research at other sites identified additional processes that might affect shipwrecks including damage from storms, dismantling, scuttling, impact on the seabed, hydrodynamic activities such as tidal action, scouring, and, if the wreck is close to the surface or shore, waves (Muckelroy 1978; 157-214; Dean et al. 2000:49-54; Quinn 2006; Quinn et al. 2002; Ward et al. 1999). In addition, both chemical and biological agents such as aerobic bacteria, wood borers, and increased corrosion can affect exposed sections of a wreck.

One of the most ubiquitous biological agents at work in the Great Lakes since 1988 is the zebra mussel (*Dreissena polymorpha*) (Watzin et al. 2001). These mussels appear to prefer wooden surfaces to metal as

they can attach themselves to the surfaces by imbedding their byssal threads into the surface of the material (Watzin et al. 2001:43). While the appearance of these mollusks may be classified as a natural site formation process, the removal of the mussels by divers is a cultural or anthropogenic action that can result in either the byssal threads failing to be removed or, more alarmingly, pieces of the wood of the wreck being removed along with the mussels (Watzin et al. 2001:43).

While site formation processes are virtually universal in the archaeological record not all of the processes mentioned above are always present at every wreck. Moreover, there can be site-specific processes, particularly in areas where the geography, weather or sea conditions are especially hazardous to ships. Shipwrecks can also be damaged by unwary ships dragging anchors or fishing nets.

Site formation processes must be considered when studying a submerged site and information about the specific processes affecting a site can be collected through surveys, mapping, and/or long-term monitoring projects such as the one in process on the *Sligo*.

The *Sligo* Monitoring Project

In mid 2006 SOS Toronto member Bryan Thomas, who has been diving frequently to the *Sligo* for many years, expressed concern over the apparently increasing pace of deterioration at the site. In response, SOS Toronto launched a new survey project of the *Sligo* in September 2006. Under the direction of then Chapter President Elaine Wyatt and Dr. Helen R. Haines from Trent University, a five-year research design was implemented to monitor changes at the site and identify the key factors involved in the changes.

Using the photo mosaic created by Serena Oyama, key areas of the site that appeared to be particularly sensitive to change were identified. For example, in the image it appeared that the ship railings on the port bow were slowly pulling outward, giving the impression that the ship was unzipping.

The original research design involved identifying key areas of the site that were stable, generally along a line down the center of the ship between the bow and the stern, as well as those areas that were unstable. Measurements were to be taken from the stable datums to the

unstable datums. All datums were marked with plastic ear tags used for identifying farm animals. These tags are heavy plastic with pre-punched holes and embossed with large numbers, making them ideal as datum points underwater. Bright yellow medium-sized tags usually used to tag pigs were deemed the most suitable for use on the *Sligo*. Because it is necessary for the datums to be securely in place for the five years of the project, the tags were attached to the using 15 cm galvanized steel nails. The intention to use datums on the site was specified in the research permit request filed with the Ontario Ministry of Culture. All work conducted on the *Sligo* is carried out under the Ministry of Culture license 2007-10 issued to Elaine Wyatt.

Measurements between the permanent datum points to the unstable points were to be taken using two approaches. The first set of measurements was to be taken on a horizontal plan while the second set of measurements were to be direct tag-to-tag without attempting to correct for slope in the measuring tape. The intent was to superimpose the first set of measurements over the photo mosaic to identify areas that had experienced the most significant change. The second set of measurements was to be used to monitor changes in the distances between the stable and unstable points.

As datums were placed and measurements taken, it became apparent that variations in the angle of the camera in the photographs used in the 2001 photo mosaic had created distortions in the planar view. In the mosaic, certain sections of the ship appeared to have fallen further away from the ship than they are today. This meant that comparisons between measurements taken in 2006 and the photo mosaic would not be meaningful and collection of these measurements was discontinued. The photo of the site is a valuable aid for orientation in poor visibility, a common condition on the *Sligo*, but the inconsistencies in the photographic angles meant it did not provide the precision necessary for tracking variations in a planar view.

Consequently, the research design of the *Sligo* Monitoring Project was modified to include only tag-to-tag measurements, which are more accurate for long-term monitoring. Once the logistical aspects of the project were mastered, we discovered that a team of two people, using a 30 m tape measure could take up to 15 measurements during the 25 to 30 minutes of bottom time allowed non technical divers. As each

set of measurements is collected, the distance between the stable and unstable datums will be compared with the previous set of numbers collected as well as the original data. This will allow us to identify the changes from season to season as well as changes from the launch of the project.

We collected our first set of data in November 2006 and our second set in April 2007. We will continue to collect data twice a year in late April and early November. This coincides with the schedule for placing and removing the SOS heritage buoys used by most divers to locate the site. This will allow us to isolate the season of the year (summer or winter) during which the *Sligo* undergoes the most change and, in turn, the site formation processes causing the most significant change.

Conclusion

While the work on the *Sligo* is still in its initial stages, we believe that our research will provide valuable monitoring of the condition of *Sligo*. Moreover, it is our hope that the work of SOS Toronto will add to the growing body of knowledge about site formation processes at submerged sites in North America. Updates on our research will be provided to the Ontario dive community and the Canadian archaeological community in future reports.

Acknowledgements

This work would not be possible without the volunteer support provided by the members of SOS Toronto and SOS Hamilton who have been invaluable partners in developing the research design, placing datums and collecting measurements. In particular, we would like to thank our core team: Alex Ayers, Jonathan Ferguson, Raimund Krob, May Loo, David Taylor, John Millar and Bryan Thomas. In addition, we would like to thank Jody Bulman, Paul Chapple, Aloysia DeJulio, Robert Kuzel, Doug Holmes and Michael Stephenson for their help in collecting data. We are also grateful to Erika Laanela, marine archaeologist with the Ontario Ministry of Culture, for her expert advice.

References

Binford, Lewis R.
1981 Behavioral Archaeology and the "Pompeii Premise". *Journal of Anthropological Research*, Vol. 37 (3):195-208

Dean, Martin, Ben Ferrari, Ian Oxley, Mark Redknap, and Kit Watson, editors
2000 Archaeology Underwater: The NAS Guide to Principles and Practices.
Nautical Archaeology Society and Archetype Press, London, UK.

Fagan, Brian M.

2006 Archaeology: A Brief Introduction. 9th Edition. Pearson and Prentice Hall,
New Jersey.

Monk, Kimberly

2003 A Great Lakes Vessel Type: Archaeological and Historical Examination of
the Welland Sail Canal Ship, Sligo, Toronto Ontario. Unpublished Master's Thesis on
file with the Department of History, East Carolina University.

Muckelroy, Keith

1976 The Integration of Historical and Archaeological Data Concerning an
Historic Wreck Site: the 'Kennemerland'. World Archaeology, vol. 7: 280-290.

1978 Maritime Archaeology. Cambridge University Press, Cambridge

Schiffer, Michael B.

1985 Is There a "Pompeii Premise" in Archaeology? Journal of Anthropological
Research, Vol. 41 (1):18-41

1987 Formation Processes of the Archaeological Record. University of New
Mexico Press, Albuquerque.

Quinn, Rory

2006 The Role of Scour in Shipwreck Site Formation Processes and the Preser-
vation of Wreck-Associated Scour Signatures in the Sedimentary Record - Evidence
form Seabed and Sub-Surface Data. Journal of Archaeological Science, vol.
33:1419-1432.

Quinn, Rory, Colin Breen, Wes Forsythe, Kevin Barton, Shane Rooney, and Deirdre
O'Hara

2002 Integrated Geophysical Surveys of the French Frigate La Surveillante
(1797), Bantry Bay, Co. Cork, Ireland. Journal of Archaeological Science, vol.
29:413-422.

Ward, I.A.K., P. Larcombe, and P. Veth

1999 A New Process-based Model for Wreck Site Formation. Journal of Archae-
ological Science, vol. 26:456-570.

Watzin, Mary C., Arthur B. Cohn, and Bryan P. Emerson

2001 Zebra Mussels, Shipwrecks, and the Environment. Final Report.
Manuscript on file with the School of Natural Resources, University of Vermont and
the Lake Champlain Maritime Museum. Electronic Document
[https://www.denix.osd.mil/denix/Public/Library/NCR/Documents/
FINAL2001_ZM_report.pdf](https://www.denix.osd.mil/denix/Public/Library/NCR/Documents/FINAL2001_ZM_report.pdf). Accessed June 16, 2007.

NAS 1 in Goderich

By Krissy Nickle

SOS Huron Shores hosted a successful NAS 1 course in early July. We had students from all over Ontario: Fort Erie, Mississauga, Lucknow, and Granton were all represented by divers eager to learn about marine archaeology, and two of our students came all the way from Ohio for the fun and educational weekend!



Back Row (L-R): Erika Laanela, Brian Nickle, Krissy Nickle, Steph Allen, JJ Jurjens
Table (L-R): Bill Rowan, Tannis Koskela, Shawn Phelps, Sheila Barker, Scott Pansing, Linda Pansing, John Charest

Marine Archaeologist Erika Laanela was a great teacher, and after cramming our brains full of knowledge about wooden ship building, the history of marine archaeology, and the basics of surveying techniques, she took us outside to practice what we had learned on the “wreck” set up on the lawn beside the classroom.

After the dry land exercise, we moved our efforts to the swimming pool, where two similar “wrecks” had been set up for us to survey. One “wreck” was set up in the deep end of the pool for the divers, and another in the shallow end for snorkelers (one student isn't a diver yet, and I couldn't dive because of an ear infection). The shallow “wreck” proved quite tricky to map because of its depth, and Erika assured us that

this was typical of foreshore archaeology, and that sites in 3-5 feet of water can be among the most difficult to record.



JJ Jurjens surveying the “wreckage” in the pool. (Photo: John Charest)

The course finished on Sunday with the students putting their finely honed skills to the test on a real shipwreck. The divers surveyed part of an unidentified wooden wreck in the Goderich “Boneyard”, where the remains of wrecked or scuttled ships were disposed of over the last two centuries. Even the students who weren't diving got to work on real wreckage: upon heading to the beach to set up for the shore dive to the “Boneyard”, Erika discovered several pieces of wreckage washing up on shore and into the shallows. Two of the smaller pieces were chosen for us to practice our mapping, and the larger sections of hull will hopefully be documented later this year in a project by SOS Huron Shores.

All in all, the course was a great success! The students had fun, and several comments were made about how much we learned over the weekend. Special thanks to Erika for teaching such a great course, and to our Dive Master, John Charest of SOS Sarnia, and our Safety Diver, Bill Rowan of SOS Huron Shores, for arranging things in the water and

At age 87, he has just published a comprehensive history for the 'lay reader', he proclaims; to tell the complex story of our 'Freshwater Heritage', a history of sail on the Great Lakes covering the period from 1670 to the early 20th Century.

In the words of SOS Past President, Jim Hopkins: “Ontario's maritime heritage is the cornerstone of the Province's economic and social development. Today pieces of this heritage lay on the bottoms of our lakes and rivers, in the form of shipwrecks, some so well preserved, they seem prepared to continue their uncompleted journeys. From this cornerstone Don Bamford builds a solid foundation to help us understand not only the role these ships played, but also enriching our knowledge of the men who built and sailed them.”

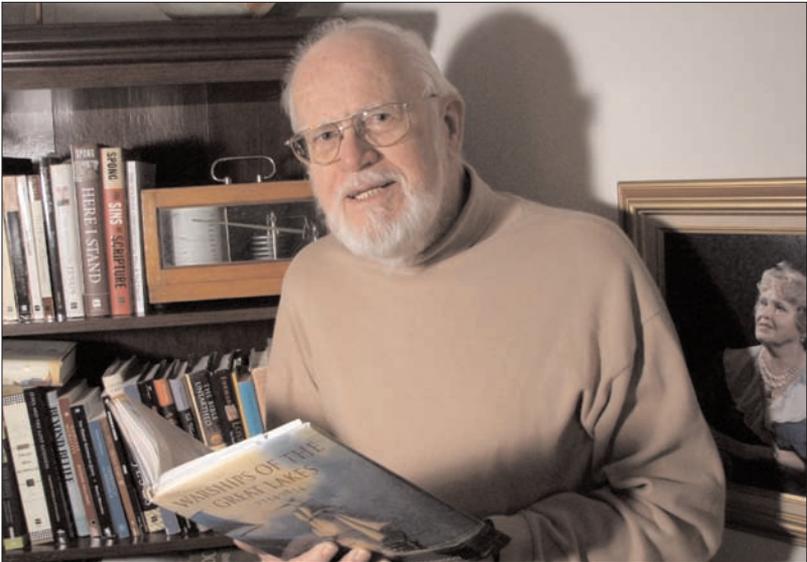
Don's volume, lavishly illustrated with black and white as well as colour photographs and paintings, presents a 300 page, easy to read chronology of the history highlights of sailing on the Great Lakes. In one section, he recounts the methods of shipbuilding in an Upper Canadian wilderness setting which saw the birth of great sailing ships like the magnificent 3-masted gunship, the St. Lawrence.

The commercial role of sail on the Great Lakes is captured through the refinements to the schooners, the place of ships in the fur trade, the early days of fishing the lakes as an industry, the role of the timber droghers, the stone hookers and the first ore carriers of the first part of the 20th century. Never before has the place of sailing vessels in the early history of Canada's Great Lakes been so inclusive, and made so accessible to the general reader.

Richly illustrated with archival visuals and photographs of significant works of art, and supported by a full index, a glossary, a list of historic place names, and extensive notes, Freshwater Heritage is a must for both the armchair historian and those who love to sail. Who knows what role the detailed text might play in the future identification of components of our underwater heritage?

Now retired, and after 55 years of sailing, Don Bamford lives in London, Ontario.

Don's book is available from SOS Ships Store at:
<http://quartermaster.saveontarioshipwrecks.on.ca>



Don Bamford. Photo by P. Carroll

SOS Current Members

Listed below are SOS members names and their years of service as we have them in our membership database. Should you not want to be listed, please let the membership director know.

Membership makes a difference as the total number is used many times as a measure of the support we have for views and people that believe that preserving marine heritage and spreading the message is important.

Thank you to each and every one listed below for your continued support!

Honourary Members

P Engelbert
J Hayward

26+ Years

L Joyne
R Neilson
R Cowalchuk
F Gregory

21+ Years

L Pullen
C Kohl
B Ligthart
A Ligthart
D McCartney

16+ Years

R Pickering
T Roberts
W Sigen
T Kowalczyk
B Roy
B Sawchuk
N Hopkins
J Hopkins

11+ Years

P Carroll

WD Wilson
C Buck
E Laevens
I Morley
J Murphy
B Prince
J Stewart
C Bigalow
B Mainville
H Séguin
M Barker

6+ Years

V Dokis
D Durant
L Lundy
I Robinston
M Spears
J Wilson
K Gault
E Kosakowski
P Langevin
R Lemgruber
L McInnes
B Mitchell
M Mueller
G Mueller
K Gray

S Hatch
D Nichol
Sharky's Scuba Supply
B Snow
S Welch
C Welch
Ajax Scuba Club
V Assinewe
W Barnard
N Binnie
P Eichenberg
T Falardeau
M Falardeau
H Haines
C Harnett
J Hawley
R Jones
L Leppington
L Prince
J Ritchie
T Rudden
A Thayer
M Mainville
L Pansing
H Poirier
S Price
Toronto Ref. Library
S Welch

K	Welch	S	Lounsbury	C	Marks
1+ Years		P	Lounsbury	M	McAllister
D	Brooks	I	Lounsbury	B	McAllister
G	Dewis	C	Lounsbury	D	McConnachie
ErieQuest		B	Lounsbury	M	Merlo
R	Glass	D	Rogers	K	Musclow
E	Kosakowski	J	Tagliaferro	L	Saganski
N	Lasselín	T	Acker	R	Tremblay
J	Muller	I	Allan	L	Vandehei
T	Scott	A	Ayers	L	Ward
Sea N' Sky Scuba /		S	Barker	J	Ward
Seeway Vision		J	Bulman	T	Wilson
D	Taylor	A	Dejulio	B	Wolff
Upper St. Lawrence		R	Engel		
Scuba Charter Assoc.		J	Engel	<u>New Members</u>	
E	Wyatt	B	Engel	S	Allen
M	Brooks	J	Ferguson		Allen County Public
G	Cornelius	B	Kerr		Library
S	Donaldson	G	Lambert	O	Aravecchia
J	Holton	O	Levstein	S	Ball
W	Irie	M	Loo	P	Biezing
M	Kallon	A	Mackenzie	J	Blard
J	Luyt	N	MacMillan	S	Boismenu
E	McKenzie	H	Mandoda	T	Bridle
A	McKenzie	D	McKenzie	W	Bush
C	Mullin	D	Miller	G	Campbell
Niagara Diver' Assoc.		R	Ogilvie	S	Cote
T	Skelton	B	Rowan	M	Dallaire
M	Stephenson	J	Rutland	K	Desautels
R	Swann	B	Thomas	N	Duchesne
M	Swann	N	Waltho	C	Dufresne
P	Taylor	M	Babiski	J	Dunfield
W	Tully Jr.	E	Brooks	M	Engel
T	Utman	E	Burt	R	Gigliotti
S	Utman		Deep Blue Expedition	D	Gilchrist
K	Utman	A	Dendy	T	Gilhuly
J	Utman		Dive Brockville Adv.Ctne	W	Green
C	Venn	T	Dodd	D	Groll
C	Winter	J	Earle	C	Guillaume
S	Bondy	C	Gander	J	Harrison
D	Brodeur	B	Gander	B	Hewson
R	Bromley	C	Gault	D	Humble
Hart House U/W Club		D	Gunther	M	Jonsson
J	Hulbert	T	Kovacruic	J	Jurjens
R	Krob	D	Lawrence	T	Koskela
B	Lockhart	C	Lawrence	E	Legua

R	Lewington	M	Templeton
P	Lind	G	Turner
J	Livesey	V	Van Heest
L	McRae	D	Vautour
S	Mombourquette	C	Wagner
B	Nickle		
F	Nisi		
D	Paauw		
J	Palmer		
S	Pansing		
P	Peril		
S	Phelps		
G	Pilon		
G	Pion		
M	Robitaille		
M	Ryan		
A	St. John		

Privacy Policy



Personal information is collected by *Save Ontario Shipwrecks* solely for the purpose of furnishing membership services. Personal information (postal address, phone number, email address, etc.) will not be disclosed to third parties other than the OUC for insurance purposes unless required by law. Member names only may be used for outreach purposes in electronic or printed media without notice. Policy changes will be posted in the Newsletter, which will constitute due notice.

Regional and Committee Representatives

President

Eastern Region Representative

Webmaster

Brian Prince*
137 King Street East
Brockville, Ont. K6V 1C1 (613) 342-3900
BmP@BmPadvantage.ca

Vice President

Ethics Chairperson

Jonathan Ferguson*
1911-730 Dovercourt Road
Toronto, Ont. M6H 2W9 (416) 536-1247
jonathanferguson@hotmail.com

Secretary / Treasurer

Margaret Barker*
23 Dundegan
Kanata, Ont. K2L 1P7 (613) 836-5157
margaret.barker@sympatico.ca

Membership Director

Bernie Roy
18 Ada Cres.
R.R. # 2.
Tobermory, Ont, N0H 2R0 (519)596-2607
broy100@amtelecom.net

Central Region Representative

OUC Insurance Chairperson

David Taylor*
15 Dalewood Cres.
Hamilton, Ont L8S 4B5 (905) 526-9026
taylordw@mcmaster.ca

SOS Hamilton

Walt Irie
169 Victoria Street
Ingersoll, Ont, N5C 2N2 (519) 877-4356
wirie@sympatico.ca

SOS Huron Shores

Krissy Nickle*
197 George Street., Box 2411
St. Marys, Ont N4X 1A3 (519) 284-2998
krissy@nickle.ca

SOS Ottawa

Ships Stores

Bylaw Committee Chair

Gordon Dewis*
609-45 Holland Avenue
Ottawa, Ont. K1Y 4S3 (613) 482-1075
gordon.dewis@gmail.com

SOS Port Dover

Jim Murphy
Box 299
Port Dover, Ont. N0A 1N0 (519)583-2884
buckmurphy001@sympatico.ca

SOS Quebec

Nathalie Lasselin
6380 de Bordeaux
Montreal, Que. H2G 2R8 (514) 276-9020
sosquebec@pixnat.com

SOS Sarnia

John Charest
1150 Afton Drive Suite #108
Sarnia, Ont. N7S 5B8 (519) 383-7536
christmasdesignssarnia@yahoo.ca

SOS Thousand Islands

Douglas Miller
1348 Halleck Road East, R.R. # 3
Brockville, Ont. K6V 5T3 (613)342-7191
douglas.miller@xplornet.com

SOS Toronto

Alex Ayers
215 Wynford Drive #2106
North York, Ont. MP3 3P5 (647)206-6330
alexandre.ayers@gmail.com

SOS Windsor

Roy Pickering
1230 Mariners Road, Box 39
Erieau, Ont N0P 1N0 (519) 676-2136
rjequip@on.aibn.com

Past President

Northern Region Representative

SOS Manitoulin

Jim Hopkins*
38 Shames Cres.
Espanola, Ont. P5E 1B9 (705) 869-3532
jjhop@onlink.net

Contents

The View From The Bridge

Report from the SOS President

By Brian Prince

Page 1

SOS Directors Award 2007

Presented to Joyce Hayward

Page 4

Marine Archaeological Sites

Managing marine archaeological sites in Ontario

By Erika Laanela

Page 6

Site Formation Processes and The Sligo

Updates from SOS Toronto

By Helen R. Haines and Elaine Wyatt

Page 10

NAS 1 in Goderich

Updates from SOS Huron Shores

By Krissy Nickle

Page 17

Fresh Hertiage

Book review of author Don Bamford

By Paul Carroll

Page 19

SOS Members

Thanks to all our members

Page 22