Underwater Cultural Heritage Law and Policy in Ontario: History and Prospects for Reform

by

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in the
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Abstract

Ontario underwater cultural heritage is protected under the Ontario Heritage Act administered by the Ministry of Tourism Culture and Sport. Since the 2005 Ontario Heritage Act amendments, which added marine archaeology to the act's protection regime, the Ministry of Tourism Culture and Sport has not updated or improved Ontario UCH policy. Due to the lack of improvement, and to the escalating interest in underwater cultural heritage by many groups, this thesis assessed Ontario's current marine-heritage legislation. The analysis identifies ten main concerns with the province's heritage policy. The thesis uses established underwater cultural heritage policy from Australia, South Carolina, the UK, and the international standard of the UNESCO 2001 Convention on the Underwater Cultural Heritage to identify and present recommendations for policy reforms to mitigate the ten main concerns.

Keywords: Underwater Cultural Heritage; Ontario; Policy; Reforms; Marine

Archaeology; Ministry of Tourism Culture and Sport

Dedication

This thesis is dedicated to Natalie, Ariadne, and Evelyn, who stood by me the whole way and without whom this work would never have been possible. It is also dedicated to my parents who helped get me to where I am today.

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List of Acronyms

CSA Canada Shipping Act 2001

CRM Cultural Resource Management

DCBC Diver Certification Board of Canada

FBCS Funeral, Burial and Cremation Service Act, Ontario

GEA Government Efficiency Act Ontario

HA 1977 Heritage Act 1977, New South Wales Australia

HA 2017 Victoria Heritage Act 2017, Australia

HCA Heritage Conservation Act, British Columbia

HSA Historic Shipwrecks Act, Australia

HSA 1981 Historic Shipwrecks Act 1981, South Australia

CPUCH UNESCO Convention on the Protection of the Underwater

Cultural Heritage 2001

HUCHR Heritage Underwater Cultural Heritage Regulations 2017
ICUCH International Committee on the Underwater Cultural Heritage

ICOMOS International Council on Monuments and Sites
MAA Maritime Archaeology Act, Western Australia

MHSTCI Ministry of Heritage, Sport, Tourism, and Culture Industries

MGCS Ministry of Government and Community Service, Ontario

MRD Maritime Research Division, South Carolina University

MSA Merchant Shipping Act 1995, United Kingdom MTCS Ministry of Tourism Culture and Sport, Ontario

New South Wales Australia

NAS Nautical Archaeological Society

NT Northern Territory Australia

OHA Ontario Heritage Act

NSW

MOL Ministry of Labour, Ontario

OMHC Ontario Marine Heritage Committee

OPA Ontario Planning Act

PWA Protection of Wrecks Act 1971, United Kingdom

PMRA Protection of Military Remains Act 1986, United Kingdom

PPS Provincial Policy Statement, Ontario
PUA Provincial Underwater Archaeologist

ROW Receiver of Wreck

SOS Save Ontario Shipwrecks

POW Preserve Our Wrecks

PUA Provincial Underwater Archaeologist

SPPA Special Places Protection Act, Nova Scotia

SUA State Underwater Archaeologist
TTA Treasure Trove Act, Nova Scotia
UCH Underwater Cultural Heritage

UN United Nations

UNCLOS United Nations Convention on the Law of the Sea 1982

UNESCO United Nations Education, Scientific and Cultural Organization

Chapter 1.

The Underwater Cultural Heritage of Ontario

On the wintery night of November 25, 1881, the 78-foot passenger and cargo steamer *Jane Miller* left Big Bay. After picking up its cargo of fuel and wood, it steamed into a storm *en route* to Spencer's Landing four miles away, never to be seen again. The ship, its cargo, crew and passengers (totalling 25 to 30) were lost to Georgian Bay (Burridge 2017:par.5,13). The *Jane Miller* remained lost for 136 years until its discovery in July 2017 by American shipwreck hunters (Burridge 2017:par.2), who believed they saw human remains in the wreck (Gowan 2017a:par.1). The wreck sits upright on the bay's bottom, with most of its structure intact and mast rising within 75 feet/23 meters of the water's surface (Gowan 2017a:par.5). Figure 1 shows the bow and the preservation status of the *Jane Miller* (Gowan 2017).



Figure 1 Bow of the Jane Miller
Photograph by Jared Daniels, Jerry Eliason and Ken Merryman

When the discovery was publicized in November 2017, the Ontario archaeological community contacted the then Ministry of Tourism Culture and Sport

(MTCS), now the Ministry of Heritage, Sport, Tourism and Cultural Industries (MHSTCI) which oversees cultural heritage in Ontario, to discuss the find. Archaeologists, such as consulting and underwater archaeologist Scarlett Janusas, worried that, given the possibility of human remains aboard and the accessible depth of the wreck within the reach of recreational divers, the wreck could be disturbed before a proper archaeological investigation was performed (Scarlett Janusas, personal communication 2018).

The MHSTCI, responding to inquiries from the archaeological community about the possibility of onboard human remains, declared any remains to be a nonpriority (Scarlett Janusas, personal communication 2018). Member of Parliament Larry Miller also requested that the wreck be designated as a "restricted/grave archaeological site" as quickly as possible by both the provincial and federal governments (Burridge 2018: par 6). Questioned further as to whether the wreck would be fully protected, rather than merely registered as an archaeological site, the MHSTCI responded that no extra protection would be given to the wreck regardless of its human remains due to human remains protection being addressed by the Ministry of Consumer Affairs Cemetery Registrar (Scarlett Janusas, personal communication 2018). The Ontario Provincial Police in unison with the Department of National Defense dove the wreck to find evidence of possible human remains. No remains were found after what police stated was a thorough search (Gowan 2018a: par 2). After the report was submitted to the MHSTCI under the licence issued for the Jane Miller site, the province registered the wreck as a marine archaeological site which would protect it from direct disturbance under the Ontario Heritage Act (OHA) without a marine archaeological licence (Miller 2018: par. 1). Registering the wreck under the OHA does not protect it from diver intrusion or disturbance or take into consideration that there may be human remains located on the wreck where police divers could not survey.

The MTCS's disinclination to take responsibility for the *Jane Miller* wreck when human remains may be present is emblematic of Ontario's underwater cultural heritage (UCH) policy and management problems. This thesis analyzes international, Canadian, and Ontario UCH policies to identify concerns, within and related to Ontario's UCH policy. Ten concerns within Ontario's UCH policy were identified and are; 1) that the OHA is a primarily terrestrial cultural heritage policy; 2) the definition of marine heritage is insufficient for the breadth of UCH in Ontario; 3) the provincial agency with responsibility for UCH lacks sufficient expertise; 4) marine licencing applications and

methods lack review from qualified underwater archaeologists; 5) there are no provincial UCH-specific standards and guidelines for archaeologists; 6) UCH-site-identification through the use of MHSTCI marine criteria sheets is difficult; 7) there is no protection for UCH-related human remains within provincial heritage policy; 8) the MHSTCI does not effectively enforce heritage policy; 9) Ministry of Labour (MOL) regulations constrict non-commercial diving operations limiting in water archaeological work; and 10) the province does not use the UCH-interacting sport-diving community to protect UCH. This thesis identifies and discusses the above concerns as well as the mitigation and correction strategies Ontario should apply to address the identified concerns.

OHA defines a marine archaeology site as "an archeological site that is fully or partially submerged or that lies below or partially below the high-water mark of any body of water" (OHA 1990:3). The OHA offers a degree of UCH-site protection by requiring surveying and excavation of known marine sites by licensed archaeologists (OHA 1990:2,3). Both terrestrial and underwater archaeological sites are also protected from disturbance once registered with the MHSTCI (MTCS Archaeology 2017:par.2). UCH sites differ from terrestrial heritage sites in four principal ways: 1) UCH is often well preserved because of the nature of the underwater environment; 2) the preservation environment makes such heritage remains more fragile; 3) many underwater sites are undisturbed and preserved *in situ*; and 4) study and excavation of underwater sites requires specialized training, equipment, and methods (Forest 2010:340). These salient differences demand UCH-specific law, policy, and management practice, which the OHA does not currently provide.

Ontario is the only Canadian province bordering four Great Lakes—lakes that include numerous and diverse UCH, including innumerable shipwrecks, submerged cultural landscapes, towns, villages, and indigenous sites. A conservative estimate puts the total Great Lakes shipwrecks between 10,000 and 25,000, with only about 1000 discovered (Cigelske 2006:par.4). Given that UCH sites are frequently discovered (Cigelske 2006:par.16) Ontario must evaluate its management of UCH., Figure 2

Ontario Underwater Council 2019) shows Ontario's relation to the Great Lakes, as well as 131 active UCH dive sites.

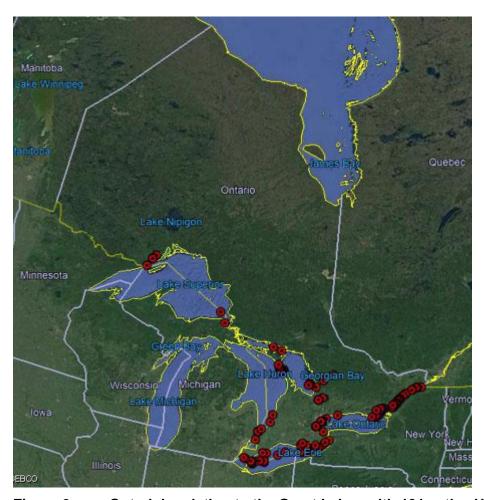


Figure 2 Ontario's relation to the Great Lakes with 131 active UCH dive sites

Chris Phinney, past Save Ontario Shipwrecks (SOS) President, Nautical Archaeology Society (NAS) instructor and diver states that the MHSTCI has left almost all management of most Ontario UCH to SOS, a volunteer organization (Chris Phinney, personal communication 2018). The increasing frequency of UCH interactions in Ontario mean the problems with Ontario UCH management are now more pressing. According to MHSTCI Archaeological Licencing Coordinator Heather Kerr, requests for marine-archaeological licenses in Ontario have risen steadily since the early 2000s (Heather Kerr, MHSTCI, personal communication 2018), indicating an increased need for cultural-resource-management (CRM) assessments and an increased interest in UCH archaeological surveys, each within the province.

Ontario's growing population will, via development and recreation, including SCUBA diving, more frequently and in greater numbers interact with UCH. Increased interaction will exacerbate UCH threats. For example, lacking UCH-assessment triggers, current legislation allows development to occur without UCH consideration, and Ontario is thus expanding its shoreline and offshore work, including large offshore wind-turbine projects (Blackwell 2011), which could impact UCH. Meanwhile, SCUBA divers are increasingly interested in Ontario UCH, penetrating historical wooden wrecks, which are invariably degraded as air bubbles and movement destabilize fragile objects and structural fabrics (Edney 2016:277; Jeffery 2006:151). Destabilization and degradation of UCH can also increase due to the environmental conditions surrounding the resource. The physical chemical properties of sediment surrounding UCH can assist in preservation or destruction (Fernández-Montblanc, Bethencourt, Izquierdo, et.al 2014:53) UCH is also a product of the biophysical environment in which it is found. UCH sites can inform on past climate change, and can be used as an indicator for further climate change through the study of currents, erosion and environmental conditions (UNESCO Environmental Impact and Climate Change 2017:par,1-6). In addition, because most Ontario UCH is under water, UCH resources are hidden from view, unseen, and therefore easily ignored by governing bodies and archaeologists (Underwood 2014:28). That UCH is hidden from view adds further difficulty to protection, as that factor changes how "public and government attitudes towards how cultural heritage is valued, protected, and preserved" (Underwood 2014:28). Since UCH is out of view and interaction with the public and government is therefore limited, it is difficult to gather support for the protection and management of the resource, further hindering the establishment of its value. These factors increase both risk to Ontario UCH and the need for management alternatives and reforms.

1.1. Research Goals and Questions

This thesis identifies and analyzes existing legislative issues and suggests policy alterations and additions. The issues identified have neither positive nor negative judgement. The issues identified are worked into the ten concerns at the crux of this thesis. Policy alterations or additions are recommended in the conclusion to mitigate and correct the ten concerns identified. It analyzes both Ontario's UCH challenges and

effective UCH policies in other jurisdictions to propose statutory and regulatory reforms. To do so, it sets out six sets of related questions:

- 1. Why is CH important? Why is it important in Ontario?
 - a. How is UCH defined and valued internationally?
 - b. How is UCH defined and valued in Ontario?
- 2. How is UCH protected—internationally and within Canada?
 - a. What is the international policy standard for UCH protection?
 - b. What is Canada's federal UCH policy?
 - c. Which provinces have direct UCH policy?
- 3. What is Ontario's UCH legislative history?
 - a. Why does the OHA use the term *marine* instead of *UCH* or *maritime*?
 - b. When was UCH added to the OHA?
 - c. What amendments regarding or affecting UCH management have been made to the OHA?
- 4. What is the status of UCH legislation and management in Ontario?
 - a. Which UCH resources are currently protected? Which are not?
 - b. What does the OHA and other provincial policy do for UCH?
 - c. What is the process for acquiring a marine archaeology license?
 - d. What roles do nongovernmental organizations play in UCH management, and are these roles appropriate and prudent?
 - e. How do federal legislation and Parks Canada (Parks) policies and practices affect UCH management in Ontario? How should they?
- 5. What are the issues and concerns in Ontario's UCH Policy?
 - a. How does the OHA, as a terrestrial archaeology policy, contribute to Ontario's UCH policy issues?
 - b. Are there holes in current Ontario legislation pertaining to UCH?
 - c. Who are the key UCH stakeholders in Ontario, and what are their UCH-management interests, values, and preferences?
- 6. How can the problems identified in this thesis be mitigated or resolved?
 - a. What laws, policies, and practices do other provinces, states, and nations use to manage UCH?

- b. What are the gaps or challenges in Ontario UCH law and policy?
- c. How can identified gaps or challenges be filled in using law, policy, and practice from other jurisdictions?
- d. Can the existing law and policy in Ontario be reformed, or is radical revision required?

The questions above drive this thesis. Chapter 2 will preface its discussion of UCH importance and conservation with various UCH definitions and the values attributed to UCH. It will also compare international and Canadian federal and provincial UCH protection and offer standards and models for assessing and reforming Ontario UCH policy. Chapter 3 will discuss Ontario's history of heritage and UCH policy, the status of Ontario UCH, how Ontario's archaeological licensing scheme operates, and any Ontario policy regressions. Chapter 3 will then identify concerns in Ontario UCH policy. Chapters 4 and 5 will discuss UCH policy in Australia, South Carolina, and the UK and identify the key aspects of these policies that Ontario could emulate and implement in mitigating policy concerns to best protect its UCH.

1.2. Methodology

With a qualitative design that uses primarily documentary data to answer its research questions, this thesis employs four qualitative methods: historical, narrative, comparative, and grounded theory. This section discusses these methods, research participants, procedures, and potential complicating factors.

This thesis collects historical data from international, provincial, federal, and Ontario UCH policy, including issues and issue-mitigation strategies. The research process included interviews that were aimed at understanding Ontario's UCH policy evolution. The thesis uses historical data—past accepted evaluations from international policy makers, such as UNESCO—to define and value UCH as a resource.

UCH experience and professional knowledge is essential to identifying and mitigating UCH policy problems. Collecting narrative data from interviews with archaeologists, volunteers, the MHSTCI, policy makers, and others involved with Ontario's UCH, this thesis applies data from these interviews through insight provided by

the individuals professional and personal experience in the field of archaeology, CRM, underwater archaeology, UCH, or a combination of these fields.

This thesis uses comparative methodologies to analyze, identify, and make Ontario UCH policy recommendations. Its recommendations derive from comparative analyses of Australian, South Carolinian, and UK UCH policy, which identify policy elements Ontario could apply to better manage and protect its UCH.

This thesis uses grounded-theory data to identify issues and extrapolate and resolve concerns with UCH policy in Ontario. Grounded theory is used in the development of theories which result after the collection and analysis of data. Grounded theory data is used to show that there exist issues and concerns in Ontario's UCH policy and offer recommendations for reform through constant comparison of data on UCH in Ontario and other jurisdictions by using data from studies; the Internet; documents; government information; books and articles. Books such as, *Out of the Blue Public Interpretation of Marine Cultural Resources* (Jameson and Scott-Ireton 2007) informed on international UCH values which were compared to the attributed values of Ontario's UCH to define the resources importance. While articles such as, Ole Varner's "Closing the Gaps in the Law Protecting Underwater Cultural Heritage on the Outer Continental Shelf" (2014:251–286) informed on the pattern of UCH protection and management problems, regimes and management solutions which when compared to Ontario's UCH policy revealed gaps in protection.

This thesis uses its grounded-theory data in four principal ways: 1) to explain past and current Ontario UCH legislation and policy; 2) to assess and discuss perceived and documented current policy issues; 3) to gather information for use in comparative analyses between Ontario and other jurisdictions' UCH management policies; and 4) to indicate how people, communities, and governments interact with and affect UCH.

To collect data, I engaged individuals, organizations, and government ministries, such as the MHSTCI, who interact with and manage Ontario UCH. Interviews with individuals, like archaeologists, who interact with Ontario UCH informed this thesis's UCH-policy history and its understanding of how professionals regard Ontario-UCH management. I consulted the volunteer groups SOS and the OMHC, respectively representing public and scientific concern for UCH protection and management and

which are actively engaged in the study, management, and protection of Ontario UCH. These organizations provided information that helped me assess the MHSTCI's UCH management. Data from organizations and individuals on marine archaeological licensing challenges informed this thesis's analysis of current policy and its reform recommendations.

The research for this thesis included consultations with MHSTCI government officials. The thesis uses data from these consultations to explain current and past UCH policy, how the MHSTCI manages UCH, and where that management fails. It uses this data to explain Ontario's marine archaeological licensing processes and the MHSTCI's site-assessment forms. Finally, this data helped me assess the MHSTCI's interest in the growth and reform of its UCH management and policy and whether the MHSTCI will continue to neglect UCH.

This thesis gathered data via the four qualitative methods and participants discussed above. The next section discusses issues that arose during research and strategies I employed to mitigate these problems.

1.3. Challenges Encountered and Mitigations Attempted

The largest problem I encountered while researching and writing this thesis was a lack of documentation of and publications on Ontario UCH policy and its perceived issues. A further problem was a lack of data concerning MHSTCI UCH management. While the OHA states how Ontario policy should manage UCH, research revealed that much MHSTCI UCH management is unprescribed. MHSTCI protection, management, and involvement of and with UCH, where it exists at all, has little apparent consistency or reason. This lack of consistency proved an obstacle to my research on the MHSTCI's UCH management. Ontario archaeologists noted issues in Ontario UCH policy; however, opinions from the archaeological community are not committed in publication. While archaeologists discussed with me their UCH management and UCH views, I found few citations. A further issue was the MHSTCI's reluctance to acknowledge UCH. The MHSTCI does not have a clear plan for UCH protection and management nor UCH policy reform. This lack of foresight created difficultly when discussing how the MHSTCI views UCH and UCH management plans, since the MHSTCI was unable to provide any clear future management plans for UCH. The MHSTCI's answers to questions about

provincial UCH policy direction, why and how decisions are made, and if past decisions would be revisited varied from simple no answers, with no explanation, to insightful answers with accompanying explanations of the decision-making process. This lack of consistency meant MHSTCI answers often did not greatly assist in addressing the posed questions.

To mitigate research problems stemming from the lack of published information, I created comprehensive lists of perceived issues from interviews with archaeological professionals and SOS and OMHC members. each of whom interact regularly with UCH. Table 1, lists the seven interviewees consulted for this thesis plus their qualifications regarding UCH, Ontario archaeology, and heritage policy. The qualifications of the interviewees demonstrate why the individuals were consulted during the research for this thesis. Table 2 presents a list of perceived issues with Ontario's UCH policy created from the data collected during interviews. Using historical and comparative data, I further strengthened the comprehensiveness of the list of perceived Ontario-UCH policy issues.

Table 1 Interviewees and their underwater cultural heritage qualifications

Interviewee	Interviewee's underwater cultural heritage or policy qualifications
Chris Phinney	Past president of Save Ontario Shipwrecks. Nautical Archaeological Society tutor. SCUBA diver
Dan Schneider	Professional heritage consultant. Senior policy advisor with the Ontario culture ministry and lead policy expert on the 2005-2006 Ontario Heritage Act changes.
Erika Laanela	PhD in Archaeology. Past Marine Heritage Advisor with the Ministry of Tourism Culture and Sport. Underwater archaeologist. Parks Canada Senior Advisor, Cultural Heritage Policy and Legislation Indigenous Affairs and Cultural Heritage Directorate
Kimberly Monk	PhD in maritime archaeology. Professor of maritime archaeology. Maritime Archaeologist
Scarlet Janusas	Ontario Consulting Archaeologist. Owner and principal archaeologist of Scarlet Janusas Archaeology Inc. Underwater Archaeologist.
Simon Spooner	PhD in maritime archaeology. Past Marine Heritage Advisor with the Ministry of Tourism Culture and Sport. Current President of the Anglo Danish Maritime Archaeological Team.
Thanos Webb	MA in Nautical Archaeology. Professional licensed consulting archaeologist in Ontario. Underwater Archaeologist.

I used historical data to identify past UCH issues unaddressed by the MHSTCI or policy. I used comparative data to fill information gaps resultant from the lack of

published data on Ontario UCH policy. I used the comparative data analysis on UCH policy from jurisdictions outside Ontario to further define and corroborate the noted issues within Ontario policy identified by the professionals and stakeholders during the interview stage, is used to mitigate the lack of publication data on Ontario's UCH policy.

Table 2 Perceived concerns with Ontario's underwater cultural heritage policy

Perceived issue with Ontario's underwater cultural heritage policy created with the data gathered from interviews

There are no standards and guidelines for marine archaeology

Difficult for landowners to understand the process of identifying marine sites through the marine criteria sheets

There is a lack of assessment triggers for marine archaeological assessments

There is a lack of qualified review of license applications and methodologies

Ministry of Labour regulations do not allow for noncommercial certified divers to do in water work

Marine advisor position declined form an active position, to an admin position before termination

The termination of the marine heritage advisor position has left a disconnect between archaeologists, stakeholders and the ministry of heritage, sport, tourism and culture industries

Marine licensing process is out of date

The definition of marine heritage sites is too narrow

SCUBA divers are damaging underwater cultural heritage due to diving techniques and a lack of diver education for interacting with and the importance of underwater cultural heritage

The Ministry of Tourism Culture and Sport does not enforce the policy that is already in place

The lack of publications about Ontario UCH policy, Ontario's current UCH policy status, and perceived issues and concerns posed challenges. I mitigated these information gaps through interviews and comparisons to established UCH policy to fill them.

1.4. This Thesis's Contributions to Ontario UCH Policy and UCH Management

Ontario's UCH is a finite resource with social, economic, environmental, scientific, aesthetic, and spiritual values. Ensuring the above attributed UCH values are recognized is important to ensuring that public and government attitude towards UCH is one of protection and management (Underwood 2014:28). A resource cannot be

properly protected if its associated values are not recognized. Local and international UCH knowledge enhances Ontario UCH values. Most UCH sites are underwater and therefore out of sight, monitoring UCH interaction is difficult. Education and discussions of Ontario UCH can spur greater stakeholder, public, and government awareness of this hidden resource and lead to better Ontario UCH protection and management.

Ontario's professional archaeological and diving communities are calling for better management and protection of Ontario UCH. Unlike terrestrial archaeology, there is no unified voice speaking for Ontario UCH. Focusing on and defining problems with Ontario UCH is key to reforming and mitigating concerns with current UCH policy. Current UCH policy concerns need to be prescribed, analyzed, discussed and presented in such a way that leads to change in Ontario UCH policy. The recently discovered *Jane Miller* wreck highlights the need for reform. Requests for the wreck's protection, made to the MHSTCI by citizens, archaeologists, and members of parliament (Burridge 2018), have gone unanswered. The MHSTCI states that it cannot fully protect the wreck, as the wreck includes human remains (Scarlett Janusas, personal communication 2018), yet, as the heritage resource governing body, it has a responsibility to protect all archaeological sites.

The valuable heritage in Ontario's lakes, streams, rivers, and flooded spaces requires better legislation to ensure its preservation. This thesis demonstrates that current UCH management is inadequate, and that better UCH management and protection is required, and it recommends how Ontario could implement better UCH policy.

Chapter 2.

Valuing UCH and International, Federal, and Provincial Policy

This chapter defines UCH and establishes UCH's resource value and to whom it is valuable. It begins by discussing how international policies like the UNESCO Convention on the Underwater Cultural Heritage, define UCH. The chapter provides this as a basis for understanding how legislative regimes define and protect UCH. It discusses how international bodies like UNESCO set UCH legislation and policy precedents. It concludes with an overview of Canadian federal and provincial UCH protection and management policy.

2.1. UCH Value

In 1996, the International Committee on the Underwater Cultural Heritage (ICUCH) defined UCH in the Charter on the Protection and Management of Underwater Cultural Heritage as

the archaeological heritage which is in, or has been removed from, an underwater environment, including submerged sites and structures, shipwreck sites, and their archaeological and natural contexts. UCH is further described as an international resource in character and often location, a finite and non-renewable resource, a public interest, and a vehicle for knowledge about the human past [Greene 2014:1376].

UNESCO incorporated that charter into the 2001 Convention on the Protection of Underwater Cultural Heritage (CPUCH) under Article 1, setting the international definition as

all traces of human existence having a cultural, historical, or archaeological character which have been partially or totally underwater, periodically, or continuously, for at least 100 years such as, sites, structures, buildings, artefacts, and human remains, together with their archaeological and natural context; vessels, aircraft, other vehicles, or any part thereof, their cargo or other contents, together with their archaeological and natural context; and objects of prehistoric character. [UNESCO 2001:51]

The CPUCH definition comprehensively determines what underwater is archaeologically and historically valuable (Forrest 2002a:524). Dr. Sarah Dromgoole, professor and

leading expert in the field of UCH law, provides further definition and how that definition adds value to the resource:

If one takes the modern general term underwater cultural heritage and considers its meaning at a basic level, it is clear that it could encompass a very broad range of tangible things. The word heritage implies that something has a value which is worthy of protection so it can be passed on to future generations; the word cultural suggests something that is related to human beings; and the word underwater implies something that is, or at least was located underwater [Dromgoole 2013:65–66].

UCH includes wide-ranging objects, not just shipwrecks, and sites of human occupation and use, including primitive fishing traps, shell middens, harbours, settlements, prehistoric landscapes, vehicles, vessels, discarded isolated objects, burial sites, and modern space technology (Dromgoole 2013:66–67).

UCH, a unique and valuable resource that holds economic, social, cultural, scientific, aesthetic, environmental, international, and spiritual importance. Figure 3 demonstrates how all of these values are interconnected and work together to increase the overall value of UCH.

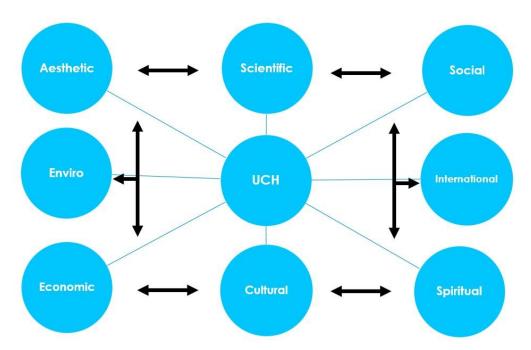


Figure 3 The Values of UCH

International law professors Dr. Mahmud Mohd and Dr. Anowar Zahid (2016:122) state that "the value of UCH concerns groups of communities, whether public or private, who have vested interest in its discovery, preservation or exploitation of such heritage." While, maritime law professor Dr. Craig Forrest (2002a:534) further argues that

the generalized view is that archaeologists value shipwrecks as a means to study past cultures, sports divers value shipwrecks for their potential as recreational sites and treasure salvors value shipwrecks for economic profit. It is these different attributable values which are perceived by many user groups as conflicting and, at times, mutually exclusive.

Values attributed to UCH by stakeholders and those interacting with it influence how UCH is viewed, treated, and utilized. As such, attributed UCH values must inform UCH legislation, conservation, management, and protection, and they must do so in alignment with how the resource is valued, interacted with, and exploited.

Within the tourism industry, UCH has economic value and is considered a commodity (Meyer 2014:9). UNESCO estimates that 37% of global tourism relates to cultural heritage and that UCH constitutes an interest segment within that percentage (UNESCO Tourism 2017b:par.1). Tourism includes sport divers who value UCH sites, especially shipwrecks for the recreational exploration of those wrecks. Artifacts recovered from UCH sites have intrinsic and attributed economic value. Objects of intrinsic value come from cargo inside shipwrecks—cargo can keep this intrinsic value even after the vessel sank, often prompting recovery efforts (Forrest 2002a:533–534). Treasure hunters and salvors place intrinsic value on UCH by reducing it to a monetary and material value (Scott-Ireton 2014:4649). Archaeologists and scientists place intrinsic value placed on UCH artifacts while seeking to gather knowledge and understanding of the past (Forrest 2002a:533). Often, the "narrative connected to the [UCH] object that makes it unique and fascinating" (Vadi 2009:856) holds heritage value.

Aesthetic value, attributed to the great degree of preservation that is common to UCH, especially in deep, cold waters, also increases its economic value. Better UCH preservation results in a higher aesthetic value, which leads to increased diver interactions with more pristine UCH (Prince 2003:9). Environmental value attributed to UCH connects to economic and aesthetic values. A better preservation environment increases aesthetic value, which in turn increases UCH's economic value. Sunken vessels, flooded guarries, and submerged buildings become breeding grounds and

habitat for aquatic life, which increases environmental and aesthetic value (Forrest 2014:1886). UCH-site divers and visitors are attracted to the aquatic life, increasing the economic value of the UCH-site.

Social importance derived from submerged sites' educational and historical value can form and preserve "cultural identity and . . . [foster] people's sense of community" (Vadi 2009:858). UCH has scientific value to archaeologists and other scientists as UCH "allows discourse and reflection upon the past" (Vadi 2009:856). UCH sites, especially wrecks, are often single-component loci that provide crucial, unique information on specific events, lifestyles, trade routes, and shipbuilding techniques of historic periods (Vadi 2009:857). There is also a cultural value to UCH. Culture influences many things including the shared attitudes, values, goals and practices of a group or groups. The local culture of UCH is appreciated by the communities descendant from, interacting with, and learning from UCH. These groups include divers, scientists, local communities, proponents, and First Nations. This cultural appreciation can lead to a louder voice for UCH protection management if the cultural values of these groups align.

UCH also has international value associated with the social importance of the historical value that submerged sites hold through the loss of ships, crew, and trade goods in wrecking events. Ships engage in international trade with international goods and crews (Vadi 2009:859), all of which can be lost during wrecking. Wrecked ships also have international value, as they are often built in one place but travel to another, often under yet another country's colours (Vadi 2009:859). The loss of an international ship or aircraft has social value to the communities it originated from and where it was lost.

Finally, ascribed spiritual value connects shipwrecks to loss-of-life events. When human remains are found on a shipwreck, the wreck becomes a gravesite and a direct connection to those lives lost (Russel and Murphy 2010; Gowan 2017).

Values ascribed to UCH add to the resource's importance and should guide UCH protection and management regimes. Chapter 3 will discuss Ontario-specific UCH value. International UCH protection sets the standard for all other regimes. For example, in Canada, federal and provincial UCH policy takes cues from UN and UNESCO policies already in place. Below is an overview of major international UCH policies.

2.2. International UCH Policy

Before CPUCH passed, UCH was loosely protected by international instruments and regional, mostly European, agreements and used cultural-property definitions that included UCH (Bautista 2005:62–63). In 1982, the UN passed its Convention on the Law of the Sea (UNCLOS), which afforded UCH a small measure of international protection. UNCLOS is a vast document purporting to "regulate all aspects of the resources of the sea and uses of the ocean, and thus bring a stable order to mankind's very source of life" (United Nations Historical Perspective the Convention 2012:par.1).

UNCLOS contains 320 articles and nine annexes, covering virtually every topic related to coastal and maritime states (Bautista 2005:63). It addresses UCH in articles 149 and 303. Article 149 refers to archaeological and historical objects. It states that

all objects of an archaeological and historical nature found in the Area shall be preserved or disposed of for the benefit of mankind as a whole, particular regard being paid to the preferential rights of the State or country of origin, or the State of cultural origin, or the State of historical and archaeological origin [United Nations 1982:71]

Article 303, reproduced below, refers to at-sea archaeological and historical objects:

- 1. States have the duty to protect objects of an archaeological and historical nature found at sea and shall cooperate for this purpose.
- 2. In order to control traffic in such objects, the coastal State may, in applying article 33, presume that their removal from the seabed in the zone referred to in that article without its approval would result in an infringement within its territory or territorial sea of the laws and regulations referred to in that article.
- 3. Nothing in this article affects the rights of identifiable owners, the law of salvage or other rules of admiralty, or laws and practices with respect to cultural exchanges.
- 4. This article is without prejudice to other international agreements and rules of international law regarding the protection of objects of an archaeological and historical nature [United Nations 1982:136].

UNCLOS contains important international UCH policies but has been called "fragmentary, inefficient and counterproductive" (Scovazzi 2013:79). Article 303, Paragraph 3 is criticized as being open to interpretation and constituting an "invitation to looting" (Scovazzi 2013:79). UCH was a late addition to UNCLOS (Scovazzi 2013:80)

but was not considered important and "was sacrificed [so] consensus [could] be reached on other issues" and UNCLOS would then be accepted (Bautista 2005:64).

The International Council on Monuments and Sites (ICOMOS) ratified the Charter on the Protection and Management of the Underwater Cultural Heritage (1996 Charter) at its 11th ICOMOS General Assembly in Sofia in October 1996. The 1996 Charter comprises 15 articles "designed to ensure transparency and uniformly high standards in the aims, methodologies, and expected results of all investigations of UCH" (Greene 2014:1376). It was designed to supplement the ICOMOS Charter for the Protection and Management of Archaeological Heritage, 1990 (ICOMOS 1996:1). The 1996 Charter's explicit prohibition of UCH distribution for commercial purposes is fundamental.

Underwater cultural heritage is also threatened by activities that are wholly undesirable because they are intended to profit few at the expense of many. Commercial exploitation of underwater cultural heritage for trade or speculation is fundamentally incompatible with the protection and management of the heritage [ICOMOS 1996:1].

Exclusion of commercial activities around UCH sites is the first step toward true international UCH protection. The 1996 Charter "offer[s] a coherent set of strategies for the preservation and presentation of UCH for states, professional researchers, as well as private interests and the public at large" (Greene 2014:1379). The 1996 Charter was annexed within the CPUCH five years later.

In 1997, well after widespread adoption of UNCLOS and a year after the 1996 Charter's adoption, UNESCO, after realizing the following 11 key aspects of UCH, determined that UCH should be internationally regulated by a convention:

- 1. the importance of the resource
- 2. the importance of its protection and preservation
- 3. a noted growing public interest
- 4. threats by illegitimate activities directed at the resource such as salvage or theft
- 5. impacts from legitimate activities incidentally affecting it such as diver impacts
- 6. increasing commercial exploitation of UCH

- 7. advancing technologies for discovering and accessing UCH
- 8. the need for cooperation among States, international organizations, scientific institutions, professional organizations, archaeologists, divers, other interested parties and the public at large is essential for the protection of underwater cultural heritage
- that survey, excavation and protection of underwater cultural heritage necessitate the availability and application of special scientific methods and the use of suitable techniques and equipment as well as a high degree of professional specialization
 - the need to codify and progressively develop rules relating to the protection and preservation of underwater cultural heritage in conformity with international law and practice
- the need to improve the effectiveness of measures at international, regional and national levels for the preservation in situ or, if necessary, for scientific or protective purposes, the careful recovery of underwater cultural heritage [UNESCO 2010:1]

In response to these realizations, UNESCO adopted CPUCH, which went into force internationally in 2009 after being fully ratified by 20 member states, as per Article 27 (UNESCO 2001:63). As of 2019, CPUCH has been fully ratified by 54 member states and partially accepted by 6 member states (UNESCO 2018 Legal Instruments 2001 CPUCH). CPUCH was meant to "create a comprehensive and uniform legal framework to regulate human interference with underwater cultural heritage in order to ensure that such heritage is preserved for the benefit of humanity" (Dromgoole 2014:1716). The convention prioritizes *in situ* UCH protection by setting guidelines based on the 1996 Charter and should be the primary focus for any UCH management plan. *In situ* protection is preferable to intrusive and destructive research, excavation, or recovery (Varner 2014:262) as it allows for "reserving the right for future techniques and innovation for further studies, visiting and accessibility possibilities" (Khakzad and Van Balen 2013:477).

While UNESCO aimed to produce an unanimously accepted legal framework, this did not happen. Many major maritime states, including the United States, the UK, Canada, Russia, Germany, and the Netherlands, have yet to fully ratify the convention. Dromgoole (2014:1718) offers two main reasons for these states' reluctance. First, these states regard some of the 2001 Convention's technical aspects, especially those regarding the continental shelf, to be incompatible with UNCLOS. The reluctant states

regard UNCLOS as the predominate policy legislating activities on the sea and argue that subsequent conventions should not interfere with UNCLOS. Second, the US and the UK argue that regardless of how long sunken warships and other state-owned vessels and aircraft have remained on the seabed, such ships remain subject to sovereign immunity and require permission of the flag state to be interfered with. Sovereign immunity, including state ownership and control over vessels and cargo, is a point of contention that is keeping some states from ratifying CPUCH. Sovereign immunity is taken into consideration within the Convention but, "some of its technical provisions (which envisage States Parties cooperating in the management of sites) are regarded as prejudicial to the immunity principle" (Dromgoole2014:1718). Dromgoole expresses frustration that ratification of the convention has been held up by some member states on matters "completely unconnected with its central heritage objectives" (2014:1718). Even with CPUCH's UCH protection, state sovereignty and perceived infringement on that sovereignty keep the convention from full ratification. Yet general acceptance of the appendixes and a turn to in situ preservation and management by unsigned states is a step forward in international UCH management.

The CPUCH international standard focuses on UCH preservation *in situ* and on higher and more encompassing standards for the aims, methodologies, and results of archaeological investigations of UCH. The CPUCH expands recognition of the importance of the resource and identifies and offers strategies to mitigate threats to UCH from illegitimate activities, such as theft and salvage, and legitimate activities, such as recreational diving. The international CPUCH standard stresses cooperation by all stakeholders as essential for UCH protection and for the ongoing development of protection and preservation policies.

The international UCH-protection standard began with UNCLOS and is currently set by UNESCO's CPUCH. The standard sets forth an inclusive UCH definition and a progressive stance toward *in situ* preservation and UCH study. The next section discusses how UCH is protected under Canadian federal policy.

2.3. Canadian Federal UCH Policy

Canadian legislation lacks a single encompassing federal policy for cultural heritage, including UCH. UCH, specifically wrecks, are protected under two different

federal policy regimes: the Canadian Shipping Act (CSA) and Parks Canada. Canada is the only G7 country yet to pass comprehensive federal protection for historical places and archaeological resources (Schulte 2017:1).

The CSA was enacted in 1906. Its Section 7, *Wreck*, primarily concerns salvage rights of wrecked ships and aircraft (CSA 2001:87). Under CSA Regulation 155, anything removed from a wreck must be reported immediately to the Canadian Receiver of Wreck (ROW), who is an officer of Transport Canada (CSA Act 2001:88–89). As a result of stakeholder pressure that called for protection of historical shipwrecks (Johansen 2001:8), the 2001 CSA updates allow governments to designate and regulate "heritage wreck[s]" (Parks Canada 2005:11). Regulation 163 paragraph 2 states that

The Governor in Council may, on the joint recommendation of the Minister and the Minister responsible for the Parks Canada Agency, make regulations

- a) specifying wreck or classes of wreck that have heritage value;
- respecting the protection and preservation of wreck or classes of wreck that have heritage value, and providing for issuing permits to access such wreck;
- authorizing the designation of enforcement officers to ensure compliance with the regulations made under this Part and specifying their powers and duties;
- d) authorizing the Minister and the Minister responsible for the Parks Canada Agency to jointly enter into agreements or arrangements respecting the administration or enforcement of any provision of the regulations made under this subsection and to authorize any person or organization with whom an agreement or arrangement is entered into to exercise the powers or perform the duties under those regulations that are specified in the agreement or arrangement;
- e) exempting wreck or any class of wreck that has heritage value from the application of any provision of this Part;
- f) exempting any geographical area from the application of regulations made under paragraph (b) or (c); and
- g) respecting the setting and payment of fees, and the determination and payment of expenses, for services provided in the administration of regulations made under this subsection [CSA 2001:91]

Under the new CSA, material removed from a wreck during archaeological investigation must be reported to the ROW (Parks Canada 2005:11). The CSA and the ROW can, in conjunction with Parks Canada, help protect wrecks with historical value. According to Parks Canada's Directory of Federal Heritage Designations, six wrecks are protected under this regulation (Parks Canada 2018).

The CSA is the only federal legislation that includes UCH. Parks Canada is the designated Canadian federal UCH authority and caretaker on land and underwater federal jurisdictions (Parks Canada 2008:1–2). Archaeology conducted on federal lands or lands underwater falls under the minister for Parks Canada's authority (Parks Canada Agency Act 1998:3). Under the Parks Canada Agency Act, Parks Canada is "responsible for the implementation of policies of the Government of Canada that relate to national parks, national historic sites, national marine conservation areas, other protected heritage areas and heritage protection programs" (Parks Canada Agency Act 1998:6).

Parks Canada's involvement with Canadian UCH began in 1964 when archaeologists first dived on wreck sites around Quebec's Fort Lennox and the Île aux Noix (Rick 2006:par.1). Under the Canada National Marine Conservation Act of 2002 (NMCA), Parks Canada can now directly safeguard UCH by establishment and management of national marine-conservation areas via federal legislation, but only within these areas (Mondoux 2018:par.35–36). The NMCA provides "opportunities for the people of Canada and of the world to appreciate and enjoy Canada's natural and cultural marine heritage" (Government of Canada 2015:1). The establishment of national marine conservation areas, such as the Fathom Five National Marine Park and Lake Superior National Marine Park, both in Ontario, help preserve, protect, and manage Canada's UCH (Government of Canada 2011:12). Fathom Five is home to 21 protected wrecks, including sail and steam vessels from the mid-19th to early 20th centuries (Parks Canada 2016:15). Lake Superior contains over 50 wrecks and possibly many unknown wrecks (International Joint Commission 2015:par.10). Lake Superior National Marine Park also protects precontact Indigenous heritage, in and out of water (International Joint Commission 2015:par.9). All national marine parks created under the NMCA provide blanket UCH protection, including of yet-unidentified resources.

The federal policy discussed above only applies, of course, on lands and waters under Canadian federal authority. Federal Canadian waterways jurisdiction includes

fisheries, shipping, and navigation (Becklumb 2013:3). Provincial jurisdiction includes water resources within provincial territory and protection and management of heritage resources (Becklumb 2013:4). Provincial legislation governs UCH on provincial lands and waters, including lakes, streams, bays, coastal waters, and the Great Lakes. The following section discusses Canadian provincial UCH-policy regimes.

2.4. Canadian Provincial UCH Policy

Three provinces have UCH-specific legislation and policy: British Columbia (BC), Nova Scotia, and Ontario. Newfoundland, notably, offers blanket protection of cultural heritage, including UCH via the Historic Resources Act 1990. That act defines land as including "land covered by water, whether fresh or salt, within the province" (Historic Resources Act 1990:2). New Brunswick's 2010 Heritage Conservation Act includes in its definition of archaeological sites "beneath the surface of a watercourse or permanent body of water" (Heritage Conservation Act 2010:5). Chapter 3 addresses Ontario UCH policy. The remainder of this chapter discusses the BC and Nova Scotia policies.

BC UCH falls under the Heritage Conservation Act (HCA; Government of British Columbia 2018), which protects heritage shipwrecks, "the remains of a wrecked vessel or aircraft if (a) 2 or more years have passed from the date that the vessel or aircraft sank, was washed ashore or crashed, or (b) the vessel or aircraft has been abandoned by its owner and the government has agreed to accept the abandonment for the purposes of this Act" (Heritage Conservation Act 1996:2). Therefore, this legislation protects wrecks in BC waters underwater longer than two years. The shipwreck part of the HCA is designed is meant " to leave heritage objects intact, so that they can be studied and analyzed in the context of their surroundings" (Underwater Archaeological Society of British Columbia 2014 Overview: par.1).

The HCA recognizes the heritage value of heritage wrecks, further protecting those wrecks under Section 13, which states that no one shall, without a permit, "damage or alter a heritage wreck or remove any heritage object from a heritage wreck" (HCA 1996:7–8). Archaeological survey and excavation permits are issued by the Minister of Forests, Lands and Natural Resource Operations under HCA, Section 12, which allows for alteration or removal of objects from heritage wrecks (HCA 1996:7). Permits are administered by the provincial archaeology branch, which enforces permit

compliance (Underwater Archaeological Society of British Columbia 2014 Heritage Protection:par.2). BC's permitting scheme "ensure[s] that a record is kept of any disturbances to a site, that any artifacts recovered receive proper conservation treatment, and that they are stored in a public institution available to the public and researchers for study" (Underwater Archaeological Society of British Columbia 2014 Heritage Protection:par.1).

The archaeology branch's use of two recording forms, detailed and basic, and a recording guide further protects heritage wrecks by ensuring archaeological surveys are completed thoroughly and concisely. Basic forms are for simple site surveys, and detailed forms are for systematic site surveys (British Columbia Archaeology Branch 1996:5). The recording guide supplies detailed instructions for survey forms, identification, and taking proper measurements and a quick-reference glossary of maritime terms (British Columbia Archaeology Branch 1996:33). Shipwreck recording forms and guidelines help ensure that collected wreck information is consistent and concise and allows for quick identification of heritage wrecks needing protection. I could not identify any academic articles, aside from the one already cited, on BC UCH—a problem for research of all Canadian provincial UCH policies.

Nova Scotia's current archaeological legislation, the Special Places Protection Act (SPPA), enacted in 1989 and last revised in 2010, "provides the Province of Nova Scotia with a mandate to protect important archaeological, historical and paleontological sites and remains, including those underwater" (Nova Scotia Museum Special Places Protection Act 2013:par.1). Before 2010, the province's Treasure Trove Act (TTA) regulated licences for those seeking and intending to remove, as treasure salvage, artifacts from Oak Island, where a buried treasure is supposedly located, and coastal shipwrecks (Pyne 2013:par.1). With these licenses, salvors could keep all finds, except for 10% of the nonprecious artifacts, which were to be turned over to the province (Pyne 2013:par.14). The TTA provided no mechanism or means to determine what was found, taken, or lost from Nova Scotian waters (Chisholm 2010:1). The TTA was repealed in 2010.

In 2006, Nova Scotia, on recommendation from the 2006 Voluntary Planning Heritage Strategy Task Force, began the process of repealing the TTA and amending the SPPA (Nova Scotia Changes to Treasure Hunting Regulations Introduced

2010:par.6). The government also enlisted the Blackstone Corporation to "provide an objective and detailed analysis of the benefits and liabilities associated with treasure hunting activities in Nova Scotia and to provide the Government with some clear options for the future" (Blackstone Corporation 2009:5). Based on the Blackstone report's findings, reviews provided by the Voluntary Planning Heritage Strategy Task Force, and examples from other jurisdictions, Nova Scotia reformed the TTA as the Oak Island Treasure Act. This legislation added UCH to the list of SPPA-protected heritage resources (Nova Scotia Changes to Treasure Hunting Regulations Introduced 2010:par.2).

The new amendments cancelled all treasure-hunting permits, which were then allowed only on Oak Island. Under the SPPA, *heritage object* encompasses any "archaeological, historical or palaeontological object or remain but does not include a treasure to which the Oak Island Treasure Act applies" (Special Places Protection Act 1989:2). The new definition protects underwater archaeological and historical objects.

Much like BC, Nova Scotia has a permitting system for archaeological sites or materials interactions and searches (SPPA 1989:4–5): "A permit is required for any archaeological or palaeontological exploration or excavation in Nova Scotia. This includes fossils, artifacts and remains that have heritage value" (Nova Scotia Canada Communities Cultural and Heritage 2018:par.1). To search for a wreck or perform underwater reconnaissance of any site in Nova Scotia, a person needs only to apply for and be granted a permit. The SPPA considers failure to obtain a permit or performance of an illegal search or recovery of archaeological material an offence:

Every person who contravenes any provision of this Act or who, being the holder of a permit, fails to comply with any term or condition of any permit issued under this Act is guilty of an offence and is liable on summary conviction to a penalty not exceeding ten thousand dollars. (2) Where a corporation is convicted of an offence against this Act, the maximum penalty that may be imposed upon the corporation is one hundred thousand dollars and not as provided in subsection [Special Places Protection Act 1989:8–9]

Nova Scotia's updates to the heritage legislation reformed the province's treasure-hunting regime to a protection regime. The government stated that "the repeal of the [TTA] will bring the province in line with other Canadian provinces and the UNESCO [CPUCH]" (Nova Scotia Changes to Treasure Hunting Regulations Introduced

2010:par.1). As with BC UCH, I could find no articles concerning Nova Scotia UCH which discussed topics outside of what is discussed above.

2.5. Chapter Conclusion

Understanding UCH's value as a resource is crucial to understanding why international and Canadian legislation was created to protect it. The CPUCH international policy regime currently provides the most UCH attention and protection. CPUCH is the "leading legal instrument guiding underwater archaeology worldwide" (UNESCO 2010:par.6). Canada has no unified UCH policy; rather UCH is protected by separate federal and provincial legislation. Federally, the CSA and Parks Canada regulate UCH. BC protects provincial heritage wrecks, including shipwrecks and aircraft in BC waters. Nova Scotia protects UCH as heritage objects, which, unlike in BC, includes objects other than ship and plane wrecks. Canadian UCH policy is still reliant on the concept of a wreck rather than UCH as a resource. Nova Scotia's protectionbased, rather than salvage-based, regime, which uses a UCH definition encompassing objects other than wrecks, has moved the province towards 2001 Convention compliance. Federal and provincial governments need to create encompassing UCHprotection legislation that strives to protect all UCH, not just shipwrecks. While there is no singular federal UCH policy or UCH-specific provincial policy, both the federal and provincial governments have policy that offers some UCH protection. Ontario's OHA, much like the federal, BC, and Nova Scotia governments' policy, offers a degree of UCH protection. That protection, how it came to be, and status is the subject of Chapter 3.

Chapter 3.

Ontario's Cultural Heritage Policy, UCH, and Policy Concerns

This chapter first reviews Ontario's cultural heritage policy in general and then focuses in on Ontario's UCH policy. The emphasis is on how Ontario policy values UCH, and who Ontario's UCH stakeholders are. The chapter concludes with an assessment of perceived and documented concerns in Ontario UCH policy.

3.1. Ontario's Cultural Heritage Policy

The MHSTCI governs Ontario cultural heritage. Ontario introduced its first cultural heritage policy, the OHA, in 1975. The OHA, still the primary governing policy for Ontario cultural heritage, protects heritage and archaeological sites and is meant "to give municipalities and the provincial government powers to preserve the heritage of Ontario" (MTCS OHA 2017a:par.1). The OHA remained generally unchanged until 2002, when the Government Efficiency Act (GEA) came into effect, clarifying, updating, and streamlining the OHA's archaeology and build-heritage provisions. The GEA's changes were considered interim measures until better revisions could be made (MTCS OHA 2017a:par.7). Between 2002 and 2005, Ontario passed more comprehensive amendments, modifying the GEA and bringing the OHA into accord with other major heritage acts in Canada (MTCS OHA 2017a:par.8). These revisions focused on eight key areas: demolition control; provincial power to identify, designate, and prevent demolition of heritage sites; standards and guidelines for identifying and protecting heritage sites; municipal designation improvements; better protection of heritage districts; increased protection for marine heritage sites; enhanced protection of archaeological resources; and clarified provisions for provincial heritage agencies (MTCS 2005a:1,2).

In addition to the OHA and GEA, Ontario's cultural heritage is protected under two other provincial policies: the Ontario Planning Act (OPA) and the Provincial Policy Statement (PPS). These policies stipulate the conditions for archaeological work in Ontario: The OPA sets "out the ground rules for land use planning in Ontario and

describes how land uses may be controlled, and who may control them" (Ministry of Municipal Affairs 2015:3). It further "helps [to] decide where in our community's homes and factories should be built; where parks and schools should be located; and where roads, sewers and other essential services should be provided" (Ministry of Municipal Affairs 2015:2). Because community developments can disturb cultural heritage, the province, in conjunction with the OPA, issued the PPS, which provides "policy direction on matters of provincial interest related to land use planning and development" (MTCS 2005:2). Section 2.6 of the PPS identifies archaeological resources, cultural-heritage landscapes, and build-heritage conservation as provincial priorities during land-use planning. The OPA requires all planning-affecting decisions, post-March 1, 2005, to be consistent with the PPS and that, therefore, cultural heritage be given proper consideration under both the OPA and the PPS. Developments must go through culturalheritage assessments and mitigations before commencing. Together, these three provincial policies—the OHA, OPA, and PPS—create the foundation for cultural-heritage governance in Ontario. They protect UCH and trigger archaeological assessments that result in study and excavation of archaeological sites prior to site-affecting development.

During my research for this thesis, I found few critiques of the OHA. Articles on Ontario CRM archaeology discuss the history of CRM in Ontario, the foundation of Ontario's CRM, specific archaeological sites, reports, excavations, and articles of archaeologists discussing their work. One article, by Ronald Williamson, published in 2010, discusses archaeology and archaeological policy history in Ontario, as well as three challenges with the archeological policy in Ontario: 1) the province's archaeological program centres on destructive excavation, rather than *in situ* preservation; 2) the province does not deal with artifact deposition after excavation; and 3) the difficulties faced with Indigenous consultation within CRM in Ontario (Williamson 2010:35,37,39). Williamson presents challenges facing archaeology in Ontario but does not comment on how to address those challenges. Williamson (2010:42) concludes by saying that "despite these ongoing frustrations, it can be said for the Ontario context that we now have more accomplishments than challenges".

3.2. Ontario's UCH Policy

Ontario has had cultural-heritage protection and management policy since 1975.

Ontario's UCH, however, has only had policy protection since 2002 when the GEA

Section 4 OHA amendments, the first Ontario heritage policy to protect marine archaeological sites, gave the province more power to identify archaeological sites, including marine archaeological sites (MTCS 2002:6).

The OHA controls heritage-resource contact via its archaeological license scheme. Archaeological licences are issued by the MHSTCI via the OHA. Part IV of the OHA stipulates that only a licensed marine archaeologist can assess or alter a marine archaeological site (MTCS 2016:1). Section 4 states that marine archaeological sites cannot be interfered with or accessed without proper provincial licencing. The process for obtaining an Ontario marine archaeological license is quite different from obtaining an Ontario terrestrial licence. Marine site-search and survey licenses are granted to non-archaeologists who can provide reasonable and sound methodology plans and who are unengaged in compliance work (Brooks 2018). Excavation and artifact-removal licences can also be granted if the applicant meets a stringent list of requirements, including rationale for required excavation and long-term professional conservation, preservation, and management plans for recovered artifacts (Brooks 2018). Section 6, Subsection 48 of the OHA sets out rules for interacting with UCH without a licence:

Subject to subsection (2), no person shall do any of the following unless the person applies to the Minister and is issued a licence under this Part that allows the person to carry out the activity in question:

- 1. Carry out archaeological fieldwork.
- 2. Knowing that a site is a marine or other archaeological site, within the meaning of the regulations, alter the site or remove an artifact or any other physical evidence of past human use or activity from the site.
- 3. With respect to a marine archaeological site that is prescribed by regulation,
 - I. Dive within 500 metres of the site or within any other distance of the site as may be prescribed by regulation.
 - II. Operate within 500 metres of the site or within any other distance of the site as may be prescribed by regulation any type of submersible vehicle, including a remotely operated vehicle, autonomous underwater vehicle or submarine.
 - III. Operate within 500 metres of the site or within any other distance of the site as may be prescribed by regulation any type of equipment, machine, device or thing capable of

being used to conduct a survey, whether towed or not, including a side scan sonar or a camera [OHA 1990:43]

The MHSTCI issues marine archaeological criteria sheets. These are to be completed by a building proponent or landowner, to identify marine archaeological sites on properties proposed for alteration or development. The criteria sheets instruct proponents that the form will help "identify, evaluate and protect marine archaeological resources on your property or project area" (MTCS 2016:1). The sheets state that a qualified marine archaeologist must be consulted if any questions arise or if possible, sites are noticed (MTCS 2016:1). To conduct surveys or provide professional archaeology consulting under the OHA in Ontario, a marine archaeologist must hold a qualified professional license (OHA 1990:43). A professional licensed archaeologist must prove their maritime-archaeology qualifications to be granted an assessment or excavation license by the MHSTCI. This licence requirement is unprescribed but is how the MHSTCI states the ministry assesses a licensee's underwater archaeological qualifications before issuing a marine licence (Heather Kerr, personal communication 2018). Marine archaeological sites reported to the MHSTCI, as a requirement of archaeological licences, become registered sites and are issued a Borden block number (MTCS 2015:2). Sites registered with a Borden number, including marine archaeological sites, are given basic OHA protection (MTCS 2015:10).

The OHA further states that especially fragile marine-heritage sites may warrant extra protection. In 2005, Ontario updated and amended the OHA to allow Ontario to prescribe "the most significant marine archaeological sites" (Government of Ontario 2005:2). Under the OHA prescribed marine sites refers to sites that have extraordinary cultural value and as such are protected under the OHA as no entry sites. Three wrecks, all in 2006, have been prescribed additional protection in this way—two War of 1812 wrecks, the *Hamilton* and the *Scourge*, and the *Edmund Fitzgerald*, a cargo ship sunk in the 1970s. Figure 3 depicts the *Hamilton* (top) and *Scourge* (bottom) drawn in full sail (City of Hamilton n.d.) which are examples of UCH protected due to the historical significance to Canada and because the ships are war graves.

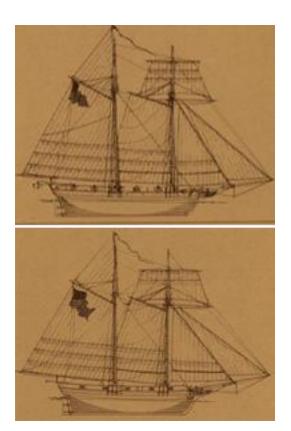


Figure 4 The Hamilton (top) and Scourge (bottom) depicted with full sail

The province can designate protected zones with 500-meter radii around these sites. Entry into these zones without specific licencing and permission from the Minister of Culture is prohibited. Each's size can be adjusted, as the *Hamilton*'s and *Scourge*'s were—their protective-zone radii were enlarged to 750 metres (Schneider 2016:par.13). The *Fitzgerald* also has a modified protective zone as the wreck is close to the Canada—US border and part of its zone would have extended into American waters. This portion was removed from the exclusion zone as the OHA is not applicable in American waters, and "if an area that falls within [the 500 m] radius . . . is outside Ontario, paragraph 3 of subsection 48 (1) of the Act does not apply to that area" (Schneider 2016:par.13). Dan Schneider (2016), former senior policy advisor to the MHSTCI, notes these three wrecks were chosen for protection because they are graves—each's crew drowned with their respective sinking vessels. Writing ten years after the wrecks were protected, Schneider (2016) suggests that the MHSTCI update its UCH protection list to accommodate other significant archaeological sites—including the recently discovered *Jane Miller* wreck.

Ontario's MOL Diving Operations Regulation regulates underwater work, including archaeology, in provincial waters. Any diver entering Ontario water to do paid

or compensated work does so under the MOL diving-legislation purview and must comply with Ontario Regulation 629/94: Diving Operations and Ontario's Occupational Health and Safety Act (Occupational Health and Safety Act 1990). These regulations require all underwater work to be performed by qualified commercial divers using commercial diving gear. Ontario is the only Canadian province with such scientific- and archaeological-diving requirements (Scarlett Janusas, personal communication 2018).

Ontario's current heritage policy offers a measure of UCH protection. The OHA is shipwreck centred, which results in protection for shipwrecks but does not include other UCH. The strongest protection for UCH is found in the government's ability to prescribe significant UCH and place protected no go zones around the prescribed UCH. However, at this time the ability to prescribe significant UCH has only been exercised with the three shipwrecks discussed above. The next section discusses how UCH is valued within Ontario.

3.3. The Values of UCH in Ontario

Section 2.1 of this thesis discussed how UCH resources hold economic, social, scientific, aesthetic, environmental, and spiritual importance. These values directly apply to Ontario and are held by governing bodies, communities, groups, and people also discussed in Section 2.1. Divers and scientists attracted to the diversity and well-preserved nature of Ontario UCH give the resource its economic, social, scientific, and aesthetic value. The diversity and quantity of Ontario UCH, including the biodiverse habitats UCH sites create, adds to UCH's environmental value. Finally, the quantity of UCH found in Ontario involving loss-of-life events adds a spiritual importance through the connection of those who lost their lives and their descendants. UCH is a large part of Ontario history: The historic use of Ontario's waterways starts long before European arrival.

the Great Lakes have served as a "highway" for trade and settlement from prehistoric times. During the 17th century, the fur traders traveled the lakes in search of furs to send back to Europe. For the first settlers of Ontario, ships were the source of essential supplies and news from Europe. Later, they were the only means of exporting fur, forestry and mineral products to Great Britain and Europe [Prince 2008:8]

In 1679, when explorer Robert Cavelier de La Salle's 45-ton barque *Le Griffon* set sail and sank (Calnan 2013:214), the ship became both the first voyage and the first sinking of a European sail vessel in the Great Lakes.

Ontario's deep, cold fresh lake waters often preserve underwater sites remarkably—even the oldest wrecks endure only limited deterioration in Ontario fresh water (Carter and Prince 2003:13). Figure 4 depicts the *Tiller* wreck in Lake Ontario, a mid nineteenth century shipwreck in 100 feet/30 meters of water. The *Tiller* wreck illustrates the incredible preservation properties of Ontario's cold fresh water has for UCH.



Figure 5 The *Tiller* wreck located in Lake Ontario Photograph by Stuart Sheldon

Well-preserved Ontario shipwrecks can yield greater archaeological information and have higher aesthetic, economic, social, environmental, aesthetic, and spiritual value (Hocker 2013:468). Well-preserved wrecks and other UCH increase in aesthetic value and are a great attraction to divers. Ontario's preserved UCH spurred the designation of Tobermory as the "diving capital of Canada" (Osborne 2016:par.6) and

Ontario as the "freshwater diving capital of the world" (Lee 2015:par.11), which leads to increased diver tourism and economic value.

Ontario UCH also has environmental value. As Section 2.1 discussed, UCH often becomes breeding grounds and habitats for wildlife. Ontario's waters are full of sunken ships, aircraft, vehicles, flooded quarries, buildings, villages, and abandoned canals, all of which become habitat for life above and below the waterline.

Spiritual values are also embedded in Ontario UCH. Over 30,000 lives are estimated to have been lost to the Great Lakes, though not all in wrecking or UCH-associated events (Miller 2017:par.1). Loss-of-life shipwrecks have a strong spiritual connection. Wrecks like the *Edmund Fitzgerald*, in which all hands were lost, evoke a strong spiritual connection for descendants of the deceased and others (Brush 2015:par.36–41). Shipwrecks are not the only UCH to have spiritual connections. In 1958, entire villages near Cornwall became submerged, and 7500 people were displaced (Helbig 2017:par.1). These people have a spiritual connection to their lost homes, now part of Ontario's UCH. These villages have since become dive sites and animal habitats, resources with aesthetic and environmental values that attract divers to the region.

Ontario UCH sites are located in major waterways and inland water systems (Carter and Prince 2003:5). Major rivers like the Niagara River, the St. Lawrence River, and countless inland waterways and lakes add to Ontario's maritime heritage. The MHSTCI points out that

Many of the cold, fresh waters of Ontario's lakes and rivers have conserved considerable evidence of Ontario's history of exploration, settlement, and commerce. Some of Ontario's waterways have been surveyed for marine archaeological resources—leaving much to be discovered in Ontario's abundance of lake beds, riverbeds, and shorelines. These waters may,

Possess a record of the earliest First Nations peoples who traveled, traded, and lived along our province's waterways for many millennia;

Hold the remains of former fishing traps or weirs, campsites, settlements, and docks; and,

Contain many well-preserved ships that sank because of battles, accidents, or natural disasters. These shipwreck sites are underwater "time capsules," which may contain artifacts that tell the story, and cultural context, of the moment the ship sank. [MTCS Marine Archaeology 2017:par.3]

Ontario UCH provides essential information about Ontario history and early inhabitants. UCH contributes to the tourism economy, attracts divers and scientists via its remarkable preservation, and supplies habitats and breeding grounds for animals. All these factors demonstrate the values discussed in Section 2.1. These UCH values correlate to the material condition and preservation of the province's UCH. The next section discusses Ontario UCH stakeholders.

3.4. Ontario UCH Stakeholders

Ontario's many UCH stakeholders include the federal and provincial governments, community groups, and the public. Understanding these groups and their respective stakes informs UCH protection: stakeholders often have shared, overlapping, competing, and distinct UCH interests, which all need to be accounted for as part of the protection of and interaction with UCH resources.

Ontario's MHSTCI is a UCH stakeholder. The MHSTCI represents Ontario's heritage and tourism interests, distinct UCH aspects. The MOL, Ontario's diving regulator, is another provincial UCH government interest. Parks Canada, the federal archaeology expert, including of underwater sites, is another (Parks Canada 1998:1–2). As discussed, Parks Canada manages all cultural heritage resources on federal lands and protected areas, including the Fathom Five National Marine Park in Tobermory.

Communities and volunteer organizations also have stakes in Ontario UCH. SCUBA divers are the group with the most abundant direct interaction with Ontario UCH (Edney 2016:272). As discussed, Ontario waters preserve much cultural and historical evidence of the province's history. The MHSTCI has given most responsibility for Ontario UCH to SOS, which is "dedicated to the study, preservation, and promotion of an appreciation of Ontario's marine heritage" (Prince 2003:17). Along with other avocational groups such as, Preserve Our Wrecks (POW) and the OMHC, membership inclusive of archaeologists, divers, and members of the public who contribute to protecting and preserving Ontario UCH. These groups are affected by Ontario UCH policy. The Ontario public stake includes the UCH representation of provincial history.

3.5. Perceived and Noted Concerns in Ontario's UCH Policy

How Ontario defines, values, protects, and manages UCH and who Ontario UCH stakeholders are is important in understanding inadequacies and perceived and noted failures of and possible improvements to Ontario UCH policy. This section discusses Ontario UCH policy and practice concerns. There are ten concerns identified by this thesis, the concerns are 1) that the OHA is a primarily terrestrial cultural heritage policy; 2) the definition of marine heritage is insufficient for the breadth of UCH in Ontario; 3) the provincial agency with responsibility for UCH lacks sufficient expertise; 4) marine licencing applications and methods lack review from qualified underwater archaeologists; 5) there are no provincial UCH-specific standards and guidelines for archaeologists; 6) UCH-site-identification through the use of MHSTCI marine criteria sheets is difficult; 7) there is no protection for UCH-related human remains within provincial heritage policy; 8) the MHSTCI does not effectively enforce heritage policy; 9) MOL regulations constrict non-commercial diving operations limiting in water archaeological work; and 10) the province does not use the UCH-interacting sport-diving community to protect UCH.

The OHA focuses on terrestrial cultural heritage, historical structures, and problems arising from conducted terrestrial archaeology, but it does not focus on UCH issues (Legate Bill C13 Ontario Marine Heritage Act 2000:par.136). Terrestrial policy does not protect UCH resources. OHA marine sites and UCH differ from terrestrial cultural heritage in four salient ways (discussed in Chapter 1's introduction), which the OHA does not recognize within the definition of UCH. The OHA's Section 48 offers some protection to marine sites: removal of artifacts from a known marine archaeological site requires a license, and direct interaction with prescribed wrecks without a ministryissued license is prohibited (OHA 1990:43). The OHA, however, inadequately defines UCH as fully or partially submerged marine archaeological sites (OHA 1990:3)—this is a 2004 definition determined during discussions for 2005 reforms (Dan Schneider, personal communication 2018). The same regulation defines archaeological sites as "any property that contains an artifact or any other physical evidence of past human use or activity that is of cultural heritage value or interest" (OHA 1990:3). Ontario has multiple UCH categories—shipwrecks, submerged towns, canals, flooded quarries, submerged landscapes, precontact sites, and paleontological sites. Since UCH and

terrestrial heritage sites differ, UCH requires a different definition and separate protection policy.

Ontario has damaged how effectively the province governs UCH protection and management. Previously, the MHSTCI's full-time marine-heritage advisor oversaw and assisted with UCH work and advised the minister, senior management, other levels of government, and commercial-diving organizations on UCH conservation, protection, and management (Ontario Government 2007:par.1). Archaeologist Peter Englebert held the position between 1980 and 2001. After his retirement, Parks Canada administered the position until taken over by underwater archaeologist Erika Laanela in 2004 through 2007. Underwater archaeologist Dr. Simon Spooner was the last to hold the position starting in 2008. The MHSTCI terminated the position, then held by Dr. Simon Spooner, in 2011 (Forrester 2011; Simon Spooner, personal communication 2018), which negatively impacted MHSTCI communication with stakeholders about UCH and direct MHSTCI UCH involvement. Public and non-profit stakeholders attempted to save the position but the MHSTCI, denied the need for the position and did not reinstate it (SOS 2011:par.7). SOS created an online petition (SOS 2011) which was unsuccessful, while the OMHC wrote an equally unsuccessful letter to the cultural minister stating the importance of the advisor role (Le Blanc 2011).

The position also oversaw the now terminated Ontario's Marine Heritage Conservation Program headed by then marine heritage advisor and archaeological licencing officer Erika Laanela (Erika Laanela, personal communication 2018), which aimed to

Provide policy direction and technical advice

Promote integration of marine archaeological resources

Review applications for archaeological licenses

Ensure archaeological work reflects acceptable standards

Maintain a marine archaeological site database

Promote stakeholder engagement and stewardship through training and partnerships

Provide support to stakeholders for marine heritage conservation. [Erika Laanela, personal communication 2018]

These goals addressed key Ontario UCH concerns and provided policy direction, technical advice, and stake holder support that, if the conservation program had become fully active, would have addressed many of the MHSTCI's current lack of UCH support and direction. The conservation program goals can, however, serve as a guide for future UCH initiatives. Review of archaeological licence applications by a qualified underwater archaeologist in the marine heritage advisor position would address MHSTCI licence and method-review concern. The concerns would be mitigated through informed review to ensure that the licensee has the proper underwater archaeological qualifications and proposed methods of a licence application are grounded in underwater archaeological methods. A marine-archaeological-site database could help Ontario determine how much UCH has been found in provincial waters. Promoting stakeholder engagement and stewardship would mitigate lack-of-education concern in the diver and tourism industries, discussed below.

The MHSTCI requires those working with Ontario UCH to possess a marine archaeological license, but the current licensing scheme has at least three issues: First, marine archaeological licenses are issued on a project-by-project basis, which halts projects, costing clients money and downtime (Scarlett Janusas, personal communication 2018); UCH site access delays and added project costs, through the use of commercial divers, encourage developers to view UCH negatively. Second, MHSTCI personnel reviewing the methodologies of marine licence applications are not qualified underwater archaeologists. Third, UCH survey licences in Ontario have no education or experience requirements: any person with a plan deemed sound by the MHSTCI can request and be granted an unprotected UCH site access licence in Ontario. Excavation licences are harder to acquire as the province is less willing to issue them; however, since MHSTCI reviewers are not maritime archaeologists (Heather Kerr Personal Communication 2018), licences can be issued with incorrect and poorly implemented methodologies, resulting in harm to and loss of UCH (Scarlett Janusas, personal communication 2018).

Licensed archaeologists in Ontario are governed by the OHA and the Standards and Guidelines for Consulting Archaeologists, which the MHSTCI published in 2010 and began enforcing in 2011 (MTCS 2011:2). The Standards and Guidelines focuses solely on terrestrial archaeology, setting out standards and guidelines for all stages of Ontario archaeological investigation—from desktop surveys to final technical reports. It does not

address marine sites nor guidance for UCH investigations as noted by underwater archaeologists in the province like Dr. Kimberly Monk and consulting underwater archaeologist Thanos Webb (Kimberly Monk, personal communication 2018, Thanos Webb personal communication 2018), thus allowing incorrect and personalized methods and reporting standards and data loss.

Predevelopment identification of UCH sites requires proponents or landowners to fill out marine archaeological criteria sheets (MTCS 2016:1). The sheets are complex and difficult for non-archaeologists to understand—and the MHSTCI offers little technical assistance (Scarlett Janusas, personal communication 2018). The sheets request information requiring significant archaeological understanding that most proponents do not have and can therefore cause more harm than good: confused criteria sheets can lead to site misinterpretation or oversight. The MHSTCI should not expect to find, preserve, and protect UCH if it does not help proponents locate UCH prior to development. While the sheets are intended for proponent and landowner use, they have no ministry requirement that ensures an assessment is conducted (Thanos Webb, personal communication 2018). While the PPS and OPA offer criteria for assessing terrestrial archaeology potential, they are silent on UCH. For example, intent to include new water pilings as part of bridge construction should trigger a UCH or marine archaeology assessment, just as terrestrial-archaeology-related development would, currently it does not (Thanos Webb, personal communication 2018).

Another issue is that UCH-related human remains are not protected by the OHA or managed by the MHSTCI. UCH-related human remains are instead managed by the 2002 Funeral Burial and Cremation Services Act (FBCS, FBCS 2002) administered by the Ministry of Government and Community Services (MGCS). Discussed in the Chapter 1 introduction is the case of the *Jane Miller*, a recently found wreck which may still have human remains onboard. Archaeologists, the OMHC, and a member of parliament questioned if special protection could be enacted for the *Jane Miller*. The MHSTCI would not consider options to protect the remains on site from disturbance due to the FBCS and MGCS. The reluctance is contrary to the past MHSTCI decisions which prescribed the wrecks of the *Hamilton*, *Scourge* and *Fitzgerald*, all three wrecks are considered grave sites. The issue of UCH-related human remains is also seen with the remains recently found in Lake Erie near Pottahawk Point in June 2019. Ontario Provincial Police divers conducted a thorough search of the area (Global News 2019:par.2-3) and a

forensic anthropologist declared the remains to be historic and notified the cemetery registrar (Global News 2019:par.3,5). At the time of drafting this thesis, no further mention of the remains or whether archaeologists were contacted to survey the area could be found. Without further investigation from qualified underwater archaeologists the presence of more burials and associated archaeological resources cannot be identified leading to possible loss, looting or destruction. In the Standards and Guidelines for Consulting Archaeologists issued by the MHSTCI, the guidance for human remains is to follow the FBCS with no further archaeological guidance (MTCS 2011:8,127). The remains found at Pottahawk and the wreck of the *Jane Miller* both demonstrate how having a single heritage resource addressed by the MGCS rather than the MHSTCI is an issue in UCH policy due to the gaps in protection and follow up assessments. This is an example of how the MHSTCI does not enforce a consistent set of policy mandates and is reluctant to acknowledge the importance of UCH (Kimberly Monk, personal communication 2018; Chris Phinney, personal communication 2018).

MOL regulation of Ontario diving operations is a further UCH-policy hurdle. The complex logistics of underwater work complicates UCH study, management, and conservation (Forrest 2014:1884). Diving operations in Ontario are legislated under the MOL, which prohibits diving activities for monetary gain unless divers are commercially certified. Few underwater archaeologists, including all archaeologists consulted for this thesis, are commercial divers. Commercial diving courses are prohibitively expensive for most archaeologists costing around \$19,000 in Canada (Holland College Commercial Diving 2019). Many other non-Ontario jurisdictions have less restrictive scientific-diving legislation and do not require use of commercial divers (Kimberly Monk, personal communication 2018; Simon Spooner, personal communication 2018; Thanos Webb, personal communication 2018). Use of commercial divers adds additional and, typically, prohibitive costs to client projects (Thanos Webb, personal communication 2018). UCH assessments must be made cost effective to clients in order for them to become a respected staple of commercial archaeology (Thanos Webb, personal communication 2018). MOL UCH-access and -management diving regulations requires a solution that will allow the acceptance of a scientific diving accreditation that complies with MOL regulations but does not encompass the entire skillset required for commercial diving in order to allow commercial archaeological access to UCH.

A further UCH concern is the impact that sport and tourist divers have as they are in frequent and regular contact with UCH. Souvenir hunters, high-impact diving techniques, wreck penetration, and poor diver education all contribute to the degradation of UCH sites (Edney 2016:271–272). Ontario's fresh water, with its consistently cold deep-lake bottom temperatures and lack of salinity and shipworms, offers ideal UCH-preservation conditions, and as a result, Ontario's UCH is remarkably preserved (Sheller 2018:par.3–4). But while such conditions result in pristine UCH preservation, "in freshwater, the condition of the wrecks depends upon the divers who visit them" (Nass 2010:par.11). Degradation of freshwater wrecks is certainly accelerated by poor diver ethics and actions.

3.6. Chapter Conclusion

This chapter focused on Ontario's cultural-heritage policy and how it directly affects UCH. Via the overlapping policy instruments OHA, OPA, and PPS, the province ensures terrestrial archaeological sites are quickly and efficiently identified and investigated by environmental surveys prior to development. The OHA, OPA, and PPS attempt to manage UCH but lack the necessary criteria to ensure UCH assessments happen; proper direction is provided for consulting archaeologists, license holders, and clients when conducting archaeological UCH assessments; and understanding of the importance and need for clear assistance for working with UCH from the MHSTCI. The MOL policy which limits diving operations to only commercially certified divers must be overcome to allow for in-water work to be performed by noncommercially licensed archaeologists and marine license holders. Policy should consider the impacts of recreational and tourist divers, who have the most UCH interaction. Finally, the termination of the MHSTCI's marine archaeologist advisor position is the largest single blow to Ontario UCH. The above concerns are considered in connection with policy reform options and discussed in Chapter 5. Chapter 4 discusses relevant UCH policy from select international legislation regimes: Australia, the USA, and the UK. Chapter 4 further discusses how policy or policy elements from Australia, the USA, and the UK can assist in Chapter 5's recommendations on updates and improvements to Ontario's UCH policy.

Chapter 4.

Established Underwater Cultural Heritage Policy Aspects and the Comparison to Ontario

The preceding chapters discussed UCH value, international UCH policy, federal and provincial Canadian UCH policy, and Ontario cultural heritage and UCH policy. This chapter focuses on three jurisdictions, Australia, the UK, and South Carolina. The three jurisdictions were chosen after the identification of the ten concerns within Ontario's UCH policy. Each of the jurisdictions were also chosen for volume and quality of publications and how their policy elements relate to and could, if implemented in Ontario, assist in mitigating the Ontario policy concerns noted in Section 3.5. Based on this chapter's discussion of UCH policy in Australia, the UK, and South Carolina, Chapter 5 will make Ontario UCH policy recommendations to mitigate the concerns.

4.1. Australian UCH Policy

Australia's first Commonwealth UCH legislation, the Historic Shipwrecks Act (HSA), came into effect in 1976. The HSA protects historic shipwrecks and associated relics that are at least 75 years old, in Australian Commonwealth waters, and which extend from below the low-water mark to the continental shelf (HSA 1976:9). The HSA is meant to "ensure that historic shipwrecks are protected for their heritage values and maintained for recreational, scientific and educational purposes. The HSA further seeks to control actions which may result in damage, interference, removal or destruction of a historic shipwreck or associated relic" (Department of the Environment and Energy: Historic Shipwreck Laws 2019:par.2). The HSA considers a historic relic to be anything associated with a ship in Australian Waters, associated with the remains of a sunken ship that is 75 years old, or that entered Australian Commonwealth waters at least 75 years ago (HSA 1976:10,11).

In 2010, the Australian Commonwealth Government and the Australian state and territory governments signed the Australian Underwater Cultural Heritage Intergovernmental Agreement (Department of the Environment and Energy 2010:6). With this document, the federal, state, and territory governments agreed that "the

Commonwealth would first redraft its legislation to include underwater cultural heritage and replace the Commonwealth's Historic Shipwrecks Act 1976. The States and Territories were to follow with complementary legislation" (South Australia Department of Environment and Water Maritime Heritage 2017:par.9). The intergovernmental agreement led to the creation and implementation of the Underwater Cultural Heritage Act 2018 (UCHA), which replaced the HSA. An explanatory memorandum describes this new bill as

modernis[ing] the regulatory framework to protect Australia's underwater cultural heritage and includes measures to align the legislation with current international best practice standards for the protection and management of underwater cultural heritage as defined by the UNESCO 2001 Convention for the Protection of the Underwater Cultural Heritage (the Convention). The Bill continues the system for protecting in-situ underwater cultural heritage and underwater cultural heritage that has been removed from sites established under the Historic Shipwrecks Act [Parliament of the Commonwealth of Australia 2018:2]

The memorandum explains that while Australia's HSA was an "international benchmark of legislation," it did not meet the "current standards for regulatory compliance and enforcement" (Parliament of the Commonwealth of Australia 2018:2). As such, the UCHA expanded Australia's UCH definition and identifies federally protected UCH. The memorandum explains that

the protective scope of the Bill has been expanded to include other types of underwater cultural heritage, including submerged aircraft and human remains. The Bill also helps protect Australia's important overseas heritage such as sunken military vessels and aircraft and will now provide protection for associated human remains. The new scope and modernisation align with international best practice and the requirements of the Convention [Parliament of the Commonwealth of Australia 2018:2]

The UCHA was the first Australian law to protect UCH-associated human remains (Price 2018:par.4). The UCHA continued blanket protection of 75-year-old Australian UCH (UCHA 2018:17), while increasing "the penalties that can be applied if wreck sites and relics are damaged or plundered and provides for a wider, flexible range of regulatory options, such as enforceable undertakings and infringement notices" (Price 2018:par.5). The UCHA, which applies strict liability to all UCHA offences, made Australian UCH policy enforcement easier via prosecution that only needs to prove an offence occurred to guarantee a conviction (Parliament of the Commonwealth of

Australia 2018:7). Overall, the UCHA is stronger UCH legislation than its predecessor, the HSA, and better enables Australia to protect and conserve its vast UCH.

Each Australian state and territory have state-level legislation that compliments the federal UCHA. In 1964, Western Australia enacted Australia's first UCH-protection legislation, the Museum Act Amendment Act (Museum Act Amendment Act 1964), which protected historic shipwrecks. This act was designed to protect four Dutch trader wrecks then coming under increasing threat from treasure hunter interests (Jeffery 2006:124). In 1973, Western Australia passed the Maritime Archaeology Act (MAA), meant to protect all UCH sites by rewriting wreck-specific legislation to encompass all UCH (Maritime Archaeology Act 1973).

South Australian UCH is protected by the Historic Shipwrecks Act 1981 (HSA 1981), meant to complement the Commonwealth HSA (South Australia Department of Environment and Water Maritime Heritage 2017:par.3). Since state legislation is complementary to the federal legislation, the HSA 1981 protects all historic shipwrecks and associated relics 75 years and older (HSA 1981:3). The HSA 1981 has been continuously updated since implementaiton and was last updated in 2017.

Victoria protects its UCH with the Heritage Act 2017 (HA 2017) and the Heritage (Underwater Cultural Heritage) Regulations 2017 (HUCHR). Like the other Australian states, Victoria's UCH policy complements the federal HSA. In 1981, Victoria enacted the Historic Shipwrecks Act (Historic Shipwrecks Act 1981), which was repealed in 1995 when provisions for the protection of shipwrecks and relics were included under section five in Victoria's new Heritage Act (Heritage Act 1995:89). In 2017, the 1995 Heritage Act was replaced by the HA 2017, which included UCH protection (HA 2017:57). The HA 2017 is accompanied by a UCH-pertaining regulations document that prohibits activities in protective zones, on protected shipwrecks, and with protected relics; lists permit fees; and prescribes offences and penalties under the HA 2017 (HUCHR 2017:1).

Section 9 of the 1992 Queensland Heritage Act (QHA) protects Queensland UCH (QHA 1992:64). It identifies UCH as historical aircraft wrecks, historical shipwrecks, historical underwater articles, and underwater cultural articles (QHA 1992:136,141). Like other state legislation, the QHA complements the federal HSA and protects UCH in state waters or on state lands. All found UCH must be reported to the government upon discovery and is protected from unpermitted disturbance, damage, destruction, and

excavation (QHA 1992:64). Entrance to a protected area or access to a protected wreck, including for diving, requires a permit under the act (QHA 1992:71,72). The QHA was last updated in 2017 and is currently enforced.

The Heritage Act of 1977 (HA 1977) protects New South Wales UCH, but only in 2001 was the act amended to protect historic shipwrecks (HA 1977; New South Wales Office of Environment and Heritage: Maritime heritage 2012:par.2). The 2001 amendment aligned New South Wales with the federal HSA legislation by protecting all historic shipwrecks, including wreck-related articles at least 75 years old (HA 1977:25).

Tasmania UCH is protected under the Historical Cultural Heritage Act 1995 Part 9 (Historical Cultural Heritage Act 1995:40):

all shipwrecks and their associated artefacts which were lost over 75 years ago are automatically protected. Shipwrecks that occurred less than 75 years ago may also be individually protected under these Acts if they are considered to be significant. In special circumstances when a shipwreck is considered highly significant or vulnerable a 'Protected Zone' may be declared around the site, requiring a permit from the management authority to enter [Department of Primary Industries, Parks, Water and Environment 2010:2]

Wrecks in Tasmania must be reported within 30 days (Historical Cultural Heritage Act 1995:42). The Historical Cultural Heritage Act's shipwreck policy has not been updated since 1995.

The Northern Territory first implemented heritage legislation in 1991 (Heritage Act 1991). That legislation was repealed and replaced by the Heritage Act 2008 (Heritage Act 2008), and finally by the Heritage Act 2011 (Heritage Act 2011). The Heritage Act 2011 was the first legislation granting UCH protection in the Northern Territory and lists UCH as a protected class in Chapter 2 (Heritage Act 2011:20).

This overview addresses federal, state, and territorial policies governing Australian UCH. All states and territories signed the federal policy and have complementary legislation. The next section discusses how policy like Australia's federal and state UCH policy could benefit Ontario.

4.2. Australia and Ontario

UCH legislation like Australia's could help Ontario in five ways: 1) Australia-like UCH legislation, as a synergistic system of federal and state legislation, would benefit both Ontario and Canada by creating a stronger UCH protection regime with overlapping federal and provincial policy; 2) Australia, Southern Australia, and Western Australia each have UCH policy distinct from terrestrial policy designed to protect and manage UCH specifically; 3) Australia's UCH definition includes all UCH aspects and aligns with the 2001 Convention, which Ontario's OHA fails to do; 4) Australian UCH policy requires anyone who finds UCH to report it, Ontario would be better able to protect its UCH if discovered UCH was reported; and 5) Australia protects UCH-related human remains under UCH policy, while UCH associated human remains in Ontario are unprotected by the heritage ministry. How these policy elements could inform a new Ontario UCH policy regime is discussed below.

Australia's UCH policy regime demonstrates how federal and state governments can produce complementary policy that protects heritage resources. Australia's HSA and then its UCHA provide federal examples for Australian state and territory governments to model complementary legislations on. The UCHA offers a "collaborative protection and management of underwater cultural heritage by the Commonwealth, State and Territory Governments" (Parliament of the Commonwealth of Australia 2018:2). If Canadian provinces and territories followed a similar legislative standard with complementary legislation, Canada could also have a collaborative UCH policy regime.

Australia's UCHA and South and Western Australia's UCH policies address a chief Ontario issue—a lack of UCH-specific policy. Ontario's OHA is a terrestrial policy that encompasses UCH but does not address the specific and salient differences between UCH and terrestrial heritage nor the difficulty of protecting UCH. Ontario defines UCH as marine archaeological sites, which is not encompassing of all UCH resource aspects, including the types, locations, and ages of UCH. Western Australia's MAA, on the other hand, supplies a stronger UCH definition:

any area in which the remains of a ship, which in the opinion of the Director may have been a historic ship, are known to be located

any area in which any relic is known to be located, or where in the opinion of the Director unrecovered relics associated with a ship which may have been a historic ship are likely to be located

any structure, campsite, fortification or other location of historic interest that, in the opinion of the Director, is associated with, and was occupied or used by, persons presumed to have been in a historic ship, shall be a maritime archaeological site.

A maritime archaeological site may be situated below low water mark, on or between the tide marks, or on land, or partly in one place and partly in another [MAA 1973:2]

The MAA further defines and protects all pre-1900 maritime archaeology sites in Western Australian waters, including coastal waters, bays, lakes, rivers, streams, and estuaries (MAA 1973:3,4). The MAA defines at what age cultural resource objects become protected, as any object or site that was formed before 1999, which Ontario's OHA does not. Australia strengthened its UCH definition by including all UCH sites, locations, and objects that make up the resource, aligning Australia with UNESCO's international UCH definition. Including such a definition and defining the conditions and age at which underwater sites fall under policy protection would benefit Ontario.

The UCHA requires discovered UCH be reported to the government and considers the withholding of found-wreck information an offence (UCHA 2018:39). Reported UCH sites are added to the federal site registry (UCHA 2018:45). Most Australian states and territories require the same for sites found in their waters—Ontario does not. Ongoing shipwreck and site hunting in the Great Lakes results in the regular discovery of Ontario UCH (Daley 2016, Guerrieri 2018, Schlote 2019). Since most explorers keep their discoveries secret (Daley 2016:par.7,8) and the site information is not relayed to the MHSTCI, the required reporting of all finds to the province would improve Ontario's UCH record by ensuring that all discoveries are reported as they occur. Ontario cannot protect its UCH if the province does not know about UCH discoveries. Ontario could consider classifying UCH like Western Australia does, wherein protection and historical significance of a site or object is determined not by age but by criteria (HA 2011:21):

whether it is important to the course, or pattern, of the Territory's cultural or natural history;

whether it possesses uncommon, rare or endangered aspects of the Territory's cultural or natural history;

whether it has potential to yield information that will contribute to an understanding of the Territory's cultural or natural history;

whether it is important in demonstrating the principal characteristics of a class of cultural or natural places or environments;

whether it is important in exhibiting particular aesthetic characteristics;

whether it is important in demonstrating a high degree of creative or technical achievement during a particular period;

whether it has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons, including the significance of a place to Aboriginal people as part of their continuing and developing cultural traditions;

whether it has a special association with the life or works of a person, or group of persons, of importance in the Territory's history [Heritage Act 2011:8–9]

If a site or object fits assessment criteria, the minister of tourism and culture can proclaim it a heritage site and thereby grant it protection (HA 2011:22–23). Once prescribed by the minister, a site or object cannot be unprescribed without a reassessment under the cultural-heritage assessment criteria. The Australian model supplies assessment criteria that Ontario should consider in defining and protecting its UCH.

Ontario could use UCH policy to further protect UCH-associated human remains, which Australia began doing when it included human remains as UCH under the UCHA (UCHA:10,15). Australia's federal UCHA "recognises that human remains found within shipwrecks or sunken aircraft must be treated with respect and not as artefacts" (Department of Environment and Energy Underwater Cultural Heritage Act 2018:par.6). Ontario's heritage policy does not cover human remains, which are instead overseen by the MGCS. Ontario must distinguish underwater human remains from artifacts if those remains are to be better protected (Department of Environment and Energy UCHA 2018 Frequently Asked Questions: par.6).

Australian UCH policy elements could resolve many Ontario UCH policy concerns. A distinct UCH policy, a sufficient UCH definition, required UCH-site reporting, and specific protection of UCH-associated human remains are all Australian UCH policy elements that should be considered in reforms for new Ontario UCH policy.

4.3. South Carolina UCH Policy

Ontario could also consider South Carolina's UCH legislation. South Carolina's UCH policy offers distinct UCH legislation, provides for a State Underwater Archaeologist (SUA), and includes nonarchaeological diver licensing, all of which Ontario lacks.

South Carolina passed the Underwater Antiquities Act (UAA) in 1991, effectively halting state UCH salvage (Amer and Spirek 2016:172). The UAA shifted the state's priority of marine-heritage salvage to study and conservation. Only a few US states have such legislation (National Parks Service South Carolina 2016:par.5). The UAA is overseen by the Maritime Research Division, which is "under the direction of the State Underwater Archaeologist [and] is responsible for the management of our immense archaeological heritage found beneath the rivers and coastal waters of South Carolina" (South Carolina Institute of Archaeology and Anthropology Maritime Research 2018:par.1). The Maritime Research Division intends the act

to preserve and encourage the scientific and recreational values inherent in submerged archaeological historic properties and paleontological properties for the benefit of the people

and

declares as property of the state, all submerged archaeological historic property, which has remained unclaimed for fifty years or more, and paleontological property located on or recovered from submerged lands over which the State has sovereign control [South Carolina Institute of Archaeology and Anthropology Maritime Research South Carolina UAA 2018:par.1–2]

The UAA expands the state's maritime heritage knowledge via surveys (King 2016:172) and imposes stiff penalties and provisions for human-remains violations (Amer 2013:130). The act regulates the supply of specialized licenses permitting UCH interaction in state waters (South Carolina Institute of Archaeology and Anthropology South Carolina 2018 UAA:par.3), including licensing "to conduct activities affecting submerged archaeological historic properties or paleontological properties; disposition of recovered property; permission to recover other property" (UAA 1991:8–9).

The UAA defines three types of licenses—hobby diver, intensive survey, and data recovery—that are issued by the SUA (UAA 1991:15,20–21). The hobby diver licence is for,

a person desiring to conduct temporary, intermittent, recreational, small scale, noncommercial search and recovery of submerged archaeological historic property or submerged paleontological property shall apply for a hobby license from the institute. Any person collecting from state property such as river banks or beaches below the mean low watermark shall apply for a license [UAA 1991:15,20–21]

With a hobby-diver licence a licensee may collect cultural material from state waterways with the understanding that a report detailing the dive and its collection, area, and details is submitted to the state (Brewer 1986:106). An SUA reviews the reports to assess whether the material collected represents significant UCH or not (Brewer 1986:106).

The next section discusses how South Carolinas UCH-specific policy, employment of an SUA to oversee licensing and UCH management, licensing scheme that includes divers, and human-remains legislation could benefit Ontario.

4.4. South Carolina and Ontario

Like Australian states, South Carolina has UCH policy governing state UCH.

Unlike Ontario, South Carolina employs an SUA, who works directly with the Maritime

Research Division to ensure UAA compliance and enforcement. South Carolina is one of
the few states to employ a fulltime SUA (National Parks Service South Carolina

2016:par.5):

the State Underwater Archeologist oversees and implements the State Underwater Antiquities Act; maintains a research database of state underwater archeology sites; and conducts and oversees underwater archeological studies determined to be in the best interests of the State. The State Underwater Archeologist works closely with the State Historic Preservation Officer to ensure that all underwater archeological research and resulting reports carried on in State waters by any individual, organization, or other entity is adequate and meets professional standards [National Parks Service South Carolina 2016:par.5]

The director of the Institute for Archaeology and Anthropology administers the UAA and appoints the SUA (UAA 1991:7). An on-staff, qualified SUA is important for proper UCH

care and management because "interventions on underwater heritage should be directed, controlled and overseen by a qualified and competent underwater archaeologist" (UNESCO 2013 Underwater Archaeologists:par.6).

South Carolina devotes Section 57-7-820 of the UAA to human remains, the first South Carolina statute to do so (UAA 1991:21–22; Amer 2013:130). Subsection C(a) states that human remains are to be "undisturbed unless the remains are a person who died in the course of diving operations or other immediate cause including, but not limited to, drowning, boating accident, or homicide" (UAA 1991:22). Subsection C2 reserves South Carolina's right, as per federal law, to recover and rebury remains (UAA 1991:22). Ontario could consider a human-remains UCH policy that ensures UCH-associated remains are undisturbed by persons interacting with UCH resources and that found UCH-associated remains are reported upon discovery.

Finally, in mitigating UCH–diver-interaction, Ontario could also consider South Carolina's hobby-diver program as a policy instrument. Scientists can do little to stop divers from collecting what they find underwater (Brewer 1987:107), but they can collect data from those divers. While the hobby-diver program does not mitigate UCH collection, it requires that divers report their findings (South Carolina Institute of Archaeology and Anthropology Maritime Research Hobby Diver Licence 2018:par.2). Divers issued a hobby-diver license can only collect a limited number of artifacts from state-controlled waters (South Carolina Institute of Archaeology and Anthropology Maritime Research Hobby Diver Licence 2018:par.2). The program allows licensed divers to remove artifacts from shipwrecks in South Carolina waters, which any new Ontario UCH legislation should not permit; however, Ontario should strive to obtain as much information as possible from stakeholders interacting with UCH in Ontario.

South Carolina's UCH policy could inform new Ontario UCH strategy. While Ontario should not apply all of South Carolina's UCH policy elements in particular the artifact collection aspect of South Carolinas hobby diver licenses is not inline with *in situ* preservation practices, it could employ a standalone UCH policy, a human-remains section within that policy, and a qualified professional underwater archaeologist to oversee UCH and UCH policy in Ontario.

4.5. The United Kingdom UCH Policy

Like most UCH legislation, the UK's still relies heavily on shipwrecks. The UK UCH framework is composed of three legislation pieces: the Protection of Wrecks Act 1973 (PWA), the Protection of Military Remains Act 1986 (PMRA), and the Merchant Shipping Act 1995 (MSA). These acts work together as overlapping policy to ensure the protection and preservation of UK UCH. Each of these policies includes specific framework elements Ontario should consider adopting in its own UCH policy regime.

The PWA is the primary legislation protecting UK UCH. The PWA "provides that the Secretary of State may designate certain areas of seabed if they are suspected of containing the wreck of a vessel of historical, archaeological or artistic importance, and that the Secretary of State may then license people to carry out work within the designated area" (Firth 1999:10). The UK passed the PWA in response to looting and destruction of historical wrecks in UK waters (Bowens, Dromgoole, Firth et al 2004:15).

The PMRA "secure[s] the protection from unauthorized interference of the remains of military aircraft and vessels that have crashed, sunk or been stranded and of associated human remains; and for connected purposes" (PMRA 1986:1). Lost military aircraft are automatically protected under the PMRA, while other vessels need to be prescribed (Maritime and Coastguard Agency Wreck and Salvage Law 2018:par.79). To protect lost military aircraft and vessels, the PMRA designates their locations as protected places or controlled sites (PMRA 1986:1–4). Divers may visit protected sites with a "look but don't touch" mandate (Maritime and Coastguard Agency Wreck and Salvage Law 2018:par.46). No one can visit controlled sites (Maritime and Coastguard Agency Wreck and Salvage Law 2018:par.46).

Under the MSA, all found wrecks in UK waters and all material removed from them must be reported to the ROW (MSA 1995:133). The ROW is a post appointed by the Secretary of State to enforce the MSA's Chapter 2 (MSA 1995:131). The ROW "is responsible for processing incoming reports of wreck and ensures that the interests of both salvor and owner are taken into consideration by: researching and establishing who owns the wreck, liaising with the finder and owner, and other interested parties such as archaeologists and museums" (Maritime and Coastguard Agency Wreck and Salvage Law 2018:par.6). The MSA is based on salvage law, under which shipwrecks, including

heritage wrecks, can be salvaged, with a reward bestowed upon salvors (Bowens, Dromgoole, Firth, et al. 2004:6,9). While the act does not consider a wreck's historical significance, the ROW has instituted policies to ensure "society's interest in the cultural value of historic wreck is given effect" (Bowens, Dromgoole, Firth et al. 2004:9), which it achieves via consultation with archaeologists and museums. The ROW states that

when material of historical or archaeological importance is reported, the Receiver may seek further advice from experts in a related field. For wreck material that is of historical or archaeological importance, the Receiver of Wreck will try to ensure that it is offered to an appropriate museum. If you find historic wreck material, your views will be taken into consideration when placing the material in a museum and you may still be entitled to a salvage award [Maritime and Coastguard Agency Wreck and Salvage Law 2018:par.60]

Though the MSA is a salving law that operates regardless of a site's historical significance, the ROW, in cooperation with heritage professionals and institutions, applies this salving law to UCH protection and management.

Together, these three pieces of legislation constitute the foundation of UK UCH legislation. While these legislations do not all relate to Ontario UCH, prescription of sites as either protected or controlled places and required reporting of found wrecks could be useful Ontario UCH reform elements.

4.6. The United Kingdom and Ontario

Like Australia's UCH policy and the CSA, UK maritime law requires the reporting of all found UCH, not just wrecks, to a government registry, which if enforced by the MHSTCI would benefit Ontario UCH by ensuring the province is aware of UCH as it is found. Though UK maritime law is a salvage law, the ROW collaborates closely with scientists in protection and management of UCH. Ontario could consider similar reporting requirements in new UCH policy.

The PMRA uses controlled and prescribed sites to protect military history, such as sunken warships and aircraft under UK waters. Controlled sites are registered as noentry zones while prescribed sites are accessible via a visitor's licence with a look-but-do-not-touch mandate. Use of tiered UCH-protection and -access levels could improve Ontario UCH policy. In Ontario, wrecks are either unprotected or prescribed and off-

limits. Offering controlled no-entry zones as well as prescribed zones, entry to which requires diving licences, would protect fragile or historically significant wrecks while allowing controlled, regulated, and monitored access.

How the UK enforces maritime law is as important as how it legislates UCH. The UK investigates and prosecutes UCH destruction and looting, as it did with the looting of the HMS Hermes in the English Channel (Middleton and Neal 2018:par.1) and WWII shipwrecks in the Philippines (Baynes 2016). UK courts can fine looters—under the MSA, a Southampton court fined two divers £60,000 for not reporting their UCH finds after they looted nine historical wrecks (Morris 2014:par.3,14). UK courts can also issue jail sentences to looters and did so with the looting of the HMS Hermes (Middleton and Neil 2018:par.1) and the looting of the HMS London's cannons (Morris 2015). In the case of the Hermes, English law enforcement took over investigation of two divers after French authorities found those divers on the *Hermes* (Middleton and Neil 2018:par.1,8). Investigation of the wreck, the divers' residence, and their notes revealed that the divers had removed over £150,000 worth of the wreck (Middleton and Neil 2018:par.13). A Canterbury Crown Court found the divers guilty and sentenced them to four years in prison (Middleton and Neil 2018:par.17-18). A UK court found one diver to have looted a rare bronze cannon from the HMS London, off the coast of Essex (Morris 2015:par.3). The cannon was sold to an American collector in Florida and thereby lost to the UK (Morris 2015:par.14). For defrauding the government by saying the cannon had come from international waters, the diver was fined £35,000 and sentenced to two years in prison (Morris 2015: par.8). In both cases law enforcement was alerted and took a proactive role in the investigation and arrest of perpetrators. In the case of the Hermes it was the French who were the first to alert the British authorities. The active participation of British authorities, as well as the reporting of individuals and groups for looting these wrecks is of upmost importance when attempting to enforce policy. If Ontario is to protect and manage its UCH properly, it needs to enforce its policy. Even via salvage law, the UK fines, and jails UCH looters. Ontario can follow the UK's example by ensuring looters and those contravening UCH policy are prosecuted under the law. Ontario could further work with provincial and regional police to ensure their involvement in enforcing any UCH policy.

While the UK UCH policy regime is rooted in salvage rights, Ontario can use some UK policy elements to form new provincial UCH policy. The UK's limited licences

and site protection levels allow divers to visit historically significant and fragile wrecks. Ontario could adopt these policy elements in place of prescribing all historically significant wrecks as no-go zones. Multiclass protection would allow Ontario to protect its most significant UCH, such as the *Hamilton* and *Scourge*, by continuing to prescribe those wrecks as off-limits yet offer limited access to other significant wrecks that are less fragile but still open to divers and researchers. Ontario can also consider required reporting of all found Ontario UCH to a provincial registry. The UK uses such a policy element to successfully fine, jail, and recover looted UCH in UK territorial waters.

4.7. Chapter Conclusion

This chapter's discussion of Australia, South Carolina, and UK UCH policy leads into Chapter 5's recommendations for future Ontario UCH policy. Canada could adopt aligned federal and provincial UCH legislation, like Australia's. Ontario could look to Australia's stringent UCH reporting requirements and human-remains protection. Ontario could also emulate South Carolina's inclusive state legislation and its SUA position. Ontario could adopt UK licensing, prescription zones, and required reporting of found wrecks. Finally, Ontario could follow the UK's UCH-policy-enforcement lead. Chapter 4 has focused on how each jurisdiction best addresses one or more of the ten identified concerns within Ontario's UCH for use in the Chapter 5 recommendations. Table 3, below, indicates how each of the jurisdictions discussed within this thesis do or do not address each of the ten identified concerns. While Chapter 4 did not discuss this, it is interesting to note how the ten concerns identified in this thesis are or are not addressed by Canada, UNESCO, Australia, South Carolina and the UK.

Table 3 How Canada, UNESCO, Australia, South Carolina and the UK do or do not address the ten concerns identified within Ontario's UCH

Key Policy Issues	Canada	International	Australia	South Carolina	United Kingdom
The OHA is a primarily terrestrial cultural heritage policy	There is no current UCH- specific federal or provincial policy	UCH is addressed by the UNESCO 2001 Convention	UCH is addressed by specific policy both at federal and state level	UCH is addressed by a specific policy	There is no current UCH-specific policy in the UK
The definition of marine heritage is insufficient for the breadth of UCH in Ontario	Canadian UCH definitions are still shipwreck centered	The UNESCO definition is the international standard for UCH	There is a comprehensive definition at both federal and state levels	Broadly defines UCH as submerged archaeological resources	The definitions under the Merchant Shipping Act, Protection of Military Remains Act, and Protection of Wrecks Act, are shipwreck centered
The provincial agency with responsibility for UCH lacks sufficient expertise	Only Parks Canada, not provinces, employ underwater archaeologists	UNESCO recommends professional underwater qualifications for administering and working on UCH	Governments work with and are advised by the Australian Institute for Maritime Archaeology	South Carolina has a State Underwater Archaeologist	The Reviver of Wreck works closely with UCH specialists, scientists and museums
Marine licencing applications and methods lack review from a qualified underwater archaeologist	No policy requires review of UCH- related licences or permits underwater specialists	The 2001 Convention requires projects to be under the control of a qualified underwater archaeologist	Manual for Activities Directed at UCH by UNESCO guides reviews of permit applications	UCH licences are issued and governed by the State Underwater Archaeologist	Applications are reviewed by Historic England, which makes recommendations to the Secretary of State
There are no provincial UCH-specific standards and guidelines for archaeologists	There are no federal or provincial UCH- specific standards within Canada	UNESCO provides the Manual for Activities Directed at UCH	Australia follows best practices in the Manual for Activities Directed at UCH	No UCH-specific standards and guidelines	No UCH-specific standards and guidelines
UCH-site- identification through the use of MHSTCI marine criteria sheets is difficult	UCH site identification is carried out by Parks underwater archaeology field unit	UNESCO does not stipulate site identification procedures	Definition of UCH in the 2018 UCHA to identify UCH sites	The Marine Research Division can assess and identify UCH sites	Sites covered under the Merchant Shipping Act, Protection of Military Remains Act, and Protection of Wrecks Act, are identified by definitions in these acts
There is no protection for UCH -related human remains within provincial heritage policy	There is no protection for UCH-related human remains federally or provincially	The protection for UCH- related human remains is addressed in the Manual for Activities Directed at UCH	Australian policy specifically protects UCH- related human remains	South Carolina policy specifically protects UCH - related human remains	UK policy specifically protects military UCH-related human remains

Key Policy Issues	Canada	International	Australia	South Carolina	United Kingdom
The MHSTCI does not effectively enforce heritage policy	There is a lack of heritage policy enforcement in Canada	Enforcement is up to states that have ratified the 2001 Convention	UCH policy elements ensure efficient prosecutions of offences	UCH policy is enforced by the Maritime Research Division and the Department of Natural Resources	The UK effectively and consistently prosecutes heritage policy infractions
Ministry of Labour regulations constrict non- commercial diving operations limiting in water archaeological work	Canadian provinces allow for scientific diving under occupational health and safety standards	UNESCO requires individuals know and obey relevant diving laws	Australia requires divers to have scientific diver certifications	South Carolina requires divers to have scientific diver certifications	Archaeological diving is considered to be scientific diving and has its own policy codes
The province does not use the UCH-interacting sport-diving community to protect UCH	Canada does not use the diving community to assist in protecting UCH	UNESO states that the diving community is a partner in finding and protecting UCH	The diving community is engaged via the Australian Institute of Maritime Archaeology	South Carolina interacts with the diving community through the hobby diver licence program	The UK uses the Marine Antiquities Scheme program to engage members of the public who find UCH

Chapter 5.

Ontario UCH Policy Recommendations

The preceding chapters have established the basis for the Ontario UCH policy recommendations presented in this chapter. Section 3.5 identified and discussed ten concerns with Ontario UCH policy. The concerns are recited here and summarized in Table 3: 1) that the OHA is a primarily terrestrial cultural heritage policy; 2) the definition of marine heritage is insufficient for the breadth of UCH in Ontario; 3) the provincial agency with responsibility for UCH lacks sufficient expertise; 4) marine licencing applications and methods lack review from qualified underwater archaeologists, have no UCH education or experience required, and are issued only on a project by project basis; 5) there are no provincial UCH-specific standards and guidelines for archaeologists; 6) UCH-site-identification through the use of MHSTCI marine criteria sheets is difficult; 7) there is no protection for UCH-related human remains within provincial heritage policy; 8) the MHSTCI does not effectively enforce heritage policy; 9) MOL regulations constrict non-commercial diving operations limiting in-water archaeological work; and 10) the province does not use the UCH-interacting sport-diving community to protect UCH.

This chapter recommends reforms that, if applied, would help Ontario address these concerns. Its recommendations derive from other jurisdictions' policies, some of which were discussed in Chapter 4, and the rest of which will be discussed alongside the recommendations they support. These recommendations are meant to impel Ontario and the MHSTCI to reconsider UCH protection and management and to compel new policy that would align Ontario with international UCH legislation.

5.1. Ontario's Heritage Policy Should Address UCH

Ontario's cultural heritage policy is terrestrially based. Not until 2002 did OHA amendments address UCH. While the OHA sufficiently manages and protects terrestrial archaeology, it is unequipped to do the same for UCH, nor should terrestrial models be imposed on UCH (Vadi 2009:389). This thesis recommends Ontario draft UCH policy distinct from the OHA. New UCH-specific policy enacted in Ontario could mitigate the ten

concerns with Ontario's current UCH policy that this study has identified. New policy directed at UCH would mitigate the issue of the OHA being a terrestrially based heritage policy. A new inclusive definition for UCH must be at the forefront of new policy mitigating the marine heritage definition issue. A new position of PUA would fill the gap left by the removal of the marine heritage advisor position but also assist in mitigating the concern of licences, lack of standards and guidelines, protection for UCH-related human remains, and the difficulties in UCH site identification. Finally, a new UCH policy can mitigate the issue of policy enforcement by ensuring that enforcement is simple and efficient.

Ontario requires new UCH policy that aligns with the 2001 Convention even though Canada is not a signatory and Ontario has no obligation to align domestic policy with the international policy. However, since the 2001 Convention was designed to

create a comprehensive and uniform legal framework to regulate human interference with underwater cultural heritage (UCH) in order to ensure that such heritage is preserved for the benefit of humanity. For the most part, its provisions are aimed at regulating activities which are "directed at" UCH, in other words, activities conducted with an intention to physically disturb UCH. Therefore, while the Convention is primarily aimed at controlling the activities of treasure hunters and souvenir seekers, its regulations apply with equal force to activities of archaeologists as well. [Dromgoole 2014:1716]

Ontario should strive to develop new policy that preserves and prioritizes UCH as international policy does, and as both Nova Scotia and Australia have done with UCH policy updates (Nova Scotia Tourism, Culture and Heritage 2010:par.2; Parliament of the Commonwealth of Australia 2018:2). The 2001 Convention demonstrates that there is an "increasing awareness that UCH, more than just being an economic resource, are more importantly an invaluable cultural, historical and archeological resource" (Bautista 2010:5), which Ontario should also recognize.

In 1999, Ontario MPP Toby Barrett proposed the first distinct UCH legislation for Ontario. He aimed his private member bill, Bill 13, at preserving Ontario marine heritage and promoting Ontario tourism by protecting heritage wrecks and artifacts (Bill 13 1999). Bill 13 did not become law, but it was proposed five years ahead of the MHSTCI amendments that added marine archaeological sites to the OHA. The bill, had it passed,

would have created the Ontario Marine Heritage Act (Bill 13 1999:1), which would have read

the Crown is the owner of every abandoned wreck sunk in waters on Crown land in Ontario that has been submerged for more than a prescribed period of time. These wrecks are called "heritage wrecks" in the Act. The new Act defines "marine heritage site" and prohibits anyone who does not have a licence under the *Ontario Heritage Act* from entering a heritage wreck or damaging or removing a heritage wreck or a protected artifact. The new Act creates an obligation to notify the Minister of evidence of a marine heritage site. The Minister must publish a record of marine heritage site-known to the Minister [Bill 13 1999:1]

Bill 13 included some of this thesis's recommendations, such as a better definition of marine-heritage sites, required reporting of marine-heritage-site evidence to the minister, a provincial record of the same, and fines for offences, enforceable by the Ontario Provincial Police (Bill 13 1999:2–4). Bill 13 represented current Ontario UCH policy problems, including a too-narrow definition of UCH as marine archaeological sites and a focus on shipwrecks and associated artifacts rather than the multitude of UCH resources. Bill 13 was defeated, and no further UCH policy has been proposed. To best protect and manage its UCH, Ontario still requires UCH-specific policy

To achieve this new UCH policy in Ontario, the province should look to other jurisdictions for successful UCH-specific legislation. Australia, Southern Australia, Western Australia, and South Carolina all have policies that were discussed in Sections 4.1 through 4.4. Australia's UCHA, South Australia's HSA, Western Australia's MAA, and South Carolina's UAA already include better definitions of UCH, especially the UCHA and MAA, licencing aspects such as the hobby diver program, underwater archaeologists to oversee and manage UCH, and UCH-related human remains protection. To best inform new policy structures, Ontario should consider emulating the successful UCH-specific policies of these states. Further recommendations on how new UCH-specific policy relates to the stated concerns is discussed below.

5.2. Ontario's UCH Should be Based on a Complete and Province-Specific Definition of UCH

Ontario's definition of UCH as marine-archaeological sites does not include all types of UCH known to occur in the province. *Marine archaeological site* is a construct

unique to Ontario. I found no mention of the term in any other jurisdiction's policy during this thesis's research. Ontario UCH deserves a policy based on a definition inclusive of all UCH materials, variety, and locations. An inclusive UCH definition, delineating UCH from terrestrial archaeology and encompassing the variety of Ontario UCH, would lay foundations for the protection and management of all UCH, not just shipwrecks. A UNESCO-like definition would align Ontario with international UCH protection standards. UNESCO defines UCH as

all traces of human existence having a cultural, historical, or archaeological character which have been partially or totally underwater, periodically, or continuously, for at least 100 years such as, sites, structures, buildings, artefacts, and human remains, together with their archaeological and natural context; vessels, aircraft, other vehicles, or any part thereof, their cargo or other contents, together with their archaeological and natural context; and objects of prehistoric character. [UNESCO 2001:51]

The UNESCO definition, if applied, would cover almost all Ontario UCH and determine the age at which UCH becomes protected. UCH that is found on land within Ontario, would not be addressed by the UNESCO definition and is not currently addressed by the OHA. The OHA definition only includes sites that are partially or totally submerged (OHA 1990:3). Defining UCH as partially or totally underwater is problematic since UCH is not always located underwater. The Shickluna Shipyard in St. Catharines Ontario, for example, is on dry land, buried under pavement (Tymczyszyn 2019: par.1). Since,

evidence for the past survives both on land and under water, but the demarcation of 'wet' and 'dry' sites is complicated by the fact that boundaries change. Some areas that used to be sea-bed are now land while some areas that were once land are now under water. Maritime finds can therefore be discovered in quite unexpected places [NAS 2009:2]

It is unusual, of course, to find a shipyard under pavement within a town. The shipyard must be considered to be UCH that is found on dry land. The Shickluna yard not only consists of buildings related to the construction of ships, but may contain a shipwreck, the *James Norris*, buried at the site (Innes 2019: par. 9). Another example of terrestrially discovered UCH is the nineteenth century wreck recently discovered under 20 feet/6 meters of earth in downtown Toronto (Hui 2015: par.3). Finds such as the Shickluna yard and Toronto wreck must be treated as UCH and studied by UCH professionals, not those solely trained in terrestrial archaeology. UCH finds, such as

shipwrecks and associated artifacts found on land still require the knowledge and skill set of a trained maritime archaeologist to be properly excavated and documented. Figure 5 is a photo of the Shickluna shipyard from 1864 illustrating how UCH can be found both on land and underwater (St Catharines Public Library n.d.).



Figure 6Shickluna's Ship Yard in 1864. Employing over 300 Men "Perseverance" "Enterprise" Upper Left of Picture. "Valetta" in foreground with Capt. J. Sullivan on Upper Yard Arm. "Sampson"

Therefore, a revised definition for UCH in Ontario must include UCH located both on land and in the water. Western Australia accounts for terrestrially discovered UCH in the MAA, which defines UCH as being found "below low water mark, on or between the tide marks, or on land, or partly in one place and partly in another" (MAA 1973:2). Ontario could define its UCH, similarly, ensuring UCH is protected anywhere it is found, including land-based sites such as Shickluna's shipyard. Ontario could look to Australia's UCH in other ways while still aligning with UNESCO's definition: The UCHA expanded Australia's UCH definition to encompass all UCH and added human-remains protection, which the OHA does not cover. As stated, lack of UCH-associated human-remains protection is an Ontario UCH-policy issue. Adding human-remains protection to Ontario's UCH definition would rectify a major issue within the current policy.

A new Ontario UCH definition should encompass all aspects and locations of Ontario UCH. Ontario's UCH encompasses many different types of archaeological sites including; shipwrecks, vehicles, aircraft, inundated villages, quarries, mines, aboriginal sites, and other single component archaeological sites such as the Avro Arrow prototype models (Lagerquist 2017). Ontario should revise its marine archaeological nomenclature, replacing it with language inclusive of all UCH and that sets UCH apart from terrestrial archaeology, but does so within heritage policy. A new UCH definition should also follow Australia's example and determine the age at which lost material becomes protected UCH. Finally, it must encompass that UCH exists both underwater and terrestrially, and that the resource requires specialized underwater archaeologists in order to be properly surveyed, conserved, and protected, regardless of location.

5.3. Ontario's MHSTCI Should have UCH-Specific Expertise

The termination of the marine heritage advisor position left a gap in the MHSTCI's expertise of UCH. This has also created a disconnect between the MHSTCI, stakeholders, and those who interact with UCH within the province. It has further created concerns with the qualified review of licensee qualification and methodologies within the marine licencing scheme. Because of these concerns, this thesis recommends Ontario mandate a qualified Provincial Underwater Archaeologist (PUA) to oversee UCH policy, much like South Carolina does via its SUA. The qualifications for a PUA under new UCH policy should include the following; qualification as a maritime archaeologist, knowledge of UCH policy, and possession of a Professional Archaeological Licence (P Licence) within Ontario. P Licences are held by consulting archaeologists or academics within Ontario who have at least a master's degree and 52 weeks of archaeological experience (MTCS Archaeological Licencing 2019: par. 11-12).

As discussed in Sections 2.1 and 3.5, study and protection of UCH is different than terrestrial archaeology. Under the Annex of the 2001 Convention, Rule 22 states that "activities directed at underwater cultural heritage shall only be undertaken under the direction and control of, and in the regular presence of, a qualified underwater archaeologist with scientific competence appropriate to the project" (UNESCO 2001: 60). Therefore, to align with international policy and to ensure that the PUA is knowledgeable in UCH, the PUA must be a qualified underwater archaeologist. Qualification can be

found in the PUA's education with a masters or PhD, as well as work experience in underwater archaeology.

Knowledge of UCH policy should be another qualification of the position. As Rule 22 states, the underwater archaeologist requires a competence level appropriate to the project, which would include knowledge of UCH policy. Knowledge of policy would be a crucial factor for the implementation and enforcement of any new UCH policy within Ontario. Finally, the PUA must be a holder of a P Licence in Ontario. Having a P Licence in Ontario shows that the licensee has significant knowledge of archaeological practice in Ontario. The PUA must aid other licensees within the province who are conducting UCH site surveys and excavations and therefore must be a licenced archaeologist themselves. It is further important for the PUA to understand the challenges of UCH management in Ontario as discussed in Section 3.5 to best assist the MHSTCI with ongoing mitigation strategies and to best protect and manage UCH in the province.

PUA oversight of Ontario UCH could alleviate other concerns found within Ontario UCH policy including the licencing scheme, standards and guidelines for UCH, easier site identification and better policy enforcement by the MHSTCI. How the PUA would assist in mitigating these concerns is discussed in the following related sections.

5.4. Ontario Should have a Maritime Licencing Scheme

Archaeological licences, including marine licenses, are issued under the OHA. There is no professional underwater archaeological review of applicant's education, or methods resulting in poor methodologies for interacting with UCH. Further, marine licences are only issued on a project by project basis adding additional time and cost to CRM projects. UCH licences could be issued under a new UCH policy overseen by the PUA. A graduated licensing scheme, as exists for terrestrial licensing, could be applied to Ontario UCH. UCH licences could be offered as a one to three-year term as the terrestrial licences are (MTCS 2017b:5). A term licence would mitigate the issue that CRM archaeologists have with having to apply for a marine licence on a project to project basis. It could license sport-diver access to prescribed sites and the professional access of qualified underwater archaeologists for compliance work. Licensing-scheme inadequacies can be mitigated by the professional review of licensee UCH education, experience, and interaction methodologies by a qualified underwater archaeologist

serving as the PUA. The professional review process could mitigate the current issue of improper methodology review being conducted by the MHSTCI as discussed in the Introduction and Section 3.5.

Ontario could license UCH searching and exploration, as Nova Scotia does with its SPPA. Requiring UCH searchers to have a licence and follow a mandate to report the findings would provide the MHSTCI with more UCH-discovery data. That data could be added to a provincial register enabling UCH-site protection as sites are found. Section 4.1 and 4.5 discussed Australia and the UK's required reporting of found UCH. Similar requirements for UCH reporting would inform Ontario of its UCH discoveries and the number of UCH sites under its protection. Like Australia, Ontario could enter all found UCH into a UCH-specific provincial registrar, as it does with terrestrial sites under the Borden Block system (Lakevold 2016). Licencing, as discussed in Section 3.2, could mandate the reporting of found UCH sites. Once a UCH site is registered, the province could follow the UKs example and determine the site's protection level as open, accessible with a permit, or inaccessible. These outcomes would help Ontario better protect, manage, and understand the extent of its UCH.

5.5. Ontario Should have UCH-Specific Standards and Guidelines

The Standards and Guidelines for Consulting Archaeologists informs Ontario's archaeologists on how to conduct all aspects of terrestrial archaeology to MHSTCI standards. The MHSTCI states that "compliance with the Standards and Guidelines is mandatory for all consultant archaeologists who carry out archaeology in Ontario" (MTCS Standards and Guidelines 2019: par.1). Since compliance is mandatory, the MHSTCI should have separate UCH archaeological standards and guidelines or a UCH section in the current document. The addition of shipwreck-recording guides, like BC's recording sheets, to new UCH standards and guidelines would ensure shipwrecks are recorded and data is presented consistently and concisely. The MHSTCI and PUA could, together, draft standards and guidelines for archaeologists, along with recording sheets for licensees performing UCH work in Ontario. The addition of standards and guidelines would further ensure that UCH work is being performed at the same professional level as terrestrial archaeology with a document provided by the MHSTCI and PUA informing archaeologists how UCH work must be done.

5.6. Ontario Should Ensure Easier UCH Site Identification

The issue of UCH site identification, especially with the MHSTCI' marine archaeological criteria sheets by landowners and proponents, was discussed in Section 3.5. The complexity of the sheets and lack of guidance from the MHSTCI while using the marine archaeological criteria sheet make the proper identification of UCH sites difficult. The MHSTCI and PUA could, together, redesign the criteria sheets for ease of use and for improved ability to correctly identify UCH. Further, the PUA as the UCH expert within the MHSTCI, could assist in the correct usage of the criteria sheets and answer user questions. Direct assistance from the PUA with the complex criteria sheets would ensure that UCH potential is properly assessed by sheet users. Proper assessment of UCH potential and site identification can lead the PUA and the MHSTCI to implement UCH assessment triggers for consulting archaeology. For example, plans for the installation of a new bridge could trigger a PUA's UCH assessment of potential piling locations and terrestrial archaeological assessment of the bridge's potential impact on the shoreline.

Implementation of new UCH standards and guidelines would also make site identification simpler. The Standards and Guidelines for Consulting Archaeologists discusses site identification and assessing archaeological potential for terrestrial sites in Section 1 (MTCS 2011:17). New UCH-specific standards and guidelines could also discuss UCH site formation, and the assessment of UCH potential both underwater and on land. The addition of site formation and assessment of UCH potential within new standards and guidelines could then be added to the marine archaeological criteria sheets to better inform sheet users on how to assess for UCH sites and potential.

5.7. Ontario Should Protect UCH-Related Human Remains within Heritage Policy

The lack of protection for UCH-related human remains under heritage policy was discussed in Chapter 1's introduction and in Section 3.5. Human remains, including UCH-related remains, are not provided for under the OHA or the MHSTCI. Rather, human remains are provided for under the FBCS and MGCS. The division of protection for historical human remains lead to issues of protection and management as seen with the case of the *Jane Miller* and the Pottahawk remains discussed in Section 3.5. It is this thesis' recommendation that Ontario consider UCH-related human remains in a new

inclusive UCH definition. Further, Ontario should consider additions to new UCH-specific policy for UCH-related human remains like those of South Carolina. Ontario can include UCH-related human remains in a new, more inclusive UCH definition by looking to Australia's' UCHA for an example to follow. Australia added UCH-related human remains to the UCH definition in the UCHA ensuring the protection of the remains, which are not artifacts and must be treated with respect. Looking to South Carolina, Ontario can also emulate the UCH-related human remains protection within the UAA. South Carolina states that UCH human remains not related to diving operations, drowning, boating accident, or homicide, are to be left undisturbed. The UAA has further provisions for the states right to recover and rebury UCH-related human remains. If UCH-related human remains are discovered, reported and protected under a new UCH policy, the MHSTCI can ensure that the remains are properly protected and the area around the remains surveyed for other archaeological potential. If UCH-related human remains were protected by the MHSTCI under the definition of UCH and a new UCH-specific policy, issues such as the Pottahawk remains and how to best protect wrecks containing human remains like the Jane Miller would not be in question. The area surrounding the Pottahawk remains would be surveyed by archaeologists, as mandated by the new policy and overseen by the PUA. Wrecks such as the Jane Miller and its associated human remains would be properly protected under the new UCH-specific policy like the Hamilton, Scourge, and Edmund Fitzgerald.

5.8. The MHSTCI Should Enforce UCH Policy

The OHA offence section permits fines up to \$1 million (CAD) for those who contravene any part of the OHA (OHA 1990:57), but I have found no evidence that the MHSTCI has ever exercised such enforcement—for terrestrial or UCH sites. Proper protection of Ontario UCH requires prosecution of offences committed under Ontario's heritage policy. This thesis recommends Ontario enforce all UCH policy. Ontario should study Australian federal and state UCH offence policy and the UK's legislation, which allows the UK to convict those who destroy or loot its UCH. Australia simplified prosecution of UCHA offences by guaranteeing conviction when offences are proven to have occurred. A clause like this could make prosecution of infractions under the OHA or new UCH policy easier. Ontario can also emulate the UK's prosecution of looters when prosecuting contraventions to heritage policy. PUA site visits could ensure policy

compliance. The PUA could work with law enforcement to pursue UCH policy contraventions. To do so would also require the cooperation of different agencies within the province, such as regional and provincial police. A management system which included monitoring would be required for law enforcement to get involved. A monitoring system could use consulting archaeologists, community groups and the diving community to report on infractions and disturbances to UCH sites. Reports can be forwarded to the PUA who then can liaise with local or provincial law enforcement to investigate. If Implementing new UCH protection and management policy is to be successful, policy mandates need to be enforced, and violations prosecuted consistently and effectively.

5.9. The Ministry of Labour Should Accept Non-Commercial Diving Certification to Meet Commercial Diving Standards

MOL-required commercial diver certifications for paid underwater work is an Ontario UCH management issue. Under this MOL requirement, underwater archaeologists are required to have commercial-diving certification to assess and, when required, excavate Ontario UCH. Commercial-diver certification is lengthy, expensive, and requires skills such as but not limited to, underwater welding, surface supply diving, ship inspection, wellhead diving, pipefitting, crib construction, explosives, underwater rail construction, and drilling which are not needed in underwater archaeology. This thesis recommends the MOL provide a certificate classification for underwater and scientific divers distinct from the existing commercial-diver certification. The Diving Certification Board of Canada (DCBC) already offers an accredited course that meets national underwater-work requirements. DCBC provides a Canadian certification scheme, based on a national competency standard, for occupational diving and remote-operatedvehicles personnel. It requires divers demonstrate personal competency and is meant to enhance industry safety (DCBC Vision and Mission 2019: par.2). The DCBC offers the Restrictive SCUBA Diver course, which trains SCUBA divers as restrictive divers, meaning they are

trained to dive on self-contained underwater breathing apparatus (SCUBA) to a depth of 20 or 30 metres depending on the training of the holder. Holders of this certification often work in seafood harvesting, aquaculture, underwater engineering inspections, archaeological

investigation, police operations, underwater film production and emergency services rescue response [DCBC Types of Occupational Diving 2019: par.8]

The DCBC also offers the Unrestricted SCUBA Diver course, which is the same as the Restricted course but trains divers to work at 40 metres' depth. The courses are offered in Ontario through the Canadian Coast Guard and Seneca College (DCBC Types of Occupational Diving 2019: par.9). Divers qualified under these courses meet the "competency requirements of the appropriate section of the Canadian Standards Association (CSA) Competency Standard for Diving (CSA Standard Z275.4)" (DCBC Certification 2019: par.1).

Because DCBC certifications are already "a legislated requirement in eight of the ten provinces in Canada," this thesis recommends Ontario and the MOL require DCBC certifications instead of the current commercial-diving certification for scientific diving (DCBC Certification 2019: par.2). MOL-required certification would still meet CSA standards yet provide archaeologists a CSA-compliant course that, at \$2,000, is not prohibitively expensive and is designed for divers uninterested in work like welding, explosives removal, or surface supply diving (Seneca College Occupational Scuba 2019: par.9).

According to the Society of Canadian Limnologists' online blog, the Restricted SCUBA Diver course was offered in Ontario via collaboration of Carleton, Guelph, and Queen's Universities (Society of Canadian Limnologists Diving into Science in Ontario 2015: par.2). The blog states the MOL approved the course July 2013 (Society of Canadian Limnologists Diving into Science in Ontario 2015: par.2), however as of the completion of this thesis, neither the MOL nor the professors offering the course had returned correspondence to corroborate this information. If true, the MOL is already working towards rectifying the commercial-diving certification issue, which would be invaluable to Ontario UCH.

5.10. Ontario Should Consider Using Sport Divers in the Protection and Management of UCH

As discussed in Section 3.5, sport divers have the most impact on and interaction with UCH. Poor diver education and high impact diving techniques can lead to the

degradation of UCH. High impact diving on UCH comes from a variety of sources which include but are not limited to, poorly educated divers, poor buoyancy control, improper trim (horizontal angle of the body), lack of technical proficiency, use of arms and poor kicking technique for propulsion, and a lack of streamlined gear (Hammerton 2016:3). All of these factors lead to wreck and UCH degradation as "the cumulative impact of these many unintentional actions by divers has a marked impact on the rate of decay of a wreck" (Edney 2006:218) This thesis recommends the MHSTCI engage and consider sport divers when updating Ontario's UCH policy. Diver and public concern for UCH protection and investigation should be encouraged (Muckelroy 1980:186) as such interest would spur archaeologists and the province to protect these resources (Muckelroy 1980:186). Underwater archaeologist Dr. Martijn Manders states that

the avocational diving community is not merely a large group, it is also an important stakeholder in the management and protection of underwater cultural heritage. In many countries this group comprises the primary source for new discoveries and functions as the 'eyes and ears' of professional archaeologists and policy-makers in underwater cultural heritage. It is therefore important to conscript them as allies in site management: turning them from stakeholders into shareholders [Manders 2008:35]

Here Manders suggests that engaging divers as allies also engages them in UCH protection and management. Ontario can look to policies like South Carolina's hobby-diver program and the UK's Marine Antiquities Scheme (MAS) to gather diverbased information on UCH sites such as the status of a site or site survey information and for examples of programs requiring UCH-find reporting. South Carolina licences divers to search for and collect from small UCH finds in state waters if they report all finds to the state. While this licence program allows divers to remove artifacts from wrecks, which Ontario UCH protection does and should not, Ontario would benefit from the knowledge of such finds.

Under the MAS, all UCH finds are recorded via an mobile application connected to the UK registry:

each year new archaeological discoveries are made by divers, fishermen, boat operators and coastal visitors in England, Wales and Northern Ireland. The MAS provides a way to record these finds, both protecting and improving our knowledge of the underwater cultural heritage.

Guided by the approach 'record any discovery before any recovery', the scheme allows finders to learn more about their discoveries, help characterise the archaeological nature of the marine environment, and allow public access to the data for research [Wessex Archaeology Welcome to the Marine Antiquities Scheme 2019:par.1]

While the UK holds that finds are to be left in place, the government understands recoveries are "often made, intentionally or by accident, so it is important that these finds are recorded before all knowledge of them is potentially permanently lost" (Wessex Archaeology Marine Antiquities Scheme 2016:1). The MAS recognizes, as Ontario should, that UCH recoveries are inevitable, and if options for recording are not open to the public, information produced by those finds could be lost forever. Requiring sport divers or those searching for UCH to report all findings would improve the MHSTCI's record of Ontario UCH. Sport divers and archaeological enthusiasts continually search Ontario lakes for shipwrecks and UCH (Peek 2018, Wilhelm 2019). These finds can be added to a provincial UCH register if such a policy element were enacted.

Finally, the province should educate divers and other stakeholders to raise policy compliance. While education of stakeholders is not always easy

one of the simplest ways to achieve higher levels of willing compliance is to explain both the reasons for the rules being in place and to educate divers about the effects noncompliance has on the shipwreck. Divers will be aware of the consequences non-compliance has to the cultural heritage values of the shipwreck and on their future enjoyment of the shipwreck as a dive site. This aids the divers in understanding why it is important to comply with the rules [Edney 2016:279]

Education would help divers understand UCH, how UCH affects divers, and how divers can protect UCH. A PUA could help establish a diver-education regime which should include elements like the NAS training program. The NAS training program has been adopted by many counties around the world and has tired level progression consisting of four levels (NAS 2009:11). The level one course introduces divers to the concept of maritime archaeology, site survey, mapping and documentation, and provides hands on opportunity to preform maritime archaeological survey and is the basic course for

volunteering on many maritime archaeological sites (NAS 2009:213-214). Education of the diving community can also assist with enforcement of UCH policy. Educating the diving community in policy, and value of UCH can lead to the community feeling a stronger connection to UCH and a greater willingness to monitor and report activities, disturbance or damage of UCH sites to the ministryThis thesis recommends the province engage and promote the education of the diving community to better connect them with provincial UCH, giving them a share in the protection and management of the resource, and educating them to the value and importance of the resource so that Ontario's UCH can be better protected and managed.

5.11. Conclusion

In 2005, Ontario officially introduced protection of marine archaeological sites via the OHA. Ontario has not changed or updated that policy since. This thesis identified ten concerns with Ontario's UCH policy. These concerns prevent Ontario from meeting the 2001 Convention's standards, which Ontario should strive to do. This chapter offered mitigation recommendations, based on other jurisdictions' policy elements, for each issue. Ontario should look to other jurisdictions' successful UCH policies for models of future Ontario UCH policy.

Ontario must strive for better UCH policy. This thesis understands there is "no perfect system" and that "competing factions and interests, even with countries that have support and infrastructure for maritime archaeology, make writing inclusive legislation very difficult" (Kimberly Monk, personal communication 2019). Yet, since "public interest in protecting our human environment is reflected in the international and domestic laws that preserve our natural and cultural heritage" (Varner 2014:252), Ontario must protect UCH. Dr. Valentina Vadi an international law professor states that "states should not be considered owners but rather guardians or custodians of these cultural goods. In other words, while the traditional concept of property involves the power to use or destroy a certain thing, custodianship denotes certain duties" (2009:898). Ontario is the custodian to its UCH, and as such, it has a duty to protect those UCH resources. Further, this duty is determined by international legislations like UNESCO's. While Canada did not sign the 2001 Convention, Ontario could achieve the same UCH protection standard. The MHSTCI also has a duty to consider the engagement of First Nations of Ontario. Even though the MHSTCI has a technical bulletin called *Engaging Aboriginal Communities in*

Archaeology (MTCS 2011a), It fails to address how to engage when interacting with UCH. Engagement of First Nations and other communities interacting with UCH is a great prospect for the MHSTCI to forge alliances with all who care about the resource in an effort to effect change.

The MHSTCI has yet to address the concerns noted in this thesis; however, the MHSTCI demonstrated renewed UCH interest when it reached out to the UCH community by speaking at the SOS and OMHC general meetings as well as the Ontario Archaeology Society symposium, and the Trent University Maritime Archaeology course. At each of these events the MHSTCI delivered a presentation on the status and future plans of the ministry for UCH. The MHSTCI recognized both its ten-year neglect of Ontario UCH and that the ministry has been slow to modernize itself (Brooks 2018). The MHSTCI further acknowledged that the terrestrial archaeology program has been updated but UCH has not (Brooks 2018). The MHSTCI explained that while the ministry has neglected UCH, it is working to modernize the marine archaeology regulatory process, update the licensing application process, and offer "small changes, updates and research" (Brooks 2018). The MHSTCI has now updated, streamlined, and made the marine-licence application easier to understand. This thesis commends the MHSTCI for recognizing UCH has been neglected in Ontario's heritage policy, for reaching out to UCH stakeholders, and for planning changes, updates, and research. However, such action is insufficient, and such neglect requires rectification—in particular, updating the Ontario UCH policy so that it aligns with the 2001 Convention.

Although Ontario has not initiated UCH policy reforms, the Government of Canada began revisiting UCH policy in 2018. Parks Canada is reviving a 2004 initiative to institute a comprehensive strategy regulating heritage wrecks in Canadian federal waters (Beeby 2018: par.5–6). The initiative stems from newly discovered Canadian UCH in federal waters, including the arctic wrecks of the HMS *Erebus* and HMS *Terror* of the 1845 Franklin expedition (Rabson 2017: par.2). Lack of federal legislation spurred Canada to order cabinet protection of the wrecks from looters (Beeby 2018: par.10). After the UK gifted the wrecks to Canada, cabinet set aside 57.8 square kilometres of seabed to safeguard the wrecks (Rabson 2017: par.8). Canada's cabinet order to protect historically significant wrecks is a clear indication that Canada requires better UCH legislation. New Canadian UCH policy could demonstrate to the provinces that UCH requires and deserves better policy protection and management. While the federal

government is considering new regulations, Ontario could follow this example and work to strengthen provincial protection in cooperation with the federal government. The province could also work with the federal government to align new policy with a cohesive standard.

This thesis aims to add to the ongoing conversation between the MHSTCI and UCH stakeholders. No previous studies have focused on the functionality of Ontario UCH policy. While UCH archaeologists often discuss the MHSTCI's UCH-management failures, such conversations have not been recorded or expanded until now. This thesis is the culmination of such discussions, ideas, and research. The research focused on the history, status, and concerns of Ontario UCH policy and made recommendations for reforms. The above recommendations are meant to provide alternatives and refresh discussions regarding UCH policy reform in Ontario. Hopefully, this thesis will inform the MHSTCI's planned research and changes. This thesis can be used as a catalyst for reforms to Ontario UCH policy so that Ontario can better protect, preserve, and manage this important heritage resource. The current movement within federal heritage policy, and the changes initiated by the MHSTCI represent a perfect time to push for reforms that will result in better management of UCH.

Legislation Cited

Canada Shipping Act, 2001 S.C. 2001, c. 26

Bill 13, 1999, 1st Session, 37th Legislature, Ontario 48

Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c. 33

Heritage Act 1977 No. 136

Heritage Act 1991 No. 39

Heritage Act 1995 No. 93

Heritage Act 2008 No. 38

Heritage Act 2017 No. 7

Heritage Conservation Act, RSBC 1996, c 187

Heritage Conservation Act 2010 Chapter H-4.05

Heritage (Underwater Cultural Heritage) Regulations 2017 S.R. No. 109/2017

Historic Resources Act 1990 RSN1990 cR-8 s44

Historical Cultural Heritage Act 1995 No. 117 of 1995

Historic Shipwrecks Act 1976 No. 190, 1976

Historic Shipwrecks Act 1981 No. 9722

Historic Shipwrecks Act 1981—1.5.2017 to 13.12.2017

Maritime Archaeology Act 1974 02-e0-04

Merchant Shipping Act 1995 c.21

Museum Act Amendment Act 1964 No. 058, 1964 (13 Eliz. II No. 58)

Ontario Heritage Act, R.S.O. 1990, c. 0.18

Occupational Health and Safety Act, R.S.O. 1990, c. O.1

Parks Canada Agency Act S.C. 1998, c. 31.

Protection of Military Remains Act 1986 c. 35

Protection of Wrecks Act 1973 c.33

Queensland Heritage Act 1992 Sect 71

Special Places Protection Act Chapter 438 of the Revised Statues, 1989

Underwater Antiquities Act of 1991, by 1991 Act No. 169

Underwater Cultural Heritage Act 2018 No. 85, 2018

Victorian Heritage Act 2017 No. 7

Works Cited

Amer, Christopher

2013 South Carolina A Drop in the Bucket. In *the International Handbook for Underwater Archaeology*, edited by Carol Ruppe and Janet Barstad, pp. 127–142. Springer Science and Business Media Inc, New York.

Amer, Christopher, and James Spirek

2016 Exploring the United States Naval Legacy in South Carolina – Archaeology in South Carolina: Exploring the Hidden Heritage of the Palmetto State, edited by Adam King, pp. 154-173, University of South Carolina Press, Columbia.

Baynes, Chris

2018 UK to investigate claims that wrecks of British warships being plundered for scrap metal by Chinese pirates. *The Independent*. August 19. Electronic document, https://www.independent.co.uk/news/uk/home-news/british-warships-plundered-scrap-metal-chinese-pirates-second-world-war-a8498026.html, accessed May 20, 2019.

Bautista, Lowell

2012 Ensuring the Preservation of Submerged Treasures for the Next Generation: The Protection of Underwater Cultural Heritage in International Law. In Securing the Ocean for the Next Generation, edited by Harry Scheiber, pp. 1-30. Seoul, Korea.

Beeby, Dean .

2018 Ottawa drafting rules to protect "heritage" wrecks from looting | CBC News. *CBC*. August 8. https://www.cbc.ca/news/politics/wrecks-parks-canada-ocean-1.4776604, accessed March 21, 2019.

Becklumb, Penny

2013 Federal and Provincial Jurisdiction to Regulate Environmental Issues. Electronic document, http://publications.gc.ca/collections/collection-2016/bdp-lop/bp/YM32-2-2013-86-eng.pdf, accessed May 21, 2019.

Blackstone Corporation Resource Management & Tourism Consultants
2009 Blackstone Report on Nova Scotia UW Heritage. *Blackstone Corporation Resource Management & Tourism Consultants*. February 2, 2009.

Blackwell, Richard

2011 Ontario stops offshore wind power development. *The Globe and Mail* 29 April, https://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/ontario-stops-offshore-wind-power-development/article566660/, accessed January 1, 2018.

Bresge, Adina

2016 Shipwreck protection strategy needed to protect wrecks from looters. CBC News, 13 April, http://www.cbc.ca/news/canada/nova-scotia/shipwrecks-looting-prevention-strategy-1.3533233, accessed October 20, 2018.

Brewer, David

1986 Hobby Diver Licencing in South Carolina: What's Right, What's Wrong, and Some Recommendations For Other States Considering Licencing. Electronic document, http://dspace.rubicon-

foundation.org/xmlui/bitstream/handle/123456789/9079/AAUS1986 15.pdf?sequ ence=1, accessed May 1, 2019.

Bowens, Amanda

2009 Underwater Archaeology: The NAS Guide to Principles and Practice. Wiley-Blackwell, West Sussex.

Bowens, A, S. Dromgoole, A. Firth, C. Forrest, J. Lowther, C. Underwood, M. Williams, R. Yorke

2004 Marine Archaeology Legislation Project. Electronic document, https://historicengland.org.uk/images-books/publications/marine-archaeology-legislation-project/, accessed March 20, 2019.

British Columbia Archaeology Branch

1996 Shipwreck Recording Guide. Edited by J.G Foster. Electronic document, https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/archaeology/forms-publications/shipwreck recording guide.pdf, accessed March 25, 2019.

Brooks, Megan

2018 Proceedings of the Ontario Heritage Committee General Meeting: MTCS on the Future or Marine Archaeology in Ontario. April 22 2018, Penetanguishene, Ontario.

Brush, Mark

2015 Listen to radio transmission on the night of the Edmund Fitzgerald's sinking. Michigan Radio. Electronic document, https://www.michiganradio.org/post/listen-radio-transmission-night-edmund-fitzgeralds-sinking, accessed March 30, 2019.

Burridge, Robin

2017 Island built, Island bound 1881 Jane Miller wreck found after 136 years in waters near Wiarton. *Manitoulin Expositor*. December 13. https://www.manitoulin.ca/island-built-island-bound-1881-jane-miller-wreck-found-136-years-waters-near-wiarton/, accessed June 4, 2019.

2018 Bruce County MP wants Jane Miller wreck protected. *Manitoulin Expositor*, January 10, http://www.manitoulin.ca/2018/01/10/bruce-county-mp-wants-jane-miller-wreck-protected/, accessed March 27, 2018.

Calnan, Joe

2013 The Pilot of La Salle's Griffon. *The Northern Mariner/le marin du nord*, XXIII No. 3, pp. 213-238.

Canada's Historic Places

2018 Canada Register Search Results. Canada's Historic Places. Electronic document, <a href="https://www.historicplaces.ca/en/results-resultats.aspx?m="https://www.historicplaces.ca/en/results-resultats.aspx?m="2&Keyword=shipwreck&ProvinceId=100004&JurisdictionId="https://www.historicplaces.ca/en/results-resultats.aspx?m="2&Keyword=shipwreck&ProvinceId=100004&JurisdictionId="https://www.historicplaces.ca/en/results-resultats.aspx?m="2&Keyword=shipwreck&ProvinceId=100004&JurisdictionId="https://www.historicplaces.ca/en/results-resultats.aspx?m="2&Keyword=shipwreck&ProvinceId=100004&JurisdictionId="https://www.historicplaces.ca/en/results-resultats.aspx?m="2&Keyword=shipwreck&ProvinceId=100004&JurisdictionId="https://www.historicplaces.ca/en/results-resultats.aspx?m="2&Keyword=shipwreck&ProvinceId=100004&JurisdictionId="https://www.historicplaces.ca/en/results-resultats.aspx?m="2&Keyword=shipwreck&ProvinceId=100004&JurisdictionId="https://www.historicplaces.ca/en/results-resultats.aspx?m="2&Keyword=shipwreck&ProvinceId=100004&JurisdictionId="https://www.historicplaces.ca/en/results-resultats-result

Canadian Architect

2005 Long awaited amendments made to the Ontario Heritage Act. *Canadian Architect* 21 April. Electronic document,

https://www.canadianarchitect.com/architecture/long-awaited-amendments-made-to-the-ontario-heritage-act/1000021062, accessed February 18, 2018.

Carter, Kim and Brian Prince

2003 Preserving Our Marine Heritage. *Neptune*. Electronic document, http://www.neptune-scuba.info/ca/on/Preserving-our-Marine-Heritage.pdf, accessed May 27, 2018.

Chisholm, John

2010 Nova Scotia Law Amendments Committee Meeting Citizen Presentation Re:Bill No. 81 The repeal of the Treasure Trove Act, the creation of the Oak Island Treasure Act and amendments to the Special Places Protection Act. *Nova Scotia Legislature*. Electronic document, https://nslegislature.ca/sites/default/files/pdfs/committees/61_2_LACSubmissions/Bill81.pdf, accessed August 29, 2018.

Cigelske, Tim

2006 Shipwrecks in the Great Lakes. *ABC News*, January 2, http://abcnews.go.com/Travel/story?id=119129&page=1, accessed February 21, 2018.

City of Hamilton

n.d. The Hamilton & Scourge National Historic Site Electronic document, http://www.hamilton-scourge.hamilton.ca/default.asp, accessed September 26, 2019.

Daley, Jason

2016 Explorers Find Second Oldest Shipwreck in the Great Lakes. Smithsonian Magazine. Electronic document, https://www.smithsonianmag.com/smart-news/second-oldest-great-lakes-shipwreck-found-180960178/, accessed May 19, 2019.

Deming, Ashley

2014 The Success of the South Carolina Sport Diver Archaeology Management Program. In *Between the Devil and the Deep. Public interpretation of Maritime Cultural Heritage*, edited by Della A. Scott-Ireton, pp. 85–95. When the Land Meets the Sea: An ACURA and SHA Series. Springer, New York.

Department of the Environment and Energy Australia

2010 Australian Underwater Cultural Heritage Intergovernmental Agreement. Electronic document,

https://www.environment.gov.au/system/files/resources/8320e7bd-b451-4e88-8be1-16cf4687202e/files/underwater-cultural-intergovernmental.pdf, accessed March 11, 2019.

- 2018 Underwater Cultural Heritage Act. Electronic document, https://www.environment.gov.au/heritage/historic-shipwrecks/underwater-cultural-heritage-act, accessed May 4, 2019.
- 2019 Historic Shipwreck Laws. Electronic document, http://www.environment.gov.au/heritage/historic-shipwrecks/laws, accessed March 12, 2019.
- Department of Primary Industries, Parks, Water and Environment 2010 Tasmanian Shipwrecks. Electronic document, https://www.parks.tas.gov.au/file.aspx?id=19244, accessed March 16, 2019.

Diver Certification Board of Canada

2019 Certification. Electronic document, https://www.divercertification.com, accessed May 12, 2019.

Dromgoole, Sarah

- 2013 *Underwater Cultural Heritage and International Law.* Cambridge University Press, United Kingdom.
- 2014 Convention on the Protection of the Underwater Cultural Heritage (2001). In Encyclopedia of Global Archaeology, edited by Claire Smith, pp. 1716–1719. Springer, New York, NY.

Edney, Joanne

- 2006 Impacts of recreational scuba diving on shipwrecks in Australia and the Pacific: A review. *Micronesian Journal of the Humanities and Social Sciences* 5(1/2):201-233.
- 2016 A Framework for Managing Diver Impacts on Historic Shipwrecks. *Journal of Maritime Archaeology* 11(3):271–297.
- Fernández-Montblanc, T., Bethencourt, M., Izquierdo A., González-Duarte M.M. 2014 Establishing the relationship between underwater cultural heritage deterioration and marine environmental factors. A comparative analysis in Bucentaure and Fougueux sites. In *Science Technology and Cultural Heritage*, Edited by Miguel Ángel Rogerio-Candelera, pp. 53-58, Taylor & Francis Group, London, UK

Firth, Anthony

1999 Making archaeology: the history of the Protection of Wrecks Act 1973 and the constitution of an archaeological resource. The International Journal of Nautical Archaeology 28(1):10–24.

Forrest, Craig

- 2002 Defining underwater cultural heritage. *The International Journal of Nautical Archaeology* 31(1): 3–11.
- 2002a A New International Regime for the Protection of Underwater Cultural Heritage. *The International and Comparative Law Quarterly* 51(3):511–554.
- 2010 International Law and the Protection of Cultural Heritage. Routledge, New York.
- 2014 Cultural Heritage Management and Maritime Law. In *Encyclopedia of Global Archaeology*, pp. 1884–1889. Springer, New York, NY.

Forrester, Huntsville

2011 Ontario lays off its Marine Archaeologist. *Muskoka Region* 30 December. Electronic document.

https://www.muskokaregion.com/news-story/3567135-ontario-lays-off-its-marine-archeologist/, accessed January 15, 2018.

Gowan, Rob

- 2017 Georgian Bay shipwreck from 1881 found mostly intact with possible human remains on board | National Post. December 4. https://nationalpost.com/news/canada/owen-sound-shipwreck-steamer, accessed June 7, 2019.
- 2017a Jane Miller wreck discovered in Colpoys Bay. *Owen Sound Sun Times* 04 December, http://www.owensoundsuntimes.com/2017/12/04/jane-miller-wreck-discovered-in-colpoys-bay, accessed December 19, 2017.
- 2018 J H Jones wreck a protected site. Owen Sound Sun Times. September 11. https://www.owensoundsuntimes.com/news/local-news/j-h-jones-wreck-a-protected-site, accessed July 17, 2019.
- 2018a Police investigation doesn't find human remains on Jane Miller. Owen Sound Sun Times. October 12. https://www.owensoundsuntimes.com/news/local-news/police-investigation-doesnt-find-human-remains-on-jane-miller, accessed July 17, 2019.

Greene, Elizabeth S.

2014 Charter for the Protection and Management of the Underwater Cultural Heritage (1996). In *Encyclopedia of Global Archaeology*, edited by Claire Smith, pp. 1376–1379. Springer, New York.

Government of British Columbia

2018 Legislation, Agreements, Policies and Guidelines - Archaeology - Ministry of Forests, Lands and Natural Resource Operations. Government of British Columbia. Electronic document, https://www.for.gov.bc.ca/archaeology/legislation_agreements_policies_guidelines_bulletins/index.htm, accessed September 14, 2018.

Government of Canada

- 2011 National Framework for Canada's Network of Marine Protected Areas. *Fisheries Oceans Canada*. Electronic document, http://waves-vagues.dfo-mpo.gc.ca/Library/345207.pdf, accessed August 23, 2018.
- 2015 Canada National Marine Conservation Areas Act. *Justice Laws Website*. Electronic document, http://laws-lois.justice.gc.ca/eng/acts/C-7.3/, accessed September 14, 2018.
- 2018 Parks Canada Agency Act (S.C. 1998, c. 31). *Justice Laws Website*. Electronic document, http://laws-lois.justice.gc.ca/eng/acts/P-0.4/, accessed August 23, 2018.

Government of Ontario

- 1990 Ontario Heritage Act. *Government of Ontario*. Electronic document, https://www.ontario.ca/laws/statute/90018, accessed October 22, 2017.
- 2003 Marine Heritage Advisor Job Posting. Government of Ontario. Electronic document, https://www.gojobs.gov.on.ca/PDR.aspx?JobID=7246, accessed November 25, 2017.
- 2005 Heritage Protection Strengthened for Ontario: Major revisions to the Ontario Heritage Act. *Government of Ontario*. Electric document, http://www.mtc.gov.on.ca/en/heritage/Bill 60 Bulletin.pdf, accessed February 15, 2018.
- 2005a Strengthening Ontario's Heritage: Identify, Protect, Promote. *Government of Ontario*. Electronic document, http://www.mtc.gov.on.ca/en/publications/ Strength Heritage.pdf, accessed September 13, 2018.
- 2006 Heritage Resources in the Land Use Planning Process: Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement. *Government of Ontario*. Electronic document, http://www.mtc.gov.on.ca/en/publications/ Heritage Tool Kit Heritage PPS infoSheet.pdf, accessed September 14, 2018.
- 2007 Ontario Public Service Careers Marine Heritage Advisor Job Posting. Electronic document, https://www.gojobs.gov.on.ca/PDR.aspx?JobID=7246, accessed October 22, 2017.
- 2010 Environmental Assessment Act, R.S.O. 1990, c. E.18. *Government of Ontario*. Electronic document, https://www.ontario.ca/laws/statute/90e18, accessed March 24, 2018.
- 2018 Planning Act, R.S.O. 1990, c. P.13. *Government of Ontario*. Electronic document, https://www.ontario.ca/laws/statute/90p13, accessed March 24, 2018.

Guerrieri, Vince

2018 Underwater Archaeologists May Have Discovered the Oldest Shipwreck in Lake Erie. Smithsonian. Electronic document, https://www.smithsonianmag.com/history/underwater-archaeologists-may-have-discovered-oldest-shipwreck-lake-erie-180970503/, accessed May 19, 2019.

Hammerton, Zan

2016 Low-impact diver training in management of SCUBA diver impacts. *Journal of Ecotourism* 2016:1-26.

Helbig, Louis

2017 The Sunken Villages Story. Electronic document, http://sunkenvillages.ca/story/, accessed March 29, 2019.

Hocker, Fred

2013 Postmedieval Ships and Seafaring in the West. In *The Oxford Handbook of Maritime Archaeology*, edited by Ben Ford, Donny L. Hamilton, and Alexis Catsambis, pp.446-472, OUP, Oxford University Press.

Holland College

2019 Commercial Diving. Electronic document, http://www.hollandcollege.com/programs/Commercial%20Diving.html, accessed June 1, 2019.

Hui, Ann

2015 Archeologists dig up 19th century ship in Toronto's downtown CityPlace.
Globe and Mail News. Electronic document,
https://www.theglobeandmail.com/news/toronto/archeologists-dig-up-19th-century-ship-in-torontos-downtown-cityplace/article24323618, accessed April 20, 2019.

Huntsville, Forrester

2011 Ontario lays off its Marine Archaeologist. *Muskoka Region*, 30 December, https://www.muskokaregion.com/news-story/3567135-ontario-lays-off-its-marine-archeologist/, accessed January 15, 2018.

Innes, Alison

2019 Archaeological research project invites public participation. The Brock News, a news source for Brock University. https://brocku.ca/brock-news/2019/06/archaeological-research-project-invites-public-participation/, accessed July 22, 2019.

International Council on Monuments and Sites

1996 Charter on the Protection and Management of Underwater Cultural Heritage. *International Council on Monuments and Sites*. Electric document, https://www.icomos.org/18thapril/underwater-eng.pdf, accessed February 19, 2018.

International Joint Commission

2015 Lake Superior National Marine Conservation Area Protects World's Largest Freshwater Lake. Electronic document, https://www.ijc.org/en/lake-superior-national-marine-conservation-area-protects-worlds-largest-freshwater-lake, accessed March 21, 2019.

Lagerquist, Jeff

2017 Avro Arrow test model found in Lake Ontario: expedition team | CTV News. https://www.ctvnews.ca/canada/avro-arrow-test-model-found-in-lake-ontario-expedition-team-1.3580009, accessed July 17, 2019.

Jeffery, Bill

2006 Historic Shipwrecks Legislation. In Maritime Archaeology Australian Approaches, edited by Mark Staniforth and Michael Nash, pp. 123–136, Springer Science and Business Media Inc, New York.

Jeffery, William

2006 A CRM Approach in Investigating the Submerged World War II Sites in Chuuk. *Micronesian Journal of the Humanities and Social Sciences* 5(1):137–155.

Johansen, David

2010 Legislative Summary Bill C-14: The Canada Shipping Act, 2001. Electronic document,

https://lop.parl.ca/staticfiles/PublicWebsite/Home/ResearchPublications/LegislativeSummaries/PDF/37-1/c14-e.pdf, accessed March 23, 2019.

Khakzad, Sorna, and Konraad Van Balen

2012 Complications and Effectiveness of In Situ Preservation Methods for Underwater Cultural Heritage Sites. Conservation and Management of Archaeological Sites 14(1–4):469–478.

King, Adam

2016 Archaeology in South Carolina: Exploring the Hidden Heritage of the Palmetto State, University of South Carolina Press, Columbia.

Lakevold, Courtney

2016 The Borden Number System: What the FcOq?, RETROactive Exploring Alberta's Past. Electronic document,

https://albertashistoricplaces.wordpress.com/2016/06/29/the-borden-number-system-what-the-fcoq/, accessed May 13, 2019.

Le Blanc, Rick

2011 Request to Reinstate the Office of Marine Heritage Advisor. *Ontario Underwater Council*. Electronic document, http://www.underwatercouncil.com/downloads/advocacy/marine_heritage_advisor_letter_2011_12.pdf, accessed March 23, 2018.

Lee, John

2015 Canada's scuba hot spots: Have you dived here yet? The Globe and Mail. Electronic document, https://www.theglobeandmail.com/life/travel/activities-and-interests/hold-your-breath-for-these-great-diving-destinations/article24549137/, accessed March 28, 2019.

Legate, Tim

2000 Bill 13, Ontario Marine Heritage Act, 1999. Legislative Assembly of Ontario. Electronic document, <a href="http://www.ontla.on.ca/web/committee-proceedings/committee_transcripts_details.do?locale=en&BillID=676&detailPage=/committee-proceedings/transcripts/files_html/2000-10-04_G026.htm&ParlCommID=8&Date=2000-10-4&Business=Bill%2013,%20Ontario%20Marine%20Heritage%20Act,%201999#P221_6062, accessed November 21, 2017.

Legislative Assembly of Ontario

1999 Bill 13 Ontario Marine Heritage Act. *Legislative Assembly of Ontario*. Electronic document, http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&BillID=676&ParlSessionID=37:1&isCurrent=false, accessed October 21, 2017.

Manders, Martiin

2008 In Situ Preservation: 'the preferred option.' *Museum International* 60(4): 31–41.

Maritime and Coastguard Agency

2018 Wreck and Salvage Law. Electronic document, https://www.gov.uk/guidance/wreck-and-salvage-law#the-law-relating-to-wreck, accessed March 20, 2019.

Middleton Joe, Neal Charlotte

2018 Shipwreck looters who plundered historical artefacts from Royal Navy warship at bottom of the sea jailed. *Mirror*, June 22, sec. UK News. Electronic document, https://www.mirror.co.uk/news/uk-news/shipwreck-looters-who-plundered-historical-12771186, accessed May 11, 2019.

Meyer, Zachary Leo

2014 A Cultural Landscape Approach to Submerged Cultural Resource Management: Cultural Heritage Ecotourism Opportunities for the Shipwrecks of Lake Union, Seattle, Washington. Unpublished Masters, Maritime Affairs, University of Washington.

Miller, Elizabeth

2017 Divers chronicle Great Lakes shipwreck that left 32 dead. Great Lakes Today. Electronic document, https://www.greatlakestoday.org/post/divers-chronicle-great-lakes-shipwreck-left-32-deadm, accessed March 29, 2019.

Mohd Nor, M. Z., and A. Zahid

2016 Competing interests in Underwater Cultural Heritage a question of balance. Journal of East Asia & International Law 9(1): 121–135.

Mondoux, Linda

2010 Conservation-minded divers fight treasure hunters with shipwreck education campaign, tough love. My New Waterfront Home. July, http://www.mynewwaterfronthome.com/shipwrecks.aspx, accessed January 30, 2018.

Morris, Steven

- 2014 Divers ordered to pay £60,000 for plundering artefacts from wrecks. *The Guardian*, July 2, sec. UK news. https://www.theguardian.com/uk-news/2014/jul/02/divers-pay-60000-plunder-artefacts-wrecks-fail-declare-haul, accessed May 11, 2019.
- 2015 Diver jailed for fraudulently selling three cannon found in UK waters. The Guardian, September 4, sec. UK news. Electronic document, https://www.theguardian.com/uk-news/2015/sep/04/diver-jailed-fraudulently-selling-three-cannon-found-uk-waters-vincent-woolsgrove, accessed May 11, 2019.

Muckelroy, Keith

1983 Archaeology Underwater: An Atlas of the World's Submerged Sites. McGraw Hill, New York.

Nass, Shannon

2010 Lake Erie shipwrecks, well-preserved by fresh water, are favorites among divers. Electronic document, https://www.post-gazette.com/life/outdoors/2010/10/03/Lake-Erie-shipwrecks-well-preserved-by-fresh-water-are-favorites-among-divers/stories/201010030307, accessed December 18, 2018.

National Park Service

2016 Archaeology Program – South Carolina. Electronic document, https://www.nps.gov/archeology/sites/statesubmerged/southcarolina.htm. Accessed March 12, 2019.

National Park Service

2016 Archaeology Program – South Carolina. Electronic document, https://www.nps.gov/archeology/sites/statesubmerged/southcarolina.htm. Accessed March 12, 2019.

New South Wales Office of Environment and Heritage

2012 Maritime Heritage. Electronic document, https://www.environment.nsw.gov.au/MaritimeHeritage/index.htm, accessed March 15, 2019.

Nova Scotia Canada

- 2010 Changes to Treasure Hunting Regulations Introduced. *Nova Scotia Canada*. Electronic document, https://novascotia.ca/news/release/?id=20101102006, accessed September 5, 2018.
- 2018 Heritage Research Permits. Nova Scotia Canada. Electronic document, https://cch.novascotia.ca/exploring-our-past/special-places/heritage-research-permits, accessed September 14, 2018.

Nova Scotia Museum

2013 Special Places Protection Act. Nova Scotia Museum. Electronic document, https://museum.novascotia.ca/about-nsm/about-heritage/special-placesprotection-act, accessed October 13, 2017.

Ontario Ministry of Culture

- 2002 Changes to the Ontario Heritage Act Discussion Guide. Paul Renaud's Personal Web Site. Electronic document, http://www.renaud.ca/public/ Archaeology/Ontario%20Heritage%20Act%20Guide.pdf, accessed November 25, 2017.
- 2016 Criteria for Evaluating Marine Heritage Site in Ontario. Queen's Printer for Ontario.

Ontario Ministry of Labour

2015 Diving. Ontario Ministry of Labour. Electronic document, https://www.labour.gov.on.ca/english/hs/topics/diving.php, accessed February 20, 2018.

Ontario Ministry of Municipal Affairs and Housing

2015 The Planning Act. *Ontario Ministry of Municipal Affairs and Housing*. Electronic document, http://www.mah.gov.on.ca/Page1760.aspx, accessed February 17, 2018.

Ontario Ministry of Tourism, Culture and Sport

- 2002 Changes to the Ontario Heritage Act Discussion Guide. Electronic document, http://www.renaud.ca/public/Archaeology/Ontario%20Heritage%20Act%20Guide. pdf, accessed February 15, 2018.
- 2005 Strengthening Ontario's Heritage. Queens Printer for Ontario. Electronic document, http://www.mtc.gov.on.ca/en/publications/Strength_Heritage.pdf, accessed November 7, 2018.
- 2005a Heritage Protection Strengthened for Ontario: Major revisions to the Ontario Heritage Act. Electric document, http://www.mtc.gov.on.ca/en/heritage/Bill_60_Bulletin.pdf, accessed February 15, 2018.
- 2011 Standards and Guidelines for Consulting Archaeologists. Electric document, http://www.mtc.gov.on.ca/en/publications/SG 2010.pdf, accessed November 18, 2018.
- 2011a Engaging Aboriginal Communities in Archaeology. Electric Document, http://www.mtc.gov.on.ca/en/publications/AbEngageBulletin.pdf, accessed November 18, 2019.
- 2015 Archaeological Site Forms A bulletin for archaeologists in Ontario. Electronic document, http://www.mtc.gov.on.ca/en/archaeology/archaeology_pdfs/Archaeological_Site Forms.pdf, accessed June 5, 2019.
- 2016 Criteria for Evaluating Marine Heritage Site in Ontario. Queen's Printer for Ontario.

- 2017 Archaeology: Marine Archaeology. *Ontario Ministry of Tourism, Culture and Sport*. Electronic document, http://www.mtc.gov.on.ca/en/archaeology/ archaeology_underwater.shtml, accessed March 24, 2018.
- 2017a Heritage. Electronic document, http://www.mtc.gov.on.ca/en/heritage/heritage_act.shtml, accessed October 22, 2018.
- 2017b Land Based Archaeological Licensing A bulletin for archaeologists in Ontario, Electronic document, http://www.mtc.gov.on.ca/en/archaeology/archaeology/pdfs/Licensing_Bulletin_2 017.pdf, accessed July 22, 2019.

Ontario Underwater Council

2019 Dive Ontario! Directory. Electronic document, http://scubadiveontario.com/dive-ontario/, accessed September 26, 2019.

Osborne, Robert

2017 The Best Dive Sites in Canada. Scuba Diver Life. Electronic document, https://scubadiverlife.com/the-best-dive-sites-in-canada/, accessed March 28, 2019.

Oxley, Kate

2018 Proceedings of the Save Ontario Shipwrecks Annual Meeting: Provincial Heritage Organization Operational Grant February 24, 2018 Toronto, Ontario.

Parliament of the Commonwealth of Australia

2018 Underwater Cultural Heritage Bill, Underwater Cultural Heritage (Consequential and Traditional Provisions) Bill Explanatory Memorandum. Electronic document,

https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22legislation%2Fems%2Fr6095 ems 603b0427-5576-4e67-90fad78302d30a52%22;src1=sm1, accessed March 11, 2019.

Parks Canada

- 2005 Guidelines for the Management of Archaeological Resources. *Parks Canada*. Electronic document, https://www.pc.gc.ca/en/docs/pc/guide/gramar/index, accessed September 3, 2018.
- 2008 Archaeology and the Law. *Parks Canada*. Electronic document, https://www.pc.gc.ca/en/culture/arch/page4/doc2, accessed March 20, accessed September 22, 2017.
- 2016 State of Canada's Natural and Cultural Heritage Places: 2016 Report. *Parks Canada*. Electronic document, https://www.pc.gc.ca/en/docs/pc/rpts/elnhc-scnhp/2016/index, accessed August 23, 2018.
- 2017 National Marine Conservation Areas. *Parks Canada*. Electronic document, https://www.pc.gc.ca/en/amnc-nmca, accessed December 16, 2017.

2018 Directory of Federal Heritage Designations. *Parks Canada*. Electronic document, https://www.pc.gc.ca/en/culture/dfhd, accessed August 23, 2018.

Peek, Jeff

2018 1927 Chevrolet found in Lake Huron Shipwreck. Electronic document, https://www.hagerty.com/articles-videos/articles/2018/12/04/1927-chevrolet-found-in-lake-huron-shipwreck, accessed May 19, 2019.

Prince. Brian

2003 Preserving our Marine Heritage. *Neptune*. Electronic document, www.neptune-scuba.info/ca/on/Preserving-our-Marine-Heritage.pdf, accessed October 22, 2017.

Price, Melissa

2018 Raising the legislative bar for our sunken treasures – media release 28 June 2018. Electronic document, http://www.environment.gov.au/minister/price/media-releases/mr20180628.html, accessed March 16, 2019.

Pyne, Katrina

2013 Nova Scotia shipwrecks swallowed by sea, ignored by government. *The Globe and Mail*, 3 May, https://www.theglobeandmail.com/news/national/nova-scotia-shipwrecks-swallowed-by-sea-ignored-by-government/article11717862/, accessed September 24, 2018.

Rabson, Mia

2017 The resting place of the HMS Terror has been given national historic site protection. National Post. December 17. Electronic document, https://nationalpost.com/news/canada/resting-place-of-the-hms-terror-given-national-historic-site-protection, accessed March 21, 2019.

Rick, John

2006 Canadian Historic Sites: Occasional Papers in Archaeology and History No. 1: Archaeological Investigations of the National Historic Sites Service, 1962-1966. Parks Canada. Electronic document, http://parkscanadahistory.com/series/chs/1/chs1-1m.htm, accessed August 21, 2018.

Russell, Matthew A and Larry E. Murphy

2010 Balancing Historic Preservation, Science, and the Environment in Underwater Cultural Heritage Site Management: Long-Term Management Strategies for the Sunken Battleship USS Arizona. Conservation and Management of Archaeological Sites 12(1):13–38.

Save Ontario Shipwrecks

2011 Ontario NEEDS a Marine Heritage Advisor. Change.org. Electronic document, https://www.change.org/p/ontario-needs-a-marine-heritage-advisor, accessed November 25, 2017.

Scheller, David

2018 Under the Freshwater Seas: Divers explore the otherworldly realm of Great Lakes shipwrecks. *Growler Magazine*. 29 May. Electronic document, https://growlermag.com/under-the-freshwater-seas-divers-explore-the-otherworldy-realm-of-great-lakes-shipwrecks/, accessed December 29, 2018.

Schneider, Dan

2016 Automatic protection in the deep. *OHA* + *M* (*Ontario Heritage Act and more*) 1 April. Electronic document,

https://danschneiderheritage.blogspot.com/2016/04/automatic-protection-in-deep.html, accessed February 21, 2018.

Schlote, Warren

2019 LaSalle's Griffon remains missing but Discovery Channel finds new shipwrecks near Meldrum Bay. *Manitoulin Expositor*. May 15. Electronic document, https://www.manitoulin.ca/lasalles-griffon-remains-missing-but-discovery-channel-finds-new-shipwrecks-near-meldrum-bay/, accessed May 19, 2019.

Schulte, Deborah

2017 Preserving Canada's Heritage: The Foundation for Tomorrow. Standing Committee on Environment and Sustainable Development 42nd Parliament, 1st SESSION, December.

Scott-Ireton, Della A.

2007 Value of Public Education and Interpretation in Submerged Cultural Resource Management. In *Out of the Blue Public Interpretation of Marine Cultural Resources*, edited by John H. Jameson and Della A. Scott-Ireton, pp. 19–31. Springer, New York.

2014 Maritime Historic Site Management for the Public. In *Encyclopedia of Global Archaeology*, edited by Claire Smith, pp. 4649–4664. Springer, New York, NY.

Scovazzi, Tullio

2013 The Law of the Sea Convention and Underwater Cultural Heritage. In *The* 1982 Law of the Sea Convention At 30: Successes, Challenges and New Agendas, edited by David Freestone, pp. 79–88. Brill, Leiden, The Netherlands.

Seneca College

2019 Restricted Commercial Scuba, Electronic document.

https://www.senecacollege.ca/school/electronics-mechanical-engineering-technology/underwater-

<u>skills/Additional Courses Offered/restiricted commercial scuba.html</u>, accessed April 21, 2019.

South Australia Department of Environment and Water

2017 Maritime Heritage. Electronic document,

https://www.environment.sa.gov.au/topics/heritage/maritime-heritage, accessed March 12, 2019.

South Carolina Institute of Archaeology and Anthropology

2018 Marine Research Division. Electronic document, http://artsandsciences.sc.edu/sciaa/mrd/welcome, accessed March 16, 2019.

2018 Hobby Diver Licence. Electronic document, http://artsandsciences.sc.edu/sciaa/mrd/hobbydiverlicense, accessed May 30, 2019.

South Carolina Legislator

2001 South Carolina Underwater Antiquities Act 1991. South Carolina Legislator. Electronic document, http://www.scstatehouse.gov/code/t54c007.php, accessed October 19, 2017.

St Catharines Library

n.d. The Shickluna Dry Docks and Shipyards. Electronic document, http://bmd.stcatharines.library.on.ca/en/3250871/data, accessed September 26, 2019.

Tymczyszyn, Bob

2019 Welland Canal's shipbuilding past to be unearthed. StCatharinesStandard.ca. February 3. https://www.stcatharinesstandard.ca/news-story/9157553-welland-canal-s-shipbuilding-past-to-be-unearthed/, accessed June 6, 2019.

UNESCO

- 2001 Convention on the Protection of Underwater Cultural Heritage. *UNESCO*. Electronic document, http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/2001-convention/, accessed October 24, 2017
- 2010 The potential of the Gulf's underwater heritage surfaced. *UNESCO*. Electronic document, http://www.unesco.org/new/en/culture/themes/underwater_cultural-heritage/dynamic-content-single-view/news/the_potential_of_the_gulfs_underwater_heritage_surfaced/, accessed September 10, 2018.
- 2013 Manual for Activities Directed at Underwater Cultural Heritage. *UNESCO*. Electronic document, http://www.unesco.org/culture/en/underwater/pdf/UCH-Manual.pdf, accessed October 24, 2017.
- 2017 Manual for activities directed at UCH Underwater Archaeologists (Rule 22). Electronic document, http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/unesco-manual/competence-qualifications/underwater-archaeologists-rules-22/, accessed March 18, 2019.
- 2017a Environmental Impact and Climate Change. *UNESCO*. Electronic Document, http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/protection/threats/environmental-impact-and-climate-change/, accessed November 18, 2019

- 2017b Tourism Between Chance and Threat. *UNESCO*. Electronic document, http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/protection/threats/tourism/, accessed March 23, 2018
- 2018 Legal Instruments 2001 Convention on the Protection of the Underwater Cultural Heritage. Electronic Document, http://www.unesco.org/eri/la/convention.asp?KO=13520&language=E&order=alpha#1, accessed March 21, 2019

Underwater Archaeological Society of British Columbia

2014 Underwater Archaeological Society of British Columbia. *Underwater Archaeological Society of British Columbia*. https://www.uasbc.com/, accessed September 14, 2018.

Underwood, Christopher J.

2014 Out of Sight Out of Mind and at Risk: The United Kingdom Public's Engagement with Heritage. In Between the Devil and the Deep. Public interpretation of Maritime Cultural Heritage, edited by Della A. Scott-Ireton, pp. 27–42. When the Land Meets the Sea: An ACURA and SHA Series. Springer, New York.

United Nations

- 1982 United Nations Convention on the Law of the Sea. *United Nations*. Electronic document, http://www.un.org/depts/los/convention-agreements/texts/unclos/unclos_e.pdf, accessed February 18, 2018.
- 2012 The United Nations Convention on the Law of the Sea (A Historical Prospective). *United Nations*. Electronic document, http://www.un.org/depts/los/convention_agreements/convention_historical_perspective.htm#Historical%2_0Perspective, accessed February 18, 2018.

Valentina, Sara Vadi

2009 Investing in Culture: Underwater Cultural Heritage and International Investment Law. *Vanderbilt Journal of Transnational Law* 42:853–904.

Varner, Ole

2014 Closing the Gaps in the Law Protecting Underwater Cultural Heritage on the Outer Continental Shelf. *Stanford Environmental Law Journal*, 33(2):251–286.

Wessex Archaeology

2018 Marine antiquities scheme. Electronic document, https://marinefinds.org.uk/, accessed May 22, 2019.

Wilhelm, Trevor

2019 Discovery Channel features local pair searching for storied shipwreck. Windsor Star. May 8. Electronic document, https://windsorstar.com/news/local-news/local-historians-featured-in-discovery-channel-search-for-holy-grail-of-shipwrecks, accessed May 31, 2019.

Williamson, Ronald

2010 Planning for Ontario's Archaeological Past: Accomplishments and Continuing Challenges. *Revista de Arqueología Americana*, No. 28, ARQUEOLOGÍA DE CONTRATO, pp. 7-45