End of the Line: Analysis of Economic Changes and its Effects on the Red Line Schooner Fleet of Northeastern Michigan

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Abstract

Watercraft abandonment studies enhance scholars' interpretations of human responses to economic and technological changes throughout a maritime community's lifetime by investigating the motivations and steps in which an owner intentionally abandons a ship. This thesis reviews and investigates the Northeastern Michigan, USA lumber industry and assesses the factors that led to the abandonment of the schooners near Whitefish Point. Understanding the complete historical context of these vessels and the surrounding region adds to the identification of economic and cultural worth assigned by people to vessels during and after their role as merchant vessels.

Scholars can gain a richer knowledge of a site's significance by acknowledging the fluidity of an abandoned vessel's pre- and post-abandonment status (salvage, reconstruction, decoration). This study serves as a case study for the interpretation of other abandoned sites, which typically are not studied, in marine sanctuaries and marine communities in the United States. Abandonment studies are becoming more prominent in the field of maritime archaeology, but they have yet to be thoroughly acknowledged as significant within the Great Lakes region. Through the use of archival and archaeological research, this thesis interprets the underwater remains not as static vestiges of the past, rather as evidence of a changing economy and the continual use of such vessels as resources. By putting aside previous understandings of ship site assemblages as static sites, a greater understanding and connection to the involved communities is garnered.

Acknowledgments

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Finally, I would like to thank my family and friends.

Declaration of Candidate

I certify that this thesis does not incorporate without my acknowledgment any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person where due reference is made in text.

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Chapter One: Introduction

Ever since the Late Archaic Period (3000–500 BC), various ethnic groups and peoples have utilized the North American Great Lakes as an extensive maritime trade network (Lusardi 2011:82). Located on the present-day border of Canada and coastal areas of several states in the United States of America, each of the five lakes have their own history of maritime trade, culture, and conflict between various cultural groups. This study focuses on a site located in Lake Huron near Alpena, Michigan, a rural town in northeastern Michigan, that developed due to its strategic location for maritime trade and under a single economic output: lumber (Figure 1.1).

As early as the Pleistocene and early Holocene eras, widespread use of the abundant natural resources of coastal Lake Huron is evident. Archaeological finds from submerged landscape sites include fishing hooks, hunting blinds, and settlements used by Native Americans (O'Shea and Meadows 2009:10120). These first inhabitants and navigators of Lake Huron built small open topped boats, such as dugout and bark canoes, to fish, trade, and communicate (Pott 1999:359).

Around the early 1830s, European settlers came to the area of Alpena County to survey the economic potential of the land and encountered tribal territorial hostility due to the encroachment on Native American hunting grounds (Haltiner 2005:2). Despite this hostility, the abundance of valuable materials was too much of an allure for non-native fishers and business people seeking fortune beyond the East Coast where resources, particularly lumber, were nearing depletion.

Figure 1.1: ArcGIS map of the Great Lakes and study region, Thunder Bay (La Barre 2016).

The increase in the fur trade and fishing industries in Northern Michigan signified the end of the Ottawa-related group led by Chief Mich-e-ke-wis along the shores of what is now Thunder Bay River around 1850 (Lusardi 2011:4). Large tracks of land were acquired by lumber industries hoping to exploit the plentiful white pine forests of Northern Michigan; bringing with them experienced workers (mainly of Scandinavian, German, and Irish descent) from East Coast lumber industries.

The commerce in white pine lumber accounted for a large percentage of natural resource output in Northern Michigan from 1860 to 1890, shaping the shipping industry and coastal landscape of the Great Lakes. This period of economic success and extensive ecological exploitation is known as the White Pine Era (AD 1860–1900) (Maybee 1976:Pamphlet 1). From 1870 to 1890, northern regions of the lower peninsula of Michigan led all other states in regards to production of lumber (Whitney 1987:668). Given the profitable role that Alpena, Michigan had in this production of lumber in the northern Midwest and the effects of the industry on the growth of the town, this region is a prime case study through which to explore human adaptation in response to a changing economy around 1900.

By studying the material culture of ship graveyards and boneyards, researchers can extrapolate changes within a maritime community over time and infer theories pertaining to human responses to changing conditions in an economic sphere. The area of ship abandonment studies has a significant impact on the archeological field, especially for human material abandonment behavioral studies (see Bennett and Fowler 2016; Richards 2002; 2008; 2013) and theories of cultural site formation processes (Gibbs 2006;

Muckelroy 1978; Schiffer 1972; 1983; 1995). Watercraft abandonment studies enhance scholars' interpretations of human responses to economic and technological changes throughout a maritime community's lifetime by investigating the motivations and steps in which an owner intentionally abandons a ship. There are several studies that examine abandoned vessels in Australian, American, and European waters (Delgado 2013; Richards 1997; 2002; Richards and Seeb 2013), but research is nearly nonexistent in the Great Lakes. To remedy the gap in research, this thesis focuses on two economically abandoned vessels, referred to as the Whitefish Point Boneyard vessels, found in the coastal freshwaters of Northeastern Michigan in Thunder Bay.

Research question

How does the archaeology of the Whitefish Point Boneyard demonstrate the fluctuation between the economic value and the purpose of a merchant ship in correlation with human agents' response to a shifting economy during the end of the White Pine Era (AD 1840–1900) in Northern Michigan?

The aims of this thesis are:

1. To analyze the archaeological evidence indicating the typology of the two known sites.
2. To investigate and identify the evidence of repair and abandonment, so as to better evaluate the changing role and purpose of the two ships.
3. To understand the natural and cultural processes that influences the sites' ever-changing physical condition.
4. To better illustrate the importance of abandoned vessel studies in the Great Lakes.

Justification

This thesis reviews and investigates the Northeastern Michigan lumber industry and assesses the factors that led to the abandonment of the schooners near Whitefish Point. Understanding the complete historical context of these vessels and the surrounding region adds to the identification of economic and cultural worth assigned by people to vessels during and after their role as merchant vessels.

By examining these abandoned vessels' remains and how humans have interacted with them, this research contributes to the study of watercraft abandonment by demonstrating the connections between maritime communities and their watercraft. Scholars can gain a richer knowledge of a site's significance by acknowledging the fluidity of an abandoned vessel's pre- and post-abandonment status (salvage, reconstruction, and decoration). This study serves as a case study for the interpretation of other abandoned sites, which typically are not studied, in marine sanctuaries and marine communities in the United States. Abandonment studies are becoming more prominent in the field of maritime archaeology, but they have yet to be thoroughly acknowledged as significant within the Great Lakes region.

Significance

Abandonment studies, specifically in ship graveyards and boneyards, have revealed a plethora of new insights that help archaeologists understand the technological, economic, political, and local and national changes in maritime shipping (Bennett and Fowler 2016; Hunter 2013; Ford 2013; Richards 2008:181; Richards and Seeb 2013). Once the "floating tool" loses its value as an efficient and profitable vessel, the decision is made to

abandon the vessel rather than sell it (Richards 2008:149). Such a process provides insight for researchers to understand the economic stress that a failing economic output has on a community (Richards 2008:177). Therefore, the study of the Whitefish Point Boneyard furthers our understanding of not only the practices of discard, but also the human behavior surrounding the phases leading up to discard and the following post-depositional processes once vessels become discarded watercraft.

Study area

Whitefish Point is situated approximately 5 km north of Alpena, Michigan, USA on the eastern edge of Isaacson Bay (Figure 1.2). Alpena County, due in part to the relations between European settlers and native peoples, is typically reported to have been relatively uninhabited until the 1840s, disregarding active usage of the region post-European contact. One of the first European historical accounts about the history and development of Alpena and the surrounding region was authored by William Boulton (1876:1). While such a report includes its apparent prejudices, it also reveals an in-depth account of the societal and cultural shifts occurring within the Alpena community from the 1840s to the 1870s from the European settlement's viewpoint.

The history and development of Alpena as a logging town from the 1850s to the 1890s is well documented by primary and secondary sources. This thesis focuses on the development of Issacson Bay, first known as Whitefish Bay until 1990. Only a few sources report on the uses of Isaacson Bay pre-European settlement but there are primary sources that indicate Native American use of the region for seasonal sustenance and recreation (Alpena News [AN], 25 April 1924). The first European settler to establish a

homestead near Isaacson Bay was Isaac Isaacson (or Isaak Isaakson in the Norwegian spelling) and his family (Haltiner 2005:28).

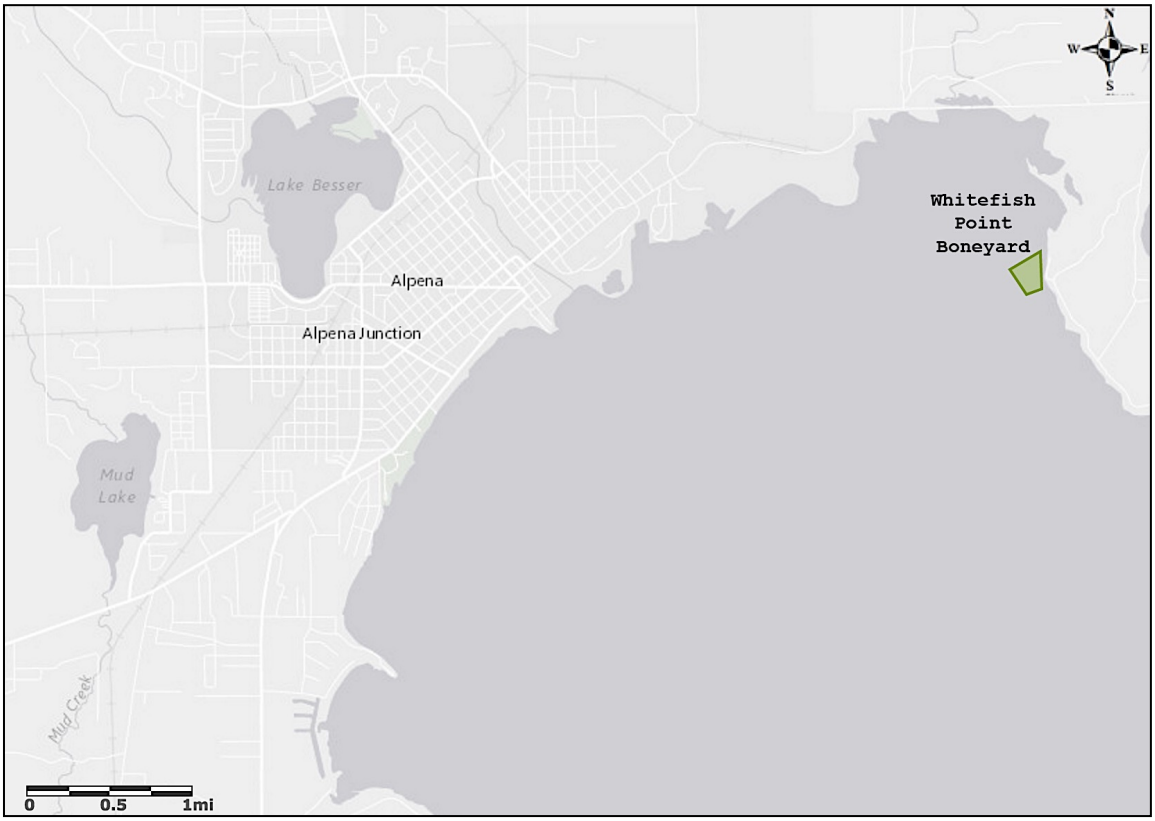

Figure 1.2: Alpena in proximately to Whitefish Point Boneyard (La Barre 2016).

Born November 13, 1810, Isaacson sailed from Hamilton, Ontario, Canada to Thunder Bay, establishing his home near the Thunder Bay River on what is now known as 2nd Avenue (Haltiner 2010:28). He built the first scow in Alpena, using it to transport equipment and people until 1865, when the construction of the 2nd Avenue Bridge was completed. When working in Alpena, Isaacson bought several hundred acres of Isaacson Bay, which included Norwegian Creek—a name given to the creek because of Isaacson's nationality (Haltiner 2010:28) (Figure 1.3). Once Isaacson's scow business ended, he moved out to his homestead with his wife and three children and began a fishing company in partnership with John W. Paxton (Haltiner 2010:28).

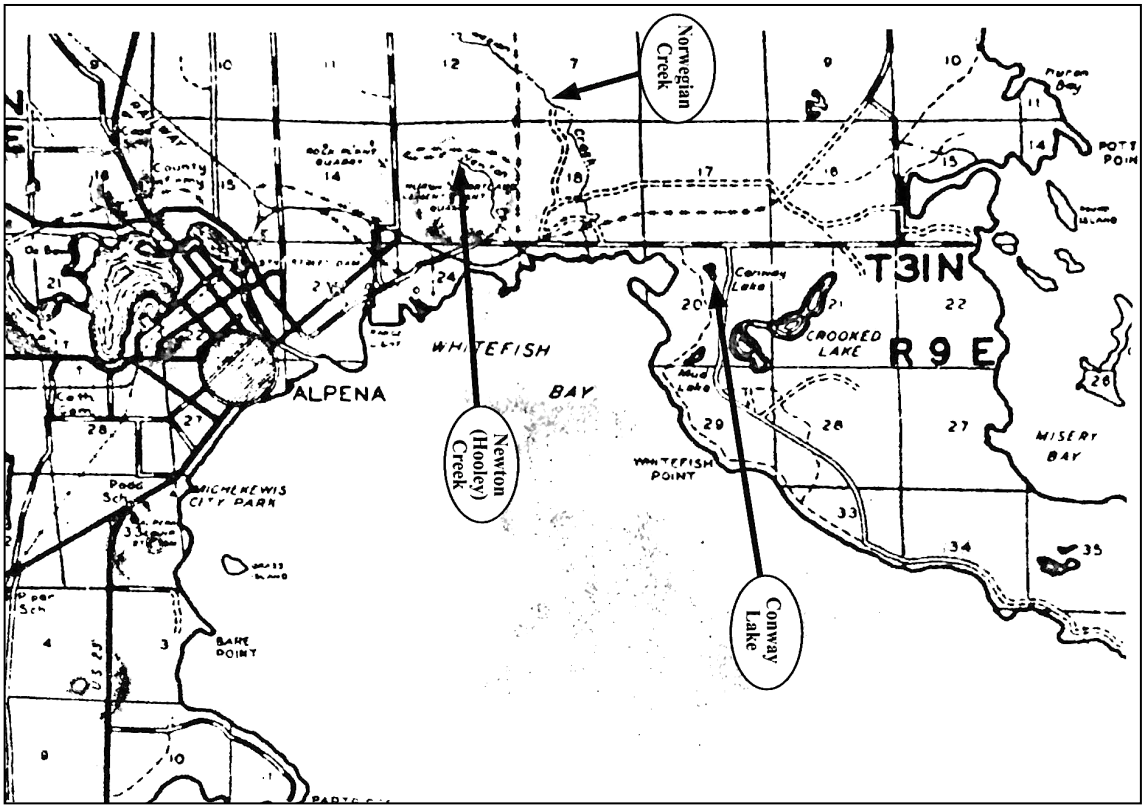

Figure 1.3: Map of Whitefish Bay/Isaacson Bay with the town of Alpena on the left (Haltiner 2010:41).

After establishing their homestead, according to his daughter Hannah Hooley, Native Americans frequented the Issacson homestead seeking trade for fish and goods while also finding a place to rest on their way to their summer camps on North Point (AN, 25 April 1924). Issacson Bay was a favorite spot for local European settlers and Native Americans who used the bay for fishing and swimming. Located away from the mouth of Thunder Bay River, Isaacson Bay amassed a collection of deliberately discarded maritime material, including two schooners.

According to local newspapers, these schooners once belonged to a well-known lumber baron by the name of Frank W. Gilchrist, whose endeavors and family connections throughout the Great Lakes brought major networks in the shipping industry to Alpena's

port. Gilchrist's shipping fleet, known as the Red Line, shipped millions of feet of white pine lumber to all major ports in Lake Huron from the late 1860s to approximately 1900. During the peak of white pine production, Gilchrist maintained a strong maritime shipping and lumber industry presence in Alpena and gained local, state, and national prominence for his success as a lumber baron.

Due to high demands, dwindling supply, and government pressures to protect white pine forests through the passing of protective tariffs such as the McKinley Tariff Act of 1890, the White Pine Era came to an end in the early 1900s. This led to the loss of jobs and financial instability in rural regions; the stalling of timber through the river and mills caused an economic depression and bankruptcy for many lumber company owners, prompting the diversification of industry and subsequent abandonment of lumber processing tools and merchant ships. This particular economic event is the main focus of this thesis and is directly related to the current condition of the ships found near Whitefish Point.

According to local records and photos, two vessels were abandoned near Whitefish Point: *Knight Templar* and *Lightguard* (Alpena Evening News, 23 July 1903:4). To date, federal and state officials have located two vessel abandonment sites, and tentatively attribute ownership to Gilchrist's lumber company. The accumulation of this boneyard took place around 1905 with the deposit of two or more merchant vessels and small boats. Little detail is known about the processes in which the vessels were stripped down of valuable

materials pre-abandonment. Even less is known about the natural and human interference that led to the vessels' current state.

Methods

An extensive search for relevant historical details pertaining to the Whitefish Point Boneyard and surrounding region resulted in a collection of primary sources. The majority of publicly available records used originated from: the Alpena County Library, Thunder Bay National Marine Sanctuary (TBNMS) archives, Great Lakes Maritime Heritage Center, and the University of Michigan Special Collections Library. All archival sources found and used are publicly available for future research and interests.

Researchers conducted two *in situ* surveys, one year apart (2014 and 2015), to relocate the Whitefish Point Boneyard and record the remains of two vessels. The dive practices and archaeological techniques that were utilized operated under the Flinders University dive standards. Contextualizing the ship and its surrounding environment is crucial to comprehending the reasons for abandonment and the changes that have influenced the site post-abandonment.

Chapter outline

Chapter Two examines past publications and research on abandoned vessels and repair practices. This chapter discusses the meaning of vessel abandonment, understanding an abandoned site, assessing the cultural and economic worth of a vessel, and identifying abandoned site formation processes.

Chapter Three outlines the methodology of both Gilchrist Fleet surveys conducted by the archaeologists Donald La Barre and Wayne Lusardi during the months of June 2015 and July 2016. In addition, this chapter details additional archaeological methods and archival research utilized to gather quality data.

Chapter Four presents the results of the fieldwork conducted in 2014 and 2015, and discusses the resulting data that was obtained by *in situ* surveys and archival research. Data collected in the field primarily resulted in site maps and photographs that add to spatial understanding and key diagnostics features indicating the vessel class and origin.

Chapter Five discusses the results and interprets the data construed from the methodology and research questions. This chapter illustrates the evidence indicating abandonment and extensive use of both vessels' careers as merchant vessels.

Chapter Six concludes with a discussion of research aims as well as limitations and future research. In so doing, this chapter demonstrates an in-depth analysis of the change form of the physical sites and archaeological features of abandonment processes. Thus contributing to the strength of this independent research and the wider discussion of understanding the importance of abandoned vessel sites.

Conclusion

Alpena, Michigan, USA was a once a profitable lumber town with numerous lumber camps and shipping fleets. The aftermath of the economic downturn during the late nineteenth century led to widespread diversification of businesses and material, including the intentional discard of unwanted tools and vessels. The abandoned materials remains are still seen along coasts near maritime communities. Through contemporary archaeological theory and practice, this research contributes to the ever-growing area of archaeological studies and debates surrounding abandonment watercraft studies by investigating the interactions between a maritime community and their floating tools, and is a case study for further research and interpretation of abandoned sites, predominantly overlooked in archaeological studies.

Chapter Two: Literature Review

This chapter discusses the meaning of the term 'abandonment' in the context of watercraft deliberate-abandonment, as well as the investigation of how to comprehend an abandoned site in the archaeological record and the abandonment formation process of a watercraft.

Previous scholarly works in maritime archaeology typically have neglected the research potential of intentionally sunk vessels, thereby permitting a bias application to this sub-discipline (Leino 2013:137). Affirming this claim, Richard Gould (2000:9) explains that researchers rarely interpret shipwrecks as the result of human intent, creating a partiality for vessels lost in catastrophe rather than deliberate abandonment. While this preference remains prevalent in contemporary case studies, there are several scholars who have noted the research potential of abandoned watercraft (see Adams 2001; Leino 2013; Richards 2008; Richards and Seeb 2013). In regards to deliberately discarded watercraft, Michael McCarthy (1979:1) was among the first scholars who highlighted the potential of abandoned ship studies within the field of archaeology**,** but his ideas remained untested until Nathan Richards' (1997) study on ship graveyards in South Australia. Richards' research focused on abandoned vessels in Garden Island, South Australia—the first scholarly effort in abandoned ship archaeological studies (Richards 2008). Since then, research into purposely-abandoned watercraft presents an alternative avenue through which to research the fluctuations of technologies and societal changes (e.g. economic

trends and military conflict) (Bach 1973:7; Bennett 2014:21; Crisman 2014:2; LaRoche 2013; Leino 2013:136; Hunter 2013; Richards 2008; Richards and Seeb 2013).

Deliberate abandonment is a clear and conscious process where significant effort is undertaken to scuttle a watercraft, necessitating the importance of acknowledging such sites in Underwater Cultural Heritage management (UCHM) institutions and research. Jonathan Adams (2001:295) comments on the importance of such sites as rich areas for archaeological investigations**,** and discusses how abandoned sites contribute to the understanding of conscious social actions taken that culminated in a ship's abandonment.

To date, abandoned watercraft studies appear in a variety of archaeological journals, books and theses (see Adams and Rönnby 2013; Bennett 2014:21; Ford 2013; LaRoche 2013; Leino 2013:136; Hunter 2013; Marcotte 2013; McCarthy 2013; Richards 2008; Richards and Seeb 2013; Rodgers et al. 2016; Rönnby 2009), illustrating the growing popularity and value of such studies in the field of archaeology. This chapter discusses the meaning of the term abandonment in the context of deliberate watercraft discard, explores how to articulate and comprehend an abandoned site in the archaeological record, and investigates the abandonment formation process that impacts watercraft.

Meaning of abandonment

The term abandonment, on a broader spectrum of use, is utilized to describe something unwanted or no longer required (Smith 2005:34). This understanding of the term is inherently flawed due to its over-simplification of value assigned to an object as defined by its original purpose and lack of acknowledgment of its continual adaptation of value.

In the case of abandoned vessels, such sites are acknowledged as extremely valuable archaeological sites because they represent societal change and attitudes towards an object in its material form (Anderson 2008:103). Utilizing the term abandonment without properly inferring the aforementioned attitudes, simplifies the complexities between material object, its region, and its involved cultures. Chip Colwell-Chanthaphonh and T.J. Ferguson (2006:37) argue that many archaeologists use the term abandoned without defining the term, thereby reducing complexities into a single event. While Colwell-Chanthaphonh and Ferguson's (2006) article focuses on terrestrial sites, their categorical insight can be applied to the sphere of deliberately abandoned watercraft analysis. For example, their assertion that abandonment sites can, and are, used by the originating culture after their abandonment is also true for watercraft sites, as many ships are stripped of their surplus materials by local communities over a long period of time (e.g. Bennett and Fowler 2016; Hunter 2013; Ford 2013).

The term abandonment typically connotes perceptions of discard, disuse, lacking any connection between the material object and a society (Bennett 2014:16). While abandoned vessels can be publicly perceived as eyesores, Richards (2008:11) asserts that abandonment sites, especially ship graveyards, are often considered a resource of reusable materials readily available to the local community. Extending Richards' theory of reuse, Kurt Bennett (2014:4–5) applies it to a New Zealand region by investigating the reuse of ship timbers to build holiday cottages. Such insights into the reuse of abandoned ships as resources demonstrate how vessels can maintain a value and use within the society, both culturally as archaeological sites and economically as reused material.

A studied interpretation of human's interaction with a vessel throughout its existence (pre-abandonment) greatly increases our understanding of the act of abandonment, not only the physical act but also the motivation behind it. Peter Veth (2006:21) stresses an artifact's meaning can change over a period of time, area, and culture— so too does a watercraft's use and value change over time, area, and culture. Bennett (2014:16) expands upon Veth's assertions by stating that an understanding of abandonment processes grants insight into these changes—from abandonment to a site rich with resources—that can provide information about human behavior and interactions with the object. What is commonly overlooked in scholarship is the fact that there is an impetus of motivation behind the initial abandonment, mainly economic. Abandoned watercraft, for the purpose of this definition, is an intentional act, not due to catastrophic actions (storm, construction errors, collisions, etc.). The abandoner comes to the realization that the vessel fails the functionality of the ship as a "floating tool of trade" (Richards 2002:38) and the result is the act of abandonment. Examining the evidence of economic trends (e.g. business cycles), the development of new technologies, and studies of reuse processes provides a better understanding of human behavior by looking at the motivations behind such processes (Richards 2002:38). But the term abandonment still needs clarification to illustrate that abandonment is not a final stage but rather a continuation to another phase of its use.

The term abandonment, as it pertains to the field of underwater archaeology, is best articulated as watercraft discard, defined and explored by Richards (2008:7–10). Although Richards' (2008) book *Ships' Graveyards* focuses primarily on Australian

watercraft discard processes, his understanding of abandonment in relation to watercraft discard in an economic context is the most comprehensive exploration into the complexities of abandonment processes and categories of abandoned watercraft. For the purpose of this study, abandonment will refer to the C-transforms, defined as the effects of human interaction from salvage to disturbance of materials that lead to the current state of the sites, with special consideration to Michael Schiffer's (1976:38–40) S-S processes (e.g. lateral cycling, recycling, secondary use) that were used to deliberately discard a watercraft. As for the N-transforms, such terminology refers to the natural influences on a site (Richards 2008:51). Schiffer (1976:37) explains that S-S process are the "material's transformation from state to state within systemic context". Such is the case of pre- and post-abandonment processes that affect the vessels' use. Throughout this thesis, 'abandonment site' refers to the present state of the watercraft having been placed at its current location due to economic changes in the related industries, thereby negating the usefulness of an economic merchant watercraft as a useful tool towards its original or intended use.

Understanding an abandoned site

In the case of abandoned watercraft studies, these vessels have the potential to demonstrate the means by which humans interacted with their physical landscape through the use of discarded material culture. Comprehending an abandoned site may seem as simple as the discard of a vessel, but the reality is a much more involved process that leads to its abandonment (Adams 2013:19). The understanding of an abandoned site, both physical and metaphysical, challenges preconceived notions of shipwreck sites that developed from preceding literature.

A submerged watercraft site can be seen as a time capsule, in other words, a site that can transport researchers to a specific time and place. Since Keith Muckelroy's (1978) influential text on the subject of static sites, others have sought to challenge this idea of a 'closed-context' or 'closed find' site**,** arguing that certain sites are constantly changing and therefore not static (see Adams 2013; Adams and Rönnby 2013; Gould 2000; Schiffer 1985). Two key articles, one by Richard Gould (2000:13) and the other by Schiffer (1985), challenge the notion of shipwrecks as static sites and instead describe them as fluid sites.

Abandoned sites materialize for a variety of reasons: socio-economic factors (Richards 2008:178; Bennett 2014; Bennett and Fowler 2016:18; Smith 2013:240), city planning (Christensen 1985; Goodburn 1991; Riess 1991), warfare (Crisman 2014:2; Crumlin-Pederson et al. 2002; Ford 2013; Hunter 2013), or ritualistic uses (Christensen 1972:86; El-Baz 1988; Johnstone 1974:80; Meaney 1964; Randsborg 1991:21). Because this thesis places emphasis on economically abandoned vessels, examples of military vessel abandonment and ritualistic abandonment, like the *Cheops* hull in Egypt, remain unexplored—but this does not negate the importance of alternative research and their contribution to scholarly understandings of abandonment studies and the related human behavioral studies.

The processes that are involved in the disposal of old vessels reveal social attitudes and responses to changing industries (Adams 2001:295). These developments do appear in

the archaeological record; the reasons and processes for abandonment, however, are not always clear, given the usually clandestine environment in which abandonment takes place (Richards 2013:2). The processes that led to the sites' current form are vital to understand an abandoned site and its status as a fluid, and not static, site.

Adams (2001:300) stipulates that there are seven constraints that influence a ships construction and use: purpose, technology, tradition, economics, environment, materials, and ideology (Figure 2.1); in theory, each constraint can be observed in the archaeological record. Focusing on the economic category, Adams (2001:300) maintains that the proper resources in regards to labor and/or wealth are required to produce a vessel. This viewpoint is inherently biased towards the construction of the vessel. Peter Colvin's (2011:3) master thesis adheres to a similar understanding of watercraft construction in the role of economics, stating that "by observing the way vessels are constructed, how they were used, how the materials were selected and gathered", inferences can be made about the socio-economic influences on the ship as to its construction. Herein lies the issue that the burgeoning field of abandonment studies has been arguing against and are currently disproving: abandonment studies not only show the factors that influence the vessel from construction to abandonment, but also post-loss. A site must be investigated with a comprehensive view of its existence. By adapting the interrelated constraints developed by Adams (2001; 2013), one must adhere to the site for its whole existence (pre- to post-abandonment) rather than just its original purpose in order to further enhance our understanding of maritime communities, their reliance and relationship to watercraft.

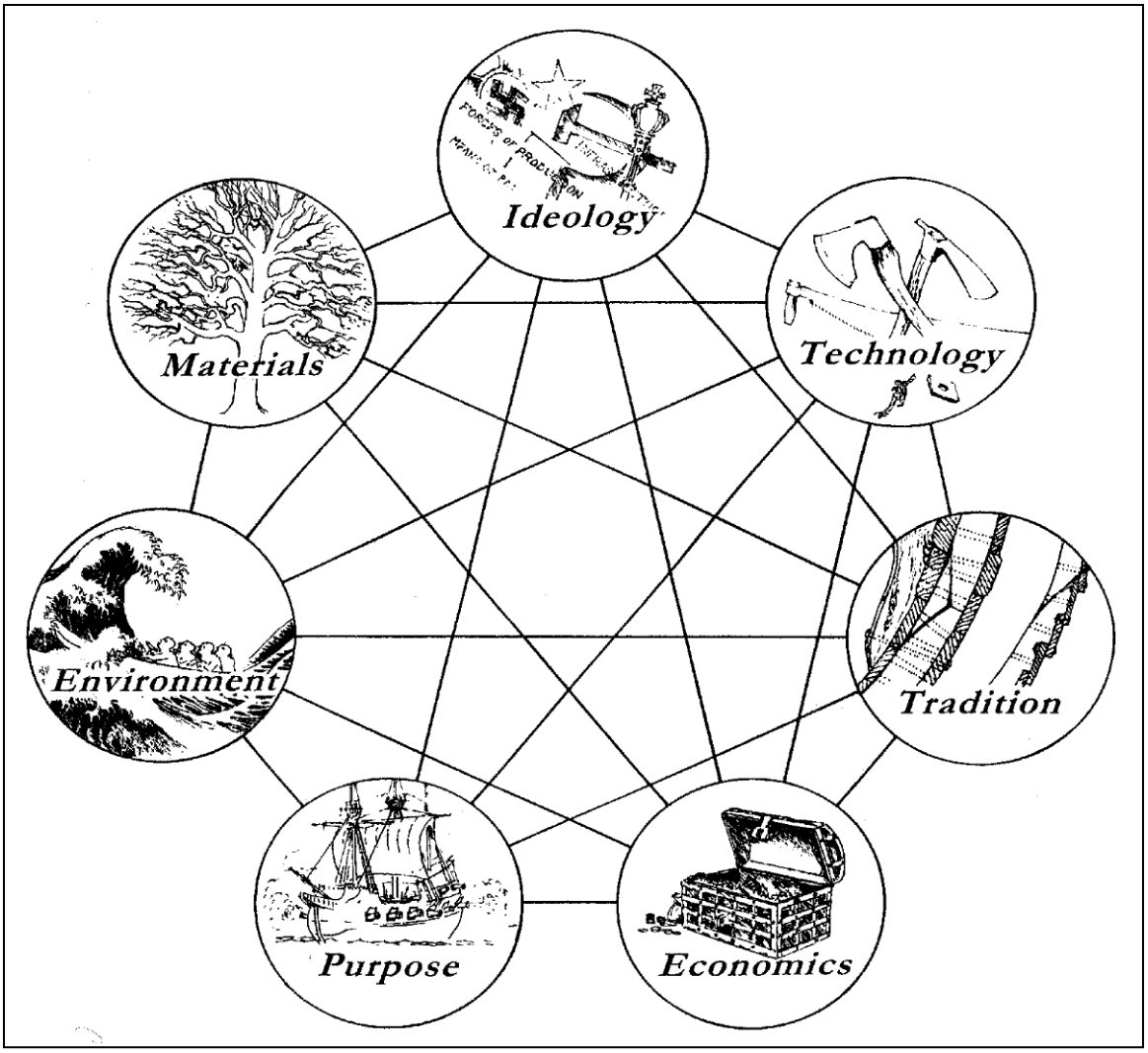

Figure 2.1: Adams (2001:Figure 1) interrelated constraints.

Since ships are the "largest and most complex machines produced", prior to the industrial age (Muckelroy 1978:3), the processes that culminate in their disposal indicate conscious decisions by an agent making economic and personal decisions. Once one disposes of the vessel its use as a resource or tool continues in a different form. Schiffer (1995:55) suggests that artifacts are linked in a diachronic chain of interconnected events and not just changeless. Such is the case with abandoned vessels, especially in shallow sites where access to ship remains easily accessible by local maritime communities. A deliberately abandoned site's manifestation in the archaeological record is continually

changing, whether through N-processes or C-processes. In many cases, it has been studied and noted that maritime communities see abandoned vessels as resources for reuse (e.g. holiday shacks, stores, garden decorations, or hulking) (Bennett 2014; Delgado 1979; 2013). Reuse and recycling continue the chain of events post-abandonment, previously seen as the culmination of static site, and continue the life and worth of the vessel beyond its original maritime purposes.

Each action has a reaction; therefore every action on the structure of the ship should leave tangible traces on the site. By splitting the life of the vessel into four stages, these traces can be seen and investigated for analysis. These stages are: construction, use, discard/abandonment and post-abandonment. Each of these stages of the watercraft's life influences its present state.

For the majority of this chapter, strong emphasis is placed on the abandonment and post-abandonment processes. To truly understand an abandoned site as it lies in constant fluctuation with its nearby community, a holistic understanding of the watercraft's full life is paramount. Chelsea Colwell-Pasch (2014:27) researches the full "life" of a ship, but fails to go beyond the point of wrecking and its immediate consequences. Minna Leino (2013: 136) suggests that S-S transforms such as pre and post-"death" recycling can garner new insights concerning human behavior; by combining Leino (2013) and Colwell-Pasch's (2014) methodologies, this holistic view is realized. Furthering the understanding of a vessel's biography, Johan Rönnby (2009) speaks about the cultural biography of objects, a concept introduced by André Leroi-Gourhan (1993), and its uses

for vessel analysis. Such an understanding conceptualizes a vessel's whole existence, "the processes and cycles of production, exchange, and consumption" (Leino 2013:136). Only by understanding the whole biography from creation to current context can researchers understand maritime communities through material objects (e.g. ships). For Leino (2013:136) the life and death of a vessel includes several phases: planning, building, equipping, sailing, and abandonment. The "death" of a ship does not always indicate the end of the story because parts of a ship can be recycled into other ships (Leino 2013:136). By understanding the vessel's life from construction to abandonment to current state, as Leino (2013) and Rönnby (2009) do, scholars gain a richer knowledge of a site's current manifestation whether it be underwater, submerged, or on terrestrial landscape; this establishes the site as fluid, and capable of changing through time, area, and culture**.**

Abandoned site formation processes

When Muckelroy's (1978) monograph was first read, many saw it as progressive and it has now become contemporary maritime archeology's canon. Since 1978, many scholars have revisited Muckelroy's work to see if the conclusions are still applicable to contemporary studies. Martin Gibbs (2006) examines Muckelroy's (1978) theories on the systemic state of a watercraft's post-depositional influences. Muckelroy (1978:157) addresses the understanding of a vessel's movement from systemic to an archaeological context, as the result of the site becoming static upon reaching equilibrium with its environment. Gibbs (2006:5) identifies systematic and opportunistic salvage as indications of post-depositional interference with the archaeological context of the site, illustrating that a static site does not always become a perfect time capsule. Gibbs

(2006:14–15) also delves into defining opportunistic salvage, a non-systematic removal process conducted right after wrecking, and systematic salvage otherwise known as professional salvaging being conducted after a ship has recently sank. Gibbs conjectures fit well within the study of the shipwrecking process and efforts by the involved peoples to salvage useable materials from the wreck soon after the wrecking event. What is useful for abandonment studies is that Gibbs (2006:5) points out that Muckelroy's (1978) understanding of a site being stable is not universal, and salvaging and reuse are just several examples that contradict the static site understanding.

Previous to Gibbs (2006), Adams (2001) conveys similar conclusions, building upon Muckelroy's (1978:157) understanding of a shipwreck as a transformation from a highly organized state to one in a static disorganized state is insufficient. While having the same focus on shipwrecks studies like Gibbs (2006), Adams illustrates the ever-changing views on ship site formation factors. The idea of a site not being stable can be applied to abandoned watercraft site formation studies according to Bennett (2014:13), who points to Richards' (2008:146) theory on the disuse of watercraft formation processes, which focuses solely on disuse and the related C-transforms and N-transforms that affect the sites formation into the archaeological record (Figure 2.2).

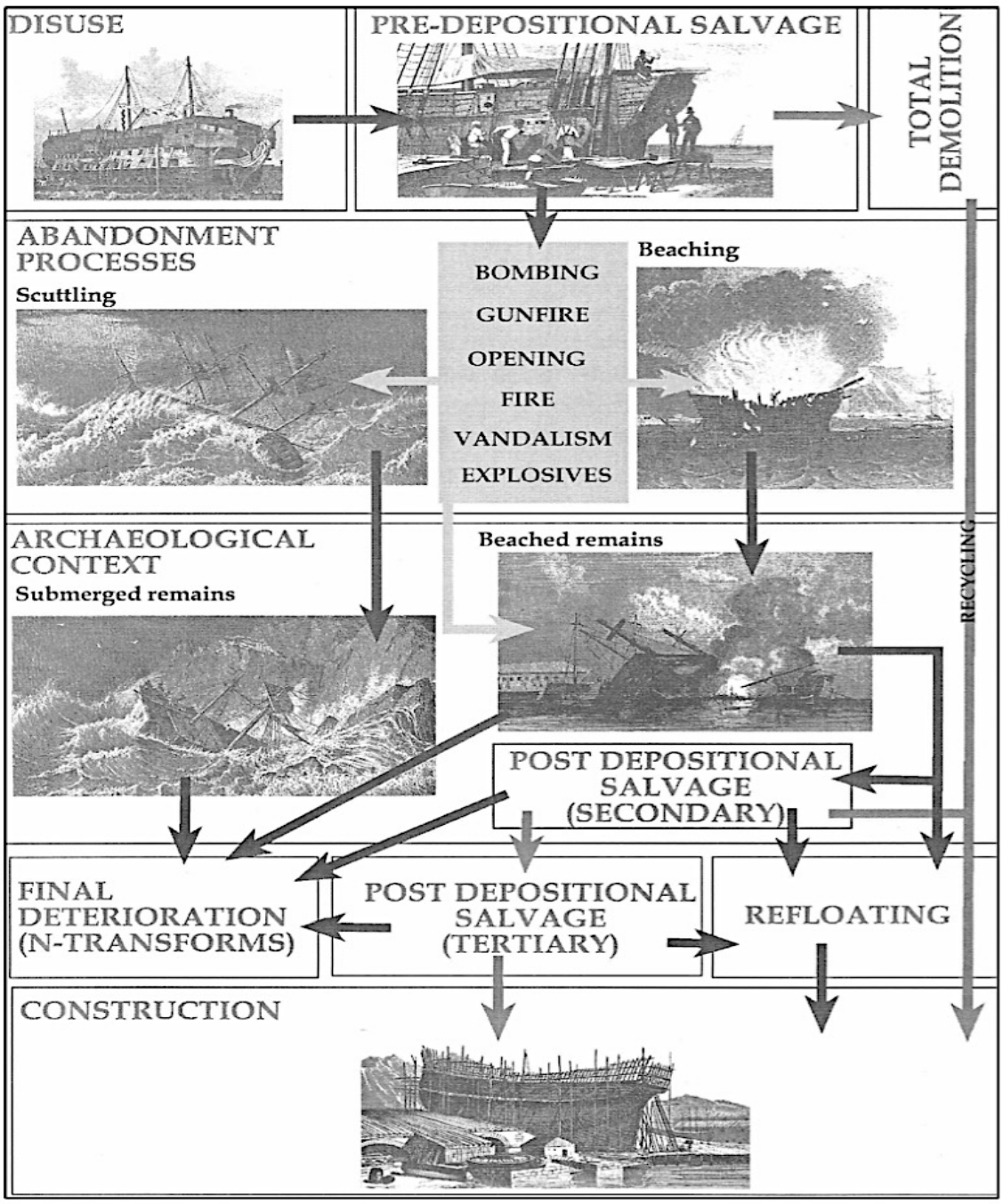

Figure 2.2: Disuse site formation processes model (Richards 2008:Figure 37).

Richards (2008) simply looks at disuse and the following processes involved, consequently not addressing the formation of the site starting at construction. In Figure 2.2, Richards places c*onstruction* as the final product, and does not reference how

materials are actually recycled into a new vessel. Conversely, the formation of an abandoned site does not start with the scuttling, but rather the construction. Every decision regarding the type of wood used to the frame configuration reflects a decision by a human adhering to Adams' (2001:300) seven constraints and influencing the worth of the vessel throughout its use.

An extended abandoned site formation processes model includes the four stages of a vessel's life (construction, use, discard/abandonment and post-abandonment) and how each stage fulfills or fails to fulfill the seven interrelated constraints. Richards (2008:11) maintains that a site can only enter into the archaeological record when all ongoing activity ceases. What Richards fails to do is define what constitutes ongoing activity. Does ongoing activity just mean the influences of past events on the current state of the site or can the fact that an archaeologist working on a site brings this "static" site out of the archaeological context? A site can enter into the sphere of archaeological context but this does not mean that the vessel's history ends there. Abandoned watercraft illustrates this point, especially when they are in shallow water where researchers, students, locals, and tourists visit them frequently.

Referring to Figure 2.3, this new abandoned site formation model illustrates the aforementioned concept of continually changing factors that keep the site in both an archaeological context and a systemic state.

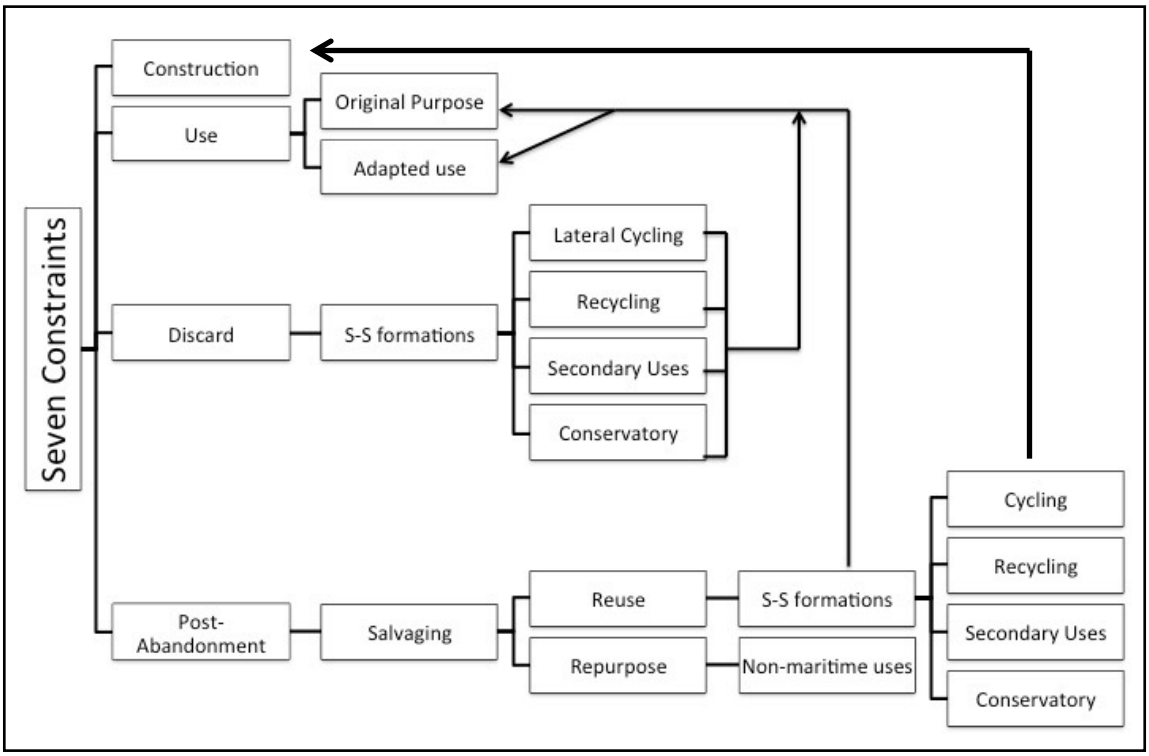

Figure 2.3: **Abandoned site formation model incorporating S-S formations and Adams (2001) seven constraints.**

In this model all four stages of an abandoned site adhere to the seven interrelated restraints. Each category box leaves a mark, in theory, on the physical form of the site. The seven constraints have been adapted from Adams (2001:300) original purpose—the manifestation of the ship—to factors that influence the economic and cultural worth of the vessel from construction to post-abandonment stages. When dealing with economically abandoned vessels, it is apparent that a vessel would adhere to the economic constraint, but to classify it as an isolated and singular influence would simplify a complex issue: the human behavior behind the action. What this model does is synthesize Adams' (2001:300) seven constraints, Richards' (2008:55) complexities of discard and reuse, and Schiffer's (1976:38–40) concept of S-S formations to convey the complexities of abandonment and the distinct features that would be developed through a watercrafts life history. While this model is by no means absolute it is a starting point to

be tested and reformatted to fit into the complexities of a wide variety of abandoned watercraft sites.

With *construction*, a shipwright/owner is restricted to several constraints. For example, a lumber schooner operating during the late nineteenth century should adhere to the restrictions imposed by technology, economy, purpose, and the availability of materials. The construction of the vessel must fulfill the purpose and construction design of the required factors required for it to qualify as a merchant schooner, if that is its designation during construction. The *technologies* needed for construction are proper shipwright construction and use of shipyards. *Material* is the wood/metal and joining techniques used to construct the vessel. Finally, *economics* would encompass the labor and wealth needed to construct such a vessel. If all constraints relating to the vessel are met then the vessel is constructed.

For *use*, the maintenance of the vessel in adherence to the seven constraints is paramount to its the operation, in this case as a merchant lumber ship. Such constraints like wealth, material, and technological changes influence the use and maintenance of the vessel throughout its intended career. The ship is a tool in which to carry out economic or military endeavors (Muckelroy 1978:219), therefore the ship must adhere to the changing economic needs and other conditions that predicate its use and existence.

Discard, otherwise known as abandonment, relates to the full depositional phase. The processes of abandonment are complex and deal with the inability of the owner to

maintain the vessel's existence in relation to the seven constraints. The abandonment processes typically involve S-S formations that scrap any salvageable materials for uses on other ships or structures. The reasons for abandonment can, for an archaeologist, be databases for technological changes (Richards 2008:183).

Many archaeologists assume the post-abandonment stage to be the static state in which a site resides. The work of Adams (2001; 2013), Gibbs (2006) and Schiffer (1976) have questioned and disproved this common notion of static sites. Practices such as reuse and salvaging by maritime communities long after abandonment show human interaction with an artifact that was once seen as an eyesore or hindrance (Bennett 2014:16; Richards 2008:11; Richards and Nash 2005). This illustrates Richards (2008:11) point of how an eyesore can also be a reusable resource and thus hold a positive economic value (e.g. useable wood) as well as a culturally negative value (e.g. abandonment equals failure).

Examining the life of an abandoned vessel is complicated given the lack of historical documentation concerning its abandonment. But this gives abandoned studies additional importance and obligation to further research within the larger maritime archeological field. Abandonment studies have the ability to challenge preconceived notions of what is significant and why. Such studies illuminate what has been forgotten, lost, or unmentioned by past peoples. Filling the void of precious cargoes and the remains of tragedy, abandoned vessels form the usually unnoticed remnants of past events as well as more contemporary efforts by communities to interact with such vessels (e.g. shallow water site timber reuse).

Vessel abandonment in the Great Lakes region

Abandonment studies have only just been investigated in the past ten years in the Lake Huron region. An effort to preserve and conserve abandoned and shipwrecked sites on Lake Huron resulted in the establishment of Thunder Bay National Marine Sanctuary (TBNMS) in 2000. The archaeological studies conducted in Northern Michigan rarely go beyond UCH management purposes. The few citations of ship graveyards or abandoned watercraft, in Lake Huron specifically, are in publications written for a public audience. One of the few archaeological publications that mention abandoned watercraft is Wayne Lusardi's (2011) article titled *Rock, Paper, Shipwreck*, in which he gives a detailed overview of the development of the coast near Alpena, Michigan. Lusardi (2011:87) mentions the widespread abandonment of vessels after the lumber trade crashed in Northern Michigan, drawing specific attention to the Red Line fleet of sailing schooners that was owned by local lumber baron, F.W. Gilchrist.

The processes of reuse pertaining to the case study are fairly unknown, but Lusardi (2011:88) does state that such vessels were stripped down before discard into any of the several ship graveyards that dotted the coast along Northern Michigan. Lusardi and John Halsey (2008:34) discuss the deposition of three lumber sailing schooners, giving brief details on the overall dimensions and previously found sites. What these papers achieve is a general overview, they are not an in-depth analysis of such sites; given their purpose, it is understandable, but it calls for the need for more analysis of the sites. The process of abandonment gives insight into the social actions and behaviors of people within a maritime community, especially in relation to a changing economic landscape. This gap

in research, regarding Lake Huron, is an unexplored opportunity to demonstrate how individuals within this maritime community were motivated to abandon their vessels due to changes in northern Michigan's industrial output.

Conclusion

Since the 1990s, ship abandonment studies have slowly grown to develop an insightful method of understanding social behavior and historical trends. Previous studies show the rich data that is derived from abandonment studies, especially when researching human behavior and response to changes. This research applies this interpretation of abandoned sites to the Great Lakes region, which has previously not been done.

The term abandonment has many meanings and can overly simplify complex process by leaving the term undefined. Through the use of Colwell-Chanthaphonh and Ferguson (2006) and Richards (2008), abandonment as it relates to watercraft discard is better understood. Abandonment, throughout this thesis, refers to the S-S formations an act of discarding a watercraft into a ship graveyard by means of a systematic process. The site itself, a direct result of abandonment, is a manifestation of the changing value of the vessel as a useful tool. The physical remains are in constant flux due to N-transforms and C-transforms. It is the latter of the two that are the focus of in this thesis, which will look at the four stages of existence of a vessel to better understand the social actions imbued into the archaeological context.

Understanding an abandoned site and its relation to a maritime people, entails not only the processes that were undertaken to discard the watercraft, but also the full extent of its

career pre and post-abandonment. An abandonment site is the direct result of old age, and advancements in technology. Adams' (2001:300) seven constraints were first published to look at the constraints on the construction of a vessel, but for this thesis these constraints are adapted to apply to a vessel's full existence. The constraints are always impacting the vessel, even when it has entered the archaeological context: every action (i.e. construction, damage, repair, and abandonment) leaves tell tale signs and can be investigated by archaeologists. Understanding the full life history of the vessel from construction to post-abandonment sheds new light on the abandonment site, thereby helping archaeologists with the complexities of human behavior surrounding abandoned vessels.

Deliberate discard studies require an in-depth understanding of the factors that led to the discard of a vessel. By developing a formation model using the concepts of Adams (2001), Schiffer (1976) and Richards (2008) a comprehensive abandoned site formation model can be developed. This model is by no means an absolute, but rather a continuation in an already growing debate on related subjects. The goal of such a model is to be critiqued and adapted to the needs of a researcher. In this research, creating a model that encompasses the complete life history of a vessel from construction to post-abandonment shows the complexity of an abandoned site, especially in shallow water sites where local communities can salvage materials for a variety of uses.

We can better understand human behavior in response to economic depression, the ever-changing technologies that drive and diversify ship construction, and use by examining

regions, like North Michigan. The research potential of such uncharted sites will help us better understand the extent of the ship's remains and its diagnostic features, which are tell tale signs of a long career as a merchant vessel, to its abandonment and post-abandonment uses by its nearby communities.

Chapter Three: Methodology

This thesis project investigates a site identified as a ship boneyard/graveyard to better recognize the complexities and manifestation of an abandoned site in the archaeological record. For this study, the two abandoned watercraft needed to be located in a region easily accessible to local people for salvage while also maintaining a level of structural integrity to preserve any indications towards its pre-abandoned construction. Any evidence of salvaging or repair was previously unknown, and are therefore exposed through this study.

The Whitefish Point ship sites represent two key sites in which to study deliberate abandonment. They are in close proximity to shore and placed north of the river mouth of Thunder Bay River. Both sites are in shallow water, 2–2.5 m below the water surface, of the Whitefish Bay, also known as the Isaacson Bay Boneyard. They were discarded sometime from the 1890s and to approximately 1905.

Historical archives

Historical research was undertaken in local libraries and archives, in particular at Michigan institutions, during the months of October to November 2014, June 2015, and July 2016. The main archival research data came from research at the Alpena County Library, where the most extensive collection of Gilchrist letters and records are housed, and the Besser Museum, which has over twenty archived boxes of Gilchrist's business correspondence. Additional Gilchrist family papers were accessed at the University of Michigan's Bentley Historical Library. In addition, multiple research institutions and

archives, such as Great Lakes Maritime Database (www.quod.lib.umich.edu), provided valuable information of ship registers and news articles.

The combination of both Alpena and state collections provided a wide selection of historical resources that were necessary to access, given the amount of merchant ship transportation that occurred across the state of Michigan during the nineteenth century. The Alpena County Library provided enrollment forms and newspaper articles pertaining to the known vessels in the Whitefish Bay and extensive sources on Gilchrist owned ships from 1870 to 1910. The Bentley Special Library, located at the University of Michigan, provided donated family papers of the Gilchrist family in Alpena, which included business-meeting notes of the Thunder Bay Boom Company.

To obtain information on the abandoned watercraft in the Whitefish Point Boneyard, investigations started at the Alpena County Library. Special attention was directed towards newspaper articles and legal forms that mentioned the history, construction, use, repair, time, and place of abandonment.

Any information found that mentioned the processes and reasons for abandonment are significant because of the scarcity of information regarding this Lake Huron case study. Any historical documents that connote what was stripped from the vessel before abandonment provides an understanding of what should remain on the vessel in the archaeological record. Also any lack of information about certain vessels being in the

boneyard is of importance and any such physical evidence aids in understanding Alpena's past beyond just historical documents.

Fieldwork

For two weeks in June 2015, an *in situ* survey was conducted on the two Whitefish Point sites to test the possibility of the ship abandonment sites and to examine the validity of historical documents attesting to the discard of three Frank Gilchrist-owned lumber schooners; *Light Guard*, *Knight Templar*, and *S.H. Lathrop* (see Appendix D for prospectus to Thunder Bay National Marine Sanctuary (TBNMS)). This survey project, titled the Gilchrist Fleet Survey (GFS), required a joint operation between NOAA, Michigan state managers, and Flinders University.

The research team included Donald La Barre, researcher (Flinders University), Wayne Lusardi, State Maritime Archaeologist for the Department of Natural Resources (DNR), Phil Hartmeyer, National Oceanic and Atmospheric Administration (NOAA) maritime archaeologist, Russ Green, NOAA Deputy Superintendent, John Bright, NOAA maritime archaeologist, and Makanani Bell, NOAA intern. Lusardi and NOAA staff supplied essential tools and support for the field research. As aforementioned, the sites are shallow and in close proximity to a walking trail along the coast, which allowed the research team to gain easy access from the shore. All dives adhered to the DNR, NOAA, and Flinders University dive standards for scientific diving.

Each day, the team would drive from NOAA headquarters in the morning around 09:00 and returned at 15:00 during weekdays. The trailhead starts 400 m East on North Point

Shores Rd. and runs south for 100 m to the shoreline. A shore base was established to allow for SCUBA tank replacement and to reset Mylar sheets for drawing. Given the proximity of the sites to nearby residential regions, researchers gained permission from Lafarge Cement Company to access the site, and established public outreach through local news stations and radio interviews to inform the local community of the activities on the sites.

The aim of the survey was to revisit data obtained in 2010 during a NAS training class by the National Association of Black SCUBA divers (NABS) in which the participants investigated the validity of the identity and evidence of abandonment pertaining to the sites. Two out of the three vessels were found and investigated; diagnostic features relating to its purpose and post-abandonment salvage were recorded. As part of the non-disturbance process of surveying the two sites, no sites were disturbed or excavated. For the purposes of the survey only visual inspections were implemented to analyze the underwater sites for indications of use, abandonment, and salvage.

Both sites currently rest near a rock reef just 50 m to 100 m from the coastline (Figure 3.1). This reef system helped researchers easily locate both sites to place marker buoys on both sites. An initial swim survey, using snorkels, was implemented to identify the boundaries of each site. Once the initial survey was completed, a visual inspection using Self Contained Breathing Apparatuses (SCUBA) commenced. The minimum number of participants undertaking research on any of the two sites was two divers to insure safety. The first site surveyed and mapped was that of Vessel A, which was mapped using data

collected during the NABS NAS training course in 2010. Baseline-offset was used to add missing sections in the NABS site map.

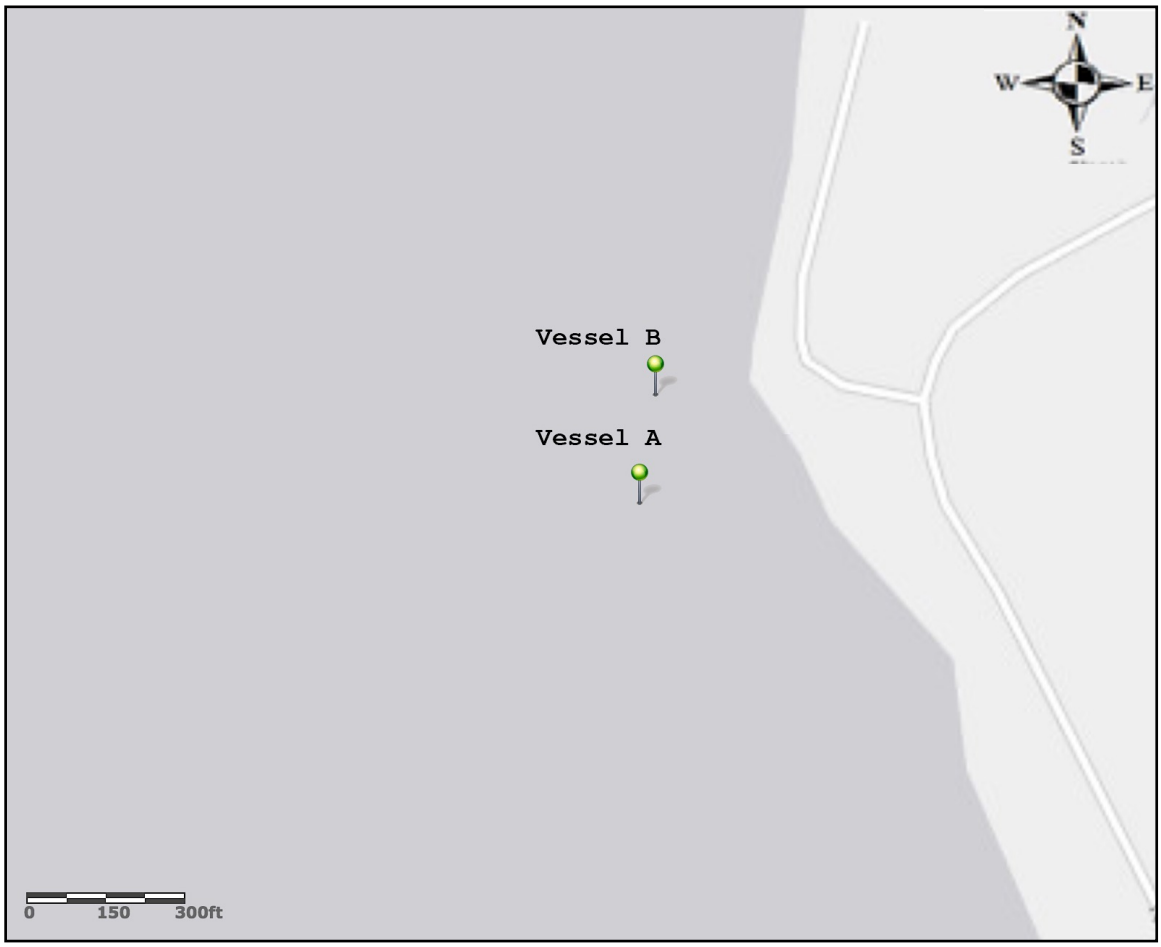

Figure 3.1: ArcGIS image of survey site of Whitefish Point Boneyard (La Barre 2016).

Techniques similar to those applied on Vessel A were used on that of Vessel B. Because NABS was not able to conduct surveys on the second site, the current research team did not have any preexisting measurements to build on. By utilizing Mylar slates to note measurements, in relation from the baseline, and diagnostic features to be photographed, archaeologists established a 40 m baseline along the keelson structure and centerboard box (Figure 3.2). Starting from the bow, each diver was assigned an area of 10 m in length on either the starboard (shore side) or port (lakeside) sides. The diver measured

and mapped data from this area onto master site map. Each diver mapped a section of 20 m in one dive, or two sections, of either port or starboard sides of the ship for measurements.

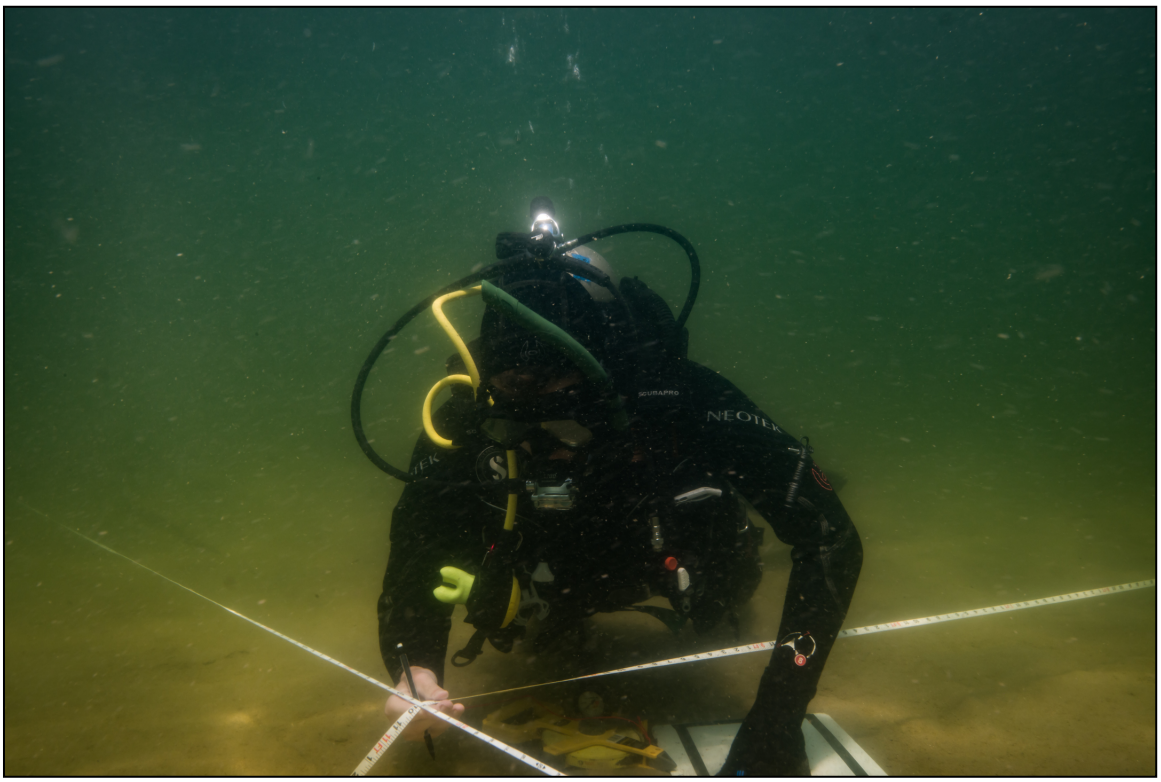

Figure 3.2: Maritime archaeologist Donald La Barre using baseline-offset (NOAA 2016).

Minimal current, as well as the site's calm and protected conditions, provided the suitable environment for the use of baseline-offset recording. Trilateration was also used to record a disarticulate section of the hull on the starboard side that had broken apart from the main structure of Vessel B, along the disarticulated hull. Several teams were able to record trilateration measurements to connect the adjacent section to the main structure.

Along with the site plan, photographs were taken of key diagnostic features amongst the abandoned site. High quality photographs were essential to revisit the site in a digital system and to record features that could deteriorate or be swept away from their original

location. Starting at the bow section, photographs were strategically collected moving from bow to stern, then later processed through Adobe Lightroom. Each day, photographs taken were backed up that day off-site and backed up to a primary computer.

Individual equipment and recording techniques

Two measuring tapes were used to record baseline-offset measurements: one set along the main baseline and another, adjacent, to measure objects and features. The length/breadth and side/molding of the ship were collected using 20 m tapes and 1 m rulers. Only the key features that were assessed to be part of the ship structure were obtained; currents had caused pieces of unrelated wood into the site. The length of the vessel was measured from the surviving ends of the bow and stern. The length and beam measurements are essential for comparing against historical documents and verifying the ships' identities and typology.

Using a handheld GPS unit placed inside a splash case, positional data was taken from the vessels' stern and bow, along the shoreline. Understanding the orientation of the vessel and the nearby shore helps researchers interpret the possibility of shoreline access to the site for salvaging and the manner in which the vessel was discarded.

A Nikon D800 placed in an underwater housing was used to capture images in both .jpg and .dng files. Each diver was also equipped with a GoPro Hero 3 to record video footage. Photographs were taken to document the team's research activities and scaled object recording.

Limitations

Several limitations arose from the fieldwork that can potentially skew data and therefore impact interpretation and discussion. First, due in part to the survey being conducted primarily by volunteers and minimally funded, methods for analysis, such as dendrochronology, were not possible. Next, given that the focus of the research was solely on the Whitefish Point Boneyard and omitted the other ships' graveyards from the Thunder Bay region, the results may only apply to the study area. As for the structural remains, several timbers found on site are not related to the abandoned vessels, and therefore, could be from a nearby site. Such remains have the potential to skew data and therefore interpretation by introducing non-original materials into the sites. Finally, because no oral histories or interviews were collected the information pertaining to the salvage and reuse of ship timbers is solely based on archaeological evidence. Given the lack of interviews, distinguishing between historical and recent salvage is difficult.

Conclusion

The fieldwork employed an *in situ* survey strategy to investigate the ship remains located in the Whitefish Point boneyard. Basic equipment was used to record baseline-offset and trilateration measurements and conduct documentation. The techniques used to record the site ensured the collection of data that can be used for this thesis, in future research, and for monitoring the site and the graveyard. The next chapter discusses the results of the research.

Chapter Four: Results

This chapter is divided into two result sections. Each of the two aids in the understanding of the collection of abandoned materials and the post abandonment processes influencing the sites. First presented are the findings from archival research, which show both metric and imperial measurements, followed by the archaeological results of the two field seasons on both sites, presented with only metric units.

Gilchrist lumber industry

Frank W. Gilchrist first came to the Alpena region to locate lands to harvest white pine in 1863 with subsequent visits in 1864 and 1865 (HR Page and Co. 1883:243). After building the Gilchrist Mill on the north side of the river towards the mouth of the Thunder Bay River in 1867, Gilchrist began processing lumber for contracts in the spring of 1868 (HR Page and Co. 1883:243) (Figure 4.1). At first, the single circular saw mill produced approximately 5,000,000 ft. (1,524,000 meters) of lumber. Most mills operated along the river; in Figure 4.2 Gilchrist's mill is located on the farthest right side and Fletcher's docks farther up the river.

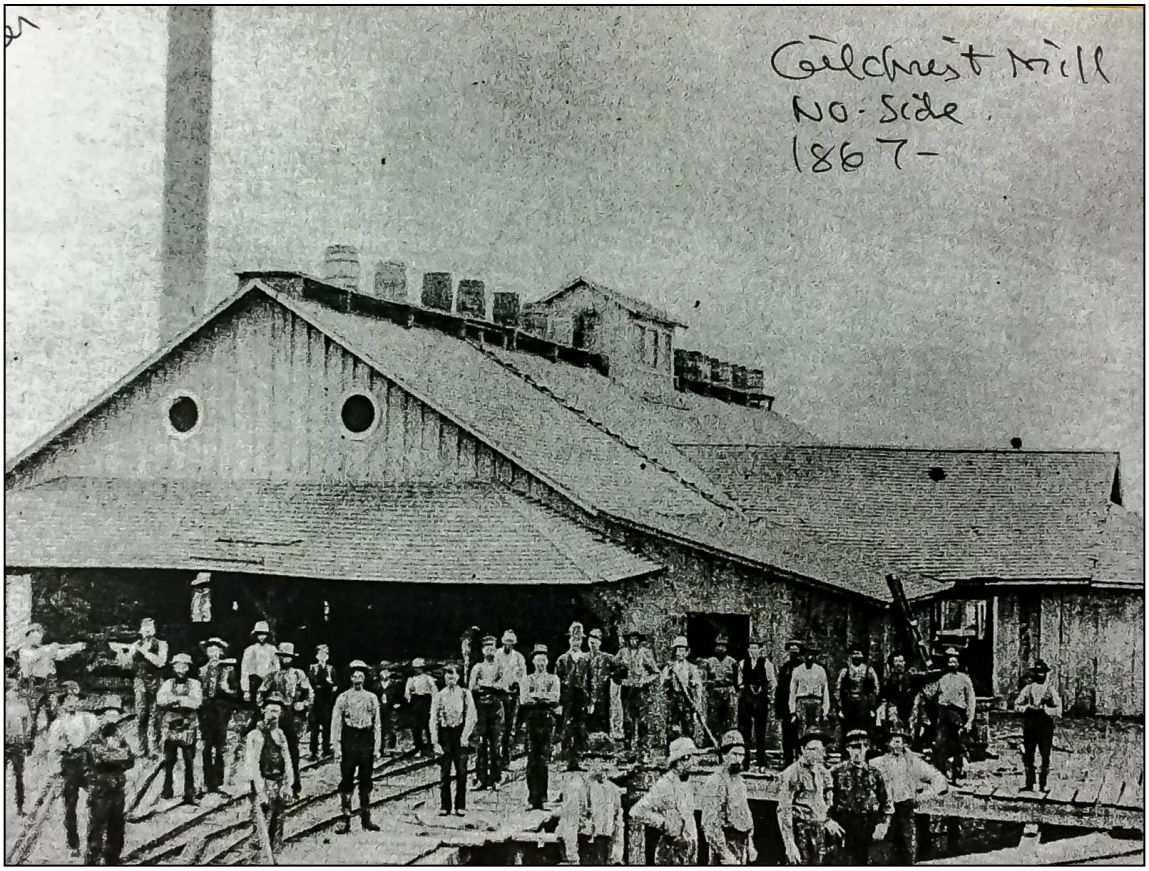

Figure 4.1: **Mill laborers posing at Gilchrist Mill in 1867 (Alpena County Library Special Collections, TBRC-5 "Ports" Box 1: A-AR, Folder 7).**

Using the profits of the first ten years, Gilchrist practically rebuilt his mill. By installing two circular saws to increase production, the Gilchrist Mill processed 20,000,000 ft. (6,096,000 meters) of lumber in 1881 (HR Page and Co. 1883:243). During the peak of lumber production during the white pine era, Gilchrist became one of the wealthiest lumber business owners in the region. As a prominent figure and an invested member in the community, Gilchrist aided in the development of Alpena as a prominent industrial lumber town.

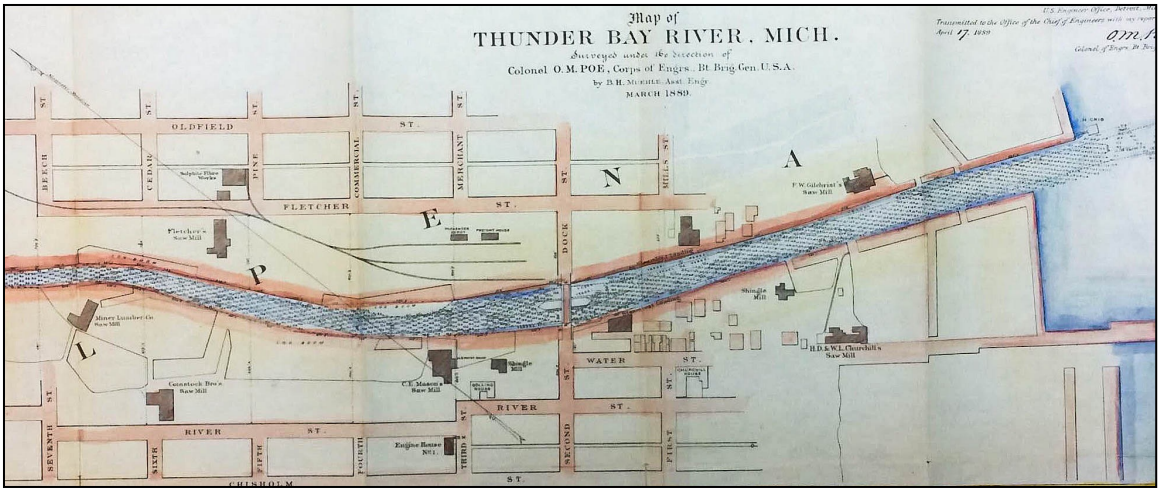

Figure 4.2: **Map of Thunder Bay River and lumber mills from March 1889; Gilchrist Mill is the farthest on the right (Alpena County Library Special Collections, TBRC-5 "Ports" Box 1: A-AR, Folder 7).**

With seventy people employed to operate the mill, boarding house, store, and office, his company set several industry records. One such record was the highest production of cut timber processed through the mill in one day, an impressive 200,000 ft. (60,960 meters)—the most of any lumber mill in Alpena County (*American Lumberman* [AL], 8 October 1904). One article by *American Lumberman* (8 October 1904) attributes a large portion of the development of Alpena both in lumber and of commercial interests of the district to Gilchrist. Gilchrist worked with other lumber businesses in the area, such as Fletcher Lumber, and had purchased merchant ships in partnership with other business people, such as Albert Pack. During the time that *Light Guard* and *Knight Templar* were abandoned, Albert Pack owned the nearby shore and was a known shareholder of *Knight Templar* (See Appendix B for Bill of Sale) (Figure 4.3).

As the end of the White Pine Era started to affect the businesses of Alpena in the early 1890s, Gilchrist sought to diversify his lumber intake by seeking a more diverse range of timber stocks. Such a business decision aided in the longevity of the Gilchrist lumber

company, but this only stalled the eventual shift of the economy to limestone and cement quarry industries that the competing Fletcher family began investing in at the turn of the century. Due to the lack of both supply of white pine and demand for other timbers, Gilchrist finally made the decision to seek potential economic opportunity by relocating to the western United States in order to focus on his woodlands where there was a larger supply of timber.

Such a move necessitated selling all valuable equipment, including any ships that he owned. Given the wide scale economic downturn in the Great Lakes area spurred on by the end of the White Pine Era, the sale of "old barges", like *Knight Templar*, *Light Guard* and *S.H. Lathrop*, proved to be more of a burden than just their abandonment, as these barges could not be adapted to the new economic needs and industries. Around 1903, Gilchrist tried to sell *Light Guard* and *Knight Templar* to interested parties in Cleveland that would construct lighters (Alpena Argus [AA], 29 April 1903). Given his family connections with a shipping company based in Cleveland, Gilchrist tried, however unsuccessfully, to reduce the size of his Red Line fleet in hopes of making a final profit off the old ships. Gilchrist had stripped and abandoned *S.H. Lathrop* near Whitefish Bay, now Isaacson Bay, in 1902 ([AA], 14 May 1902). Further economic pressures led him to also discard *Light Guard* in Isaacson Bay and then *Knight Templar* in the year 1903 (Alpena Evening News [AEN], 23 July 1903:4).

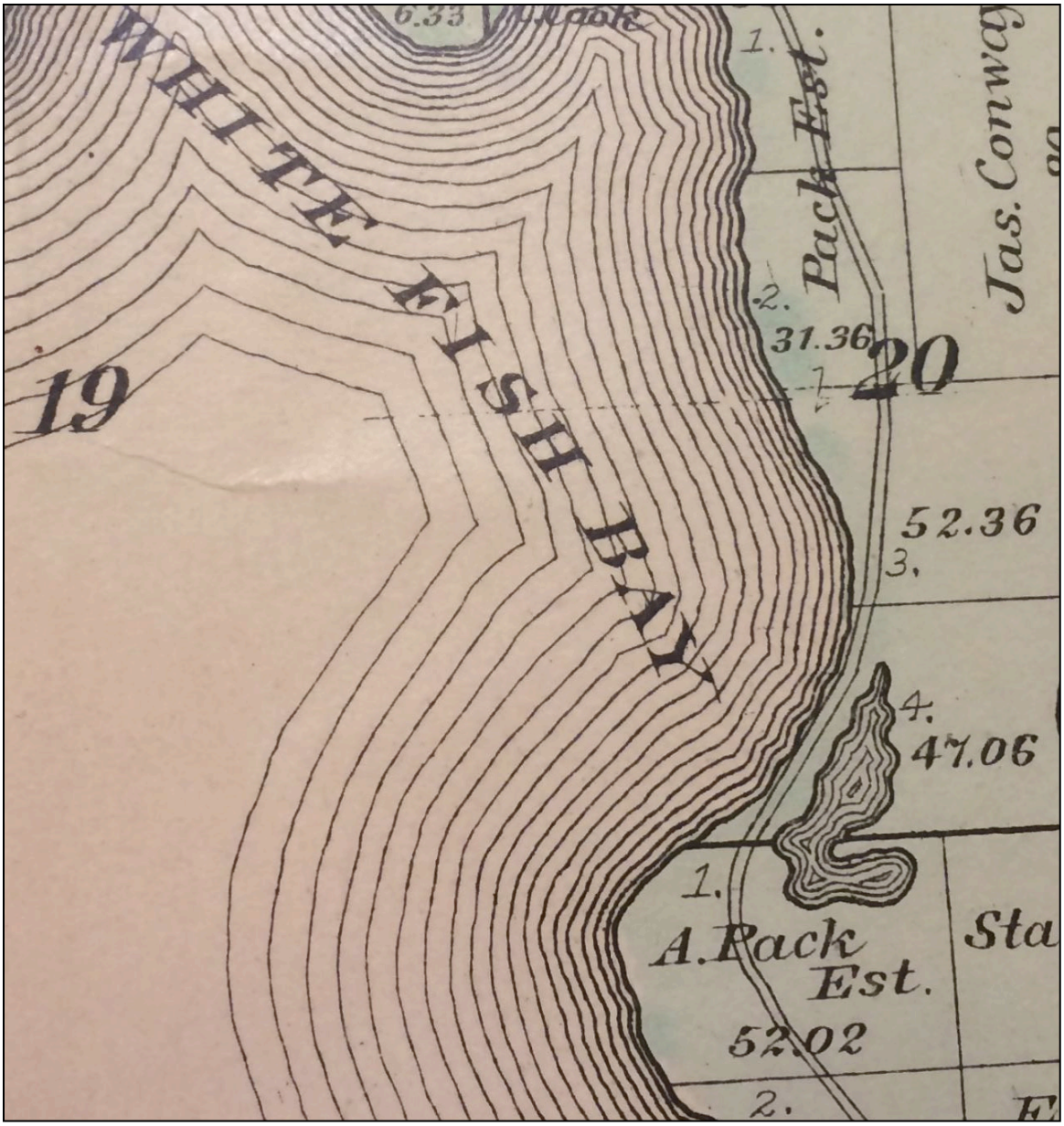

Figure 4.3: **Land ownership map of Whitefish Bay from 1903 (Plat Book of Alpena, Montmorency and Presque Isle Counties 1903, Alpena Special Collections).**

Knight Templar

Built in 1865 by George Goble for Lyon & Finney in Oswego, New York, the schooner *Knight Templar* was launched on May 17, 1865 (Detroit Free Press [DFP], 24 May 1865). The vessel measured 136 ft. (41.45 m) in keel, 26 ft. 2 inches (7.99 m) in beam, and 11½ ft. (3.5 m) in hold. It classified as an A1 ship (Lloyds Register 1866:48). Over its nearly 40-year career as a merchant ship, *Knight Templar* encountered numerous incidents on the lake navigating the seasonally treacherous waters of the Great Lakes and changed hands from various owners.

The most notable incident onboard *Knight Templar* occurred on December 5, 1865, when it sank in the St. Clair Flats from a serious fire caused by the steam pumps ([DFP], 5 December 1865). The vessel was placed immediately in dry docks, where it received new decks and underwent other large repairs (Buffalo Daily Courier [BDC], 7 March 1866). By 1895, Frank W. Gilchrist purchased *Knight Templar* for use in the lumber industry as a schooner barge—steam ships tugged such vessels. After a short career carrying the last cargoes of white pine for Gilchrist, *Knight Templar* was stripped down of salvageable materials and later abandoned at Whitefish Point in 1903 (AA], 14 May 1902).

Light Guard

J.M. Jones built *Light Guard*, described as a barge with a plain head and a square stern (Appendix A) in Detroit, MI in 1866. It measured 142 ft. 6 inches (43.43 m) in keel, 26 ft. 6 inches (8.07 m) in beam and 10 ft. 8 inches (3.29 m) in depth ([DFP], 24 May 1865). Originally employed to transport wheat across the Great Lakes, Frank W. Gilchrist purchased the schooner in 1879 for use in the lumber industry (see Appendix A for Bill

of Sale). While employed by Gilchrist, *Light Guard* transported lumber alongside other barges in his Red Line (Figure 4.4). After a successful career hauling lumber for Gilchrist's mills, the schooner barge was abandoned around 1903 near Whitefish Bay ([AEN], 23 July 1903:4).

Figure 4.4: **Photo of *Light Guard* (Alpena County Library Special Collections, Fletcher Collection FLC-5 Box 14, Folder 11).**

S.H. Lathrop

Francis N. Jones in Oswego, NY built *S.H. Lathrop* in 1856. Similar to the two aforementioned schooners, *S.H. Lathrop* (Figure 4.5) was a double-masted schooner measuring 137 ft. (41.76 m) in length, a beam of 26 ft. 1 inches (7.96 m), and a depth of 10 ft. 3 inches (3.14 m) (U.S. Bureau of Navigation (USBN) 1899). It was involved in several crashes and even sank on one occasion. On July 20, 1862, *S.H. Lathrop* sank from a collision with the bark *Sturgis* ([BDC], July 21, 1862). Several days later, the owners raised and placed the schooner in port for repairs ([BDC], 30 July 1862). Several months later, *S.H. Lathrop* was rebuilt by shipwrights and reported to be in better condition than it was originally built ([BDC], 28 October 1862). Frank W. Gilchrist bought the ship in 1876 where it served a career as part of the Red Line schooner barge fleet until it had its valuable parts stripped and was subsequently abandoned in George Fletcher's dock in Alpena in 1902 (Port Huron Daily Times [PHDT], 20 May 1902) (see Appendix C for Bill of Sale).

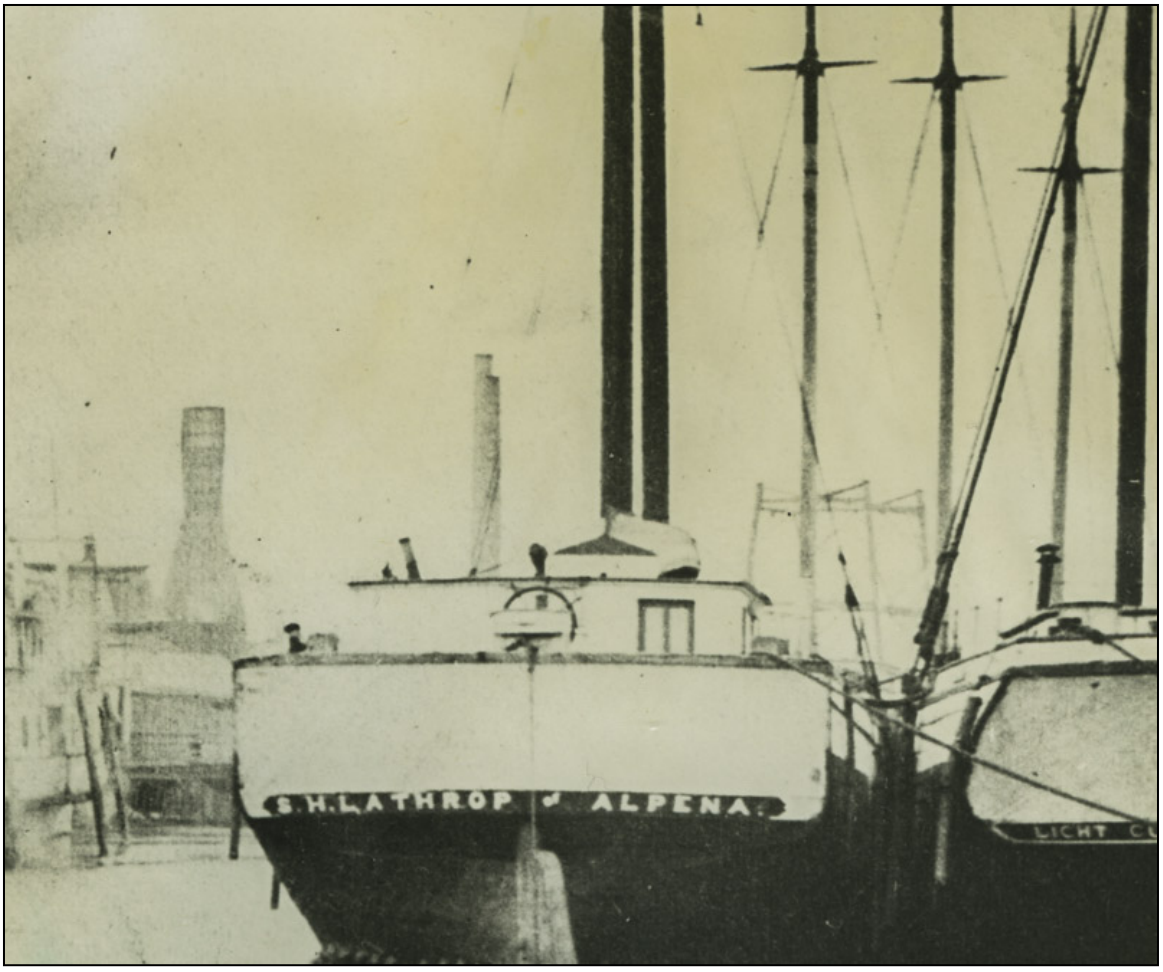

Figure 4.5: **Photo of *S.H. Lathrop* at dock (Alpena County Library Special Collections, Fletcher Collection FLC-5 Box 14, Folder 11).**

Field research

Field research was undertaken over a 5½ week period to collect all data. The first season commenced in June 2015 and lasted for three weeks with the second field season held in July the following year. The second field season, July 1 to July 20, concentrated more on the archival research and to collect data not gathered during the first season. Both NOAA's Thunder Bay National Marine Sanctuary and DNR Michigan were key partners in the project and obtaining proper approval for fieldwork. Presenting the results of both

field seasons as one, the rest of this chapter describes the data collected from *in situ* surveys on both Gilchrist Vessel A and B.

Whitefish Point Boneyard

Of the three ships mentioned in local newspapers as abandoned near Whitefish Point (Alpena Evening News [AEN], 23 July 1903:4), two ships were located and surveyed. Abandoned approximately 75 m from the shoreline, these ships rest in a state of constant fluctuation due to continual N- and C-transforms. Since the identities of both ships are currently speculative, they are referred to as Vessel A (bow: 45°03'40.12" N/83°22'05.81" W stern: 45°03'39.82" N/83°22'06.28" W) and Vessel B (bow: 45°03'42.27" N/83°22'06.20" W stern: 45°03'43.14" N/83°22'07.25" W).

At the edge of a large rocky reef, the two ships rest with both of their bows towards the shore. Vessel A is 68 m southeast of Vessel B along the reef. The environment is of a shallow freshwater shore site. During the winter months, a thick layer of ice covers the site, occasionally encasings the sites' upper features. The frigid waters and slow currents are beneficial for the sites' conservation. On the other hand, shifting ice causes damage when it encases the ships and shifts weak portions of timber. During the summer months, the sites rest in warm water averaging about 20°C. An increase in temperature results in an increase in organic activity affecting the state of the sites (e.g. algae bloom, mussel growth, and lake trout activity).

Vessel A

Vessel A is buried in more sediment than Vessel B, with the majority of its remains covered by several feet of sand. The bow section of the ship is missing. The most prominent sections of the ship that remains visible today are its keelson assembly as well as a section of hull between the bow and amidships with ceiling planks, frames, and hull strakes measuring approximately 13.7 m in length. During the first field season, the sternpost was visible but by the second field season, the sternpost became buried in sediment. The site map was created by updating the pre-existing site plan from the NABS, which was originally created as part of a NAS training course led by State DNR staff, Wayne Lusardi in 2010. According to records and the 2010 site map, the sediment levels were lower at the time, therefore exposing more of the ship. The increase in sediment level is due to the decrease in ice coverage, caused in part by warmer winters. Currently, the remains are visible over a length of 25.5 m and width of 6.97 m (Figure 4.6).

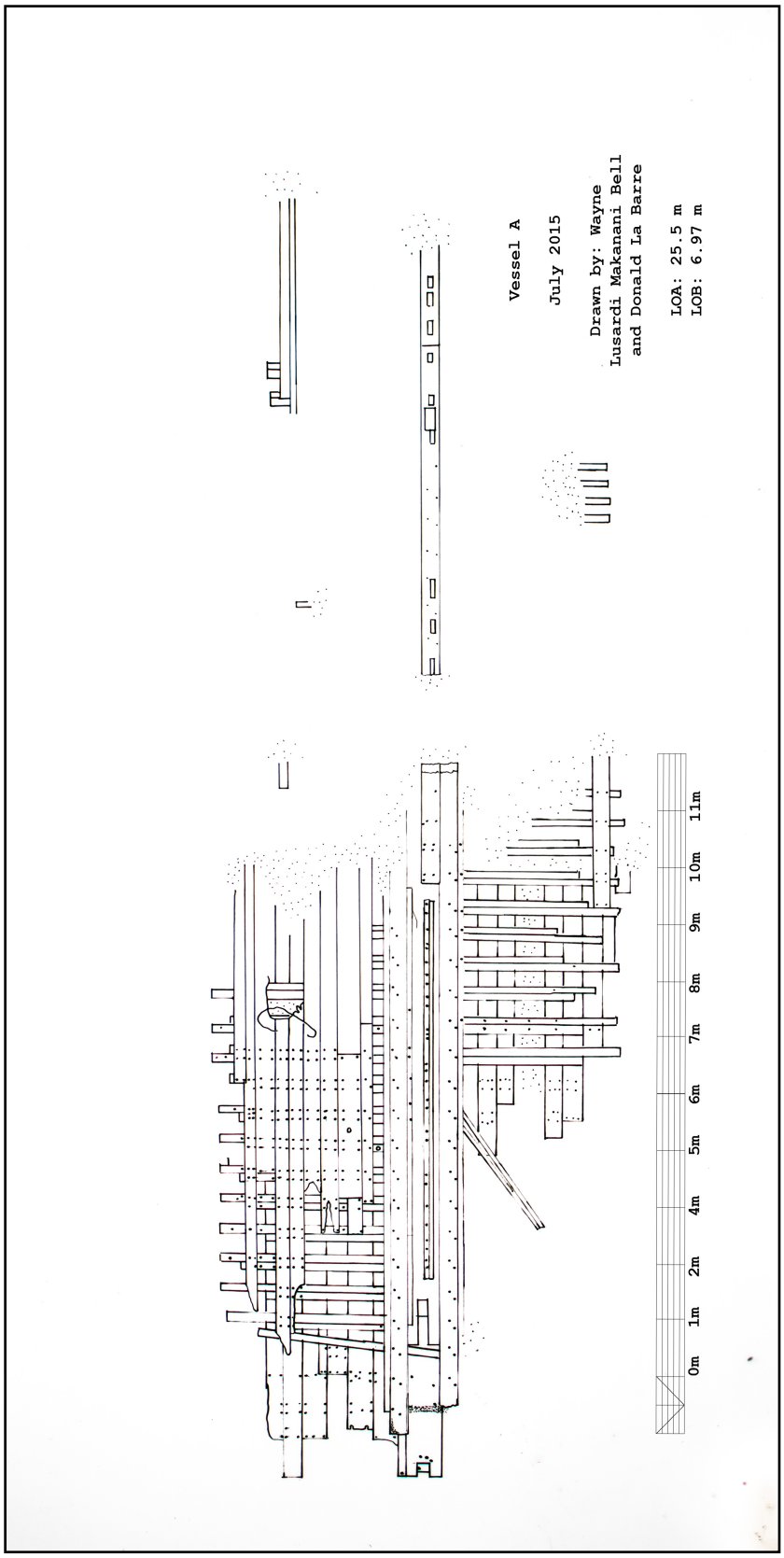

Figure 4.6: **Vessel A site map, drawn 2016 (Bell, Lusardi, and La Barre 2016).**

Assistant keelson

The most prominent feature of Vessel A is its remaining keelson and associated timbers (Figure 4.7). The remains are consistent with assistant keelson structures of 200–300 ton vessels. The assistant keelson was fastened with two through bolts to each frame, clenched on the interior of each frame timber. The main and assistant keelsons are also fastened with through bolts that are clenched in a similar method between frames.

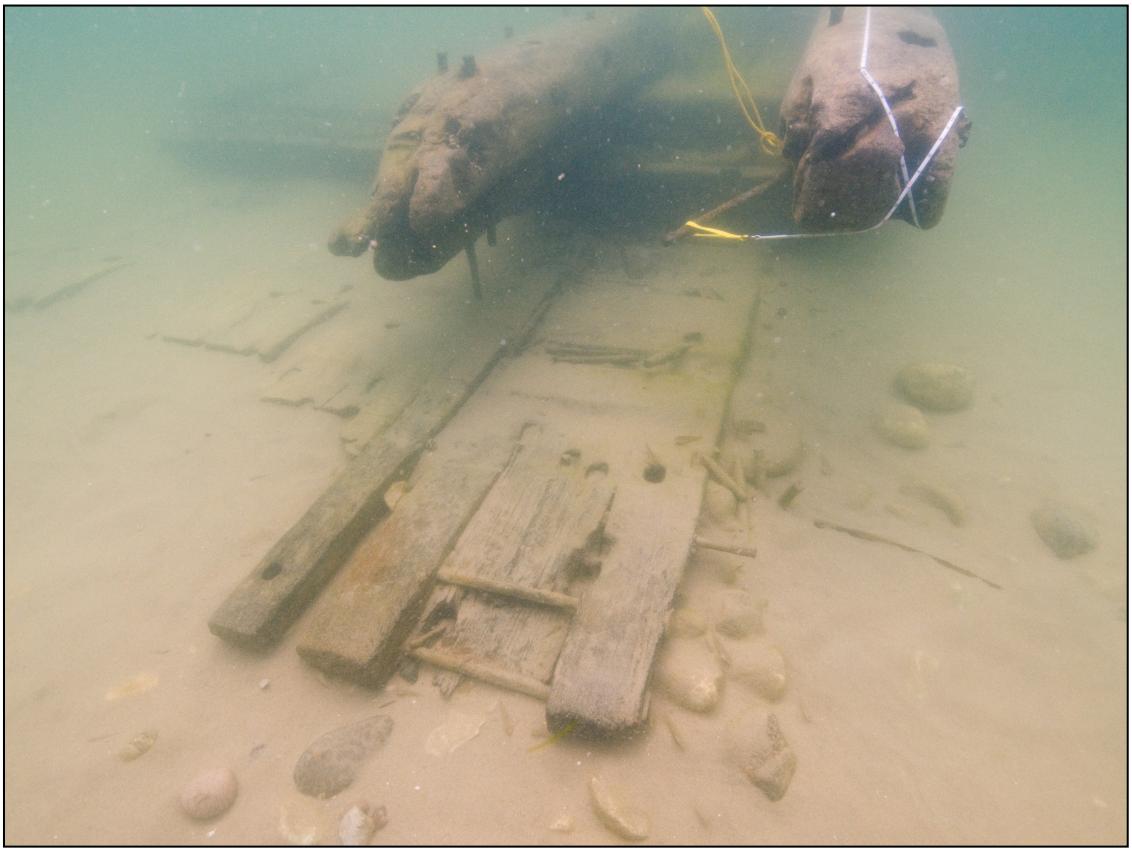

Figure 4.7: **Photo of Vessel A's remaining bow section of keelson structure and outside planking, not to scale (La Barre 2015).**

Bilge strakes

Intact bilge strakes were not detected during the surveys, and thus none could be measured. Complete frames do indicate that the bilge strake fit into a notch, 5 cm by 3 cm on the bottom end of the frame.

Frame

Two frames are edge-bolted to form a singular support frame set. The compound frame measures 2.9 m and the largest 3.2 m in length. The nine forward starboard frames have the compound frame on the bow side of the two frames, and the remaining three visible starboard frames have the compound frame placed on the stern side of the first futtock. On the port side, remains of the frames have suffered more deterioration than those on the starboard side, averaging 2.35 m and 3.02 m in length. Fastened in four places on every ceiling plank, each plank has two bolts on each of the two joined frames. The space between each pair of frames averages 30 cm (Figure 4.8).

Figure 4.8: **Image of portside frame and keelson structure on Vessel A (La Barre 2015).**

Ceiling

The remaining ceiling planking are butt joint with metal fasteners, averaging 30 cm in sided dimensions. The only intact section of ceiling planking exists on the starboard side along the assistant keelson towards the bow. Nine planks exist, averaging between 15 cm and 36 cm in width and 5 cm in thickness. The ceiling planks start to decrease in width as they approach the turn of the bilge. All of the ceiling planking exemplifies butt joint construction. Missing are the limber boards, which should be present between the first ceiling plank and keelson. The gap, which is the limber board space, measures 18 cm and continues, lengthwise, for the entirety of the visible site.

Outside planking

The outside planking of Vessel A averages 41 cm closest to the keelson then becomes thinner as the outside planking extends towards the bilge where siding of the planks become smaller, averaging 20 cm. Towards the bow of the ship are planks fitted into the original outside planking.

Mast steps

Little evidence of mast steps exist on Gilchrist Vessel A, and given the amount that is missing and/or is buried under significant layers of sediment, it is unknown where exactly the mast steps are located fore and aft of the keelson structure. The lack of the assistant keelson forward of the structure does indicate a possible mast step structure that was removed when it was stripped at the docks.

Garboard strakes

The garboard strakes are 61 cm sided and 4 cm molded and fit flush with the keel, excluding a small repair plank at the forward of the remaining keelson structure.

Degrees of insurance classification

According to the rules placed on the construction of sailing vessel around 1866, several degrees of classification are assigned to a ship (Board of Lake Underwriters 1866:Degrees of Classification). These classifications range from A1, indicate a superior build quality, and C2, the lowest level of classification (Board of Lake Underwriters 1866:Degrees of Classification). These classifications are indications of a merchant ship's value and as an indication of quality of timber used for construction and repairs.

Given the evidence of abandonment and the signs of repairs on Vessel B, this vessel classified as an A vessel, and before abandonment, decreased to a B insurance classification. All three Gilchrist owned vessels were reported as abandoned, constructed to a classification of A-class build, but as time passed and accidents necessitated repairs, their classification decreased in insurance value.

Observations

Located on top of the ceiling planking is a length of wire. The hull strakes at the bow have seen extensive sawing, as noted in Figures 4.9 and 4.10. It is uncertain when these cuts and grooves were created; it could have been shortly after abandonment or more recent.

A contrast to deeper sites in Lake Huron where there are near pristine levels of preservation, the survey results show a lack of any rigging systems and only evidence of the bottom decks. The orientation of the site indicates efforts to ground the vessel in shallow waters so that it would not drift into deeper waters or inhibit operating merchant vessel navigating the nearby shipping channels.

Figure 4.9: **Evidence of saw marks on outside planking of Vessel A, measures 15 cm (La Barre 2015).**

Figure 4.10: **Additional evidence of salvage on Vessel A, grove measures 14 cm in length and 1 cm in width (La Barre 2015).**

Vessel B

During the first field season in July 2015, the remains were mostly visible. During the following July 2016, revisits to the site found a significant build up of sediment over the site caused by strong currents and previous storms that pushed sediment northwest. This site is located just outside of the rock reef and 74.7 m south of the shoreline. The bow faces east at a heading of 138 degrees. Overall, the site measures 39.01 m in length and 6.1 m in width; the estimated measurement of the ship's original beam is around 7.9 m (Figure 4.11).

Keel and keelson

The keel is visible towards the sternpost, which has clearly snapped and turned on its side, just aft of the centreboard case. From the start of the keel aft of the centreboard case

to the start of the break, the keel measures 12.19 m in length. The keel measures 13 cm molded. The almost disarticulated section of the keel and sternpost structure measures 4.8 m in length. The sternpost and innerpost lay flat on the lakebed, oriented inwards towards the baseline. The sternpost measures 2.29 m lengthwise and 28 cm molded. Overall, the keel, aft of the centerboard case, measures 17.37 m in length.

The end of the fragment of keelson is 36 cm wide and tapers towards the stem to 25 cm. The frames, bolted between the keelson and keel, fit into a notch between the keelson and keel. An important difference between both ships in the Whitefish Boneyard is that the construction of Vessel B's keel and keelson differs greatly from the construction of the assistant keelson structure of Vessel A.

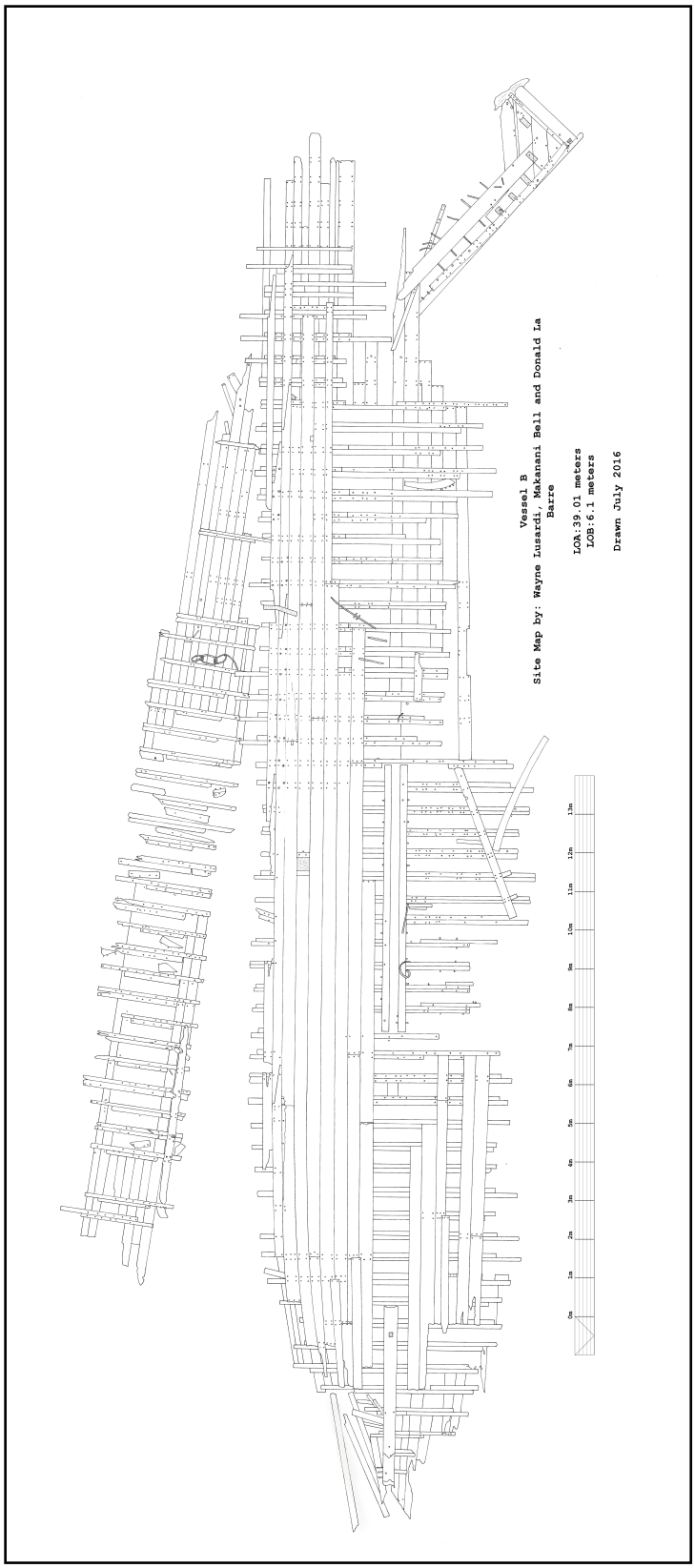

Figure 4.11: Site map of Vessel B, drawn by Bell, La Barre, and Lusardi 2016.

Ceiling planking

Seven strakes of ceiling strakes extend from the keelson and centreboard case on the starboard and four ceiling planks remain on the ship's port side. The majority of ceiling planking measures 36 cm in width and 3 cm in thickness. There are two stringers just before the break at the start of the bilge to the light water line, both measure 23 cm in width and 1 cm in thickness and are both flat scarphed. These scarphs on the two stringers are parallel to each other in two known places. On two of the parallel flat scarphed is a metal plate bolted over both scarphs (Figure 4.12). This metal plate measures 98 cm in length and 15 cm in width.

Figure 4.12: Attached supportive metal plate on Vessel B, measures 98 cm x 15 cm x 3 cm (La Barre 2015).

Towards the bow there is a significant change in construction of the ceiling planking. The most forward ceiling planks are made of oak, but then change to pine. This change is seen on both the starboard and port sides of the ship. Accompanying the change in wood material, the scarphing techniques used to join the ceiling planks utilizes an unusual method in which to join planks (Figure 4.13). The way in which the pine ceiling planking joins with the oak planking indicates a repair that sought to salvage the few oak planks. Two construction methods exist on the site to fasten the ceiling planking to the pair of frames. One of the joining techniques used is of two fasteners for both joined parallel frames; second, the use of six bolts for the butt joints that join two ceiling planks together with three in each frame.

Figure 4.13: **Intersection of changing ceiling planking material on Vessel B, darker plank measures 9 cm sided and 2.5 cm molded (La Barre 2015).**

Outside planking

Hull strakes are most present at the bow where the hull begins to curve to a point and aft of the centreboard case. The outside planning begins at the average measurement of 46 cm sided and 2 cm molded (Figure 4.14). There are indications of repair, especially on the port side of the keel towards the sternpost. Just visible at the end of the existing hull strakes is a 10 cm wide plank insert. On the starboard side of the ship, towards the sternpost, the hull strakes beginning to taper as they come closer to the bilge strake, measuring from 23 cm to 15 cm in width.

Figure 4.14: Outside planking on Vessel B, not to scale (La Barre 2016).

Centreboard case

The centreboard case is the most prominent feature, excluding the bow structure and sternpost. Both timbers that form the centreboard case measure 7.32 m in length and 17.78 cm sided by 27.94 cm molded. The gap between both timbers is 20 cm. All measurements are consistent with building standards for a sailing lake vessel between the 200 and 300-ton classification.

Limber board

The gap between the centreboard case and the first ceiling plank, on the starboard side, is 20 cm since ships around 300-tons had limber boards measuring 4.4 cm in width and 9 mm in thickness. The limber boards of Vessel B should match this. No existing archaeological evidence remains of the limber boards because such planking were left unfastened to the frames of the ship, causing such planks to drift off with the passage of time and interference with nature.

Mast steps

Given that the site is otherwise well preserved, one would expect remains of mast steps but there exists little evidence of mast steps on the remains of the ship. Chapter 5 discusses the possible reasons for the lack of any mast steps.

Garboard strakes

Only the garboard strake on the port side of the keel is visible due to sediment coverage. The garboard strake measures 41 cm in width and 8 cm in thickness, half of the ship's keel molded dimension. The garboard strake fits in a square notch cut into the keelson structure creating a watertight seal.

Missing equipment

The ship shows no signs of valuable equipment such as pumps, rigging gear, or cargo. This can infer two meanings: first, either people salvaged valuable units from the ship, post abandonment, or such valuable parts were stripped before abandonment—a process recorded by the local newspaper. Second, the orientation of the site and the dispersal of artifacts, or lack thereof, indicate a non-catastrophic sinking event.

Non-original objects

A metal object, similar to a metal clamp, rests on top of the port side frames and ceiling planking, just aft of the centreboard case (Figure 4.15). This object measures 1.22 m in length, with the clamps measuring 13 cm in width. Close to this object are two metal bars forward of the clamp. The closest measures 49 cm by 5 cm in diameter. The next bar measures 61 cm by 4 cm in diameter. Both objects are unidentified metal bars. Just off the portside of the centreboard case are two metal objects embedded into the frames. The furthest aft is another metal bar 82 cm by 76 cm in diameter. This object wraps around the third frame set aft of the beginning of the centreboard case.

Found entangled around the hull starboard section of Vessel B is a rope (Figure 4.16). This rope is not from the time of the abandonment of the ship, as it resembles a more modern rope. The rope, tied around several large sections of hull strakes frames and ceiling planking, shows signs of fraying indicating a break.

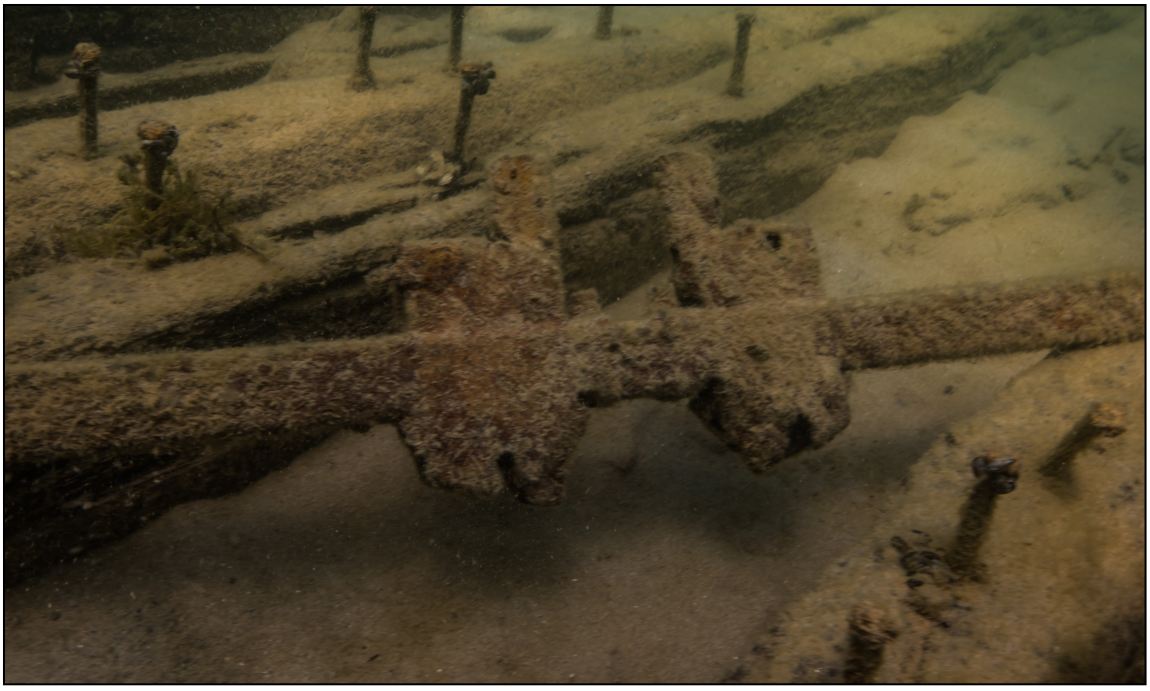

Figure 4.15: **Unidentified metal clamp on Vessel B, 1.22 m in total length, not to scale (La Barre 2016).**

Figure 4.16: **Modern rope, tied using a bowline knot on Vessel B, wrapped around the disarticulated hull section of Vessel B, not to scale (La Barre 2016).**

Conclusion

The construction of both ships adheres to the rules and safeguards that governed these types of ships (e.g. 200–300-ton watercraft). Both vessels share common features and evidence of extensive use in maritime trade, given the evidence of repairs on hull strakes and ceiling planking. The dispersal of the artifact field is minimal, and the disarticulated timbers moved slightly due to the currents and ice. There exists evidence of opportunistic salvage post-abandonment, as seen from the use of tethers to raise timbers from the shallow waters. The next chapter discusses and analyses the significance of the results in relation to the thesis question and aims.

Chapter Five: Discussion

By studying the Whitefish Point Boneyard, this thesis focuses on behavioral responses as the result of an economic downturn and diversification of industry. The study of maritime deposit sites provides context to see changes as adaptation to shifting conditions in response to an altering economic output, specifically local adaptations of Alpena lumber businesses in response to the downturn of the White Pine industry. To understand the behaviors surrounding the abandonment process, one must understand the full life of a vessel's existence pre and post-abandonment. The Whitefish Point Boneyard underwent archaeological inquiry to identify the typology (e.g. mid-nineteenth century Great Lakes schooner-rigged watercraft) and evidence of physical repair and abandonment to understand the economically motivated decisions in response to a declining economy.

The key to understanding a ship's creation as an operating machine and its change to a example of a static state correlates with Muckelroy's (1978:157) theory, which defines shipwrecks as static assemblages that are a direct result of a series of incidents that culminate in its wrecking. Since his text was published, this idea has begun to incorporate a diverse set of scenarios that could culminate in the archaeological site. Scholars, such as Gibbs (2006) and Adams (2001), however, argue that this notion of a perfect static site does not hold true for all vessels, especially abandonment sites. In many cases of abandoned vessels, especially those located near the shoreline; the C-transforms play an important role in the formation and continued use of the ship outside of its original purpose (Richards 2008:55). For the ship to reach a point of drastic change of

role/purpose, there must be a drastic event that its economic worth, in relation to its original purpose, changes. Such an event is evident at the end of the lumber industry in Alpena, Michigan. Therefore the notion of a static archaeological object or one that enters the archaeological record and remains in such a state is not universal. This development of Muckelroy's original interpretation of a maritime site to include a larger data set with examples that straddle multiple categories illustrates that studies invested in ship abandonment and post-abandonment formation are still in development and are essential.

The remainder of this chapter discusses the results in a delineated form. Similar to the stages of a vessel's life, this chapter contains four subjects: construction, repair, abandonment, and salvage, as well as a ship's economic worth.

Construction

As the economic value of grains, lumber, and coal increased, schooners and canallers became pivotal to the great highway of maritime trade between the Great Lakes and farther reaches of the United States and such ships formed the backbone of the regional merchant fleet (Lusardi 2011:91). Defined by their two masts and rather beamy hulls, the shape of the sailing lake schooners is a direct result of adaptation to environment and technology, resulting in a more box-like shape in hull construction to allow for maximum cargo allowance and fitting into the lock systems (Lusardi 2011:91). At the time of their construction around 1850–1870, the shipwrights of Vessels A and B designed ships to sail under their own power. Not until the increased usage of steam ships were sailing

schooners converted to barges. Even then, sailing ships were only converted to towed vessels when they became older.

Compared with the *Rules Relative to the Construction of Lake Sail and Steam Vessels* written for the Board of Lake Underwriters in 1866, the archaeological remains of both vessels illustrate key diagnostic features for ship construction during the 1860s. While both ships, in accordance with historical records, were similar in size and build, the main difference is the construction of the keelson structure. Vessel A's keelson structure is far more sturdy than Vessel B. The keelson structure, on Vessel A, shares more similarities to a rider keelson assembly typical for schooners of 500-tons or larger (Figure 5.1). Vessel B's keelson is simply a single timber fastened on top of the frames, such a difference indicates that Vessel A supported a larger keelson assembly to provide increased longitudinal strength, while sacrificing cargo capacity.

Both vessels' ceiling planking is typically butt jointed with metal fasteners (Figure 4.12), and positioned on each ceiling plank through the frames underneath, which adheres to construction standards of the times (Board of Lake Underwriters 1866:Ceiling). The joints of the ceiling planking on the sides are flat scarphed, although their orientation along the planks indicate a weak point. On Vessel B, the ceiling planking at the turn of the bilge are flat scarphed and are directly above each other. Such construction creates a longitudinal weakness. The reasons for such a deviation in standard construction practices in error are explained in the next section.

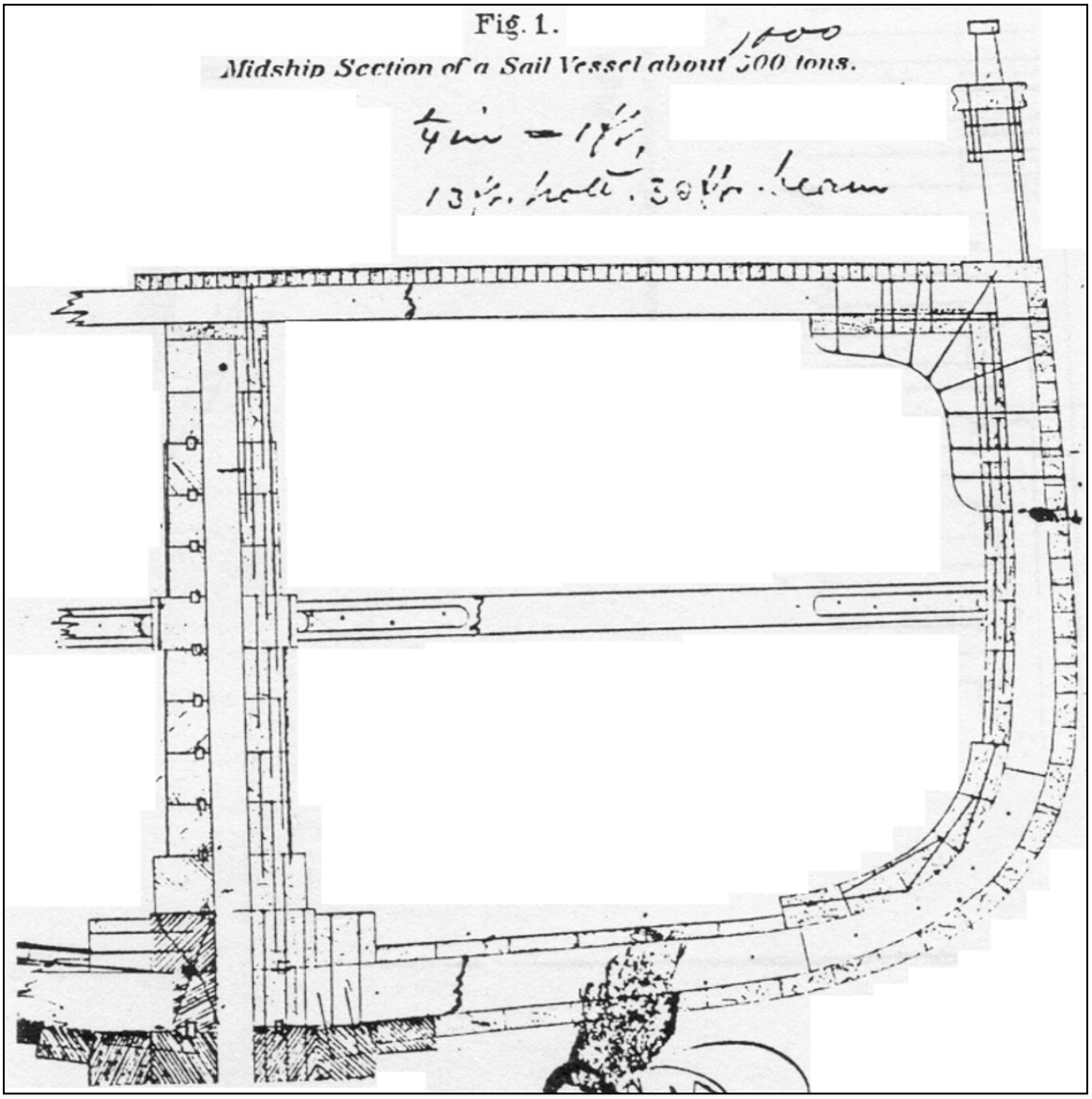

Figure 5.1: **Cross-section of 500-ton vessel with rider keelson (Board of Lake Underwriters 1866:Figure 1).**

Both vessels exhibit key features typical for schooners built for lake faring trade around the 1860s. *Knight Templar* and *Light Guard* were constructed around the time that the rules for lake faring vessels were written in 1866. So, in theory both vessels should share major similarities, which is not the case. The major difference is evident in the contrasting keelson timbers; such evidence indicates the Vessel A was built for more rigorous waters hence the more elaborate and bulkier construction. Since no known

historical records describe the keelson structures of either *Knight Templar* or *Light Guard*, it remains unknown whether one ship needed a stronger keelson structure than the other. Since *Light Guard* was constructed just before the rules of construction were established in 1866, it is highly possible that the anomaly of a large keelson could indicate a build before the rules became standard practice. Vessel B's overall length (LOA) appears closest to *Knight Templar*, although much of the upper decks and stem missing, the original length between perpendiculars (LBP) is unknown. It is important to note that vessel B's overall length is approximately 3 m to 4 m shorter than the LOA of what is reported as *Knight Templar's* LOA, this may be due to the degrading state of the site and processes of stripping.

Repairs

A prominent repair feature for Vessel A is the starboard strake on the garboard side. Compared to the garboard strake on the port side, this starboard strake is lesser in width. Such a difference indicates a repair of the outside planking due to damage possibly caused by running aground or from a collision with another vessel.

The most extensive evidence of repair was found studying the remains of the ceiling planks and frames of Vessel B. Where the ceiling planking curves up towards the stem, the timbers for the planks seem to change from pine to oak (Figure 5.2). As no ship timbers samples were tested, this is speculative. It is, however, important to state that the need for dendrochronological sampling is not necessarily needed to see the stark contrast in wood species used for the ceiling planking. According to the standards for sailing class A1 Great Lakes schooners that ceiling strakes are fashioned from white oak (Figure

4.13) (Board of Lake Underwriters 1866: Description of Timber and Plank Allowed). If Vessel B was constructed under the regulations guiding and restricting certain materials used for construction then the original planking would still be present, since the current remains of ceiling planking are not oak then a repair must have occurred at some point in its lifetime.

The majority of the vessel's ceiling planking, bilge and limber strakes are pine, indicating an extensive repair to the majority of Vessel B's ceiling planking. The use of softer wood affected the overall class of the vessel and demonstrates that the repair job was ordered and completed by someone without interest of maintaining a high insurance record. This does not signify a decrease in the ship's value as a merchant vessel, but rather that its insurance classification decreased. As the vessel was already an aged ship, it had little effect on its operation as a merchant value, and thus pine was used for an inexpensive repair.

Aforementioned is the evidence of a metal reinforcement plate, measuring 71 cm in length, over a flat scarphed pair of planks around midship. Such a plate adds strength in the scarph on adjacent stakes, thereby reinforced. Such a use of a reinforcement plate illustrates the type of repairs done on this ship.

Figure 5.2: Bird's eye view of bow ceiling planking made of oak on Vessel B, not to scale (La Barre 2015).

Someone with the means and access to an abundance of pine, such as Frank Gilchrist, could easily provide carpenters or shipwrights the necessary materials to repair a vessel just enough for it to be considered lake worthy, and without investing too much money on an old ship. The largest anomalies are the remains of the oak planks towards the bow. These oak planks have purposely been preserved, and the pine planks fitted into the irregular scarphing at the intersection of both timbers. One conclusion is that the intact remains of oak sections were left for a less skilled craftsperson to place new planks in without having to steam the planks to fit the curve towards the stem.

Another key piece of evidence that supports inferior repairs to Vessel B are the remains of burnt fasteners found between frames and between the centerboard case. There is little archaeological evidence of extensive burning along the shear strake on the port side (i.e. burning a ship to the waterline post-depositional), so it is assumed that the burning occurred when the vessel was still in operation. The remains of burnt fasteners located on Vessel B, but lack of burn marks on other sections of the ship, shows that fasteners burnt during a fire and fell below the damaged ceiling planking, and when the repair was conducted, the people in charge of the repair possibly built the new ceiling planks over the burnt nails. Such an occurrence is not unusual, as burnt fasteners and repairs are also seen on *Kyle Spangler*, a wooden two-masted schooner that sank in 1860 (Wayne Lusardi, personal communication 2016).

Knight Templar is the only vessel reported to have received serious fire damage from a malfunction within its steam pumps ([DFP], 5 December 1865). After further historical research, an article from the *Buffalo Daily Courier* (7 March 1866) details further the repairs done to *Knight Templar* after the fire, mentioning how the ship left the yard with new decks. While the archaeological evidence of burning and subsequent repair on Vessel B suggests that it is *Knight Templar* based on this newspaper report, the fact that an inferior wood was used to replace the oak planks contradicts the report's claim. With this drastic change in building material, the insurance value of the ship decreased—and evidence of this decrease is not shown until later on in its career.

Abandoned vessels

The study of abandoned vessels, especially beached vessels, is becoming more prevalent in contemporary archaeological research, and questions surrounding the phases and formation of abandonment sites are constantly being raised (Richards 2008:145–147). The first phase, disuse, is the ceasing of the vessel's operation as a useful merchant ship, for example *Knight Templar* and *Light Guard* are no longer seen as an effective merchant vessel. The second phase is pre-depositional salvage, which Richards (2008:146) defines as the phase in which the ship is stripped of all its materials seen as irrelevant or of value (e.g. machinery/rigging)—a process known as reuse. Reuse, a process of taking materials and using them to rebuild a ship, is different than recycling, which is seen as taking the materials and having them serve a function in a different context. The next phase of abandonment is the depositional phase in which the vessel is discarded (Richards 2008:146). The archaeological remains do bear the marks of abandonment, for example, evidence of intentional sinking or towing of the vessel along the shoreline (e.g. orientation of the bow).

For Gilchrist's Red Line, historical records mention the stripping and abandonment of *S.H. Lathrop*, *Knight Templar* and *Light Guard* ([AA], 14 May 1902 and [AA] 29 April 1903). Regarding the location of *S.H. Lathrop,* records only state that Gilchrist abandoned the vessel in the bay, as opposed to *Knight Templar* and *Light Guard*, which are specifically referred to as lying in Isaacson Bay. Understandings of the phases, which all the vessels went through, are gleaned from the historical records. Using George

Fletcher's docks to strip the ships, both *Knight Templar* and *Light Guard* were then towed and "shoved" onto the beach ([AEN], 23 July 1903:4).

The use of the term "beached" is an important one and needs clarification. Both of the identified and surveyed sites lie in shallow waters. Located in a region similar to an intertidal zone, both sites are thus affected by the fluctuations in weather as part of the Northern Michigan climate, becoming semi covered in ice, fully immersed or exposed to air. Due to the environment (N-transforms) and human activity (C-transforms) that constantly influence the Whitefish Point Boneyard, the idea of the vessels' remains becoming static sites is not feasible since they are both in constant fluctuation due to the environment and human impacts.

The archaeological surveys indicate signs of abandonment. For both sites, their bows point towards the shoreline and rests flat on the lakebed. Considering how close the sites are to the docks, both ships, if they were in danger, could easily have had made it safely to the harbor. Vessel B shows signs of a square hole cut through the interior decks through the outer hull planks and the lack of any rigging or machinery, such as steam pumps, indicates that these vessels are abandoned sites. Other key pieces of evidence are the lack of any knees, masts, and mast steps in either of the sites. Since the historical records recall the stripping of the vessels before the depositional phase, such reuse is easily done by simply taking important pieces of timber and metal from the ships used for either the repair of another vessel or new construction. Anchors were also absent from the site. While the local region has a history of salvaging mementos and artifacts from

shipwrecks for collection or use, there is no evidence that anchors were salvaged from these sites. The anchors of vessels were often sold off since they are among the valuable pieces of equipment, so they were likely sold after being stripped off in dock.

The combination of missing key structural timbers and equipment used on operating vessels indicate that these vessels were abandoned. Combined with the results of repairs and use of inferior timbers, the data points towards older vessels that were steadily losing their insurance and operating value at the end of an economically prosperous period of timber harvesting.

Salvage

Salvage is an important archaeological study for scholars attempting to infer meaning from human interactions and behaviors with maritime cultural heritage. In many cases, studies surrounding abandonment, salvage is a large part of the post-depositional process and adds to our understanding of human responses to discarded watercraft that dots the coast of many maritime influenced communities.

Salvage can take on multiple meanings for maritime studies, such as commercial and local salvage ventures. For this thesis, only salvage conducted soon after abandonment and activities by locals is noted. The first stage of salvage is the removal of materials from the abandoned vessels for the purpose of recycling, relatively close to when the ships were abandoned. Richards (2008:147) and Bennett (2014:70) discuss commercial interests of salvagers soon after abandonment. For the two surveyed vessels it is not

known that any commercial salvage took place after discard, only that there exists evidence of salvage.

In the case of locals' interaction with material culture, it was not uncommon for residents to swim or paddle out to the sites to salvage materials for various purposes. LaRoche (2013:56) writes of similar interactions with maritime resources soon after discard. To this day, the DNR Michigan, specifically Lusardi, continues to receive donated materials acquired from those who raised pieces of shipwrecks and other objects. Similar practices continued in Lake Huron until a region, known as Thunder Bay, became a state underwater preserve and a federal marine sanctuary in 2000. Evidence of post abandonment recycling can be seen in the driveways of local residents (e.g. mailboxes and storage shacks). This is not to bring a negative view on the practices of local residents, although such practices do present challenges in designing heritage management plans.

The next phase of salvaging activity is opportunistic endeavors. Richards (2008:155) writes that such an opportunistic activity takes place over time. This stage is most likely the stage in which many of the local residents ventured out to the shallow sites in search of something of use, either for construction or purely for a collection of maritime nostalgia. On both sites evidence of salvage are clear. On Vessel A, saw marks exist on the starboard bow hull planks, indicating the salvage of wood for uses unknown. This indicates a change in the value, use, purpose, and meaning of the vessel, shifting from an operating merchant vessel to a resource of sound wood and materials. In the case of

Vessel B, there is a large diameter rope tied around the disarticulated hull section on the starboard side; this rope presumably was purposed for retrieval of timbers in large quantity. The rope then snapped and was left tethered to the vessel. It is also possible that the rope became an anchoring point for local fishers who still frequent the shallow waters, as fish are typically attracted to such sites.

Fluctuation of economic worth

As mentioned above, the use of abandoned vessels remains by nearby communities is apparent in archaeological studies, whether through sale (Ford 2013; Delgado 2013) or from unofficial reuse (Bennett 2014:80). To assume that a site, once abandoned, loses its economic or cultural worth is no longer viable. Adams (2001:300) states that several factors go into the construction of a vessel: if those factors extended to the continual existence of the vessel during its operating life and post-abandonment, a richer picture is perceived.

From construction to discard, both vessels' value as an economic tool for trade varies depending on the needs of the people directly involved in the operation of the ships. These ships adhere to several forces, such as economic trends and as well as personal failures and achievements of the owners and operators. Taking Vessel B as a prime example, the manner in which the vessel received an extensive repair to its lower decks shows that the ship maintained an economic value within the society. Rather than being stripped or abandoned, the owners clearly saw value in the vessel, necessitating its repair. Later on in its life, due to a failing economic venture and old age, the vessel lost the majority of its value as a merchant vessel. Newspaper reports show that Gilchrist wanted

to sell *Knight Templar* and *Light Guard* as lighters to a party in Cleveland ([AA], 29 April 1903). Three months later the *Alpena Evening Argus* reported that both vessels became discarded watercraft in Whitefish Bay. As shown by these records, the purchase by the Cleveland party did not occur and Gilchrist reasoned that the only way to proceed, before he left the region for more profitable business elsewhere, rested in the discard of his once profitable lumber barges.

Similarly, the changing value in insurance class illustrates the decreasing value of the ships, which ultimately led to their discard. According to The Inland Lloyds Vessel Register of 1866, *Knight Templar* was registered as an A1 class vessel with an approximate value of 16,500 USD (Lloyds Register 1866:48). The same register in 1888, valued *Knight Templar* at 2,500 USD and classed it as a B2 vessel (Lloyds Register 1888:48). By the time Gilchrist bought this ship, he already knew that it was older and of less value. *Knight Templar*'s bill of sale to Gilchrist states that it was a barge-class vessel, a change from its original construction as a schooner. Throughout its life as a merchant vessel, *Knight Templar* and the other two ships saw changes to their rigging to fulfill the needs of their owners and operators.

In the case of the two vessels found near the shoreline of Whitefish Point, both vessels, with their missing mast steps and evidence of an extensive career, unmistakably show signs of becoming barges before discard. When both vessels operated in Lake Huron, beginning around 1860, both vessels were sailing under their own power. Since the use of steamers was just becoming more common and cheaper to use, ships operating in Alpena

did not use steamers to tow schooner barges during the lumber boom in 1880. By removing the masts and any equipment not seen as essential, the steamers provided the power while the schooner barges provided the cargo space. Figure 5.3 illustrates the use of steamers to tug schooners around, similar to a train, although this image shows the masts of the schooner barges still attached. Such a practice reduced the amount of experience personnel needed to crew the vessel. The decrease in crew and increase in the amount of timber being shipped resulted in greater financial rewards. Even this strategy did not forestall the end of the White Pine Era in Alpena around the 1890s.

With the vessels discarded and left to decay in the elements of the warm summers and freezing winters, these vessels took on a new role. As the sites show signs of salvage or attempted salvage, these vessels became locations of good timber and other materials. What were once seen as tools of trade and signs of economic success became signs of failure, and then were reborn as deposits of valuable resources in which to recycle into structures and collections not related to their original purposes. Several case studies discuss the use of abandoned vessels and recycling sites in which to build structures or display for nostalgia (for examples see Bennett and Fowler 2016; Delgado 2013; Hunter 2013).

Figure 5.3: **Image of steamer towing lumber barges from Alpena harbor (Alpena County Library Special Collections, TBRC-5 "Ports" Box 1: A-AR, Folder 8).**

Ships are tools by which to wage war, explore, conduct studies, and trade. Thus, ships adhere to their original purpose while also adhering to their owner and operators' needs of use. Such is the case of the Whitefish Point Boneyard, where two ships rest on the shallow lakebed. Originally used for shipping a variety of resources, such as grain, they became lumber schooner barges after a long career navigating the Great Lakes. Ultimately, with the changing economy, these two vessels—and many like them—met their end. But the end of their operational career did not mean the end of their use as a resource and object of study for archaeologists.

Conclusion

Within the maritime field, abandonment studies are becoming more prominent and redefine Muckelroy's understanding of underwater archaeological sites as static sites. As a result, abandoned vessels, such as Vessel A and Vessel B, demonstrates sites are not only a way to understand the response to a changing economic climate but are also sites that are continuously changing, both physically and in terms of value assigned to them, within their community. Abandoned sites challenge the traditional understanding of a ship's career and life by introducing post-abandonment usage by local cultures for use out of their original purpose and for study. They are far from being in a "static" state.

Such understandings of changing economic value, factors that influence the usage of a vessel, and maritime community behaviors surrounding discarded watercraft broaden the scope of underwater archaeology past the ship and its career and reveals more about cultures affected by maritime economic practices. Abandoned vessel studies have only just started to illustrate the archaeological significance of these sites and their importance within underwater archaeology. Ships and boats are multifaceted, culturally imbedded entities that are in constant flux of cultural importance to their relevant societies. This flux, however, does not always end after a vessel has been discarded or abandoned by its original users. Abandoned vessel studies encompass such an understanding of a vessel, and add to the scope of underwater archaeology.

Chapter Six: Conclusion

In an effort to better comprehend the intricacies of a changing economy, this thesis endeavored to answer four aims.

The first aim:

1. Analyze the archaeological evidence indicating the typology of the two known sites.

In Chapter Five, the identity and the type of schooner of both vessels (A and B) is discussed at length, resulting in the understanding of both vessel displaying characteristics of mid-nineteenth century schooner-rigged merchant vessels. The two vessels share similarities in build that indicate construction during or just before rules were established in 1866 (Board of Lake Underwriters 1866). The main structures, built out of oak, indicate two vessels that average between 200 and 300-tons. Clearly both vessels operated for an extended period of time, not uncommon for Great Lakes vessels, resulting in a collection of scars and evidence or repair. Given the structure, location and use as lumber vessels, both vessels started as schooners. Eventually, both vessels aged and came under the ownership of Frank Gilchrist where they both became lumber barges. Compared to historical records (e.g. newspapers, enrollment documents and historic photos), both vessels share similarities to *Knight Templar* and *Light Guard*. Although the absolute identity of either site is tenuous, comparisons of the two sites to primary documents connect the remains to their history.

The second aim:

2. Investigate and identify the evidence of repair and abandonment, so as to better evaluate the changing role and purpose of the two ships.

Understanding the evidence of repair and process of abandonment are two key diagnostic features, and vital to this thesis. Much of both sites indicate extensive stripping pre-abandonment and post-abandonment salvaging. Even though most of the ships upper decks and key operating equipment (e.g. steam pumps, mast, and rigging) are now gone, much is delineated from the outer hull remains, keelson structure, internal framing, and ceiling planks.

Both vessels show extensive repair, more so Vessel B with its use of replacement pine planks rather than standard oak planks. Such archaeological evidence indicates the continued and valued use of the vessel as a productive merchant trader. The change from oak to pine planks illustrates a conscious decision to save money, perhaps in a time of economic upheaval.

The third aim:

3. Understand the N-transforms and C-transforms in order to conceptualize the every changing form of the physical site.

In order to dispel the notion of the two sites entering into the archaeology context, which has a connotation of indicating a state of stagnation, the N-transforms and C-transforms were examined. The shape and use of the both ships changed constantly to adhere to the owners and/or operators needs. Up until both of the vessels were discarded and sunk into

the lake, near Whitefish Point, both vessels' owners adapted the ships to their "final" form, when they stripped the vessels of their salvageable equipment and discarded the vessels in shallow waters. Given the ever-changing seasons, with the build up of ice and the constantly changing water levels of Thunder Bay, both vessels are in unceasing state of change physically. These N-transforms have consequences for the both sites structural integrity, as is seen with Vessel B's disarticulated hull section and Vessel A's shifting assistant keelson timber. Not only have the N-transforms affected the site; the C-transforms have had their effect as well.

Both sites indicate extensive human disturbances post-abandonment. With the evidence of saw marks on Vessel A and attempted salvage of large timbers from Vessel B, both sites are continually influenced by the locals use of the ships as a resource for uses other than maritime and even as places of memory and a reminder of a time passed.

The fourth aim:

4. Better illustrate the importance of abandoned vessel studies in the Great Lakes.

Abandoned watercraft studies are a slowly growing trend within maritime archaeology. While the study of such ships has gained momentum under the stewardship of archaeologists like Richards (2008), more must be done to better invigorate the study of such vital maritime heritage in both academia and in local communities.

Both ships, located in the Whitefish Point Boneyard, exemplify the significance of such studies and the importance of ships in the understanding of significant changes in an

economy, and thereby the community. All across the Great Lakes vestiges of abandoned watercraft dot the coast. This region is an untapped resource that contains a large collection of maritime heritage readily available to scholars and public outreach programs.

Limitations

Two limitations influenced the results and therefore, the discussion of this thesis. First, oral histories were not obtained from local residents. Given the time in which the vessels existed and became discarded, oral histories were deemed a secondary commitment to be further explored after this thesis. The lack of oral histories leaves a gap when dealing with the salvage of the vessel, post-abandonment. As there is a long history of locals salvaging remains of shipwrecks, it is possible that such stories of recycling and reuse exist pertaining to the Whitefish Point Boneyard site. Second, given the circumstances surrounding the discard of the vessels (mainly the non-catastrophic nature of their sinking), there is not a lot of information in the historical record regarding their demise resulting in little understanding of the discard processes such as stripping and selling of valuable equipment.

Future research

The Whitefish Point Boneyard site has further research potential for the fields of archaeology, underwater cultural heritage management (UCHM), and public education. Further analysis of wood samples of both vessel remains, thereby adding to the certainty of wood species used for repairs. A full archaeological survey of the whole Isaacson Bay would provide a larger dataset by which to understand human maritime discard. There exist several other ships south of the site, which are noted as abandoned or intentionally sunk for economic reasons. Comparison to these sites could further our understanding of abandonment behaviors and the reasons for such activities. Many of the archival sources researched for this thesis were collected just before a large collection of primary letters of correspondence and business related manuscripts came into the stewardship of Alpena County Library. Such a collection should provide further historical insight into the economic decisions that influence the success of Gilchrist's business in Alpena and lend to the decisions resulting in the modification and latter abandonment.

The Whitefish Point Boneyard is an ideal site to involve local communities and visitors to learn about the regions history. With so many of the well-known sites, located in deeper water, these shallow sites have the potential to actively engage people in maritime cultural heritage outreach programs and education. Active use of these two sites will further our understanding of what is there, and the complexities that are involved with the site.

Significance

The significance of this thesis is in its discussion of both the full life of both vessels use and its contributions to literature on deliberate discard behaviors by maritime communities. Aforementioned in the *limitations section* of this chapter, there currently exists little to no detailed record on the steps that led to the abandonment of both vessels, other than few notes by the local newspaper. Deliberate discard usually assumes a clandestine existence as the act of abandonment is usually met with emotions of dishonor or a sense of failure (Richards 2013:6–7).

By studying the archaeological remains inferences are made to connect key features and unique remains to the historical context in which both vessels operated. Along with this idea, both ships show a continual use of the site outside its original purpose, challenging the notion of static sites and the idea that such ships eventually enter the archaeological record. Both sites have further potential to connect the present with the past and incorporate sites that challenge the shipwreck focus field of maritime archaeology.

Conclusion

The notions of risks and tragedy are a part of the mythology of the economically successful White Pine Era now. By combining the studies of shipwreck analysis dealing with the lumber period and abandoned studies pertaining to economic shifts, for example with the abundance of ship graveyards dotted along Lake Huron's coast, a holistic picture is fulfilled.

Abandoned vessel studies have only just started to illustrate the archaeological significance of these sites and their importance within underwater archaeology theories. Ships and boats are multifaceted cultural entities that are in constant flux of cultural importance to its relevant societies. But this flux does not always end after it has been discarded or abandoned by its original users. Abandoned vessel studies encompass such an understanding of a vessel, and add to the scope of underwater archaeology.

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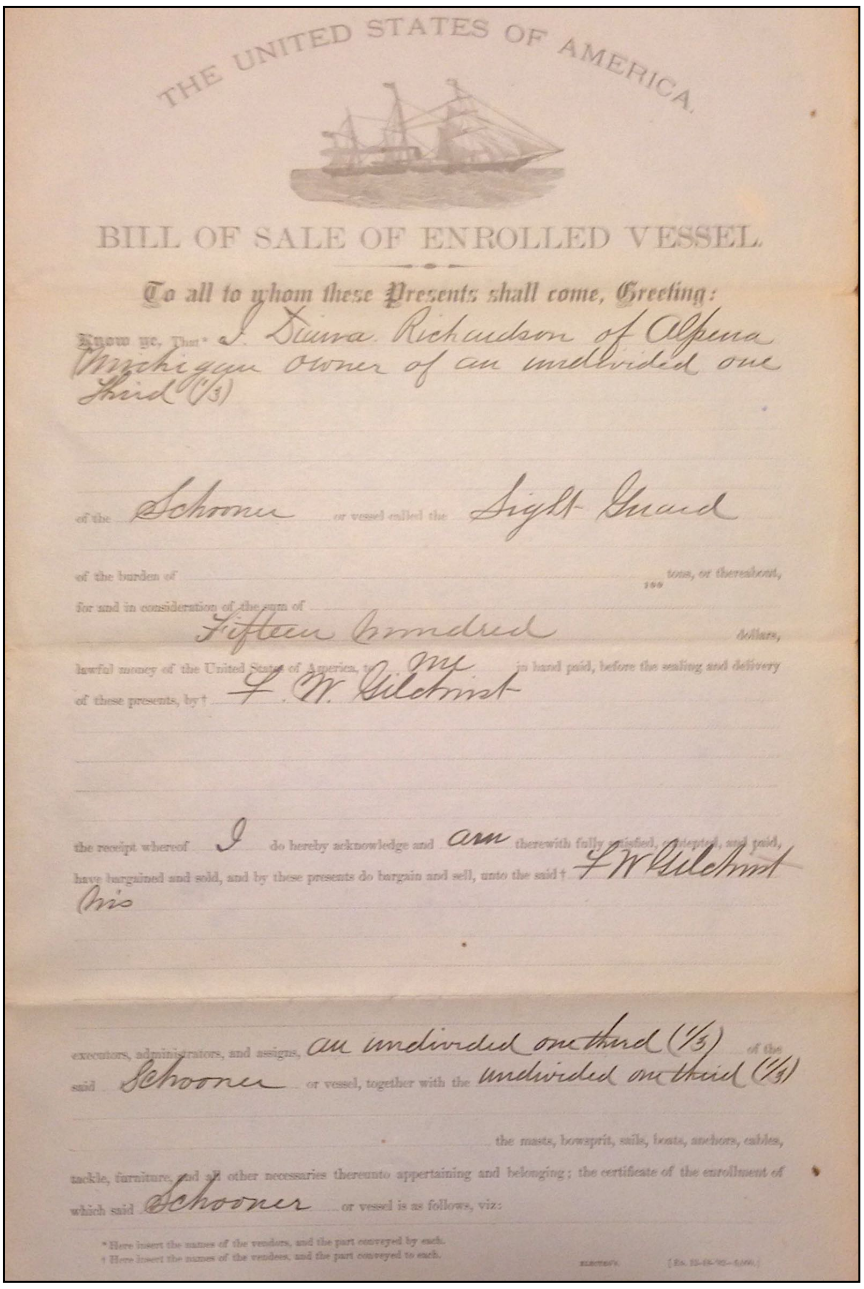
Appendices

Appendix A

Bill of Sale for *Light Guard* (Alpena County Library Special Collections, Fletcher collection, FLC–5, Box, Folder 10).



THE UNITED STATES OF AMERICA.

BILL OF SALE OF ENROLLED VESSEL

To all to whom these Presents shall come, Greeting:

Know ye, That* I. Diana Richardson of Alpena Michigan owner of an undivided one third (1/3)

of the Schooner or vessel called the Light Guard

of the burden of ____ tons, or thereabout, 199

for and in consideration of the sum of Fifteen Hundred dollars,

lawful money of the United States of America, to me in hand paid, before the sealing and delivery

of these presents, by† F. W. Gilchrist

the receipt whereof I do hereby acknowledge and am therewith fully satisfied, contented, and paid,

have bargained and sold, and by these presents do bargain and sell, unto the said† F W Gilchrist

(his

executors, administrators, and assigns, an undivided one third (1/3) of the

said Schooner or vessel, together with the undivided one third (1/3)

the masts, bowsprit, sails, boats, anchors, cables,

tackle, furniture, and all other necessaries thereunto appertaining and belonging; the certificate of the enrollment of

which said Schooner or vessel is as follows, viz:

*Here insert the names of the vendors, and the part conveyed by each.

†Here insert the names of the vendees, and the part conveyed to each.

Enrollment No. 22.

OFFICIAL NUMBER.	
NUMERALS.	LETTERS.
14711	

ENROLLMENT. In conformity to Title L, "Regulation of Vessels in Domestic Commerce," of the Revised Statutes of the United States, F W Gilchrist having taken and subscribed the Oath required by law, and having sworn that he owns one third 1/3 Chas. W Richardson of Alpena owns one third Henry Richardson of Alpena owns one third 1/3 all

citizens of the United States, and sole owners of the ship or vessel called the Sight Guard of Alpena, whereof W J Thompson is at present master, is a citizen of the United States, and that the said ship or vessel was built at Detroit Michigan, in the year 1866, as appears by the certified copy of her last Enrollment dated Port Huron April 5th 1878 No 47. now surrendered on loss of old papers

And said certified copy of last Enrollment having certified that the said ship or vessel has one deck and two masts, and that her length is 1 — /10 feet; her breadth 26 6/10 feet; her depth 10 8/10 feet; her height /10 feet; that she measures 294 and 88/100 tons, viz:

	Tons.	100ths.
Capacity under tonnage deck	290	33
Capacity between decks above tonnage deck		
Capacity of inclosures on the upper deck, viz:	20	07
Gross Tonnage	310	40
Deductions under Section 4153, R. S., as amended by Act of August 5, 1882	15	52
Net Tonnage	294	88

That the following-described spaces, and no others, have been omitted, viz:

and that she is a Barge, has a plain head and a square stern.

And

sufficient security having been given, according to the said Title, the said ship or vessel has been duly enrolled at the port of Port Huron

Given under my hand and seal, at the port of Port Huron, in the district of Huron, this 17 day of Sept, in the year one thousand eight hundred and ~~eighty~~ seventy Eight

H Botsford
Dept Collector of Customs.

Naval Officer.

To have and to hold the said undivided one third (⅓) of said Schooner and appurtenances thereunto belonging unto the said F W Gilchrist executors, administrators, and assigns, to the sole and only proper use, benefit, and behoof of the said executors, administrators, and assigns forever: And I the said Diana Richardson have, and by these presents do promise, covenant, and agree, for myself my heirs, executors, and administrators, to and with the said F W Gilchrist his heirs, executors, administrators, and assigns, to warrant and defend the said undivided one third (⅓) of the said Schooner and all the other before-mentioned appurtenances against all and every person and persons whomsoever.

In testimony whereof The said

ha hereunto set my hand and seal this 9th day of December, in the year of our Lord one thousand eight hundred and eighty-six

Signed, sealed, and delivered in presence of—

Frank H Vrooman — Diana Richardson [SEAL.]

Benj. C. Moore

ACKNOWLEDGED BEFORE Frank H. Vrooman

Received for record , 188 , at h. m. M.

CLERK.

STATE OF Michigan
COUNTY OF Alpena } ss:

Be it known, That on this 9th day of December, 1886 personally appeared before me Diana Richardson, and acknowledged the within instrument to be her free act and deed.

In testimony whereof I have hereunto set my hand and seal this 9th day of December, A. D. 1886

F. H. Vrooman

Printed by Wm. Suckert, Detroit.

State of Michigan, } ss.
COUNTY OF ALPENA.

I, Nick O'Brien Clerk of said County, and Clerk of the Circuit Court for the County of Alpena, which is a Court of Record, having a seal,

Do Hereby Certify, That Frank H Vrooman whose name is subscribed to the Jurat of the annexed instrument, and therein written, was, at the time of taking such Jurat, a NOTARY PUBLIC, in and for said County, duly commissioned and qualified, and duly authorized to take the same. *And further,* That I am well acquainted with the handwriting of such NOTARY PUBLIC, and verily believe that the signature to the said Jurat is genuine.

In Testimony Whereof, I have hereunto set my hand, and affixed the seal of said Court and County, at Alpena, this ninth day of December A. D. 1886

Nick O'Brien Clerk.

(Cat. No. 518.)

BILL OF SALE
OF
ENROLLED VESSEL.

Diana Richardson
TO
F. W. Gilchrist

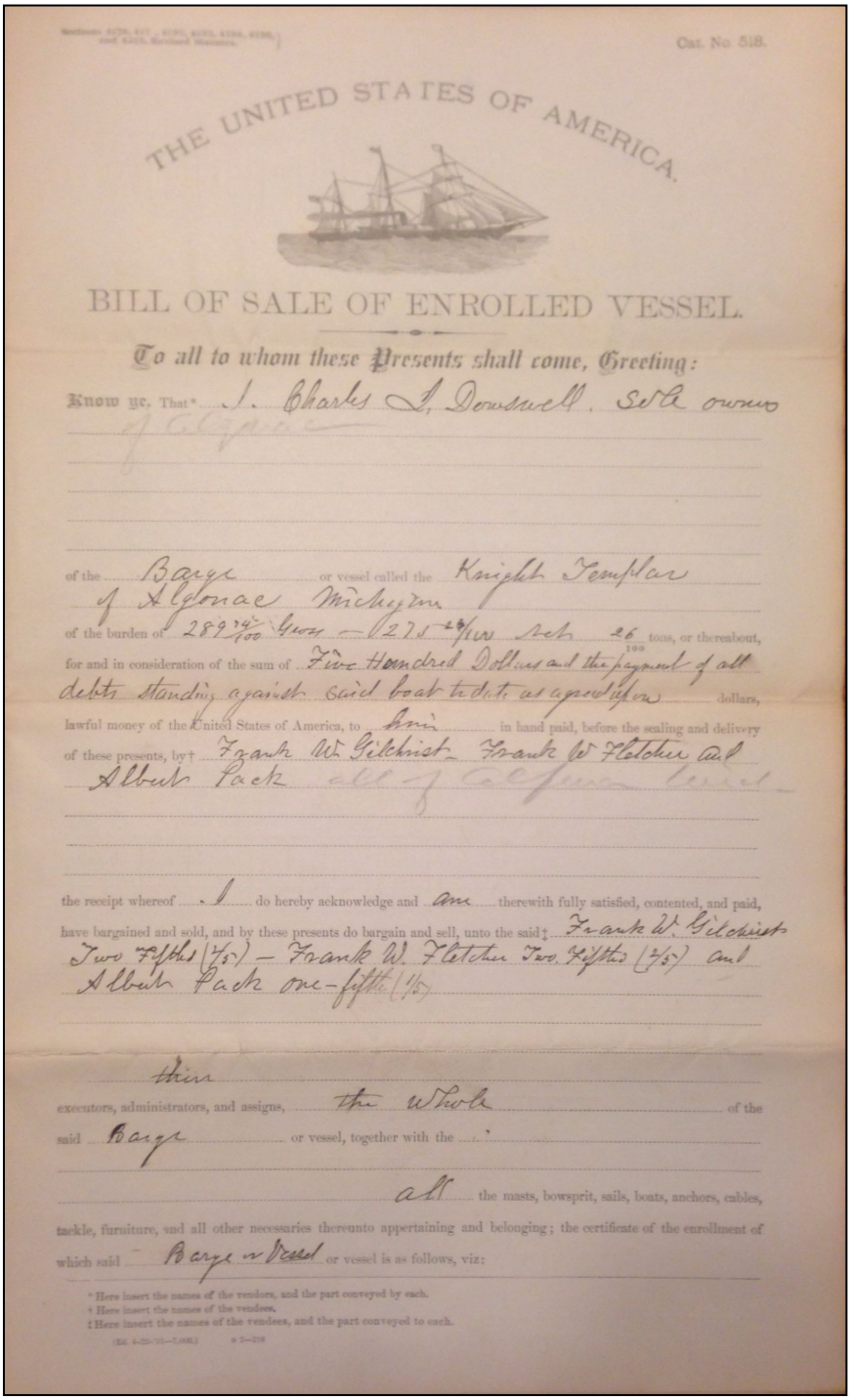
Yellowstone
CALLED THE
Light Guard
CUSTOM HOUSE, PORT HURON.
December 20 1886.
Received for record, 10 h. m. A. M.
Recorded, book 2, page 73

F. H. Norris
Deputy Collector

U.S. CUSTOMS SERVICE

Appendix B

Bill of Sale *Knight Templar* (Alpena County Library Special Collections, Fletcher collection, FLC–5, Box, Folder 11).



Cat. No. 518.

THE UNITED STATES OF AMERICA.

BILL OF SALE OF ENROLLED VESSEL.

To all to whom these Presents shall come, Greeting:

Know ye, That* J. Charles L. Dowsnell. sole owner of Alpena

of the Barge or vessel called the Knight Templar of Alpena Michigan

of the burden of 289 74/100 Gross — 275 29/100 Net 26 109 tons, or thereabout, for and in consideration of the sum of Five Hundred Dollars and the payment of all debts standing against said boat to date as agreed upon dollars, lawful money of the United States of America, to me in hand paid, before the sealing and delivery of these presents, by† Frank W. Gilchrist — Frank W. Fletcher and Albert Pack all of Alpena Mich.

the receipt whereof I do hereby acknowledge and am therewith fully satisfied, contented, and paid, have bargained and sold, and by these presents do bargain and sell, unto the said‡ Frank W. Gilchrist Two Fifths (2/5) — Frank W. Fletcher Two Fifths (2/5) and Albert Pack one-fifth (1/5)

Him executors, administrators, and assigns, the Whole of the said Barge or vessel, together with the

all the masts, bowsprit, sails, boats, anchors, cables, tackle, furniture, and all other necessaries thereunto appertaining and belonging; the certificate of the enrollment of which said Barge or Vessel or vessel is as follows, viz:

* Here insert the names of the vendors, and the part conveyed by each.
† Here insert the names of the vendees.
‡ Here insert the names of the vendees, and the part conveyed to each.

(Ed. 4-25-35—7,068) o 2—218

OFFICIAL NUMBER.	
NUMERALS.	LETTERS.
14110	

Enrollment No. 100

ENROLLMENT. In conformity to Title L, "Regulation of Vessels in Domestic Commerce," of the Revised Statutes of the United States, C D. Dorswell of Algonac Mich having taken and subscribed the oath required by law, and having sworn that he, owns three fourths 3/4 and S.D. Moore of Algonac Michigan owns one fourth 1/4

both

citizens of the United States, and sole owners of the ship or vessel called the Knight Templar of Algonac, whereof S D Moore is at present master, is a citizen of the United States, and that the said ship or vessel was built at Oswego New York, in the year 1867, as appears by her P.E. No 24 issued at Port Huron August 22 - 1890 now surrendered on change of owners

And Said enrolment having certified that the said ship or vessel has one (1) deck and two (2) masts, and that her length is 135 9/10 feet; her breadth 26 9/10 feet; her depth 10 3/10 feet; her height 10 feet; that she measures Tons 275 and 26/100 tons, viz:

	TONS.	100THS.
Capacity under tonnage deck	277	
Capacity between decks above tonnage deck		
Capacity of inclosures on the upper deck, viz:	12	74
GROSS TONNAGE	289	74
Deductions under Section 4153, R. S., as amended by Act of August 5, 1882	14	48
NET TONNAGE	275	26

That the following-described spaces, and no others, have been omitted, viz:

and that she is a Sc, has a pr Cuin head and a Square stern.

And

sufficient security having been given, according to the said Title, the said ship or vessel has been duly enrolled at the port of Port Huron ~~in the district of Huron~~

Given under my hand and seal, at the port of Port of Port Huron, in the district of ~~Huron~~, this 10 day of April, in the year one thousand eight hundred ninety-three

Geo F Adams
Dep Collector of Customs.

Naval Officer.

To have and to hold the said Barge Knight Templar and appurtenances thereunto belonging unto me the said Charles A Dowswell executors, administrators, and assigns to the sole and only proper use, benefit, and behoof of the said Frank W. Gilchrist Frank W Fletcher and Albert Pack their executors, administrators, and assigns forever: And I the said Charles A Dowswell have, and by these presents do promise, covenant, and agree, for myself my heirs, executors and administrators, to and with the said Frank W. Gilchrist, Frank W. Fletcher and Albert Pack their heirs, executors, administrators, and assigns, to warrant and defend the Barge Knights Templar and all the other before-mentioned appurtenances against all and every person and persons whomsoever. except the debts as above Specified

In testimony whereof The said Charles A Dowswell ha & hereunto set his hand and seal this Eleventh day of December, in the year of our Lord one thousand eight hundred and ninety- three

Signed, sealed, and delivered in presence of—

Daniel G Jones
Samuel Smith

Chas A. Dowswell [SEAL.]

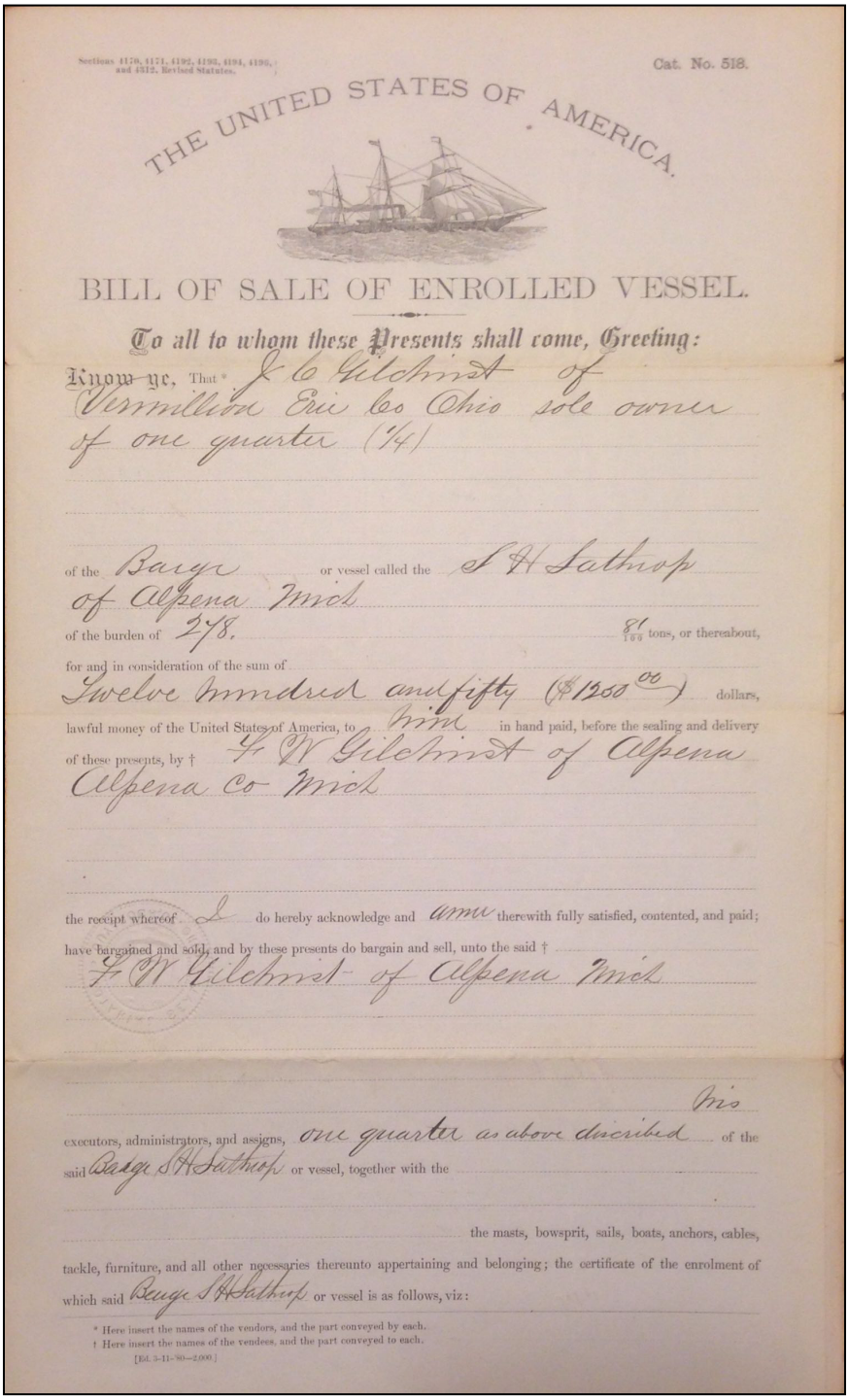
ACKNOWLEDGED BEFORE Daniel G Jones Notary Public

Received for record ....., 18 , at h. m. M.

CLERK.

Appendix C

Bill of Sale *S.H. Lathrop* (Alpena County Library Special Collections, Fletcher collection, FLC–5, Box, Folder 12).



Sections 4170, 4171, 4192, 4193, 4194, 4195, and 4312, Revised Statutes.

Cat. No. 518.

THE UNITED STATES OF AMERICA.

BILL OF SALE OF ENROLLED VESSEL.

To all to whom these Presents shall come, Greeting:

Know ye, That * J C Gilchrist of Vermillion Erie Co Ohio sole owner of one quarter (1/4)

of the Barge or vessel called the S H Lathrop of Alpena Mich

of the burden of 278. 87/95 tons, or thereabout,

for and in consideration of the sum of Twelve hundred and fifty ($1250 00) dollars,

lawful money of the United States of America, to him in hand paid, before the sealing and delivery

of these presents, by † F W Gilchrist of Alpena Alpena Co Mich

the receipt whereof I do hereby acknowledge and am therewith fully satisfied, contented, and paid;

have bargained and sold, and by these presents do bargain and sell, unto the said † F W Gilchrist of Alpena Mich

his

executors, administrators, and assigns, one quarter as above discribed of the

said Barge S H Lathrop or vessel, together with the

the masts, bowsprit, sails, boats, anchors, cables,

tackle, furniture, and all other necessaries thereunto appertaining and belonging; the certificate of the enrolment of

which said Barge S H Lathrop or vessel is as follows, viz:

* Here insert the names of the vendors, and the part conveyed by each.

† Here insert the names of the vendees, and the part conveyed to each.

[Ed. 5-11-'80—2,000.]

OFFICIAL NUMBER.

GENERAL.	LETTERS.
22396	

Enrolment No. 21

ENROLMENT. In conformity to Title L, "Regulation of Vessels in Domestic Commerce," of the Revised Statutes of the United States, J W Gilchrist of Alpena Manager Owner having taken and subscribed the Oath required by law, and having sworn that he, owns one fourth (1/4)

J C Gilchrist of Alpena owns one fourth (1/4)

C W Richardson of Alpena owns one half (1/2) all

citizen of the United States, and sole owner of the ship or vessel called the A H Sathrop of Port Huron, whereof E M Harrington is at present master, is a citizen of the United States, and that the said ship or vessel was built at Buffalo New York, in the year 1856, as appears by the Certified Copy of her last Enrollment No 42. dated Port Huron April 17th 1876 Now Surrendered in lieu of old Papers And said Certified Copy of Last Enrolment having certified that the said ship or vessel has One deck and two masts, and that her length is 137 $\frac{7}{10}$ feet; her breadth 26 $\frac{1}{10}$ feet; her depth 10 $\frac{3}{10}$ feet; her height $\frac{0}{10}$ feet; that she measures 278 and $\frac{81}{100}$ tons, viz:

	TONS.	100THS.
Capacity under tonnage deck	270	88
Capacity between decks above tonnage deck		
Capacity of inclosures on the upper deck, viz:	7	93
TOTAL TONNAGE	278	81

That the following-described spaces, and no others, have been omitted, viz:

and that she is a Barge, has a Plain head and a square stern.

And said J W Gilchrist having agreed to the description and measurement above specified sufficient security having been given, according to the said Title, the said ship or vessel has been duly enrolled at the port of Port Huron

GIVEN under my hand and seal, at the port of Port Huron, in the district of Huron, this 14th day of Sept, in the year one thousand eight hundred and ~~eighty~~ 78

H Botsford
Deputy Collector of Customs.

Naval Officer.

To have and to hold the said one fourth Range S 4 Sathrop and appurtenances thereunto belonging unto the said F W Gilchrist

executors, administrators, and assigns, to the sole and only proper use, benefit, and behoof of the said F W Gilchrist

executors, administrators, and assigns forever: And the said J C Gilchrist

have, and by these presents do promise, covenant, and agree, for himself his heirs, executors, and administrators, to and with the said F W Gilchrist

his heirs, executors, administrators, and assigns, to warrant and defend the said Range 5 4 Sathrop

and all the other before-mentioned appurtenances against all and every person and persons whomsoever.

In testimony whereof, The said J C Gilchrist of Vermillion Erie Co Ohio

ha ve hereunto set his hand and seal this 21st day of January, in the year of our Lord one thousand eight hundred and eighty-two

Signed, sealed, and delivered in presence of—

H P Wilson

D L Pennington

J. C. Gilchrist SEAL

ACKNOWLEDGED BEFORE

Received for record , 188 ; h. m. M.

Clerk.

Appendix D

Prospectus to TBNMS-NOAA:

History and Significance

During the White Pine Era of the North Midwest, lumber industries and marine shipping flourished. One such entrepreneur was Frank W. Gilchrist. In 1867, Gilchrist opened his first lumber mill in Alpena, MI. Creating a legacy that would reach from Mississippi all the way to Oregon. Most important to the success of Gilchrist's lumber industry was the treacherous ship routes that relied heavily on the Great Lakes. Each ship that Gilchrist owned would hual thousands of timber, coal, supplies, and cement throughout all of the Great Lakes harbors. These vessels, due to the water's temperature and freshwater, would have long careers in transportation of people and goods. This longevity in service should show evidence of accidents and tragedies. Just within the Thunder Bay National Marine Sanctuaries protected zone are what is thought to be hundreds of ships lying on the lakebed. Evidence of constant repair and even upgrades depending on the economic trends can be seen in local newspapers and personal correspondence.

Three ships that lie within the protect sanctuary are the tentatively identified *Knight Templar*, *Light Guard*, and the S.H. Lathrop. Now lying between 7-10 feet of water, these ships are the remains of a bygone era where lumber was king and men and women traversed the great lakes in search and hope of a prosperous future.

Abandoned during the early 1900s these three vessels were essential to Frank W. Gilchrist's lumber business. These vessels would haul lumber to harbors throughout the Great Lakes. Such as Detroit, Chicago, and Cleveland. After lumber prices began to fall, the Gilchrist lumber industry diversified and began buying up farms and forests across the United States, and began mining materials in Alpena for cement.

The historical significance of these ships is apparent, but they also have more to educate the future. With proper identification comes the ability to educate local and international communities on the topics of the White Pine Era, Frank W. Gilchrist, shipping in Alpena. Along with these topics comes the ability to work with the Lafarge Cement Company in creating an easily accessible heritage trail so that tourist and locals can see the tangible history of the Great Lakes. And given the nature of the sites, NAS training can be conducted in a relatively safe setting without much worry of breaking artifacts such as, pottery, personal items, or other delicate items.

The community of Alpena has voiced the importance of these vessels to their own history as well. There is a strong interest by the community of Alpena to see these ships surveyed because of their close connection people and the town, making this fieldwork even more important. With this community backing, the story of these ships and their involved activities can come alive to educate and engage.

AIMS

The reasons for this fieldwork on the aforementioned vessels are two fold. First, to identify these three sites as abandoned ships. Mapping the sites using baseline-offset methods to best utilize the time in the field will aid in the identification of key identifiers of an abandoned vessel, as shown in Kurt Bennett's thesis (2015) and Nathan Richards and Mark Staniforth's investigations on abandoned sites (2006). Second, to identify these sites as possibly *S.H. Lathrop*, *Knight Templar*, *Light Guard.* By combining historical primary documents on these ships and the construction of the three vessel, and their distinct builds, will allow for proper identification through a series of methods as will be described later on. To ensure efficient use of time a request for trained volunteer divers announced to local volunteers, within a NAS-style setting.

Having proper site maps of the sites will not only add to knowledge of NOAA but aid in the masters research of Donald La Barre, studying at Flinders University. The use of high quality images and film will allow NOAA to use as education data, for use in the museum, and with properly managing the sites.

Time permitting, there is a 9 ft. wooden rowing boat and a large crib dock that lay off the lakeside of *Light Guard* and would be of interest to investigate this site given its proximity to *Light Guard*