Preserving Shell Island: A Plan for Cultural Resource Management and Site Stewardship

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PRESERVING SHELL ISLAND: A PLAN FOR CULTURAL RESOURCE MANAGEMENT AND SITE STEWARDSHIP

Morgan Gill
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CHAPTER 1: INTRODUCTION

Rollins College owns an island in the Wekiva River that is home to a shell midden mound created sometime between 5,000 and 7,000 years ago. The site—called Shell Island—is the largest Archaic habitation area in the Wekiva basin (Weisman 1993:20). Excavations by Rollins College in the 1970s and 1980s demonstrated the rich cultural heritage of the inhabitants. The presence of marine shell represents exchange connections with the Atlantic coast, a variety in pottery decoration could illustrate changes in style over time, and tools made in both stone and bone display their technical skill sets.

Despite the significance of the site, its preservation is lacking. In a 2005 conditional assessment of Shell Island, preservation was deemed “poor” due to looting and vandalism (State of Florida Department of Environmental Protection 2005:44). The current management scheme for the island is convoluted and there is a lack of effort on the part of Rollins and the Wekiva community to conserve the island due to a number of factors that I explore here. Using the recommendations of Shell Island’s various stakeholders and case studies of archaeological sites with similar issues to Shell Island, this thesis project will formulate a management plan for the site and explore the benefits of conservation for the College, its students, the wider Central Florida community, and the broader study of Florida archaeology.

In Chapter Two, I begin with an account of the archaeological significance of Shell Island and a description of the historical relationship between Shell Island and Rollins. In Chapter Three, I explore the themes of heritage, public archaeology, and site stewardship and how they can be employed to promote better preservation and protection of Shell Island. In Chapter Four, I delineate the conservation issues present at Shell Island
as identified by the island’s stakeholders and make the case for why Shell Island matters and should be preserved. In Chapter Five, I analyze sites with similar issues to Shell Island to find parallels that would be useful in a plan for Shell Island, and I conclude by presenting the plan to better manage and protect the site.

This management plan will incorporate the examples provided by the archaeological case studies and the concerns and recommendations proposed by stakeholders. The plan is meant to be used by whichever entity is currently managing the island, so whether or not Rollins maintains ownership of the island will not affect the strategies I suggest. In the plan, I identify six major conservation and management issues at Shell Island: recreational use, illegal activity, erosion, archaeological conservation and research, exotic plants, and public interpretation and engagement. The management plan will include an explanation of each issue and offer approaches to solving them. This ensures that the plan is responsive to the unique problems seen at Shell Island and that the concerns of stakeholders are addressed.
CHAPTER 2: BACKGROUND ON SHELL ISLAND

Introduction

Shell Island, known as 8OR452 or Rollins Island in the Florida archaeological site registry, is located in the middle of the Wekiva River (See Figure 2). The island measures 61 meters wide and 305 meters long and runs roughly north to south lengthwise (Newman and Weisman 1990:2). Shell Island gets its name from the large shell midden mound found on its southern end which rises to a height elevation of 4 meters (See Figure 1). The midden “is essentially a garbage dump increasing in size by the discarding of food remains, broken tools, and pottery fragments” (Exhibit of Winter Term Class, N.d.). The shells in the mound are mainly those of snails and freshwater mussels which the inhabitants consumed and discarded, forming the mound that exists today.

Shell Island’s human past stretches back for thousands of years (Weisman 1993:21). Though the utilitarian importance of the site remains intact, the island has undergone drastic change over time as it transitioned from a place of habitation for the indigenous peoples living in Florida during the Archaic period into a recreational campsite and place of learning in the twentieth century. Due to Shell Island’s prehistoric significance and historic legacy, a review of the literature surrounding it would not be complete without an evaluation of both the archaeological research on the island and its nearly century-long relationship with Rollins College.

Figure 1. Rough profile map of Shell Island (from Weedman 1974: n.p.).
Figure 2. A USGS Map showing the location of Shell Island, circled and labelled OR-452 in the image (Williams and Stewart 1982:3).
The Archaeological Record on Shell Island

The following section examines two aspects of the archaeological research carried out on Shell Island. The first is a description of the different archaeological excavations that took place on the island with an account of the nature of the artifacts recovered from those excavations. The second section is a discussion of the archaeological factors which can be used to explain the significance of the island in terms of its deep past.

Shell Island Excavations

Although it appears that amateur “pot hunters” were the first to remove archaeological materials from Shell Island (Weedman 1974: n.p.), the first scientific excavations on the island took place in the 1970s. Excavations occurred on three separate occasions, each carried out by field crews made up of Rollins College students and faculty. The excavations—in 1973, 1974, and 1982—were all led by different members of the faculty and enacted different field methods which, with each subsequent dig, appeared to increase in their level of formality and degree of documentation.

The first excavation of Shell Island took place in the winter and spring of 1973 by a field school of twenty-five Rollins students led by Professors Emeritus Arthur Jones and James McLeod (Weedman 1974: n.p.). The excavation was part of a winter term class entitled “Introduction to Central Florida Archeology,” and the dig was meant to facilitate experiential learning (Paulson 1973: n.p.). This excavation consisted of four test pits centered on the southern end of the island where the mound is at its highest elevation (see Figure 3). According to a 1973 Sentinel Star article about the dig:
Figure 3. Topographical map and detail of 1973 and 1974 excavation areas (Weedman 1974: n.p.)
[The] students [...] found bits of pottery, human bones, projectile points, bone tools and ornaments. Remains of deer, bear, alligator, turtle, birds, and two species of snail, one of which no longer exists in this area [were also discovered].

(Paulson 1973: n.p.; See Figure 4)

Although field notes from the 1973 excavation are not available and no formal archaeological reports were written about the dig, the above article suggests that this excavation revealed the human burial that was found in the midden and subsequently removed (Newman and Weisman 1990:1; Weisman 1993:21). The significance of this burial will be discussed in the following section.
The 1973 excavation exposed three feet of the mound, essentially digging up about 2,000 years of history (Paulson 1973: n.p.). Despite this accomplishment, it seems that Professor McLeod, one of the faculty leaders of the excavation, had a poor understanding of the large amount of time that passed between when people actually inhabited the island and the era of Spanish conquest. Sentinel Star reporter Steve Paulson summarizes McLeod’s interpretation of Shell Island:

This site has not been occupied since Spaniards arrived in Florida, he said, possibly because the band was ravaged by disease uncommon to the Indians. Smallpox wiped out thousands of Indians when the Spaniards first started their settlement of the peninsula. (Paulson 1973: n.p.)

McLeod’s view is misguided; as Weisman explains, the Wekiva basin was abandoned well before European contact, perhaps even predating it by 1,000 years (Weisman 1993:23). The 1973 excavation of Shell Island had merit in that it expanded student excavators’ knowledge about Florida’s past through experiential learning. However, since there was an overall lack of field documentation, the artifacts recovered lack crucial contextual information that could have been used to better understand the island and its inhabitants.

The 1974 excavation was led by Burton Williams and executed by a crew of ten undergraduate students from Rollins. In an informal report, field crew member Lynn Weedman explains the excavation method they employed at the site which pays heed to the area excavated in 1973:

On January 8, 1974, three test pits were located. Two of these are adjacent to the previous excavation by Rollins, and are
separated from the previous dig by an 18” bulk and also from each other by 18”. The third pit is located on the lower bench of the mound. There are three 6’ by 6’ pits. (Weedman 1974: n.p.; See Figure 3)

The crew members on this excavation engaged in much more extensive field documentation than the excavators of the 1973 dig, or at least more documentation from the 1974 dig can be located. Field notes are available, as well as numerous pages of “Pottery Descriptions” from each unit and level, two student reports on the archaeological findings, and photographs of all of the artifacts recovered.

Similar to the excavation in 1973, this excavation yielded artifacts such as snail and mussel shells, animal bone, stone and bone points, and sand-tempered, non-tempered, and shell-tempered sherds of pottery (Weedman 1974: n.p.; Weisman 1993:21; Dinnel 1975: n.p.). Some of the more unique artifacts found are fragments of two stone plummets, which may have been used as fishing net weights (see Figure 5). Figure 6, a photograph looking down into one of the test pits, documents how dense the midden is with snail shells. Lynn Weedman notes a trend in shell size in the strata: “In each pit, the size of the shells change through time, with larger shells being found in the lower, earlier layers, and decreasing in size toward the upper, later layers” (Weedman 1974: n.p.). The 1974 excavation, with its more methodological approach detailed documentation, was the first truly scientific archaeological research completed at Shell Island.

In 1982, Dr. Marilyn Stewart supervised a “limited test excavation” that was carried out by her student assistant Phil Weiss and three other Rollins students (pers. comm., 4 Aug. 1982). Stewart explains the focused objective of this excavation:
Figure 5. On the right and left are the two stone plummet fragments. In the center is a projectile point (Williams 1974).

Figure 6. Plan view of excavated pit showing shell deposits (Williams 1974).
Our goal is to obtain information on the context and depth of artifacts from different time periods for the purpose of writing a site report on the excavations conducted by Rollins personnel in 1973 and 1974 [...] [The crew will] dig a square about 5’ X 5’." (pers. comm., 4 Aug. 1982)

It appears that Stewart’s 1982 excavation was revisionary in nature; it aimed to rehash prior excavations in an attempt to make more sense of their findings.

The official document produced from this excavation was the Florida Master Site File Archaeological Site Form, which was updated by Christine Newman and Brent Weisman in 1990. The form specifies the types of artifacts recovered from the 1982 excavation:

Numerous prehistoric artifacts dating to the Archaic and St. Johns periods have been collected by Marilyn Stewart of Rollins College in excavations at the site. Artifacts include stone projectile points of the Culbreath and Hernando types, bone points and tools, and St. Johns plain, check stamped, and incised pottery sherds. (Newman and Weisman 1990: n.p.; See Figures 7 and 8)

A large ceramic bowl measuring 16.5 inches in diameter was removed almost intact during the excavation—an image of the fully reconstructed bowl can be seen in Figure 9 (Phelan 2010: n.p.). The 1982 excavation of Shell Island yielded the most dependable accounts of the island’s archaeological record. Taken together, the Shell Island excavations in the 1970s and 1980s provide a detailed cross section of the materials left behind by the island’s inhabitants.
(Left) Figure 7. Incised pottery sherd from the 1974 dig. (Right) Figure 8. Check stamped and punctated sherds from the 1974 excavation (Williams 1974).

Figure 9. Ceramic bowl recovered from Shell Island in 1982 (Phelan 2010: n.p.)
The Archaeological Significance of Shell Island and the Wekiva Basin

So what does it all mean? First of all, it is impossible to understand Shell Island without putting it into the context of the smaller archaeological sites surrounding it. Weisman explains two possible scenarios of how Shell Island figures into the larger picture of the Wekiva basin:

[The Wekiva] middens can be grouped into different size classes but are broadly contemporaneous [...] it is possible that the small and medium middens represent locations occupied by individual families or bands while the largest site [Shell Island] represents an actual village. Presumably, the village site was the central location from which the families or bands dispersed. A second scenario holds that all the middens were created by a relatively small group of people, whose annual or seasonal movements from one location to another are imperceptible in archaeological time and give the appearance of contemporaneity. In this view, the largest site (8OR452) was simply the base camp, occupied more often (for longer periods of time) than the other middens. (Weisman 1993:20-21)

In both scenarios Weisman proposes, Shell Island appears to be an important focal point in the lives of the inhabitants of the Wekiva basin.

Although it can be ascertained that Shell Island was likely the center of human activity in the Wekiva basin for some time, establishing the time period during which it was inhabited is a bit more difficult. The general chronology of the Wekiva cultures is outlined in Figure 10 (Randall 2013; Weisman 1993). It seems that occupation of the basin began
<table>
<thead>
<tr>
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<td>Mount Taylor Period</td>
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<td>St. John’s I Period</td>
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<td>St. John’s II Period</td>
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<td>800 A.D. – 1500 A.D.</td>
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**Figure 10.** The chronology of the Wekiva Basin (Randall 2013; Weisman 1993).

during the Paleolithic period which lasted from 10,000 B.C. until 5500 B.C. This period was followed by the Mount Taylor period—5500 B.C. to 2600 B.C.—which was characterized by the first evidence of fishing as a means of subsistence (Randall 2013). The Orange period, which lasted from 2600 B.C. to 1000 B.C., saw the first use of pottery in the Wekiva basin (Randall 2013). During the Transitional period, lasting from 1000 B.C. until 500 B.C., there was a shift away from plain ceramics and towards the use of decorative elements such as incised lines (Weisman 1993:21). The St. John’s I period from 500 B.C. until 800 A.D. is likely to have been the time of highest population density in the Wekiva basin, and it was followed by the St. John’s II period which represented the culmination of the pre-Columbian human occupation of the basin (Weisman 1993:33).

Although most archaeological evidence points toward the Orange period as having the first "substantial human occupation" of the basin followed by a population increase during the St. John’s I period (Weisman 1993:21), Shell Island appears to be an outlier in this chronology. Weisman explains how Dr. Stewart, the supervisor of the 1982 excavation on the island, interprets the site:

Marilyn Stewart of Rollins College, who excavated a test pit at the site, feels that a large portion of the midden may date to the preceramic Archaic […] which would place the origins of the aquatic adaptation even deeper in time. (Weisman 1993:21)
In an August 2013 lecture on the prehistory of the Wekiva basin, Dr. Asa Randall agreed with Stewart’s interpretation, explaining that the bannerstone recovered from Shell Island—a carved stone with projecting wings—is diagnostic of the archaic Mount Taylor period (Randall 2013). Proving this theory stratigraphically and through the material record is difficult since, as the name “preceramic” suggests, ceramic typology is not available as a diagnostic tool of chronology. Even so, Weisman maintains: “It is probable that the bulk of the midden deposits in the Wekiva basin date to the general St. Johns I period (with the possible, but notable, exception of Rollins Island)” (Weisman 1993:33).

Determining the size of the population on Shell Island is dependent upon an estimation of the amount of food resources available to its inhabitants at any given time:

In absolute numbers it is probable that population levels were low, and it is possible that all of the middens were created by a few people who shifted slightly the location of their camps seasonally or every few years. Of course, the key to solving the problem is determining how many people the aquatic resources of the basin could support at one time, or, phrased in human terms, how many people it would take to deplete the supply of snails in any one location. How long could a group stay in one spot before having to move? (Weisman 1993:35)

The subsistence of the inhabitants of the Wekiva basin largely consisted of shellfish such as snails and mussels, as evidenced by the presence of these mollusks in the garbage pits or middens at each site (Newman 1991:3). This trend is seen in the Shell Island midden as well. As Katherine Dinnel describes: “In all samples of the shellfish [at Shell Island] the snail Viviparous dominated the midden by 70-80%. Supplements to this snail were
composed of varying amounts of small Unio (mussel)” (Dinnel 1975:6). Since snails were such a large part of the diets of the inhabitants of the Wekiva basin, a verification of the amount of snails available to the population would give a fairly accurate approximation of its size.

The snails and mussels consumed by the inhabitants of Shell Island “were either roasted or boiled in pots,” but archaeological evidence points more toward boiling as the means of preparation since “the shells found at Shell Island did not appear to have been burnt” (Dinnel 1975:7). The diet of Shell Islanders was not limited to shellfish. Dinnel notes that there was a “small quantity of bone found in the midden samples [consisting] of fish vertebra, turtle and alligator bone” in the 1974 excavation, and according to the Sentinel Star article about the 1973 dig, deer, bear, and bird remains were also found in the midden (Dinnel 1975:7; Paulson 1973: n.p.). It appears that the inhabitants of the Wekiva basin had a lifeway that revolved around fishing, hunting, and gathering.

Archaeological evidence suggests that the Wekiva basin population was not isolated culturally. Weisman claims:

Worked marine shell and marine shell fragments [...] seem to be at other sites in the general vicinity [...] This indicates some degree of contact with coastal groups or directly with the nearby Atlantic coast, which is not unexpected given the widespread finds of marine shell in sites throughout the Florida interior. That these shells [...] appear to be ornamental or ceremonial rather than tools in the strict sense is not unexpected given that they are not local in origin. (Weisman 1993:33).
As Weisman argues, it appears that the inhabitants of the Wekiva basin had exchange connections with groups who lived near the Atlantic Ocean and used the items they acquired from the coast as decoration rather than for utilitarian purposes. At Shell Island, the presence of sharks teeth further solidifies a connection with the coast, and it is possible that the teeth were used in a similarly non-utilitarian capacity (Phelan 2010: n.p.; See Figure 11).

![Figure 11. A shark tooth recovered from Shell Island (Phelan 2010: n.p.).](image)

Shell Island is unique in the Wekiva basin in that there was a burial present in the midden. This is atypical because most human remains in the Wekiva were interred in mounds located at spring heads. As Christine Newman explains:

> Apparently, the spring heads held religious/ceremonial significance in that it is here that the burial mounds are located. The middens, scattered throughout the floodplains of the major waterways, represented the living and daily activity areas.
Clearly, Shell Island does not follow the blueprint of having one’s habitation area separate from one’s ceremonial space, especially since the site is a midden, which is typically associated with domestic activity.

The significance of the human remains at Shell Island is still questioned by many. Dr. Stewart is not convinced that the presence of human bone at the site necessarily points toward a proper burial. Steve Phelan summarizes Stewart’s interpretation:

Marilyn explains that this skull was not part of a burial, in her view, because the rest of the body was not there and no signs of ceremony were evident. The skull, therefore, likely belongs to an outcast of the band [...] living in the basin. (Phelan 2010: n.p.).

To Stewart, the skull in isolation suggests a darker story of what happened at Shell Island; perhaps the skull was from a man who violated the social code of the Wekiva culture, so he was decapitated and his head was buried apart from his body (Phelan 2010: n.p.). But Weisman sees the situation differently: “The pattern of mound burial for some individuals and midden burial for others is widespread in Florida but, frankly, is not well understood anywhere beyond the assumption that differences in status are the cause” (Weisman 1993:35). Hence, it is difficult to speculate about the meaning behind the burial found at Shell Island past the fact that midden burials were uncommon in the Wekiva basin.

Even though Shell Island and the Wekiva basin have many mysteries yet to be uncovered, some things remain clear: “good archaeological evidence indicates continuous and probably permanent human occupation of the basin for a period of some 3,000 years or more” (Weisman 1993:33). Despite this long legacy of occupation, it seems that the
inhabitants of the Wekiva maintained cohesion in their way of life. As Weisman notes: “the general picture is one of overwhelming cultural continuity through all the periods beginning with the Late Archaic” (Weisman 1993:33). Shell Island, while unique for its size and the human remains it contains, still follows the general cultural timeline of the larger Wekiva basin.

**Shell Island and Rollins College**

Apart from the excavations in the 1970s and 1980s, how is Rollins College connected to Shell Island? The relationship between Rollins and Shell Island began a little less than a century ago in 1927 when students began using it as a site for recreational activity. In a *Sandspur* article written in 1938, it was reported that “Shell Island [was] used as a weekend camping site for the students of Rollins College for the past ten years” (Sandspur 1938:4; see Figure 12). Coordinated field trips to the island began in 1929 which were led by Fleet Peeples, the director of aquatic sports at Rollins during that time (Sandspur 1929:3; See Figure 14). A December 1929 *Sandspur* article describes the nature of the weekend trips:

> Men students will alternate with the co-eds each week end in forming parties of eight members who occupying four canoes, will paddle fourteen miles from Winter Park to Shell Island, near Wekiwa Springs. It is planned to have the trips begin at Saturday noon and to end Sunday evening. (Sandpur 1929:3)

Figure 13 is a photograph showing one of the trips taken to Shell Island that appears to be composed of eleven women, a young boy, and Fleet Peeples himself (Richardson 1932). Rollins sponsored canoe trips to the island took place for about two decades.
When visiting Shell Island, students were permitted to stay in a log cabin built by the Wilson Cypress Lumber Company in 1923 (Sandspur 1938:4). The cabin—which can be seen in Figures 13 and 15—has since been torn down, but the connection it provided between the lumber company and Rollins proved to be instrumental:

President Hamilton Holt announced today that a deed of ownership has been given the college by the Wilson Cypress
Company of Palatka and Jacksonville. C. Russ Macpherson, the general manager of the company, is the father of Suzanne Russ Macpherson, a student at Rollins this year, and Louise Macpherson Deming, who was graduated from Rollins last year. (Sandspur 1938:4)

When the Wilson Cypress Company decided to abandon its lumber operations in the Wekiva area, Macpherson made the decision to donate Shell Island to Rollins because of the links already established between the company and the college (Zhang 2009:69).

![Canoe Trip to Shell Island](image)

*Figure 13. Canoe Trip to Shell Island. Fleet Peeples is pictured in the second canoe from the left wearing a black shirt. (Photograph by T.P. Richardson, 1932).*
Rollins accepted the gift of ownership of Shell Island for a few reasons. On one hand, owning the island was to the benefit of Rollins' students:
With the cabin on Shell Island as headquarters, exploration on journeys to a distance of about 10 miles along the river will be taken as a regular feature for the purpose of studying Florida wildlife in native haunts. College officials consider the [canoe] trips as excellent opportunities for students to study nature and at the same time to derive some unusual and wholesome pleasure. (Sandspur 1929:3)

Indeed, it seems that Shell Island was enjoyed thoroughly by Rollins students. As the subtitle of a February 1930 Sandspur article clearly states: "Wekiwa is Scene of Week-end

Figure 15. Rollins students sit outside the Wilson Cypress Company cabin on Shell Island (Richardson 1932).
Party” (Sandspur 1930:3; See Figure 16). On the other hand, Rollins’ ownership of Shell Island was thought to be an asset to college’s facilities: “The acquisition of Shell Island will add greatly to Rollins equipment as an outdoor college” (Rollins Record 1938: n.p.).

Although Rollins had sole ownership over Shell Island beginning in 1938, the college allowed for the island to be used by other schools in the area for educational purposes. In 1942, Webber College—now called Webber International University—was given permission for “use of [the] Shell Island camp” by Dean Winslow Anderson of Rollins College (pers. comm. 22 April, 1942). Decades later in 1973, E. Roland Hill, a professor teaching a course at Seminole Junior College—known today as Seminole State College—received permission to use Shell Island by President Jack Critchfield of Rollins College (pers. comm. 5 Oct. 1973). It appears that Shell Island had a shared community legacy as a place of learning throughout the twentieth century.

Even though Shell Island was frequently utilized as an outdoor classroom by local colleges, the prehistory of the island and the larger Wekiva basin was poorly understood before the excavations in the 1970s and 1980s. One interpretation of the shell mounds is particularly troubling:

Many human bones are found, and it is a general supposition that the mound builders were cannibals. It was an old belief that the mounds were burial grounds, but this idea has long since been abandoned. The way in which the bones are scattered about in most of the mounds, and the way in which they are broken, tend to establish the theory that the ancient inhabitants of Florida were man eaters. (Sandspur 1907:13)
Figure 16. A February 1930 article from the Sandspur.
There is no archaeological evidence in support of the claim that the Wekiva basin population practiced cannibalism. Though this particular belief could be said to be a product of its time—the above quoted article was written in 1907—the implications of such a claim are very pernicious, serving to plainly separate indigenous “savages” from modern “civilized” society.

Similarly negative connotations were suggested by the writers of the Sandspur and other publications written many decades later. One example of this adverse trend is the usage of the phrase “jungle retreat” to describe Shell Island (Sandspur 1938:4; Rollins Record 1938: n.p.; Zhang 2009:69). Although subtler than the previous example, the term “jungle” still suggests that Shell Island occupies a space that is temporally and culturally separate from the space inhabited by Rollins College. It seems to suggest that the island is still part of an unblemished natural setting, thus insidiously disregarding the thousands of years of human history which unfolded at the site. This shows how critically important it is that knowledge about Shell Island be shared with the Rollins community, especially in regards to the island’s ancient past.

**Conclusion**

Shell Island, also known as Rollins Island, is a shell midden mound located in the middle of the Wekiva River. Excavations on Shell Island were executed in the 1973, 1974 and 1982 by students and faculty of Rollins College. Because of the Shell Island midden’s immense size in comparison to other sites in the Wekiva, it appears that the island functioned as either a full-scale village which represented the central focus of the basin, or it was occupied more often than the smaller surrounding sites. The subsistence patterns of
the inhabitants of Shell Island included hunting, fishing, and gathering and the significance of the burial on the island is still debated.

The relationship between Rollins College and Shell Island began in the 1920s as the college was given permission by the Wilson Cypress Lumber Company to use the cabin then present on the island. The company donated Shell Island to Rollins in 1938, and the acquisition of Shell Island was considered a great success for both students and the college, enhancing Rollins’ reputation as an “open air college of America” (Zhang 2009:69). Even though knowledge about Shell Island’s prehistory has been augmented a lot since the site was visited most frequently—between 1927 and 1940—the use of pernicious terms to describe the island and its inhabitants persists. It is clear that there is a need for better education about Shell Island, the Wekiva basin culture, and Florida archaeology in general—especially among the Rollins College community. What good does it do that Rollins owns the site if the community does not know anything about it and does not work to preserve it?
CHAPTER 3: HERITAGE AND ARCHAEOLOGICAL CONSERVATION

Introduction

In this chapter, I explore the importance of heritage, conservation, heritage tourism, and the part that archaeology plays in legitimizing heritage claims. Next, I investigate the lasting benefits of public archaeology, archaeology education, and site stewardship and how they can be employed to promote better preservation and protection of archaeological sites. Then, I describe common methods for conserving archaeological remains through in situ stabilization. I conclude this chapter by explaining the applications of public archaeology, education, and site stewardship at Shell Island and how they would each provide better conservation outcomes. This review of heritage and conservation literature is important because it provides a foundation for the types of recommendations I will give in the management plan.

Heritage Conservation and the Role of Archaeology

Before exploring why heritage preservation is an important pursuit for underrepresented cultures, it is first necessary to define the concept of heritage. It can be difficult to zero in on a simple, concrete definition of heritage. But according to Paul Shackel, heritage is necessarily an encompassing notion:

Heritage is based on a shared value system that people have about culture and their past. Heritage is what each one of us individually or collectively wishes to preserve and pass on to the next generation. Communities may have a collective heritage that they may want to preserve [...] in the same way regions and nations may recognize natural or built
environments that they collectively believe are worth recognizing, appreciating, and sharing. (Shackel 2013:10)

In this way, heritage can be both tangible and intangible cultural resources that are viewed as significant to a certain group (Cho 2008:188). Heritage resources hold insights into the knowledge accrued by cultures, both past and present, which is deemed an essential aspect of that culture. Most importantly, heritage is something that is shared between people.

So why is heritage important to preserve? Of what consequence is a culture’s past to its present? As Shackel argues:

Heritage often means integrity, authenticity, and stability, and it is a way for communities to make a claim to a past and assert themselves in the present political and social landscape [...]
Heritage is necessary for sustaining local identity and a sense of place, especially by those communities and locales that are threatened by transformations in the global economy. (Shackel 2013:3-10)

Heritage resources imbue a sense of legitimacy and permanence to present-day cultures by drawing connections to their past. This is especially important for groups who face discrimination, oppression, and disenfranchisement due to their minority status in the modern world.

Unfortunately, efforts to conserve heritage are often not in the hands of the groups who most need it. In the United States, for example, issues of American Indian heritage were not a priority for most of American history. As Hyojung Cho argues, “The U.S. government, especially in the beginning, never recognized any obligation to conserve Indian heritage and culture” (Cho 2008:189). Without the consent and backing of the
group in power, it is difficult for minority groups, such as American Indians in the U.S., to work towards conserving their own cultural heritage. Part of this may be because the cultural majority in the U.S. did not want to encourage a divergent view of American cultural heritage. Shackel notes that the conservative agenda of the U.S. largely blocked the promotion of a pluralistic view of American heritage (Shackel 2013:13). This means that any interpretations of America’s past that differs from the consensus as determined by the group in power was quelled.

American Indian heritage conservation efforts intensified with the introduction of NAGPRA, or the Native American Grave and Protection and Repatriation Act, in 1991 (Hicks 1997:4). Cho explains the significance of this legislation:

>The act asks museums and federal agencies to return […] archeological or historical collections to American Indian tribes or communities. It requires organizations to prepare summaries and inventories of Native American collections, so the data can be used as references for tribes to request repatriation […] Although the act is usually regarded as human rights legislation, rather than a heritage preservation policy, its significance stems from the creation of the legal rights of indigenous people to their cultural properties. (Cho 2008:200)

NAGPRA made it so that items of cultural patrimony could be repatriated, or returned, to the American Indian groups who recognized these items as part of their heritage. NAGPRA has helped to legitimize the connection to their past by legally allowing these groups access to the sacred objects of their ancestors. In addition, NAGPRA encourages collaboration between indigenous people and museums, archaeologists, and historians who all can offer different perspectives on heritage objects and ensure that the objects are in the best care.

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Although collaboration between American Indian groups and the people who have since laid claim to their cultural patrimony can be advantageous, oftentimes the decision-making power shifts towards the dominant group, which can harm conservation efforts. As Cho argues:

Even though the U.S. government ensures the protection of sacred objects and sites in traditional culture, that very preservation or documentation may defy tribal cultural philosophy. Traditional culture and folklore often feature oral traditions and beliefs passed down from generation to generation without formal documentation [...] Conservation supports a succession of traditions but may also serve to thwart natural growth in cultural practices. (Cho 2008:195)

NAGPRA effectively prioritizes the conservation of physical heritage over oral heritage, and it mandates detailed documentation of American Indian heritage when these groups may not hold the same conservation goals. Allowing American Indians to have more control over the conservation of their own heritage would have outcomes that better serve the needs of each group because of the importance of historic sites to their cultural identities.

Furthermore, NAGPRA legislation can be challenging to fulfill, especially in determining the descendant community to which heritage objects or human remains should be returned. Ora Marek-Martinez describes the complications with this requirement:

In the repatriation debate, one of the most controversial sections of NAGPRA is the determination of cultural affiliation of human remains, funerary objects, sacred objects, and objects of cultural patrimony. Under NAGPRA [...] institutions were charged with determining the cultural affiliation of such
collections, but determination was to be made only in consultation with Native American tribes. (Marek-Martinez 2008:249)

Without a direct descendant community with which to consult to determine the affiliation of heritage objects and human remains, these items are deemed culturally unidentifiable (Marek-Martinez 2008:253). Even so, NAGPRA mandates that these remains be returned to the tribe with the strongest cultural relationship to the location from where the items were removed (Marek-Martinez 2008:256).

This process becomes problematic when there is no demonstrable link between the items recovered and contemporary American Indian tribes. An example of this is the case of Shell Island. The human remains and artifacts recovered from the island would be considered culturally unidentifiable under NAGPRA because Shell Island lacks a direct descendant community. This is because the period of habitation of the island is too far in the past to accurately determine cultural connections to any existing American Indian group. Accordingly, the responsibility of conserving the heritage of the site should fall to the current inhabitants of the Wekiva and surrounding community. In this way, people who currently live in the area of Shell Island act as the descendant community and caretakers of the island.

A major avenue by which groups take part in the formation and recognition of their own heritage is through community-based archaeology. As Paul Shackel explains: “by including communities in the decision-making process, through the means of either a participatory or a collaborative approach, [archaeologists] are helping to create a sense of heritage for that particular group” (Shackel 2013:10). If groups such as American Indians
take an active role in informing archaeological goals and practices, this partnership could help archaeologists better understand what they should be looking for in order to best serve each community. Archaeology has the ability to authenticate heritage ties, augment cultural knowledge, validate pluralistic views of heritage, and enhance the pride of underrepresented communities by further revealing the accomplishments of their ancestors.

An example of a successful community-based archaeological project is the Waapaasiiki Siipiwi Mound Project. Carried out by Sonya Atalay in collaboration with the Sullivan County American Indian Council of Indiana, the project aims to put together a plan to protect a mound located on a five acre tract of land that was recently handed over to the Council (Atalay 2012:20). Atalay describes the collaborative nature of the mound project:

The Council and I have [...] worked closely to develop a preliminary research design for recording and studying the Waapaasiiki Siipiwi site. Our initial scope of work includes archaeological fieldwork at the site, an oral history project, a management and protection plan, and several educational components. All are being carried out in direct partnership with the Council. (Atalay 2012:21)

Instead of just diving into the fieldwork component of investigating the mound, consulting with the American Indian community which has long-term interests in the mound yielded a plan that incorporates concerns that go beyond the archaeological realm. Atalay’s understanding of the Council’s vision for the conservation of their physical heritage led to a plan that is more effective in serving the community.

One particular issue which is contentious in the heritage conservation realm is
the topic of heritage tourism. In this type of tourism, heritage is as a resource which can be used to generate economic benefits for disadvantaged cultural groups. But Cho argues that the results of heritage tourism are not always positive: “Selection and representation of cultural heritage for sale in ethnic tourism can cause construction of an inauthentic heritage that victimizes Indian communities as well as visitors” (Cho 2008:192). If groups are picking and choosing which aspects of their culture they portray to tourists in an effort to enhance their marketability, then Cho questions the value and authenticity of the heritage they are attempting to conserve.

For example, at the Mayan site of Chunchucmil in the Yucatan, archaeologists’ efforts to conserve the pre-Columbian heritage of the area and promote heritage tourism runs counter to what the modern-day community sees as necessary. As Magnoni et al. discover:

> In the case of Chunchucmil [...] local communities were not ready to take on the risks and potentially unknown advantages of tourism for fear of losing land [...] People’s identity and heritage claims are mainly tied to a recent past of land labouring and property land struggles and not with a prehispanic Maya past. (Magnoni et al. 2007:369-370)

At Chunchucmil, archaeologists had a different idea of what constituted heritage for the community than what they perceived themselves. The community felt that tourism would interfere with the preservation of ties to the Land Reform era and work against their sense of identity. It seems that heritage tourism and archaeological research of the Mayan ruins would not benefit the current inhabitants of the Chunchucmil region.

Yet, it is possible for heritage tourism that is substantiated by archaeology to
promote conservation efforts and give back to underrepresented communities. Peter Birt provides the example of Burra, a small rural town which used to be the center of mining operations in nineteenth century South Australia (Birt 2013:155). Burra functions as an “open-air museum” to tourists, demonstrating the tough working conditions of the poor Welsh, Scottish, Irish, and Aboriginal Ngadjuri inhabitants of the mining town (Birt 2013:155-156). The community shrank in size after mining operations ceased, and the remaining inhabitants are largely farmers and pastoralists (Birt 2013:157). Birt contends that heritage tourism in Burra provides a necessary service to the community: “the town of Burra relies on archaeology to provide recognition and legitimization of its past as well as to provide significant economic gain” (Birt 2013:153). By educating tourists about the history of Burra and the heritage of its inhabitants, Birt claims that heritage tourism is an effective means by which the people of Burra can conserve and communicate their heritage.

Heritage conservation, then, can mean different things to different groups. Heritage is anything, tangible or intangible, that is deemed important to a culture that allows them to find and celebrate connections to their past. It is something that is shared between members of a cultural group. Preserving heritage is sometimes a difficult task. This is because some groups are not given direct access to their cultural patrimony or heritage objects, as was the case for American Indian groups who had sacred objects and even their ancestors’ bodies in museums up until the passage of NAGPRA in 1991. Methods for conserving heritage often differ between interest groups, and what might be thought of as inappropriate for one group, such as heritage tourism, could help to reinforce another group’s ties to their past and their ability to preserve these ties in the future. The
conservation of heritage is an important pursuit, especially for groups who face hardships as a result of having little ability to influence the political, social, and economic conditions placed upon them in today’s globalized world. For these groups, such as American Indians, heritage conservation bolsters their present status by commemorating the legacy of their ancestors and imbuing in them a sense of permanence and place.

**Public Archaeology, Archaeology Education, and Site Stewardship**

In order to conserve heritage in the long-term, it is necessary to promote engagement between the general public and archaeologists. Public archaeology aims to make archaeological practices, theories, and discoveries accessible and responsive to the perspectives of the public. It is one of the most important ways that heritage issues can be made relevant to non-archaeologists or people who do not see themselves as directly involved in these issues. As Weisman explains, this open engagement with archaeology helps to put the public in the driver’s seat of investigation: “[Public archaeologists] view their work as accountable to or deriving from a larger, broadly defined public interest [...] There are many players and many roles to be played” (Weisman 2003:220). In this way, the archaeological process is seen as an inclusive endeavor, attempting to incorporate the concerns and ideas of the public and viewing them as legitimate stakeholders in archaeological projects.

In order to draw the public into the archaeological process in a meaningful way, they must be educated about archaeology and cultural heritage. The task of educating the public about archaeology should not be limited to professional archaeologists. School teachers who are trained in archaeology, knowledgeable site stewards, and state park
employees can all take part in public outreach. G. Michael Renacker describes the lasting advantages of archaeology education:

Effective public education helps ensure the continual protection of archaeological sites and other historic properties by providing programs that not only foster better working relationships between the general public, archaeological community, and Native American groups, but also strengthening the connection each group has with archaeological sites. (Renacker 2003:4)

Education can encourage people to conceptualize themselves as having a shared heritage that is tied to the archaeological sites that surround them. This cultivates a sense of responsibility for protecting the material remains of the past.

The positive effects of public archaeology education are seen in the city of Pensacola, Florida, for example. As Renacker reports: “The city embraces its colonial past by not only supporting public archaeological digs and historical tourism, but also by helping to ensure that the sites are not impacted by careless construction or vandalism” (Renacker 2003:4). When the public understands the significance of archaeological sites, especially those in their proximity, they are more likely to take an active role in conservation efforts. This means that local governmental decisions, like road construction or development projects, are more likely to be made with the best interest of the site in mind. Since archaeologists can only do so much to protect the sites they work on, public engagement—bringing together individuals that have the potential to influence many different sectors of a community—can offer a boost to conservation in the long-term.
Archaeology education is also beneficial when spread to the public education system. Educating students about archaeology can open their eyes to the vast prehistoric and historical legacies that can be recovered from the material residues of the past. Since its methods span many disciplines, archaeology can be used to teach a whole slew of subject matters. Erve Chambers highlights the educational value of field archaeology:

Fieldwork experiences can serve to reinforce standard curriculum objectives in the schools, providing students with hands-on opportunities to practice mathematical and technical skills as well as to increase their knowledge in such areas as history, geology, and environmental processes. (Chambers 2013: 200)

Not only would more intensive archaeology education in public schools create a new generation of more heritage-minded students, but it would offer another, perhaps more engaging approach to teaching core topics.

Archaeology education and public archaeology can lead to more responsible site stewardship. To be a steward of an archaeological site is to protect the site from damage, promote a better understanding of the site with the general public, and assist archaeologists whenever possible (Arizona State Parks 2008:5). Site steward programs directly connect members of the public with the sites they care about, creating an in-depth relationship that aids efforts to conserve the site for the future. Site stewardship is especially beneficial when it involves the private owners of the lands which have archaeological sites on them. If these owners keep in mind the importance of the sites on their property, they are less likely to destroy them or let them go unprotected or
uninvestigated. Public archaeology, education, and site stewardship all contribute to better conservation outcomes.

Archaeological Conservation and Site Stabilization

Why is the conservation of archaeological sites important? The justification for conservation acknowledges the fragile nature of these sites. As Elia argues: “Archaeological sites are finite and nonrenewable cultural resources” (Elia 1997:85). Once destroyed, the information contained at the site can never be completely understood again. This is because the context of the site has been disturbed, meaning that the relationship between the artifacts and strata are no longer intact, making interpretation difficult. Elia describes the importance of context as archaeological data:

Archaeological information is acquired through the systematic recovery of data, including material culture and environmental specimens, in their context […] If an archaeological resource is damaged or destroyed, its archaeological integrity is compromised because its original context is no longer available for study. (Elia 1997:85)

Conserving archaeological sites in situ rather than excavating the site and protecting the artifacts recovered is the goal of site stabilization. This type of conservation attempts to keep the context of the site intact for future investigations.

One of the major methods for preventing natural or human-caused damage to archaeological sites is to “rebury” the site with a protective covering. Nickens notes some of the different materials that can be used to rebury a site: “a temporary protective cover, of either earth or possibly wood, can provide protection from impacts […] Other projects
use locally available dead biotic materials to help retard erosion” (Nickens 1999:387-395). Covering the archaeological site with a protective layer enhances its long-term preservation, preventing against disturbances that could disrupt the context. Reburial is one of the best techniques for in situ stabilization of archaeological remains.

In wetland sites that are impacted by shoreline recession, more intensive measures are needed to stabilize the edges of the site. Nickens explains a common approach to securing the margins of wetland sites: “placing a cabled pine log revetment along the exposed face of the cultural deposits [and securing] brush with wire on the river side [reduces] the velocity of the flow against the revetment” (Nickens 1999:395). Revetments, or physical barriers, prevent archaeological sites from sloughing off into the moving water surrounding them. Plans for site stabilization must take into account the unique challenges and limitations of each site.

Conservation in archaeology is more successful when a focused management plan is in place. Peter Drewett emphasizes the need for a long-term management scheme for archaeological sites:

The use of the resource […] has to be managed. Archaeologists may wish to use the site for damaging research through excavation, and teachers may want more information about the site to use it for educational purposes. Tourists and visitors will want access to the site. Any use of the site may result in damage, so the cultural resource manager will have to weigh up conflicts between use and preservation. (Drewett 1999:8)

Stakeholders of archaeological sites may have disparate views on how the site should be
used, so a management plan or site manager who can field these concerns while also keeping in mind the best interest of the site will lead to the best conservation outcome.

**Conclusion**

In this chapter, I highlighted the importance of preserving heritage for groups, like American Indians, who did not historically have control over the material remains of their past. The NAGPRA legislation of 1991 advanced heritage conservation efforts by requiring museums and federal agencies to return, or repatriate, items of cultural patrimony to American Indian groups. Community-based archaeology is also a means by which a sense of heritage can be created for underrepresented groups, allowing them to collaborate with archaeologists in order to piece together a more accurate picture of their past. This allows for a more pluralistic view of heritage in the U.S. As Paul Shackel argues: “Archaeology can be about providing a history of a people who were not traditionally represented in the official (consensus) history” (Shackel 2013:13). The use of heritage resources for economic benefit through heritage tourism is controversial terrain. It can be beneficial to some groups, like in the case of the Burra, or it can undermine the community’s idea of what should be preserved, as was seen at Chunchucmil.

Public archaeology, archaeology education, and site stewardship are methods by which the public can be actively engaged and educated about the archaeological sites in their area. This can lead to lasting beneficial conservation outcomes because the public is more cognizant of the significance of the sites and may be less likely to disturb them by looting or vandalizing. Archaeological site stabilization is a necessary aspect of
conservation because it can prevent against damages to the site such as erosion and slumping which would compromise the context of artifacts in the strata.

The themes of heritage conservation, public archaeology, archaeology education and site stewardship can all be applied to the situation at Shell Island. In order to boost management efforts, the Rollins community and Wekiva area population need to perceive Shell Island as part of their shared, local heritage. This could help to create a sense of responsibility for its conservation, which could foster a working relationship between archaeologists and the public and encourage more archaeological stabilization work. If the community surrounding Shell Island were more educated about what happened there so long ago, it is possible that the midden would have less incidents of human-caused destruction. A site stewardship program could create a lasting connection between the community and the archaeological site at Shell Island. In order to better preserve Shell Island for the future, more public engagement with the site should be promoted.
CHAPTER 4: DATA AND ANALYSIS

Introduction

In the first section of this chapter, I describe the conservation and management issues present at Shell Island, as identified by the island’s stakeholders. I also include an account of all of the recommendations proposed by different stakeholders for Shell Island’s future management. Next, I argue for why Shell Island is important and should be preserved. This section explains why Shell Island matters as an anthropological resource, an environmental laboratory, and also explores how the relationship between Shell Island and Rollins can be mutually beneficial.

Current Challenges Facing Shell Island

The issues surrounding Shell Island in its conservation and management are multi-faceted and highly complicated. They involve numerous stakeholders who desire the best long-term management outcomes for the island, such as Rollins Campus Safety personnel, Rollins professors, Wekiva River Aquatic Preserve managers, and Florida archaeologists. However, these parties sometimes disagree over the best method for managing Shell Island in the long-term. In addition, the stakeholders are aware of the pernicious forces working against the island, both human and environmental. In order to demonstrate the needs of the island, the following sections will outline the concerns and recommendations posed by various stakeholders regarding Shell Island’s management and conservation.

Challenges in Management

The current management regime of Shell Island involves multiple entities.
Rollins College still owns the island and has the responsibility of managing it as private property. But in 2006, Rollins granted the Florida Department of Environmental Protection, or DEP, permission to “patrol and enforce trespass violations” on the island in a Memorandum of Agreement (Brad McKown, Environmental Health and Safety Director, pers. comm., 2 May 2006). The Wekiva River Aquatic Preserve also has personnel visit the island to remove rope swings, post signs, and give recommendations to Rollins for actions that should be taken on the island, such as tree removal or foliage survey (Barbara Howell, Environmental Specialist at the Wekiva River Aquatic Preserve, interview by author, February 13, 2014, Sanford, FL). Although it may appear that having more entities involved in managing Shell Island would have a greater outcome for the site, the partnership has yielded an overcomplicated procedure for management.

Greg Fisher, the Safety and Emergency Planning Coordinator at Rollins College, explains the tenuous nature of the current management arrangement:

I think we’ve got [...] a band-aid situation right now. We’ve made a partnership with the state and their law enforcement in that park who communicates with us when there’s issues. We go up on our own time when we can to try to help it out, clean it up. Like right now there are several trees that are in the midden that could fall and potentially wreck the whole side of it. So we’re trying to work with permitting. Because it’s private, the state can’t just come in and start cutting trees. They have to get a permit and have our approval. So it gets complicated because we do own it. [To] preserve it, it would be easier if we didn’t [own] it. (interview by author, February 6, 2014, Winter Park, FL)
The responsibility of managing Shell Island has fallen largely upon the Campus Safety office at Rollins College. As Fisher notes, the joint public-private management of the island becomes convoluted when the DEP or Aquatic Preserve identifies an issue on the island, but cannot take action to correct it unless they are legally authorized by Rollins Campus Safety. This means that management decisions have to go through an unwieldy process of approval.

Furthermore, Fisher is concerned that Campus Safety may not be the best department at Rollins to be making decisions about who should be allowed on Shell Island. He states:

[The] way the policy is right now is it goes to our office, but if we are doing academic things there I’m not the person to say, ‘Oh this is a good week, yeah you can go up there.’ You guys may have something going on. You may have started some fieldwork, I don’t know and I don’t want people to go disturb it [...] I’m probably not the best person to determine if people should be going up there if there are active things going on there. I think at that point it really needs to be the department lead, academic side. And then we can help with the security side of it and those needs if they pop up. (Greg Fisher, interview by author, February 6, 2014, Winter Park, FL)

Since Campus Safety personnel are not involved in academic work on Shell Island and are not familiar with archaeological conservation procedures, Fisher makes the case that they are just not the right people to be making management or conservation decisions for the island in the long-term.
Ken Miller, the Director of Campus Safety, agrees with Fisher. Miller explains the dilemma the Campus Safety office faces:

It's been a challenge for us because we aren't the right people. We're not tree huggers but we care. You know what I mean? We care what happens because it is historical and if it's gone, it's gone. You've lost it. You're not gonna get it back. (interview by author, February 6, 2014, Winter Park, FL)

Rollins Campus Safety personnel understand the deep cultural significance of the island and know that it is a nonrenewable resource which needs to be protected, but they do not think they are the best decision-makers at the college to manage Shell Island.

The irony of this situation is that in a lot of cases, Rollins professors who do have expertise in the arenas of conservation and archaeology are not aware of Shell Island’s existence. As Dr. Robert Vander Poppen, Professor of Archaeology at Rollins College, recounts:

I was not aware that Rollins owned Shell Island until my fourth year teaching here. If professionals who could provide advice to benefit the island are not invited to conversations about its management and conservation, then the island will continue to suffer. (interview by author, April 23, 2014, Winter Park, FL)

This presents a huge challenge to Shell Island’s management. If the best people at Rollins to be making management decisions for the island are not consulted about these decisions, let alone made aware of Rollins’ ownership of the island, then little progress can be made toward better preserving it.
Miller argues that one of the biggest issues of Rollins College managing Shell Island is that the college does not have an academic department consistently advocating for its educational usage and conservation. He posits:

[Are] we truly the best entity to take care of it? If it was being actively used on a weekly or monthly basis for educational purposes or for responsible recreation from students or so on, I think that’s an easy decision that yeah, the college has an active group of people willing to not only use but take care of it. Easy decision. If you don’t have that, a department [...] that’s willing to champion it, if you don’t have that active usage on a regular basis, I think it’s reasonable to ask the question, ‘Is the college the best entity to take care of it?’ And are we actually creating more problems in inhibiting the state or other entities simply because we are a private owner of it. And I think that is a reasonable discussion. It’s not trying to dump it, per se. It’s just simply [...] worth having that conversation.” (Ken Miller, interview by author, February 6, 2014, Winter Park, FL)

The current managers of Shell Island at Rollins College, the Campus Safety office, have reasoned concerns about the long-term viability of Rollins owning and managing the island. Ken Miller and Greg Fisher want a management plan that is in the best interest of Shell Island and have understandable doubts about whether Rollins College is the best entity to lead management efforts for the island.

It seems that interest in utilizing Shell Island as an academic resource has dwindled in faculty and students since Dr. Marilyn Stewart retired. Ann Francis, Program Coordinator of the Environmental Studies and Sustainability Programs at Rollins,
summarizes how her department views Shell Island: “No Environmental Studies professors have an interest in visiting Shell Island right now. The importance of the island is that it’s an archaeological mound rather than something the environmental department could use” (reconstructed quote, interview by author, February 10, 2014). Conceptualizing Shell Island as a site that only has archaeological value rather than offering a unique educational opportunity for other departments is part of the problem of why the island has fallen into disuse. President Lewis Duncan echoes this sentiment, stating, “It is not the president’s job to promote interest in the island. It is only his job to lend support” (interview by author, February 27, 2014, Winter Park, FL). However, the fewer people who see Shell Island as an important educational resource that augments the Rollins experience, the fewer people will actively take responsibility for it, and the worst off the island will be. This is one of the biggest obstacles to Rollins being the best managing entity of Shell Island.

Although some departments are aware of Rollins’ ownership of the island, other faculty and staff are either unaware of this fact or they harbor negative feelings about it. As Greg Fisher explains:

People forgot we had it. And [...] I’ve talked to other people who have been at Rollins for a while and you talk about Shell Island and they kind of roll their eyes [...] I don’t understand the hatred for Shell Island. What’s Shell Island ever done to you? (reconstructed quote, interview by author, February 6, 2014, Winter Park, FL).

Not only is there a general lack of awareness about Shell Island at Rollins, but there seem to be members of faculty or staff who see the island as something undesirable. The presence
of these sentiments on campus certainly does not enhance Rollins’ efforts to better manage Shell Island.

Another major issue that Campus Safety personnel raise on behalf of Rollins is liability. Greg Fisher explains: “[The] concerns with liability are worth it. We’ve had injuries out there before. I believe somebody broke their neck, jumping off ropes because it’s so shallow on some days” (interview by author, February 6, 2014, Winter Park, FL). It is already problematic that there is a lack of academic interest in the island, but that coupled with the high potential for injuries proves to the Campus Safety staff that it is worthwhile to reassess whether Shell Island is an appropriate property for Rollins to own and manage.

Ken Miller summarizes his reservations about Rollins managing Shell Island with a pointed analogy:

[If] somebody gives you a horse but you’ve never owned horses before, do you really know how to take care of the horse? You might love the horse. But do you know how to take care of it? Do you know which shots it needs? Do you know what food it needs? Do you know how to clean its hooves? And if you don’t, then […] there’s no harm in saying you know what? We aren’t the best caretakers. (interview by author, February 6, 2014, Winter Park, FL)

The main caretakers of Shell Island, Campus Safety personnel, are not confident that they are the best group at Rollins to manage the island. They go further to propose that Rollins may not even be the most suitable entity to manage it. Clearly, Shell Island is at a tipping point; management decisions need to be made but the current managers are, understandably, not certain in their ability to make them.
Barbara Howell, the Environmental Specialist at the Wekiva River Aquatic Preserve, seems to concur with the idea that Rollins may not be the best fit as owners and managers of Shell Island. Howell notes a specific instance of frustration: “Campus Safety has been dragging their feet on allowing us to cut down trees that are in the middle of the midden even though the DEP and the state have approved it” (interview by author, February 13, 2014, Sanford, FL). This example shows how cumbersome the management process is when employees of the Wekiva Parks System—who are trained in conservation procedure—need to wait to have their decisions approved by Rollins Campus Safety before they are legally allowed to carry through with them. According to this procedure, Rollins functions as an inexperienced middleman who just happens to own the island where conservation work needs to be done. And that is by no fault of Campus Safety; as Ken Miller comments, management of the island “ended up [...] in the Campus Safety realm purely by happenstance” (interview by author, February 6, 2014, Winter Park, FL). The current management procedure of Shell Island needs an overhaul to ensure a faster reaction time for necessary conservation decisions.

Another issue facing the management of Shell Island is the scaling back of state-sponsored law enforcement for the Wekiva River. Barbara Howell explains that recently, the Department of Environmental Protection (DEP) merged with the Fish and Wildlife Conservation Commission (FWC) and that the DEP no longer has its own law enforcement division (interview by author, February 13, 2014, Sanford, FL). This merger “hasn’t helped Shell Island,” Howell reports, because the FWC does not have a Memorandum of Agreement with Rollins College which would legally allow them to enforce trespass violations on the island (interview by author, February 13, 2014, Sanford, FL). Police presence is essential to
the management of Shell Island; otherwise, long-term management objectives lose their teeth.

An additional challenge for Shell Island’s management is that Rollins seems to consistently doubt whether it should have ownership of the island. Time and time again, the idea of selling or giving Shell Island away has resurfaced among influential decision-makers on campus. Ken Miller describes the most serious discussion of Shell Island’s future with Rollins:

The person who hired me, George Herbst, who was our past Vice President and Treasurer, [had a motion that] went through his office and it was brought up to the Board of Trustees, and I know there were a couple of trustees that are Rollins grads that were against moving away from the college owning it. And there hasn’t been a formal or hard push since that time, at least ten to twelve years, to do anything like that with the island. So, you know I can say with all certainty, at least in my appointment which will be nine years in April, I have not heard that conversation take place. (interview by author, February 6, 2014, Winter Park, FL)

Even though Miller argues that discussions of getting rid of Shell Island have petered out, recent events have brought them back to the forefront.

During the Student Government Association meeting on February 5, 2014, Senator Mary Faith Birthisel proposed selling Shell Island as a way to partially alleviate Rollins’ $4 million deficit (Robert Salmeron, President of SGA, pers. comm., February 20,
Robert Salmeron, the President of SGA, notes that Birthisel’s proposal was shortly quelled, however:

That conversation died pretty quickly as it was discussed that Shell Island is used for research and holds no real estate value [...] it was a conversation that lasted less than two minutes as we realized this was nowhere near a viable option for liquidating our capital to turn into a payment for short term debt. (pers. comm., February 20, 2014)

Salmeron is correct; according to the Orange County Property Appraisers, the current land value of Shell Island only amounts to $200. Even so, it is troubling that the island’s lack of monetary value was the main deterrent for selling it, rather than an acknowledgement of its historical relationship with Rollins and the significance of the site itself.

The issues facing Shell Island are partly caused by complications with its current management scheme. The present arrangement involves three entities: Rollins College, the Wekiva River Aquatic Preserve, and the Florida Department of Environmental Protection. This arrangement becomes problematic when conservation specialists who have consistent contact with the island—the employees of the DEP and Aquatic Preserve—are unable to enact necessary measures to protect it because they are not legally permitted to do so without the consent of Rollins College. The office of Campus Safety is currently the contact point for such inquiries, and they feel unequipped to make management decisions for Shell Island because of their lack of expertise. Without a sturdy base of students and faculty who are willing to use Shell Island and take care of it, Campus Safety staff directors argue that Rollins may not be the best entity to own or manage the island. These sentiments have
been echoed by the Board of Trustees and SGA in their considerations of moving away from Rollins owning Shell Island. Unfortunately, the problems with Shell Island do not cease at its current procedure for management.

Challenges in Conservation

Shell Island has fallen victim to a slew of environmental and human-caused factors which each play a role in damaging the integrity of the archaeological remains at the site. This section will describe the major concerns of the aforementioned stakeholders, Wekiva community members, and professional archaeologists in regards to preserving the island in the long-term.

One of the major problems that stakeholders identified for Shell Island is its constant recreational use by locals. This problem is not recent, as Barbara Howell argues: “Even when [groups] were coming out every weekend before World War II, locals were constantly trashing the cabin” (reconstructed quote, interview by author, February 12, 2014). The cabin Howell references is the one built by Wilson Cypress Lumber Company which Rollins was allowed to use before it was torn down. Greg Fisher agrees with Howell, stating:

I also think most of the issues come from the neighborhoods pretty close to there that have canals directly to the Wekiva [...] That’s where most of the law enforcement thinks the boats are coming out of with kids [...] usually after hours when they’re not supposed to be in the park. And there’s no law enforcement really patrolling. They may have one that may come by once a
night. They don’t have a lot of resources there. (interview by author, February 6, 2014, Winter Park, FL).

It seems that locals have practically unrestricted access to Shell Island, and because of its prime location on the Wekiva River and lack of police activity, they use it whenever they desire.

Usage of Shell Island by locals is a large contributor to its declining condition. Fisher describes the typical activities of locals on the island and how he addresses them:

I usually cut down at least three or four rope swings every time I go [...] We usually take out at least three garbage bags full of liquor bottles, clothing, tent equipment. One time I went there, a guy [...] had a hammock set up, a dog, a grill. And he was just squatting for the day. And as I was on the island cleaning up, some kid in dreadlocks with no shirt just starts climbing up the tree like a monkey and jumps up onto the swing where I had cut it off. And he swung off that broken section. And I was like ‘Hey, this is private property. And I’m with Rollins College,’ and he’s like, ‘Prove it!’ He was real belligerent. (interview by author, February 6, 2014, Winter Park, FL; See Figure 17).

It appears that littering is a rampant, recurring issue on Shell Island as well as rope-swinging, which has potentially negative effects for both Rollins and the archaeological deposits on the island. This is because as the private owners of Shell Island, Rollins might be held liable for injuries which occur on it, and the trees which are used in the rope swinging are the ones that have been identified as most prone to uprooting and damaging the midden.
Use of the site by locals is causing serious damage to Shell Island. As Brent Weisman, Archaeological Director for the Conservation and Recreation Lands Survey for the state of Florida, reports:

Site threats [such as] heavy recreational usage of the site by boaters and campers is causing erosion of the south and west sides of the midden [...] and impacts to the summit [include] the digging of ‘slit trenches’ for tent camping, latrine holes, and hearth areas for camp fires. (Brent Weisman, pers. comm., 31 May 1990).

Boaters tend to dock on either the south or west sides of the island, so their paths up from the water show the most erosion on the site (See Figure 18). Dr. Asa Randall—a professional archaeologist who has worked on other St. John’s period sites in Florida—
concurs with Weisman, stating that trampling on the trail is a problem since it strips down the outer layers of the midden (interview by author, February 10, 2014). Trenches dug into the midden pose an even greater challenge to conservation since they disturb the strata, or layers of soil and shell, which would be used to understand the chronology of deposits in the midden. It is clear that recreational activities at Shell Island work against its conservation.

Both Barbara Howell and Greg Fisher notice that damage to the island escalates in the summer months. Howell notes:

The season of it is the problem. When Rollins students are gone, we see the most problems happen on the island. Shell Island gets trashed in the summertime, and after Labor Day the
damage slacks off. (reconstructed quote, interview by author, February 12, 2014)

Howell explains that in the summer, the Wekiva River is full of kayakers and boaters who see Shell Island as an ideal place to hop off and spend the day. The heavy recreational usage of Shell Island over many decades presents a serious challenge to its conservation.

Ken Miller argues that the locals’ lack of knowledge about the history of the island is perhaps one of the reasons why they do not treat it well: “I think the biggest challenge [is] they don’t understand what it is. It’s hard to put a sign on it” (interview by author, February 6, 2014, Winter Park, FL). Yet, this lack of knowledge may be what has kept people from further damaging the site. Greg Fisher touches on the ethical dilemma of alerting visitors to the archaeological significance of Shell Island:

“If [students and faculty] are planning to do projects and dig, it may be a bad idea to [post a sign] because then people would see it and be like, ‘Oh well let’s start digging’ because there are grave robbers [who] go around and get those antiquities.” (interview by author, February 6, 2014, Winter Park, FL)

It is clear that efforts to conserve the island will need to take into account public reaction if they are made aware that artifacts are likely present at the site.

Another issue with signage is its tendency to be removed by locals. As Greg Fisher notes: “I’ve gone through a whole box of metal signs. They just take them and they’re gone” (interview by author, February 6, 2010, Winter Park, FL). Since metal signs are more expensive to replace, Rollins Campus Safety and Wekiva Parks System employees now tack laminated pieces of paper to trees stating that Rollins College owns the island and that
trespassing is not allowed (See Figure 19). It seems that signage stating Rollins’ ownership of the island does not deter people from using it.

Although public knowledge about the material remains at the island may not be widespread, Shell Island has a history of looting which has caused damaged to the midden (State of Florida DEP 2005:44). Other threats to conserving Shell Island involve vandalism and littering, as reported in the 2005 conditional assessment by the Wekiva River Basin State Parks (State of Florida DEP 2005:44). Barbara Howell is concerned with the damage done to the trees on Shell Island from rope swinging and other irresponsible activities (See Figures 20 and 21). Recreational usage of the island is clearly deleterious to its preservation.

Shell Island, then, faces many challenges to its conservation, but the largest threat is its use by locals. The island has been and continues to be exploited by locals and boaters on the Wekiva River as a place for recreation. The midden suffers from erosion, negligent digging, littering, and trees that have the potential to uproot in its center. Signage on the island has not been successful in deterring people from using it or damaging it, and it is unclear whether more information about the significance of the site would help to keep people from abusing it. In fact, signage explaining the archaeological importance of the island may have a reverse effect on conservation; it might inspire visitors to dig into the midden in search of artifacts. The problem with locals’ use of Shell Island will be difficult to solve; as archaeologist Asa Randall states: “Short of putting up a fence, you can’t keep people off of it” (reconstructed quote, interview by author, February 10, 2014). The deficient state of the midden at Shell Island is at a crucial point for action. The concerns of
Figure 19. Signage posted on Shell Island (Photograph by Barbara Howell, July 19, 2011).

Figure 20. A tree on Shell Island shows signs of damage (Photograph by Barbara Howell, August 13, 2013).
stakeholders highlight the island’s immediate need for conservation and a more effective scheme for management.

Recommendations for the Future

Along with voicing their concerns, stakeholders offered recommendations for how the management and conservation of Shell Island should proceed. Such recommendations include advice for what should be done to stabilize the site, what kind of
archaeological research needs to occur, how Shell Island should be promoted to faculty, students, and Wekiva locals, and what kind of management arrangement should be put in place.

In order to stabilize the damages that have already been done to Shell Island and provide for long-term use of the island, stakeholders suggest a few courses of action. A representative at the Wekiva Aquatic Preserve Program states that a survey of the plants on the island is “the first thing that needs to happen for a management plan” (interview by author, February 13, 2014, Sanford, FL). She notes that there are many exotic plant species on the island that should be removed, and she recommends that a Biology or Environmental Studies professor at Rollins supervise an inventory of the existing flora and pull out the exotics while they are there (interview by author, February 13, 2014, Sanford, FL).

However, archaeologist Asa Randall argues that an excavation should precede any removal of plants or trees since root removal could disrupt the strata (interview by author, February 10, 2014). Randall also notes that there should be an updated map of Shell Island: “I recommend that an archaeologist bring out a total station to make a very detailed surface elevation map for archaeological documentation. This map will provide a long-term strategy for monitoring the island’s condition” (reconstructed quote, interview by author, February 10, 2014). Following the recommendations of the Wekiva representative and Randall, it seems that the best course of action to begin with would be to map the surface of the island, excavate, and then proceed to removing the exotic plants and trees that are at risk of falling and further damaging the midden. Randall reasons
that the excavation units should target the areas on the island that are already compromised or exposed since those are the most likely to be lost if no action is taken (interview by author, February 10, 2014).

Randall contends that a “really good dig” is needed to establish the margins of the site—or how large the site actually is, even underwater—and to establish radiocarbon dates (interview by author, February 10, 2014). This will allow for a more concrete understanding of what happened at the island instead of relying on ceramic typology to estimate the chronology of midden deposits. Randall notes that the most important part of the excavation would be to investigate the wet site deposits. As he explains:

At all midden mounds next to a river, a saturated wet site can form. When people lived on the mound, they would throw stuff out into the water. This stuff is incredibly well-preserved when it is underwater. (Asa Randall, interview by author, February 10, 2014)

Not only would a survey of the margins of the site reveal amazingly preserved material remains, it might also offer a better idea of what needs to be protected as part of the site. Since water levels used to be much higher during the time that Shell Island was inhabited, it is possible that the area of the island stretches farther out underwater and that conservation efforts should also include preventing anything that could potentially disturb the outer margins of the site.

This may be a difficult action to go about since any part of the site that is underwater is not technically owned by Rollins. Robert Vander Poppen explains that excavating in the water around the island would require permits from a slew of state
entities such as the U.S. Coast Guard (interview by author, April 23, 2014, Winter Park, FL). Even so, Randall emphasizes the importance of assessing the extent of the wet site deposits. He recommends:

Bucket augers and percussion corers would be useful in a survey to see how far the shell deposits go. You might find that there is a good amount of saturated deposits outside of where you can see shell. A bucket auger could go down three meters deep as long as the surface isn’t wet. Shovel testing would not be very useful because the margins are too wet. (reconstructed quote, interview by author, February 10, 2014)

In addition to assessing saturated deposits at Shell Island, Randall posits that core samples should be taken from the point of highest elevation on the midden in order to see how far down the deposits go (interview by author, February 10, 2014). This kind of testing would help the excavator plan out the best location for an excavation unit so that it could yield a good picture of the chronology of deposition at the island.

Despite the necessity of these procedures at the island, Vander Poppen notes that money is the main issue getting in the way of archaeological work there. He states: “Archaeology is an expensive discipline. In order to get the results we want at Shell Island, the Archaeology Department needs to be funded like the rest of the sciences at Rollins” (reconstructed quote, interview by author, April 23, 2014, Winter Park, FL). Fortunately, Barbara Howell approached Vander Poppen and Dr. Jonathan Walz, a Professor of Archaeology at Rollins, with the idea to apply for the State of Florida’s Division of Historical Resources Small Matching Historical Preservation Grant in early 2014. If awarded the grant, Shell Island could receive as much as $50,000 in aid for archaeological research and
restoration—$25,000 from the State of Florida would be matched by Rollins College (interview by author, April 23, 2014, Winter Park, FL). This grant symbolizes a great leap towards the reclamation and recognition of the island as a space of vast cultural significance.

Randall argues that the role of the archaeologist at Shell Island does not end with excavation; he suggests, “they need to figure out how to stabilize the site” (reconstructed quote, interview by author, February 10, 2014). Randall claims that any archaeologist involved at Shell Island needs to take an active role in conservation decision-making so that they can ensure the best long-term result for the midden. For example, in regards to the suggestion of first removing exotic plants, he advises: “Look into how they are going to take out invasive species. There should be an active monitoring program to see how extraction of the roots could disturb the midden fill” (reconstructed quote, interview by author, February 10, 2014). Even so, Vander Poppen argues that archaeological research on the island should not interfere with long-term measures to conserve it (interview by author, April 23, 2014, Winter Park, FL).

Following an excavation and the removal of exotic plant species, Howell recommends that the midden be tarped over, covered with soil, and replanted with native species (interview by author, February 13, 2014, Sanford, FL). Archaeologist Brent Weisman concurs with this plan of action. He states:

The southern tip of the island [is] where serious erosion of the archaeological deposit is occurring. [There should be] revegetation of top of erosional slope, using Spanish bayonet (already growing on site) or cactus. BAR [Bureau of
Archaeological Research] archaeologist should be on site to monitor planting. (Brent Weisman, pers. comm., 31 May 1990)

Based on these recommendations, stabilizing the site through replanting native species may be the best method for preserving the midden at Shell Island for the long-term.

Although keeping people off of the island may not be possible, stakeholders provide suggestions on ways to lower the impact of visitors on the archaeological deposit. As Weisman proposes:

[We could] restrict and control foot traffic on the archaeological surface by constructing a boardwalk and deck area on the west side of the island. The boardwalk and deck would provide for recreational use of the area but would restrict access to the central part of the island (the summit of the archaeological site) and the southern tip. Construction activities, such as anchoring the boardwalk and deck, should not disturb subsurface archaeological deposits, and designs should be reviewed prior to construction. BAR archaeologist should be present during construction. (pers. comm., 31 May 1990)

This approach might be more realistic and effective in conserving Shell Island than simply trying to keep visitors off. The Director of Campus Safety, Ken Miller, advocates for the placement of impediments in the water in order to keep boats farther away from the island, but Barbara Howell argues that people will always find a way to dock and disembark on it (Ken Miller, interview by author, February 6, 2014, Winter Park, FL; Barbara Howell, interview by author, February 13, 2014, Sanford, FL). Howell notes, “It makes more sense
to let people on safely with a little boardwalk to keep them off the midden itself” (reconstructed quote, interview by author, February 13, 2014, Sanford, FL).

In terms of promoting Shell Island on the Rollins campus and at the site, stakeholders offer a few pieces of advice. Asa Randall contends that other departments such as Environmental Studies and Biology should be encouraged to get involved at the island because that will mean more money and support from Rollins (interview by author, February 10, 2014). More publicity at Rollins about Shell Island could also more get student organizations interested in taking care of it. As Ann Francis, Program Coordinator of the Environmental Studies Department, notes: “clean-up trips to the island have fallen by the wayside in recent years. But if members of Eco-Rollins can pass it along, clean-ups can become a tradition for the organization” (reconstructed quote, interview by author, February 10, 2014). As long as multiple groups on campus are aware of Rollins’ affiliation with Shell Island and see it as a valuable resource, stakeholders argue that the island will have a better conservation outcome.

Promoting a better understanding of Shell Island at the site is also an important goal for the stakeholders. As Brent Weisman recommends:

[We should] provide for public interpretation of the archaeological site by erecting interpretive signs on or near the boardwalk. Signs can also contain reference to the Florida statutes prohibiting destruction of archaeological sites and unmarked human burials (F.S. 267 and F.S. 872). (pers. comm., 31 May 1990)

Not only would these signs explain the historic value of Shell Island, but they would act as a
warning to visitors that legal action could be taken against them if they violate Florida law. The idea is that larger and more permanent signage would be less likely to be removed and more likely to be read by visitors. Thus, Weisman reasons that these signs are more likely to be effective than the signs currently used at the site.

In regards to the management of Shell Island, stakeholders have a few recommendations for both the current situation and for the future. Barbara Howell suggests that since keeping Shell Island would be a decision made by the Board of Trustees at Rollins, the Trustees need to see Shell Island first hand so that they can understand the weight of their decision (interview by author, February 13, 2014, Sanford, FL). If Rollins does decide to keep Shell Island, Howell argues: “It needs a complete overhaul. Also, Campus Safety needs to renew their Memorandum of Agreement with law enforcement to allow them to crack down on trespassing” (reconstructed quote, interview by author, February 13, 2014). In addition, Weisman states that the eligibility of Shell Island as a site on the National Register of Historic Places should be determined by its managers (pers. comm., May 31, 1990).

President Lewis Duncan of Rollins College presents his idea for a contingency plan if it seems that the Rollins community is not the best steward of the island:

If we do not find the level of interest at Rollins of students and faculty wanting to use the island, we could give the island to the state. This might be the best alternative. We could give the land to the state park but ensure that Rollins had preferred access in terms of being able to excavate or use the island for other research. (reconstructed quote, interview by author, February 27, 2014)
Whether Shell Island remains in the ownership of Rollins or whether it is given over to the management of the Wekiva River Aquatic Preserve, the stakeholders aim to protect the best interest of the island.

**Why Shell Island Matters**

Shell Island is important as an anthropological resource, an environmental laboratory, and as a valuable asset of Rollins College. Shell Island is significant to the study of Florida archaeology as well as for its insights into America’s prehistoric heritage. As a shell mound, the island provides a unique ecological zone and can be used to understand long-term environmental change. As a part of the Wekiva Basin, one of the last remaining watersheds in the St. John’s River system, Shell Island is contained in a vital aquatic resource. Finally, Shell Island should matter to Rollins because it offers opportunities for experiential education, responsible recreation, academic research, and a means of enhancing the college’s reputation through charitable donation.

**The Anthropological Significance of Shell Island**

General knowledge and appreciation of the extensive archaeological record of Florida is lacking in the American public. As Weisman quips:

> I wish never again to hear an astonished tourist exclaim, upon beholding some freshly unearthed potsherd or stone tool, ‘I didn’t know people lived here that long ago!’ Such sentiments are less common in the pueblo American Southwest, or even the moundbuilding Ohio Hopewellian area, both of which commonly furnish popular imagery of ‘ancient America.’

(Weisman 2003:210)
Florida seems to be perceived as isolated from the rest of the U.S.; it is popularly conceived as almost without history, or at least without significant history. This is clearly counter-productive to developing a better understanding of Florida archaeology.

Even in the archaeology community, Florida tends to be discounted as having a valuable ancient past. Weisman argues that this stance is wholly unfounded: “there is no major research question or issue in North American archaeology that cannot be addressed in some significant way in Florida” (Weisman 2003:210). In particular, Florida’s human past offers insights into larger anthropological inquiries of the development of social stratification. As Weisman states: “Florida’s archaeological record speaks strongly about the potential of intensive foraging strategies to produce ranked or stratified societies with some degree of centralized authority” (Weisman 2003:217). Thus, the archaeology of Florida can be used to answer questions of broad anthropological and historical significance.

Shell Island contributes to Florida’s distinct archaeological assemblage because it exemplifies the lifeway of ancient foragers. The mound on the island is entirely made up of shells which were discarded after being gathered and eaten by the inhabitants of the Wekiva Basin. In addition, the activity of shellfishing has gendered implications; as Stein and Taylor explain: “Ethnographic evidence suggests that in most cases, [shell] collectors were women and children; thus, shell middens are important for exploring their role in past societies” (Stein and Taylor 2008:n.p.). Hence, Shell Island is an anthropological resource which could be used to understand social organization, specialization, and gender roles in ancient America.
Furthermore, Shell Island is an important archaeological resource to conserve because it is a wet site deposit. Due to the spectacular preservation of fragile organic materials such as wood or plant fibers, Weisman contends: “Florida wet sites in general comprise one of the most remarkable archaeological resources in North America” (Weisman 2003:218). Shell Island needs to be conserved so that excavations of the submerged margins of the site can be carried out. These excavations could reveal a more detailed picture of the relationships between foraging as a subsistence method, material culture, and societal development in Florida’s past. Shell Island is an important anthropological resource because it is a clear example that debunks the disparaging myth that Florida lacks a significant prehistory.

Shell Island as an Environmental Laboratory

The development of wetland sites in Florida is due to climate changes which occurred thousands of years ago. As Weisman describes:

[Sea] levels along Florida’s coasts have gradually risen in response to the warming Holocene climate. By about 6,000 years ago, rising ocean and gulf waters covered most of the coastal shelf, triggering the emergence of both coastal and interior wetlands and a subsequent population boom late in the Archaic period. (Weisman 2003:216)

Shell Island can be used to study these environmental changes and how they affected the inhabitants of the Wekiva Basin. The findings at Shell Island could augment the wider understanding of human cultural responses to changing environmental forces. The stratigraphic deposits at Shell Island could be used to reconstruct the environmental
history of the Wekiva River.

Additionally, Shell Island is valuable because it demonstrates the distinct biome that develops out of shell mounds. The Florida Natural Areas Inventory explains the ecology created by shells: “Shell mounds [...] support an assemblage of calciphilic plant species. A rich calcareous soil develops on the deposited shells which supports a diverse hardwood forest on undisturbed mounds” (Florida Natural Areas Inventory 2010:1). Shell Island certainly illustrates this aspect of shell mounds. As the 1982 Master Site File on Shell Island states, the island hosts a variety of hardwoods including oak, hickory, Spanish bayonet, and cabbage palm (Williams and Stewart 1982:n.p.). Clearly, Shell Island is a unique and important environmental resource that should be preserved and further studied.

**How Shell Island Benefits Rollins College**

Shell Island should be considered an asset to Rollins for a variety of reasons. First of all, it is an important educational resource to which Rollins has direct access. As Greg Fisher notes: “There’s a lot at Shell Island and it’s very valuable. There’s not many places like it left. But we have it fifteen minutes away in a kayak ride. And we have departments that do that kind of research, so why aren’t we doing it?” (interview by author, February 6, 2014, Winter Park, FL). Rollins faculty and students are incredibly lucky because they have access to a site on Rollins property that has significant anthropological, historical, and environmental value. Taking full advantage of the site through archaeological excavations, plant surveys, and long-term monitoring of the island’s condition would benefit Rollins students and faculty as well as the island itself.
Shell Island presents a chance for students to engage in real-world archaeological and conservation practices. Robert Vander Poppen envisions the island being integrated into the Field Methods in Archaeology course as a Community Engagement component; that way, students can get class credit for participating in clean-ups, posting signage, and excavation (interview by author, April 23, 2014, Winter Park, FL). Therefore, Shell Island represents a possibility for Rollins to expand its course offerings and community outreach efforts. In addition, if Rollins does not maintain ownership of the island, Vander Poppen notes that pursuing excavation on it would burden the Archaeology Department with “a nightmare of additional paperwork and permits from numerous governmental bureaucracies” (reconstructed quote, interview by author, April 23, 2014, Winter Park, FL). So while it might make sense to grant the DEP and Wekiva River Aquatic Preserve permission to manage the island, Rollins should maintain ownership of Shell Island make excavation easier when the time is right.

In addition, Shell Island offers Rollins unparalleled opportunities for both experiential and service learning. Kassie Berger, a Shell Island advocate and executive member of JUMP—a community service organization at Rollins—argues for the mutual benefits that could result from more engagement with the island. She explains:

Imagine if the archeology department performed another dig, the environmental studies classes worked on a year-long restoration project—clearing out invasive species, planting natives that would keep the midden intact—and then students had monthly trips out to the island to clean it up, camp, and get out into the outdoors. Students can learn to not only enjoy the wild Florida that is so unique but learn about environmental
impacts of human development, ecology of native plants and ecosystems, and of course the archeological significance. (Kassie Berger, interview by author, March 25, 2014).

Shell Island is a highly useful asset of Rollins which is hardly being utilized. If Rollins took full advantage of the educational opportunities provided at Shell Island, both the island and the college would benefit.

A site stewardship program between the Rollins community and Shell Island would amplify these benefits. Site stewardship would encourage active conservation of the island by giving Rollins students, faculty, and staff knowledge of the significance of the site. Rollins student Kassie Berger is a clear example of how having information about Shell Island fosters an interest in preserving it. She describes how she first became involved with Shell Island:

I was researching Vernacular Florida architecture and stumbled upon some old archives of Shell Island and was immediately drawn in. I probably spent the next 2 to 4 hours just researching and learning everything I could about it and by the end I just knew I wanted to bring it back and see more student involvement with this indispensable resource. (Kassie Berger, interview by author, March 25, 2014)

There is already some momentum for creating a successful site stewardship program at Rollins. The organization Berger leads, JUMP, has monthly cleanup trips at Shell Island and she reasons that as more students become knowledgeable and passionate about the island, the cleanups will continue into the future (Kassie Berger, interview by author, March 25, 2014).
Creating a close working relationship between the Rollins community and Shell Island through a site stewardship program would have lasting benefits for those involved. As Berger explains, Shell Island offers many lessons for the Rollins community:

Shell Island provides a haven of real authentic Florida for students who are otherwise confined to the Rollins "bubble" [...] It also holds so much Rollins history [...] I feel like so many traditions and historical aspects of our college have been lost. We go to the oldest college in Florida yet I feel so detached from its history. When I'm on that island, I can't help but feel connected to the students who paddled out there 80 years ago (interview by author, March 25, 2014).

Shell Island is a living connection to Rollins’ past. A site stewardship program would celebrate and bring more recognition to that past. Therefore, Shell Island should not be seen as a liability to Rollins. Rather, the island is an opportunity to enhance the Rollins experience.

As a college that has been named to the President’s Higher Education Community Service Honor Roll by the Corporation for National and Community Service for six years in a row, Rollins should want to sustain this legacy by giving back to Shell Island—a site that is in poor condition on its own property. Robert Vander Poppen concurs, stating: “The pursuit of global citizenship is one of the stated missions of Rollins College. If we, the Rollins community, consider ourselves to be the descendant community of Shell Island, then we have a responsibility to uphold this value of our college” (reconstructed quote, April 23, 2014, Winter Park, FL). Rollins’ current treatment of Shell Island runs counter to
its mission statement and belies its national recognition as a community-service driven college.

Although Rollins is not a corporation, the findings of Morris et al. linking philanthropy and corporate reputation offer an appropriate analogy:

Research indicates that the majority of consumers want companies to be socially responsible, and they have positive attitudes toward socially responsible firms [...] Thus, by supporting community projects and charities, a company enhances its reputation and image and attracts customers, employees and stockholders. (Morris et al. 2013:286)

These findings have implications for Rollins because the school should want to build its image in order to draw in new students and faculty and satisfy the Board of Trustees and donors. Publicizing efforts to conserve Shell Island would enhance the reputation of Rollins as a socially responsible and service-minded college. Thus, if Rollins took an active part in Shell Island’s conservation and restoration, it would be a win-win situation.

Conclusion

In this chapter, I presented the issues facing Shell Island in terms of its conservation and current management scheme. I also detailed the recommendations of Shell Island’s different stakeholders for how preservation of the island should proceed. In the second section, I argued for why Shell Island matters as a site with both archaeological and ecological significance. In addition, I discussed how owning Shell Island is advantageous to Rollins College and why the college should engage more with this
important resource. In the following chapter, I take a closer look at how the issues at Shell Island can be addressed and suggest a plan for better managing the island.
CHAPTER 5: CASE STUDIES AND THE SHELL ISLAND MANAGEMENT PLAN

Introduction

In this chapter, I first analyze four archaeological sites with similar conservation issues to Shell Island and examine their management plans and outcomes to find parallels that would be useful in the plan for Shell Island. Then, I propose an issue-based management plan that describes each conservation issue present at Shell Island and I outline the strategies should be followed to better manage and protect the island.

Management in Context: Case Studies

This section will analyze four different case studies of Florida archaeological sites with similar conservation and management issues to Shell Island. The management solutions, conservation outcomes, and archaeological stabilization methods of each case will be evaluated in terms of how they could be applied to Shell Island. The case studies will investigate the Block-Sterns and Peacock Springs sites in the Florida Panhandle, Mound Avenue Mound on the east coast, and Mound Key in south Florida.

Block-Sterns

Block-Sterns is an archaeological site complex located in Leon County in the Florida Panhandle. The complex is made up of an Archaic habitation area and four different mounds that are thought to be used for burial purposes from 7000 B.C. to 1600 A.D. (Florida Department of State 2004:5). Some portions of the site are owned by the City of Tallahassee while others are private property, but the site as a whole is managed by the Tallahassee-Leon County Parks and Recreation Department (Florida Department of State 2004:5). The major conservation issues at Block-Sterns include illegal digging and looting at the site. In order to combat these issues, a few management solutions have been
enacted: “Warning signs have been posted at the mounds, and Florida Wildlife Officers patrol the site and have arrested and prosecuted some of the looters. Looter holes are backfilled to prevent further damage to the site, such as erosion and mound collapse” (Florida Department of State 2004:5). It appears that these measures were successful in protecting the archaeological remains at Block-Sterns. After the arrests of site looters were made public, there has been far less unauthorized looting and digging at the Block-Sterns site (Florida Department of State 2004:5).

The case of Block-Sterns is similar to Shell Island in a few ways. First, the Block-Sterns archaeological complex is partially owned by private owners, yet it is managed by a state-run entity. Although Shell Island is privately owned, it is co-managed by Rollins, the Florida Department of Environmental Protection, and the Wekiva River Aquatic Preserve. Perhaps the stream-lined management system of Block-Sterns gives the Parks and Recreation Department the ability to address conservation concerns in an effective, timely manner, leading to the successful results it has achieved. If Shell Island had a single entity overseeing its management, it is possible that more decisive actions could be taken towards is preservation. Also, Shell Island has experienced incidents of looting and illegal activities similar to Block-Sterns. Maybe if the DEP—the entity which Rollins has given permission to patrol Shell Island—started to crack down on trespass violations and publicized any arrests made at Shell Island, locals would be less likely to disturb the midden. The management scheme and results seen at Block-Sterns provide an apt example of what could be done to better preserve Shell Island.
Mound Avenue Mound

Mound Avenue Mound is located in the town of Ormond Beach, Florida. The site is confirmed to be a large burial mound dating to the St. John’s I period around 500 B.C. (Florida Department of State 2004:10). Mound Avenue Mound is on the National Register of Historic Places and it was designated a National Historic Landmark in 1966 (Florida Department of State 2004:10). The mound is owned by the Town of Ormond Beach and it is managed by the Ormond Beach Parks Department (Florida Department of State 2004:10). Mound Avenue Mound faced digging, looting, and erosion which destabilized the site, as well as damage from construction activities associated with a nearby residential area (Florida Department of State 2004:10).

Several measures of archaeological conservation were taken to protect the Mound Avenue Mound:

The Bureau of Archaeological Research provided a staff archaeologist to work with Ormond Beach Parks Department and volunteers including [Volusia Anthropological Society] members, local residents, and Boy Scouts [to rebury] previously excavated human remains in the area from which they had been removed, and spread a protective covering over the mound surface [...] Additionally, they installed irrigation pipe within the recent organic soil cap and layered squares of flower sod to protect the mound surface from erosion. (Florida Department of State 2004:10)

This collaboration between different groups in the conservation of Mound Avenue Mound served to educate the Ormond Beach community of the significance of American Indian
heritage. The project highlighted the importance of protecting burial sites from irresponsible damage.

The issues addressed at Mound Avenue Mound hold a few parallels to Shell Island. First of all, incidents of digging, looting, and erosion are present at both sites. The problem of erosion at Mound Avenue Mound was solved by intentionally reburying the mound with a protective cover of soil and sod. Covering the midden at Shell Island in a similar fashion would probably cut down on the heavy erosion from foot traffic. Also, being listed on the National Register of Historic Places and being considered a National Historic Landmark has arguably brought more attention to the importance of Mound Avenue Mound. Perhaps if Shell Island had one of these titles, there would be more public efforts to conserve it.

Second of all, human remains are present at both sites. In the case of Mound Avenue Mound, the remains were protected by the initial reburial of the mound. They continue to be preserved due to the collective efforts of community members. The community is aware that human remains are present at the site, yet there have been no illegal attempts to remove them since the mound was restored. Maybe educating the public that a burial has been found at Shell Island would not encourage looters, but instead create a sense reverence for the island and a feeling of responsibility for its preservation. The dedication to public archaeology, education, and site stewardship seen at Mound Avenue Mound creates a more accessible archaeology, in which the public feels a responsibility to preserve the mound. If this degree of public engagement could be garnered at Shell Island, conservation could become a community obligation and there
and there might be far less human-caused damage to the site.

**Mound Key**

Mound Key is a 125-acre archaeological complex made up of shell and burial mounds, shell ridges, and canals on an island in the middle of Estero Bay in Lee County, Florida (Florida Department of State 2004:11). The Mound Key complex was inhabited from 100 A.D. to 1750 during the Caloosahatchee period and was used historically until 1945 (Florida Department of State 2004:11). The site is mostly owned by the state with a few portions owned privately, and it is managed by the DEP, Division of Recreation and Parks (Florida Department of State 2004:11).

The major barriers to conservation at Mound Key include foot traffic, vandalism, looting, flooding, erosion, and mound slumping (Florida Department of State 2004:11). Several solutions to these problems have been proposed. To ameliorate erosion on the foot trails and to fill in holes from looting, it was recommended that sandbags and backfill be used (Florida Department of State 2004:11). In addition, the plan for Mound Key called for monitoring the site’s elevation changes: “A detailed topographic map of the site, documenting looting areas, has been prepared to use in planning restoration activities and site interpretation” (Florida Department of State 2004:11). Due to the efforts of Mound Key park manager Jeanne Parks, the site has received state funding for its conservation, and it was listed on the National Register of Historic Places (Florida Department of State 2004:11).

The case of Mound Key reveals some ideas that could be employed at Shell Island. Here is another instance where covering areas that are eroded by foot traffic leads
to better conservation, and this action should be taken immediately at Shell Island. Additionally, the plan to create a topographic map of the Mound Key site in order to document the damages done by looters is something that needs to be done at Shell Island. Without detailed documentation of the island's condition over time, it will be impossible to know the extent of erosion or destruction due to irresponsible usage. Having this record is important for a future archaeological study of Shell Island.

**Peacock Springs**

Peacock Springs is home to an Archaic habitation area located near the Suwannee River in Suwannee County, Florida (Florida Department of State 2004:15). It was occupied beginning in the Orange period and continuing until 1500 A.D. (Florida Department of State 2004:15). The Peacock Springs site—owned by the state and managed by the DEP—faced damages due to farming, illegal digging, and looting (Florida Department of State 2004:15). Methods for addressing these issues were enacted by the DEP:

The looter holes were backfilled, and a sign was posted identifying the site's location and significance, as well as the laws protecting it. Grass and other vegetation was planted to create a protective cover, stabilizing the site. Grass was selected because of its minimal root system, affecting only the already disturbed plow zone. (Florida Department of State 2004:15)

As a result of these conservation measures, the Peacock Springs site remains stabilized and incidents of looting have diminished.
A couple of lessons can be learned from the Peacock Springs site. First, the case shows the efficacy of using vegetation as a means of in situ site stabilization and protection. Covering the midden at Shell Island with soil and replanting native vegetation with minimal root systems, as was done at Peacock Springs, could have positive results in preventing erosion and preserving the archaeological remains. In addition, the case demonstrates the possible effects of signage, explaining the importance of the site and the statutes protecting archaeological materials. Perhaps this signage contributed to the drop in looting at the site, and maybe Shell Island could benefit from similar signage.

Applications to Shell Island

Each of the four sites examined above offer valuable insights into solutions that could be effective at Shell Island. The case of Block-Sterns indicates the efficacy of having a single managing entity and publicizing the arrests of unauthorized persons at the site. The project at Mound Avenue Mound suggests that the problem of erosion can be solved by reburying the mound with earth and that community engagement and knowledge of an archaeological site will have lasting beneficial effects. Mound Key shows that areas that are affected by foot traffic can be repaired with a layer of protective fill and that mapping the site over time is an important endeavor. The Peacock Springs site illustrates the usefulness of vegetation as a protective covering for archaeological remains as well as possible effects of descriptive signage. All of these analogies will have applications in the following section, the Shell Island Management Plan.

Shell Island Management Plan

Using the examples provided by the case studies and the concerns and
recommendations proposed by stakeholders, I formulate a targeted management plan for Shell Island. This plan is to be used by whichever entity is currently managing the island, so whether or not Rollins keeps the island will not affect the objectives laid out henceforth. The plan will include an explanation of each issue seen at the island accompanied by strategies for solving the issue. This issue-based management scheme ensures that each aspect of the plan is responsive to the individual problems seen at Shell Island and that the concerns of stakeholders are addressed (Wekiva River Aquatic Preserve 2012:83).

**Issue One: Recreational Use**

One of the biggest challenges facing Shell Island is its irresponsible usage by locals. Persistent exploitation of the site through recreational use has bred such problems as erosion, careless digging, littering, and damage to the trees on the island. In response to this issue, several strategies are proposed.

First, police presence at Shell Island should be heightened. There is very little surveillance of the activities that take place at the island currently, and more frequent patrolling would ensure that locals are using the island responsibly. The law enforcement division of the Florida Fish and Wildlife Conservation Commission should be given access to Shell Island in order to patrol and enforce violations.

Second, Shell Island should have larger, more permanent signage explaining the archaeological significance of the site as well as the Florida statutes that protect it—F.S. 267 and F.S. 872. The signage should also explain how visitors can get more involved with conserving Shell Island through the site stewardship program. If visitors have a better understanding of the site, they are less likely to damage it through negligent activities.
Third, the trees that are at risk of uprooting due to locals using them for rope-swinging should be cut down. The stumps should be left in place so that root removal does not damage the strata of the archaeological deposit. If the trees are cut down proactively, then this will solve the potential problem of them causing damage to the midden through uprooting.

Fourth, a trash receptacle and recycling bin should be provided at Shell Island. This would encourage visitors to dispose of their trash responsibly instead of littering on the site. The trash receptacle and recycling bin should be placed on the north end of the site, which is farthest away from the mound. The receptacle and bin would be emptied by site stewards weekly.

**Issue Two: Illegal Activity**

Shell Island faces two major types of illegal activity: looting and vandalism. Several targeted solutions are suggested to solve these problems.

First, by increasing police presence at Shell Island, potential looters and vandals will be less likely to illegally dig at the site or to damage it. The law enforcement division of the Florida Fish and Wildlife Conservation Commission should be given access to Shell Island in order to patrol and enforce violations. Although this suggestion was already given as a strategy for ensuring more responsible recreational use of the island, less illegal activity would simply be another benefit of heightened police presence.

Second, more imposing signage should be erected on Shell Island to explain the archaeological significance of the site as well as the laws that protect the site from being
damaged—F.S. 267 and F.S. 872. If potential looters and vandals understand that their actions are punishable by law and could result in felony convictions, they may be less likely to loot or vandalize. Though the installation of more permanent signage was suggested as a remedy to irresponsible recreational use, signage is also useful as a deterrent for illegal activity.

Third, the arrest and prosecution of any vandals or looters at Shell Island should be publicized widely in newspapers, local television news stations, and digital media. This will help deter future illegal activity since potential offenders will understand that they are likely to be caught and penalized by police.

**Issue Three: Erosion**

Erosion caused by foot traffic and boats docking on the island has caused damage to the archaeological deposit and slopes of the midden. Several solutions are offered to protect Shell Island against further erosion.

First, erosion from foot traffic and boat docking could be lessened by constructing a dock, boardwalk, and deck on the site. Construction would be carried out by either the Department of Environmental Protection, the Wekiva River Aquatic Preserve, of Rollins College under the supervision of a professional archaeologist. The constructed areas would be maintained by the Wekiva River Aquatic Preserve staff. The dock would prevent further erosion on the edge of the midden deposit and the boardwalk would direct foot traffic towards the northern end of the site where the deck would be built. Here, responsible recreational use of the site could take place. These provisions will lower the erosional impact of visitors on the island.
Second, the shell midden should be intentionally reburied with soil and revegetated with native plant species. Erosion cloth, weed cloth, or some other appropriate material should be purchased to underlay the soil layer. The soil and plants will provide a protective covering for the midden and inhibit erosion to the archaeological deposit itself. The covering will need to be replaced as it wears away, so its erosion needs to be monitored by site stewards and Wekiva River Aquatic Preserve staff.

**Issue Four: Archaeological Conservation and Research**

The archaeological resource at Shell Island is in poor condition in terms of its conservation. Several strategies should be followed in order to further investigate the site and stabilize it for future research.

First, a detailed topographic map should be made of the surface of Shell Island by either a professional archaeologist, a member of the Wekiva River Aquatic Preserve staff, or the Department of Environmental Protection. This map will allow archaeologists and conservationists a way of documenting and monitoring the changes to the island due to erosion, excavation, or other activities. Without a map, it will be difficult for future researchers to understand changes in the island’s condition over time.

Second, the site should be excavated by an experienced Florida archaeologist and field crew whose goal is to augment knowledge of the chronology of deposition at Shell Island. Excavation should precede any removal of exotic plant species or tree roots because these activities could disturb the strata of the archaeological deposit. Excavation units should be set on parts of the midden that are heavily damaged since these are the most likely to be lost. Bucket augers should be used to survey the margins of the site in
order to assess how far the archaeological deposit extends underwater and to estimate the total area of the deposit. Core samples should be taken from the point of highest elevation on the midden in order to see how far down the deposits go; this will help excavators get an idea of how deep they need to dig. Carbon samples need to be taken and sent to a lab for radiocarbon dating. This will be used to establish the timeframe of occupation at the island, which can be corroborated with any diagnostic artifacts recovered. After excavation is complete, the units need to be backfilled with the sterile fill and the entire midden should be covered in weed cloth or erosion cloth, reburied with soil, and revegetated with native plant species.

Third, a cabled log revetment should be installed on the edges of the midden that come into contact with the river. This will protect the exposed margins of the site from slumping into the water and prevent visitors from disembarking directly onto the midden.

Fourth, impediments should be installed in the shoreline around the island to keep boats and kayaks from disturbing the margins of the site. The dock will help with this since it will extend away from the edge of the island. Signs should be installed alerting boaters to the impediments, as well as reading “No Wake Zone” to prevent water erosion damage to the site.

Issue Five: Exotic Plants

Non-native, invasive plant species are currently proliferating on Shell Island. To respond to this issue, several steps are recommended. The exotic plants should be physically removed only after excavation takes place since root extraction could cause
damage to the midden. If excavation is delayed, then an organic herbicide should be used to disintegrate the roots of the exotic plants. After the invasive species are removed from the surface of the midden, it should be reburied with soil and replanted with native vegetation. The needed amount and species of native plants should be calculated.

**Issue Six: Public Interpretation and Engagement**

While there are individuals in the Wekiva community who are committed to preserving Shell Island, the island largely lacks public support. Several strategies could be employed to promote more engagement with the island.

First, an active site stewardship program should be established by the managing entity. This will invite members of the Wekiva community, school districts, and surrounding colleges to engage with Shell Island through clean-up trips, site monitoring, and opportunities to take part in archaeological research. Site stewards will create the basis for a more public archaeology at Shell Island. Site stewards should create and maintain a Shell Island Facebook page to raise awareness about the issues seen at Shell Island, educate people about the significance of the island, and inform the community about how they can get involved.

Second, archaeology education should be promoted in surrounding school districts and through public lectures. Experiential education through archaeological fieldwork is beneficial to both the students and the site. Since locals are the biggest threat to the conservation of Shell Island, if they have a better understanding of the importance of archaeological resources, then they would be less likely to damage Shell Island through irresponsible recreation. An academic partnership with Rollins College through the
Archaeology and Environmental Studies Departments would bring more awareness about the island to the Rollins community and promote more responsible usage and research about the island. Community seminars led by Rollins academic departments or Wekiva Parks staff should be held at public venues, such as the Winter Park Public Library. This could promote more community enthusiasm about Shell Island and even encourage public funding and donations.

**Conclusion**

At the beginning of this chapter, I examined four case studies of archaeological management plans and compared them to the issues present at Shell Island. Using the analogies provided by the case studies and the recommendations of Shell Island’s stakeholders, I put together the management plan to address each conservation concern at the island and also provided methods for resolving them. The management plan stands no matter what entity currently owns or manages the island.
CHAPTER 6: CONCLUSION

This thesis project explores the situation at Shell Island and provides suggestions for how the island’s management and conservation should proceed. It examines Shell Island’s deep archaeological past as well as its more recent relationship with Rollins College and explains the importance of heritage conservation, public archaeology, and site stewardship in bolstering long-term conservation efforts. Also, it presents the various issues at Shell Island that were identified by stakeholders and contends that Shell Island is a site worth preserving. Furthermore, this work finds parallels between other archaeological sites in Florida that face similar conservation issues and uses these examples to inform the management plan created for Shell Island.

This thesis also synthesizes the diverse sources of knowledge about Shell Island including published academic work, interviews with stakeholders, unpublished archival sources, and professional advice. Shell Island has a strong, yet small, group of advocates for its preservation and I am hopeful that this thesis project will add to the momentum for concrete improvements at the island. I think that Shell Island should remain under the possession of Rollins as long as the school has a dedicated group of individuals who are willing to care for and utilize it. Otherwise, I would advise that the island be donated to the Wekiva River Aquatic Preserve to be managed by the Department of Environmental Protection. If this is the arrangement that works best for Shell Island, I would hope that Rollins could maintain a connection with the island for the purpose of research and site stewardship. All in all, I am a firm believer that Shell Island can be both protected and enjoyed, and I know that proper management and conservation could achieve this goal.
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