

The Florida State University

College of Arts and Sciences

**Case Studies in Aquarium History:**

**Trends discovered in studying the history of three regional aquariums.**

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## **ABSTRACT**

Three regional aquariums, Waikiki Aquarium, Clearwater Aquarium, and the Mote Marine Laboratory, provide the case-studies for this analysis into the history of aquariums. The history of these institutes provided historical trends into their educational, entertainment, research, and rehabilitation efforts. This in turn helped prove their influence upon the surrounding society.

## **INTRODUCTIONS TO THE HISTORICAL WORLD OF THE PUBLIC AQUARIUM**

With a loud splash, the image of a nine ton killer whale doing a black-flip in the water causing a tidal wave to envelop the first three rows at Sea World can linger with a child or adult for a lifetime. Not to be outdone, one can go to the Monterey Bay Aquarium and stand in front of aquarium glass three stories high. Or perhaps travel to the new Georgia Aquarium and see for the first time in the United States, whale sharks go gliding by.

One example of the impact of an aquarium: on November 23, 2005, the Georgia Aquarium opened to the public. In just over three months, one million people visited. After one year, a staggering 3.6 million people had crossed through their doors.<sup>1</sup> To put that in perspective, the Georgia Aquarium would rank third behind the New York Yankees and Los Angeles Dodgers in attendance, rank first in the National Football League by more than double, and rank first in attendance for the National Hockey League by more than triple.<sup>2</sup> This is but one aquarium.

Aquariums are a critical part of United States culture, yet overall histories are scarce. Histories of specific aquariums are limited with few books on the subject, surprising considering the over one hundred years of history that some of these institutes provide. This is changing as more historians and former aquariums employees are researching and writing histories on this subject.

This study considers three aquariums. Waikiki Aquarium located in Honolulu, Hawaii, the Clearwater Aquarium, located in Clearwater, Florida, and the Mote Marine Laboratory in Sarasota, Florida are similar in many ways. These aquariums are similar size and age in that each can trace their beginnings back at least fifty years, and they have one major focus. Waikiki Aquarium focuses on educating the community, Clearwater Aquarium's main goal is that of rehabilitation, and Mote Marine Lab centers on research. In conducting case studies into the history of these institutes, a historical trend became apparent. Of the three, the one that focused on one area of expertise faced financial trouble while the others that developed other avenues of outreach such as education and entertainment, allowed them to thrive.

Presenting these case studies will provide a foundation for future researchers to follow, perhaps providing a foundation for future studies on aquariums across the world.

### **A History and Historiography of Aquariums pre 1876**

The beginnings of aquarium history can be traced back to the 1820s. Nathaniel Bagshaw Ward invented the terrarium accidentally in 1829 when he placed a moth inside a collections jar. The next year Ward discovered plants growing in the encased glass jar. In France, a naturalist named Moulins described that fish seemed healthier near plants

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<sup>1</sup> "The Georgia Aquarium Celebrates One-Year Anniversary," (Atlanta: Georgia Aquarium, November 21, 2006), 1.

<sup>2</sup> Attendance figures may be found at ESPN.com.

and in 1842 Dr. George Johnston spoke of a marine aquarium in containing and studying sponges. These “containers” that would be described throughout the 1850’s were still very small in size. Aquariums displayed during this time period rarely exceeded ten gallons, a size used often today in homes and offices.<sup>3</sup>

In 1853, Robert Warington described the methods to maintain marine life in a glass tank. Using his experiments with fresh water as a base, Warington successfully created a salt water tank. The key centered on keeping a proper balance between animal matter and plant matter. Any tilt upsetting the balance would result in the water becoming unlivable. This is a standard still used today by hobbyists and scientists.<sup>4</sup>

The “hobby” of aquariums accelerated in 1854 with the publishing of Philip H. Gosse’s book *The Aquarium: An Unveiling of the Wonders of the Deep Blue Sea*. Gosse stated that the purpose of the aquarium was to “...make us acquainted with the strange creatures of the sea, without diving to gaze on them.” His tanks were placed on display in London, and resulted in a surge of public interest. Gosse would go on to develop a method for creating salt water. With the ability to create salt water, and the attractions aquariums had with the public, larger and more elaborate tanks were built across Europe.<sup>5</sup>

As the hobby moved to the United States, several studies resulted in new theories and suggestions. Arthur M. Edwards *Life Beneath the Waters; or The Aquarium in America* predicted that one day aquariums might house sharks or whales. He suggested, building on Gosse’s and Warington’s work on creating a proper balance of life in a tank, that goldfish bowls were cruel, and worse than any birdcage. A proper environment must be maintained in an aquarium to ensure prosperity of the fish.<sup>6</sup>

Aquariums began to vary both in size and location. An aquarium in Paris opened in 1861 with fourteen 200 gallon tanks. In 1871, the Crystal Palace, used for the great World’s Fair of 1851, was refurbished into a huge aquarium exhibit, including one twenty foot 4,000 gallon tank. One year later in Brighton, a 100 foot by 40 foot tank opened. These aquariums often started out fast, and then faded to oblivion failing to keep a constant supply of specimens and keeping the public’s interest.

In the United States, the first public aquarium opened in Boston in 1859. Two years later, P.T. Barnum purchases the specimens and moved them to New York. This was the predecessor to the New York Aquarium opened in 1896. By 1910, total attendance at the aquarium exceeded 28 million. Aquariums continued to develop in the United States with the largest growth occurring within the past twenty years.<sup>7</sup>

Throughout this growth, very little seems to have been done towards studying the history of these icons of public aquariums until recently. An often cited exception is Dr. John Ellor Taylor’s *The Aquarium*, published in 1876. Taylor goes into some depth of the history of aquariums before 1876. In chapter 3 the book turns into a handbook for setting up and maintaining an aquarium ending with a who’s who of aquariums

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<sup>3</sup> Leighton Taylor, *Aquariums: Windows to Nature* (New York: Prentice Hall, 1993), 3-5.

<sup>4</sup> Robert Warington, "On Preserving the Balance between the Animal and Vegetable Organisms in Sea Water," *The Annals and Magazine of Natural History* XII-Second Series (1853): 319-24.

<sup>5</sup> Philip H. Gosse, *The Aquarium: An Unveiling of the Wonders of the Deep Blue Sea* (London: Paternoster Row, 1854), vi-ix.

<sup>6</sup> Arthur M. Edwards, *Life beneath the Waters; or the Aquarium in America* (New York: H. Balliere, 1858), 14-20.

<sup>7</sup> Taylor, *Aquariums: Windows to Nature*, 6-8.

throughout the world. Combining Gosse and Warrington with Taylor provides a foundation for what was to come.<sup>8</sup>

## **A Historiography of Aquariums in the United States post 1876**

The study of public aquariums is a field in which more research is being done with each passing day. This rarely includes their history. More often than not, the articles refer to their architecture, or research programs going on at certain locations. PBS specials filmed at the most famous of aquariums provide a brief history, and move on to a form of commercial. This section will focus on the books produced concerning the history of aquarium study, the first published in 1956. The gap from 1876-1956 is intentional, as very little was done during that time period relating to the subject of aquarium history.

Published in 1956, Ralph Nading Hill's *Window in the Sea* became a best seller in both the United States and Great Britain. The subject of the book was Marine Studios, now known as "Marineland", which opened in 1937 in Saint Augustine, Florida, billing itself as the world's first oceanarium. An oceanarium by definition is a large tank with a natural habitat holding multiple species. Whether this was the first one or not is still up for debate. The book itself is enjoyable, but reads as a best-seller rather than a true history. No bibliography or footnotes are given, making it nearly impossible to find the data used by the author.<sup>9</sup>

A second large gap in the history of aquariums appears between the years 1956 and 1993. The reason for the gap is difficult to explain. One answer is that perhaps historians of the day felt that journal articles and "home grown" histories that a number of aquariums wrote proved sufficient. The second explanation is that the greatest growth in aquariums has occurred in the past twenty years. As of 1999, there were 39 aquariums in the United States, of which thirteen opened in the 90's. Compare that with zoos in this country of which only four were founded in the 1990's, and one can come to the conclusion that the majority of aquariums in this country are younger than our zoos, thus diverting the attention of historians. Yet another reason to include is the lack of a curator or historian at public aquariums. Without someone there to keep track and organize the history, historical documents and artifacts become lost. For example, currently Marineland houses their historical artifacts inside of a metal trailer with a window air conditioner providing for the environmental conditions.<sup>10</sup>

An excellent overall history of aquarium studies appeared with Leighton Taylor's *Aquariums: Windows to Nature*. Following the Taylor 1876 model, Leighton Taylor goes into the history of aquariums, moves to the history of science behind aquariums, and then concludes with a look at some of the more popular aquariums of the day. The "black hole" of aquariums studies from 1876-1956 and 1956-1993 is quite evident in that Taylor's history loses detail after 1876, picks up with Hill's book, and then drops off again. This is an excellent book for the beginner historian of public aquariums. Dr.

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<sup>8</sup> John Ellor Taylor, *The Aquarium: Its Inhabitants, Structure and Management* (London: Hardwicke, 1876).

<sup>9</sup> Ralph Nading Hill, *Window in the Sea* (New York: Rinehart & Company, Inc., 1956).

<sup>10</sup> Jr. Vernon N Kisling, ed., *Zoo and Aquarium History: Ancient Animal Collections to Zoological Gardens* (Boca Raton: CRC Press, 2001), 151.

Taylor provides another example of how histories of these institutes are written, often by an insider, not a historian. Taylor served as the director of the Waikiki Aquarium for over ten years.<sup>11</sup>

*The Forgotten Aquariums of Boston* by Jerry Ryan published in 1995 by the New England Aquarium, gave great detail into the life of the aquariums in Boston from 1859-1863 and 1912-1954. Through his research, the story of the first public aquariums in the United States came into focus. Also told is the story of the second attempts by Boston to build an aquarium with the South Boston Aquarium. The reasons for the failures of both attempts were similar in that a lack of support from the city government led to financial collapse. The Great Depression killed any chance the second era of Boston's aquariums had. Today the New England Aquarium thrives in Boston having learned from the financial mistakes of its predecessors.<sup>12</sup>

*Zoo and Aquarium History: Ancient Animal Collections to Zoological Gardens* provided an excellent collected history to the field. Due to the lack of aquarium history, the United States section is ninety-five percent zoo history, and five percent aquarium history. One reason presented is that up until the 1970's, the majority of aquariums located in the United States, were part of a larger zoo.<sup>13</sup>

Bernd Brunner authored *The Ocean at Home: An Illustrated History of the Aquarium* focusing mainly on the history of European aquariums. The author suggests that aquariums were born "...out of a desire to discover and explore the mysteries of the ocean."<sup>14</sup> Indeed it is this fascination with the ocean that has fueled the increased size and complexity of displays at public aquariums throughout the world.

There are many second-hand sources available one would not normally think relates to aquarium studies that can help provide a foundation for research. Zoo histories are available, such as *The Denver Zoo: A Centennial History* by Carolyn and Don Etter. Many aquariums started as part of a zoo, and many of the same principles apply to running both. *Successful Fundraising for Arts and Cultural Organization: Second Edition* by Karen Hopkins and Carolyn Friedman delves into fundraising for museums and theaters, including corporate sponsorships, which in turn through historical research, may then apply to aquarium institutes. Any number of aquatic research studies has the potential to be compared to studies completed at aquariums to determine their relevance.

On December 28<sup>th</sup>, 2005, PBS aired a special behind the scenes look at four of the largest public aquariums: John G. Shedd, New England, Monterey Bay, and the Waikiki aquarium. The companion book *Window to the Sea* provides a brief look at the history of these places. Unfortunately for those interested in the history of said institutes, it is similar to several PBS and National Geographic specials done on aquariums, it that it quickly turns into a tour of what the aquarium is accomplishing today. These institutes, some of which date back to the 1930's deserve more. Aquariums potentially share strong

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<sup>11</sup> Taylor, *Aquariums: Windows to Nature*.

<sup>12</sup> Jerry Ryan, *The Forgotten Aquariums of Boston* (Boston: New England Aquarium, 1995).

<sup>13</sup> Vernon N Kisling, ed., *Zoo and Aquarium History: Ancient Animal Collections to Zoological Gardens*, 168-74.

<sup>14</sup> Bernd Brunner, *The Ocean at Home: An Illustrated History of the Aquarium* (New York: Princeton Architectural Press, 2005), 9.



similarities with each other, and by studying those similarities on an institute, comprehensive history can be written.<sup>15</sup>

### **Historical Trends Discovered**

Millions of lives have been affected by visiting aquariums. Even smaller regional aquariums such as Mote Marine Laboratory in Sarasota, Florida have attendance figures of close to 500,000 visitors. On the opposite spectrum, Sea World's attendance figures exceed ten million a year. To understand the history of these places can lead to an increasing number of historical fields opening such as the impact these aquariums have on society as a whole.

There is also a need to learn this history before it is lost forever. The Miami Seaquarium lost their archives to a hurricane. Marineland, St. Augustine keeps their archives in an industrial trailer. For every archival library such as at Mote Marine Laboratory, there is a Gulfarium which never bothered to keep up with such things. Several aquariums may have an archive and not even know it, buried beneath paper work and lab reports. It is the historian's job to find these treasures and uncover them before they are lost.

In conducting research at these three regional aquariums, certain historical trends emerged. The Mote Marine Laboratory, Waikiki Aquarium, and Clearwater Aquarium influenced their surroundings (environment, society) in similar fashions through educating the public, entertaining patrons, rehabilitating animals, and research. With these institutes, how effective they did this, directly related to how successful the institute was in terms of financial viability.

In each instance of the institutes studied, one focus served as the primary influence of the aquarium, with other elements subordinate to the dominant. The educational aspect of an aquarium involves their teaching and training of the community, through classes, television specials, lecture series, or exhibits. This proved tremendously important in building ties to the community. This awareness also led to better funding. In terms of studying the history of education, the ultimate question to answer is what prompted the birth of a program at the institution, and where did it happen in the overall development. There are few if any aquariums that specialize in education over all other aspects. However every function of an aquarium can serve as education the society at large, whether it is a dolphin show or a tank exhibit based on conservation.

The entertainment aspect proved to be the most important in terms of gaining funding and building ties to the community, far more so than education. People came to see the fish and the whales in action. Entertainment includes any displays that people visit that provide enjoyment. This can be a Killer Whale show or a dead squid, such as on display at Mote. Entertainment does not necessarily equal "dolphin shows". Exhibits with animals in their natural surrounding seem to be just as effective.

In the aquariums studied, research ranged from central to peripheral or non-existent. The research an aquarium conducted in its history led to three important results in the institutes: 1) it can prolong the life of the animals in captivity, 2) increase the conservation efforts and awareness of a community, and 3) provide a place for itself

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<sup>15</sup> John Grant and Ray Jones, *Window to the Sea: Behind the Scenes at America's Great Public Aquariums* (Guilford, Connecticut: Insiders' Guide, 2006).

within the scientific community. Research also provided a wealth of history through scientific reports.

There are a few aquariums, such as Clearwater Aquarium, where rehabilitation is the primary goal of the institute. Clearwater faced the difficulty in how to branch out for funding. Funding can be sporadic as often the task of saving dolphins and turtles are not the highest priority of those deciding where to send tax dollars. Also, rehabilitating animals proved incredible cost prohibitive and did not normally provide a stellar exhibit as often the animal would simply lie in the water while healing.

### **Examples of Histories of Specific Aquariums**

There are a sporadic number of specific aquarium studies. By studying these works, a historian begins to understand the influence these institutes can have, and in what areas.

1956's *Window in the Sea* by Ralph Nading Hill focused on the early history of then named Marine Studios, now known as Marineland. This was the origin story of Marineland, and while as mentioned earlier is lacking references, still brings a comprehensive early history of the institution. The aquarium's, or in this case oceanarium's history, begins with research and entertainment.

Marine Studios was designed to provide a place for filming movies. As Hill points out, before they even built the tank, research was conducted on the ability to anesthetize dolphins and large fish. Without the results provided by the research team at the American Museum of Natural History, Marine Studios would never have existed. The study of research continues throughout the book, such as looking at the ability to keep animals alive within the oceanarium, and shark repellents.<sup>16</sup>

The entertainment influence of Marine Studios is surprisingly lacking in Hill's book despite the fact that dolphin show pictures appear throughout. The one chapter that focuses on this has four pages of text. This proves especially disappointing in that one could argue the now named Marineland created the modern day dolphin show. This missing history is critical to an overall understanding of Marineland's story.<sup>17</sup>

The history of the rehabilitation of animals at Marineland is more than to be expected. Included is a look at how they rehabilitated their own animals, as well as dealing with pilot whale beachings. One of the best connections to be made from reading these sections is that the rehabilitation of animals helped protect their own animals that were dying off at a quick rate before techniques through research were discovered.

Education of the community is not mentioned. Dolphin shows were for entertainment. During this time period, entertainment marine aquariums were the least likely to have an education program. Now it is rare for a show not to have some form of education to it. Marineland, for example, had no education programs to speak off in their early history (although they have an excellent one now).

Overall, *Window to the Sea* provides a good introduction to the history of Marineland, but the book does not include references, and it lacks a history of the dolphin shows. There is potential for a new book on the history of Marineland to encompass not only post-1956, but their early history.

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<sup>16</sup> Hill, *Window in the Sea*, 31-34.

<sup>17</sup> Ibid., 177-82.

A good example of an in-house history is *Mote Marine Laboratory: The Perry Gilbert Era 1967-1979* by Donna Johnson. Published in 1990, the history focuses on the research being done at the lab and the history of the buildings. This provides a window into the mid-history of Mote, and will be cited later in this study. As above with *Window to the Sea*, no references are given, an unfortunate commonality with in-house histories.<sup>18</sup>

Susan Davis presented a critical look at Sea World operations in her book *Spectacular Nature: Corporate Culture and the Sea World Experience*. Davis defines Sea World as a marine park which displayed “a careful organization of shows, displays, rides, and concessions coordinated around the theme of marine life.”<sup>19</sup> She suggests that Sea World is in every essence a theme park, and that theme park’s themselves are becoming the new public space of the United States, replacing national parks and downtown public streets. This argument of whether or not Sea World is an aquariums or a theme park continues today.

*Window to the Sea* by John Grant and Ray Jones is a typical aquarium history in that it takes on aquarium per chapter, gives a brief history, and then moves on to what is there now. The four aquariums, as listed previously are: John G. Shedd in Chicago, New England, Monterey Bay, and Waikiki. Once again, no footnotes, endnotes, or references are given.

The section on John G. Shedd Aquarium effectively develops the building history. This is a typical drawback of such histories. The story of how the building was built and expanded is important, but lacking in the details, understandable in that the book is trying to tell the story of a seventy-five year institution in twenty-six pages. Interviews with current staff tell some of the story of the current status of research, but do little for the history. It is certainly an opportunity for a historian that a book on such a historic icon of Chicago has never been researched.<sup>20</sup>

New England Aquarium receives the same treatment as Shedd.<sup>21</sup> There is no need to go into extensive depth of the other two aquariums, as this would get repetitive. Each presents a brief history of the buildings, and then moves towards an uncritical overview of the institution. It should be noted that this is a companion book to a PBS special. Previous PBS and History Channel specials have suffered from the same problems, in that they move from the history very quickly to a summary of what the aquarium is now.

A good example of an in-house aquarium history is the one presented by John G. Shedd Aquarium, not in book form, but on their web page. The history breaks down into four sections: the history of the building, the history of the major people involved, the history of the animal collection, and a timeline. This method of presentation suffers from a lack of detail or references. By not focusing on how the aquarium has impacted society throughout their history, numerous details are left out. What is remaining is woefully incomplete history.<sup>22</sup>

This introduction has attempted to do three things. One, to give the reader a historiography of aquarium history. While certainly missing items written in the past 155

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<sup>18</sup> Donna Johnson, *Mote Marine Laboratory: The Perry Gilbert Era 1967-1978* (Sarasota, FL: Mote Marine Laboratory, 1990), 5-6.

<sup>19</sup> Susan G. Davis, *Spectacular Nature: Corporate Culture and the Sea World Experience* (Berkeley: University of California Press, 1997), 1.

<sup>20</sup> Jones, *Window to the Sea: Behind the Scenes at America's Great Public Aquariums*, 1-26.

<sup>21</sup> *Ibid.*, 21-53.

<sup>22</sup> "Red Tide Summer," *Christmas Newsletter* Christmas 1971.

years of aquarium study, it is the hope of the author that the literature examined will provide a solid base for the understanding of the history of these institutions.

The second aspect was to provide a possible foundation for what historians may look for when studying these aquatic institutes. One interesting quote to come out of *Window to the Sea* occurs when describing the Monterey Bay Aquarium's mission. It is described as: "Like most other aquariums, this one educates and entertains while encouraging a commitment to worldwide marine conservation..." conservation including here rehabilitation and research. These are the four main influences on society discovered by this research on the three regional aquariums.<sup>23</sup>

The stage is set for the following case studies. These three studies allow examination in how aquariums impact society, how they grow, and indeed how they fail. These are only three of over thirty aquariums out there for historians to one day tell their story...

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<sup>23</sup> Ibid., 55.

## THE WAIKIKI AQUARIUM: ONE HUNDRED YEARS OF EDUCATING THE PUBLIC

On a visit Waikiki Beach on the outskirts of Honolulu, Hawaii, one might be drawn to the huge number of tall hotels, the beautiful sand beaches, and even perhaps the beautiful people. Walking along Kalakaua Avenue which runs parallel to the beaches of Waikiki, the incredible views of Diamond Head, a long dormant volcano, might draw your gaze. With all these amazing sights, a person might walk right past one of the oldest institutes in the United States: the Waikiki Aquarium. Now housed in its second building, this venerable aquatic centerpiece tracks its ancestry back to 1904, a year in which headlines centered more on the Russo-Japanese War than the opening of a small water tank display.

Today the Waikiki Aquarium looks very small from the outside, with a parking lot that would not rival the local drug store, a far cry from the new behemoth super aquariums such as the Georgia Aquarium. With an unobtrusive front, it is perhaps understandable why one might miss the curious facade and instead focus their gaze upon its neighbor, the crumbling Natatorium, a World War I memorial dating to 1927. But the old adage that you cannot judge a book by its cover certainly may be applied here. The tanks are perhaps the finest in the world for coral displays. Indeed nearly all aquariums in the known world have coral on display that originated from the Waikiki Aquarium.<sup>24</sup> The water is crystal clear, coming from a well beneath an ancient coral bed. The grounds and exhibits show an attention to detail that is amazing considering the age of this second home is now past fifty, and illustrates the pride and joy the staff and volunteers have for this place.

It is in this setting that an incredible history has been created. The Waikiki Aquarium, with the closing of Belle Isle Aquarium in Detroit, is now the third oldest in the United States. To put in perspective, this aquarium opened before Hawaii became a state. For the purpose of this study, the institute fits quite well in that their major impact on society is through education, quite unique in that such a focus brings very little income. In the case of Waikiki Aquarium, where virtually every educational program is free, education generates no income. So how can an aquarium when its main emphasis generates little income? Indeed there have been several periods where its continued existence has come into question. Today questions center on how to expand and improve. Waikiki Aquarium provides an excellent example of how diversification has helped its growth, and the lack of diversification into other areas has hurt. In addition, an examination of this aquarium, demonstrates the challenge of operating an aquarium during the early phase of public aquarium growth. These difficulties ranged from the sublime to the ridiculous, including political bickering, worms, and world war.

The sources available for such a study vary from few to incredibly numerous depending on the time period. The history of the Waikiki Aquarium lends itself to a certain division as there have been only five permanent directors in their over one hundred years of existence. The first director, a clerk with the Honolulu Rapid Transit Company, Mr. Frederick Potter, lasted close to thirty-six years, an amazing length of time, and indeed left after being forced out once reaching state mandatory retirement age.

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<sup>24</sup> Dr. Andrew Rossiter, "From the Director," *Kilo'ia* Winter 2006, 1.

Few, if any, first hand accounts of this critical period survive. There are newspaper clippings, Board of Regents notes from the University of Hawaii, and the original supporter's letters: Charles M. Cooke. When Dr. Spencer Tinker took over in 1940, he began publishing annual reports, along with a wealth of written accounts concerning the aquarium, including a brief but well-researched history of the early years. In November 1977, *Kilo i'a*, (defined as either watcher of sea life or watcher of fish), a quarterly newsletter by the Friends of the Waikiki Aquarium began publication. Also what cannot be underestimated is the sheer wealth of information in terms of research conducted by scientists at the institute, both in improving the life of the aquarium, and research on ocean life as a whole.

### **The First Era: 1904-1940**

The Waikiki Aquarium, originally known as the Honolulu Aquarium came into this world with two parents: Charles M. Cooke, and the Honolulu Rapid Transit and Land Company. The Honolulu Rapid Transit and Land Company (HRTLTC), in existence since given the right of franchise on July 7, 1898, needed a hook to increase attendance of their streetcars from Honolulu to the Waikiki beaches.<sup>25</sup> Taking into account the precedent of streetcar systems including San Francisco's to create attractions at line's end, the HRTLTC proved receptive to Mr. Cooke's idea of building an aquarium.<sup>26</sup>

Charles M. Cooke, one of the major financial leaders of the Hawaiian Islands, became interested in aquariums after a visit to Naples, Italy. In a letter dated April 15, 1902 to a relative he writes: "I have written Montague that he should visit Naples and make a study of the aquarium before his return here...."<sup>27</sup> Cooke, and his partner James Castle, both served on the board for the HRTLTC. Cooke offered the \$8,000 to build the aquarium, while Castle offered to lease two lots on Waikiki beach in an area known as Kapiolani Park.<sup>28</sup> This lease would end in nineteen years with the aquarium than becoming under the control of the state unless an extension occurred.

Two homes sat on the lots offered by Castle, one of which had been the home of Robert Louis Stevenson. These homes were moved to the rear and combined so that the director would live on-site. That director was Frederick A. Potter. This seemed a very odd choice as Mr. Potter's previous employment was as a clerk with the HRTLTC. It perhaps did not hurt that Mr. Potter was also the brother-in-law of the HRTLTC president, Lorrin A. Thurston.<sup>29</sup>

On March 19, 1904, *The Pacific Commercial Advertiser* ran a story buried on page nine in a small blurb commenting on the new aquarium opening. The main headline of the day: "Russians Sight Japanese Army."<sup>30</sup> The next day, the editor, Walter G. Smith wrote of the aquarium "...valuable asset to the Promotion Committee. Honolulu has

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<sup>25</sup> MacKinnon Simpson, *Streetcar Days in Honolulu: Breezing through Paradise* (Honolulu: JLB Press, 2000), 29.

<sup>26</sup> *Ibid.*, 83.

<sup>27</sup> Charles M. Cooke, April 15, 1902.

<sup>28</sup> Spencer Tinker, *The History of the Two Waikiki Aquaria: 1903-1961* (Honolulu, HI: Self-published, 1961), 4.

<sup>29</sup> *Ibid.*, 5.

<sup>30</sup> "Will Open the Aquarium Today," *The Pacific Commercial Advertiser* 03/19/1904, A9.

lacked individual points of interest....”<sup>31</sup> Many in the community hoped that the Honolulu Aquarium would help develop a flagging tourism industry. The initial focus for the institute centered on entertainment providing for economic dollars leading to redevelopment, a common theme in the development of modern public aquariums.

The aquarium itself consisted of wood with a foundation of stone which would soon cause problems. A skylight brought light into a center room which then went into three directions of tanks. The exhibits consisted of local fishes which were often rotated out after losing their color.<sup>32</sup>

In the HRTLC annual report of 1904, the aquarium lost close to one thousand dollars. This seemed acceptable as “...indirectly this loss has been more than made up by the traffic it has induced.”<sup>33</sup> In 1905, over twenty-three thousand people passed through the aquarium doors. The aquarium itself lost \$1216.21, however the price of admission to ride the streetcar more than compensated HRTLC.<sup>34</sup>

The next year the honeymoon appeared to be over. HRTLC lost more than two thousand dollars as the aquarium, as the wooden intake pipes bringing water to the displays, were under seize by toredo worms.<sup>35</sup> A ticket price increase helped stabilize revenue and for the next several years the aquarium remained status quo, including repair issues.

With the lease set to expire July 1, 1919, the HRTLC board had to decide whether or not they wanted to try and continue the relationship with the aquarium. A motion was suggested that the lease be extended for ten years. This was “...not so much in view of revenue, but as a matter of promotion and of civic interest.” It was also noted that the building needed numerous repairs, but without a lease extension, it made little sense to do so.<sup>36</sup> Much needed repairs simply stayed stagnant, or in the majority of cases, worsened.

Notice that promotion came before civic interest. Throughout the time that the HRTLC served as the guardian for the Aquarium, its main purpose focused on providing increased revenue and publicity. There is no evidence of research or rehabilitation efforts. Education occurred simply from visitors watching the displays and seeing local fishes. This would change when the University of Hawaii took control of the institute July 1, 1919.

Once again the Cooke family defended the aquarium. In a personnel letter dated January 28, 1919, Professor Bryan of the Zoology Department within the University of Hawaii asked the widow Mrs. Cooke for support of the change and possible funding for an additional lab to be constructed, attached to the aquarium. The ten thousand dollars asked for would also provide much needed repairs. Professor Bryan also presented a vision the University of Hawaii had for the aquarium: “...for exhibition purposes such as present and at the same time make it still more useful to the community from an

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<sup>31</sup> Walter G. Smith, "The Aquarium," *The Pacific Commercial Advertiser* 03/20/1904, S4.

<sup>32</sup> Mary E. Krout, "The Aquarium at Honolulu," *Mid-Pacific Magazine* Sept 01, 1914, 283-87.

<sup>33</sup> "Annual Report of the Honolulu Rapid Transit and Land Company for the Year Ending December 31, 1904," (Honolulu, HI: Honolulu Rapid Transit and Land Company, 1905), 15.

<sup>34</sup> "Annual Report of the Honolulu Rapid Transit and Land Company for the Year Ending December 31, 1905," (Honolulu, HI: Honolulu Rapid Transit and Land Company, 1906), 12.

<sup>35</sup> "Annual Report of the Honolulu Rapid Transit and Land Company for the Year Ending December 31, 1906," (Honolulu, HI: Honolulu Rapid Transit and Land Company, 1907), 12.

<sup>36</sup> "Annual Report of the Honolulu Rapid Transit and Land Company for the Year Ending December 31, 1917," (Honolulu, HI: Honolulu Rapid Transit and Land Company, 1918), 10.

education and scientific standpoint.”<sup>37</sup> Within a week, the University received a check from Mrs. Cooke in the amount of \$10,000, and within five months, the aquarium came under the umbrella of the educational institute.

On paper, this seemed to be the ideal partnership. An aquarium with a lab attachment would provide an excellent educational resource for students, professors, and visitors alike. The aquarium now had a parent who would seem to be interested in their development in terms of both science and education. The evidence would point to the aquarium becoming an unwanted stepchild for their new guardian.

The largest issue the aquarium would face with the University of Hawaii involved funding. Funds from the revenue of the aquarium went into the general fund of the university. Consequently, the budget for the aquarium came from how the university dispersed funds. Ample evidence exists that the aquarium during this time period ranked extremely low on the priority list of funding. Board of Regents meetings rarely mentioned the aquarium, including budget and maintenance reports. On August 12, 1920, the Board voted to form a committee to take a look at what repairs needed to be done, yet in several meetings after, no further mention exists.<sup>38</sup> On a basic consumer level, when the main draw of an aquarium is entertainment, and the building and exhibits are falling apart, failure seems inevitable.

Six years of sporadic mentions in the Board of Regents meetings followed, with little except issues dealing with the low income provided by the aquarium. On February 26, 1926, the still present director Mr. Potter asked for a leave of absence. This was approved, with a caveat: “...to grant leave of absence to Mr. Potter with the understanding that he arrange to have the Aquarium properly cared for during his absence without extra expense to the University.” In other-words, he could take time off, but he would have to pay for his replacement.<sup>39</sup>

In 1929, the University completed Dean Hall, where all zoology offices would relocate from the Cooke Lab at the aquarium. All classes at the lab also ceased.<sup>40</sup> Thus, at this point in the Waikiki Aquarium’s history, the beginnings of an educational and research foundation were removed before they could set root. The aquarium would have to continue to rely on its exhibits for entertaining guests, which at this point with little money to upgrade and repair proved difficult.

The Great Depression brought budget across the university. The aquarium, miles away from the campus, was low on the list of priorities. Notably the university neglected the institute in their post-depression plans. In March, 1938, the Board of Regents presented a ten year plan to the Territorial Planning Board. This plan illustrated what types of buildings and renovations would be needed in the near future. These included academic buildings, dormitories, libraries, etc...The aquarium was not mentioned once in this report.<sup>41</sup>

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<sup>37</sup> Professor Bryan, January 28, 1919.

<sup>38</sup> "Board of Regents University of Hawaii Minutes of Meeting Held August 12, 1920," (Honolulu, HI: University of Hawaii, August 12, 1920), 1.

<sup>39</sup> "Board of Regents University of Hawaii Minutes of Meeting Held February 18, 1927," (Honolulu, HI: University of Hawaii, February 19, 1926), 1.

<sup>40</sup> Tinker, *The History of the Two Waikiki Aquaria: 1903-1961*, 11.

<sup>41</sup> "Board of Regents University of Hawaii Minutes of Meeting Held March 17, 1938," (Honolulu, HI: University of Hawaii, March 17, 1938), 4-5.



1940 would prove to be an incredibly poor year for the aquarium and in the way the University would handle their relationship. In January, the President of the university sent a report describing the aquarium over the past twenty years. It cited a consistent decline of admissions and an increase in annual deficits. The Board of Regents agreed that the Honolulu Park Board should be contacted for possible legislative action, the end result of which would transfer the operation of the aquarium. The University still wanted to retain control of the property, and the marine lab.<sup>42</sup>

Moreover, the University of Hawaii terminated the tenure of Frederick Potter. In July, 1939, the President of the University recommended that though Mr. Potter was to reach retirement age soon, that he finish out the year and perhaps stay longer "...proved he would be willing to cooperate in reducing the costs of the Aquarium, and thus make it more nearly self-supporting."<sup>43</sup>

In a turnaround, the Board of Regents voted six months later that an exception would not be made and Mr. Potter would be forced to retire.<sup>44</sup> In what can only be described as desperation in wanting to keep his job, and stay in the house he had lived in since 1904, Mr. Potter proposed that the aquarium be leased to him, and if that were not acceptable, place his wife in the position, as she was not yet sixty-five. Both of these suggestions were voted down.<sup>45</sup> In April, Mr. Potter sent yet another letter to the Board asking for reconsideration. Again this was voted down, and in May, 1940, a new "Acting Superintendent" Professor Spencer Tinker would take over.

So what had the "Honolulu Aquarium" accomplished in its first thirty-six years of existence? While difficult to determine a precise figure, a conservative estimate of attendance can be placed at a *minimum* of 720,000 people. Entertainment was suffering from older exhibits and a worn out building. A research program had a chance to flourish, but with the removal of the zoology department back to the University, this would come to almost complete stop by 1941. There is no evidence of rehabilitation efforts occurring during this time period. While the exhibits themselves educate visitors, with no formal educational program, and with classes now no longer being taught, the aquarium was in a tough spot. Unable to survive on its own, it had to rely on the University of Hawaii.

## **Spencer Tinker 1940-1972**

Spencer Tinker served for eight years as a professor of zoology with the University of Hawaii before becoming the director of the aquarium. His efforts through out his tenure helped refocus the aquarium from an ineffective tourist attraction to an institution whose main goal focused on educating the public. Showing the public's eagerness for such a resource; in October 1940, when Tinker conducted a lecture of local fish species, over one hundred and fifty people showed up for the class, exceeding

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<sup>42</sup> "Board of Regents University of Hawaii Minutes of Meeting Held January 12, 1940," (Honolulu, HI: University of Hawaii, January 12, 1940), 1.

<sup>43</sup>"Board of Regents University of Hawaii Minutes of Meeting Held July 14, 1939," (Honolulu, HI: University of Hawaii, July 14, 1939), 3.

<sup>44</sup> "Board of Regents University of Hawaii Minutes of Meeting Held January 26, 1940," (Honolulu, HI: University of Hawaii, January 26, 1940), 2.

<sup>45</sup> "Board of Regents University of Hawaii Minutes of Meeting Held February 9, 1940," (Honolulu, HI: University of Hawaii, February 9, 1940), 2.

expectations.<sup>46</sup> Before fully developing an educational program, there was a world war to deal with.

The first year of running the aquarium allowed Tinker to assess the major issues facing the institute before the war began. In starting an annual report that lasts through today, evidence is plentiful from this era into the issues faced. In the first annual report Tinker spoke of creating a thriving educational program: "...civic educational program of lectures and publicity in the community have helped bring the Aquarium into the public eye." Having an education program helped increase the reputation of the aquarium in the public eye, in turn supporting the entertainment displays.<sup>47</sup>

Tinker also helped the development of a research program not only involving the species of the surrounding waters, but in the development of keeping fishes alive in a tank environment. He noted that "By emptying and drying the tanks and by rotating the hardy fishes, we are able to better control the fish diseases." The fish themselves were fed three times a week with a diet consisting of tuna, shrimp, minnows, and sea weeds. This information may seem basic, but one must remember that this particular aquarium was one of the oldest in existence, and Tinker made a point to correspond with other public aquariums to develop strategies and develop proper techniques to ensure fish survival that is still with us today, not only in public aquariums, but in home aquariums.<sup>48</sup> With the arrival of World War II, the focus became survival, and in-turn provided an opportunity for further growth.

Surprisingly enough, World War II actually helped the aquarium grow in the minds of the American public. With onset of war, Honolulu became a major center for troop buildups to the Pacific Theater. Professor Tinker long felt that the aquarium should be free to all who wished to access it. On July 1, 1941, the admission's price went from twenty-five cents a day for adults and fifteen cents for kids to free. This would last until August 30, 1952.<sup>49</sup>

The price change would result in over one million persons coming through the aquarium during the war. This cannot be underestimated as these troops went home across the United States to potentially promote this unique aquarium. One drawback and one that provides an interesting look into aquarium operations was that of the aquarium losing its fish supply. For years, a man of Japanese ancestry, Mr. Naosuke Nakamoto caught fish for the aquarium. After the attack on Pearl Harbor, persons of Japanese ancestry were not allowed to fish and their boats were impounded. The staff had to catch fish off of the facility to replenish the tanks.<sup>50</sup>

By the end of the war, it was painfully obvious that for the aquarium to flourish a new building had to be built. Termites and dry rot were destroying the building apart. In response, the Board of Regents did not ask the legislature to fund a new aquarium. Tinker believed that due to the newfound popularity of the institute, the Board was leery of asking for a new building for fear of actually getting it. This might potentially take funds away from the rest of the university.<sup>51</sup> Through the efforts of state senator Hiram

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<sup>46</sup> Chris Hamre, 10/23/40.

<sup>47</sup> "Report on the Condition and Activities of the Aquarium for the Year Ending June 30, 1941," (Waikiki, HI: Honolulu Aquarium, 1941), 1.

<sup>48</sup> Ibid., 3-4.

<sup>49</sup> Tinker, *The History of the Two Waikiki Aquaria: 1903-1961*, 15-16.

<sup>50</sup> Ibid., 14.

<sup>51</sup> Ibid., 17.

L. Fong and Ms. Alice Spalding Bowen, a member of the Waikiki Improvement Association, the state legislature passed a \$400,000 bill for building of a new aquarium.

This proved good timing as by 1950 the situation at the now forty-six year old aquarium was at the point for Tinker to write "...deterioration is rapidly reaching the point where some type of crisis or catastrophe is imminent." Indeed the roof sagged to the point of collapse.<sup>52</sup> Along with the repair issues brought the removal of free admission, much to Tinker's chagrin, resulting in attendance plummeting from 153,000 in 1951, to 57,799 by 1954, the year before the new aquarium opened.

With the opening of the new aquarium in 1955, attendance jumped to 256,141. The exhibits of thirty wall tanks displaying Hawaiian fishes, eighteen tanks which displayed fish from around the world, twenty large marine turtles native to Hawaii, and one Hawaiian seal. A lecture room helped handle school groups with adult lectures also taking place. The aquarium's water supply came from an ancient coral bed filtering the water to near perfection. This continues today to make the Waikiki Aquarium (as it is now known) exhibits one of the clearest in the world. This new aquarium allowed for a much stronger entertainment program, and the immediate impact can be seen in the tremendous attendance increase. Education now had an outlet to grow by properly teaching school groups and holding classes. There was despite the requests of Tinker for an oceanarium, a large tank designed for large sea mammals and fishes, the lack of which hurt any potential rehabilitation efforts. Research was limited to Tinker's own efforts and general staff efforts towards keeping the aquarium running.<sup>53</sup>

Even though the new aquarium received more than 200,000 persons a year, the relationship between the institute and the University of Hawaii did not improve. From June 1963-September 1964, Tinker took over operations of the Bermuda Government Aquarium and Museum at the Flatts, and their curator, Louis S. Mowbray took over the Waikiki Aquarium. The goals of the exchange included a sharing of ideas and to introduce new perspectives into their respective operations.<sup>54</sup>

Of the relationship between the aquarium and the University, Mowbray wrote: It required only brief association with the Aquarium to realize that there was something lacking in the relationship between the University and the Aquarium. First impressions were that the University adopted an antagonistic policy to any requests from this Department. Subsequent study and investigation has disclosed that there is no apparent animosity, but merely a complete lack of consideration by the University that the Aquarium exists. This does not seem to be deliberate, but is rather a case of "out of sight, out of mind. Persistence on the part of the staff of the Aquarium has resulted in much better relations being established at the close of the year.<sup>55</sup>

Mowbray opposed Tinker in suggesting that the admission fees were actually too low. Potential visitors might think the aquarium not worth visiting with an admissions fee of only twenty-five cents. He put forth the idea that a doubling of the admissions fee

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<sup>52</sup> "Report on the Condition and Activities of the Aquarium for the Fiscal Year Ending June 30, 1950," (Honolulu, HI: Honolulu Aquarium, 1950), 1-2.

<sup>53</sup> "Report on the Condition and Activities of the Aquarium for the Fiscal Year Ending June 30, 1954," (Honolulu, HI: Waikiki Aquarium, 1955), 2-5.

<sup>54</sup> "Report on the Activities of the Waikiki Aquarium for the Fiscal Year July 1, 1962," (Waikiki, FL: Waikiki Aquarium, 1963), 6-7.

<sup>55</sup> "The Annual Report on the Waikiki Aquarium, Fiscal Year 1963-64," (Waikiki, HI: Waikiki Aquarium, 1964), 6-7.

would increase attendance and help with the operating deficit, which for the fiscal year of 1962-63 reached almost \$50,000.<sup>56</sup>

When Tinker returned, he abandoned these suggestions. Tinker felt the aquarium should be run in a certain way, including a free admissions policy, and he seemed unwilling to bend or compromise. Further statements in annual reports that dismissed the University support this impression. In fairness to Tinker, the University did consider the aquarium a very low priority, a tradition dating back to 1919. The combination of these two attitudes led to the aquarium falling into disrepair and financial insolvency during a time when the institute should have been flourishing.

In the 1964-65 annual report, Tinker stated that the aquarium was "...suffering from lack of sufficient funds because sufficient money has not been allotted to this Aquarium for current expenses during the past three years."<sup>57</sup> Tinker goes on to point out that the cost of personal had doubled in ten years, and expenses fifteen percent. Indeed the entertainment programs of the aquarium suffered, with a new major competitor in the SeaLife Center, and some truly pitiful displays, the worst being a pool, already considered small, now divided in half with one side housing seals and the other housing dolphins. Tinker had requested an oceanarium since the opening of the aquarium to properly house such animals.<sup>58</sup>

Tinker continued the next year suggesting that the admissions policy actually "...creates hostile attitudes toward the Aquarium in some quarters."<sup>59</sup> In May 1968, he created a five-year master plan which in many ways was a contradiction in terms. The director wanted more money from the state, yet the admissions policy had to be dropped. Tinker suggested that the aquarium would go from having the fourth largest attendance of museums and parks in Hawaii to third if admissions policy were dropped, and that the current fee prevented 100,000 people from entering.<sup>60</sup> Tinker had the interests of Hawaiians at heart, and that he truly wanted everyone to be able to enter the aquarium no matter their financial status. The problem centered on fiscal responsibility. The aquarium truly deteriorated during this era. Also, the admissions policy could hardly be considered excessive at twenty-five cents for adults and free for children. To decision-makers, the loss of revenue from ticket prices to jump from fourth in attendance to third could not be justified as off-setting. Educational programs grounded to a halt due to lack of funds. Exhibits were the same as they had been for years. Hurt by tough economic times in the state of Hawaii, causing the governor to issue a hiring and budget freeze, the aquarium almost collapsed, and it is a credit to Tinker that it survived for as long as it did.

By 1972, Tinker had been in the University of Hawaii system for forty years, and on December 25, he retired as director. He would spend the next several years fighting for the aquarium in front of the state legislature and in letters to the local newspapers. He had three fish named after him: *Koleolepis tinkeri*, *Chaetodan tinkeri*, and *Hexabranchnus tinkeri*. Tinker created a world aquarium directory that succeeded for many years, and

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<sup>56</sup> Louis S. Mowbray, "Observations on Waikiki Aquarium Operation," (Waikiki, HI: Waikiki, Aquarium, 1964), 1.

<sup>57</sup> "Report on the Activities of the Waikiki Aquarium for the Fiscal Year July 1, 1964 through June 30, 1965," (Waikiki, HI: Waikiki Aquarium, 1965), 4-5.

<sup>58</sup> *Ibid.*, 15.

<sup>59</sup> "Report on the Activities of the Waikiki Aquarium for the Fiscal Year July 1, 1966," (Waikiki, HI: Waikiki Aquarium, 1967), 5.

<sup>60</sup> Spencer Tinker, "Program Evaluation and Five Year Plan," (Waikiki, HI: Waikiki Aquarium, 1968), 8.

his continued push for the removal of the aquarium fee was fueled by his desire to see the aquarium educate all. The problem was an aquarium director position at this time had begun to evolve all across the country. An aquarium director needed to be an educator and a politician, and indeed a business manager at the same time. For the next few years the aquarium went on without a leader, but in 1974, they found their savior.

### **Leighton Taylor 1972-1986**

Leighton Taylor saved the Waikiki Aquarium from closing, and set the foundation for the success it is today. To accomplish this goal, he established a solid education program, built bridges to the university allowing for renovations to enhance the entertainment program, and rebuilt the research arm of the aquarium. But from December 1972 until Taylor officially took over in October 1975, the aquarium nearly folded several times.

During this time, there seemed to be several different views on how the institute should be run. Tinker predictably pushed the state legislature to remove admissions fees and increase funding. John P. Craven, the Dean of Marine Programs at the University of Hawaii, wanted admissions raised. By 1973, the aquarium opened three days out of seven during the week. The work force consisted of seven staff members, down from thirteen.<sup>61</sup>

The state congress of Hawaii seemed to also have several ideas on the subject, yet could not seem to compromise. In January 1974, a bill was introduced that would have created a statewide system of aquariums. In February, the House Ocean and Marine Resources committee pushed forth a bill removing the admissions fee. Also in February, the Waikiki Aquarium Advisory Committee chaired by Philip Helfrich, with Dr. Leighton Taylor serving, presented the guidelines for a new director: "...a dynamic and charismatic director who is an experienced aquarist, and educator, a fund raiser, and a public relations expert..." Due to the continued job freeze, a director could not be hired. No statewide system of aquariums passed through the political body, and the admissions fee still faced debate.<sup>62</sup>

Also issued in 1974, a state sponsored research project into the aquarium and what/why were the issues. Conducted by Bina M. Chun, this two hundred and thirty-nine page report gives several reasons for the Waikiki Aquarium's condition, and also why the relationship between the university and the aquarium seemed so strained. On a questionnaire sent out to faculty within the sciences and engineering departments of the University asking if they used the aquarium, only twenty-four percent said yes. Reasons why they did not included inadequate facilities, ignorance about what the aquarium offered, and "...disenchantment with the former director..."<sup>63</sup>

In response, the former director Tinker gave reasons why they would feel "disenchantment," including demands by university departments to supply them with fishes, administrators wishing the aquarium to hire relatives, and a university researcher

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<sup>61</sup> Douglas Woo, "Aquarium Is Sinking Financially; Legislature Asked to Bail It Out," *The Honolulu Advertiser*, 1/26/1974, 1-B.

<sup>62</sup> "Waikiki Aquarium Need in Paradise," *Sea Grant Newsletter* 4, no. 2 (02/74): 1-3.

<sup>63</sup> Bina M. Chun, "Window to the Sea: A Study of the Waikiki Aquarium," (Honolulu, HI: Legislative Reference Bureau, 1974), 82.

stealing fish from exhibits. The Botany Department countered with a report that suggested displays were poor, and leadership proved unimaginative.<sup>64</sup>

Chun went on to make several recommendations. For one, admissions fees needed to go directly to the aquarium, and not back into the University of Hawaii's general fund, where there was no guarantee that the aquarium would then receive that money back. Chun also went directly against Tinker stating that according to surveys, the admissions policy should be raised, and annual passes sold to the public.<sup>65</sup> The building itself needed substantial work including new displays and attractions. School groups received very little in terms of classes or tours. No research program existed. Chun suggested that for the aquarium to become an educational centerpiece, as the Hawaii state legislature had deemed, massive work had to be done.<sup>66</sup> In October 1974, the state legislature authorized \$100,000 for repairs and renovation, the first step to the aquarium's recovery. One year later, Dr. Leighton Taylor officially took over as the director of the Waikiki Aquarium.

Taylor wasted little time in establishing a docent program which gave tours and helped with educational classes. Two years later, the Friends of the Waikiki Aquarium (FOWA) formed, designed to help promote and finance aquarium projects. Two major projects came out of FOWA, one a newsletter entitled *Kilo I'a* and the creation of a store within the aquarium whose profit would go towards the institute. A research program also began, under the curator Bruce Carlson. Under his watch, the aquarium became the first American institute to obtain *Nautilus pompilius* (chambered nautilus) from Fiji. This proved the beginning of several research projects that would give the aquarium national attention.<sup>67</sup>

By 1980, FOWA profits formed thirty-five percent of the aquarium's budget versus sixty-five percent coming from the University. Taylor's long-term goal centered around the aquarium becoming completely sustainable on its own. The educational program also showed vast improvements, with 14,000 students coming through the institute.<sup>68</sup> Between running the campaign for the state fish selection committee, a new large display for sharks and other large fish, and the introduction of three rare monk seals, attendance crossed 300,000 in 1984, the first time since 1945.<sup>69</sup>

Taylor decided in 1986 to take a "one-year absence" to become Deputy Executive Director of the California Academy of Sciences in San Francisco. His farewell letter certainly seemed as if the decision to leave was permanent: "I would like to personally thank all of the Friends who have been supportive to both the Aquarium and me personally during my ten years as Aquarium Director. It has been a decade that I will remember among the richest and happiest of my career." Taylor the new acting director Bruce Carlson an aquarium taking in over a million dollars in revenue, yet the institute still had flaws. Bruce Carlson would take the efforts of Taylor and expand on them, providing the aquarium with a remarkable one-two punch that would further lead the institute to the road of self sustainability.<sup>70</sup>

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<sup>64</sup> Ibid., 84-85.

<sup>65</sup> Ibid., 119.

<sup>66</sup> Ibid., 128-31.

<sup>67</sup> Bruce Carlson, "Living Fossils in Waikiki," *Kilo i'a* 11/77, 1.

<sup>68</sup> "The Waikiki Aquarium Annual Report July 1979-1980," (Waikiki: Waikiki, Aquarium, 1980), 5-15.

<sup>69</sup> "The Waikiki Aquarium Annual Report: 1985," (Waikiki, HI: Waikiki Aquarium, 1986), 3-4.

<sup>70</sup> "The Waikiki Aquarium Annual Report 1986," (Waikiki, HI: Waikiki Aquarium, 1987), 4.

## Bruce Carlson 1986-2001

Though Taylor helped build a solid partnership with the University of Hawaii, Bruce Carlson built ties with the state legislature which would lead to massive renovations. By the time Carlson stepped into the role of director several attempts had already been made to either renovate or move the aquarium to a new location with little success, the biggest push occurring in July, 1982.

The reasoning behind a new aquarium is understandable. To continually thrive, and to meet both Taylor's and Carlson's goal of making the aquarium self-sufficient, new displays had to be created to keep the public interested in walking through the doors. Many thought the seal pool was inhumane and can best be described as a "giant bathtub." By this point, both the state legislature and the aquarium staff realized that to have a successful educational aquarium, they had to continually enhance their displays. Indeed many of the research projects being undertaken helped support those enhancements, with coral now being in the forefront, along with giant clams. This was not enough, as the master plan created in November 1987 would illustrate.

The "Master Plan for the Revitalization of the Waikiki Aquarium" serves as a fascinating crossroads for the Waikiki Aquarium. People were and still are torn between revitalizing the current building, or building a brand new aquarium to serve the public. This report proposed several changes to the current building, while attempting to restrain itself with the idea that: "The plan was developed in full recognition that a new aquarium facility may be constructed elsewhere within the next 10 years." The report points out that the repairs can then be used to keep the building, or if an aquarium were not built, this would be first step in turning Waikiki into a "World Class facility."<sup>71</sup>

The report called for three phases. The first called for the repairs of numerous health and safety issues, including replacing an electrical system from 1955, renovating restrooms from 1962, and finally fixing the Hawaiian Monk Seal Pool. All important elements for enhancing the entertainment pillar of the aquarium. The second phase called for a new classroom to help with the 35,000 students that now came through every year. The final phase would call for a large oceanarium type structure if a new aquarium was not to be built. Overall the proposed renovations would cost over fifteen million dollars.<sup>72</sup> Renovations for phase one would last almost six years and not be completed until May 1, 1994.

In the meantime, now permanent director Carlson, named in March 1990 to the role, continued his remarkable research drive that had been his goal since arriving as a student helper back in 1976. On October 27, 1990, the aquarium received national attention, as for only the second time, Chambered Nautilus eggs hatched in captivity.<sup>73</sup> An onsite Mahi-mahi hatchery opened, allowing for on-site research into both the fish species, and the correct methods of running a hatchery. Carlson continued to work on raising coral, experimenting with flow rate and sunlight exposure to help grow their new

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<sup>71</sup> "Master Plan for the Revitalization of the Waikiki Aquarium," (Waikiki, HI: Prepared by the Waikiki Aquarium, FOWA, and Hawaiian Islands Aquarium Corporation, 1987), 2.

<sup>72</sup> Ibid., 13-19.

<sup>73</sup> "Chambered Nautilus Hatches at the Aquarium, October 27, 1990," *Kilo i'a* 1991, 1.

“farm.” Today it is difficult to name an aquarium in the world that does not have Waikiki coral on display in their tanks.<sup>74</sup>

For the next several years, the discussion of building a new aquarium seemed to be the focal point. Indeed in 1996, there were plans on the table for four major aquariums, besides the ones already in existence with Waikiki and the SeaLife Center. One of these was the Kaka’ako aquarium, deemed as the potential successor for the Waikiki Aquarium, and first suggested by Taylor in 1978.<sup>75</sup> By July 2001, the legislature decided not to approve the estimated seventy million dollars needed for the funding of the new aquarium. Perhaps not coincidentally, Carlson decided to take his leave and head for the new massive Georgia Aquarium to become Vice President, Education, Conservation & Exhibits.

Carlson devoted considerable time and energy to the Waikiki Aquarium. Over twenty-five years, he oversaw a major renovation, helped make the research arm flourish, and continued Taylor’s work on education and self-sustainability. His one failure would seem to be the lack of being able to convince a state legislature to spend a major fortune on building a new “world-class” aquarium. Considering over the next two years, countless number of proposals both public and private would be made considering a new aquarium, few feasible, and none approved, this can hardly be blamed on one individual.

### **Andrew Rossiter and the future of the Waikiki Aquarium**

It took more than a year to finally decide on a new director of the Waikiki Aquarium. Replacing temporary director Dr. Cindy Hunter who moved on to a teaching position with the University of Hawaii, came Dr. Andrew Rossiter, senior research scientist at the Lake Biwa Museum in Japan’s Shiga Prefecture. His resume is perhaps a sign to the future as he served as Deputy Chief of the Aquarium, and Deputy Head of the Long-Term Planning group.<sup>76</sup> One of his first steps was to end speculation about a potential new aquarium for the time being and focus on the Waikiki Aquarium. Indeed his focus initially was that of “renewal, renovation, and replacement.” With the end of 2006, the aquarium earned over half a million dollars in profit, its best year ever financially, indicating the aquarium is on the right track.<sup>77</sup>

The Waikiki Aquarium is again at a crossroads. Yet unlike previous turning points in their history, this is not necessarily a life and death scenario. By focusing on educational programs, yet building up their research arm, and constant renovations, the aquarium even in its current state is doing quite well.

It will be fascinating to watch as the evolution of the Waikiki Aquarium unfolds. For future researchers, the aquarium proves a remarkable case study, impacting the surroundings, socially, economically, and politically. With more a century of history, there are very few other aquariums in the world that can provide such a case-study.

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<sup>74</sup> "Waikiki Aquarium 1991 Annual Report," (Waikiki, HI: Waikiki Aquarium, 1992), 2-7.

<sup>75</sup> Bruce Carlson, "Hawai'i --- Awash in Aquariums," *Kilo i'a* 1996, 1-2.

<sup>76</sup> "Waikiki Aquarium Welcomes a New Director," *Kilo i'a* 2004, 1.

<sup>77</sup> Rossiter, "From the Director," 1-2.



## THE CLEARWATER AQUARIUM: REHABILITATION AND FINANCE

When entering the small parking lot of the Clearwater Marine Aquarium, located in Clearwater Beach, Florida outside of Tampa, one is drawn to the condition of the building. The aquarium looks like the water treatment plant it once was, with the building appearing every bit its 48 years. Walking the perimeter one sees letters missing from the aquarium's name, paint peeling, and metal rusting, an oddly out of place sight compared to the newly built town-homes and four star restaurants surrounding it.

Inside is no different, perhaps even worse. The ceiling buckles over the dolphin tank. The tanks themselves appear to be cracking and rusting. The exhibits have remained the same for years. Despite this, the Clearwater Marine Aquarium remains one of the top rehabilitation institutes in the country, saving over 100,000 animals in their history. How can an institute with such a critical environmental impact have these deep financial difficulties? By examining how the Clearwater Marine Aquarium strove to develop an entertainment program to go along with rehabilitation, we shall see how this institute made several enormous financial mistakes that are costing them today.

### Historiography and Sources

The historiography of the aquarium can be described as virtually non-existent. This is surprising for an institute that can be traced its origins back to the 1950's. A brochure found in the lobby tells the year of the incorporation of the aquarium board, and little else. In aquariums throughout the country, there can often be found on the institute's web site a history of the aquarium. Clearwater has an archive section on theirs, but consists only of newspaper clippings from the recent past.

Knowing this, it was quite a surprise for this researcher to find newspaper scrapbooks in the aquarium library dating to the late 1960s that volunteers have put together. Also located within this library are minutes from the board of directors meetings dating to the 1960's. These primary sources will be the main source of information for this paper. Also used were legal documents, personal letters, and correspondence. Together they paint a picture of Clearwater Marine Aquarium's history.

### A Death and Rebirth

The Clearwater Marine Aquarium's heritage dates back to the SeaOrama. Located in the Clearwater Marina, the SeaOrama opened in 1953 with a collection of plaster reproductions of several marine animals donated from their creators and curators. The SeaOrama did not have an admissions charge with school groups from the area making up the majority of guests. Attendance plummeted when the SeaOrama was moved to a small boat marina after their space was deemed necessary by the city for a post office which is still in operation today. Location is a prime component of being able to draw crowds, and without the ability to see the institute from the street, nor stellar exhibits, attendance fell precipitously.<sup>78</sup>

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<sup>78</sup> "Save SeaOrama Session Is Set," *St. Petersburg Times* 02/21/1968.

With a now poor location unseen by tourists driving past, the SeaOrama was in trouble. For 1968, the attraction had a budget provided by the city of \$20,172. Its estimated income: \$150.<sup>79</sup> With such a deficit, it can be seen as little surprise that the Clearwater City Commissioners voted to close the SeaOrama by July 1, 1968. They cited lack of attendance and public interest in their decision.<sup>80</sup> This despite the fact that the *New York Times* considered the SeaOrama worthy enough to print an article in their Sunday magazine section. Hervie Haufler writes “For readers of Rachel Carson’s *The Sea Around Us*, the Sea-Orama has a special interest in that it draws so many of its specimens from the Sargasso Sea....”<sup>81</sup> This article helps illustrate that there was at least some public interest in the institute which closed its doors as dictated by the city commissioners.

Almost immediately after the closure of the SeaOrama, support began for reopening, this time as a full marine science center. Mrs. Mary McCormack, a hotel owner on Clearwater Beach and a member of the Clearwater Chamber of Commerce chaired a committee on the subject of re-opening the SeaOrama as a marine biology museum. Heywood Matthews, a marine biology professor at then named St. Petersburg Junior College presented what such an institute should be and how much it would cost, as much as \$250,000; Matthews suggested that the museum should start slowly and build up over time. An annual budget of twenty to twenty-five thousand dollars was proposed, and that the cost of equipment and the exhibits at opening would run five to ten thousand.

Matthews also went into great description of what the building should look like: “...a building about 70 by 90 feet with a series of alcoves along each side with each alcove being devoted to specific classifications of marine life....” Perhaps remembering the original SeaOrama, Mrs. McCormack suggested that a tourist trap, which she defined as “...something that charges too much and offers too little...” was the last thing they wanted on the beach.<sup>82</sup>

Momentum for the new marine science center began to increase. The Clearwater City Commissioners agreed to study the plans with the key being that the science center supporters would acquire financing.<sup>83</sup> The blustery mayor of Clearwater at the time, Everett Hougen made several outlandish statements of support for a new institute. This included his belief that such an institute would be second only to Disney World in Florida, and that it should have a Tahitian style.<sup>84</sup>

The City Commissioners in April 1972 gave authorization for a 24-year lease at the rate of \$1 a year. The backers, led by McCormack and Matthews had six months to gain enough funds to build the center, with an extension to a year possible if progress continued.<sup>85</sup> In May, the group laid out their vision of the new “Sea-O-Rama” with an estimated cost of \$150,000. This number would increase greatly as the years would pass. The building would include a 50-seat auditorium with film projectors, a coral reef exhibit, deep sea and estuarine exhibits, as well as aquariums. A laboratory would be

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<sup>79</sup> "Moribund SeaOrama Rates New York Paper Article," *St. Petersburg Times* 03/09/1968.

<sup>80</sup> Earl Emmons, "Efforts to Save Marine Exhibit Said Fruitless," *Tampa Tribune* 04/20/1968.

<sup>81</sup> Hervie Haufler, "Ebb Tide for a Florida Museum," *New York Times* 03/10/1968.

<sup>82</sup> Joe Devlin, ""SeaOrama Costs Seen as High as \$250,000." *Clearwater Sun* 01/1972.

<sup>83</sup> "Clearwater Commission Mulls SeaOrama Help," *St. Petersburg Times* 02/10/1972.

<sup>84</sup> Janice Hall, "Greatly Expanded SeaOrama Studied," *Clearwater Sun* 02/02/1972.

<sup>85</sup> Joe Devlin, "Go-Ahead on SeaOrama Lease Expected at City Board Meeting," *Clearwater Sun* 04/02/1972.

built for field trips and educational use. The water for the tanks would be pumped in directly from the Gulf, then in an artful touch, would cascade over a waterfall into a larger aquarium, with the excess going back into the Gulf of Mexico. The hope was to have the center finished by 1973.<sup>86</sup>

The Board of Directors for the SeaOrama voted unanimously to change their name to the Clearwater Marine Science Center (to be known in this chapter as CMSC) which would be a “new descriptive name.”<sup>87</sup> Unfortunately there was no actual building to go with this new name. Estimated costs of the center had risen to \$500,000. By the end of 1975, the treasury had a scant \$1,000 dollars in its savings, with only \$20,000 in pledges for construction.<sup>88</sup>

New board of director Alfred R Priest, a prominent local business man, began a building drive two years later called “Window on the Sea.” Their goal: the \$225,000 needed for beginning construction.<sup>89</sup> Three months later, the drive had netted an additional seven thousand dollars, of which five thousand came from a grant previously promised before the campaign began. Indeed the *Clearwater Sun* wrote that the CMSC “...seems to have the support of everyone but the public...” The local population believed the land where the center would sit was incredibly small and would lead to a cluttered tourist trap. Priest, who had moved up to director of the board, now considered other cities to put the center.<sup>90</sup>

The City Commissioners, who had kept extending their potential lease agreement, were by now weary of dealing with the failure of fund-raising. Matthews asked the commissioners permission to erect a “temporary home” allowing for classroom instruction and illustrating the renewal of support from the city. Citing the economic climate, the fear of the CMSC becoming a tourist attraction, and the lack of funding as reasons to not renew support, the Commissioners declined. Also the small location did not seem ideal for a marine center. Picot Floyd suggested that the Island Estates (a subdivision in Clearwater Beach) sewage treatment, about to be phased out of operation, be “converted” for the center.<sup>91</sup>

This idea gained support rapidly. Mathews, initially against the new location, came around after touring the facility. The land area would be far greater than the proposed “postage-stamp” size plot previously discussed. Even more importantly, the largest tank at the sewage treatment plant would hold one million gallons. The largest proposed tank at the initial site would allow only forty gallons, a tremendous jump. The conversion would cost approximately 150,000 dollars (although this number would go up). The cost to build the center from scratch had risen with the inflation of the 1970’s to 450,000.<sup>92</sup>

The city of Clearwater had no problem getting behind the idea of reconfiguring the treatment plant, as it would cost an estimated \$270,000 to demolish it compared to

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<sup>86</sup> "Sea-O-Rama Plans" (Clearwater, FL, 1972).

<sup>87</sup> *SeaOrama Meeting Minutes*, 01/04/1974.

<sup>88</sup> *Minutes Clearwater Marine Science Center Fund Raising Committee*, 12/05/1975.

<sup>89</sup> "Alfred Priest to Lead Fund Raising for Marine Science Center," *Pinellas Times* 01/12/1976.

<sup>90</sup> Stephen Advokat, "Science Center Seeks to Stay above Water," *Clearwater Sun* 04/30/1976.

<sup>91</sup> Colonel Clearwater, "Clearwater Marine Science Center an Endangered Species?," *Clearwater Sun* 07/18/1976.

<sup>92</sup> Vernon Kirby, "The Dream of a Marine Science Center in Clearwater Beach May Be a Reality," *Pinellas Times* 10/10/1976.

\$250,000 for the conversion. It is important to note that the city did not have to help with the funding of the conversion, so actual savings would exceed \$200,000. With these new plans came the first indicator of what the backers envisioned as the goals for the new science center. The four areas discussed were visitors/guests, teaching, snorkeling, research, and on the spot training. Notice that rehabilitation, what the CMSC would become known for, was not listed at this juncture. The primary mission focused on entertaining guests, educating students/guests, and research of an undisclosed nature.<sup>93</sup>

On December 13<sup>th</sup>, the city signed a \$1 a year lease agreement with the center. One month later, the City Commissioners of Clearwater passed a resolution stating that they would "...make the Island Estates Wastewater Treatment Plant available for use by Clearwater Marine Science Center..." No mention was made for funding of the conversion.<sup>94</sup> It would be up to the Clearwater Marine Science Center's volunteers and paid staff of which there was one, to handle the conversion.

### **The Early Struggles**

One year later, the CMSC only had the capability to give summer classes. Renovations had come to a virtual standstill as there were simply no funds to complete them. Dennis Kellenberger, assistant to Heyward Matthews would step into this situation in 1980 as the new director. Serving for over twenty-five years, Kellenberger would become the face of the aquarium until his "retirement" in 2003.

It is Kellenberger who would shift the CMSC's focus to that of marine animal rehabilitation. He defined the center's importance around the fact that there were no rehabilitation institutes along the Gulf of Mexico, with the closest being Sea World of Orlando. In April 1981, Kellenberger attempted to finish two 65,000 tanks to provide rehabilitation for dolphins and sea turtles. Between his efforts as the only paid employee, and the enormous number of volunteer hours put in, the CMSC moved closer to completion, but financially speaking, there were still on very shaky ground.<sup>95</sup>

One year later, the CMSC still struggled to complete renovations. On hand amounts in their checking and savings accounts rarely exceeded \$1500 dollars. Into this void stepped a potential financial savior. Fred Thomas, a local wealthy businessman, had recently lost his young son. Thomas decided he would donate \$500,000 in matching donations to Clearwater Marine Science Center. Thomas made the following stipulations: 1) his participation would be kept anonymous, 2) he was not to be involved in day to day operations, 3) Clearwater Marine Science Center was to be a memorial to his son Jimmy, 4) everything must be done first class, and 5) add Sea Aquarium to the name so the public would know that it was not just a research and science center only. Unfortunately, very few if any of the five requirements listed above were kept.<sup>96</sup>

In a meeting between the board and their new benefactor, Fred Thomas made several suggestions to the direction he wanted the CMSC to go. For one, he felt that remodeling the lobby and creating a shark tank should be the priority. He also suggested that the idea for a wave simulator seemed somewhat silly. Thomas further moved that

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<sup>93</sup> Jan Kirby, "Marine Science Center Finds a Home," *Beach Life* January 1977.

<sup>94</sup> *Clearwater Marine Science Center Minutes (CMSCM)*, 01/26/1978.

<sup>95</sup> Jill Greer, "He Covers the Waterfront," *Clearwater Sun* 04/21/1981.

<sup>96</sup> *CMSCM*, 06/28/1982.

the colors of the aquarium should be green, blue, and white, and lighted signs should be placed on the roof. These were very detailed suggestions for someone not wishing to be too involved with the Center. This should not be construed as criticism but a suggestion that the opening for possible friction was occurring between Thomas and the CMSC.<sup>97</sup>

The early 1980s can be considered the glory years of the Clearwater Aquarium. In September, 1983, the city of Clearwater agreed to a new 15-year lease with the CMSC for the going rate of one dollar per year. The matching fund account had close to \$20,000, guaranteeing the aquarium a matching \$20,000 grant from Thomas.<sup>98</sup>

While still far short from their new goal of \$1.5-2 million to finish the center, finances seemed to be going in the right direction. The CMSC now had seven hundred paying members. They were listed as one of only five sites in the United States assisting in the Kemp's Ridley turtle breeding project. Big Mo, a loggerhead turtle who had lived twenty years in Pier 60, Clearwater Beach, Florida, moved to the Center providing a mascot and an entertainment attraction.<sup>99</sup> An even better "attraction", and one that would spend the next several years acting as a mascot for the entire city arrived at the Clearwater Marine Science Center in May, 1984. Sunset Sam became the first successful rescue of a beached dolphin for the center. Blind in one eye, Sam would become the CMSC's primary entertainment for the next decade and a half. Sam would also help recuperate many more dolphins stranded along the Gulf through the research accomplished examining his recovery.<sup>100</sup>

Despite these progressions, Thomas, apparently frustrated at the lack of fundraising success, along with the slow pace of following his desires, withdrew his support from the center. Out of the 500,000 promised, Thomas donated 50,000. While his letter states that he might be willing to help in the future, October 1984 is the last time Thomas's name is mentioned anywhere in the CMSC board meeting minutes.<sup>101</sup>

Despite this loss, it became obvious that the board of directors, led by William Crown III, an accountant in Clearwater, wanted to focus on expansion. Crown emerged as an important supporter of the center when he spearheaded a donation of over nineteen undeveloped acres of land located on the tip of North Clearwater Beach. The land's worth exceeded 1.7 million dollars in 1984. The hope of the citizens was that this land would remain undeveloped. If the CMSC ever tried to develop the land in any way, the land would revert back to the original owners, the Hunter family, for a little over 100,000.<sup>102</sup> The center now entered a new phase of attempted expansion. This era would lead to financial disaster, foreclosures, and near closure.

## **The Tragedy of Clearwater Aquarium**

Before Fred Thomas left the Center, the board of directors funded a study into the feasibility of a fund-raising campaign that would raise \$1,500,000.<sup>103</sup> Despite the setback

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<sup>97</sup> CMSCM, 12/08/1982.

<sup>98</sup> CMSCM, 09/28/83.

<sup>99</sup> Annette Drolet, "Great Expectations for the Marine Science Center," *Clearwater Sun* 01/13/1984.

<sup>100</sup> "No Title," *Beach Views* 05/31/84.

<sup>101</sup> CMSCM, 10/13/84.

<sup>102</sup> "Clearwater Beach Tract Precious Gift to Posterity," *Clearwater Sun* 10/01/1984.

<sup>103</sup> Annette Drolet, "Science Center Eyes Future with Help of Paid Consultant," *Clearwater Sun* 06/05/1984.

of their benefactor leaving, the board went ahead and continued their plans for expansion of the center into a top of the line \$9,000,000 regional aquarium. In February 1985, these plans slowly came to light.

First, land had to be acquired for expansion. The board entered in to negotiations to acquire the land surrounding the center. This land which would equal approximately two acres of bay front property would cost \$1,400,000. The CMSC needed collateral to make such a deal work, and for that, they would have to own the land the Center currently leased.<sup>104</sup>

For their part, the City Commissioners of Clearwater supported the plan. They voted 4-1 to provide a \$1,000,000 guarantee of loans and to sell the property to the CSMC with a catch. The voters of Clearwater would have to vote on the issue through referendum. This guarantee of \$1,000,000 proved critical in that if this project failed, the City of Clearwater would be liable for 2/3 of the loans that the Center took out for purchasing the surrounding land.<sup>105</sup> In August, the commissioners gave another gift to the center by setting the purchase price of the land at one dollar.<sup>106</sup> Crown said that the vote would decide whether the center would become a state of the art institute, or remain a sewage plant turned aquarium that could not handle what they hoped to accomplish with rehabilitation and exhibits.<sup>107</sup>

The city held the referendum on October 1, 1985. It would prove to be the high water mark of the Clearwater Marine Science Center. Voters had two decisions. One was the sale of land to the center necessary. The results were 5505 in favor and 1913 against. On the issue of should the city sell the land for one dollar: 5806 in favor, 1980 against. The overwhelming victory must be tempered somewhat. Only fourteen percent of registered voters participated. Secondly, the large majority of voters voting against the CMSC centered in the Island Estates residential subdivision. It is at this subdivision's entrance that the center sat, and expansion would certainly increase traffic flow in the area. This opposition would prove critical as events began to unfold.<sup>108</sup>

An overlooked Florida law governing land use provided the first snag. When the Memorial Causeway, the bridge connecting the city of Clearwater and Clearwater Beach was constructed, a small area of land on each side became designated as public land use. Any violation of this, and the land would revert back to the state. The Clearwater Marine Science Center sat upon this small plot of land.<sup>109</sup>

Fortunately for the center, they had received in a donation of nine acres of wetlands in Dunedin as a donation.<sup>110</sup> Offering this land as trade, the Florida Department of Natural Resources withdrew their objections. In April, the governor and cabinet approved the land swap sending the final decision to the state legislature. In early May, the state senate voted unanimously for the deal. On May 15, 1986, the state house voted 109-1 in favor of the trade.<sup>111</sup>

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<sup>104</sup> "Bright and Exciting Future for Clearwater Marine Science Center," *Beach Views* 02/14/1985.

<sup>105</sup> "City Endorses Science Center Plan," *Clearwater Sun* 05/03/1985.

<sup>106</sup> Wilma Norton, "\$1 Price Set for Center Property," *Clearwater Times* 08/18/1985.

<sup>107</sup> Wilma Norton, "It's Sink or Swim for Marine Center," *St. Petersburg Times* 09/29/1985.

<sup>108</sup> Lesley Collins, "Gleeful Supporters Swap Hugs, Cheers," *Clearwater Sun* 10/02/1985.

<sup>109</sup> "Legislature Must Lift Science-Center Land-Use Rule," *Clearwater Sun* 07/30/1985.

<sup>110</sup> Tony Doris, "No Title," *St. Petersburg Times* 01/04/86.

<sup>111</sup> Lesley Collins, "Bill on Marine Center Approved," *Clearwater Sun* 05/15/1986.

By the state legislature's vote, the plans of the board of directors had changed. In early 1986, several members of the board visited the Monterey Aquarium. It became quite obvious in the board's actions that their new desire was to replicate this institute in Clearwater, Florida. In February 1986, the Center bought yet another piece of land, this costing \$1,450,000. The Center's debt now exceeded \$3,000,000.<sup>112</sup>

In March, the board of directors "secured" the name "Florida Aquarium" for their hopeful new entity.<sup>113</sup> Hiring the advising group Laventhol and Horwath, the Board received a report that a new mega-aquarium would have a conservative visitation of 1,200,000 people per year with 1,560,000 in the first year.<sup>114</sup> To put this in perspective, an internal memo cited attendance of the Center in July 1986 as 4,460, and yearly attendance well under 100,000.<sup>115</sup>

The project called "The Florida Aquarium" would cost over fifty million dollars. This compared to the original plan of nine million. Thirty million was to come from corporate sponsors, with another twenty million to be borrowed. To fund the construction, the CMSC would mortgage the land that the city had agreed to transfer for one dollar.<sup>116</sup>

Under the board of directors led by accountant William Crown the aquarium had slid into crushing debt. The institute at this juncture was over four million dollars in debt. Land received for one dollar from the city of Clearwater now had a \$300,000 mortgage lean against it. The referendum passed and supported by the city for a \$9,000,000 expansion had been replaced by a new plan for a \$50,000,000 behemoth. Most significantly, the board of directors failed to acquire corporate sponsors. Finally, there was a \$1,000,000 guarantee of loans from the city of Clearwater set to expire in September, with no sign of renewal.<sup>117</sup>

The question becomes why would the board do this? Their hopes focused on replicating Monterey Aquarium's success. However, the Monterey Bay Aquarium was underwritten by the Packard family. A second factor that would contribute greatly to the failure of the board was that of location. Monterey, along with the majority of aquariums in this country, center around areas in need of urban development. The board of directors of the Clearwater Marine Science Center wanted to build a \$1,500,000 attraction at the entrance to an affluent, long-standing, subdivision: Island Estates. The stage was set for protest and failure.

## **The Debacle of the Florida Aquarium**

The biggest objection the Island Estates subdivision had for the new center was parking, in that there was none. There were no plans for any parking spaces provided for this new envisioned aquarium. The board's hope for parking included buying even more land on the mainland to build parking garages, and to bus people over. No set plan was in place and every board member seemed to give a different answer to the parking

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<sup>112</sup> Lesley Collins, "Science Center Step Closer to Dream with Property Buy," *Clearwater Sun* 02/15/1986.

<sup>113</sup> *CMSCM*, 03/12/1986.

<sup>114</sup> *CMSCM*, 06/11/1986.

<sup>115</sup> unknown, "None Listed," (Clearwater, FL: Clearwater Marine Science Center, 08/12/86).

<sup>116</sup> Wilma Norton, "Science Center Now a \$50-Million Proposal: New Plans Revealed for 'World-Class' Attraction," *St. Petersburg Times* 07/17/1986.

<sup>117</sup> "Aquarium Seeks Corporate Money," *St. Petersburg Times* 09/28/1986.

issue.<sup>118</sup> Perhaps one of the more baffling statements made by a board member during a meeting was that the Aquarium would not generate traffic at all. The traffic already existed, and the Aquarium would simply attract it. Considering that the board touted the economic impact of 1,500,000 **new** visitors, this statement on traffic appears both contradictory and confusing.<sup>119</sup>

A greater concern to the board of directors, was the lack of corporate interest. Florida Progress energy said no due to "...accountability to stockholders' expectation of top dollar return on investments." Coca-Cola said they would not support any brick and mortar involvement.<sup>120</sup> By the end of October, the board of directors had received eleven corporate pledges, equaling \$1500.

With the lack of renewal of the \$1,000,000 guarantee of loans by the City of Clearwater, the board of directors seemed ready to give up on Clearwater. On November 12, 1986, the board held a meeting on the subject that proved venomous towards the city of Clearwater. Failure to acquire corporate sponsors was blamed on the lack of support by the city of Clearwater. One quote described the "...negative groundswell from Island Estates, together with a city administration upon whom we cannot rely, it is imprudent to proceed at this point...The bottom line is it is unfortunate for the City of Clearwater." Perhaps even more critical to their withdrawal. they were already talking to someone else.<sup>121</sup>

Discussed at the same board meeting mentioned above, were several meetings between members of the board and Harbour Island, a commercial project in Tampa. The minutes state "It is the recommendation of the Executive Committee that the Florida Aquarium NOT be located on Island Estates...We are enthusiastic about the attitude of Harbour Island...felt to be a perfect marriage possibility." The board of directors believed that a deal with Harbour Island would be agreed upon very soon. Important to note is the reiteration that the "prime responsibility" of the board was to the Clearwater Marine Science Center. This would be debatable as events played out. Even more debatable was the decision by the board that no mention of any information concerning a potential deal with Harbour Island should be released.<sup>122</sup>

Indeed three days later Crown states in the *St. Petersburg Times* that he had talked "briefly" with the president of Harbour Island, *but that no serious discussion had taken place*. This despite the fact that the board of directors, which William Crown was president of, had just voted to pursue the Harbour Island location and the withdrawal from the Island Estates location.<sup>123</sup>

## **An Ugly Divorce**

By this juncture, the relationship between Island Estates and the Clearwater Aquarium board had grown rancid. At a town meeting, residents jeered William Crown when he spoke. One resident stated "I feel like he's lost credibility. This project just

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<sup>118</sup> Wilma Norton, "Aquarium Still Faces Problem with Parking," *St. Petersburg Times* 08/22/1986.

<sup>119</sup> *CMSCM*, 10/21/1986.

<sup>120</sup> *CMSCM*, 10/20/1986.

<sup>121</sup> *CMSCM*, 11/12/1986.

<sup>122</sup> *Ibid*.

<sup>123</sup> Kathy Subko, "Clearwater Loses out on Florida Aquarium," *St. Petersburg Times* 11/15/1986.



jumps from one thing to another.”<sup>124</sup> William Crown’s response proved equally if not even more critical. Reporting to the board, he suggests about the crowd, “They were uninformed, unfair, emotional, inflammatory, jaundiced, prejudiced, one-sided presentations made by some short-time residents who had no knowledge (nor did they care to learn) of what we are doing.” Also mentioned the issue of funds, or lack thereof: “...we are \$10,000 short for the December 1(1986) pay day.” Considering the relationship with the people of Clearwater, money would be very hard to come by.<sup>125</sup>

This would not be William Crown’s problem. In March, he took over the newly formed Florida Aquarium Board, and on April 9<sup>th</sup>, 1987, the boards agreed to split entirely, with the understanding that financial compensation would be coming to the Clearwater Marine Science Center in due time.<sup>126</sup>

The Clearwater Marine Science Center board, now under the leadership of Steve Carlisle, turned to the city for help. They asked for a new \$1,000,000 loan guarantee from the city commissioners, which, if the CMSC defaulted, the banks would turn to the city for reimbursement. The pros for the center were obvious in that an extension on their loans would free up funds to begin renovations on the aging building that had begun falling apart. The pros for the city appeared to very little, considering the center’s recent credit history.<sup>127</sup>

Indeed the City Commissioners announced they would not back the loan without more knowledge of the risks. Commissioner Lee Regulski pointed out the over \$800,000 in *interest* had already been accrued. There were few commissioners who felt the Center could handle their debts, thus putting the city on the hook.<sup>128</sup> The Board cancelled their loan request due to the belief they would not get it.<sup>129</sup>

Mortgages on the properties acquired now came due. The bank foreclosed on the Seaspire property and auctioned it off. The auction amount, not fulfilling both mortgages on the property, forced the board to settle for \$120,000 and a sail boat. Two additional mortgages came due with no hope to pay them. Hopes that the Florida Aquarium would work out a deal that would include the mortgages were shattered, and with that, the boards voted to end any dual memberships between CMSC and the FMA. It was promised that the Clearwater Marine Science Center would become “...the research and rehabilitation arm of the Florida Aquarium...”<sup>130</sup> This would never happen.

Meanwhile, the Florida Aquarium board announced that they would build in the Tampa located Harbour Island development. The location had been under debate as both St. Petersburg and Tarpon Springs bid on the site. Crown announced the decision, citing an extra \$1,000,000 donation from an unnamed source.<sup>131</sup> Six days later it was discovered that Crown had “misspoke”, and that the \$1,000,000 was “available” but not technically a donation, causing uproar among the city boards of St. Petersburg and

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<sup>124</sup> James Machan, "Center Making Waves," *Clearwater Sun* 11/19/1986.

<sup>125</sup> *CMSCM*, 11/25/1986.

<sup>126</sup> *CMSCM*, 04/09/1987.

<sup>127</sup> Marty Youmans, "City Leery About Science Center Loan"," *Clearwater Sun* 05/05/1987.

<sup>128</sup> Marty Youmans, "Commissioners Think Twice About Backing Center's Loan," *Clearwater Sun* 05/08/1987.

<sup>129</sup> Carl Goldfarb, "Science Center Kills Loan Request," *Tampa Tribune* 05/20/1987.

<sup>130</sup> *CMSCM*, 06/11/1987.

<sup>131</sup> Paul L. McGorrian, "Tampa Will Get Aquarium," *St. Petersburg Times* 06/13/1987.

Tarpon Springs. This was only the beginning of this board's funding problems, again led by accountant William Crown III.

### **As if there were not enough problems...**

Sunset Sam, the mascot of the aquarium became the center of a battle for his release. Richard O'Barry, the dolphin trainer for the famed television show *Flipper*, wanted Sam moved to his rehabilitation area in Key West suggesting the dolphin's tank was too small and allowed for only one, keeping him alone. O'Barry felt that even though Sunset Sam was blind in one eye, he could eventually be released into the wild, something the CMSC, still led by Dennis Kellenberger, argued vehemently against.<sup>132</sup>

The U.S. Department of Agriculture after an on-site inspection announced that Sam's tank was too small, and needed sunlight to meet federal regulations. The cost of such renovations would run \$60,000, an enormous amount for the cash-strapped center.<sup>133</sup> This set of bad news would gain the CMSC some much needed good publicity, as Sunset Sam was considered by many to be Clearwater Beach's mascot and in turn suggests the importance of both having a rehabilitation and entertainment influence over the surrounding community. Without which, Sunset Sam would never have caught the hearts of thousands of visitors. By the end of 1987, the \$60,000 had already been raised, providing a victory for the center.<sup>134</sup> Federal officials announced that Sunset Sam could stay at the Science Center.

Raising \$60,000 was one thing, raising \$2,250,000 for the mortgages coming due proved quite another. The First Florida Bank auctioned off the remaining properties minus the center itself.<sup>135</sup> Of more pressing concern, the \$600,000 loans against the science center. Barnett Bank agreed to renew the mortgage note through the end of the year at a nine percent interest rate, with the condition that the \$500,000 the Florida Aquarium had promised Clearwater would go directly to the bank.<sup>136</sup>

The Center became embroiled in yet another dogfight concerning the donated lands of North Clearwater Beach. The issue at stake revolved around the dredging of Dunedin Pass, which if allowed by the center to happen, the Hunter family argued, would void the donation contract and the land would revert back to the family.<sup>137</sup> The original contract filed with the Clearwater Clerk of Courts called for the preservation of the North pass...Dunedin was the South Pass. The Hunters stood to gain over nineteen acres of North Clearwater Beach Land for \$110,000 plus property taxes billed to the CMSC from 1981-83.<sup>138</sup> This issue would last for almost four years until the center agreed to sell the

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<sup>132</sup> Kenwyn Caranna, "Sunset Sam Center of Struggle," *Clearwater Sun* 10/01/1987.

<sup>133</sup> Lynn Afendoulis, "Sunset Sam's Tank Too Small To Meet Federal Regulations," *Tampa Tribune* 10/09/1987.

<sup>134</sup> Paulita Kincer, "Dollars Pouring into Marine Center for Sunset Sam's Expanded Tank," *Tampa Tribune* 12/17/1987.

<sup>135</sup> *CMSCM*, 04/19/1988.

<sup>136</sup> *CMSCM*, 07/14/1988.

<sup>137</sup> Harry S. Cline, 01/19/1990.

<sup>138</sup> Clerk of Courts, "Hunter/Clearwater Marine Science Center Agreement," ed. Clerk of Circuit Courts (06/14/1983).

land back to the Hunter's for the \$110,000, far less than the actual value, but needed desperately by the still cash strapped institute.<sup>139</sup>

The Florida Aquarium board announced that they would not be building in Harbour Island, citing, of all ironies, the lack of parking available. The aquarium now had the support of the Tampa City Commissioners who would eventually pass an \$84,000,000 bond to pay for it to be built at the Port of Tampa, now known as Channelside. The issue for the Clearwater Aquarium was the \$500,000 long promised by the Florida Aquarium board which now appeared would be delayed yet again. The Taylor family, long supporters of both institutes agreed to split their \$1,000,000 gift to the Florida Aquarium with the Clearwater Marine Science Center. This would be paid in yearly installments, and be a much needed boost to the center.<sup>140</sup> By the end of 1995, the mortgage for the now named Clearwater Marine Aquarium (CMA) had been whittled down to the very manageable \$65,927.<sup>141</sup>

### **9/11, Infighting, and Hurricanes**

As the Clearwater Marine Aquarium entered the 21<sup>st</sup> century, it appeared a corner had finally been turned. The press from the rehabilitation work the aquarium accomplished helped rebuild public opinion. Running Pinellas County's program on monitoring sea turtle nesting areas led to over ten thousand hatchlings being hatched and released in September, 2000.<sup>142</sup> By January of 2001, estimated attendance exceeded 100,000 with a membership of 2,500 and over 250 volunteers at their disposal. Unfortunately, the terrorist attacks on September 11<sup>th</sup>, 2001, along with the death of Sunset Sam in December, 2001, led to a devastating financial year in 2002.<sup>143</sup>

By June 2002, revenues were down 25% over 2001. Membership also decreased from 2,500 to 2,245.<sup>144</sup> To make matter worse, infighting threatened to tear the aquarium apart between the Board of Directors, the newly formed Clearwater Aquarium Foundation, and the long time director of the aquarium, Dennis Kellenberger. This infighting led to his ouster, the foundation dissolving, and being taken over by the board of directors.

The first sign of infighting occurred in March 2000 in a letter from the Dennis Kellenberger to the Board of Directors. In it he writes:

Sometimes a board that is overly active in management and day-to-day operations can inhibit the organization's effectiveness. Many of us experienced this problem during the Florida Aquarium days...CMA Board of Directors needs to evaluate itself to insure that individual members involved in the day-to-day operations of CMA do not overstep Board boundaries...stay focused on governing and let staff manage...should not be involved in day-to-day affairs. Board members do not have the power or authority individually.<sup>145</sup>

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<sup>139</sup> *CMSCM*, 06/23/1994.

<sup>140</sup> *CMSCM*, 04/19/1990.

<sup>141</sup> *Clearwater Marine Aquarium Minutes (CMAM)*, 12/07/1995.

<sup>142</sup> *CMAM*, 09/28/2000.

<sup>143</sup> *CMAM*

12/27/2001.

<sup>144</sup> *CMAM*, 06/27/2002.

<sup>145</sup> Dennis Kellenberger, 03/30/2000.

It would appear that Kellenberger feels that the lines of authority were being blurred.

A foundation board designed to help organize the Aquarium's fundraising formed. By December 2002, disputes were forming between the board of directors and the foundation over the right to look at the CMA's books.<sup>146</sup> At a joint meeting between the boards, the issue of creating term limits for the board, and the combining of the two groups were argued.<sup>147</sup> Board members began resigning left and right. Also passed, an act restraining the aquarium director (Kellenberger) from spending any amounts over \$10,000 without board approval.<sup>148</sup> By September 2004, none of the board members had served longer than three years.

In April 2003, it became obvious how much trouble the Aquarium was in. Without money for new entertainment attractions, attendance was up 28% over 2002, but those numbers, based on the virtually zero visitation of 2002 were "dismal at best."<sup>149</sup> The board of directors capped all salaries, and instituted a hiring freeze.<sup>150</sup>

Two months later, Dennis Kellenberger "retired" from the aquarium. Clearwater Mayor Brian Aungst suggested that "...maybe they need someone who's a little more business-oriented in there running it." The *Clearwater Times* cited a 150,000 budget shortfall since 9/11 as one of the key reasons for the move. Kellenberger was given six months severance for this retirement. It should be noted that Kellenberger was certainly not happy with the moves by the board of directors, or they happy with him.<sup>151</sup>

Dale A Schmidt became the new director in November. Schmidt had spent thirteen years with Busch Gardens, and nine with the Florida Aquarium as Vice-President of Operations. He would last less than a year. His frustrations can be seen very soon with a letter to the Board dated August 26, 2004. In it he writes "The Board should allow the Executive Director to manage the aquarium and not interfere."<sup>152</sup> This seems to be remarkably similar to Kellenberger's complaints.

Hurricane Jeanne tore off a chunk of the aquarium's roof costing close to \$12,000. The CMA's insurance deductible far exceeded this amount, leaving the institute to pay the bill. To make matters worse, the aquarium had to close for several days. Revenue losses at this point year-to-date were exceeding \$100,000.<sup>153</sup>

Less than a month later, Dale Schmidt left for the Oregon Coast Aquarium. Ironically he had been in talks with the Oregon institute *before* he accepted the job at Clearwater. At the time the OCA was not hiring...as soon as they were, Schmidt left.<sup>154</sup>

To date, a new director is now in place with a strong business background. It will be interesting to see if this new director will be able to turn around the financial straits of Clearwater Marine Aquarium.

## Conclusions

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<sup>146</sup> *CMAM*, 12/19/2002.

<sup>147</sup> *CMAM*, 01/16/2003.

<sup>148</sup> *CMAM*, 02/27/2003.

<sup>149</sup> Dennis Kellenberger, 04/24/2003.

<sup>150</sup> *CMAM*, 04/24/2003.

<sup>151</sup> Jennifer Farrell, "Marine Aquarium Chief Steps Down after 25 Years," *Clearwater Times* 06/21/2003.

<sup>152</sup> *CMAM*, 08/26/2004.

<sup>153</sup> Terri B. Reeves, "Storms Draining Aquarium's Finances," *St. Petersburg Times* 10/16/2004.

<sup>154</sup> Katherine K. Lee, "Aquarium Director Quits for Position in Oregon," *St. Petersburg Times* 10/30/2004.

The Clearwater Marine Aquarium's main focus of rehabilitation became their financial downfall. The good publicity that rehabilitation tends to bring in was overridden by the terrible press received during the Florida Aquarium fiasco. Education programs, while having existed throughout their history, also proves to be a very low source of funding. Research never became a viable choice due to poor facilities. This left entertainment as their main hope/thrust for financial security.

The original \$9,000,000 plan of the early 1980s would have provided for a regional aquarium with rehabilitation at its core, but a strong entertainment program to provide funding. When this plan fell through, any hopes of serious expansion of the facility ended. This lack of ability to expand and change their entertainment appeal has led to the financial failings of the institute as a whole.

The Clearwater Marie Aquarium has had a history unlike any other I have had the opportunity to visit/study. There is still an extensive history to be uncovered here within their remarkable rehabilitation experiences. For this study, it is my hope that aquariums may look at CMA's history to better understand the potential mistakes that can be made, and learn from them to better plan their financial future.

## MOTE MARINE LABORATORY: AN EXAMPLE OF SUCCESS

Located in Sarasota, Florida, Mote Marine Laboratory has developed from a one room trailer in 1955 into one of the premier marine laboratories in the world. By studying the history of Mote, we can understand how marine labs and aquariums in general should be studied here in the United States. In researching the history of the laboratory, it becomes apparent that as the institute became multi-faceted, its economic strength and impact on its surrounding society grew. Mote Marine Laboratory's history can be divided into four time periods and this chapter will analyze these sections within them. The end result will show that with the ability to develop all four focuses of aquarium study, Mote Marine Laboratory grew stronger both financially and within the community standing.

Previous research concerning Mote's history revolves around in-house studies. Mote Marine Laboratory's early beginnings have been touched on by Dr. Eugenie Clark's *The Lady and the Sharks*, as well as Donna Johnson's in-house study: *The Perry Gilbert Era: 1967-1978*.

### Cape Haze Marine Laboratory 1955-1960

Cape Haze Marine Laboratory had its beginnings through the examples of the Marine Biological Station located in Ghardaqa, Egypt. During 1950-51, Dr. Eugenie Clark, already a well known and respected author and ichthyologist traveled to this station, located near Cairo, for research as a Fulbright Scholar. Her descriptions of the lab were remarkably similar to what Cape Haze would become. It contained an "...office building, library, museum, engine house, and cottages for visiting scientists...you can dive off the pier into the clear blue open sea...and in a few strokes find yourself in an infinite aquarium...This was my workshop." At this point, the idea of creating such a lab in such a model was far from Clark's mind. She could not have imagined that she would be the beneficiary of a prominent philanthropist family.<sup>155</sup>

Anne Vanderbilt, husband of William Vanderbilt read Dr. Clark's book *Lady with a Spear* and the description of the lab in Ghardaqa fascinated her. At the same time William and his brother Alfred were developing a new development in Placida, Florida called the "Cape Haze Development." Florida real estate in the 1950's was not the real estate market it is today, and sales were slow. The Vanderbilts were looking for a marketing pull that would bring culture to the area and help sales. With Anne Vanderbilts love for aquariums and the entire families love for the ocean in mind, Clark was invited down in late 1954 to give a talk on local fishes.<sup>156</sup>

After her talk, which was conducted at a local public school in Englewood, Florida, the Vanderbilts offered Clark the chance to develop a marine lab and be its director. Clark describes the offer as a tremendous opportunity. This should not be understated. Even today it is rare for a director of a science institute to be a woman. In 1955 this was unheard of and is truly significant. Also important to note is the risk Clark took by taking the offer. Her current occupation was as a research associate at the American Museum of Natural History, a prestigious assignment in of itself. Several

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<sup>155</sup>Dr. Eugenie Clark, *Lady with a Spear* (New York: Harper and Brothers, 1953), 174-79.

<sup>156</sup>Dr. Eugenie Clark, *The Lady and the Sharks* (Sarasota, Florida: Mote Marine Laboratory, 1990), 2.

previous labs in Florida, including the Bass Biological Station had succeeded for a while, but eventually failed. Clark chose the risk and in January 1955, Cape Haze Marine Laboratory opened.<sup>157</sup>

Cape Haze Marine Laboratory began as a 12x20 foot small wooden trailer with a sink and shelves. The site had a dock, and the Vanderbilts provided a twenty-one foot boat named *Dancer* after one of their race horses. Cape Haze began as and is still primarily a research institute. Clark describes her main research thrust as "...my first basic job would be to begin identifying the local fishes and ultimately to publish my findings." The day after opening, the lab would receive a call that would begin research on what the lab is best known for today: sharks.<sup>158</sup>

The call was from the director of the New England Institute for Medical Research, Dr. John H. Heller. Conducting research on cancer and cholesterol, Heller was in the area trying to catch sharks, known for their ability to not get the disease. Having little luck, and hearing of the lab, he asked if Clark could help them try and catch some sharks. With the help of local fisherman and staff member Beryl Chadwick, a shark expedition was conducted in the Gulf of Mexico.

To capture the animals, the crew cast a 300 foot  $\frac{3}{4}$  inch fishing line which had been spliced into sixteen loops. Each loop contained a hook, and on each hook a side line. The side line had six feet of rope attached, followed by three feet of chain, and then a  $2\frac{1}{4}$  inch steel hook. On each side of the main line was a forty foot line with a float attached. The hooks themselves were baited with mullet. The next day, two Dusky Sharks were found hooked, and were taken back to the lab where they were promptly dissected.<sup>159</sup>

Catching animals from research back in the 1950s was far different than it is today. If you needed a shark, you simply went out and caught one. Ocean conservation was in its infancy and the lab would play a prominent role in its development but at this juncture, shark populations were not of major concern. Also, Cape Haze had been opened less than a month yet already attracted attention and helped conduct research with prominent scientists throughout the country.

Shark catching soon led to the idea of keeping sharks live for research purposes. Clark had been interested since college in the study of abdominal pores and their functions in sharks. This seemed the next logical step as the lab was, with the purchase of a meat scale, keeping records of large sharks that they caught, information that was rare at this time. The Vanderbilts funded a 40x70 foot pen which would house several species of sharks. Early issues with captivity included red tide, since water was pumped in from the waters around the institute, and temperature control.<sup>160</sup>

By the end of 1955, the lab was flourishing. The building itself had been divided into four rooms to house a burgeoning collection of local fishes, an aquarium room, an office and file room, and a library. A long tradition of educating the community began during the summer when several children from the area came to visit. With the

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<sup>157</sup> "Marine Laboratory Will Be Opened at Placida in January," *Sarasota Herald-Tribune*, 12/17 1954, 20.

<sup>158</sup> Clark, *The Lady and the Sharks*, 10-11.

<sup>159</sup> *Ibid.*, 11-14.

<sup>160</sup> *Ibid.*, 18-21.

announcement of the lab opening in several science journals, scientists began visiting Cape Haze, twenty-eight by the end of the year.<sup>161</sup>

Two years later the lab had expanded to two buildings. The library now had over five-hundred bound volumes and 3000 reprints and journals. Lab space could be rented by visiting scientists for one dollar a day or five dollars for a week. The purpose of the lab as stated in a 1957 annual report: "Purpose is to encourage and develop the study of marine biological sciences and related subjects through scientific research...exchange of scientific information and dissemination of information to the public by way of exhibits, displays, lectures, and other public programs." The educational program would grow from this point on providing an important link with the surrounding society of Sarasota, Florida.<sup>162</sup>

Several shark papers were being published with the research being done through Cape Haze. This included such prominent journals as *Nature* with findings on shark livers and their shark content and shark conditioning experiments by Clark published in *Science*. By 1960, the lab thrived. However, growing pains were on the way.

### **Cape Haze Marine Laboratory 1960-1967**

Cape Haze moved from Placida to Siesta Key in the winter of 1960. There were two elements for the move. One, Clark had moved to Sarasota, and the commute to Placida was over an hour. Dealing with a personal issue of her mother's death and the combination of the distance, Clark wrote a letter of resignation to the Vanderbilts. They refused, instead offering time off and the suggestion of the move to Siesta Key. The other major element came in the form of an announcement that the pathway for the Intercoastal Waterway would pass right next to the lab. The boat traffic caused by this had the potential of seriously disrupting research in and around the lab.<sup>163</sup>

By 1961 Cape Haze had clear goals in place with research being at the top. Their order of priorities were as follows: "1) Research by its own staff. 2) Making available facilities for work by visiting scientists. 3) Publication in scientific journals of work done. 4) Exchange of information with other scientific bodies. 5) Dissemination of information to the public." Education was the bottom priority, with rehabilitation programs and entertainment areas not listed at all, which is to be expected since the lab was a dedicated scientific research center. Any educational programs focused on visits from local schools in the area and continued summer programs.<sup>164</sup>

The growing pains mentioned above were of a financial nature that many independent research institutes have faced and caused several to fail. The lab received several grants from the National Science Foundation providing funds for the move, and a new 36-foot boat named *Rhincodon*. The Vanderbilt's had more than doubled their yearly contributions, and the lab was paying \$100 a year for their 8½ acres due the

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<sup>161</sup> Ibid., 39-42.

<sup>162</sup> "The Cape Haze Marine Laboratory, 1957," *Collected Papers from Cape Haze Marine Laboratory 1 1957-1963* (1963): 3-5.

<sup>163</sup> Clark, *The Lady and the Sharks*, 191-93.

<sup>164</sup> "Current Research at the Cape Haze Marine Laboratory and Reports for 1955-1961," *Collected Papers from Cape Haze Marine Laboratory 1* (1963): 3-11.



generosity of Palmer Estates, and the work of real estate agent Elizabeth Lambie. The problem came in the actual running and maintaining of the institute.

Income is perhaps the most significant contribution an entertainment area of a marine lab/aquarium provides. Today, visitors at aquariums pay upwards of fifty dollars for entry. The publicity and memberships from such an addition of entertainment can provide a huge boost in revenue. Cape Haze in the 1960's simply did not have this. While there were memberships available to the public, the numbers were few and hardly making an impact on the lab's financial screen. For a time, Clark gave up her salary to help keep the lab going. The Vanderbilts, having moved north, also took with them their most of their financial support for the lab.<sup>165</sup>

With the Vanderbilts leaving, and Clark preparing to move to the University of Maryland to take a teaching position, the lab needed new blood. Two persons entered the picture that would influence Cape Haze for years to come: William Mote, and Dr. Perry Gilbert.

### **Mote Marine Laboratory 1966-1978**

William Mote filled the financial gap left by the Vanderbilts leaving being named director of the board for the lab on September 15<sup>th</sup>, 1966. Mote was a transportation magnate who had made his fortune in New York City before coming back home to Florida. Always interested in the ocean and its wildlife, and having shifted from being an avid fisherman to a conservationist, Mote was eager to start his own marine lab/aquarium. Hearing of their financial predicament, he switched plans from building one of his own, to supporting Cape Haze.<sup>166</sup>

Two temporary directors served in Clark's absence: Dr. Sylvia Earle, and Dr. Charles Breder Jr., until on July 1, 1967, Dr. Perry Gilbert took over permanently. The position was supposed to last originally for one year. It ended up lasting eleven. Gilbert came from Cornell University where he would continue to teach up until 1978. These ties with the university helped further develop the newly named Mote Marine Laboratory which as of 1968, was named after their new benefactor.<sup>167</sup>

One of Gilbert and Mote's first actions, occurring before the new director took over, occurred in February 1967. An Ad Hoc Advisory Committee was formed including scientists from all over the United States. Their goal was to plan out the future of the lab. The result of this meeting can be seen as the blueprint for Gilbert during his time with Mote Marine Lab. The lease with Palmer Estates was extended until 1978, with a severe increase in rent (from \$100 to \$3600 per year), and the lab was now responsible for the taxes on the land, which would only increase as the lease went on.<sup>168</sup>

Gilbert considered the blueprint to be a twenty-five year plan for the institute. The lab would be medium sized, and affiliated with several first tier educational

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<sup>165</sup> Clark, *The Lady and the Sharks*, 194-98.

<sup>166</sup> "New Board of Directors Named," *Cape Haze Marine Laboratory Quarterly Newsletter* September 1966, 1.

<sup>167</sup> "New Director Named," *Cape Haze Marine Laboratory Quarterly Newsletter* March 1967, 1.

<sup>168</sup> Donna Johnson, *Mote Marine Laboratory: The Perry Gilbert Era 1967-1978* (Sarasota, FL: Mote Marine Laboratory, 1990), 7.

institutions. The lab remains an independent entity. Four long term research programs would be developed:

- 1) "...biomedical that involves the use of marine animals and plants for the solution of problems related to human health"  
This was the research primarily concerning sharks.
- 2) "...program dealing with the basic bio and behavior patterns of sharks with attention to methods for protecting man and his gear in shark-infested waters." This would be Dr. Gilbert's pet project throughout his time at the lab.
- 3) "...bioacoustics program with emphasis on sound production and the "language of bony fishes." Visiting researcher Dr. William Tavolga would do several projects relating to this topic including several papers on catfish.
- 4) "...long-term ecological study of the Charlotte-Island Harbor-Pine Island Sound Estuary."

This proved possible with land donated by William Mote to the lab.<sup>169</sup>

The focus continued to be research. There were the first plans for a concentrated conservation effort by the lab. In the next several years conservation grew to become a major part of Mote's mission. Despite not being listed on the long term plans, educational programs continued for many visiting students, including for the first time docents hired to conduct tours. As the lab progressed these programs steadily rose in importance.

During the eleven year period in which Perry Gilbert was director of Mote, the lab was quite productive, and included 166 dissertations. This chapter examines two, one gives us a fascinating retrospective on how the public looked at sharks during the 1960's and 70's, and the second, which has become one of the most important research projects that the lab works on today: Red Tide.

Gilbert had researched sharks before coming to Mote, and would continue once arriving, to work on shark deterrents. With funding from the Office of Naval Research, the lab built a number of shark pools to conduct research on this topic. One such deterrent included the idea of training a dolphin named SIMO which is Greek for blunt nose. SIMO was eventually let go back into the wild after tests proved inconclusive. Another deterrent to arise from the program was the gas dart, which astronauts on Apollo 15 were equipped with for their re-entry.

Along the same lines, Captain H. David Baldrige worked on assignment from the Navy with Mote on compiling reasons for shark attacks. Captain Baldrige's work was published as "Shark Attack against Man: A Program of Data Reduction and Analysis." These programs indicate a strong focus on protecting human beings from sharks. As the years would pass, this would reverse as the lab would start work on how to protect sharks from humans.<sup>170</sup>

On June 8<sup>th</sup>, 1971, Mote Marine Lab declared war against red tide. Red tide had been and continues to be a problem for the Florida gulf. The same year of the lab's creation, a scientist from the U.S. Fish and Wildlife Service, Albert C. Collier, stated that the problem of red tide would be solved in three years. The lab had conducted several

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<sup>169</sup> "MML: Present and Future," *Christmas Newsletter* (Christmas 1969): 1-3.

<sup>170</sup> Johnson, *Mote Marine Laboratory: The Perry Gilbert Era 1967-1978*, 9-11.

experiments into red tide including displaying the organism in 1957. It was June 8<sup>th</sup> that would make it an intense focus for the institute, which remains today.<sup>171</sup>

During this time period, the lab pumped in their water from the surrounding gulf waters. In April of 1971, a red tide bloomed, however it remained out to sea. On June 8<sup>th</sup>, the red tide was blown inland, and moved into the Mote Lab tanks. The result was devastating. Eight large sharks were killed in one night. Nearly all of the other animals in the tanks were also killed. Several research projects, including Tavalga's catfish studies were stopped in its tracks. It was not until the middle of October when the lab began operating as normal again.<sup>172</sup>

Studies conducted by Eugene Habas began into the economic impact of red tide. A joint research program with the University of South Florida on the existence of red tide started. Grants came in as high as \$60,000 to help support the research. To this day, Mote Marine Lab is perhaps the most prominent red tide research station in the world.<sup>173</sup>

With the backing of William Mote, the lab grew in importance to the surrounding community. Conservation development was in full swing both with red tide damage studies and the work being done in Charlotte Harbor. Education programs continued in terms of visiting students, summer programs, tours, and volunteers. Without a "draw", guest visitation remained low. In 1971's Christmas newsletter, Gilbert wrote that the number of visitor were approaching 1000. In 1974, the number was 700. This number would balloon as the lab prepared to move once again, this time from Palmer Estates to City Island, both within Sarasota.<sup>174</sup>

There were three reasons for the move to City Island. The first, with the growth in scientists and research being conducted at the lab, a bigger working space was a necessity. The second, and perhaps more pressing, the Gulf of Mexico was on pace to swallow the lab. If visits the old lab site today, you would see little but the edges of tanks poking out of the water. The third reason was financial. As written earlier, the lease renewal terms with Palmer Estates, hardly favorable with the booming land tax bill, neared expiration. Neither side desired to renew on these same terms. The question became where to move?

The obvious solution was the 20-acre site in Placida. For one it would move the lab back to its roots, and two the land was donated to the lab earlier by William Mote. Therefore there would be no worries of having to renew a lease. The Doherty Foundation offered a \$200,000 matching grant for the building of the new lab. One of the downsides to this move would be the commute the staff would have to make from Sarasota. Placida still was a sleepy town. This certainly seemed to be the best option.<sup>175</sup>

The situation changed with an editorial by Jim Neville in his editorial column the Meander Line on October 12<sup>th</sup>, 1975. Having spoken to Gilbert the previous day, and hearing of the move, Neville "answered" a letter from a concerned citizen regarding the move. In it Neville states "...word comes to us that some hospitable folks in the south county are now in the process of hanging out the welcome sign...Mote has earned a high

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<sup>171</sup> "Red Tide Control Seen within 3-Year Period," *Sarasota Herald-Tribune*, 01/06 1955, 1-2.

<sup>172</sup> "Red Tide Summer," *Christmas Newsletter* Christmas 1971, 2-3.

<sup>173</sup> ""Selby Foundation Announces \$60,000 Grant to Help Continue Red Tide Research Program" " *MML News* May 1973, 1.

<sup>174</sup> "Members' Briefings," *MML News* April 1975, 6.

<sup>175</sup> Johnson, *Mote Marine Laboratory: The Perry Gilbert Era 1967-1978*, 21.

place amongst us as a public benefactor...thought you'd like to know so that you can do something about it." The reaction by the city and the city government seems to show just how important both considered Mote Marine Laboratory to the success of the city.<sup>176</sup>

By February 1976, Sarasota's city Commissioners voted without a dissent to grant Mote Marine Lab a 50-year lease for a four acre plot on City Island for \$1 a year. Arvida Corporation leased another 2½ acres to provide ocean access with the same terms as above. The Doherty Foundation agreed to move the grant from the Placida site to the City Island site. With the lab's future secure, Perry Gilbert retired in 1978 to focus on research and teaching. Like Eugenie Clark before him, he left a firm foundation that the next director would build on.<sup>177</sup>

### **Mote Marine Lab 1978-1984**

Dr. William Taft, director of research and graduate studies at University of South Florida, replaced Gilbert. Taft would oversee a huge increase in the development of both the education and entertainment realms of the lab while also keeping the same high standards for research. Several key scientists would be hired during this time period who now lead research sections today.

The first major difference with the new Taft administration was the new surroundings. The new lab building, designed by architect Arthur Mead, had two stories, three wings, and consisted of 9600 square feet of space. More importantly for the eventual development of a public aquarium of the lab was the second phase design. This would be "...a Marine-Science Education center housing a Members' Room, exhibits, and an auditorium for special programs to open to the public."<sup>178</sup>

A major entertainment attraction to the lab, a marine science center, opened October 18, 1980. It featured what would be considered in today's standards a very minor display of aquarium tanks and fish specimens, along with a fascinating look into laboratory work being done. The impact on this display was enormous in terms of visitors and memberships. From October 1980 to April 1981, 7,500 visitors entered the science center. In 1974 the total number for the year was 700 visitors. By June of 1981, the number of visitors increased to 10,000, by Labor Day 17,000. From October 1980 to March 1981, 252 members joined the lab. By adding this attraction, the pure volume of persons coming to and learning about the lab had increased exponentially.<sup>179</sup>

Concerning the development of the education program of the lab, Dr. Taft was quoted saying "I believe the Laboratory must play an educational role in this community. Not only must we educate the community's adults concerning the value of our marine environment, but we must also play a role in developing the next crop of marine scientists." To do this one major program was increased tremendously, and another was created. The first, a Marine Summer Camp, always a tradition at the lab since the first year of operation, would develop students to, as Taft suggested, become marine scientists. The second program, known as Mondays at MOTE!, promoted increased contact between the lab's researchers and the citizens of Sarasota. Starting in 1980, to

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<sup>176</sup> Jim Neville, "Meander Line," *Sarasota Herald-Tribune*, 10/12 1975, 3F.

<sup>177</sup> Johnson, *Mote Marine Laboratory: The Perry Gilbert Era 1967-1978*, 21-24.

<sup>178</sup> "MML New Facility Planned," *MML News* April 1976, 1-2. Note MML!

<sup>179</sup> "Summer '81 at MML's Marine Science Center," *MML News* Fall 1981, 7.

coincide with the creation of the science center, a lecture was given by researchers each Monday, and included such topics as sharks, the tides, and one of the most popular ever given, on why mullets jump, an impromptu lecture describing the fish's habit to jump out of the water.<sup>180</sup>

Once again it is safe to say that you could write over a thousand pages just on the research done during the tenure of Dr. Taft. The output and hard work the researchers at Mote put in during this time is remarkable and would carry on to the next section of the lab's history and in which this chapter will now go in-depth.

### **Mote Marine Laboratory 1984-present**

In the fall of 1984, Dr. Robert F. Dunn was named director of Mote taking over for two interim directors Dr. Pierce, and Dr. Kumar Mahadevan. Dunn, an associate professor of medicine at University of Pittsburgh left one year later, with Dr. Mahadevan taking over the role permanently. Under Dr. Mahadevan, who originally came to the lab in October, 1978, the lab has undergone an unprecedented growth in all sections, including entertainment with the addition of new aquariums, new classes for education as well as a traveling classroom, a Marine Mammal Rehabilitation Center, and research on all fronts.

When Dr. Mahadevan took over in 1986, Mote underwent somewhat of a turning point. Dr. Dunn served one year, compared to the numerous years served by his predecessors. One of the most important elements of having a successful museum, lab, zoo, aquarium, or business for that matter, is to have stable director with a plan for the future. Dr. Mahadevan, and the associate director Dr. Richard Pierce presented what they felt were the shortcomings, and the needs for the lab. These included a dependency on contracts and grants which distracted both the staff and got in the way of long-term planning, a need to upgrade equipment and facilities, the need for more PHD scientists, funding for the early stages of new projects, the need for more funding for peer development and research, and the need for more funding to provide research and information to the public. The bottom-line for each of these issues revolved around the need for more funding.<sup>181</sup>

Dr. Mahadevan and Dr. Pierce suggested a five-year plan with three points. These points included an increase of unrestricted contributions, the addition of five new scientists to the staff, and to upgrade the science center to boost the lab's image. Their plan worked with aplomb.

On October 23, 1988, a brand new 135,000 gallon shark tank opened at Mote. For the first time since Siesta Key, the lab now had the capabilities to handle 6-8 feet in length sharks, and allowed the public to view them. The tank was built primarily for research purposes. Nevertheless 22,000 people showed up on the first day. With the opening, membership with the lab almost doubled from 1500 to 2800. The increasing of the entertainment attractions of the aquarium helped build awareness and fund the research going on.<sup>182</sup>

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<sup>180</sup> "New! Monday Nights at Mote," *MML News* Winter 1980, 5.

<sup>181</sup> Dr. Kumar Mahadevan and Dr. Richard Pierce, "Board Workshop, July 17-18, 1986," (Sarasota, FL: Mote Marine Laboratory, July 16th, 1986), 1-3.

<sup>182</sup> Dr. Kumar Mahadevan, "Message from the Director," *MML News* Winter 1988-89, 1-2.

Research, as always for Mote, has remained the focus under Dr. Mahadevan. One important fact: the researches here at Mote apply for funding, it is not provided for them. Thus, when reading the short summation's of these research projects please note the years of hard work and hours upon hours of applying for funding that these researches have put in.

Research on sharks has long been one of the main focuses at Mote Marine Lab. In the summer of 1979, Dr. Carl Luer arrived from the University of Kansas. Dr. Luer's focus has been trying to figure out why sharks do not get cancer and the implications thereof. He is one of, if not the first, scientist to attempt with scientific research the answer to that question. Dr. Luer spent ten years attempting to form a tumor inside of a shark, with no success. Joined by Dr. Cathy Walsh in 1991, the research team has been able to locate a shark's thymus, and have focused on the immune system to try and determine the answers. The work continues to this day.<sup>183</sup>

Red tide research also continues on. In the 1970's, Mote used the help of NASA to predict red tide blooms, which they did successfully for the first time in the summer of 1978. In 1983, a major three prong research program into red tide was initiated which tried to determine how to control the blooms. In 1986-87, Mote was the first lab to identify the airborne neurotoxins associated with red tide. During the 1990's, several research projects focused on the effects of red tide on animals in the Gulf of Mexico. Research today focuses on containing and finally beating red tide.<sup>184</sup>

Under the leadership of Dr. Randall Wells, the marine mammal rehabilitation and research area of Mote has turned into a powerhouse of science. Marine mammal research at Mote kicked into high gear in 1970 with studies conducted with funds from the Office of Naval Research between dolphins and sharks. With the help of young intern at the time Randy Wells, dolphin tagging studies commenced studying the population of pods in the gulf. This program is the world's longest running dolphin study and continues today. In 1994 a new marine mammal research station opened. It included a visitor center, office and lab space, a huge wall painting by Wyland, and a 52,000 gallon medical tank which in May, 1996, would become a temporary home to two very large manatees from Lowry Park zoo, Hugh and Buffett. 1997 brought the completion of phase II, which included a 1.2 million gallon lagoon, providing a permanent home.<sup>185</sup>

It is important to examine the purpose of the Marine Mammal Rehabilitation and Research Center. As Wells wrote in 1988 about the value of a marine hospital "...the value of our efforts can be assessed by considering the quality and number of scientific publications and presentations that result from the program, or perhaps more importantly, from the level of public interest in the program." These words can apply to the center in that the work is very important, but for different reasons than the public might perceive. Rescuing a dolphin is rewarding work, gets great publicity, and builds awareness of the lab. What is the critical part that the outside world does not see is the hard work put in by the scientists conducting research on dolphins, sea turtles, and other mammals. Throughout the history of the lab, this research has plowed forward studying the health of the marine mammals and sea turtles in the ocean. By providing an educational and

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<sup>183</sup> Donna Self, "Killing Cancer?," *Mote Magazine* Summer 2004, 27-30.

<sup>184</sup> "Red Tide Timeline," *Mote News* Summer 2000, 8-9.

<sup>185</sup> "Construction Progress Update," *Mote News* Fall 1993, 14-15.

entertaining aspect for the outside world, support is directly provided for the important research being done. It is very difficult for one to flourish without the other.<sup>186</sup>

Yet another division of research that has increased exponentially is the study of coastal ecology. Head of the center of Coastal Ecology for Mote is Dr. Ernie Estevez, who came to the lab in the fall of 1979. That same year Mahadevan started the Environmental Assessment Division, the father of the Coastal Ecology department. The department has several research thrusts, including Charlotte Harbor, the Florida river system, and the estuaries. The division is currently in the middle of a five year study on Charlotte Harbor and the effects population growth has had on its health.<sup>187</sup>

The research listed above does not even begin to scratch the surface on the research being conducted at Mote Marine Laboratory including Manatee research, a fish hatchery, and the effects of power plants on Tampa Bay. The impact this one lab has had on Florida cannot be understated. Florida's history is being impacted daily by the programs conducted by Mote since the 1950's. As the aquarium has expanded, even more awareness is being brought to the research being done.

Dan Bebak has supervised the expansions of the aquarium. In 1999, the aquarium doubled in size which provided visitors with more windows into the laboratories and research being done. The aquarium also is the best way to educate visitors on the animals and research being done by the lab. Adult classes began to be offered by the lab. In 2004, an Immersion Cinema opened, in which the visitor interact and learn from the movies they are watching. Education and entertainment have become a vital cog in the Mote Marine Lab machine.<sup>188</sup>

In 2000, William Mote passed away. With an endowment in place, and the building of all categories a marine lab needs, Mote Marine Lab has been well placed for the future. How far have they come? Some comparisons show some remarkable growth and trends for the lab since Dr. Mahadevan took over in 1986 especially in revenue from memberships, total expenses, and total revenue.

	1986 <sup>189</sup>	2004 <sup>190</sup>
Revenue from Membership	\$59,045	\$695,574
Total Expenses	\$1,759,729	\$19,847,590
Total Revenue	\$1,800,793	\$21,624,154

These increases are tremendous in every aspect, but they transcend MML's efforts in research. By increasing the entertainment quotient, memberships and revenue increased substantially. Education services provided increased community involvement and awareness of the lab. Rehabilitation of animals helped provide valuable research, while at the same time presenting an important public image to the community.

## Conclusion

<sup>186</sup> Dr. Randall S. Wells, "Of What Value Is a Whale and Dolphin Hospital?," *Mote News* Spring 1988, 12-13.

<sup>187</sup> "A River Runs to It," *Mote News* Special Edition 2003, 12-13.

<sup>188</sup> "Celebrating a Half Century: Annual Report 2004," (Sarasota, FL: Mote Marine Laboratory, 2004), 18.

<sup>189</sup> "Mote Marine Lab Annual Report: 1986," (Sarasota, FL: Mote Marine Laboratory, 1986), 14.

<sup>190</sup> "Celebrating a Half Century: Annual Report 2004," 26-27.

Mote Marine Lab has long since grown past serving just Sarasota or even the state of Florida. It can be justified in saying that Mote Marine Laboratory is serving an international community. By building on their foundation of research, and developing education programs, entertainment attractions, and rehabilitation efforts, Mote has established itself as one of the premier independent research center in the United States. The story of how a small trailer turned into a metropolis of science is one all aquariums and labs can learn from.

Further extensive research is available at Mote Marine Laboratory with a special note towards their research history. Mote is unique in that they have an extensive library with primary scientific reports, newsletters, and annual reports that make them a virtual treasure trove of primary sources. Hopefully this will encourage historians to examine the history of Mote Marine Laboratory, and further publicize their unique and quite incredible story.



## OVERALL FINDINGS

Clearwater Aquarium, Mote Marine Laboratory, and Waikiki Aquarium provide three fascinating examples on how rich and diverse aquarium history can be. Moreover, each of these examples indicates the importance of the relationship that an aquarium develops with its local, national, and even international community. Success or failure hinges upon community support. We have seen how three aquariums have managed their community relations with varying degrees of success.

What proves fascinating is that even with the failings of Clearwater Aquarium, its influence within the surrounding community is considerable. Whether it was through, environment, education, research, or any number of fields, even a relatively unsuccessful aquarium can accomplish much. In these three examples, the historical trends indicate that aquariums have had to develop and change to thrive. Education programs, rehabilitation techniques, new displays, research projects, all not only reflect their influence on society, but society's influence on them. It also appears true, at least in these studies examples, that an aquarium with several outlets of influence thrives far more than an aquarium with a singular focus.

### Further Research and Final Thoughts

The potential is simply staggering. Over thirty aquariums with hundreds of years combined history provide a near treasure trove of opportunity. What makes aquarium history so fascinating and the potential so great is that there are numerous branches a historian can choose.

These three institutes are simply the tip of the iceberg. Georgia Aquarium recently opened and is setting attendance records everyday. More than that, their research into whale sharks and keeping them in captivity is already making history. The New York Aquarium is approaching their 100 year anniversary. Shedd Aquarium is one of the few aquariums listed on the National Registry of Historic Places. Monterey Bay's research into sea otter populations may one day save the species. The Key West Aquarium grew out of a WPA project. These are all stories waiting to be told.

Even more so, histories can be conducted into economic and political impacts on the surrounding society, as many cities feel that aquariums can help to revitalize downtrodden areas. What is the historical economic impact of aquariums on the cities they are built? This is yet another historical study available to historians. As Clearwater Marine Aquarium proved, aquariums can be a political touchstone influencing elections and indeed becoming part of an election themselves.

The potential exists for a study into how aquariums have affected the environmental mindset of societies. Have aquariums helped develop an appreciation of the oceans? Or are they simple entertainment for the masses? Have animals being held in captivity helped the common good, or perhaps have taking animals from the environment hurt their population through history? Aquariums have the potential to not only be vital parts of environmental history, but public history and cultural history as well.

The Waikiki Aquarium has survived over one hundred years. The institute evolved from a streetcar stop to an educational force in the Hawaiian Islands. It was this

commitment to education that built support throughout the surrounding community. This in turn allowed for renovations and investment.

The Clearwater Aquarium in turn has barely survived, yet survived they have. It is not through entertainment displays, nor research projects that have allowed this survival. Instead it was the good will provided through their rehabilitation efforts, and the contribution to the displays (Sunset Sam), which has kept the institute afloat and in the community's mind as a critical component of Clearwater, Florida.

Mote Marine Laboratory provided a fascinating look into an aquarium that developed strong entertainment displays, a thriving research program, a rehabilitation center, and a strong educational outreach program. In doing so, they have flourished economically. Their standing in Sarasota, Florida and the surrounding area is remarkably strong.

It is clear to me that the extent to which aquariums influence their surrounding community has a direct correlation to the institutional success. Aquariums may influence their surroundings through many ways. In this study, the three regional aquariums influence revolved around education, entertainment, rehabilitation, and / or research. By studying the history of the development of these focus areas, one may begin to understand the importance of the public aquarium to society.

## WORKS CITED

### Chapter 1

- Brunner, Bernd. *The Ocean at Home: An Illustrated History of the Aquarium*. New York: Princeton Architectural Press, 2005.
- Edwards, Arthur M. *Life beneath the Waters; or the Aquarium in America*. New York: H. Balliere, 1858.
- "The Georgia Aquarium Celebrates One-Year Anniversary." Atlanta: Georgia Aquarium, November 21, 2006.
- Gosse, Philip H. *The Aquarium: An Unveiling of the Wonders of the Deep Blue Sea*. London: Paternoster Row, 1854.
- Hill, Ralph Nading. *Window in the Sea*. New York: Rinehart & Company, Inc., 1956.
- Jones, John Grant and Ray. *Window to the Sea: Behind the Scenes at America's Great Public Aquariums*. Guilford, Connecticut: Insiders' Guide, 2006.
- Ryan, Jerry. *The Forgotten Aquariums of Boston*. Boston: New England Aquarium, 1995.
- Taylor, John Ellor. *The Aquarium: Its Inhabitants, Structure and Management*. London: Hardwicke, 1876.
- Taylor, Leighton. *Aquariums: Windows to Nature*. New York: Prentice Hall, 1993.
- Vernon N Kisling, Jr., ed. *Zoo and Aquarium History: Ancient Animal Collections to Zoological Gardens*. Boca Raton: CRC Press, 2001.
- Warington, Robert. "On Preserving the Balance between the Animal and Vegetable Organisms in Sea Water." *The Annals and Magazine of Natural History* XII-Second Series (1853): 319-24.

### Chapter 2

- "Annual Report of the Honolulu Rapid Transit and Land Company for the Year Ending December 31, 1904." Honolulu, HI: Honolulu Rapid Transit and Land Company, 1905.
- "Annual Report of the Honolulu Rapid Transit and Land Company for the Year Ending December 31, 1905." Honolulu, HI: Honolulu Rapid Transit and Land Company, 1906.

- "Annual Report of the Honolulu Rapid Transit and Land Company for the Year Ending December 31, 1906." Honolulu, HI: Honolulu Rapid Transit and Land Company, 1907.
- "Annual Report of the Honolulu Rapid Transit and Land Company for the Year Ending December 31, 1917." Honolulu, HI: Honolulu Rapid Transit and Land Company, 1918.
- ""The Annual Report on the Waikiki Aquarium, Fiscal Year 1963-64"." Waikiki, HI: Waikiki Aquarium, 1964.
- "Board of Regents University of Hawaii Minutes of Meeting Held August 12, 1920." Honolulu, HI: University of Hawaii, August 12, 1920.
- "Board of Regents University of Hawaii Minutes of Meeting Held February 9, 1940." Honolulu, HI: University of Hawaii, February 9, 1940.
- "Board of Regents University of Hawaii Minutes of Meeting Held February 18, 1927." Honolulu, HI: University of Hawaii, February 19, 1926.
- "Board of Regents University of Hawaii Minutes of Meeting Held January 12, 1940." Honolulu, HI: University of Hawaii, January 12, 1940.
- "Board of Regents University of Hawaii Minutes of Meeting Held January 26, 1940." Honolulu, HI: University of Hawaii, January 26, 1940.
- "Board of Regents University of Hawaii Minutes of Meeting Held July 14, 1939." Honolulu, HI: University of Hawaii, July 14, 1939.
- "Board of Regents University of Hawaii Minutes of Meeting Held March 17, 1938." Honolulu, HI: University of Hawaii, March 17, 1938.
- Bryan, Professor. January 28, 1919.
- Carlson, Bruce. "Hawai'i --- Awash in Aquariums." *Kilo i'a* 1996.  
 ———. "Living Fossils in Waikiki." *Kilo i'a* 11/77.
- "Chambered Nautilus Hatches at the Aquarium, October 27, 1990." *Kilo i'a* 1991.
- Chun, Bina M. "Window to the Sea: A Study of the Waikiki Aquarium." Honolulu, HI: Legislative Reference Bureau, 1974.
- Cooke, Charles M. April 15, 1902.
- Hamre, Chris. 10/23/40.
- Krout, Mary E. "The Aquarium at Honolulu." *Mid-Pacific Magazine* Sept 01, 1914.

- "Master Plan for the Revitalization of the Waikiki Aquarium." Waikiki, HI: Prepared by the Waikiki Aquarium, FOWA, and Hawaiian Islands Aquarium Corporation, 1987.
- Mowbray, Louis S. "Observations on Waikiki Aquarium Operation." Waikiki, HI: Waikiki, Aquarium, 1964.
- "Report on the Activities of the Waikiki Aquarium for the Fiscal Year July 1, 1962." Waikiki, FL: Waikiki Aquarium, 1963.
- "Report on the Activities of the Waikiki Aquarium for the Fiscal Year July 1, 1964 through June 30, 1965." Waikiki, HI: Waikiki Aquarium, 1965.
- "Report on the Activities of the Waikiki Aquarium for the Fiscal Year July 1, 1966." Waikiki, HI: Waikiki Aquarium, 1967.
- "Report on the Condition and Activities of the Aquarium for the Fiscal Year Ending June 30, 1950." Honolulu, HI: Honolulu Aquarium, 1950.
- "Report on the Condition and Activities of the Aquarium for the Fiscal Year Ending June 30, 1954." Honolulu, HI: Waikiki Aquarium, 1955.
- "Report on the Condition and Activities of the Aquarium for the Year Ending June 30, 1941." Waikiki, HI: Honolulu Aquarium, 1941.
- Rossiter, Dr. Andrew. "From the Director." *Kilo'ia* Winter 2006.
- Simpson, MacKinnon. *Streetcar Days in Honolulu: Breezing through Paradise*. Honolulu: JLB Press, 2000.
- Smith, Walter G. "The Aquarium." *The Pacific Commercial Advertiser* 03/20/1904.
- Tinker, Spencer. *The History of the Two Waikiki Aquaria: 1903-1961*. Honolulu, HI: Self-published, 1961.
- . "Program Evaluation and Five Year Plan." Waikiki, HI: Waikiki Aquarium, 1968.
- "Waikiki Aquarium 1991 Annual Report." Waikiki, HI: Waikiki Aquarium, 1992.
- "The Waikiki Aquarium Annual Report 1986." Waikiki, HI: Waikiki Aquarium, 1987.
- "The Waikiki Aquarium Annual Report July 1979-1980." Waikiki: Waikiki, Aquarium, 1980.

"The Waikiki Aquarium Annual Report: 1985." Waikiki, HI: Waikiki Aquarium, 1986.

"Waikiki Aquarium Need in Paradise." *Sea Grant Newsletter* 4, no. 2 (02/74).

"Waikiki Aquarium Welcomes a New Director." *Kilo i'a* 2004.

"Will Open the Aquarium Today." *The Pacific Commercial Advertiser* 03/19/1904.

Woo, Douglas. "Aquarium Is Sinking Financially; Legislature Asked to Bail It Out".  
*The Honolulu Advertiser*, 1/26/1974.

### **Chapter 3**

Advokat, Stephen. "Science Center Seeks to Stay above Water." *Clearwater Sun*  
04/30/1976.

Afendoulis, Lynn. "Sunset Sam's Tank Too Small To Meet Federal Regulations." *Tampa Tribune* 10/09/1987.

"Alfred Priest to Lead Fund Raising for Marine Science Center." *Pinellas Times*  
01/12/1976.

"Aquarium Seeks Corporate Money." *St. Petersburg Times* 09/28/1986.

"Bright and Exciting Future for Clearwater Marine Science Center." *Beach Views*  
02/14/1985.

Caranna, Kenwyn. "Sunset Sam Center of Struggle." *Clearwater Sun* 10/01/1987.

"City Endorses Science Center Plan." *Clearwater Sun* 05/03/1985.

"Clearwater Beach Tract Precious Gift to Posterity." *Clearwater Sun* 10/01/1984.

Clearwater, Colonel. "Clearwater Marine Science Center an Endangered Species?"  
*Clearwater Sun* 07/18/1976.

"Clearwater Commission Mulls SeaOrama Help." *St. Petersburg Times* 0210/1972.

*Clearwater Marine Aquarium Minutes (CMAM)*, 12/07/1995.

*Clearwater Marine Science Center Minutes (CMSCM)*, 01/26/1978.

Cline, Harry S. 01/19/1990.

*CMAM*, 08/26/2004.

*CMAM*, 04/24/2003.

*CMAM*, 02/27/2003.

*CMAM*, 01/16/2003.

*CMAM*, 12/19/2002.

*CMAM*, 12/27/2001.

*CMAM*, 09/28/2000.

*CMAM*, 06/27/2002.

*CMSCM*, 11/12/1986.

*CMSCM*, 06/11/1987.

*CMSCM*, 04/19/1988.

*CMSCM*, 06/23/1994.

*CMSCM*, 04/19/1990.

*CMSCM*, 06/28/1982.

*CMSCM*, 10/21/1986.

*CMSCM*, 12/08/1982.

*CMSCM*, 09/28/1983.

*CMSCM*, 10/13/1984.

*CMSCM*, 11/25/1986.

*CMSCM*, 04/09/1987.

*CMSCM*, 07/14/1988.

*CMSCM*, 03/12/1986.

*CMSCM*, 06/11/1986.

*CMSCM*, 10/20/1986.

Collins, Lesley. "Bill on Marine Center Approved." *Clearwater Sun* 05/15/1986.

———. "Gleeful Supporters Swap Hugs, Cheers." *Clearwater Sun* 10/02/1985.

———. "Science Center Step Closer to Dream with Property Buy." *Clearwater Sun* 02/15/1986.

Courts, Clerk of. "Hunter/Clearwater Marine Science Center Agreement." edited by Clerk of Circuit Courts, 06/14/1983.

Devlin, Joe. "Go-Ahead on SeaOrama Lease Expected at City Board Meeting." *Clearwater Sun* 04/02/1972.

———. "'SeaOrama Costs Seen as High as \$250,000." *Clearwater Sun* 01/1972.

Doris, Tony. "No Title." *St. Petersburg Times* 01/04/86.

Drolet, Annette. "Great Expectations for the Marine Science Center." *Clearwater Sun* 01/13/1984.

———. "Science Center Eyes Future with Help of Paid Consultant." *Clearwater Sun* 06/05/1984.

Emmons, Earl. "Efforts to Save Marine Exhibit Said Fruitless." *Tampa Tribune* 04/20/1968.

Farrell, Jennifer. "Marine Aquarium Chief Steps Down after 25 Years." *Clearwater Times* 06/21/2003.

Goldfarb, Carl. "Science Center Kills Loan Request." *Tampa Tribune* 05/20/1987.

Greer, Jill. "He Covers the Waterfront." *Clearwater Sun* 04/21/1981.

Hall, Janice. "Greatly Expanded SeaOrama Studied." *Clearwater Sun* 02/02/1972.

Haufler, Hervie. "Ebb Tide for a Florida Museum." *New York Times* 03/10/1968.

Kellenberger, Dennis. 04/24/2003.

———. 03/30/2000.

Kincer, Paulita. "Dollars Pouring into Marine Center for Sunset Sam's Expanded Tank." *Tampa Tribune* 12/17/1987.

Kirby, Jan. "Marine Science Center Finds a Home." *Beach Life* January 1977, 36.

Kirby, Vernon. "The Dream of a Marine Science Center in Clearwater Beach May Be a Reality." *Pinellas Times* 10/10/1976.



Lee, Katherine K. "Aquarium Director Quits for Position in Oregon." *St. Petersburg Times* 10/30/2004.

"Legislature Must Lift Science-Center Land-Use Rule." *Clearwater Sun* 07/30/1985.

Machan, James. "Center Making Waves." *Clearwater Sun* 11/19/1986.

McGorrian, Paul L. "Tampa Will Get Aquarium." *St. Petersburg Times* 06/13/1987.

*Minutes Clearwater Marine Science Center Fund Raising Committee*, 12/05/1975.

"Moribund SeaOrama Rates New York Paper Article." *St. Petersburg Times* 03/09/1968.

"No Title." *Beach Views* 05/31/84.

Norton, Wilma. "\$1 Price Set for Center Property." *Clearwater Times* 08/18/1985.

———. "Aquarium Still Faces Problem with Parking." *St. Petersburg Times* 08/22/1986.

———. "It's Sink or Swim for Marine Center." *St. Petersburg Times* 09/29/1985.

———. "Science Center Now a \$50-Million Proposal: New Plans Revealed for 'World-Class'  
Attraction." *St. Petersburg Times* 07/17/1986.

Reeves, Terri B. "Storms Draining Aquarium's Finances." *St. Petersburg Times* 10/16/2004.

"Save SeaOrama Session Is Set." *St. Petersburg Times* 02/21/1968.

"Sea-O-Rama Plans." Clearwater, FL 1972.

*SeaOrama Meeting Minutes*, 01/04/1974.

Subko, Kathy. "Clearwater Loses out on Florida Aquarium." *St. Petersburg Times* 11/15/1986.

unknown. "None Listed." Clearwater, FL: Clearwater Marine Science Center, 08/12/86.

Youmans, Marty. "City Leery About Science Center Loan." *Clearwater Sun* 05/05/1987.

———. "Commissioners Think Twice About Backing Center's Loan." *Clearwater Sun* 05/08/1987.

## **Chapter 4**

"The Cape Haze Marine Laboratory, 1957." *Collected Papers from Cape Haze Marine Laboratory 1 1957-1963* (1963).

- "Celebrating a Half Century: Annual Report 2004." 18. Sarasota, FL: Mote Marine Laboratory, 2004.
- Clark, Dr. Eugenie. *The Lady and the Sharks*. Sarasota, Florida: Mote Marine Laboratory, 1990.
- . *Lady with a Spear*. New York: Harper and Brothers, 1953.
- "Construction Progress Update." *Mote News* Fall 1993, 14.
- "Current Research at the Cape Haze Marine Laboratory and Reports for 1955-1961." *Collected Papers from Cape Haze Marine Laboratory 1* (1963).
- Johnson, Donna. *Mote Marine Laboratory: The Perry Gilbert Era 1967-1978*. Sarasota, FL: Mote Marine Laboratory, 1990.
- Mahadevan, Dr. Kumar. "Message from the Director." *MML News* Winter 1988-89, 1.
- "Marine Laboratory Will Be Opened at Placida in January." *Sarasota Herald-Tribune*, 12/17 1954, 20.
- "Members' Briefings." *MML News* April 1975, 6.
- "MML New Facility Planned." *MML News* April 1976, 1-2.
- "MML: Present and Future." *Christmas Newsletter* (Christmas 1969): 1-3.
- "Mote Marine Lab Annual Report: 1986." 14. Sarasota, FL: Mote Marine Laboratory, 1986.
- Neville, Jim. "Meander Line." *Sarasota Herald-Tribune*, 10/12 1975, 3.
- "New Board of Directors Named." *Cape Haze Marine Laboratory Quarterly Newsletter* September 1966, 1.
- "New Director Named." *Cape Haze Marine Laboratory Quarterly Newsletter* March 1967, 1.
- "New! Monday Nights at Mote." *MML News* Winter 1980, 4-5.
- Pierce, Dr. Kumar Mahadevan and Dr. Richard. "Board Workshop, July 17-18, 1986." 1-3. Sarasota, FL: Mote Marine Laboratory, July 16th, 1986.
- "Red Tide Control Seen within 3-Year Period." *Sarasota Herald-Tribune*, 01/06 1955, 1-2.
- "Red Tide Summer." *Christmas Newsletter* Christmas 1971, 2-3.

"Red Tide Timeline." *Mote News* Summer 2000, 8-9.

"A River Runs to It." *Mote News* Special Edition 2003, 12-13.

""Selby Foundation Announces \$60,000 Grant to Help Continue Red Tide Research Program" " *MML News* May 1973, 1.

Self, Donna. "Killing Cancer?" *Mote Magazine* Summer 2004, 27-30

"Summer '81 at MML's Marine Science Center." *MML News* Fall 1981, 7.

Wells, Dr. Randall S. "Of What Value Is a Whale and Dolphin Hospital?" *Mote News* Spring 1988, 12-13.

## **BIOGRAPHICAL SKETCH**

Raised in California, down the street from the local Marineland, Kevin Doar spent the previous three years in the new and exciting research field of aquarium study. This includes traveling to Hawaii, and South Florida. He hopes this emerging field will grow as historians discover the wealth of new information available at these aquatic institutes.