The Disconnect of Hawaiian Culture and Marine Management in West Hawaii: A Case Study on the Aquarium Trade

Alohi Nakachi

University of Miami, alohinakachi@yahoo.com

Follow this and additional works at: http://scholarlyrepository.miami.edu/oa_theses

Recommended Citation

http://scholarlyrepository.miami.edu/oa_theses/637
UNIVERSITY OF MIAMI

THE DISCONNECT OF HAWAIIAN CULTURE AND MARINE MANAGEMENT IN WEST HAWAII: A CASE STUDY ON THE AQUARIUM TRADE

By

Alohi L. Nakachi

A THESIS

Submitted to the Faculty of the University of Miami in partial fulfillment of the requirements for the degree of Master of Science

Coral Gables, Florida
December 2016
THE DISCONNECT OF HAWAIIAN CULTURE AND MARINE MANAGEMENT IN WEST HAWAII: A CASE STUDY ON THE AQUARIUM TRADE

Alohi L. Nakachi

Approved:

Sarah K. Meltzoff, Ph.D.
Professor of Marine Ecosystems and Society

Maria L. Estevanez, M.A., M.B.A
Senior Lecturer, Marine Ecosystems and Society

Juan Agar, Ph.D.
Natural Resource Economist
NOAA, Miami Florida

Guillermo Prado, Ph.D.
Dean of the Graduate School
In West Hawaii, marine management and the Hawaiian culture share common goals and ideals. However, the reasoning, beliefs and ethnic identities behind such goals greatly differ. As such, there is a lack of communication and even cooperation between groups. This paper seeks to understand the conflict and interactions between these groups and other interest groups involved with the aquarium trade. The area studied is in West Hawaii where the majority of fish in the state are caught for the aquarium trade (Walsh, 2014). The aquarium trade is analyzed to assess the extent in which social and Hawaiian cultural aspects are included in management and regulation. The analytical tool utilized was the levels of conflict model. This model utilizes three levels to better understand the complexity and root of a conflict. The three levels in order are the dispute, underlying conflict, and identity-based or deep-rooted conflict.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>LIST OF FIGURES AND TABLES</th>
<th>iv</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAPTER</td>
<td></td>
</tr>
<tr>
<td>1  INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>1.1 What are Conservation Conflicts and what is Conservation Conflict Transformation</td>
<td>2</td>
</tr>
<tr>
<td>2  BACKGROUND</td>
<td>4</td>
</tr>
<tr>
<td>2.1 Ancient Hawaiian Culture</td>
<td>4</td>
</tr>
<tr>
<td>2.2 Ancient Hawaiian Management</td>
<td>5</td>
</tr>
<tr>
<td>2.3 The Colonization or Occupation of Hawaii</td>
<td>7</td>
</tr>
<tr>
<td>2.4 The Illegal Overthrow of the Hawaiian Monarchy</td>
<td>9</td>
</tr>
<tr>
<td>2.5 Management Today in Hawaii and the Hawaiian People</td>
<td>10</td>
</tr>
<tr>
<td>2.6 Marine Management Today in West Hawaii</td>
<td>14</td>
</tr>
<tr>
<td>2.7 The Aquarium Trade in West Hawaii</td>
<td>16</td>
</tr>
<tr>
<td>3  METHOD</td>
<td>20</td>
</tr>
<tr>
<td>3.1 Levels of Conflict Model</td>
<td>22</td>
</tr>
<tr>
<td>4  RESULTS</td>
<td>25</td>
</tr>
<tr>
<td>4.1 The Dispute</td>
<td>25</td>
</tr>
<tr>
<td>4.2 Underlying Conflicts</td>
<td>26</td>
</tr>
<tr>
<td>4.2.1 Marine Management Today</td>
<td>28</td>
</tr>
<tr>
<td>4.3 Identity-based or Deep-rooted Conflict</td>
<td>31</td>
</tr>
<tr>
<td>4.3.1 “Outsider” Mentality</td>
<td>32</td>
</tr>
<tr>
<td>4.3.2 Community Input</td>
<td>33</td>
</tr>
<tr>
<td>4.3.3 Hawaiian Culture and the Ocean Today</td>
<td>35</td>
</tr>
<tr>
<td>4.3.4 Hawaiian Culture and Management in Hawaii</td>
<td>37</td>
</tr>
<tr>
<td>4.3.5 The Aquarium Trade and Hawaiian Culture</td>
<td>39</td>
</tr>
<tr>
<td>4.3.6 Intragroup Conflict (Among Hawaiians)</td>
<td>43</td>
</tr>
<tr>
<td>5  CONCLUSION</td>
<td>45</td>
</tr>
<tr>
<td>5.1 The Future and Potential Solutions</td>
<td>46</td>
</tr>
<tr>
<td>5.2 The Aquarium Trade</td>
<td>49</td>
</tr>
<tr>
<td>5.3 Conflict Resolution and Management Today</td>
<td>50</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>53</td>
</tr>
<tr>
<td>APPENDIX</td>
<td>60</td>
</tr>
</tbody>
</table>
LIST OF FIGURES AND TABLES

FIGURE

1 Locations of Fish Replenishment Areas in West Hawaii and DAR monitoring sites.............................................................. 17
2 The three levels of conflict that may exist in any conservation conflict context............................................................... 23
3 How a House bill becomes a Law......................................................... 29
4 Photo of aquarium fish dumped in Harbor garbage that sparked public outcry............................................................... 42

TABLE

1 Interviews conducted of the different interest groups and their corresponding ethnic identity........................................... 25
Chapter 1

Introduction

Hawaiians are the native descendants of Hawaii and there have been many unanswered wrongs done to them. Despite these wrongs, very little has been done to amend them or improve the well-being of the native Hawaiians. Since Western Contact, the Hawaiian people, their traditions, and their resources have diminished simultaneously, their collective restoration must also be addressed together. This thesis aims to understand these critical cultural and environmental interrelationships in today’s society where native people have been transformed into minorities in Hawaii. This thesis identifies the extent of the degradation of social well-being and Hawaiian culture, and how this directly correlates to today’s poor marine management.

A broad background and history of Hawaii and Hawaiian culture is included in the study for readers to better understand the sentiment and spirituality of Hawaiians today. The marine environment, which traditionally was paramount to the survival of the Hawaiian people and the culture, is no exception. While traditionally the ocean was Hawaiian's main source of sustenance, today it remains an important food source and cultural necessity. This objective of this study is to analyze the management of the aquarium trade in West Hawaii, which has a history of conflict, and to assess the extent of which social and Hawaiian cultural aspects are included in management and regulation.
The analytical tool utilized was the levels of conflict model (See Figure 2 below). This model utilizes three levels to better understand the complexity and root of a conflict. The three levels in order are first the dispute, second underlying conflict, and last identity-based or deep-rooted conflict. Identity based conflict are particularly relevant in Hawaii and aid to the complexity of the conflict and the difficulty of long term resolution.

1.1 What are Conservation Conflicts and what is Conservation Conflict Transformation?

According to Burton (1990), social and psychological needs, when unmet, serve to drive conflict toward intractability (Madden and McQuinn, 2015). When unmet, these needs also explain the existence of what would seem to be ‘irrational’ or self-sabotaging reactions to attempts to resolve conflict. Many conflicts in conservation deepen and persist because these needs are ignored or inadequately addressed (Madden and McQuinn, 2015). While there is a growing recognition to advance collaborative governance models, too often the individuals or organizations driving the process fail to recognize the conflict dynamics or support appropriate processes that reconcile the deep-rooted conflict among stakeholders (Madden and McQuinn 2014, 2015). As a result even when problems are solved, these solutions either do not last, or when they do, they fail to create the desired broader change needed to support long-term conservation efforts (Rothman, 1997; Balint et al., 2011; Doucey, 2011; Peterson et al., 2013; Madden and McQuinn, 2014, 2015).
Conservation conflict transformation aims to constructively transform destructive social conflicts by targeting change in the quality of relationships and the process structures and systems underpinning and undermining conservation efforts (Madden and McQuinn, 2015). Conservation conflicts include differing and deeply held values and identities, high emotions and high stakes, power imbalances, and a sense of moral authority that may push parties to maintain the fight, even when winning in the short term is not likely (Pearce and Littlejohn, 1997; Clark, 2002; Burgess, 2004; Madden and McQuinn, 2015). Deep-rooted conflicts typically have conflicts both within groups (intragroup) and between groups (intergroup), where intragroup conflict actually perpetuates intergroup conflict in an effort to protect identity and ensure group cohesion (Deutsch, 1973; Deutsch and Coleman, 2012; Madden and McQuinn, 2015). Hawaiian history contributes significantly to the current feelings of hostility, futility, and seeming intractability, making the current disputes among stakeholders more and more difficult to resolve (Madden and McQuinn, 2015).
Chapter 2

Background

2.1 Ancient Hawaiian Culture

The history of Hawaii, the Hawaiian people and their culture is important to be able to understand the sentiments of Hawaiians today and the deep connection felt towards the `āina (homeland). This connection is often difficult to describe and convey to non-Hawaiians. Phrases to describe the depth of it today include a feeling in your koko (blood) or naʻau (internal spirit and place of knowing or intellect). To give an idea of the depth and the vitality one needs to understand the practices and culture of ancient Hawaii. Ancient Hawaii is commonly considered as the time before western influence and contact in 1778. During this time connection to the `āina was not only a physical connection, but a spiritual and emotional connection that was a part of every living Hawaiian. This connection still exists today though there have been generations of repression and loss of the culture. Hawaiians today still teach their families and friends to teach nature with respect, do not waste, take only what you need, and even refer to nature or places as a part of themselves or their family as will be expanded on further in the study.

The emotional connection with nature felt by Hawaiians was displayed in every aspect of their lives and it was the guiding principle in their resource management, ethics, and practices (Anderson-Fung and Maly, 2002). Hawaiians saw themselves as not only an integral part of nature but believed that everything
in nature was related and that humans were the youngest members of this extended family (Kawaharada, 2006; Maly and Maly, 2002; Maly and Maly, 2004; Kirch, 1985; Valerio, 1985; Jokiel et al., 2011; Anderson-Fung and Maly, 2002). As a result, they treated nature with love and the kind of respect that should be afforded to an elder family member. Because of this spiritual connection and concept of nature as sacred, one did not enter or take from nature without first asking permission and showing respectful behavior toward everything there (Anderson-Fung and Maly, 2002).

2.2 Ancient Hawaiian Management

Kānaka Maoli (means true people and is a term Native Hawaiians use to refer to themselves) developed an integrated culture and management system that supported a population estimated between four hundred thousand and eight hundred thousand (MacKenzie, 2015a). Islands were divided into districts or sections known as mokus which were divided into slices known as ahupua’a extending from the mountains down to the sea (Mackenzie, 2015; Friedlander et al., 2000; Jokiel et al., 2011). A moku was ruled by an ali‘i ‘ai moku (district or island chief) or mōī with a kālaina‘u (counselor) to manage the land. Ali‘i ‘ai ahupua’a and ahupua’a konohiki were managed to the ahupua’a slices making up the moku to manage the people and resources (MacKenzie, 2015a). The maka‘āina were the people of the land who worked under the direction of chiefs. However maka‘āina were not subjects to the greater chiefs, while they owed a work obligation to those above them they could move to other areas if they were
treated unfairly. Abuses were minimized the responsibility of an ahupua’a chief was to make the ahupua’a productive which required a stable workforce. If they failed, the high chief could replace them (MacKenzie, 2015a). Though there may have been a political hierarchy they all shared a mutual dependence in their subsistence lifestyle (MacKenzie, 2015a).

The cultural and emotional connection to resources created a social obligation and self-restraint in exploitation (Friedlander et al., 2000). Resource management and “sustainability” were key in ancient Hawaii. To be apart of a fisheries trade, an apprentice had to go through years of training and first understand population dynamics before being able to catch fish (Friedlander et al., 2000; Jokiel et al., 2011). Hawaiians orally passed down generations of knowledge, becoming experts, studying the resources at a level that even scientists today could only hope for (Anderson-Fung and Maly, 2002; Friedlander et al., 2000; Jokiel et al., 2011). Centuries ago before conservation was ever recognized in Western Society, the native Hawaiians devised and implemented every basic form of what are now considered modern conservation measures (Johannes, 1982; Jokiel et al. 2011). Traditional restrictions on fishing in Hawaii were achieved by the use of closed seasons, closed areas, size restrictions, gear restrictions, and restricted entry (Poepoe et al., 2007; Jokiel et al., 2011). Every member of Hawaiian society was trained to gather correctly according to well-established protocols, and compliance was mandatory (Anderson-Fung and Maly, 2002). The kapu (forbidden, prohibition) was a decree that imposed these restrictions on extraction of resources.
Kapu were motivated by various economic, cultural, and spiritual factors (Jokiel et al., 2011). The people of Hawaii understood the reasoning behind kapus as they were in place to ensure their own survival. As resources would flourish in turn the Hawaiian people would flourish. Thus kapus were put in place for the conservation and sustainability of resources. Hawaiians, being an integral part of nature, and connected to the land and the gods, believed they needed to treat the land with respect and reverence. While encouraging conservation and stewardship, kapus also assured respect and honor to gods and nature. Additionally there were different spiritual kapus, as some resources, often associated with different deities’, were not allowed to be taken or had specific restrictions. While kapu were implemented pertaining to an ahupua’a, Hawaiians also had individual kapus self implemented based on their connection with certain deities or personal ‘aumakua (spiritual guardian) (Titcomb, 1951). Traditional Hawaiian society had social obligations and self-restraint with harvesting resources, however, violation of kapu was often punishable by death (Chambers, 2006).

2.3 The Colonization or Occupation of Hawaii

The arrival of Captain Cook’s expedition in 1778/9 initiated a transition that dramatically altered Hawaiian society. The introduction of a market economy undid the traditional relationship, replacing self-sufficiency with economic trade in which, outsiders dominated markets and determined the value of Hawaii’s resources (Seiden, 1992). In addition New England Missionaries arrived shortly
after the arrival of Captain Cook and converted Hawaiians to Christianity (Seiden, 1992). Many traditional practices and methods of the Hawaiians were lost with these introductions. Cultural, spiritual, and emotional connections to the land were repressed and undermined by the new foreign ways. Only in the privacy of homes of Hawaiian families could some degree of culture survive.

Hawaiians faced a cultural crises and the decimation of their population (Lucas et al., 2015). The Hawaiian population declined dramatically with the introduction of disease brought by these foreigners. Under conservative estimates from 1778 to 1893 the Hawaiian population dropped by at least 87% from approximately 400,000 to less than 40,000 (Lucas et al., 2015). Traditional and environmental resources were decimated as well, as land uses changed. Land ownership which was not recognized in Hawaiian culture was instituted and imposed through foreign influence. Outsiders soon became the owners of most of Hawaii’s lands (Lucas et al., 2015; MacKenzie, 2015a). By the 1840s, plantations had rapidly taken over Hawaii as the predominant livelihood which continued for generations. With a plummeting Hawaiian population, the plantations contracted laborers from China, Portugal, and Japan to sustain plantation labor (Seiden, 1992). American businessmen, many of whom were descendants of the New England missionaries, thrived as the new class of plantation owners in Hawaii.
2.4 The Illegal Overthrow of the Hawaiian Monarchy

Through the 1880s, Hawaii was considered a sovereign nation recognized by both a French and a British declaration (Seiden, 1992). However, as Americans increasingly asserted their presence, they also started agitating for the annexation of Hawaii. As the Hawaiian population struggled and declined, Queen Lili`uokalani hoped to protect the Hawaiian people and increase their political power with a new constitution (Mackenzie, 2015a). While the struggle of Hawaii’s constitution was blamed as the cause of the overthrow of the monarchy, economic forces were a significant basis. In 1890, the McKinley Tariffs basically overnight made the price of Hawaiian sugar far less competitive on the American Markets impacting plantations and businessmen in Hawaii (Mackenzie, 2015a; Seiden, 1992).

In 1893, annexationists with support from US minister to Hawaii John L. Stevens got US marines to land in Honolulu and declared the monarchy abolished (Mackenzie, 2015a). The Queen realizing the futility of resisting American force and to prevent bloodshed relinquished her authority to the U.S. President Cleveland appointed James H. Blount to investigate the situation. Commissioner Blount concluded that the people of Hawaii did not support annexation and that they wanted their government restored and independence respected (MacKenzie, 2015a). After Blount’s report, President Cleveland determined Americans, with the support of the US minister to Hawaii and US military troops, had been responsible for the overthrow of the monarchy. Cleveland recommended restoration of the monarchy (MacKenzie, 2015a).
However, annexationists and their influence in government would not have it. After a few years with a provincial government, with the prospect of war and the appeal of Pearl Harbor, annexation became more appealing. In 1898, annexation was approved (Mackenzie, 2015a; Seiden, 1992) and this paved the way for the eventual statehood.

2.5 Management Today in Hawaii and the Hawaiian People

The struggle of the Hawaiian people and the wrong doings to them have been recognized, as there have been some efforts to acknowledge this and help to protect the Native Hawaiians. However, these efforts have been fraught with hindrances to their success. Legally Native Hawaiian is often used as any person of Hawaiian ancestry without regard to blood quantum except when specifically indicated (MacKenzie, 2015a). Some benefits include the Hawaiian Homes Commission Act (HHCA), the Office of Hawaiian Affairs (OHA), and the Ali‘i Trusts.

With the deteriorating social and economic conditions of Hawaiians, congress passed the 1921 HHCA (Lucas et al., 2015). This act designated land to be leased to persons of at least 50 percent Native Hawaiian blood for a nominal fee for 90 years (MacKenzie, 2015a). While attempting to promote the betterment of native Hawaiians, there are many shortcomings and failures to the act. By 2013, 9,850 Hawaiian homestead leases had been issued while 26,926 Native Hawaiians remained on the waiting list with many have waited for decades and some have died waiting (MacKenzie, 2015a; Lucas et al., 2015).
addition many of the lands do not have sufficient resources to sustain activities they are allocated for (Lucas et al., 2015). The department of Hawaiian home lands also lacks the financial and political commitment from the government to be successful (Lucas et al., 2015).

The office of Hawaiian affairs was created to benefit Hawaiians. OHA was created to give native Hawaiians a measure of self-governance where Hawaiians elected OHA trustees to administer trust proceeds and programs benefiting the Hawaiian community (MacKenzie, 2015a). OHA has a wide range of powers including the power to acquire, hold, and manage property; to enter into contracts and leases; to manage and invest funds; and to formulate public policy relating to Hawaiian affairs (MacKenzie 2015b). As originally created OHA was a vehicle for self determination (Mackenzie, 2015b) but a huge blow came to this program and a hindrance to policies benefiting the Hawaiian people with the Supreme court case Rice v. Cayetano (MacKenzie, 2015a). With this case the supreme court struck down the law restricting OHA voters to those of Hawaiian ancestry on the grounds that it violated the 15th amendment to the US constitution (MacKenzie, 2015a). Now all Hawaii voters elect OHA trustees and any resident can serve as an OHA trustee.

The Ali‘i trusts were designed by 4 different ali‘i for the betterment of the Hawaiian people (Seiden, 1992). Lunalili, established the Lunalilo Home that provides full care for seniors of Hawaiian or part-Hawaiian blood most of whom are in the eighties and nineties (Seiden, 1992). Many are assisted by subsidies provided for those unable to make more than a token payment. In 1909
Liliuokalani committed her estate for the benefit of orphans and destitute children in Hawaii with preference given to Hawaiian children (Seiden, 1992). The Lili‘uokalani children center has locations on each Hawaiian island except for Ni‘ihau and serves approximately 10,000 children each year (Liliuokalani Trust, 2015). When Queen Emma died in 1885 her will called for the creation of the Queen Emma Foundation committing its resources to the support of the hospital she had helped found (Seiden, 1992). The Foundation now provides a multimillion dollar contribution to the Queen's medical center each year (Seiden, 1992). Bernice Pauahi Bishop willed almost all of her vast estate to the establishment of two schools for the benefit of Native Hawaiians (Seiden, 1992). Kamehameha schools was establish in 1887 and since them it has vastly grown both in enrollment and outreach. While these trusts have had some success, particularly Kamehameha schools, they have struggled in accomplishing what they were set out to do at times and often do not have enough resources to greatly benefit Hawaiians.

There have been many shortcomings of the programs created to benefit native Hawaiians. Additionally wrongdoings have never been adequately addressed. One small glimmer of hope was the 1993 Apology Resolution. In 1993, President Bill Clinton signed a joint resolution that acknowledged the hundredth anniversary of the overthrow of the Kingdom, apologized for the United States' participation, and set the foundation between the US and the native people (MacKenzie, 2015a). This Apology resolution actually calls for a reconciliation process, but, it does not require any particular restorative action or
even set a process for reconciliation (MacKenzie, 2015a). Thus, the Hawaiian people remain in the same situation with little improvement to their well-being over the past century. As such among Hawaiians there has been a growing resentment an unrest.

With past wrongs and legal challenges, Hawaiians have attempted to gain federal recognition and sovereignty. Federally recognized native nations exhibit sovereignty over their members and territories (Mackenzie, 2015b). They exercise inherent powers of self government such as the ability to form a government, determine membership, and exercise police power (MacKenzie, 2015b). However federal recognition excludes aboriginal people outside the continental US and many kānaka maoli object coming under jurisdiction of the Bureau of Indian Affairs (MacKenzie, 2015a). Since the 70s, however there has been a growing movement of Hawaiians advocating for sovereignty. This movement continues to this day as a means for reconciliation between Hawaiians and the U.S. government. For some Hawaiians, only sovereignty will be an adequate solution to wrongdoings. While time may have changed circumstances of Hawaiians, it has not changed the initial wrong, made it any less reprehensible, or alleviated the consequential damage (MacKenzie, 2015b). Efforts to aid Native Hawaiians in response to such wrongs have significantly fallen short of expectations. State and federal governments have minimally aided these efforts and have caused hindrances to such efforts, thus in many ways government has failed Native Hawaiians.
2.6 Marine Management Today in West Hawaii

The state and federal governments have failed Hawaiians in many ways and marine management is no exception. It has been widely accepted for decades now that marine enforcement is lacking and fairly non existent (Friedlander et al., 2000) and thus marine management is not adequate. Further on, this study will discuss the sentiments and experiences ocean users have of marine management and enforcement.

With the exception of a couple state and federal agencies, the Department of Land and Natural Resources (DLNR) is largely the authority over the marine environment. DLNR jurisdiction includes state parks; historical sites; forests and forest reserves; aquatic life and its sanctuaries; public fishing areas; boating, ocean recreation, and coastal programs; wildlife and its sanctuaries; game management areas; public hunting areas; and natural area reserves (State of Hawaii, 2016a). The different divisions and offices within the DLNR are: Aquatic Resources (DAR), Boating and Ocean Recreation (DBOR), Bureau of Conveyances (BOC), Conservation and Coastal Lands (OCCL), Engineering Division (ENG), Forestry and Wildlife (DOFAW), Historic Preservation Division (SHPD), Land Division (LAND), State Parks (SP), and the Conservation and Resources Enforcement (DOCARE) (State of Hawaii, 2016b).

Of relevance to this study is DAR and DOCARE. DAR manages the state’s marine and freshwater resources through programs in commercial fisheries and aquaculture; aquatic resources protection, enhancement and education; and recreational fisheries (State of Hawaii 2016b). DOCARE is responsible for all
enforcement activities of the DLNR. With full police powers, these officers enforce all State laws and rules involving State lands, State Parks, historic sites, forest reserves, aquatic life and wildlife areas, coastal zones, Conservation districts, State shores, as well as county ordinances involving county parks (State of Hawaii, 2016b). The division also enforces laws relating to firearms, ammunition, and dangerous weapons (State of Hawaii, 2016b).

In terms of regulations, there are relatively little regulation on fisheries in West Hawaii. The Aquarium trade is perhaps, comparatively, the most regulated fisheries in West Hawaii. This is one of the reasons this fishery was chosen for this study. The Aquarium trade is also the largest commercial fishery in West Hawaii as other commercial activities are small scale family run operations. However, there is a large recreational fishery industry as well as extensive subsistence activities. Aquarium collectors are required to obtain a permit that does not have a fee (State of Hawaii, 2016d). See the next section for further regulations on the aquarium trade. However, aquarium collecting and all other activities that allow “any person to take marine life for commercial purposes” are required to obtain a commercial marine license with a $50 fee. Thus all commercial fisheries in Hawaii are required to have a commercial marine license. There are, however, no permits required for recreational or subsistence fisheries. Aside from permits, there are a few regulations on specific species (for more on this go to http://dlnr.hawaii.gov/dar/fishing/fishing-regulations). However, compared to other states and places, most ocean users believe there is a lack of
regulations, in addition enforcement is seen as fairly non-existent. As such, many ocean users refer to ocean activities as a ‘free-for-all’. As management currently exists, there is a potential for devastating impacts.

2.7 The Aquarium Trade in West Hawaii

The area studied is the West Coast of the Big Island—Hawaii—from Upolu point down to Ka Lae which is commonly known as West Hawaii (See Figure 1). West Hawaii is one of the most managed and best regulated marine areas in Hawaii due to the implementation of Act 306 and its corresponding advisory board, called the West Hawaii Fishery Council. West Hawaii is not only home to vital marine resources but is also steeped in Hawaiian culture.

The aquarium fishery developed at an extraordinary rate in the early 1970s in Hawaii (Walsh et al., 2004). The number of collectors in West Hawaii began to rise in the 80s due to an influx of new collectors and the relocation of collectors from other islands (Walsh et al., 20014). This led to a significant increase in the number of animals collected, and conflict escalated particularly between dive tour operators and collectors (Walsh, 2014). With continuing conflict and public concern this led to the creation of Act 306. In order to accomplish the mandates of this act, a community advisory group, the West Hawaii Fishery Council (WHFC), was convened by the Division of Aquatic Resources (DAR) in 1998 (Walsh, 2014). The WHFC, in accordance the Act 306,
designated a network of no aquarium collecting Fish Replenishment Areas (FRAs) that in addition to existing Marine Protected Areas (MPAs) comprised 35.2% of the coastline (Walsh, 2014) (See Figure 1).

Other regulations on the fishery include Aquarium permits required by statute (HRS § 188-31) which also require daily aquarium fishing trip reports (Walsh, 2014). Though required, the reliability of this data is dependent upon the sincerity and integrity of the collectors. With further concerns over the expansion of the aquarium fishery and its impacts, in 2013 DLNR established a ‘white list’ of 40 species allowed to be taken by aquarium fishers while all other species are off limits (Walsh, 2014). There also bag limits per day of Yellow Tang (Zebrasoma flavescens) and Kole (Ctenochaetus strigosus) of certain sizes, and

![Figure 1. Locations of Fish Replenishment Areas (FRAs) in West Hawaii and DAR monitoring sites (5 MPAs, 9 FRAs, and open sites). Source Walsh, 2014.](image)
a bag limit per day on Achilles Tang (*Acanthurus achilles*). These three species are the top three collected fish: Yellow Tang comprising of 84.3%; Kole 8.3%; and Achilles Tang 2.1% of the total catch (Walsh, 2014).

In 2014, there were 51 commercial West Hawaii Permits. Of the issued permits only 19 reported substantial catch of over 10,000 yellow tang—the main species in the fishery (Walsh, 2014). According to Walsh (2014), 78% of the fish caught in the state and 68% of the total aquarium catch value comes from the Big Island and almost exclusively from West Hawaii. The total value from the Big Island in FY2014 was $1,573,078 (Walsh, 2014). Of the top two most collected species, Yellow Tang is $4.04/fish and Kole is $2.47/fish ex-vessel value in FY2014 (Walsh 2014). Ex-vessel value is what collectors are paid for their catch and does not include additional dealer and retain sales (Walsh, 2014). In addition to being the main species in the fishery, yellow tang is also the most valuable as the ex-vessel price for Yellow tang exceeds $250/lb.

While specific export data does not exist for the aquarium fishery, it is clear that the vast majority of the catch is shipped out of state (Dierking, 2002; Walsh, 2014). The Hawaiian industry is driven by the demand created by hobbyist aquarium owners largely on the mainland US, Europe, and Japan (Dierking, 2002). Many of the marine ornamentals originating from the US are caught in Hawaii (Tissot and Hallacher, 2003; Walsh et al., 2004). The aquarium business in West Hawaii consists of wholesalers and collectors. Wholesalers are those who may only buy fish from collectors or may also go out on collections (Dierking, 2002). Collectors may be independent contractors with their own boat
or may work on the boat of another collector or wholesaler and in exchange some of their profit may go to the boat owner (Dierking, 2002). Costs to independent contractor collectors include Boat upkeep/maintenance, dive equipment, and basic supplies such as nets and buckets (Dierking, 2002). Cost to wholesaler business include the cost for fish, facilities (such as rent, electricity, and water), boat upkeep/maintenance, and shipping (Dierking, 2022).
Chapter 3

Method

The research utilized the political ecology approach. Political ecology is the study of relationships between political, economic, and social factors of environmental issues. All individuals included in this study had some sort of work or cultural connection to the ocean. Participants were acquired through snowball sampling where the recommendation and recruitment from previous participations encouraged their contribution. Individuals were interviewed to reveal their work and like histories as well as their perspectives, decisions making and interactions of ocean uses and the aquarium trade in particular. Common themes and sentiments expressed among participants were recorded for redundancy.

Interviews are a vital qualitative analytic tool as they reveal the context and reasoning behind an individual’s public stance. Interviews afford people a full opportunity to explicitly and thoroughly state their perspective in a one-on-on, private situation. Interviews provide anonymity and a level of comfort to share their individual (not stakeholder group-driven) perspectives and self-thinking (Berg, 2009; Angrosino, 2010; Lewandowski, 2015). Interviews are part of a qualitative research methodology that enables researchers and practitioners to gain a deeper understanding of what is happening in the hearts and minds of stakeholders (Draheim et al., 2015).
Common information sought during these in-depth interviews included:
where they grew up; where their family is from, as well as details about their family; where they went to school, as well as the level of education received; their current occupation, and what social networks they used to get into this line of work; and views on conservation, the sea, and Hawaiian culture. People were encouraged to speak in-depth about their interrelationships with others involved in the sea and aquarium trade specifically. Questions, being open-ended, varied among individuals but common details included their personal stories and interconnections to the sea; the importance of the marine environment in their lives and livelihood; and what changes they have witnessed to the environment and Hawaii. These interviews provided a window into their thoughts on current fishing practices and methods, their interconnections and perspective on Hawaiian culture, as well as their thoughts on natural resource management and legislation today.

There are four basic ethnic identities in West Hawaii: Hawaiians, locals, residents, and visitors. Hawaiians are defined as those who can verify Hawaiian ancestry (20 US Code § 7517). Locals for the sake of this study will be defined as those that were born and raised in Hawaii and whose family may have lived here for generations. Residents are people, mainly white people, that have moved to Hawaii and currently live here. Visitors will be considered non-Hawaiians that are visiting, including part-time residents of Hawaii. These four ethnic identities are important to recognize because there is a strong local sense of social hierarchy in understanding and accepting Hawaiian culture, with
Hawaiians being in the top tier followed by locals, residents, and visitors respectively. Ethnic identity in West Hawaii is an important feature to understand societal interactions. It is also key in shaping the shared concepts and practices within interest groups. While included for descriptive purposes, visitors are not apart of the study conducted as they are not relevant nor particularly involved in the aquarium trade conflict.

The interest groups selected for this study as central to understanding the aquarium trade include: Managers/Researchers, Enforcement officers, Politicians, Subsistence Fishermen, Commercial Fishermen, Commercial Aquarium Collectors, Tourist boat operators, and Hawaiian and Local *kupuna* (wise elders). Interviews were conducted from January until March of 2016. 20 interviews were conducted during this time (See Table 1 to see the ethnic identity of interest groups interviewed). Interviews on average lasted around an hour and a half with the shortest interview being 55 minutes and the longest being over two and a half hours.

3.1 Levels of Conflict Model

The levels of Conflict model was used to analyze the interviews conducted (See Figure 2). The levels of conflict model is an analytical tool for exploring the types and intensity of conflict that may exist in a conservation conflict context (Madden and McQuinn, 2014, 2015). Conservation conflicts result from disagreements and the seemingly incompatible agendas that are commonly found among groups and individuals within marine conservation and
They can deepen into intractable conflict because of deeper social conflict that may have little to do with the stated dispute (Coleman, 2011; Madden and McQuinn, 2014, 2015). The dispute is the first level of conflict. Disputes are the observable, tangible, immediate expression of a conflict. People tend to feel comfortable asserting their issues and needs about a dispute, but in doing so they often create the illusion that this is their main or only source of distress in the conflict (Madden and McQuinn, 2014, 2015; Lewandowski, 2015; Parsons, 2015).

The next deeper level of conflict that may exist is underlying conflict. Underlying conflicts are a history of unresolved disputes. Underlying conflicts exists when past interactions, decisions, or events leave the parties feeling dissatisfied, disrespected, or disempowered. When underlying conflict exists, it will saturate any presenting dispute with added meaning, emotions, and weight that may seem disproportionate to the concerns at stake in the dispute alone (Madden and McQuinn, 2015).

Figure 2. The three levels of conflict that may exist in any conservation conflict context (and the corresponding processes needed to address conflict at that level). Source Madden and McQuinn, 2014.
Identity-based, or deep-rooted, conflict is the third level of conflict. Identity-based conflict involves deeply held values, beliefs, or social-psychological needs that are fundamental to the identity of at least one of the parties involved in the conflict. When identity conflict is present, individuals and groups make prejudicial assumptions and judgments about others based on their group affiliation. They may assign responsibility to the other individual for past actions taken by other members of their group (Madden and McQuinn, 2015). These represent the levels of the conflict model which will be used to analyze the conflicts of the aquarium trade and management of the trade in West Hawaii.
4.1 The Dispute

The dispute today surrounds the actions of aquarium collectors and the management of the fishery in West Hawaii. The historical dispute between aquarium collectors and dive tour operators led to the implementation of Act 306 and its Fisheries Replenishment Areas decree. This dispute was caused by diminishing fish populations largely due to aquarium collecting and the clash between operators and collectors utilizing the same area. This dispute was largely settled with the implementation of Act 306, but resounding resentment and emotions from heated debates and social clashes that occurred still exist. Although, these groups may appear largely peacefully and coexist on the water today.

Managers and those involved in implementation and regulation of the aquarium trade, particularly the FRAs, believe that conflict around the aquarium trade is largely settled. They believe the conflict that does exist today is only from a couple people on Maui—completely outside of west Hawaii—lobbying against

<table>
<thead>
<tr>
<th>Ethnic identities/ Interest groups</th>
<th>Hawaiians</th>
<th>Locals</th>
<th>Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers/ Researchers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enforcement officers</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Politicians</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Subsistence Fishermen</td>
<td>8</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Commercial Fishermen</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Commercial Aquarium Collectors</td>
<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Tourist Boat operators</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Kupuna</td>
<td>6</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
the trade and besides that, there is no other substantial conflict with the trade. However, this is not completely accurate as will be discussed in further sections. The current dispute is about the possible and potential impacts from aquarium collection and questions on the effectiveness of management and enforcement on the aquarium trade. However, the main conflicts are underlying and identity-based/deep-rooted conflicts that are not unique to the aquarium trade. These are conflicts that FRAs cannot solve and are not conflicts with species’ population biology but of the methods of operation and identities of those involved with the trade and even management.

As regulations and enforcement currently exists in West Hawaii there is a potential for drastic impacts to occur if fisheries continue to go unchecked. There are no caps on the amount of people allowed on the water or on how many fish are allowed to be taken. Not only are there concerns about activities today, but if population and ocean users continue to increase and grow this is particularly daunting for the future especially with looming anthropogenic and natural threats continue such as the drastic bleaching events that have recently occurred.

4.2 Underlying Conflicts

Hawaiians largely feel that, like in management, their culture and voice is not heard or worse, is ignored. This perceived lack of representation in management is further deepened by Hawaii’s colonization history and identity-based conflicts. The underlying conflict in Hawaii includes the history of insufficient enforcement as well as previous disputes that were not settled in a
satisfactory way, or may have been perceived as offensive. Hawaiians often feel
disempowered and disrespected with the lack of representation. A common trend
in Hawaii for most public meetings (often regardless of the issue) is that
community members often comment that they feel most government proposals
are a 'done deal' and that community involvement does not matter, will not be
taken into account, and simply will not be listened to (Sprague and Draheim,
2015).

The basis for Hawaiian’s dispute with aquarium collection and
management is rooted in a history of strained relationships between groups and
a feeling of disrespect and disempowerment. The history of unresolved conflicts
(not only with the aquarium trade) influence all present-day interactions. This is
demonstrated when individuals bring up frustrations from past conflicts
regardless of the specific issues at hand (Lewandowski, 2015). Hawaiians,
overall, feel they have lost control of what is sacred to them. Additional stressors,
such as increased tourism and the lack of knowledge of most hired managers,
only work to compound feelings of powerlessness (Higgins-Zogib, 2007,
McCarthy, 2015). As with many management and development issues, the
community feels disenfranchised by the slow timescale and the potential harm to
livelihood and the environment from top-down decisions being made on
resources that they depend on for sustenance, recreation, and cultural purposes
(Weiner, 2015). Marine managers and scientists have been equally frustrated
since, despite their hard work, the community believes they are not making an
adequate effort. Hawaiians routinely paint marine managers and their scientists
as "bad guys" who do not care about the community (Weiner, 2014, 2015). Managers and grassroots organizations also feel discouraged by the long time frames necessary to produce rule changed (Weiner, 2015).

### 4.2.1 Marine Management Today

The history of insufficient enforcement of marine activities leads to a lack of trust towards managers and a lack of confidence in management in general. As one resident and manager states, and is echoed among participants and commonly acknowledged in West Hawaii, “we do not have enough officers, they do not have enough money, and they do not have enough training out on the water”. These concerns have existed for decades now. Not only is enforcement understaffed and underfunded but the jurisdiction of enforcement is huge. As mentioned previously, DOCARE is responsible for all enforcement activities in DLNR. One marine manager states, “the mandate or jurisdiction of the enforcement agency is just so gigantic and giving the existing resources and personnel, there is no way that it can be done effectively”. Thus though the aquarium trade may be regulated, the actual implementation and enforcement of regulations are questioned. Particularly, when there have allegedly only ever been four citations on aquarium collectors over thirteen years, three of which were issued on one day (Lucas-Zenk, 2012).

Though there is an understanding of the limitations of enforcement, there is a huge frustration among marine managers and enforcement officers. Despite their efforts, they do not have the proper tools for successful management. The
system in place now seems to be acting against them. This involves the legislative process needed to implement new regulations. This process is lengthy and can take many years to go through as the proposal is passed through many different offices with each step having the potential for the proposal to get dismissed or killed (See Figure 3).

![Figure 3. How a House Bill Becomes a Law. Source House Majority Staff Office Hawaii State House of Representative with contributions from the Senate Majority Research Office, 2013.](image)

The legislative hindrances to enforcement include simple regulations and authorities that DOCARE does not have, such as inspecting coolers. Thus, this gives the opportunity for illegal activities to exist unregulated with little knowledge of the activities. In terms of the aquarium trade, there are only 40 species allowed to be taken with a couple species having size and bag limits. Without the ability to check coolers any illegal take and activity goes unchecked. While managers
believe collectors are fairly compliant with regulations the reality is unknown. This unknown fosters a lack of trust, particularly from locals and Hawaiians who do not support the trade. Thus a simple regulation such as allowing cooler inspection could greatly improve enforcement efforts and potentially aid in improving trust.

Even when citations are issued, there is little guarantee that acceptable or even any penalties are used. An example of this was when a pregnant Hawaiian monk seal was shot and killed on Kauai, allegedly accidentally. As this is an endangered species this could result in a misdemeanor charge and punishable by a maximum of one year in prison and a fine of up to $50,000 (Leone, 2009). The offender pleaded guilty and got a 90 day term and a $25 fine (Leone, 2009). As a critically endangered species many believe, even if it was accidental, this is not nearly enough of a punishment for two dead female seals. It is also not a great warning or deterrent for other illegal activity. While this incident was not located in West Hawaii, it is a common example for all of Hawaii. One DOCARE officer in West Hawaii notes that judges, legislators, and government officials responsible for implementing/accepting regulations and penalties often do not have adequate knowledge and understanding of the natural resources and the laws or reasoning protecting/regulating them. As such these cases are not adequately incorporated or considered. In court many cases will get thrown out or only receive minimal consequences. He also notes, however, that there has
been a new development of an environmental court for cases dealing with natural resources. This gives more promise and hope for these cases to get adequate review.

Management and enforcement is not without effort and there have been many good policies and accomplishments on their part. But, comparative to other states and even to traditional Hawaiian management, there is a very long way yet to go. Unfortunately, legal and legislative hindrances have prevented even the simplest management tools, which make more complex and integrated solutions—such as adaptive management—unattainable with the system in place today. Due to these shortcomings, many ocean users, regardless of ethnic identity, believe that management efforts are futile if the enforcement power is not there. Thus, instead of implementing more regulations, instead, there needs to be an improvement of enforcement.

4.3 Identity-based or Deep-rooted Conflicts

Identity conflicts exist both between groups and within groups. When identity conflict is at play, actions and reactions may appear ‘irrational’ to the uninformed observer or participant (Madden and McQuinn, 2015). The intensity of conflicts have grown as deep-rooted identity conflicts in Hawaii have been ignored. Given emotionally charged and heated protests, debates have arisen over development and management proposals. Hawaii’s social and political
history has contributed strongly to the identity-based conflicts that are probably the most difficult issues currently driving disagreements (Sprague and Draheim, 2015).

4.3.1 “Outsider” Mentality

Today in Hawaii, the socioeconomic challenges include underlying and identity-based conflicts primarily revolving around the struggle to maintain traditional Hawaiian cultural practices, and conflict between local/native versus ‘other’ (Sprague and Draheim, 2015). Hawaiians and locals perceive these ‘others’ as outsiders and foreigners who were not born in Hawaii. This conflict of ‘us versus them’ is heightened by the history of colonization and its residue of power imbalance associated with the wealthy and privileged foreigners who overthrew the Hawaiian monarchy.

Resentment continues to boil to this day towards the American government that illegally annexed the state so that today’s white outsiders are frequently associated and blamed for this loss. Thus distrust and dislike run deep not only toward an alien government, but towards its managers and aquarium collectors categorized as “others”. This distrust includes groups that consist largely of white residents, such as many in the tourism industry, hotel owners/managers, development planners, and managers. The identity conflict that started generations ago shapes Hawaiian and local perceptions and receptivity to anyone with “outsider” status, even if the outsider is far removed from the perpetuation of that conflict (Draheim et al., 2015). The majority of
managers and nearly all aquarium collectors in West Hawaii are comprised of largely white residents. Thus they are viewed as “outsiders” and “foreigners”. Activities and actions that are unfavorable or unsupported by Hawaiians and even locals are deepened by this aspect. The range of issues associated with the ‘outsider’ image are often grouped together and may come out as emotions fueling disputes.

This ethnic conflict is particularly troublesome because ‘outsiders’ remain largely in authority positions controlling Hawaii. Although there are a few exceptions, the scientists and managers/agencies in charge of decision-making, as well as the vast majority of business owners, consist predominantly of white residents. Hawaiians and locals, on the other hand, are primarily the hired labor. This leads to a power and economic imbalance in Hawaii where Hawaiians feel threatened and powerless. Additionally, the population of Hawaii is constantly growing as more and more outsiders move into the islands due to the beauty and appeal. A number will establish businesses or be hired in the ever-expanding tourism industry (e.g. snorkeling and dive operators) or join the ranks of managers and scientists who are in charge. And as the islands become ever more accommodating to wealthy tourists and visitors, the Hawaiian belief that priority is given to “foreigners” is fueled.

4.3.2 Community Input

Hawaiians and locals often feel as if they are viewed as second-class citizens who are looked down upon and ignored. White residents and visitors, on
the other hand, sense the anger and feel targeted and resented. The lack of rapport between the ethnic groups makes it easy to draw assumptions and to use stereotypes to characterize the other’s identity and motivations (Booker and Mayock, 2015). Thus during public hearing and at other public meetings, Hawaiians feel ignored. One Hawaiian commented that the Hawaiian voice continues to be overshadowed by outsiders who move in and now claim to be “part of us” and be “our voice” and say they know what is best for Hawaiians and locals without understanding their sentiments. One Hawaiian kupuna stated, “this now occurs on a daily basis, now these residents transfer what they think they know about something, that has a deep meaning for Hawaiians, and they will not talk about this cultural connection but whatever opinion they have on it.”

The voice of residents is heard and speaks in the name of the people of Hawaii, whereas the authentic Hawaiian voice is silent because they couldn’t go to the meetings, weren’t invited, or were just plain ignored during the meeting. Public hearings are notorious in the USA for favoring the formally educated, perhaps retired lawyers and teachers, who are familiar with the rhetoric of meetings and use large words among themselves and those who are holding the meetings. They speak in the language of power—mainstream university English—instead of local or Hawaiian English. The lack of voice and unequal power creates a lack of trust (Madden and McQuinn, 2014; Gleason, 2015).

With the power imbalance, Hawaiians believe their traditional knowledge is not adequately respected or incorporated. Hawaiians believe that the traditional knowledge and “testimonies from kupuna, are just as great and equal
to that kind of knowledge sought in a scientific way” as one Hawaiian declares. Scientists, researchers and managers continue to downplay the knowledge of Hawaiians and *kupuna* because maybe they do not understand it or it is different from the academia they are accustomed to. But to Hawaiians in particular, this knowledge is important and just as relevant to scientific data. One Hawaiian notes, “this is knowledge that has been passed down for generations. In comparison, in the scientific world you may study something for two years and publish an article on it and are suddenly and expert”. This is not to reject scientific knowledge, but to acknowledge the relevance of traditional knowledge as substantial as well.

4.3.3 *Hawaiian Culture and the Ocean Today*

In addition to the identity conflicts with the ‘outsider’, Hawaiians believe there is a lack of understanding to the culture from non-Hawaiians. This section seeks to offer a glimpse of the cultural connection Hawaiians have towards the ocean. All Hawaiians in this study explained that their connection to the ocean is a relationship. This relationship is built and flourishes through the interactions and connections developed. Even non-Hawaiians can understand this relationship stating the joy and peace they may have being in the ocean and enjoying ocean activities. For Hawaiians, however, this relationship aids to connect individuals with their culture and their ancestors. One Hawaiian cultural practitioner states, “you do not only look at this ocean as *ohana*, but you treat it as *ohana*”. There is a depth and a sacredness of the ocean to the Hawaiians. It is
where you can enjoy serenity and peace, and can feel the mana (spirit) around you and connect to your traditional and cultural roots. An ancestral descendant of the land refers to her home shores as relatives, “they are my elder, and I am a more pokīʻi, a young offspring of these places”.

The cultural connection is cultivated through your interaction, learning and use of the resources. When talking about the cultural aspects/uses of the ocean one Hawaiian kupuna remarks, “there is the medicinal effect, then there is the outright food source aspect, there is also an aesthetic aspect, then the ceremonial. That is everything, that is health, that is food, that is aesthetic, and that is ceremonial”. Another Hawaiian practitioner notes “(the ocean) is where she goes to heal, it is where so goes to be fed. That feeding is a physical feeding but beyond that is it s spiritual feeding. Sometimes just to be there and breath the air is enough, it fills you”. There are many different traditional, ceremonial and medicinal uses of marine resources (Titcomb, 1951). But, it is not just the resources but even certain places are believed to be healing or have cultural uses.

The ocean is of course, well known as a food source. A Common phrase used by Hawaiians and locals alike, refer to the ocean as an icebox—it is their food source. The ocean is a great means of sustenance to them. As such the ocean means survival, it was the main source traditionally for Hawaiians and to many Hawaiians today they refer to the ocean as life. It created and sustained
life traditionally and to many, even today. As the ocean thrives so do the Hawaiians, and for many, their spiritual and cultural fullness is directly linked to the health of the ocean.

In regards to fishing, traditionally in Hawaii it was solely for food purposes and for necessity, and waste was never allowed. The idea and practice of “only taking what you can eat” and not wasting anything stemmed from traditional culture, and it still exists today to some extent. Up until the 1970s and 80s, fishing activities were largely self-regulated as these traditional conservation ideals were widespread and socially enforced by family and neighbors. However, as population in Hawaii grew, with the influx of residents, and tight-knit communities broke down, this mentality started to shift. While these ideals are still instilled by kupuna, and practiced and taught among families, the increase in ocean users and improved gear has led to an increase in competition. This competition has spurred the change of mentality from traditional self-restraint to western ideals and individual incentives that lead to a tragedy of the commons situation.

4.3.4 Hawaiian Culture and Management in Hawaii

Hawaiians believe that non-Hawaiians do not fully understand the cultural connection to the ocean. In addition, with this lack of understanding, the Hawaiian culture is not adequately incorporated in management. One Hawaiian kupuna states, “the state does not know what the cultural resources are because they lack the knowledge. Now you see them starting to hire more folks with the
background but they just don’t have it”. There cultural aspects of marine resources are not properly incorporated as there is not adequate analysis of such. Even when analysis of cultural components are included, there is no measurement or requirement of an ‘adequate’ analysis. As regulations and management currently exist, one Hawaiian kupuna remarks, “Hawaiian culture is not represented enough. The legislature is weighted by influences other than the culture or are disconnected from the culture and that is why Hawaiians get pissed off”. It is a common belief that even when cultural input is sought from Hawaiians, the government or management does not listen to them they just ‘go through the motions’ or try to appease them but do not listen or grasp that input.

One clash of beliefs that exist are the methods of regulating and the understanding of place. In Hawaiian culture, the notion of place is vital in management and everything varied by ahupua’a, or by place. This was important as species and varied between places. Each ahupua’a is unique and even if they are on the same island or even right next to each other, their resources greatly varied. As such the regulations varied between these areas and blanket regulations were not a concept. Today there is a struggle between modern management and Hawaiians with the importance of place and the variance of resources and needs of ahupua’as. Hawaiians today, particularly those involved in grassroots community-based management efforts, believe that regulations need to be specific to the ahupua’a and the resource requirements there. However, with the increased of mobility and ease of travel in modern society, managers often rely on blanket solutions to reduce confusion among both users
and enforcement officers. While the resources and ability of management and enforcement need to be taken into account, one cannot deny the drastic differences between areas and coastlines in Hawaii and thus the benefit different management methods would have.

Over the last couple decades, there has been an improvement in incorporating and acknowledging Hawaiian cultural aspects, but there is still a lot of room for improvement. Not only does Hawaiian culture need to be taken into account but many Hawaiians, locals, and even residents note the success and appeal of the traditional management system. While there are definitely aspects of this system that would not be appropriate in society today, many people in Hawaii see the appeal of incorporating traditional aspects into management today.

4.3.5 The Aquarium Trade and Hawaiian Culture

With regards to the aquarium trade and Hawaiian culture, one Hawaiian practitioner stated that the aquarium trade is “culturally inappropriate”. The reason cited is that regulations and management efforts on the aquarium trade are based mostly on a biological rational, but that social and cultural concerns are not factored in. Many reef fish that are allowed to be taken by the aquarium trade have significant cultural and sustenance value. Of particular importance are Kole and Pakuikui (Achilles tang). As noted previously, these two fish are among the top three most heavily collected fish. Pakuikui are of concern because their populations continue to decline in West Hawaii (Walsh, 2014). One Hawaiian
*kupuna* contests, "(aquarium collectors) should not take the Kole or the Pakuikui, because that is our food. You get it for an aquarium for what, just to look at it? As it is there are so many people who do not have food." With declining resources and the threat of multiple stressors, many Hawaiians do not feel it is right for aquarium trade to be able to take these species, and in some cases they even want the activity banned, as food sources and sustenance practices are threatened.

To a great extent Hawaiians do not support the aquarium trade in Hawaii. In contrast to most other fisheries, the aquarium trade as previously noted, is almost exclusively practiced by non-Hawaii residents. Even while they may have been living here for many years, they do not have a great understanding of Hawaiian culture or a connection to Hawaiian people. Thus they do not understand the sentiments behind their reasoning. Other fisheries, on the other hand, even commercial fisheries, include a number of Hawaiians and thus are seen to support Hawaiians and locals.

Additional resentment and hostility exists because many Hawaiians and locals feel that aquarium collectors and managers are on “the same side”. Aquarium fishers thoughts are heard and incorporated. This sentiment exists due to the social connection aquarium collectors and managers have shared. This Hawaiian sentiment has been further supported by the fact that the previous head of DLNR was actually a former AQ fisher. Thus Hawaiians and locals
associate those groups as closely related and supportive of each other. In contrast, Hawaiians believe their social circles do not intermingle with managers and therefore feel their concerns are without voice.

Additionally, the aquarium trade is not seen by Hawaiians to benefit Hawaii in general. The reason is that most aquarium fish are shipped off the island and thus Hawaiians believe the majority of the revenue produced from the fish and the market benefits from this fishery exist outside Hawaii. An aquarium collector today says, “there is not much of a market here in Hawaii” and another former collector notes, “that probably 95-98% of the catch gets shipped off island”. West Hawaii only has small-scale family commercial fisheries, with the large-scale commercial fisheries and international fisheries operating out of Oahu. Thus, the majority of the catch from West Hawaii’s other fisheries remain in the islands and benefit the local people in the local market. Hawaiians see these fish as taken as a necessity for sustenance and sometimes economically, and thus are these fisheries can be culturally justified as well as justified with environmental concerns and stressors at play.

Hawaiians see the aquarium fishery, on the other hand, as a luxury fishery for a hobbyist industry that exists almost exclusively out of the islands. One Hawaiian kupuna expresses:

you cannot find many Hawaiians who identify with the practice. Aquarium fishing is purely extractive, it does not do anything for the local people. The fact that collectors tend to take the yellow eyed kole and pakuikui, which are food fish for the Hawaiians, that is very irreverent to the culture. At least stay away from something that has cultural significance to the local folks, but the state does not realize it is culturally inappropriate.
Furthermore, it is a hobby that Hawaiians would likely not be able to afford.

Not only is the aquarium trade not utilize as a food, but there is a great deal of waste associated with the trade (See figure 4). Throughout the collection and transportation process, mortality is associated with each step. Additionally, harmful practices are associated with the trade and are technically legal. These include breaking corals to ease collection, venting where the swim bladder of the fish is popped to reduce decompression time, and finning where spines and fins of fish are cut to reduce damage or breaking of collection and transportation materials. While managers believe these methods are largely not practiced or minimally practiced among collectors today the reality is unknown. Locals and Hawaiian do not trust the aquarium collectors, though, and do not believe they are operating in a legal or sustainable way. The lack of trust goes back to their identity conflicts as well as the shortcomings of enforcement. In addition Hawaiians do not trust manages either as they feel they are being undermined.

Figure 4. Photo of aquarium fish dumped in a Harbor garbage that sparked public outcry. Photo by Terri Leicher in 2010.
4.3.6 Intragroup Conflict (Among Hawaiians)

While there is a general consensus among Hawaiians that cultural aspects are not adequately incorporated in marine management and past wrongs have not been adequately addressed, there is also conflict among Hawaiians. In the marine management sector, Hawaiians recognize that traditional practices and resources are threatened if things continue as they are today. As such Hawaiians are divided among those who believe Hawaiians have a right to fish and those who believe we have a right to *malama* (take care of). As Hawaiian fishing methods and practices are threatened as the people struggle and the influx of people displaces the Hawaiians from their home and increases competition for resources, the majority of Hawaiians feel it is their right to be able to fish. While acknowledging more needs to be done to help the Hawaiian people and protect the Hawaiian culture, there is a smaller but still significant group of Hawaiians that believe Hawaiians have a right and responsibility to protect the resources.

While fishing is a huge part of the traditional culture so to was the understanding of all the population dynamics of the resources and protecting them. Stewardship and sustainability was at the root of traditional Hawaiian philosophy. One Hawaiian *kupuna* observes, “there are such a high percentage of Hawaiians for whom (fishing) is a legal right as compared to an ecological privilege”, and another states “everybody says, I have a right to fish, it is my native right. But you forgot the other part, you have the right to give, you have the right to *malama*”. Hawaiians advocating to *malama*, note that they too want to be
able to pass down cultural practices and teach the keiki (children) how to fish and the different methods. But they also note that if we do not protect the resources and if we do not malama, there will not be any resources for you to catch or teach the keiki about.

Traditionally, Hawaiians were not allowed to take whatever they wanted wherever they wanted. In particular, you only fished in your own ahupua’a you did not fish elsewhere without permission. In West Hawaii, there are a substantial number of Hawaiians advocating to malama—but likely still a majority in West Hawaii who believe fishing is an ecological right. A great deal of outcry and advocates for native rights, however, stems from Oahu. Additionally, managers in West Hawaii note that when implementing regulations, it is not so much local resistance but outside resistance. There has always been tension with Oahu fishers as they do not have as healthy of resources and they do not want any regulations and will fight regulations in other areas out of fear of actions elsewhere will spur more regulations on them. Many ocean users here state that Oahu is a dessert and there are no fish there. Oahu is viewed as a sort of warning to the other islands of what could become over time. Oahu fishers, however, pose a threat to other islands where they can bring their gear and impact the resources. One incident in Molokai lead to Oahu fishers being attacked after rising tensions between Oahu and Molokai fishermen (Davis, 2014). Molokai receives the greatest impact of Oahu fishers being the closest island to Oahu and the easiest accessed by those fishers.
Chapter 5
Conclusion

Hawaiian ideals and culture often clash with managers and aquarium fishermen. This is due to identity conflicts and the history of what is referred to as colonization in Hawaii but to Hawaiians is more accurately known as American occupation of Hawaii. Aquarium collecting in particular—as a fishery that is not used for food purposes, is comprised almost exclusively as residents, and supports an industry outside of the state of Hawaii—this fishery is seen as particularly lacking in compassion and understanding towards the Hawaiian culture. In comparison, tour boat operators are also comprised largely of residents. However, while tour boat operators do not largely intermingle social circles that include Hawaiians, they are more sympathetic and understanding to the Hawaiian culture. Tour Boat operators may read about the Hawaiian culture and talk about it on their boats and such and may utilize it as a means for profit. However, they still may not have a good understanding of Hawaiians today and the depth and meaning the culture may have.

Hawaiians on the other hand are not supportive of tour boat operators either as today these operations have greatly increased over the past decades and Hawaiians feel these operations just exploit their native resources. Activities in particular of concern are dolphin and manta excursions. While these activities are not extractive, the amount of people and boats that have significantly grown are concerning and threatening. In addition it is a reminder that there are no
regulations and management controls on the amount of people out on the water and these activities can easily get out of hand and some locals and Hawaiians believe they already are. As there are a great number of boats and people interacting or attempting to interact with these species it is not hard to see that these activities likely have an impact. In addition, the majority of tour boat operators are residents and a significant amount consist of those who have very recently moved to the islands. As such they are contributing to the society and culture that is driving Hawaiians out of their homes and causing Hawaiian people and the natural resources to suffer.

While Hawaiians, tour boat operators, and aquarium collectors largely do not interact with each other and each in turn have their difficulties with management there is some hope. NGOs and nonprofits however, are a glimmer of hope in West Hawaii. They are able to aid in implementing regulations and helping grass roots community endeavors. Additionally while there are identity conflicts between groups such as Hawaiians and managers, there are some common objectives and ideals among the two groups. NGOs and nonprofits have helped at times to aid in communication and finding common ground.

5.1 The Future and Potential Solutions

There is a need to improve and perhaps reform management and enforcement in Hawaii. A great deal of the shortcomings result, not from a lack of effort, but rather a systematic failure. More resources and regulatory tools need to be allocated to officers and there needs to be a recruitment, of sorts, to gather
more officers. In addition consideration should be given into reforming enforcement. Officers should have jurisdiction in certain departments and training in that area so that their job is not so complex, convoluted, and overwhelming. However, that would require a sufficient number of officers. Until enforcement is adequate, properly funded and staffed, and has the tools and means to actually enforce activities, management efforts may be futile. With the shortcomings of enforcement, there needs to be support and encourage community efforts such as community based management efforts and programs such as makai watch. Makai watch is a program where NGOs and volunteers aid DLNR in management by promoting compliance to rules, education, and monitoring (State of Hawaii, 2016f).

However, there are still concerns of management. In particular, rules should not just be based on scientific data, social and cultural aspects need to be incorporated. Economic as well, but the well being of the people of Hawaii needs to be included in this and not just visitor accommodations and tourist activities. In marine activities, concerns to ocean users are not necessarily particular methods but just those that extract excessive amounts. There needs to be a limit on take and species need time to be able to sustain themselves. As such spawning seasons and kapu methods would be beneficial to management.

Among all ocean users and ethnic identities interviewed they all agreed that more regulations are necessary on ocean resources and fisheries. There are no recreational fishing licenses and commercial fishing licenses need to cost more. Particularly among locals and Hawaiians, they acknowledge the success
of the traditional management and how resources thrived. As such they believe methods used in the *kapu* system should be utilized today in Hawaii such as spawning seasons, closed areas, closed times, size limits, and bag limits. They believe that there needs to be more research to understand the population dynamics of these species and institute more regulations according such info. As was the tradition with *konohiki* and *kapu* management. These efforts should include cultural input as well as scientific population dynamics. Traditionally, management was adjusted according to observations and population changes. As such the inclusion of adaptive management methods would be completely compatible with the Hawaiian culture and appropriate today. Again, these methods should be based on scientific data and cultural input.

While many are more sympathetic to subsistence fishing opposed to commercial fisheries and ‘luxury’ fisheries such as the aquarium trade, this does not mean that subsistence or recreational fisheries should go on without regulations. Indeed these fisheries are about food and need, but the ideals and practices of traditional Hawaiian culture, were to ensure sustainability and survival of both the people and the culture for generations. As such, while it may be more of a necessity, with the continual influx of people and the growing population, in addition to the expansion of further stressors such as climate impacts, regulations and restrictions should be placed so that these fisheries can also be sustainable. However, the Hawaiian culture needs also need to be taken
into consideration. While the practices and resources need to be sustainable so to does the Hawaiian culture. Thus particular methods and practices that are vital to the Hawaiian culture also need to be protected.

5.2 The Aquarium Trade

In terms of the aquarium trade, while it perhaps may generate revenue, many locals and Hawaiians of West Hawaii do not believe this is a beneficial fishery and actually is more harmful by the amount of fish taken for the trade. While there has been effort by managers to effectively regulate the trade, the cultural and social concerns need to be incorporated. This includes regulating or even not allowing take culturally significant fish and fish populations that are threatened or do not have enough data on the population dynamics. As such, one solution would be to only allow yellow tang to be collected. The yellow tang may have had traditional usage and may even today, but largely it is not eaten. Additionally, as noted previously, this fish constitutes the vast majority of catch of the aquarium trade and the majority of value in West Hawaii. Thus, the aquarium trade would still be able to survive catching this fish.

As there are concerns and shortcomings of enforcement, only allowing one species could simplify enforcement on the trade. Additionally, this could ease regulation and analysis concentrating on one species. Walsh (2014), notes that this species has seen to benefit and thrive the most out of aquarium species with the implementation of FRAs. With this, the sustainability of the fishery may be
more assured and stable. However, with substantial and relatively unfamiliar threats of coral bleaching still loom, in combination with other stressors, this species will still need to be closely surveyed.

By restricting the aquarium trade to only one species, this may add in satisfying cultural and social inputs of ongoing conflict with the trade and concerns over cultural resources. However, those locals and Hawaiians who feel that yellow tang has disappeared from certain areas or may have particular sentiments to this fish may still have concerns and conflicts with the trade. In addition, the aquarium trade will likely still be able to survive in West Hawaii collecting this species, but it will also impact the business and activities of collectors particularly those that may specialize in collecting species other than the yellow tang. As such, competition and conflict may increase among collectors. Aquarium collectors may also not be receptive to this suggestion as they may feel unfairly targeted due to underlying conflicts of continually being blamed for many resource problems. While aquarium collectors feel there are substantial regulations on the trade, in contrast, Hawaiians and locals are skeptical and do not see the trade as regulated due to practically nonexistent enforcement.

5.3 Conflict Resolution and Management Today

The current government decision-making process is not successful for resolving seemingly intractable issues. While there is no doubt science informs understanding issues, science cannot be pursued as the sole means for
resolution (Lewandowski, 2015). Agencies need to develop new ways to guide science, linking science to crucial issues of social value and equity to inform policy decision-making (Ludwig et al., 2001; Reed, 2008; Lewandowski, 2015).

Hawaiians and locals have been defacto left out of the decision-making processes. Although transparency is promoted in many processes, the government and its managers have not listened to these important stakeholders and given them a seat at the table when making decisions (Lewandowski, 2015). Today’s processes fail to address the heart of the issue—the need to transform conflict into effective action (Madden and McQuinn, 2014; Lewandowski, 2015).

Hawaiians and locals need to be heard and allowed to express emotion before they can open their minds and consider compromise (Innes and Booher, 1999; Bush and Folger, 2004; Lewandowski, 2015). They also need to understand the larger picture of the issue, including regulatory and political constraints, as well as how their positions affect other stakeholders (Lewandowski, 2015). An alternative approach to the on-going one will no doubt cost time and money, but so will failed linear processes, government indecisions or poor decisions, and litigation (Ewel, 2001; Smith and McDonough, 2001; Irvin and Stansbury, 2004; US Institute for Environmental Conflict Resolution, 2005; Arganoff, 2006; Lewandowski, 2015). The costs of developing and accepting alternative processes should be considered as long-term investments, where benefits will ultimately outweigh costs (Lewandowski, 2015).

Most will likely agree that current approaches are not working with the same set of issues revisited again and again without significant progress.
(Lewandowski, 2015). No management system, however, is perfect, and constant monitoring and adaptation in response to the grassroots Hawaiian social dynamics for conflict resolution within the system will be essential if marine management is to succeed (Ostrom et al., 1999; Adams et al., 2003; Gleason, 2015). It is imperative that conservationists work toward a holistic understanding of conflict that includes these factors. This can only be accomplished if all parties are willing to honor historical wrongs then overcome past prejudices and lack of trust by learning about each other’s values, including the languages used to communicate them (Mallarach and Papayannis, 2010; McCarthy, 2015). This is the place to start despite people being entrenched and invested in the maintenance of their prejudice/distrust (McCarthy, 2015).
References


House Majority Staff Office Hawaii State House of Representative with contributions from the Senate Majority Research Office. (2013). “A citizen’s guide to participation in the legislative process”. *Hawaii State Senate*


Maly, K. and Maly, O. (2004). “Ka Hana lawai’a a me nā ko’a o nā kai `ewalu, A history of fishing practices and marine fisheries of the Hawaiian islands”. *Kumu Pono Associates*


Appendix. Common Interview Topics and Responses from Ethnic groups. While each interview and questions were unique to the individual, common themes and ideals are presented below.

<table>
<thead>
<tr>
<th>Ethnic Identity/ Interview Topics</th>
<th>Hawaiians</th>
<th>Locals</th>
<th>Tour Boat Operators (Residents)</th>
<th>Aquarium Fishers (Residents)</th>
<th>Managers (Residents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine environment and coral reefs</td>
<td>• Food Source</td>
<td>• Food Source</td>
<td>• Livelihood</td>
<td>• Where they make their living</td>
<td>• Their responsibility</td>
</tr>
<tr>
<td></td>
<td>• Place of Enjoyment</td>
<td>• Place of Enjoyment</td>
<td>• Place of enjoyment</td>
<td></td>
<td>• Part of who they are</td>
</tr>
<tr>
<td></td>
<td>• Lifestyle</td>
<td>• There is a spiritual aspect</td>
<td>• Necessary for the survival of the human race</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• It is survival</td>
<td>• It's peaceful, an escape</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• If you take care of them they take care of you</td>
<td>• Part of who you are</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• It is a part of who you are</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Culturally there is the medicinal aspect, food source, aesthetic, and ceremonial</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• There is a cultural relationship</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issues with fishing practices or methods</td>
<td>• The Commercial aspect is not good</td>
<td>• People need to pay to use the ocean like every other place</td>
<td>• We do not have it but trawlers are horrible</td>
<td>• There is overfishing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Taking in abundance, excess, or exceeding a sustainable take should not be allowed</td>
<td>• Commercial take needs to be managed and sustainable</td>
<td>• Longlining and indiscriminate killing is not good</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Size, season, and spawning potential needs to be taken into</td>
<td>• Fishing should be <em>pono</em> (righteous) and respectful</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Aquarium Trade</td>
<td>People eat those fish they are catching</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yellow Tang have disappeared from areas they are fishing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>You can find dead fish floating in the water that collectors couldn't keep alive</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>It is for decoration for a handful of people who do not live here</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>We pay more to manage it then they generate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>There is no reason for it unless it is purely educational but they should not be in people's homes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>It is not ok, just so people can look at it and die in a tank</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Without any enforcement it is up to the individual fisher to make sure it is done right</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fish mostly go to the west coast, Europe, Asia, there is not much of a market here in Hawaii only some hotels</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collectors know how to do it as far as catching and shipping and doing it</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The only bad</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>They Yellow Tang are the bread and butter fish</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>On a per weight basis the yellow tang is the most valuable fish in Hawaii because they weigh so little</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>There is still controversy and it is frustrating because it is the most intensive regulated fishery</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Controversy is largely stirred up by a small group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>account</td>
<td>Nets are destructive</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>account</td>
<td>Longlining is not ok</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>account</td>
<td>Fishing at night is unfair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>account</td>
<td>Gear is so high tech now that it is unfair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>account</td>
<td>Social media is a negative influence to competition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>account</td>
<td>The mindset has changed from sustenance to a trophy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>culturally inappropriate</td>
<td>Does not benefit the local people</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>culturally inappropriate</td>
<td>They should not be able to take food fish. It is irreverent to the culture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>culturally inappropriate</td>
<td>They are taking all the babies with no time to mature</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>culturally inappropriate</td>
<td>If a fin is broken or something is wrong they throw them away</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>culturally inappropriate</td>
<td>There is overfishing and an abundance of</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legislation, management, and enforcement of marine resources</td>
<td>You do not have the enforcement power or presence</td>
<td>Enforcement is the biggest issue.</td>
<td>The problem is enforcement</td>
<td>Enforcement officers do not have enough authority. They cannot even inspect coolers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>There are violations that have been allowed for so long</td>
<td>There needs to be a limit on take</td>
<td>Illegal activities are happening and DLNR knows but is not doing anything about it</td>
<td>There should be more bag limits</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What is good is having laws if you cannot enforce them</td>
<td>The legislation is lacking</td>
<td>Hawaii lacks permits.</td>
<td>There are uniformed legislators making fishing laws and that is not right</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>There needs to be more knowledge of species dynamics and periods of kapu</td>
<td>Nothing is managed here</td>
<td>A limit to enforcement is</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine</td>
<td>Most people do not know the</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- There are not any collectors from here, all the locals are out
- It is artificial and just for human pleasure
- It could be nice to look at but not if it is to the detriment of those species
- The story is the Pakuikui and that is because the collectors take the babies but the spawning population gets speared which is the biggest affect
- Where the business get a bad name is from third world countries using cyanide and dynamite and packing too many fish in a bad
- The regulation is advantageous and there has been a substantial comeback
- It is sustainable and calls to ban it are unreasonable
| Hawaiians, Hawaiian Culture and management/legislation | The laws need to be more stringent  
Prosecutors do not know anything about natural resource rules and cases get thrown out  
There needs to be slot limits, bag limits, spawning seasons, etc.  
There needs to be a deeper understanding of life span and life cycle  
The number of fish taken off the reef needs to be controlled as opposed to the number of fish allowed per fisher  
Blanket regulation are not effective for these unique places  
Penalties need to be sufficient | Management has been underfunded and ignored  
There needs to be bag limits, size limits, seasons, and closed periods  
Legislation is about money  
There is not political will at the state or federal level  
Punishment needs to be adequate | Regulations  
There needs to be adequate consequences | not being able to look into coolers  
With near term regulation implementation it is not so much local resistance but resistance from outside the island  
Fines need to be higher  
A lot of the activities are visible and there is a good indication of what is going on  
You say these things are your right but along with that come *kuleana*, responsibility |
<p>| significant | impacted | not the way it was traditionally |
| US state policy is not consistent with Hawaiian management policy so there is a dissatisfaction as resources diminish | For native Hawaiians, in terms of trusts and land issues set up to create a better life for them, these have failed | There should be permits but Hawaiians should not have to pay |
| People and place are interrelated | It is questionable to allow native Hawaiians to take wherever they want because traditionally it was not allowed | Hawaiians cannot afford a lot of things here |
| The state disenfranchises Hawaiians because it takes what was 100% theirs and continues to divide it and give it to non Hawaiians | Today Hawaiian culture is more visible but it is not necessarily more cultural |
| Testimonies from <em>kupuna</em> are just as great and equal to the knowledge sought in a scientific way | Hawaiians should not be satisfied because the government has failed them |
| Hawaiians say they have an ecological right, but what about your right to <em>malama</em> | While there needs to be more regulations, Hawaiians should |</p>
<table>
<thead>
<tr>
<th>Communication and Community Input</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents are going to transfer what they think they know about something that has a deep meaning for the Hawaiians but will talk about what ever opinion they may have on it</td>
<td>It is difficult to get input from locals who will get impacted or to get input from them at all.</td>
</tr>
<tr>
<td>The Hawaiian voice is not heard</td>
<td>You need to reach out to locals or you will get the <em>malahini</em> (newcomer, stranger) who has all the time in the world to show up and be vocal.</td>
</tr>
<tr>
<td>Cultural input was all about archeology and nothing about anthropology but now there is an increase as people realize how important it is</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Traditional pre-colonization culture and management</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Hawaiians fished in ways to protect the resources. There</td>
<td>Historically the island of Hawaii had over 400,000 people during pre</td>
</tr>
<tr>
<td></td>
<td>We should look at the way they did their rules and regulations</td>
</tr>
</tbody>
</table>
| Influx of people to Hawaii | were no numbers assigned to it, it was common sense, practical use  
• They only took what they needed and there was no waste  
• The natural resources were their whole livelihood  
• Traditionally things were managed by place and that made it work | Captain Cook times and they had to subsist on the ocean. Today we have less than 200,000 people and the oceans are empty  
• We need to look back and see how the resources are managed.  
• You had to understand the *mauka* (upland) and the ocean, the whole *ahupua'a*  
• There were very strict rules | • We can learn from the Hawaiians  
• With the *kapu* system, they were so in tuned with nature  
| • The more people that come, the more Hawaiians lose  
• It is not people from here, the kids that grew up here, they are not getting the jobs.  
• It is tough on the resources | • There needs to be lower impact tourism—higher quality, repeat visitor and fewer impacts  
• There are only 1.3 million local residents and 8.5 million visitor each year and they are the ones that need to be educated and controlled because they do terrible things |