THE ABILITY OF MINORITY STAKEHOLDER GROUPS TO ENGAGE IN COASTAL ZONE MANAGEMENT DECISIONS IN SANTA CRUZ COUNTY, CALIFORNIA: CASE STUDY OF THE PLEASURE POINT SEAWALL PROJECT

By

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ABSTRACT

The Ability of Minority Stakeholder Groups to Engage in Coastal Zone Management Decisions In Santa Cruz County, California: Case Study of the Pleasure Point Seawall Project

Matthew Salvatore Marino

Santa Cruz, CA is located roughly 60 miles South of Half Moon Bay and San Francisco along the Northeastern coastline of Monterey Bay in central California. Pleasure Point is an extension of land located between the Santa Cruz Harbor to the Northeast and Capitola Village to the Southeast. Within the past century, Pleasure Point has experienced significant coastal erosion and subsequent loss of property. In recent decades, the threat of increasing coastal erosion rates has become a significant concern. El Niño weather events have been responsible for significant amounts of damage, and are primarily responsible for the majority of coastal erosion. In recent years, East Cliff Drive along Pleasure Point has eroded closer to catastrophic failure. As Santa Cruz became a surfing community, the County of Santa Cruz began marketing surfing to tourists. Surfing was used by the County to attract vacationing tourists to enjoy the iconic carefree lifestyle of sand, sun and surf. In recent years the County has moved to redevelop the landscape and image of the Pleasure Point community. The Pleasure Point Seawall Project was the result of nearly a decade of debate between the County and local surfers within the community who strongly opposed the seawall project. This is a case study of the Pleasure Point Seawall Project, and the ability of surfers to engage within coastal zone management decisions in Santa Cruz County. Future environmental changes will include significant sea level rise and increasing storm severity, frequency, and resulting damage to property. This seawall project represents a socially constructed landscape that allows temporary financial gains for few individuals at the expense of resources held in trust for the general public. As a result of the seawall project, the landscape surfers constructed over a century of daily use has been significantly manipulated, reimagined and redeveloped by the County.

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Chapter 1: Introduction

Coastal erosion has become a clearly significant threat for coastal property and public beaches within Santa Cruz County. Large storm events that produce significant wave events have caused significant damage to coastal areas. Major El Niño events within recent history have resulted in lasting impacts to coastal dependent natural resources and public access along the coastline of Santa Cruz County (County). Significant economic losses due to property damage and impacted civic infrastructure resulting from El Niño events along the West Coast have been well documented. El Niño events of 1982-83 and 1997-98 raised significant awareness to weather pattern changes we expect to see with a changing climate.

Significant wave events reached their peak during the highest tides of the 1982-83 El Niño winter, and caused significant and unprecedented loss of property along the California coastline. Many coastal homeowners chose to protect their property from further erosion by placing large granite boulders (riprap) on the fronting public beach. Extensive riprap placement has fragmented the public beaches between boulder fields and represents a significant public safety hazard. Although significant wave events during the El Niño season of 1997-98 did not coincide with the highest tides of the year, resulting property damage still exceeded $550 million (Storlazzi, Willis & Griggs, 2000). Beach loss results directly from riprap placement on public beaches, and indirectly from sea level rise over time. Public land fronting any coastal armoring structure will ultimately be submerged under increasingly rising tides.

The Coastal Zone Management Act (CZMA) was enacted by Congress in 1972 as a result of the significant need for the strong protection of physical, biological and natural resources within coastal zones. The CZMA of 1972 clearly highlights the importance of ecological, cultural, historical and aesthetic values of the coastal zone. Guidance within the Act was directed to reducing the loss of "living marine resources, wildlife, nutrient-rich areas, permanent and adverse changes to ecological systems, decreasing open space for public use, and shoreline erosion" that has been caused by "population growth and economic development" (Chasis, 1985; Coastal Zone Management Act). In response to the Coastal Zone Management Act, the State of California enacted the California Coastal Act in 1976 as a response to widespread privatization of California's 1,100-mile coastline. The California Coastal Commission was established as a State Agency to uphold the California Coastal Act of 1976. By 1970, less than one-quarter of California's coastline was legally available to the public for access and recreation (Cardiff, 2001)

Understanding the impacts of protecting private property and roadways along the California coastline has become a significant question for Federal and State agency coastal zone managers and land use planners. Several public beaches have been destroyed by coastal development projects in California, and minority stakeholder groups who utilize the local landscape are disproportionately affected. Surfers represent a unique minority stakeholder group that is dependent on waves as a limited natural resource. The complete loss or degradation to culturally significant surf breaks has raised significant questions surrounding the protection of threatened surf breaks. Surf break protection has emerged as a significant component of coastal zone management (CZM) and existing surf

break management literature is discussed. In order to understand the management and protection of surf breaks, it is critical to understand surfers and the history of surfing.

This thesis research was designed to understand the ability of minority stakeholders to effectively engage in coastal zone management decisions in Santa Cruz County, CA. Minority stakeholders in the coastal zone may be grouped by many variables. This thesis identifies surfers as a marginalized and underrepresented minority stakeholder group within the public policy process. The goal of this thesis is to identify constraints and limitations within the coastal zone policy process that significantly affects the ability of surfers as minority stakeholders to effectively engage within the public process of the California Coastal Commission and Santa Cruz County (County).

Surfing was introduced to the North American continent in 1895 by three Hawaiian princes in the area of Santa Cruz, CA. Southern California surf breaks became increasingly popular during the decades between 1920 and 1960. As the population of Southern California rapidly increased, surf breaks became significantly crowded and polluted in the wake of coastal development. Important revolutionary advances in technology and surf equipment occurred in the Santa Cruz area during the late 1960's and 1970's. Wetsuits allowed surfers to access surf breaks further north in colder water without significant risk of hypothermia, which effectively enabled surfers to access the cold waters of Santa Cruz during winter months when high quality waves break with power and consistency. Leashes further enabled surfers to maintain contact with their surfboard and allowed many less experienced surfers to surf breaks that exceeded their ability. Consequently, the number of surfers in the water has steadily increased within the coastal zone of Santa Cruz County as a result.

As surfing became increasingly popular in the Santa Cruz area, the County became further reliant on surfing to sell their unique tourism industry. Iconic images of surfers on Santa Cruz beaches became trademark symbols of tourism in Santa Cruz. Both the City of Santa Cruz and County of Santa Cruz began actively marketing their community as a surfing destination. Hotels and restaurants marketed surfing within building architecture and design, and views of the surf breaks in Santa Cruz became increasingly expensive and sought after. The County has been reliant on their strong local surfing community as a significant attraction for tourists. In recent years however, the County has moved to redevelop the image of Santa Cruz. While surfing has been commercialized and marketed by the County, there has been little discussion within County and California Coastal Commission documents that address potential impacts to surf breaks or the surfing community from approved development projects.

Surfers represent a difficult user group to research because they utilize specific coastal areas more regularly than other stakeholder groups, are directly exposed to the marine environment for extended periods of time, and frequent specific surf breaks either early in the morning or during evening hours. Many surfers are attracted to the experience of being immersed within the marine environment and escape the stress and fast pace of modern society. Surfers have their backs turned away from societal development, and many are reluctant to trust agency involvement or engage in the established public policy process. As our climate changes, surfers will experience increasing threats from coastal development pressures and the resulting loss of coastal access.

This research was focused within Santa Cruz County, CA because of the rich surfing history and deep cultural significance of surfing within the community. Santa Cruz has avoided heavy development pressure until recently, and is currently experiencing a surge in financial investment within the local real estate market. Located within the federally protected Monterey Bay National Marine Sanctuary, the Santa Cruz shoreline is protected by the strongest marine protection policies of any State within the United States. Strong environmental protection however, has been unable to address ongoing coastal armoring and seawall construction. Santa Cruz, CA represents a highly complex socially constructed coastal landscape facing intense redevelopment pressures that have failed to include surfers as a valued stakeholder group.

A case study was used to understand the complexity within coastal management oversight of seawall proposals. The Pleasure Point Seawall Project represents a widely disputed seawall project that relied on unproven technology, public funding, and special conditions that allowed the permit to be approved by the California Coastal Commission. The seawall project at Pleasure Point was chosen for this case study because the local surfing community had formally opposed the project for the duration of the planning process. In addition to formal opposition by surfer stakeholders, the Commission had previously denied the project, and later approved it with special conditions that have not been enforced. The Pleasure Point Seawall Project resulted in significant drilling into the existing bluff face, and encased roughly 2,000 feet of coastal bluff along East Cliff Drive under multiple feet of rebar and textured concrete.

My research methods were qualitative and founded within a snowball method to identify and engage surfers, and participant observation. Semi-structured and open-ended

interviews were conducted with local surfers, non-government organizations, and agency staff. Agency staff interviews represent the California Coastal Commission, City of Santa Cruz, County of Santa Cruz, and the former Santa Cruz County Redevelopment Agency. A total of 50 interviews were audio recorded and transcribed to identify and group emerging themes from transcripts.

Significant bluff failures along the East Cliff Drive and the imminent threat to utilities located under the roadway were the primary foundation supporting the Pleasure Point seawall project. The County did not meaningfully consider alternatives to the seawall project, and special conditions to provide conformity to the California Coastal Act of 1976 were not enforced by the County for the California Coastal Commission. Three private homes are located seaward of the roadway, and raise significant concerns of whether private development benefited from the publicly funded seawall project.

Climate change and associated weather phenomena include increasing significant wave events, coastal erosion rates, and significant damage to coastal property. Coastal property owners in California have constructed the coastal landscape to be largely armored against the unrelenting force of the Pacific Ocean. Sandy beaches and iconic bluffs of Santa Cruz will increasingly be lost to seawalls and coastal armoring efforts to protect property as sea level rise continues to accelerate. Seawalls and coastal protection projects in Santa Cruz have significantly altered the coastal landscape and degraded sensitive near shore ecology within the County without meaningfully exploring coastal planning alternatives.

This thesis research and case study are founded in a pragmatic perspective to understand coastal zone management decision-making that impact surfers as a significant

minority stakeholder group. This research also contributes to a better understanding of political ecology and environmental justice from the perspective of surfers as a significant minority stakeholder group in coastal Santa Cruz County. The Pleasure Point Seawall Project case study is founded in the perspectives of cultural geography and the coastline of Santa Cruz County as a socially constructed landscape.

Chapter Two: Literature Review

"The Ability of Minority Stakeholder Groups to Engage in Coastal Zone Management Decisions in Santa Cruz County, CA: Case Study of the Pleasure Point Seawall Project" is founded on existing literature that identifies significant participants in Coastal Zone Management. The intertidal zone where waves break along the shore are utilized by surfers, wildlife, and tourists who seek the shores of Santa Cruz, California. Coastal management practices have been put into place to minimize conflicts between numerous coastal user groups and sectors of economic infrastructure. Surfing breaks are important to many coastal communities. Incorporating surfing in coastal management decisions is a relatively recent phenomenon (Lazarow, 2007; Nelsen, Pendleton, & Vaughn, 2007; Scarfe *et al*., 2009). Coastal management considerations regarding surf break co-management is essential because there are many cases where surfing breaks have been either altered or destroyed as a direct result of coastal development and construction (Scarfe, Healy & Rennie, 2009). Six contributing factors that are connected systematically to surfer engagement within this literature are El Niño, Federal and State Coastal Zone Management (CZM), surfers, climate change, research methodology and case study interviews.

El Niño and La Niña

Literature about El Niño has made clear that major storms during El Niño weather cycles cause significant property loss and damage to civic infrastructure along the coastline of California. Between January and March of 1983 the U.S. West Coast experienced a series of unusually severe storms, and was shown by Earle, Bush, and

Hamilton (1984) to be within the months of the historic 1982-83 El Nino winter, which caused significant damage to coastal areas. Unusually large waves were again documented during the major 1997-98 El Niño, when the states of Washington and Oregon experienced 20 large storms with deep water significant wave heights measuring over 6 m for 9 hours or longer (Allan & Komar, 2000). Before the El Niño of 1997-98 was documented, Ruggiero *et al*. (1996) had projected the 100-year significant wave height to be 10 m. This 100-year projection was exceeded November 19-20 of 1997, and changed the conventional parameters that projections are based upon. The storm track of this particular storm was directed at the PNW, while typical El Niño years had been characterized by storms directed to the south between central and southern California (Seymour, 1996). Immediately following the El Niño of 1997-98 was a similar, though more severe La Niña pattern.

Wave data from buoys positioned off the coast of Oregon and Washington was analyzed by Allan & Komar (2002) and found both winter wave heights and wave periods had steadily increased during the previous 25 years, which represents the duration of buoy monitoring at these locations. Average deep water significant wave height values from October through March have been increasing at a rate of 0.042 m/yr., or an increase of 1 m during the past quarter century (Allan & Komar, 2002). Most importantly, the wave heights of the year's strongest storms showed a 50% increase in significant wave height, from about 8 m to 12 m. The greatest wave height increases were found for Washington, Oregon, and Northern California, respectively.

While negligible wave height increases were found for central and southern California over the 25-year period, it is important to recognize that the occurrences of

strong El Niño and La Niña weather patterns affected the direction of storm paths as they approached the U.S. West Coast, and also their intensity (Allan & Komar, 2002). As predictions of extratropical storm track and intensity becomes increasingly unpredictable and damaging as a result of El Niño and La Niña weather phenomenon, risk of erosion and flooding to coastal communities also increases.

Extratropical storms are low-pressure cyclonic systems that develop at mid-latitudes in the Northern Hemisphere, and are identified by a counterclockwise rotation (Allan & Komar, 2002). Warm and humid air from the Tropics is mixed with cooler air carried down from the Arctic by the polar jet stream and develops regions of unstable conditions (Davis & Dolan, 1993). Few extratropical storms ever produce hurricane strength winds, however, their influence is often significantly more widespread, affecting lengths of the coastline up to 1,500 km (National Marine Consultants, 1961; Davis & Dolan, 1993). Inter-annual variability of North Pacific storms was shown by Allan and Komar (2000) to closely follow the East Pacific (EP) Teleconnection Pattern and the Southern Oscillation.

Measurement of westerly wind strength and jet stream position, which are both important for the formation of storms, are provided for by the EP index (Allan & Komar, 2002). A positive EP value represents enhanced westerly winds and the jet stream directed toward the Washington, Oregon and Northern California; while a negative EP value indicates a pronounced split-flow configuration of the jet stream, resulting in reduced westerly winds across the eastern North Pacific (Climate Prediction Center, 1999). The significant increase in storm frequency and intensity from 1997 through 1999 was shown by Allan and Komar (2000) to correspond to an increase in EP values. The

frequency of storms that affected the California coast was almost entirely dependent on the occurrences of El Niño compared to La Niña; with El Niño conditions producing significantly increased storm frequency (Allan & Komar, 2002). Certain storms during these years were significantly more powerful than others, and caused significant damage to coastal property in California.

The California coast experienced a significantly higher number of impacting storms during January and February 1998 as the jet stream progressively shifted south, which is consistent with previous El Niños (Allan & Komar, 2002). During these months, the Aleutian Low continued to expand and deepen to eventually reaching 16 mb below normal and covering the entire U.S. West Coast. A very deep Aleutian Low and above normal Hawaiian High atmospheric system yielded a strongly positive EP index during the 1997-98 El Niño. The storm of November 19-20 1997 initiated the pattern of unusually intense storms to follow through the winter. Between November 17th and 18th, the storm developed rapidly, experiencing a pressure drop of 30 mb, traveling more than 1700 km, and moving at a rate of 70 km per hour during the initial 24-hour period. Storms characterized by significantly rapid development and pressure drop have been referred to as "explosive" storms, or as a "bomb" (Sanders & Gyakum, 1980). Compared to the formation of ordinary storms, development of explosive storms is poorly understood and have been relatively uncommon in the Eastern Pacific, which further demonstrates the extreme character of this storm (Uccellini, 1990; Strange, Graham, & Cayan, 1989).

Surfing within Coastal Zone Management

Literature focusing on the protection of surfing areas and specific surf breaks is increasingly recognized as an important component of CZM (Oram & Valverde, 1994; Buckley, 2002; Lazarow, 2007; Scarfe, Healy & Rennie, 2009; Fletcher, Bateman, & Emery, 2011). Many coastal development projects have resulted in the degradation of wave quality, or complete loss of surfing resources altogether. A dredging project to deepen the estuary channel at Mundaka, Spain significantly reduced the wave quality by removing the sediment budget (Liria, Garel, & Uriarte, 2009). In 1966 the Army Corp of Engineers closed access to all marine activities at Dana Point, California to construct a boat harbor and mile-long jetty, completely eliminating one of the best surf breaks in Southern California, known within the surfing community as Killer Dana (Oram & Valverde, 1994). At Manu Bay, Raglan, New Zealand the construction of a boat ramp resulted in a loss of up to 100 meters in potential wave length, and increasing user conflict between surfers and boaters (Scarfe, Healy & Rennie, 2009).

Surf breaks are limited and complex natural feature within coastal environments, and have significant economic, social, cultural, and spiritual value for local and extended communities (Lazarow, 2007; Taylor, 2007; Peryman, 2011a). While the popularity of surfing has continued to increase, surf break management is only beginning to be understood and incorporated into coastal management (Edwards & Stephenson, 2014). Formal recognition of surf breaks within policy documents is currently only acknowledged by the State of Hawaii, USA, the State of New South Wales, Australia, and New Zealand (Edwards & Stephenson, 2014).

Surf break management requires a multi-faceted systems approach of surf break identification, mapping, policy provision, environmental impact assessment, integrated management, site monitoring, and ongoing evaluation (Scarfe, Healy & Rennie, 2009). Incorporating surfers within the formal management of surf breaks represents an opportunity to develop a potentially beneficial relationship between a unique stakeholder group and managers who may benefit from accumulated local knowledge of surf breaks (Peryman, 2011a). Protecting surf breaks has become an area of increasing focus for international CZM policy discussions.

The University of Hawai'i has conducted the majority of historical research addressing the complex foundation of surfing (Walker, 1974; Walker & Palmer, 1971; Walker, Palmer and Kukea, 1972; Dally, 1989; Dally, 1991). Surfing and coastal management were also related within a historical context at the University of Hawai'i. Most literature discussing surfing and coastal management has been published in recent years. Of the 63 scientific surfing papers identified by Scarfe *et al*. (2003), nearly all were published within the past decade. Scarfe, Healy and Rennie (2009) reviewed the scientific literature encompassing surfing and coastal management and found 162 research-based surfing publications, further supporting evidence that surfing has recently been a rapidly growing focus of interest within coastal management literature. Rising interest within scientific literature can be attributed to a need for scientifically based research addressing environmental awareness and concern within surfing communities that often result from coastal management decisions and projects.

Understanding the physical dynamics of surf breaks and the parameters needed to produce high-quality surfable waves was researched by additional scholars at the

University of Hawai'i. Early research of surfing breaks in Hawai'i assessed bathymetric charts, aerial photography, and other techniques to isolate key mechanics of surf breaks and highlight the importance of peel angle (Scarfe, Healy & Rennie, 2009). As scientific research analyzing surfing breaks increased in Hawai'i, coastal managers and land use planners in surfing intensive countries began to question social and economic value of surfing in their community. Most of the recent surfing research related to coastal management has been attempting to generate increased knowledge for designing artificial surfing reefs (ASR) in connection with the Artificial Reefs Program (ARP) of New Zealand, and additional research at the University of Waikato (Andrews, 1997; Hutt, 1997; Mead, 2001; Moores, 2001; Sayce, 1997; Scarfe, 2002; Splendelow, 2004). Surfing wave dynamic research at the University of Waikato has introduced new techniques for quantifying specific parameters of surfing breaks.

Natural surfing breaks have been analyzed to predict how varying artificial surfing break models would respond to swell dynamics and sediment flow. Current scientific methods used to model surf break wave dynamics include numerical wave modeling, coastal geomorphology hydrographic surveying, and photogrammetry (Scarfe, Healy and Rennie, 2009). Artificial surfing reefs have allowed substantial insight into how waves break within different environmental conditions, and how surfers value different wave characteristics depending on the skill of the surfer, different styles of surfing, and board preference.

Several artificial surfing reefs have been constructed with varying degrees of success or failure. Artificial surfing reefs have been marketed and sold to coastal communities that are experiencing coastal erosion hazards from wave energy.

The construction of artificial surfing reefs should be considered the continuation of surf break degradation and another threat from development pressure and economic exploitation of the shoreline by redevelopment. Notable attempts to build artificial surfing reefs have taken place in El Segundo, California (Borrero, 2002; Borrero & Nelsen, 2003; Mack, 2003, Moffat & Nichol Engineers, 1989), Cable Station, Western Australia (Bancroft, 1999; Pattiaratchi, 2000, Pattiaratchi, 2002; Pattiaratchi, 2007), Narrowneck, Gold Coast (Aarninfkof *et al*., 2003; Black, 1999; Black, Hutt, & Mead, 1998; Hutt *et al*., 1998; Jackson *et al*., 2007; Turner, 2006), Mount Maunganui, New Zealand (Black & Mead, 2007; Mead, Black, & Hutt, 1998; Mead, Black, & Moores, 2007; Rennie & Makgill, 2003; Rennie, Mead, & Black, 1998; Scarfe & Healy, 2005; Scarfe, 2008) and Opunake, New Zealand (Black *et al*., 2004; Tourism Resource Consultants, 2002). Each of these artificial reef projects have resulted in mixed success, however, each artificial reef has provided a unique opportunity to advance the design and methods of reef construction for future application. Mead, Black and Moores (2007) present significant advances in technological design, construction methods and land use planning since the first rudimentary attempt in California. While artificial surfing reef research focuses on how physical parameters affect breaking waves, questions assessing socioeconomic impacts of surfing have also been raised.

Representing surfers as a unique user group, and understanding their particular demographic has been challenging for multiple reasons. At many locations worldwide, surfers compete for a finite number of waves at any given break where multiple factors align to produce high quality waves. Antisocial behavior between surfers is a product of regular users (locals) protecting their surfing location from anyone who is not considered

local (Scarfe, Healy & Rennie, 2009). Different surfing breaks have strikingly different social norms. Hawai'i has provided an excellent case study location for researching localism because large numbers of international surfers choose the Hawaiian Islands as their winter home. Political questions of hierarchies in the water and localism at surfing breaks were raised by Ishiwate (2002) in the seminal case study of surfing breaks in Hawai'i. Although surfing originated in Hawai'i, cultural identities associated with surfing and beach culture are widespread.

Australia is characterized by some of the most high-quality waves in the world. Shifting cultural ideologies have been changing in Australia from a culture based on traditional images of bush pioneers to a surfing and beach intensive culture (McGloin, 2005). Cultural changes within society have moved surfers from beach users into commodities that business interests may profit from sales of lifestyle clothing, accessories and constructed identity (Lanagan, 2002). Bancroft (1999) determined that more than 16% of the Western Australian population identified as surfers. In 2001 McGloin (2005) estimated that Australians represent 2 million surfers. Recent estimates by Lazarow, Miller, and Blackwell (2007) identify the global population of surfers to be between 18 and 50 million people.

Limited research has been conducted identifying the economic impact of surfing within a given location, however, quantifying economic benefits of surfing become significantly important when a surfing break is under threat from coastal development projects. In the United Kingdom for example, Dyer and Hyams (2001) found that even though conditions are cold and wave quality is relatively poor, a significant number of people identify as surfers and little research has questioned the economic impact of

surfing in the UK. Information detailing the economic value contributed by beach recreation was determined by Lew and Larson (2005) to be critical when making informed policy decisions regarding coastal zone management.

International Surf Break Protection

Specific literature has improved the understanding of international surf break protection fundamentals and the most current approaches to appropriately managing popular surfing breaks. Establishing surfing reserves has been the primary international mechanism for protecting acknowledged surfing breaks. The Bells Beach Surfing Reserve of Victoria, Australia was designated by the State Government of Victoria in 1973, and became the world's first surfing reserve for the purposes of recreation, surfing, and conservation (Surf Coast Shire, 2010). Bells Beach has been demonstrated to be a successful example of the surf reserve management concept and has benefited significantly from the protection provided by having the status of surfing reserve (Farmer & Short, 2007). Success of the management at Bells Beach has largely been attributed to the efforts of community volunteers in restoration projects that target coastal ecosystems within the reserve (Fox, 2011). Maroubra Beach, Sydney, Australia became the world's second surfing reserve in 2006, and was created through the National Surfing Reserve (NSR) voluntary organization, which was created in 2005.

Literature shows that the NSR organization has functioned primarily to identify, nominate, and dedicate surfing reserves within Australia (Farmer & Short, 2007). Surf breaks must meet certain criteria before being considered for NSR status. Surf breaks must consistently produce high-quality surfing conditions, considered sacred by local surfers, and that the surfing beach has had an extended history of recreational use by both

local and national surfing communities (Short & Farmer, 2012). Formal dedication ceremonies and signage that identifies a surf break as a NSR are important features along with the development and implementation of a Local Steering Committee (LSC) who is responsible for localized management (Short & Farmer, 2012).

Research by Short and Farmer (2012) indicate that communities and local councils have continued to show acceptance and support for the NSR management approach. A total of 12 NSR had been identified and dedicated within the literature as of March 2012 with more dedications expected throughout the next few years (National Surfing Reserves, 2012). The NSR program has progressed further and expanded to develop a three-tiered reserve hierarchy to recognize Regional Surfing Reserves (RSR), NSR, and World Surfing Reserves (WSR) (Edwards & Stephenson, 2014). While there have been no RSR dedications documented within the literature so far, the program has identified and formally dedicated four WSR locations. The four currently existing WSR locations include Manly Beach, Australia; Ericeira, Portugal; Malibu, California, USA; and Santa Cruz, California, USA (Save the Waves Coalition, 2012). In order to meet objectives of increasing awareness of surfing break value to local and extended communities, the local surfing community needs community involvement, environmental protection and surfing amenity standards to achieve WSR status (World Surfing Reserves, 2011).

Literature regarding State Law shows that in 2010 the State of Hawai'i passed a senate bill and executive order to identify, dedicate and protect the breaks of Waikiki and the North Shore of Oahu as two Hawai'i Surfing Reserves (HSR). The HSR model is based on Australia's NSR model, and seeks to achieve three goals of (1) "formal

worldwide recognition of the sites as surfing areas that have quality surf and significant cultural, historical, recreational, and competitive sports value;" (2) "recognition of the long and close relationship between surfers and the ocean;" and (3) "promoting the long-term preservation of Hawaii surfing reserves for recreation and competitive surfing" (Edwards & Stephenson, 2014; A Bill for an Act, 2010). Donations are directed to Hawaii's Department of Land and Natural Resources (DLNR) to provide forms of markers and signs that identify HSR locations, however, reserves do not receive direct funding (Edwards & Stephenson, 2014). Literature within the policy shows that reserves are identified by DLNR as historic landmarks, and receive assistance in collaborative efforts between federal, state and island county cooperation to identify, nourish beaches, and protect reserves from degradation (A Bill for an Act, 2010). Community involvement within the HSR structure differs from the NSR model, as a path for community involvement may not be directly provided other than a way to provide financial contributions. Future efforts to include HSR locations as WSR sites may facilitate community involvement and provide a more collaborative management platform for surfing reserves in the State of Hawai'i (Short & Farmer, 2012; Edwards & Stephenson, 2014).

Literature indicates that New Zealand has also taken action to protect and manage the countries high quality surf breaks, and maintain the island's recognition as a quality surfing destination (Morse & Brunskill, 2004). While the surfing population is lower than both Australia and Hawai'i, surfing is shown to be a popular sport in New Zealand and recent estimates have placed the number of resident surfers at over 145,000 individuals (SPARC, 2009). New Zealand's Resource Management Act (RMA) of 1991 is the

primary environmental legislation of the country, and is founded on an integrated framework to sustainably manage surf breaks as a component of New Zealand's natural and physical resources. A three-tier hierarchy has been developed, similar to Australia's NSR model, effectively establishing a "national-level government, regional councils, and territorial authorities (district and city councils)" (Edwards & Stephenson, 2014). The New Zealand Coastal Policy Statement (NZCPS) is a national-level policy document that functions under the RMA (1991) to sustainably manage New Zealand's coastal environments, and requires regional councils and territorial authorities to regard the NZCPS in appropriate planning documents. Important planning documents found within the literature and noted under the NZCPS are regional policy statements, regional plans and district plans (Edwards & Stephenson, 2014).

Literature demonstrates that both surfers and surfing organizations showed a significant response to the NZCPS (1994) when they identified the protection of surf breaks a coastal management issue, and subsequently surf breaks were included in the NZCPS (2010) (Department of Conservation, 2008). Specific protection of 17 unique surf breaks of national significance was granted under the NZCPS (2010), and all other surf breaks were granted general protection as an integral component of the natural character of the coast, and as a unique natural feature within the coastal environment (Edwards & Stephenson, 2014).

Records show that local authorities must be proactive about incorporating surf breaks into policy towards regional and local-level planning initiatives, as councils were provided no specific guidance, and as the methodology behind the initiative was to improve with future research and application (Department of Conservation, 2009).

Existing literature indicates that many local coastal managers and authorities who are considered experts in their field lack expertise and fundamental understanding of surf breaks and surfing in general (Peryman, 2011b). Knowledge gaps of coastal managers regarding surf breaks and surfer stakeholder groups may be greatly reduced by incorporating surfers into the management process, as surfers represent a valuable source of information and expertise. Establishing formal protection for surf breaks, raising awareness and promoting the value of surfing has greatly been the effect of the surfing community's interest in promoting surfing interests within coastal management (Scarfe, Healy & Rennie, 2009). The future management of surf breaks has been shown in the literature to represent a unique opportunity for integrated management between the surfing community and local authorities to improve the effectiveness of conservation and sustainability objectives (Edwards & Stephenson, 2014).

Surf Break Co-Management

Existing literature indicates that coastal managers have to determine what may be considered a positive outcome of surf break management at a particular location. Each surfing reserve is unique and experiences different levels of use and environmental pressure. Specific management objectives have been shown to vary between surfing reserves depending on what types of pressures are present (Short & Farmer, 2012). Research has shown that positive outcomes need to be determined and adapted to accommodate specific local management issues at each surfing reserve site in order to increase effectiveness and reduce stakeholder conflict (Edwards & Stephenson, 2014).

Collaborative programs for the co-management of surf breaks have been shown to

offer a unique opportunity for local surfing communities to effectively assist local coastal management authorities, and be directly involved in the management and conservation of surfing resources (Peryman, 2011a). Integrated coordination between varying levels of government, stakeholders, non-consumptive user groups, and local communities have been shown to create complex co-management opportunities (Christie & White, 1997; Carlsson & Berkes, 2005). While co-management does not have a generally accepted definition, the term describes within the literature range in degrees of power sharing arrangements for collaborative decision-making by both state agencies and local community stakeholder groups (Berkes, 2009). Surf break co-management is considered within the literature to be a new concept within CZM approaches; however, the NRS approach in Australia offers an existing example of effective surf break co-management (Edwards & Stephenson, 2014). A case study of the Auckland and Otago regions of New Zealand were compared by Edwards and Stephenson (2014) to identify significant components for surf break co-management success. The following questions were designed by Edwards and Stephenson (2014) to "identify key ingredients for successful surf break co-management":

1. What are the potential levels of involvement by surf break users in co-management initiatives?
2. What do surf break users consider the purpose of surf break management?
3. What should be the role of local authorities in surf break co-management?
4. What is the most suitable type of approach to surf break co-management?

Online user surveys and qualitative interviews with identified stakeholders comprised the primary research methods of Edwards and Stephenson. The type of

approach for co-managing surf breaks was the primary focus of Edwards and Stephenson (2014). Online user surveys used by Edwards and Stephenson (2014) were limited in the fact that users included in the literature were only individuals who had access to the Internet and wished to be involved. Two types of approach were identified within coastal management literature. The first is a surf break co-management approach similar to the NSR management in Australia, and the other includes various surf break interest groups and individuals as stakeholders in larger and more widespread coastal co-management initiatives and objectives (Edwards & Stephenson, 2014). Recent research of surf break co-management options has been based on findings from relevant literature reviews, survey results, and semi-structured qualitative interviews (Edwards & Stephenson, 2014).

Surf break co-management research methods used by Edwards and Stephenson (2014) were primarily based upon an online survey of surfers that use specific surf breaks, and qualitative interviews in order to compare two regions of New Zealand. Both surveys and interviews were completed within a four-month period for both locations. Existing research has not accounted for significant variability within the frequency of use throughout different seasons. Existing surf break co-management research has not adequately accounted for the fact the most advanced surfers who prefer the largest waves may not be present during months with the most surfers in the water.

Literature by Edwards and Stephenson (2014) is significantly founded within online surveys to better understand surfer perceptions toward surf break management. Surveys and questionnaires presented on popular surfing Internet sites have been notably effective when identifying unique user groups of those who regularly access specific websites (Davidson & Tolich, 2003). This type of web approach has been identified as a

self-selected web survey by Couper (2000), and utilizes an invitation portal on popular websites where web users can voluntarily take the online survey. There are significant limitations to voluntary based online survey, however. Online surveys make analysis only possible for the total number of respondents rather than an accurate representation of surf break users, and have been identified as an example of a non-probability survey approach (Edwards & Stephenson, 2014) Other limitations identified by Couper (2000) note that represented web populations are often significantly different than the target population or user group. Surf break users who do not access computers, do not follow online surf forecast websites, and surfers who do not choose to voluntarily participate in the survey are effectively excluded from invitation based online survey methods (Edwards & Stephenson, 2014).

Combinations of open-ended and pre-coded questions were adopted from Sarantakos (2005) by Edwards and Stephenson (2014) to represent both qualitative and quantitative data from a semi-standardized questionnaire. The survey designed by Edwards and Stephenson (2014) was intended to take roughly 15 minutes to complete, and was comprised of 26 survey questions intended for surfers who were familiar with the local surf break at two separate locations (Edwards & Stephenson, 2014). Until recently there has been no available information or data regarding particular surf break user groups, other than surf club memberships (Edwards & Stephenson, 2014). Surf break users have been defined within the literature as the NSR definition, which includes "any person who interacts physically with the surf for recreation. It includes bodysurfing, bodyboarding, surfboarding, surfskiing, surfboating, all forms of life saving and lifeguarding but excludes all surf interaction powered by wind and machines" (National

Surfing Reserves, 2012; Farmer & Short, 2007; Edwards & Stephenson, 2014).

Limited information exists of past interview techniques with surf break users, however, identifying and engaging key stakeholders is increasingly important because of their potential involvement to meet surf break co-management goals. Interview sampling methods used in existing research is limited to only a few studies, though has been important to learn from previous studies and build upon existing peer-reviewed methods. Edwards and Stephenson (2014) adopted purposive sampling and snowball sampling methods from Sarantakos (2005) to identify, locate and increase the range of research participants. Surf break management is regarded as a new field of coastal management interest, and has a limited number of experts that can be drawn upon for surf break management research (Scarfe, Healy, & Rennie, 2009). Purposive sampling methods (Sarantakos, 2005) were applied by Edwards and Stephenson (2014) to locate and interview participants within particular stakeholder groups.

Stakeholder groups include regional councils, district councils, the Department of Conservation, boardrider clubs, surfing organizations, surf lifesaving groups, and coastal environmental groups. Participants of the purposive sampling method may present inherent bias because they may be surfers themselves, therefore these participants are asked to answer questions from the perspective of their associated stakeholder group and not of their personal view. It should be noted that while Edwards and Stephenson (2014) conducted their study in New Zealand, exact stakeholder group names differ within the literature in other countries, though similarly functioning stakeholder groups likely exist and should be identified as the same.

Snowball sampling (Sarantakos, 2005) has been used in previous studies to increase the range of interview participants because knowledgeable and experienced surf break users are difficult to isolate and locate. Allowing key stakeholder participants involved in the purposive sampling interviews to comment on who may provide valuable and necessary information relative to the research objectives is a method that has proved useful in other studies of small and secretive societal subgroups (Sarantakos, 2005).

Interviewing methods for surf break management research have not been well established, though Edwards and Stephenson (2014) utilized a semi-structured interview technique from Sarantakos (2005) to generate a series of previously prepared open-ended questions designed to act as a guide for the interview process. Transcriptions of the interviews were thematically coded by Edwards and Stephenson (2014) to isolate emerging key themes, and comments by participants were used to increase the breadth and clarity of research discussion and results.

Literature about culturally significant surfing breaks demonstrates all geographically distinct breaks are uniquely individual with each having distinctive physical and social characteristics. Research by Edwards and Stephenson (2014) and Short and Farmer (2012) establish the foundation for why each surf break should be understood to clearly form objectives and desired outcomes of future surf break management decisions. The primary purpose of surf break management for surf break users is overwhelmingly to preserve the physicality and wave of the surf break (Peryman, 2011a; Short & Farmer, 2012; Edwards & Stephenson, 2014). While it isn't unexpected for surf break users to generally refer to surf break protection and conservation as primary objectives of surf break management, other aspects of management such as

hands-on action, education, and management approaches are not well understood from previous research (Edwards & Stephenson, 2014).

What specifically surf break protection involves is also unclear from surf break user research. There is also a proportion of surf break users who value other objectives of surf break management, however, the specific objectives have not been clearly determined within the literature (Edwards & Stephenson, 2014). The majority of surf break management research has been conducted within the past 15 years, and the recent emergence of the field may be responsible for the ambiguity among surf break users in previous studies (Corne, 2009; Scarfe, Healy, & Rennie 2009; Edwards & Stephenson, 2014).

Research that demonstrates effective and practical application of surf break management is limited despite increasing interest and recognition of surf break protection within coastal management literature (Oram & Valverde, 1994; Buckley, 2002; Lazarow, 2007; Scarfe, Healy, & Rennie, 2009; Fletcher, Bateman, & Emery, 2011; Peryman & Skellern, 2011). Conflict scenarios that arise at surf breaks have been identified within a review of surf break management peer-reviewed literature by Scarfe, Healy, and Rennie (2009) as an area of management that has not been well documented. Other than to provide general protection, approaches and objectives of surf break management have not been well established (Edwards & Stephenson, 2014). The process of surf break protection is considered in a state of evolution, and surf break management initiatives will develop both a clearer purpose and what the purpose involves to effectively reach desired goals (Edwards & Stephenson, 2014).

Promoting the values of surfing to the wider community has been emphasized as an important method for increasing awareness and consideration of surf breaks during decision-making processes that may affect a surf break (Lazarow, 2007; Scarfe, Healy, & Rennie, 2009;; Edwards & Stephenson, 2014). An initial challenge of surf break co-management within the literature is educating both surf break users and others who may not directly use surf breaks for surfing, but possibly embrace the cultural values of surfing culture within the community. The NSR approach to surf break management was highlighted by Short and Farmer (2012) to increase cultural awareness and social value within the community.

Dedications ceremonies, signage and plaques that serve to commemorate and educate visitors has been shown in the literature to increase shared awareness in the wider community, and raise the collective value of surf breaks within the community (Short & Farmer, 2012). Support for promoting wider recognition of the overall value of surf breaks as a significant objective of surf break management was found by Edwards and Stephenson (2014) in 50% of interviews and only 5% of online surveys, suggesting the greater surfing population is largely unaware of the value associated with promoting surfing's cultural importance compared to people who are directly involved in surf break decision-making and management.

Surf break management has been said by some researchers to contradict some of the core values of surfing culture by promoting more surfers at existing surf breaks. The literature shows that surfers have a long history of protecting surfing locations from becoming exploited, over-crowded, and maintaining elements of an underground society (Young, 2000; Lanagan, 2002; Peryman, 2011a). The desires of local surfing

communities must be understood and respected when surf break co-management plans are considered to be a possible method of coastal management (Scarfe,Healy, & Rennie, 2009; Peryman, 2001a; Edwards & Stephenson, 2014). An important initial challenge is described within the literature as educating and informing surf break users of the inherent value to the surf break co-management approach (Edwards & Stephenson 2014).

Surf break user participation has been shown to be limited to the voluntary interest by the user groups that are participating in co-management initiatives and objectives (Edwards & Stephenson, 2014). Research by Scarfe, Healy, Rennie (2009) and Peryman (2011a) have indicated that surf break users have valuable knowledge of surfing breaks, and the role of surfing communities has played a significant role in promoting the interests of surf break protection and conservation. The findings of Edwards and Stephenson (2014) were consistent with previous studies with respect to user knowledge of physical parameters of a surf break; however, interest from some users to become involved with co-management initiatives was limited to a voluntary effort. Community-based management approaches in previous studies have concluded that a key challenge to management efforts has been the encouragement of individuals to participate in volunteer based actions (Cicin-Sain & Knecht, 1998; Clarke, 2008; Berkes, 2009; Edwards & Stephenson, 2014). Encouraging prominent figures within the local surfing culture to become surf break co-management advocates has been hypothesized within the literature to generate greater social momentum and support.

Established and respected surfers within a local surfing community have been identified within past research to represent strong leaders and encourage participation of the greater population of surf break users, as past co-management initiatives have been

successful largely as a result of championed voluntary leadership (Edwards & Stephenson, 2014). Successful establishment of the NSR program in Australia was found by Farmer and Short (2007) to create forward momentum and support within the surfing community by a small number of surfers who were committed to surf break protection. In a similar situation, community based surfing interest groups and committed individuals were responsible for surf breaks being included in New Zealand's NZCPS (2010) (Peryman, 2011b). Edwards and Stephenson (2014) also found results from their survey and interviews that strong leadership from local surfers and surf organizations was a necessary component of successful surf break management initiatives and to motivate participation. Promotion of surf break initiatives was shown by Edwards and Stephenson (2014) within their interviews, when respondents emphasized that specific individuals had promoted initiatives that included organized beach clean ups, constructing coastal walkways, and surfing lessons for disadvantaged youth.

Literature demonstrates that local authorities have a significant role in surf break management programs in New Zealand and Australia because both countries have taken steps to place surf breaks within a national level policy framework. The United States does not recognize surf break reserves within state or national policy. Locations with WSR status may benefit from other methods that New Zealand and Australia have used to address surf break management beyond creating formally recognizing surfing reserves. Edwards and Stephenson (2014) reported that four interview participants commented on the importance of identifying culturally significant surf breaks, and the establishment of reserve monitoring programs as "crucial next steps in providing for the protection of surf breaks" (Edwards & Stephenson, 2014). Research by Scarfe, Healy and Rennie (2009)

also outlined a framework for approaches to surf break management, including actions of identifying surf breaks, provisions to local and national policy, and ongoing monitoring programs. While policy provisions have proved difficult and expensive to establish within the literature, surf break users may voluntarily establish monitoring programs as a valuable component of surfing reserves.

Surfing reserve initiatives have commonly provided maps identifying the location of each named surf break, however, these maps provide no information regarding the relative values, physical intricacies, or cultural significance of each break (Edwards & Stephenson, 2014). Establishing more information of specific breaks has been identified within the literature as benefitting efforts to protect surf breaks. In New Zealand, the Policy Statement approach offers recognition and protection for identified surf breaks, however, little statutory weight has been established as a result (Auckland Regional Council, 2010).

Survey results from council leadership in New Zealand indicated that respondents supported local authorities and state agencies to take a "back room" approach to surf break management. A "back room" approach represents a management situation where surfers wish to continue self-managing "surfing specific issues such as over-crowding and etiquette" (Edwards & Stephenson, 2014). While Edwards and Stephenson (2014) found that some survey and interview participants were reluctant to support council or agency involvement in the management of surfing breaks, local authorities may act as important co-management facilitators. Councils or agencies have been shown in previous studies to drive the initial process of surf break management by becoming proactive in organizing and establishing surf break user committees (Edwards & Stephenson, 2014).

Sharing of power in co-management initiatives in the literature should be viewed as a goal or result rather than an initial approach (Berkes, 2009). Agencies have been found to offer support in previous studies through initial guidance and help to facilitate surfing reserve committees as a way to provide drive and momentum for a co-management approach. As greater support and organization becomes established through user committees, previous research has indicated that local authorities may step back into supporting roles that continue to be involved as a background oversight, which has been established as fundamental to reinforce effective co-management initiatives. (Christie & White, 1997; Berkes, 2009; Edwards & Stephenson, 2014).

Edwards and Stephenson (2014) found support among surf break users for local authorities to be involved in management initiatives. Survey results from Edwards and Stephenson (2014) showed that users supported local authority involvement to maintain access, organize beach clean ups, and monitor water quality with support of 75%, 86%, and 92%, respectively. While different surf breaks have been shown to have different management objectives, research in New Zealand shows that surf break users expect local stewardship councils to be proactive in solving problems that periodically arise. Roles and expectations of stewardship councils, agencies and surf break users need to be clearly defined and delineated for positive outcomes and established objectives to be met (Edwards & Stephenson, 2014).

Surf breaks have been shown to be geographically localized within the literature, whereas nearly all surf breaks are physically and socially unique compared to other nearby surf breaks regardless of how close in proximity they may appear. A local approach to surf break management was found to be most beneficial by Edwards and

Stephenson (2014) for the Auckland and Otago regions of New Zealand. It has been unclear from the literature, however, whether local surf breaks would benefit from a wider regional co-management initiative. Depending on the geographical region, wider coastal management issues such as hazard mitigation, fisheries, mining, alternative energy and shipping have been identified within the literature as potentially overshadowing surf break co-management objectives (Edwards & Stephenson, 2014).

Literature regarding wide-scale and regional co-management initiatives have shown significant problems in successfully engaging and including community level interests, which effectively distances local interests from regional management programs (Christie & White, 1997; Maliao, Pomeroy, & Turingan, 2009; Edwards & Stephenson, 2014). Local communities have been shown to be more likely to be motivated, to become involved, develop a sense of ownership for their local surf break, and work towards long-term goals that are founded upon community-based management methodology if efforts are directed toward local scale issues (Cicin-Sain & Knecht, 1998; Nickerson-Tietze, 2000; Maliao, Pomeroy, & Turingan, 2009; Edwards & Stephenson, 2014). For surf break co-management to be effective, it is important for local authorities to understand the desired objectives of the local surfing community, and to define what type of approach to surf break co-management best suits the specific location.

An integral component of the NSR and WSR structure in the literature is the establishment of a management committee and local stewardship council (Edwards & Stephenson, 2014). Surf break users, local authorities, state agencies and other stakeholders are shown to be represented as a function of management committees, and allow surf breaks and surf break users to be represented throughout formal decision-

making processes (Short & Farmer, 2012). Management committees have been found to give users a sense of permanent recognition for their surf break, which leads users to be more willing to engage in co-management initiatives. Clear representation of surfing interests is also established through the creation of management committees and local stewardship councils, eventually giving surf break users substantial consideration during coastal planning and management (Edwards & Stephenson, 2014). Requirements needed for the formation of management committees and local stewardship councils have been identified as the identification of suitable participants, committee or council elections through public meetings, and clearly outlining the purpose and role or the organization, whether it is advisory or regulatory (Edwards & Stephenson, 2014).

Wider coastal management initiatives were not found be in ineffective by Edwards and Stephenson (2014), however, the importance of addressing coastal issues at a local scale and including the involvement of local stakeholders and interest groups was emphasized. Engaging the local surfing community in initiatives that target specific surf breaks for co-management objectives has determined within the literature to be the most effective means of producing results that may improve access, reduce user conflicts, or finance the construction of new facilities (Edwards & Stephenson, 2014). Region wide coastal management and local surf break co-management initiatives can be engaged simultaneously, though it is important for both management perspectives to recognize the intentions of each other for both to be as effective as possible, and to address issues that may arise in the future (Edwards & Stephenson, 2014).

Studies within the literature have shown that surfing reserves of both NSR and WSR status have been increasingly supported by surfing communities who want to

protect and conserve their local surf breaks. The NSR model has been shown to offer an established transferable model for organizations of surfers who seek to meet the established criteria of formal site nomination, selection, and dedication (Short & Farmer, 2012; Edwards & Stephenson, 2014). Save The Waves organization has established a clear criteria for achieving WSR status, which has enabled the significant surfing communities of Malibu and Santa Cruz, CA to become dedicated as WSR sites and achieve global recognition for their unique natural and cultural resources.

Eight critical components for successful surf break co-management have been identified by Edwards and Stephenson (2014), and may be transferrable to other surfing reserve co-management initiatives worldwide: 1). A clear statement of purpose, scope, desired outcomes, roles, and expectations; 2). A local surf break or surfing area focus; 3). A supporting policy framework that provides for surf break identification, policy provision, and monitoring; 4). Strong leadership from within the surfing community; 5). Support from within the local surfing community – including an understanding of the value of surf break management; 6). Local authority support – establishing a supporting policy framework, proactive engagement with the surfing community, logistical and financial support; 7). A clear pathway to achieving protection/statutory recognition of a surf break; 8). A management committee involving local surf break users, local authorities, and other stakeholders, including coastal experts, coastal interest groups and community representatives. The methodology behind the WSR format following the established Australian NSR format is that the developed model has enabled local managers to maintain a consistent platform for surfing communities to voluntarily initiate and engage in co-management opportunities (Edwards & Stephenson, 2014).

Existing literature about El Niño event impacts on coastal property and civic infrastructure demonstrates that climate variability and weather phenomena present significant risks for coastal Santa Cruz County. Research regarding increasing climate variability along the shoreline of California presents a growing concern for private property owners and coastal communities as sea level rise continues to accelerate. The Coastal Zone Management Act of 1972 initiated new research about Coastal Zone Management as a unique focus of coastal related literature. Research about the effects of certain coastal zone management decisions and resulting adverse impacts to minority stakeholders has been an emerging focus within published literature. Literature within recent years has addressed surfers as a significant minority stakeholder group in certain coastal zone areas, who have experienced documented degradation or complete loss of culturally significant landscapes.

I chose to use a controversial case study that involved a seawall project designed to fix an actively eroding bluff face because it is representative of many popular and highly developed regions of the California coastline. A semi-structured and open-ended interview method was chosen and developed based on previous studies by Edwards and Stephenson (2014), Corne (2009), Berkes (2009), and Bancroft (1999). Stakeholder interviews were founded on a "snowball" method, which was selected to develop trust and motivation to engage between the group of participants and researcher.

Existing literature about engagement between surfers as minority stakeholders in coastal zone management decisions and the regulatory agencies that oversee the public policy process identify this relationship as an important area of future research. Literature by Edwards and Stephenson (2014) and Short and Farmer (2012) present significant

limitations of survey based research methods, and present opportunities for new research founded within interview based case studies founded in principles of political ecology, environmental justice and cultural geography.

Chapter 3: Surfer Stakeholders in Santa Cruz, CA

Santa Cruz, California is located on the northern shore of Monterey Bay in central California between San Francisco to the north, and Monterey to the south. Swells generated by powerful storms in the South and North Pacific Ocean have time to organize into long period, or low frequency swells by the time they reach Santa Cruz area surf breaks. The surf breaks of Santa Cruz have a long history of public use and systematic privatization by property owners along the urbanized coastline. Surfers in the Santa Cruz area have historically represented a unique stakeholder group that has systematically experienced the direct effects of political ecology upon the landscape, and environmental injustice within coastal zone management (CZM). The coastal landscape of the Santa Cruz area continues to be constructed in the vision of private wealth, political power, and insistent land use planners. The artificial coastline has come to symbolize expansive ecological disruption and environmental injustice experienced by surfers as a significant minority stakeholder group.

Santa Cruz is a geographically significant location in the international history of surfing. Surfing was introduced to the mainland of North America, and to somewhere outside the Hawaiian islands for the first time on the beaches of Santa Cruz. Three Hawaiian princes, Jonah Kuhio Kalaniana'ole, David Kawananakoa, and Edward Keli'iahonui were staying in the San Lorenzo Valley in Santa Cruz, and on July 20, 1885 the three princes rode waves off of Main Beach. The *Santa Cruz Daily Surf* wrote in 1885 "they had redwood logs cut to slabs from the Grover Lumber Mill in the San Lorenzo Valley, in Santa Cruz. Then the brothers shaped them into surfboards" (Hickenbottom, 2009). First growth redwood trees were cut into slabs from which the three princes

carved boards fifteen feet long, and weighing more than one hundred pounds each.

Surfing was not documented again in Santa Cruz for eleven years, until the weekly edition of *Santa Cruz Surf* wrote in the summer of 1896 "the boys who go in swimming at Seabright Beach use surfboards to ride the breakers like the Hawaiians" (Hickenbottom, 2009). Social and spiritual connections between Santa Cruz and the Hawaiian islands have existed since the three princes surfed Main Beach, though soon after, Santa Cruz surfers would begin traveling to Hawai'i to surf and return to Santa Cruz to continue building this cultural legacy that continues today.

One of the first Santa Cruz surfers to surf in Hawai'i was Dorothy Becker, who was photographed in the summer of 1915 surfing waves at Canoes surf break at Waikiki Beach on Oahu's south shore. She wore a one-piece swimsuit and cap of the era, and gives credence to the position that one of the first Santa Cruz surfers to surf in Hawai'i was a woman. Few women were known to take part in surfing during this time period.

Sam Reid was a legendary Santa Cruz surfer to bridge the connection from Santa Cruz to Hawai'i. Born in 1909, Sam Reid was a tremendously prolific waterman, lifeguard, and ocean swimmer. Reid moved to Oahu's south shore at age 19 in 1928, and became a highly skilled surfer while developing lasting friendships with the famous Kahanamoku brothers. He won the surfing championship at Waikiki beach against local Hawaiian surfers in 1928 and 1932, which at the time was equivalent to the world championship. Reid learned to speak Hawaiian and was highly regarded by local Hawaiian surfers. His half-mile surfboard paddling record was set in Hawaii and stood from 1931 to 1955. In 1950 Reid returned to Santa Cruz, saying the surf in Santa Cruz was "equivalent to places in Hawai'i", and declared the area from Cowell's Beach to

Steamer Lane as "the perfect surfing spot" (Hickenbottom, 2009). Reid established the 1,000-yard swim championship in Santa Cruz, which eventually became the Santa Cruz Lifeguard Championship.

Surfers were prominent and dominant iconic figures on the beach during this time, surfing not only for their own enjoyment, but also for the enjoyment of everyone visiting the pier and along the beach. Even when not surfing, SCSC members were a prominent stakeholder group along the shale cliff at Cowell's Beach. Surfers would gather there to socialize, eat, drink, and throw parties with friends. Many SCSC members traded their surfboards for military uniforms after the outbreak of World War II, which became a defining event that would transform the era of tranquility in Santa Cruz.

Surfers are drawn to Santa Cruz, CA because many factors align to create a unique socially geographic location. The surfing culture of Santa Cruz is deeply rooted in traditional Hawaiian boardriding, dating back more than a century. When the three Hawaiian princes "had redwood logs cut to slabs from the Grover Lumber Mill in the San Lorenzo Valley" (Hickenbottom, 2009) and shaped traditional Hawaiian surfboards to the dimensions used by Hawaiian royalty, surfing culture began an iconic legacy in Santa Cruz. The earliest surfboards shaped by the Hawaiian princes were significantly different than today's most imposing examples of surf craft. Roughly a decade later, in the summer of 1896, the boys who were swimming at Seabright Beach were using "surfboards to ride the breakers, like the Hawaiians" (Hickenbottom, 2009). Surfers of this era would have been arriving at the beaches with their surfboards by way of horse drawn carriage or wagon. Over the course of the following few decades, notable surfers such as Dorothy Becker and Sam Reid would return Santa Cruz surfers back to Hawaii and hone their

skills on Hawaiian waves with the help and guidance of legendary Hawaiian surfers. Through the historical exchange between Hawaiian and Santa Cruz surfers, significant friendships and guarded relationships were cultivated and developed.

Surfers were officially represented as stakeholders with the formal organization of the Santa Cruz Surfing Club (SCSC) in the 1930's and 1940's. Club members purchased a clubhouse in 1944 for $250, located behind the bathhouse at the wharf. The clubhouse was an iconic emblem of the SCSC identity until 1952, when an act of vandalism accidentally set the structure ablaze, and was subsequently acquired and moved by the City of Santa Cruz. The SCSC clubhouse was significant to Santa Cruz surfing culture because it established surfers as being permanently committed stewards of Santa Cruz beaches, and built recognition for surfers as private property owning stakeholders.

Surfers were able to ride a large southwest swell from the outside peak of Cypress Point, known as Outside Cowell's, and ride between broken pilings and the main Santa Cruz Wharf. The Santa Cruz Wharf prominently exists today between Cowell's Beach and Main Beach. Membership cards from the SCSC read, "Santa Cruz Surfing Club – This is to certify that (name) is in good standing and is entitled to all rights and privileges of this club" (Hickenbottom, 2009). Members of the SCSC were notable watermen that were also lifeguards and iconic safeguarding figures within local beach culture and greater Santa Cruz community.

In 1940 two members of the SCSC, Don "Bosco" Patterson and Lloyd Ragon were part of the Santa Cruz lifeguard crew, and watched over the beaches of Santa Cruz in addition to the massive outdoor swimming pool located off Main Beach, called the Plunge. The iconic break of Steamer Lane was named after a surfing trip to Pleasure

Point. Duke Horan looked out and said "my God, they're breaking out in the steamer lanes" (Hickenbottom, 2009), referring to the traditional routes steam ships would use to navigate in and out of the Santa Cruz wharf when delivering redwood to coastal ports and wharfs. From Cowell's Beach, outside set waves can be seen peeling off the outside reef at Steamer Lane and outside Middle Peak. Both Steamer Lane and Middle Peak are examples of large and powerful winter breaks that professional local surfers use to train for other world-class big waves.

Many big wave surfers have grown up and developed their skills at the Middle Peak of Steamer Lane in Santa Cruz. Lloyd Ragon was one of the first big wave surfers of Santa Cruz, and recognized as the first person to surf at Steamer Lane. Ragon is also remembered as riding the biggest waves of the era, which were remembered as measuring 12 to 15 feet at Middle Peak (Hickenbottom, 2009). Not many people surfed during the early years, and those who were drawn to surf Santa Cruz's cold waves epitomized feelings of great friendship and shared respect within beach culture. Santa Cruz is represented by two distinct and independent surfing cultures located to the geographical east and west of the community. Breaks along West Cliff Drive and East Cliff Drive are known as the Westside and Eastside, respectively. A third unique surfing area and culture is referred to as "Midtown" within the surfing community. Midtown is the geographic area located near the San Lorenzo River mouth, and is descended upon by both Eastside and Westside surfers in addition to the midtown locals when the river mouth or harbor entrance develop extended sandbars.

Pleasure Point Surfing History

Large bluffs line the breaks of Pleasure Point, and have historically been a place where surfers would congregate, camp out, watch other surfers, and throw community parties. One of Pleasure Point's earliest surfing families was the Van Dyke family, of whom most surfed, and were an iconic Pleasure Point dynasty. They lived on Devines' Pastel Court, and are seen in images as early as 1953 at the base of the cliffs at 38th Avenue, posing in front of large balsa wood longboards (Hickenbottom, 2009). Ted Pearson and Pat Curren were two local Pleasure Point surfboard shapers from the 1950's, and in 1957 built boards together as Pearson-Curren Surfboards. Their truck could be seen parked in front of Gene and Betty Van Dyke's home on 34th Avenue, with the driver's side door painted with Curren's name first, and the passenger side door painted with Pearson's name first. Boards shaped at Pleasure Point in this era were made primarily from balsa wood, and a few were shaped right on the beach at 38th Avenue. Boards were shaped using drawknifes and hand planes, before the boards were glassed using fiberglass cloth and resin in the garages, kitchens, and front rooms of many Pleasure Point homes (Hickenbottom, 2009).

One of the first wetsuit jackets can be seen being worn by Betty Van Dyke in an image from 1957 on the bluff top at 38th Avenue after she had finished riding empty waves at the inside break of Pleasure Point (Hickenbottom, 2009). Her wetsuit jacket was given to her by Jack O'Neill on one of his early trips to Pleasure Point. Jack O'Neill is a "California icon", a highly influential surfing pioneer and is widely regarded as having invented the first modern wetsuit specifically designed for surfing. In 1957 Jack O'Neill was first developing his wetsuit business in San Francisco, CA, and in 1959 he opened

his Surf Shop in Santa Cruz, which continues to function today as the corporate headquarters for O'Neill. As with much of surfing back in this era, O'Neill Wetsuits was a family operation, with Jack's brother Bill overseeing the wetsuit manufacturing component of the operation. Camping on the cliff at 38th Avenue was commonplace for surfers of the 1950's. When Jack O'Neill would visit Santa Cruz prior to moving from San Francisco, Jack and his family were remembered by the Van Dyke's to have slept in sleeping bags next to campfires directly above the beach. Surfers camping on the bluffs would have been awoken by the sounds of perfectly peeling point break waves under the growing warmth of the sunrise. On waveless afternoons when the swell was weak or tide too high, surfers would enjoy acoustic jam sessions atop the bluffs overlooking 38th Avenue cove, and share a few cold brews with their friends.

Jack O'Neill's shop on 41st Avenue was the location where he had his showroom in addition to his surfboard and wetsuit manufacturing shop. O'Neill's logo was designed by Northern California surfing legend Jim Foley, which continues to be significantly emblematic for the greater Santa Cruz community. Soon after Foley made O'Neill's signature logo, the name was simplified from the Surf Shop to O'Neill's. Present-day O'Neill, Inc. maintains their legendary and iconic presence in Santa Cruz from the same building they have owned since 1959. The O'Neill building is easily recognizable today by Foley's logo above the font door.

Images from 1960 depict a transforming surfing culture, where nearly all surfers traded their heavier balsa boards for new lighter weight foam models, which entered the surfing scene during 1958 and 1959. Foam boards were easily shaped to a surfer's customized style, were significantly lighter weight, and offered the surfer greater

maneuverability both paddling and riding waves. Joel Woods was one of the earliest shapers who used power planes to "mow" foam blanks into surfboards at the O'Neill manufacturing shop located on 41st Avenue. The first shapers hired by O'Neill when the shop opened in 1959 were Mike Winterburn and Jim Foley. O'Neill had the advantage of blowing his own foam blanks using a combination of toxic chemicals and letting them expand in concrete molds on site at his shop.

Johnny Rice is a Santa Cruz shaping legend, and one of the most prolific shapers in California history, creating custom surfboards for more than five decades. In 1954 Rice apprenticed under the late shaping legend Dale Velzy in Southern California, learning the art of wood plank construction, shaping, and hand tool maintenance (Hickenbottom, 2009). After highschool and on weekends, Rice would meet with Velzy at his shop located in Manhattan Beach to hone the time-honored craft of shaping balsa surfboards.

The Hook one of the most popular surf breaks within the Pleasure Point area, and is easily accessible at the end of 41st Avenue. Several challenging sections of the wave and the fast-breaking long rides characterize The Hook's wave type. The Santa Cruz Gremlin Society (SCGS) was a small surf club formed in 1961 and used The Hook as their meeting place. The SCGS was the first formal surfing club to form since the Santa Cruz Surfing Club was formed during the 1930's and 1940's (Hickenbottom, 2009). Prominent SCGS members included Jim Phillips, Thomas Hickenbottom, Tony Mikus, L. J. Harris, Ron Lindsay, Dick Lindsay, Gene Echeveria, and Denny Cox.

Access to The Hook had always been challenging because of the steep climb up and down the muddy cliffs. During and after periods of rain made the climb increasingly

difficult, especially with a heavy surfboard under arm. Many surfers have fallen down the cliff face at The Hook while attempting to enter or exit the surf break, with some experiencing serious injuries. Before stairways were constructed at The Hook, surfers would negotiate the steep descent using a fire hose that was tied to the cypress trees at the bluff top. The waves at the Hook break on similar bathymetry to other breaks of Pleasure Point, as the seafloor is rocky reef with a jagged shelf and filled in by sand depending upon seasonal and annual sand availability. The Hook is the most easily viewed surf break of the Pleasure Point area, and has been an iconic example of stylish surfing.

Through the 1960's, additional official surfing clubs began to appear as a recognized presence on the beaches of Pleasure Point. The Pleasure Point Surfing Association (PPSA) formed in the early 1960's, and was the most successful Santa Cruz surf club in local competitions during this decade. In 1966 the PPSA won the annual Norcal Club Invitational against rival teams from Santa Barbara and Pedro Point (Hickenbottom, 2009). Club members also traveled to Hawai'i to ride some of the biggest waves of the 1960's era, in addition to being featured in several full-length surfing films. From the mid 1960's, surfing clubs have been emblematic and popular throughout Santa Cruz, giving recognition and respect to standout surfers from every proceeding era.

In 1962 the West Wind Surf Club (WWSC) was started by Jerry Best, Vonnie Slater, Ron Best, Craig Troop, Ken Edget, Jimmie Dinsmore, Barry Hanby, Gary Hanby, Jimmy Miller, Ken Phillips, the Machado brothers, Robbie Davidson, Rick Carleen, Joe Ayers, Joe Oster, and John McCombs, among others (Hickenbottom, 2009). Club president and Yount Surfboards team rider David "D. A." Adams was one of the top

riders from the Capitola area. Gail Yount was regarded as an excellent surfboard shaper from the Santa Cruz area, and was also a WWSC member (Hickenbottom, 2009).

Surfboard shapers began to diversify in the 1960's, and many different individual shapers began to make a respected name for themselves around Pleasure Point. Doug Haut is a legendary shaper who continues to shape from his Westside shaping room on Delaware Avenue today. Haut originally shaped boards on the Eastside and opened his first shop in 1965 on Portola Drive in Pleasure Point. During the first few years of operation, Haut shaped with George Olson at his shop before moving on and shaping alone. Doug Haut introduced his Haut Signature series in the 1960's, which had three stringers, pulled-in noses and thin rails for exceptional speed while maintaining a classic look. With the introduction of his Signature series, Haut quickly began to attract a following of surfers. During the 1970's and 1980's, his short boards were highly sought after by some of the best and most discriminating surfers worldwide. Today Doug Haut continues to shape both longboards and shortboards, and is one of the most popular and well-respected surfboard craftsmen in Santa Cruz.

Surfing Iconology and Landscape

As surfing's popularity increased from the introduction of surfing to North America by three visiting Hawaiian princes in 1885, the sport's character remained relatively mysterious and rebellious to the non-surfing community of Santa Cruz. Early in the nineteenth century, nationalistic patriotism and emerging romantic aesthetic theories began to reach California's cultural landscape (Flad, 2009). Santa Cruz was a place sought out by not only surfers, but by writers, artists, travelers, and environmentally

conscious groups of people looking to escape increasingly urbanized areas. Santa Cruz represented an oceanside community away from the increasingly fast paced lifestyle and subsequent pollution that was becoming familiar in other coastal cities of California, notably San Francisco and Los Angeles. Individuals looking to escape rapidly growing urban centers have long been attracted to Santa Cruz for the abundance of healthful minded people and expansive scenic qualities of northern Monterey Bay. As Santa Cruz surfaced as a refuge for moral and theoretical direction within nature, popular surfing beaches and local beachfront development accommodated new residents.

D. W. Meinig (1979b) argued in his essay on "Symbolic Landscapes" that certain landscapes found within our nation "are part of the iconography of nationhood, part of the shared set of ideas and memories and feelings which bind a people together" (Flad, 2009). Specific underlying themes in national culture can be constituted by using significant artifacts and images chosen by Meinig. Recognition of symbolic value of identifiable images by Meinig in his later essay "A Life of Learning" (1992) further described how writers, poets, painters, and many others "try to capture in some way the personality of a place, or other mystery of place in human feelings". Our nation's understanding of itself and the conflicting values that continue to shape both social and political policies and founded in images of landscape and nature.

California social and political culture has largely been formed from public perceptions of the natural landscape. Environmental policies have been shaped by these perceptions, in addition to political, economic and social policies within California (Flad, 2009). Our social representation of nature and associated discourse has historically framed California's ongoing narrative. Collective meanings and perceptions of the

California landscape have continued to change over time. Landscapes are composed of not only what we see before us, but with what are represented in our minds and within theoretical and creative iconology (Meinig, 1979a; Lowenthal, 1961; Meinig, 1992). While landscapes representing nature is Meinig's first conclusion, landscape also represents "habitat, artifact, problem, wealth, ideology, history, place, and aesthetic" (Flad, 2009). Descriptions of "the essence" and "the organizing ideas" that make relative sense of what is seen within our landscape are founded in Meinig's "The Beholding Eye" (1979a). Surfers within the wide and expansive coastal landscape became the foundation of a domesticated and continuously redefined national culture represented by artists, writers, conservationists, scientists, and tourists (Flad, 2009).

From the earliest settlements along the coasts of California, a view of blue sea, expansive ocean and wilderness became the foundation that shaped a new California culture within the United States. Wilderness areas, and the vast wildness of California's coastline were consistent with how YiFu Tuan described values within the country; believing that in wilderness "lay the ultimate source of health and well-being for a nation… so long as there was wilderness, America, no matter how dire her mistakes in world-making, could always be restored to health, gain new energy" (Tuan, 2002). Early literature and artistic representations from the onset of American settlements along the California coastline would transform the image of a wild and dangerous Pacific Ocean into an iconic symbol of romance, independence and tranquil relaxation. Transcendentalist movement writers, philosophers and artists had made their way to California by the early-nineteenth century. Their view of the New World culture's

spiritual core was based in the relationship between society and the wildness of nature (Flad, 2009).

By the mid-nineteenth century, Californians were experiencing the modern era of economic forces fueled by capitalism and increasing industrialization of society. Settled landscapes were being created in the shadow of urbanization, and technological changes in transportation and communication were disintegrating time and space as was previously known (Flad, 2009). Large cities in California steadily increased in size and population. Basic urban infrastructure of the time was put under increasing stress and strain. The nation was entering a time of expansion and exploitation of natural resources, to a common logic of our society being able to control and exploit nature for financial profit. Air quality amongst California cities grew increasingly intolerable, and people began to search for solace wherever they could easily retreat to it.

Landscape development changed the way in which the face of the land appeared to society. Towering redwood forests that covered much of historic California were being clear-cut and built upon. Thomas Cole saw a problem with the felling of ancient forests, as "the ravages of the axe are daily increasing – the most notable scenes are made desolate, and oftentimes with a wantonness and barbarism scarcely credible in a civilized nation" (Cole, 1836; Meing, 1979a). Boundaries began to emerge amongst a landscape that had formerly been seemingly limitless, while wilderness landscapes were systematically domesticated and an intermediary landscape was considered of moral value (Marx, 1964).

Affluent families from the emerging cultured class and European travelers found the industrializing trends of American society to be rough and difficult to find relaxation

within. A philosophical narrative, which was distinctly American, identified the human relationship with the natural world as a central theme of artistic accomplishment and national pride (Zelinsky, 1973; Flad, 2009). Natural landscapes were sought out more often than those of historical or cultural association by both American and European travelers (Flad, 2000; Flad, 2001). Beauty and power were symbolic of natural landscapes, which differentiated American culture from the Old World's immoral character, and it was this for which Americans would look to nature for their identity (Huth, 1957; Mills, 1997; Flad, 2009).

Tourism of nineteenth-century America was a sign of the developing political engagement and social value with nature. Poets, artists, essayists and architects communicated with a growing middle class through their depictions of nature and in the arts of refinement (Bushman, 1992; Myers, 1993). New landscapes accommodated new leisure opportunities, which were becoming increasingly popular in California. Affluent families and demographics began to spend more time along the California coastline because their wealth afforded them the luxury of leisure and time to enjoy these activities. Beach houses and coastal retreats were an early example of the development of coastal tourism and the representation of nature as iconic landscapes during that time.

Throughout humanity, populations have turned to natural areas and constructed wilderness for psychological and physical healing (Flad, 2009). Eighteenth and nineteenth-century travelers throughout North America renowned the locations of mineral springs, for they were the where entrepreneurs marketed the waters as the places of beneficial spas (Sears, 1989; Corbett, 2001). Ocean waters have long been considered therapeutic destinations because of the uniqueness of the sea salts within the water, but

also because of the pure and refreshing air. Tuberculosis and other respiratory diseases were thought to be alleviated by spending time near the sea, and large demographics of people who lived in populated cities began to migrate out of the increasingly industrialized central valley and into coastal California.

Americans could morally justify the time and expense necessary to travel from increasingly polluted cities for clean coastal air and mineral waters, which were available a relatively short distance away from California's urban hubs (Aron, 1999). Traveling to coastal areas with resort communities would have assisted the social climb upward in social hierarchy and status for many families profiting from California's economic upsurge. Social status and class would have been reason enough to make the effort to reach the merging boundary of land and sea (Dulles, 1940). Santa Cruz was a public space where private acts could be less controlled and where a transformative experience occurred for many individuals and families who chose to recreate there.

Architecture of resort communities was designed around performance and display to accommodate individuals and families who were in search of recreational pursuits (Flad, 2009). While therapeutic benefits and relaxation were largely the draw for people to visit the beach, the largest hotels boasted the expansive size of their amenities and events to partake in. While many people attested to traveling to the beach for relaxation, the overwhelming majority of visitors came to immerse themselves in social gatherings, formal events, and to engage in social encounters. Beach homes and buildings were adorned with carefully landscaped grounds, which became a parlor in the seascape (Flad, 2009). Competition for class status was performed in public space rather than in private, and social spaces became a symbol of middle-class domesticity along the California coast.

Artists were attracted to the Santa Cruz coastline early on, just as other groups of artists became enamored with painting mountains, prairies, river valleys, and other natural settings. Coastal landscapes were perceived through Meinig's aesthetic lens and described in romantic terms of picturesque, beautiful and sublime (Meinig, 1979a; Flad, 2000). Cole argued that the most impressive and distinguishing aspect of American scenery is its wilderness, and Meinig saw America's national identity portrayed in landscape through an ideological lens (Cole, 1836; Meinig, 1979a). A common conclusion during early years was that the beauty of the mountains and coast of California was of a character found only in America, and that the iconic magnificence of the landscape was that of our country's identity. Asher Durand advised fellow artists to document the quickly disappearing wilderness areas of our country "yet spared from the pollution of civilization" because he knew the encroachment of popularity and attraction within wild landscapes and seascapes would profoundly change its very nature (Durand, 1855).

Like much of our wilderness areas, the Santa Cruz fell into the widespread perception based in nationalistic identity (Miller, 1993). The coast of Santa Cruz was represented by artists and writers who created an image of a uniquely American coastal community, with a culture found specifically within our nation. Santa Cruz steadily became a destination for annual travelers escaping summer heat and increasing pollution of the time period within urban centers. Coal burning power plants and oil drilling within California's central valley fouled urban air quality and pushed those who could afford the expense to seek coastal relief.

Southern California's beaches were soon lined with oil drilling operations and petroleum refineries, often times directly on the dunes that backed the beaches. Oil companies constructed jetties and seawalls to protect drilling operations along the beaches of southern California Santa. After drilling operations were completed, many oil companies simply left derelict wells, piers and drilling waste on the beach and within the surf zone. A surf break named Oil Piers just south of Santa Barbara took its name from the abandoned piers that formed extensive sandbars (Westwick & Neushul, 2013). Santa Cruz quickly became a popular northern destination for residents of Southern California cities, offering cooler summer temperatures, abundant marine life, and freedom from icons associated with urban pollution and environmental degradation. Santa Cruz became an iconic coastal community by establishing a place where tourism took place and families formed lasting memories of enjoyable vacations along the northern coastline of Monterey Bay.

In establishing a location where vacationing tourist events occurred, Santa Cruz constructed it's own unique identity (Meinig, 1979a). Embedded within this identity of Santa Cruz was an underlying romantic and idolized iconology of surfers who braved the cold and often dangerous seas and appeared to effortlessly walk on water. While surfers have historically been attracted to Santa Cruz for the consistency of high quality waves, many tourists were attracted to Santa Cruz beaches to idolize and become enamored with the rich surfing culture that had progressively developed.

First Surfers of Santa Cruz, CA

By the summer of 1885, large numbers of tourists from California's Central Valley were descending upon Santa Cruz to enjoy the expansive beaches and escape the oppressive heat of the State's interior (Dunn & Stoner, 2010). Hotels and boarding houses were filled vacationing tourists, and businesses along Santa Cruz's legendary waterfront were capitalizing on the seasonal boom. The Neptune, Dolphin and Liddell bathhouses were iconic main attractions for visiting socialites visiting the boardwalk and waterfront areas of the city. Santa Cruz was linked both to the expansive State of California and the United States in its entirety by 1880 with the completion of the South Pacific Coast Railway. As the first rail car full of tourists stepped into Santa Cruz, it was obviously apparent that summertime tourism would be a critically important aspect to the city's economic strength and overall identity.

July of 1885 was reported to have been exceptionally pleasant for beach-going tourists by A.A. Taylor who edited the *Santa Cruz Daily Surf* publication. Afternoon temperatures were in the high-70's to mid-80's, and the fog layer, which typically cools the Monterey Bay area had been lifting before noon. On Monday, July 20, 1885, the *Santa Cruz Daily Surf* printed a column in their early edition entitled "Beach Breezes" on the second page, which detailed the previous weekend's events. The warm temperatures were of Sunday afternoon were cooled by a steady onshore breeze which reportedly maintained good spirits amongst the people at the beach. The beachside promenade was described as a "bright and moving picture of itself", with each local streetcar carrying a "full load to join the gay groups already on the sand." Summer in Santa Cruz was in full swing. More gentlemen and ladies were reportedly in the water this particular Sunday

than any day of the summer thus far. Tourists enjoying the afternoon at Main Beach were initially entertained by an open-water swimming race between William and Irvine Jones and a small theatrical group who performed a comedy routine from a miniature cart pulled by a small donkey. Following this important weekend, tourists visiting Santa Cruz would experience surfing in addition to traditional swimming races and street performers. Surfing history was made that afternoon further to the east at the mouth of the San Lorenzo River.

Three Hawaiian princes were students at St. Mathew's Hall at the time, and spent their summers in Santa Cruz. David Kawananakoa, Edward Keliiahonui and Jonah Kuhio Kalaniana'ole were the nephews of King David Kalakaua who was a legendary surfer at the long breaking waves along Waikiki Beach on the island of Oahu. The three princes were adopted by King David Kalakaua and his wife, Queen Consort Esther Julia Kapi'olani in 1884. King Kalakaua and Queen Kapi'olani were popular monarchs in Hawai'i and adopted the boys, both because the couple was childless and because the brother's parents had died. The three brothers were Queen Kapi'olani's nephews by bloodline, and were the sons of ali'i, or royal families on the island of Kauai. They had been educated at Hawaii's most exclusive schools and were sent to Santa Cruz to be prepped for the Hawaiian monarchy.

The princes were boarded at the Wilkins House, which is located at the intersection of Pacific and Cathcart streets in Santa Cruz. Some surfing historians hypothesize that the princes and their hundred pound surfboards were transported to the San Lorenzo River mouth with ornate horse-drawn carriages, however, Dunn and Stoner (2010) argue that it was more likely that the princes floated their boards down the San

Lorenzo River itself given the location of their residence on the river's edge. The princes would have encountered the river mouth as a popular beach for "surf-bathing" along the waterfront of Santa Cruz (Dunn & Stoner, 2010). Safety measures had been placed at the river mouth beach as early as the 1860's, namely in the form of "life ropes" and "swim lines", which were thick ropes attached to tall poles on the beach and tied to an offshore dock or anchor beyond the breaking waves. Life ropes and swim lines were established at numerous locations along Santa Cruz's Main Beach and Seabright Beach located just east of the San Lorenzo River mouth. Safety ropes extending into the surf allowed people to access the ocean while attempting to add some level of public safety from the unpredictable nature of the Pacific Ocean.

The three princes had learned to surf at Waikiki from their uncle, and after spending some time in California, had boards milled from local redwoods from which they would shape traditional Hawaiian o'lo boards, which were reserved in Hawaiian culture for use by royalty. The waves at the river mouth this day were reportedly exceptional by those who were in the water. Roughly 30 or 40 swimmers were out in the waves with the princes who had their traditional surfboards with them. While the swimmers had never seen surfers actually surfing before, they were drawn to the energy of breaking waves. *The Surf* reported that swimmers were "dashing and tossing, and plunging through the breakers, going out only to be tossed back apparently at the will of the waves and making some nervous onlookers feel sure that they were about to be dashed against the rocks" (Dunn & Stoner, 2010). The ways in which people perceived the beaches of Santa Cruz were changed to include the iconic presence of surfers.

The first account of surfing anywhere in the Americas was reported by *The Surf* as the Hawaiian princes were enjoying the waves and giving exhibitions of surfboard swimming as they had done so in their native Hawaiian Islands. The author of the article interestingly named the princes in a way that the intended readers also knew the names of the princes prior to the article, and that "surf-board" was used to describe the watercraft as the Santa Cruz author was already aware that the culturally significant sport of surfing was brought by the princes from Hawai'i. Santa Cruz journalist Ernest Otto was born in 1871 and remembered the surfboards that the princes rode were made of "solid redwood planks and milled locally by the Grover Lumber Company. They were over 100 pounds in weight and 15 feet in length" (Dunn & Stoner, 2010). Redwood has historically been a valuable and culturally significant natural resource within the Santa Cruz region.

Several small timber companies were operating in the Santa Cruz Mountains, and harvesting clear first-growth redwoods during the mid-1880's. During the 1870's and 1880's, the redwood lumber industry peaked in Santa Cruz County and massive deliveries of clear timber were being sent on rail and by ship around the World. Shipments of sugar from the Hawaiian Islands arrived in San Francisco, where the redwood lumber would replace the sugar as cargo for the return voyage. The actual surfboards that the three princes carved in Santa Cruz were taken back to Honolulu with them, and for the following 40 years or more, Northern California redwood was shipped to Hawaii and was the primary material for surfboard construction in Hawai'i. Anyone surfing in Honolulu between 1900 and 1950 would have likely been riding a surfboard shaped from Santa Cruz redwood. Like much of the ancient groves of redwoods that no

longer exist today, details of the historic introduction of surfing by the three Hawaiian princes to the Americas is largely forgotten within surfing literature.

Stories about the three princes surfing at the San Lorenzo River mouth have a historic place within surf lore in Santa Cruz, however, intricacies and complexities from this event have been left out of most historical accounts of surfing in California. Many surfing historians from Southern California claim that George Freeth introduced surfing to California from Hawai'i in the early 1900's. Either the event in Santa Cruz has been long dismissed as never happening, or it is stated that it was a chance event that failed to have lasting historic or cultural significance (Dunn & Stoner, 2010). The experience of observing how Hawaiian royalty rode waves at the San Lorenzo River mouth in 1885 significantly influenced the history of surfing as we identify with the sport today. Santa Cruz has been an extremely important location for surfing's rise to modern popularity from the first wave successfully ridden along the coast California and the American continents. People in Santa Cruz embraced surfing as a cultural sport, and continued to surf after the princes had returned to the Hawaiian Islands.

In September of 1887 Prince Edward was send back to Hawaii from St. Mathews after falling ill and died in Honolulu shortly after arriving from scarlet fever. Both David and Jonah went on to become successful in their own right. David was the eldest of the three brothers and became the immediate first heir to the King's throne. The youngest brother, Jonah, was second heir and was identified as Queen Lili'uokalani's personal favorite of the three princes. A small group of businessmen from America and Europe overthrew the Hawaiian monarch with the aid of the U.S. military in January of 1893. On January 17, 1893 Queen Lili'uokalani relinquished her royal throne to "the superior

military forces of the United States", and the family's long history of Hawaiian rule was over (Dunn & Stoner, 2010). While power was taken from the monarchy, Prince Jonah Kuhio Kalaniana'ole continued to push for local voice within politics.

Prince Jonah Kuhio Kalaniana'ole is deeply engrained within the memory of Hawaiian history and culture. When he was 24 years old, two years after the monarchy was overthrown, Jonah fought in a rebellion against the newly created U.S. supported republic of the Hawaiian Islands. The advocate for Hawaiian independence was sentenced to a year in prison for his involvement in the attempted revolution. At the same time Prince Jonah Kuhio was serving time in prison, across the Pacific Ocean in Santa Cruz, surfing was continuing to grow in popularity. In July of 1896 the weekly edition of the *Santa Cruz Surf* observed "the boys who go in swimming at Seabright Beach use surfboards to ride the breakers, like the Hawaiians" (Dunn & Stoner, 2010). While Prince Jonah Kuhio was incarcerated in federal prison, Santa Cruz beach goers were locking into a progressive surfing culture revolution that continues today. Prince Jonah joined the Republican Party and in 1903 was elected to the U.S. Congress as a delegate from the Territory of Hawai'i and served until he died in 1922 (Dunn & Stoner, 2010).

A Hawaiian state holiday was established to honor Prince Kuhio Kalaniana'ole's name, as well as the names of streets, beaches, highways, resorts, businesses and plazas. A federal building in Hawai'i is also named after the Prince. A memorial chant is well known through the Hawaiian Islands and was written in his honor. The chant is called "Hui Hololio", and pays homage to the life of a Prince who helped bring surfing to the Americas, and importantly to the Santa Cruz community. The chant of Hui Hololio is:

This is the name song for Kalaniana'ole
Leader of the riders like the sea spray…
We call to thee, o answer
To your name song o Kalaniana'ole.

The San Lorenzo River mouth, Main Beach and Seabright Beach were easily accessible to tourists who visited and stayed in Santa Cruz. As surfing became more popular over the next five decades, surfers establishing unique colonies that spread across Santa Cruz. Surfing breaks have historically been separated into the Westside, Eastside and Midtown. Because Santa Cruz is located on the northern rim of Monterey Bay, the coastline of the city is angled from west to east, with the Westside being more exposed to powerful northwest swell. Cowell's Beach and Steamer Lane are iconic surfing breaks that are symbolic with the Westside. Surfers have been surfing these breaks since the early twentieth-century, and on any given day throughout the year, tourists are able to observe surfers in the water at these two locations. Around the same time as surfers were sliding waves at Cowell's on the Westside, surfers on the Eastside of Santa Cruz began carving out their own identity at Pleasure Point and the Hook. It is important to note that both Westside and Eastside locations are commonly referred to Steamer Lane and Pleasure Point respectfully, however, there are countless other named breaks within these two areas that are dependent on both tide and swell direction. What may seem like the same break to a visiting tourist may in fact be multiple different breaks, each having its own respected name and user group.

Visiting tourists were also drawn to these areas because of the beautiful soft sand beaches and the tall sandstone bluffs that line the back beach and create a unique viewing experience, much like a natural amphitheater. Tourists were drawn to these high bluffs

for their majestic views over the Pacific Ocean, which crashed at a safe distance below for tourists to feel like they are on top of the ocean itself without the risk or danger of actually nearing the edge of the sea. Tourists have long been attracted to these coastal bluffs, both to enjoy the shade of the wind-sculpted cypress trees, and to enjoy the beach life atmosphere, which was iconic with surfboards and surfers who were either surfing or on the beach with their surfboards and friends. Viewers interestingly stood above the surfers physically and metaphorically.

Surfers were considered to be jobless, unwilling to work, and of lower social status than tourists who were wealthy enough to travel from larger cities and vacation in exclusive beach cottages and hotels. Surfers often camped on the coastal bluffs and appeared to be dirty individuals with salt crusted hair, while visiting tourists were well groomed and elegantly dressed. Many vacationing tourists would mistake surfers as being homeless, or living out of a van at the beach.

Coastal commerce around the Westside and Eastside of Santa Cruz also began marketing surfers and surfing culture early on. Surf shops offered tourists opportunities to purchase surfing apparel and to appear as a surfer when they returned home. Tourists have also been able to easily rent a surfboard and purchase a lesson. In either sense, tourists could return to their inland communities and associate with the many icons of surfing that Santa Cruz has advertised for more than a century. As the popularity of surfing increased, lightweight foam surfboards replaced the heavy boards made entirely of balsa or redwood. Foam boards were also able to be mass-produced and affordable to more people than ever. People who were not able to safely manage boards weighing up to a hundred pounds were for the first time able to comfortably surf and associate with a

sport that was almost entirely exclusive to men, however there were notable women who were excellent surfers; notably Dorothy Becker. Although vacations to the beaches of Santa Cruz were considered to be an experience within a natural landscape, the coastline had been constructed and regularly framed for social consumption.

As early as the mid-eighteenth century, the coastline of Santa Cruz and prominent viewpoints where tourists could view the ocean from the safety of the surrounding landscape had been located, relocated, socially constructed, and structured. Guidebooks and tourist maps noted iconic scenes from viewpoints that artists and writers had consecrated over time. Nearly all writers and artists who described the select scenes that were visible from viewpoints used similar romantic rhetoric to describe the place and local identity. The language used would continue to codify the seascape of Santa Cruz as a nationalized and idealistic image of sand, sun, and surfing.

Social Construction of the Surfing Experience

Many locations in Santa Cruz have been created for the expansive views and scenic amenities available along the Santa Cruz coastline. Ocean views have always been a defining trait of the most exclusive and expensive restaurants, hotels, and private homes in Santa Cruz. Development along the coastline has been focused largely on being as close to the water as possible without regard for extreme storm conditions and sea level rise. Hotels that have expansive ocean views identified the hotel's identity, but also to beautify it and enhance the assembly of a building within the oceanfront scenery for visiting tourists (Blackmar & Cromley, 1982). From oceanfront developments and constructed viewing areas, the stage was set for people to view the continuous movement

of the ocean and enter the natural seascape while remaining within the domesticated safety of the constructed place.

Oceanfront hotels and businesses were social spaces that intertwined the expansive essence of the Pacific Ocean with elegant interiors that linked the view of the waves with social activity within a coastal retreat setting. Outdoor verandas and patios made it possible for beachgoers to enjoy the essence of the ocean air and sea breeze while remaining protected from undesirable elements, so that sitting under the protection of a patio was sufficient rather than actually having to walk across hot sand under bright sunshine. Importantly, constructed oceanfront areas were platforms and foundations from which people could see and be seen within their social class while in Santa Cruz.

As tourists ventured away from oceanfront developments and hotel patios, places from which ocean views were taken in were made easily accessible and given symbolic names that characterized their iconic image. West Cliff Drive and East Cliff Drive symbolized places where one could drive along an ocean-facing cliff and enjoy the beauty of the expansive view. Along both of these cliff-top roads, extensive walkways and bike paths attract countless people to enjoy unblocked views of the ocean. Countless surf breaks line these cliffs and add another dimension to the experience of visiting these locations. Along West Cliff Drive the surf breaks include Natural Bridges, Stockton Avenue, Swift Street, John Street, Mitchell's Cove, Saber Jets, Steamer Lane and Cowell's.

On the opposite side of town along East Cliff Drive the breaks visible from the cliffs are the Harbor (Murch) Bar, Blacks, Sunny Cove, Santa Maria's, 26th Avenue, Little Windansea, Rockview, Sewers, Pleasure Point, 38th Avenue, The Hook, Shark's

Cove, Privates, and Trees. Natural Bridges and Opal Cliffs identify the West and East endpoints of Santa Cruz, respectively. Santa Cruz is unofficially named Surf City and California's Seven Mile Miracle after the North Shore of Oahu in Hawaii. Sea and surf has continued to be marketed through the names of hotels, motels, and local businesses in Santa Cruz.

One of the most dominant construction projects which has allowed for unparalleled views of the ocean and surfers in Santa Cruz is the municipal wharf, which is located just to the east of Steamer Lane and Cowell's. Visitors have been able to drive out onto the wharf for nearly a hundred years now, which has allowed residents and tourists to feel as if they are easily able to be on the water. From the wharf, visitors can shop and dine at restaurants while looking out across a short distance and watch the surfers at Cowell's Beach and Steamer Lane. Marketing surfing along the wharf and downtown Santa Cruz has become mainstream and lucrative for businesses in Santa Cruz.

As Santa Cruz became known as the city with the most consistent surf in the nation, numerous hotels established accommodations for thousands of visiting surfers. Early in Santa Cruz's history, visiting tourists would come and stay in the city for long periods of time. Visitors would stay for weeks or months, which may have made up the entire summer or "the season". As times changed and it became easier to travel to Santa Cruz, traveling tourists were accommodated by businesses that catered to day visitors and weekenders, which became the source of the greatest income for local businesses. Surfers come to Santa Cruz to stay for the weekend, or for good swell events when they occur. Santa Cruz is protected from outer ocean condition by Monterey Bay, and thus has surfable waves during winter months when exposed breaks are often dangerous and

unpredictable along the Pacific coast. It is common for groups of surfers to descend on Santa Cruz's hotels for a week or two during winter months when mainstream tourism is generally at its lowest level of the year but the waves are at their best.

Non-surfers have always been the preferred clienteles for hotels in Santa Cruz however, and competition between different establishments became intense during the twentieth century. Many oceanfront hotels claimed to have more rooms with fancier interior décor than others. Advertisements for many of these hotels showed the beaches of Santa Cruz as clean and fun, often with images of surfers in the water just offshore. Postcards of surfers and surf culture continue to be popular items sold at gas stations and in the lobbies of restaurants and hotels of the Santa Cruz region.

Surfers Experience Coastal Development

Relationships of hotel buildings to the natural surroundings and the coastline were as important as the buildings themselves in Santa Cruz. Many paths were constructed late in the nineteenth century, which afforded access to scenic vista points where groves of cypress trees shaded walkers and picturesque rock formations made passageways romantically mysterious. Construction of roads to carry horse-drawn carriages along the coastal bluffs was not as difficult as in other areas of the coastline, as the coastal bluffs were horizontally level and made of softer stone that was easily graded. The coastal bluffs of Santa Cruz were level in all but a few locations, making the delivery of lumber and fixtures needed to build all the private homes and other structures along the bluffs relatively easy. Narrower paths to more exposed outcroppings on steeper inclines allowed coastal access for those who were drawn to a closer experience with the coastline.

Fishermen and surfers used well-worn narrow paths to the outer pointbreak reefs of Santa Cruz. Many of the paths along Santa Cruz's bluffs were undoubtedly created with simplicity and comfort in mind. Many visitors from lavish estates in urbanized cities were visiting the coastline for tranquility, cleanliness and relaxation. Railings and benches were placed in a picturesque manner, which made the more scenic sections of the bluffs safe and accessible for public benefit.

Homes were built along the bluff tops with the most expansive ocean views possible. Gardens of flowers and lawns were laborious created in the mirror image of the homes people remembered or desired. Soil and seeds were hauled in and thousands of annuals and perennials were planted along garden paths and near benches and arbors. Hotels and homes domesticated the coastline with libraries of picture books that were brought into the coastal landscape itself. The ocean and coastline could be enjoyed through proper reading, art and taste (Sweeting, 1996).

Santa Cruz's beautiful beach houses and their attached verandas that look out across the Pacific Ocean are the most identifiable features of the constructed coastal landscape on the bluffs. These beach homes represent constructed pieces of domestication amidst the raw energy and wild nature of the ocean. Beach homes along the bluffs evoke romantic admirations that the beach homes themselves offer their dwellers metaphoric safety. In a nearly mirrored way, it is evident that each weathered location of a bluff top home adds a romantic luster to the ocean view, and it is clear how fragile the constructed efforts of coastal developments amount to the unrelenting processes of coastal erosion.

Surfers Become Social Commodities

As the iconic surfing image became a profitable in Santa Cruz, it was exploited by the City and County of Santa Cruz, and the surfing industry as a whole. A constant concern for the surfing industry, like any other industry, is balancing costs to income, and increasing profits. Advertising offered a way to market surfing to inland America and other demographics who don't actually surf. To the Santa Cruz surf industry, image was everything, and attention was directed to establishing a defined image of sun, sand and surf within the landscape. Advertisements for the City of Santa Cruz and Santa Cruz County have depicted images of surfers and surfing culture on the local shores for decades.

Selected guidebooks, journals and magazines portrayed the image of surfing as romantic, sexy and cool. Images of surfers were used in different publications to circulate amongst the very clientele they were seeking to elicit. Surfers were transformed from a small subculture who preferred to work in order to live near the beach and surf as much as possible, to an objectified and exploited coastal user group. Surfing has been transformed by the surf industry from an activity, which was discouraged and looked down upon by society, to a recognized and respected sport that is encouraged as a healthful activity. Surfing today is promoted as a lifestyle that promotes well-being, self-awareness and environmental consciousness.

Many innovations within the surfing industry occurred in Santa Cruz, and as a result, the global surfing industry and the sport as a whole was transformed indefinitely. Jack O'Neill is arguably the most famous icon in Santa Cruz surfing history. O'Neill is credited with inventing the modern surfing wetsuit as we know it today, making it

possible for people to withstand the cold waters of Monterey Bay for long periods of time without seriously risking hypothermia. In 1959, Jack moved his family from San Francisco to Santa Cruz, like many surfers, because of the better weather and friendlier surf on the protected north shore of Monterey Bay. Neoprene-lined bathing trunks were his first step towards the modern wetsuit, which he developed to avoid "freezing his balls off" while bodysurfing at Ocean Beach on San Francisco's outer coast (Save the Waves Coalition, 2012). Once in Santa Cruz, Jack developed long johns, short johns, wetsuit jackets, and in the process developed a devoted following of surfers who greatly benefited from his efforts. His timing couldn't have been better, as in 1959 Columbia Pictures' *Gidget* became a phenomenon and exploded the surfing culture of California into the 1960's.

While most of surfing's popularity was focused around the lifestyle and culture of Southern California, notably Huntington Beach and Malibu, the surfing population of Santa Cruz quietly grew into a dark and unpredictable force during the 60's and 70's. With the increase in surfing's popularity within the general public came surf shops, manufacturers, surf clubs and advertised contests. In 1969, the night before one of the largest surf contests in Santa Cruz history, local surfers pushed all of the scaffolding over the cliffs at Steamer Lane in an effort to run the contest out of town. The following day as the contest was scheduled to run, local surfers refused to clear the water as competitors paddled out for the first heat of the day. Through the 1970's, the parking lots at Steamer Lane admittedly held the anti-contest disposition, however, the industry was adamant and pressed for more contests at the Lane. In 1969 the first surfer to have a *Surfer* magazine cover shot was Roger Adams, who was a leading competitor in the Western Surfing

Association AAAA circuit. The Santa Cruz 4A Invitational of that era is known today as the O'Neill Cold Water Classic and is a showcase for local talent to make the Santa Cruz community proud of their local talent.

Aside from the modern wetsuit, the second most important and functional piece of equipment that has radically changed the sport of surfing at a global level is the leash. A leash connects a surfer's ankle to their surfboard during a wipeout. Prior to the surf leash, lost surfboard would be bashed into oblivion by the rocky cliffs of the Santa Cruz coastline. Jack O'Neill's son Pat recalled breaking three boards in one day surfing the Santa Cruz Harbor, and that back before leashes "ding repair factories were busier than the surfboard factories" (Save the Waves Coalition, 2012). In the late 60's, a group of Santa Cruz surfers including Steve Russ, Pat O'Neill, Roger Adams and Michel Junod started experimenting with methods to keep their boards attached to themselves.

The first leashes were suction cups attached to surgical tubing attached to a surfer's wrist. Eventually the best method was a fiberglass rope that was looped at the tail of the surfboard, of which the leash was attached to the surfer's rear ankle. The invention of the leash in Santa Cruz broke the long legacy of segregation at surf breaks. For the first time, anyone was able to feasibly surf anywhere because a lost board didn't leave a surfer swimming in heavy surf without a floatation devise. While most people benefited from the leash, old-time surfers who had been surfing deepwater surf breaks for years without the crowds of unskilled surfers found themselves overwhelmed by increasing crowds.

The 1970's marked the first time when Santa Cruz surfers began making names for themselves on a larger scale and in doing so, put Santa Cruz on the map as a surfing destination. Handcrafted surfboards have been synonymous with Santa Cruz since the

three Hawaiian Princes carved their redwood boards in 1885. Surfboard shaping and construction in Santa Cruz has a long history of innovative design and construction that continues today. The most notable shapers from Santa Cruz include the Mitchell brothers, Bill Grace, Johnny Rice, George Olson, Gary and Jerry Benson, Jack O'Neill, Rich Novak, Doug Haut, Joey Thomas, Mark Angell, Rick Noe, Buck Noe, Mike Croteau, Bob Pearson, Steve Colletta, John Mel, William "Stretch" Riedel, Ward Coffey, Geoff Rashe, Mark Goin, Doug Schroedel, Ashely Lloyd, David Vernor, Nick Palandrini, Mark Andreini, and others (Santa Cruz World Surfing Reserve). Boards that are shaped in Santa Cruz are sold at the best surf shops worldwide, and have driven a widespread understanding that Santa Cruz is a surfing hotbed for both talent and craftsmanship.

Reimagining Surfing Within Local Culture

Exploring the histories of coastal development and tourism provides a unique lens into nineteenth and twentieth-century Santa Cruz culture, and how hotel owners, local businesses and tourists alike perceived its relationship to the expansive Pacific Ocean and Monterey Bay. Many ideas in the environmental and social history in California have their foundation in discussions and conversations that took place in oceanfront hotels and private homes along the shores of Santa Cruz. Oceanfront development was formed upon the Santa Cruz landscape, and was designed to be relaxing and encouraged from the onset.

In the twenty-first century, the relationship with the sea and oceanfront development has persisted to structure surfing culture within the wider California coastline. The evolutionary process that molded a wild ocean seascape into a domesticated and tangible property for development and exploitation is an ongoing

process that offers many transformative views of change along the Santa Cruz coastline. The ocean as a wilderness remains a powerful image to view, and has been questioned with regard to its social meaning and its long lasting relationship to cultural values in Santa Cruz. This questionable identity implicates the power of the oceanic wilderness and coastal bluffs as California's alternate landscape, and it is along the shores of Santa Cruz that wildness of the sea became the inner theme of California surf culture.

Climate Change and Coastal Zone Management

Climate change related atmospheric and oceanic phenomenon represents a significant concern for coastal zone planners. Larger and more frequent storm events that impact the coastline of Santa Cruz are widely associated with El Niño weather phenomenon. El Niño weather patterns are generated by increased sea-surface temperatures and have had catastrophic consequences for the coastal communities of Santa Cruz County. Increasing concerns regarding the magnitude of sea level rise add a significant layer of complexity to the effects of climate change that coastal zone managers should expect to plan for. Increasing storm frequency and associated significant wave events, in combination with increasing rates of sea level rise pose a significant risk for coastal zone planners in Santa Cruz County. Increasing variation in storm patterns and intensity across the eastern Pacific Ocean have raised significant concerns for the coastal neighborhoods of Santa Cruz.

Impacts of hurricanes and extratropical storms or nor'easters have been well documented within the Atlantic Ocean and along the East Coast of the United States (Dolan, Lins, & Hayden, 1988; Dolan & Davis, 1992a; Dolan & Davis, 1992b; Dolan &

Davis, 1993; Jones & Davis, 1995; Maa & Wang, 1995). Major extratropical storms occurring in the North Pacific Ocean have been the subject of far fewer analyses comparably, and less information is known regarding storm frequency and intensity along the coast of California (Allan & Komar, 2002). Pioneering data collection and analysis of storm intensity and wave conditions in the Gulf of Alaska was first conducted by Danielsen, Burt, and Rattray (1957) to understand the ocean conditions when the *S.S. Pennsylvania* was lost during a severe storm on January 9, 1952.

Maximum significant wave height during the storm reached 14 m, and was concluded to be the result of strong winds of the same direction acting on the ocean surface for a long duration (Danielsen, Burt, & Rattray, 1957). The focused direction covering a significant distance and duration resulted in low-frequency, or long-period waves holding an unusually high level of energy. From the 1920's to the early 1950's, Danielsen, Burt, and Rattray (1957) also documented large degrees of variability in storm intensity within the Gulf of Alaska, with years corresponding to the most intense storms generally grouped together (Allan and Komar, 2002). Groupings of years that produced significantly large storms during winter months corresponded with El Niño and La Niña weather patterns.

Coastal Protection and Armoring

Coastal ecosystems are among the most drastically transformed and degraded environments globally as a result of the cumulative impacts from human activities (Halpern *et al*., 2008; Jackson *et al*., 2001; Lotze *et al*., 2006). Over the past fifty years, urbanization and intensified development pressures within coastal zones has significantly

reduced the ability of coastal ecosystems to absorb increasing natural and anthropogenic disturbances (Costanza, Graumlich, & Steffen, 2007; Hoegh-Guldberg, 1999; Hughes *et al*., 2003). Environmental degradation along shorelines increases the vulnerability of coastal communities and the risks to ecosystem goods, services and cultural values that are depended upon by society (Adger, 2006; Adger *et al*., 2005; Cinner & McClanahan, 2006; Worm *et al*., 2006). Coastal ecosystems have increasingly been recognized as heavily influenced and disturbed by the role of humans and social agency (Hanna, 2001; Jackson *et al*., 2001; Cinner *et al*., 2009). Complexity within human-environment relationships has accelerated through differences in regional ecosystem quality and socioeconomic conditions. A goal of coastal protection is to stabilize a wide range of social-ecological outcomes, while moving from degradation and collapse to resilience and sustainability (Kittinger & Ayers, 2010).

Anthropogenic changes to coastal zones have altered natural processes to a point where system dynamics are increasingly difficult to isolate in terms of effects from human activities and natural processes, and have resulted in coastal zones being characterized as complexly linked social-ecological systems (Adger *et al*., 2005; Koch *et al*., 2009; Stutz & Pilkey, 2005). Social-ecological systems and their associated complexity have been described as nonlinear and exhibiting feedback loops, time lags, thresholds, and lasting historical legacies (Barbier *et al*., 2008; Berkes, Colding, & Folke, 1998; Gunderson & Holling, 2002; Koch *et al*., 2009; Liu *et al*., 2007). Resilience within interconnected social-ecological systems has come forward as a connecting theme within sustainability research because it provides a platform and mechanism to identify significant components that facilitate complex social-ecological systems to successfully

weather anthropogenic and natural environmental disturbances (Adger, 2006; Berkes, Colding, & Folke, 2003; Berkes, Folke, & Colding, 1998; Clark & Dickson, 2003; Folke, 2006; Gunderson & Holling, 2002; Gunderson & Pritchard, 2002; Kates *et al*., 2001; Palmer *et al*., 2004). Effectively managing systems involving social and ecological components and demands understanding complex relationships between humans and the environment. Successful strategies include outlining ways to reach optimal outcomes by implement effective environmental based management approaches (Kittinger & Ayers, 2010).

The regulatory shoreline in California plays a critical and complicated role in the defining line between privately owned coastal property and publicly owned submerged lands, which are managed by the state while being held in trust for the public (Kittinger & Ayers, 2010). Stabilization of shorelines through hard seawalls and riprap are widespread along the shores of California. Hard stabilization measures within California have resulted in the loss of public beach access (Fletcher, Mullane, & Richmond, 1997; Kraus & McDougal, 1996; Kraus & Pilkey, 1988; Pilkey & Wright, 1988). Coastal communities experience increased vulnerability to major environmental disturbances while continued loss of remaining beach ecosystems occurs, and distinct coastal ecosystem types are additionally placed at risk (Schlacher *et al*., 2007). Systematic shoreline armoring and other engineering approaches to natural hazards have been shown to reduce, rather than enhance, the ability of ecosystems to absorb disturbances by reducing the amount of diversity and variability that conserve complex system function, adaptive capacity and ecological resilience (Bengtsson *et al*., 2003; Elmqvist *et al*., 2003; Gunderson, Holling, & Light, 1995; Holling, 1996; Holling & Meffe, 1996). Ecological

buffers between terrestrial and coastal systems are important for effective functioning of shoreline ecosystems. Ecological degradation increases coastal hazards risk and decreases ecosystem resilience to natural disturbances (Adger *et al*., 2005; Baird *et al*., 2005; Danielsen *et al*., 2005; Hughes *et al*., 2003; Kathiresan & Rajendran, 2005; Schlacher *et al*., 2007).

Policy Prescriptions for Ecological Resilience

Several policy prescriptions to change shoreline management plans under ongoing coastal erosion, immediate erosion events, and planning for future sea level rise have been identified by Kittinger and Ayers (2010). These policy prescriptions are

1) Reconfigure state-local integration of CZM

2) Adoption of anti-armoring policies

3) Initiate ecosystem-based coastal zoning

4) Reverse "burden of proof" for taking littoral property

Reconfigure State-Local Integration of CZM

An important aspect of CZM plans are to integrate management efforts between state and local authorities for a more holistic and coordinated multi-agency approach at multiple levels of agency governance (Lowry, 1985). The most critical relationship in shoreline management is between the state and county agencies responsible for planning and permitting, which are responsible for determining the direction and scope of coastal development (Kittinger & Ayers, 2010). Decisions made by locally based agencies may subject the shoreline decision-making process to political and private interest pressures.

Short-term or immediate interests in the protection of private or public property are typically favored, compared to long-term planning objectives of coastal and shoreline communities (Alcala, 1998; Wescott, 1998). Comprehensive state and county holistic planning was shown by Kittinger and Ayers (2010) to best be supported by a governance and agency-wide format that allows for flexibility when addressing ongoing and persistent management issues such as coastal erosion, while proactively addressing increasing threats such as sea-level rise.

Anti-Armoring Policy Adoption

A significant component of shoreline management in Santa Cruz is based in the determination of ownership for the risk of erosion. Risk ownership has emerged as a critical issue for coastal communities experiencing ongoing erosion risk and will continue to be at the forefront of major management issues under scenarios of increasing sea level rise (Kittinger & Ayers, 2010). In California, property owners who's coastal property is threatened with imminent erosion emergencies are often permitted to finance, engineer and construct shoreline protection structures, which typically result in permanent loss of the publically owned beach (Fletcher, Mullane, & Richmond, 1997; Kraus & McDougal, 1996; Kittinger & Ayers, 2010). Armoring public beaches in front of private property inherently puts the risk of erosion onto the public, for loss of public beaches reduces collectively held environmental goods, services, and cultural values that are protected under the trust doctrine (Kittinger & Ayers, 2010. Policies that reduces private landowner ability to armor their shoreline shifts the hazards and risks of coastal development from the public to private property owner and creates valuable incentives for risk reduction

measures (Kittinger & Ayers, 2010).

Initiate Ecosystem-Based Coastal Zoning

Changes within intertidal and ecosystem function based zoning schemes are important because they allow for a mechanistic platform for policy that both reduces risk to societal infrastructure from natural hazards, and protects critical and sensitive natural resources through careful review of any proposed actions (Kittinger & Ayers, 2010). Climate change and sea level rise will likely change coastal zones and present a significant challenge for management, as reformation of existing zones to include shifts in resources and natural disturbance regimes will likely occur (Kittinger & Ayers, 2010). Ecosystem-based zoning can increase environmental resilience if stakeholders and the public are successfully engaged through a strategic planning process. It becomes increasingly important that the scales of governance and environment are matched to enact an adaptive management process to monitor and review progress towards clearly established objectives and goals (Day, 2002; Galaz *et al*., 2007; Olsson, Folke, & Berkes, 2004; Olsson, Folke, & Hughes, 2008; Ruckelshaus *et al*., 2008).

Reverse "Burden of Proof" for Taking Littoral Property

If a government agency deprives a property owner of all of their economically beneficial uses of their property through enacted rules or regulations, a regulatory "taking" occurs (Kalo *et al*., 2007; Titus, 1998). When government rules deprive coastal landowners of any use of their property, and a regulatory taking is found, then erosion control structures including seawalls and riprap that deprives the public access to public

property must also be considered a "taking" (Dean, 1999). Three ways may be used to codify the reversal of burden of proof: (1) CZM legislation may be provisioned for anti-armoring; (2) coastal ecosystems that are publicly owned as part of the public trust doctrine may be explicitly protected (Ewing, Magoon & Robertson, 1999; Stone & Kaufmann, 1985; Turnipseed *et al*., 2009); and (3) by increased judiciary recognition of non-regulatory takings resulting from natural erosion processes along coastlines (Shell Island vs. Tomlinson, 1999).

Surfers have an extended history of accessing the coastline of Santa Cruz County. An increasing trend of the privatizing of public lands has raised significant concerns. Surfers in the Santa Cruz area represent a historically unique stakeholder group that has systematically experienced the firsthand effects of political ecology upon the landscape, and persistent environmental injustice within coastal zone management. The coastal landscape of the Santa Cruz area continues to be molded and created in the imagined vision of private property wealth, political power and aggressive land use planning. Artificial coastlines that are constructed of boulder fields and textured cement has come to symbolize ecological disturbance and unwavering environmental injustice experienced by surfers as a unique marine stakeholder group.

The historical presence of surfers upon the landscape at places like Pleasure Point has cultivated the idea of surfers as iconic symbols of independence, romance and a lifestyle of tranquil relaxation. Tourists have always been attracted to the surfing culture along the bluffs of Pleasure Point. Architecture and real estate within the Santa Cruz area has come to view the surf breaks of Pleasure Point as a significant County commodity that has an extended history of being bought and sold.

Chapter 4: Case Study Method: Pleasure Point Seawall Project

"The Ability of Minority Stakeholder Groups to Engage Within Coastal Zone Management Decisions in Santa Cruz County, CA" is a case study to understand the formation of a coastal landscape and to reveal what the landscape represents. Seawalls are representative of political power dynamics along the California coastline. Coastal homeowners in Santa Cruz County have reinforced their echelon in social hierarchy over the general public by cementing their success and built wealth into the future. Seawalls represent a constructed landscape where social wealth and private property overlooks historically iconic beaches and the user groups who identify with them. In this case study, it is clear to see from the landscape that seawalls symbolically reinforce existing power dynamics between social disparities, and that capital influenced political power is questioning the democracy of capitalism along the coastline of Santa Cruz.

Over the course of recent decades it has become increasingly clear to Santa Cruz County and the residents of the Live Oak neighborhood along Pleasure Point that sections of East Cliff Drive have been failing as a result of ongoing coastal erosion. A significant cliff failure between 38th and 41st Ave caused an emergency response by the County and traffic along East Cliff Drive was limited to a one-way street that continues to allow vehicular traffic to flow from north to south along the bluff top. Rain gutters along the edge of the eroded roadway had also been lost as a result of ongoing erosion, and heavy precipitation events have periodically increased the rate of bluff erosion along the roadway. Metal drainage pipes under the roadway had been placed to direct stormwater off the bluff surface and directly onto the beach below were left exposed as a result of continuing erosion. The iron stormwater pipes had corroded back under the existing

roadway, and could be observed as rusting holes deep within the cliff face. The East Cliff Drive roadway is culturally significant because it represents an extended history of public access and recreation along a unique section of the Santa Cruz coastline. From the time the project was initiated in the late 1990s, Commission staff had accepted and reviewed public comments through letters and meetings with the County. The original seawall project was financed by the Army Corps of Engineers (ACOE) before eventually withdrawing their support after the California Coastal Commission initially denied the County's plans for the seawall.

When the ACOE withdrew their involvement and support for the initial project proposed in 2003, Santa Cruz County turned towards the Santa Cruz County Redevelopment Agency (RDA) and County Public Works Department for financial support. While significant failures to the bluff face along East Cliff Drive have occurred periodically for many decades, the erosion significantly threatening the roadway during the early 1990s. The Santa Cruz County Redevelopment Agency argued that the erosion would threaten vehicle access for residents of Pleasure Point, limit access to the cliffs and beaches below for pedestrians and bikers, and compromise major underground utilities buried beneath the roadway.

The County identified public access to the bluffs and beaches, and the protection of public utilities as primary concerns. Congressional support assisted the County and Live Oak neighborhood residents in securing funding for a cliff stability study by the ACOE. When the initial study was completed in 1994 the ACOE concluded that cliff stabilization was critically needed along East Cliff Drive and that a stabilization project would qualify for federal funding. As the study was completed, significant additional

bluff failures along East Cliff Drive occurred early in 1994, which required the permanent restriction of traffic to one-way and emergency repairs to the bluff and roadway adjacent to Larch Lane. A citizen's task force was loosely formed to evaluate erosion issues along East Cliff Drive and to come to a consensus of what citizens wanted to take place.

The consensus between the citizen's task force was that walking and bicycling along the cliffs should be made as safe as possible, and that they wanted to keep the roadway as a one-way through street. During my research, the County, Commission, and former RDA director were unable to explain how the citizen's task force was formed, how many citizens were involved, and whether the task force was representative of the demographic diversity found within Santa Cruz County. Based on the future vision outlined by the citizen's task force, a goal for a fully redeveloped bluff top and seawall were envisioned by the County. Emergency repairs to three crib walls along the bluffs were completed in the fall of 2004 as the initial phase of a larger and more complex Pleasure Point seawall project.

The Santa Cruz County Redevelopment Agency was created as part of a State funded program to address deteriorating conditions within communities through the use of public funds and appropriate action. Plans are designed to respond to the unique vision and needs that a community expresses. The RDA received direction from the County Board of Supervisors, who served as the official Board of Directors of the County Redevelopment Agency. The RDA had unique authority of power and political will within the Santa Cruz County while in existence. In addition to planning and redesigning areas of the County, the RDA had the political power to buy and sell private property,

make loans, construct recommended improvements, and to both rehabilitate and entirely remove structures. Project areas receive focused attention for partnerships with private development companies that are contracted using RDA issued financial investment capital to reverse deterioration, create low-paying tourism driven jobs, with a goal of re-energizing the local business climate of project areas.

An important foundation of the Redevelopment Agency was towards contributing to the local housing stock, and to generate active participation and investment from within the Santa Cruz County community in localized real estate. The RDA claims that redevelopment reduces crime rates within communities, and improves access to public transportation for local residents by improving traffic infrastructure. An important benefit claimed to result from Redevelopment Agency funded projects were that they promote affordable housing for low-income demographics. The County Redevelopment Agency acted to socially construct and develop the social landscape of Pleasure Point, while appearing to preserve the integrity of the coastal bluff.

The Redevelopment Agency was financed from property "tax increment" which relies on a portion of the locally generated property taxes that result from redevelopment projects, and also from the tax increment that is incurred from the sale of property. While the RDA was not responsible for setting tax rates or collecting taxes, however, the County is responsible for setting tax rates and the collection of taxes while directing the RDA. While the RDA states that they are not involved with property taxes whatsoever, the RDA is directed by the County, which directs both property taxes and the direction of RDA projects. Financing for redevelopment projects is generated primarily by bond proceeds. Bonds within the County are repaid from revenue generated by the tax

increments that result from within the project area. The foundation of the Santa Cruz Redevelopment Agency model is based on the funding generated from the localized increases in tax revenues that result from specific RDA projects.

The RDA claims that one of significant benefits of the Santa Cruz County Redevelopment Agency is that they improve access for low income demographics to access affordable housing. A housing fund for low and moderate-income housing receives 20% of the tax increment generated by Redevelopment Agency projects by State law. The Santa Cruz County Redevelopment Agency increased their generosity by 5% to a total of 25% of the tax increment going towards low and moderate-income demographics. Affordable housing projects funded by the Redevelopment Agency are not required to be located anywhere that would allow certain demographics easy access to mass-transit or other aspects of low to moderate-income household community support. Affordable housing projects financed by the RDA could essentially replace existing low to moderate-income housing throughout the unincorporated County. Three-quarters of the tax increment total is directed away from low to medium-income households, and is instead directed by the County towards stimulating more development in areas of the County that will increase overall tax revenue from increased property values and the sale of real estate within the project area.

The seawall project is located in Santa Cruz County's coastal development (CDP) jurisdiction, while the portion of the project located along the base of the bluffs, and is within the Coastal Commissions CDP jurisdiction. Improvements that were proposed for the bluff tops and toe of the bluffs were subjected to the Santa Cruz County and California Coastal Commission CDP process, respectively. The project was artificially

separated by jurisdiction even though the project is considered one whole project that has been developed and considered almost entirely by the County. The final Pleasure Point Seawall Project involved two different regulatory processes. When the ACOE submitted their consistency determination for the initial seawall project, they did so without addressing applicable coastal resource issues, which "lacked analysis of impacts to and protection of offshore surfing resources and shoreline sand supply, and lacked supporting documentation regarding whether shoreline-altering armoring was necessary." (A-3-SCO-07-015 and CDP Application 3-07-019, 7).

In 2003 ACOE submitted a federal consistency determination to the California Coastal Commission for the main portion of the Pleasure Point seawall project. At the time of their submission, the ACOE was proposing consistency with the California Coastal Act for the section of the seawall project extending between 32nd and 36th Avenues, but not proposing consistency for the component of the seawall component at the Hook, located at the project's terminus at 41st Avenue. At a Commission hearing on November 7, 2003 the Commission objected to the ACOE's consistency determinations and denied most of the seawall portion of the project. The proposed seawall was determined by the Commission to be inconsistent with the enforceable policies of the California Coastal Management Program (CCMP).

The Commission determined that the ACOE had not provided adequate information and had not explored all feasible alternatives, particularly options that were clearly founded in limiting shoreline alteration and ecological degradation. When the Pleasure Point Seawall Project was proposed for the first time to the Commission, the objection of the Commission "was based on lack of information" (CDP Application 3-07-

019, 7). The Commission was essentially unwilling to make a decision regarding this seawall project without any adequate information that would allow an understanding of the project site and potential alternatives to a permanent seawall that would fix the bluff face.

Since the initial objection to the Pleasure Point Seawall Project by surfers and other stakeholder groups in 2003, two significant events have impacted the Pleasure Point seawall project. The first event that occurred is that Santa Cruz County issued itself an emergency Coastal Development Permit (CDP) to improve and strengthen the failing emergency crib walls with formed and sculpted concrete. Three locations that were fronting East Cliff Drive were undermined by erosion and were near terminal collapse. The California Coastal Commission approved CDP's to allow constructed emergency seawalls along the bluff toe to be molded in response to the County's initial development along the top of the bluffs.

In March 2007 the California Coastal Commission "took a field trip" to the seawall to view the emergency wall as an example of what the Commission would look for in a future coastal development permit applications along the California coastline. The Pleasure Point Seawall project between the County and the Commission was shown as a model for future seawall construction along the California coastline before sufficient information was known about the impacts of seawalls on the coastline and without any formal consideration of if the seawall was necessary along the bluffs of Pleasure Point.

The second event that took place was that the ACOE's involvement in the project was taken over by the Santa Crux County Redevelopment Agency because the ACOE "bowed out" of the project after the initial project application was denied by the

Commission. Efforts by the County were "redoubled" to develop the information and analysis that had been "deemed lacking" by the Commission in 2003 when the first application was denied by the Commission. The most significant effort from the County to address lacking information and analysis arose from a collaborative project with the U.S. Geological Survey (USGS) to conduct a bathymetrical study of the Pleasure Point reef breaks in order to generate required "baseline surfing related data" (p. 8) The County responded to the Commission's request for seawall alternatives by submitting a revised Environmental Impact Review (EIR) and Environmental Impact Statement (EIS) with a "supplementary threat evaluation" and "alternatives information" (p. 8).

The County was significantly committed to ensuring the seawall project was approved and regularly met with Commission staff to identify specific information and analysis that would satisfy the Commission and reverse the original applications denial from 2003. It is important to note that the Commission field trip to the seawall location was in March 2007, and the CDP was filed with the Commission in October of 2007. The initial phase of the Pleasure Point Seawall Project construction was initiated by Santa Cruz County prior to the CDP being filed with the Commission.

A ten-working day appeal period by the Commission began on March 27, 2007 after receiving the Notice of the Board of Supervisors' action on the CDP the day prior. Two valid appeals were received before the appeal period concluded at 5pm on April 9, 2007. The California Coastal Act Section 30603 provides many categories that are appealable regarding CDPs for development. The two valid appeals were received and stated clearly that the seawall application is inconsistent with the Coastal Act because: "(a) approval for CDPs for development… is located (1) between the sea and the first

public road paralleling the sea or within 300 feet of the inland extent of any beach or of the mean high tide line of the sea where there is no beach, whichever is the greater distance, (2) on tidelands, submerged lands, public trust lands, within 100 feet of any wetland, estuary, or stream, or within 300 feet of the top of the seaward face of any coastal bluff, and (3) in a sensitive coastal resource area; or (b) for counties, approval of CDPs for development that is not designated as the principal permitted use under the Local Coastal Program (LCP)." (p. 8). The proposed seawall was both a major public works project, is located both seaward of the first public roadway, and would be developed within 300 feet of the bluff top edge.

The foundation for appeal under Section 30603 is restricted to appeals where the proposed development does not conform to established Local Coastal Programs or is inconsistent with public access policies found within the Coastal Act. The Commission held a "de novo hearing" to determine if the development is consistent with public access and recreation policies within Chapter 3 of the Coastal Act. Only the permit applicant, the local government and people who made their views known before their representatives or local government are "qualified to testify before the Commission" (p. 9). Anyone else who wants to testify before the Commission must submit their testimony in writing. The appeals component of the Pleasure Point Seawall Project permit application is written using vague language and it has never been clearly stated how or where persons may make their views known before the local government or representatives. It is also unclear whether appeals written in foreign languages are considered, or how people who are unable to write are able to effectively engage in the appeal process during the "de novo hearing" stage of the appeal processes.

Commissioners Reilly and Wan both contended that the County approved seawall project "raises substantial issues" concerning the conformance with fundamental LCP policies, Coastal Act access and recreation policies. The appeal stated: "the County's CDP approval raises substantial issues with respect to the approved County CDP project's conformance with LCP and Coastal Act provisions, including those related to long-term stability, access, recreation, public views, community character, and water quality. These issues are also inextricably linked to similar and other coastal resource issues associated with the seawall component of the overall project that is located in the Commission's retained CDP jurisdiction; their resolution will effect the Coastal Commission's review of the seawall application" (p. 9). The Commissioners raised the concern that the County's approval of the CDP for East Cliff Drive and associated development could influence the Commission's review process of the proposed seawall project and dangerously prejudice the Commission's final decision.

Any time a seawall is proposed before the Commission one of the "fundamental questions… is in understanding the range of potential alternatives" (p. 9) that may address the given erosion problems. Other alternatives that have not been explored by the County and would have a significant effect on the community character of the Live Oak neighborhood along East Cliff Drive include "abandonment, relocation of threatened elements inland, aggressive landscaping and drainage controls, etc." (p. 9). A County-approved CDP for the development along the bluff tops and East Cliff Drive would "represent a development entitlement" to the entire Pleasure Point Seawall Project, could "skew the Commission's review of the seawall", and may also "preclude certain alternatives from consideration" by the Commission (p. 9).

Coastal Commission staff recommended that the Commission determine that a "substantial issue" exists with regards to the filed appeal (p. 10). The Commission did find that Appeal Number A-3-SCO-07-015 contained a substantial issue under Section 30603 of the Coastal Act and associated inconsistencies with the LCP and the Coastal Act's public access and recreation policies. After determining a substantial issue exists and was raised within the appeal process, Commission staff recommended that coastal development permits for the Pleasure Point Seawall Project be approved as long as special conditions amended to the project were followed. When the Commission found substantial issue, the Commission effectively took jurisdiction over the CDP application. Only two motions and two votes were required to implement project approval, and while there were significant objections to the conformity of the proposed project to be consistent with the Santa Cruz County Local Coastal Program and the California Coastal Act's public access and recreation policies previously, the coastal development permit was approved by the Commission. Proposed seawall development along Pleasure Point was conditioned to conform to the previously raised inconsistencies in order to be approved. The approved permit was also surprisingly compliant with the California Environmental Quality Act (CEQA).

To comply with CEQA regulations, the proposed seawall project had to demonstrate that either: "(1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the amended development on the environment; or (2) there are no feasible mitigation measures or alternatives that would substantially lessen any significant adverse effects of the amended development on the environment" (p. 11). Both Commissioners Reilly and Wan had

previously contended that there were significant issues with the permit applicant failing to take into account any alternatives to the seawall permit. During the four years that the County was trying to condition the Pleasure Point Seawall Project application and advance Redevelopment goals, County staff failed to significantly consider meaningful alternative solutions to the originally proposed project.

Pleasure Point Seawall Project Special Conditions

Before the Commission issued coastal development permits, changes to the plans submitted to the Coastal Commission (Coastal Commission Application Number 3-07-019) were required to be "substantially in conformance" (p. 12) to the plans that were approved by Santa Cruz County (Santa Cruz County Application 00-00797). All riprap that was previously placed at the Hook was to be completely removed (p. 12). The transition from the seawall project to Jack O'Neill's property, which was not included within the proposed project, must be removed from County property unless it is necessary for the seawall to transition into existing private property. All other riprap that exists within the project area other than the riprap allowed for the O'Neill transition must be removed. All "other riprap" includes other rock, concrete rubble, or "equivalent in the project area" (p. 12). The stairway that was to be "seamlessly integrated into the seawall" (p.12) in a similar manner that was to be implemented at Pleasure Point Park adjacent to 36th Avenue.

The natural undulating bluff landforms along East Cliff Drive were to be mimicked by sculpted concrete surface that was to be in accordance with the special conditions of both A-3-SCO-07-015 and CDP Application 3-07-019. The sculpted

concrete was to be of "similar or better visual quality" as the best examples of already constructed emergency seawall within the project area. The emergency walls that were redeveloped prior to the proposed project were to be used as examples for the final Pleasure Point Seawall Project were already failing by the time the proposed seawall project was to be built. The emergency constructed seawalls within the project area began to fail from the moment they were finished. It was obvious that the construction methods used in the modeled seawalls were irreversibly failing and had proved to be an ineffective method of stabilizing the roadway and bluff faces that were rapidly deteriorating at the time of the final Pleasure Point Seawall Project permit approval.

Drainage and related elements listed within the required Special Conditions of the proposed permit have been of significant concern. A large degree of the combined failures that have resulted in the proposed seawall at Pleasure Point have resulted from failing drainage additions to the ocean facing aspect of East Cliff Drive. Drainage engineering has fallen from the cliff's edge onto the shore below from mass wasting events that were never addressed by the County. The Pleasure Point seawall application stated that "all drainage and related elements" need to be camouflaged by randomly spaced or hidden by "overhanging or otherwise protruding sculpted concrete" (p. 13), which indicates that the Pleasure Point Seawall Project along East Cliff Drive encouraged seawall engineering that not only developed on actively eroding bluff tops, but actually extends seaward from the eroding edge. Creating a visual illusion that attempts to keep drainage pipes "hidden from view and/or inconspicuous as seen from the on top of the bluffs and the beach" did not adequately address significant drainage related seawall failures (p. 13).

An important component of the special conditions that was a focus throughout my research by all involved agency staff were the later additions of "goat trails" or "high relief areas" (p. 13). The only statement within the seawall's special conditions is that "all seawalls shall incorporate areas of high relief/goat trails at appropriate locations for emergency egress for surfers" (p. 13). Goat trails have become an iconic term within the Pleasure Point Seawall Project discussion, as goat trails were identified by surfers as existing public safety mechanisms that had been used for decades along Pleasure Point during significant wave events when large swell coincided with high tides. During these conditions surfers would be unable to exit the water without culturally significant pathways that extended to ideal entrance and exit locations for water access.

Including goat trails within the Pleasure Point seawall project was a significant component for the local surfing community and was adamantly vocalized to the Commission by the surfing community. The County and Commission responded to a significant public safety concern raised by local surfers during the application process by issuing a one sentence special condition that lacks a quantity of goat trails, locations of goat trails, or design of what might be considered a "goat trail" or "areas of high relief". Descriptions of significant paths used by surfers to avoid serious injury or death during dangerous ocean conditions and tides failed to adequately include the surfing community within the Pleasure Point Seawall Project planning process.

Several components of the Pleasure Point/East Cliff Drive Parkway and Seawall CDP application response written by the California Coastal Commission had not been comprehensibly edited for grammatical errors prior to approval. Grammatical errors represent significant lack of review and oversight by the California Coastal Commission.

Significant misspellings and vague vocabulary choice make appropriate responses difficult for County and Commission staff. The rights of the general public who want to understand regulatory documents issued by the California Coastal Commission and be effectively involved within coastal planning decisions as a participating stakeholder are significantly limited by obvious and significant errors within the permit application process.

Within the section (i) of the special conditions, it is stated "most of the homes along this stretch of Eats Cliff gain access from the Avenues" (p. 13). Within the previous statement from the Commission, two things must be noted. The first is that the Commission acknowledges that most homes that would require emergency access would also be accessible from the adjacent Avenues and significantly reduce the necessity for East Cliff Drive to continue to allow vehicular traffic. The second significant portion of the noted quotation is that the document A-3-SCO-07-015 and CDP Application 3-07-019 issued by the Commission contain significant misspellings of primary terminology within the document.

Within the Pleasure Point seawall project application, which was applied for because of consistent coastal erosion along the bluff faces, the California Coastal Commission mistakenly inserted "Eats Cliff" instead of "East Cliff" in two separate instances within the Commission's documentation of the County application for the Pleasure Point Seawall (p. 13; p. 62). Grammatical errors implicating cliff erosion within the permit application for a controversial seawall represent a significant example of the overall lack of regulatory guidance and ability of the California Coastal Commission to effectively uphold the California Coastal Act. The California Coastal Commission has

consistently approved disputed development permits along the coastline of Santa Cruz County while simultaneously approving emergency permits to protect recently developed private property.

Physical features of curbs along East Cliff Drive that were significantly important for the local stakeholders were also greatly misunderstood by the County Redevelopment Agency and California Coastal Commission. Rolled curbs along East Cliff Drive were labeled "battered" within the permit, and were outlined within the Pleasure Point seawall project special conditions needing to be replaced with standard curbs along the full length of the project. The County and Commission failed to understand that rolled curbs allow bicyclists to safely transition between sidewalks and the roadway. Importantly, traditional curbs that were to replace the existing rolled or "battered" curbs pose a significant public safety concern for bicyclists along the length of the project area along East Cliff Drive.

Both crosswalks (k) and striping plan (l) components of the project were fundamentally incomplete within the A-3-SCO-07-015 and CDP Application 3-07-019 projects. It is stated within the approved application "all project area crosswalks shall be raised crosswalks that can also act to slow vehicular speeds" (p. 13). None of the project area crosswalks have been constructed as raised crosswalks, and have failed to slow vehicular speeds as a result of their design. When I spoke with the Santa Cruz County Commissioner during my research, he was unaware that raised crosswalks had never been developed within the completed project. The Santa Cruz County Redevelopment Agency and California Coastal Commission failed to address fundamental failures in meeting the standards that were clearly outlined within the approved Pleasure Point seawall project application.

The former County Redevelopment Agency founded confidence within the approved Pleasure Point seawall project application; however, the former RDA was unclear of what was actually stated within the approved application at several points within my interviews. While raised crosswalks had never been implemented within the project area and acknowledged to be unaccounted for by the County Commissioner, former RDA staff directed me to visit the project site again. When the County and Commission made application A-3-SCO-07-015 and CDP application 3-07-019 available for public review, they inherently failed to indicate how project striping would meet the standard of being "limited to the degree feasible while still providing clear direction and accounting for public safety" (p. 13). A clear demarcation on the project pavement was to be marked "in some way" (p. 14) and was stated to run "more or less in the same general direction as the paths as much as possible (i.e., angled to the road as opposed to a perpendicular crossing" (p. 14). The wording of the approved application is representative of vague and open-ended language that continues to facilitate the California Coastal Commission in approving coastal development applications, that raises significant concerns regarding consistency with public access and recreation policies as stated within the California Coastal Act.

Path separation (v) between bicyclists and pedestrians was never achieved by the County or enforced by the Commission within the completed Pleasure Point seawall project. The approved application states that "separation between the decomposed granite and paved paths shall be provided wherever feasible, and this area shall be landscaped" (p. 15). While the approved seawall project confirmed idealistic perspectives by the County and Commission of what was realistically obtainable within the outlined project,

a separation between decomposed granite and paved paths was never achieved because only paved paths were developed along the oceanfront bluff top.

Parking limitations (x) have been a reoccurring and significant concern for surfers and residents of the project area throughout my research. Section (x) of the A-3-SCO-07-015 and CDP Application 3-07-019 special conditions states "all parking spaces in the project area shall be available for free at all times with the exception that parking may be prohibited from 2am to 4am in the five spaces adjacent to the O'Neill residence and the three spaces opposite Pleasure Point Park. Section (x) of the project's special conditions fails to recognize that many more vehicles will inherently impact the project area and adjacent neighborhood streets than the eight cumulative parking spaces identified in section (x). Local surfers identified within my research who live within the Pleasure Point seawall project area expressed significant frustration with the County and Commission to address the widespread parking limitations that have been compounded as a result of the Pleasure Point Seawall Project.

Landscaping (y) requirements under the approved permit special conditions section offer a significant understanding in the degree to which the County and Commission want to hide the approved seawall from public view, while simultaneously proposing within their permit that they look to seawalls of this character and uniform construction to pave the way for seawalls designed to camouflage within the natural bluff landscape. The approved permit requires "as much screening as possible" of the seawall by native plant species that are capable of providing trailing vegetation that would "screen the top of the seawalls as seen from the beach and Monterey Bay" (p. 15). There is currently no trailing vegetation from the top of the project wall, and that may be an

unforeseen benefit of failure to meet section (y) of the Pleasure Point seawall project special conditions. Trailing vegetation that extends from the bluff tops is capable of producing significant weight and stress within the soil structure along the margins of the bluff top. No section within the Pleasure Point Seawall Project application specifically identifies varieties of native plants that would be most beneficial for the bluff-armoring project, or whether certain plant species would produce excessive biomass that may dually screen the seawall project from view and lead to weight related failure of the upper sections of the seawall.

Overhead lines and lighting (z) requirements within the special conditions of the approved permit specifically states that "all utility poles along East Cliff Drive" shall be removed "if feasible" (p. 15). The language used with section (z) implies that the overhead lines and lighting are to be moved, however, they are only to be moved if deemed feasible by the contractor. Therefore, all other information within section (z) is subjective and contingent depending on if the contracted developer feels the efforts to move all of the utility poles along East Cliff Drive is within their limited budget.

Importantly, there is no guidance or planning related to where all of the utility poles along East Cliff Drive would feasibly relocate their existing utility lines. The overhead lines and lighting section (z) of the approved permit special conditions was designed so that there was never any mechanism for the County Redevelopment Agency or the California Coastal Commission to be held accountable in meeting the special conditions that were conditioned within the permit application to compensate for significant and objectionable inadequacies that were clearly identified within the Commission's denial of the original permit application. The special conditions of the

Pleasure Point seawall project application that failed to be included in the final project remain "enforceable components of this development permit" (p. 15-16).

Other significant amendments to the Pleasure Point Seawall Project application have failed to be competed as planned by Santa Cruz County. The California Coastal Commission has failed to monitor, address and enforce completion of required special conditions that were contingent on the project application approval. The permit application special condition (5) that identifies the contingency for the County Redevelopment Agency to "acquire private property" is the most controversial for both the legality of such actions and the actual willingness for the County to meet the required special condition and uphold their liable position within the permit. Section (5) states, "all private property between the East Cliff Drive right-of-way and the ocean shall be acquired by the County prior to the commencement of construction" (p. 16). Several private properties with existing homes are located along the East Cliff Drive right-of-way and remain private at the time of this research.

Throughout my research with agency staff, none have indicated that they were capable or willing to acquire private property along the East Cliff Drive right-of-way. The language within the approved permit also fails to indicate the scope of acquisition of private property and importantly which private properties would be acquired in accordance with the enforceable special conditions of the Pleasure Point Seawall Project application. The permit application also fails to indicate how the County Redevelopment Agency plan to acquire private property along East Cliff Drive, as private property owners have not been adequately included within the permit application.

The County Redevelopment Agency has failed to include any structural or financial indication of how they will proceed with financing imminent domain based private property acquisition along East Cliff Drive and within the budget of the project. It is clear from this research that Jack O'Neill and other private property owners have never been under the impression that an enforceable condition within the approved project permit would allow the County to acquire his private residence. Private property owners that are located between East Cliff Drive and the ocean have all been forced to finance their own seawall that would tie in to the approved Pleasure Point Seawall project with the goal of protecting their private property from ongoing coastal erosion.

While the special conditions section of the Pleasure Point Seawall Project clearly state that the County shall acquire all private property between East Cliff Drive and the ocean "prior to the commencement of construction" (p. 16), the County has never had an organized plan that would have allowed them to meet several required special conditions that are specifically stated within the seawall permit and are enforceable by the California Coastal Commission as a result of approving the project application.

A significant amount of political power is given to California Coastal Commission staff. The political power dynamic is clearly prejudicial with regard to the approved Construction Plan. More than a dozen individual requirements address how construction and development must occur to prevent potential erosion and pollution that may potentially result from the construction of the project. Enforcement of stated requirements has not been a priority for California Coastal Commission staff throughout the Pleasure Point Seawall Project construction, as stated requirements have been overlooked, unaccounted for and not enforced.

Pleasure Point Seawall Project Construction

The Pleasure Point Seawall Project permit removed an existing restroom structure that was never fully operational since the time it was initially constructed. A coastal access stairway was also removed in order for machinery to access the shoreline during construction (Figure 1). The seawall project both removed the existing coastal access point that was culturally significant for surfers, and the County Redevelopment Agency constructed their own vision of how surfers should access the ocean. Coastal access at 38th Avenue was compromised as a result, and local surfers described events when less experienced surfers were washed from the stairway at 38th Avenue during high tides and larger swell events. During high tides and significant swell events, wave action can be dangerously unpredictable and has resulted in a significant unaddressed public safety concern. Signage identifying coastal access stairways along the Pleasure Point Seawall Project fails to include any information that ocean conditions at the bottom of the stairway and along the seawall could inflict life threatening injuries or death. Many surfers overestimate their skill level and are not familiar with the coastal access points within the project.

During my participant observational research I was unable to exit the water during a rising high tide and became trapped on a pocket beach adjacent to the stairway at 38th Avenue. I quickly scale up the slick riprap granite boulders that line the base of the wooden stairway between waves. When I exited at 38th Avenue I had previously entered at the Hook stairway and paddled north from the Hook to 38th Avenue due to the intense crowd and competition for waves at the Hook. Damage to my surfboard and minor injuries were unexpectedly sustained while climbing over the slick boulders. At the time I

exited the water I witnessed two young children attempting to time their entrance to the water between waves during a professional surfing lesson. The stairway at 38th Avenue is the main stairway that is used by beginners within the Pleasure Point seawall project, and is where novice surfers are directed to access the water when renting boards from the many surfing retail shops located along 41st Avenue.

The 38th Avenue stairway that was replaced during the project is noticeably different than the other two stairways at Pleasure Point Park and the Hook. Both Pleasure Point Park and the Hook stairways were directly incorporated into the wall so they appear seamless within the texture and character of the seawall surface. Coastal access at 38th Avenue is inconsistent with the viewscape that was to be a primary goal of the intended seawall project. Removing all of the existing riprap was another primary goal of the project, however, some of the removed riprap was replaced at the base of the new wooden stairway at 38th Avenue. The riprap at the bottom of the stairway both poses a public safety hazard and reduces beach width within this section of the project.

The Pleasure Point seawall project is divided into two separated seawalls on both sides of the O'Neill residence at the terminus of 36th Avenue. The first section covers a distance of 1,000 feet between Pleasure Point Park and 36th Avenue, and the second extends 300 feet between 41st Avenue and the Hook. A four foot wide concrete scour apron extends seaward throughout the base of the wall, effectively removing four feet of public beach as a direct and immediate result of the project (Figure 1). The wall design that was proposed and completed was designed to use "horizontal steel tieback rods", or more commonly referred to as "soil nails" (p. 25). Soil nails are lengths of "high-strength

rebar, grouted into drilled holes and inclined slightly downward into the soil" (p. 25). Concrete is sprayed up to two feet thick over the grouted steel rebar soil nails.

Figure 1. Pleasure Point Seawall construction at 38th Ave. (California Coastal Records Project)

Former Santa Cruz County Redevelopment Agency and Santa Cruz County staff supporters the project were unaware of any structural damage that was visually apparent during this research. Agency staff indicated that if the wall were to be failing after less than five years from completion at the time of my research, it would represent a significant problem for the County. Future repairs to the Pleasure Point seawall to address unexpected failure were never discussed between agency staff, addressed within the project application or California Coastal Commission approval.

Surfers at Pleasure Point directed me to specific locations within the base of the wall at Pleasure Point Park where heavy wave action at the toe of the bluff had removed portions of the outer concrete and exposed rust stains that were stained down the face of

the wall. The rust indicates active corrosion of the iron rebar soil nails within the seawall project. The lowest bidding contracting developer that was able to demonstrate their ability to complete the Pleasure Point Seawall Project was chosen as required by State policy. The chosen contractor had no prior experience building seawalls that are directly within contact of ocean conditions and heavy surf conditions. Soil nail construction is a method of constructing reinforced walls that has never been previously used to create a seawall within a high surf and wave impacted bluff face.

Despite these risks, the California Coastal Commission explained that they would hope to see more seawalls along the California coastline in future years that used soil nail construction because of the initial aesthetic appeal of the completed walls. The contracted developer was Drill Tech Drilling and Shoring, which was unwilling to provide any information within this research regarding their role in the Pleasure Point Seawall Project. All agency staff interviewed explained that they had not considered project failure due to internal corrosion of the iron rebar soil nails, and were unable to comment on any plan for wall removal if it was found to be experiencing rapid failure due to unforeseen events within the structural integrity of the construction method.

The Pleasure Point seawall project is within the Federally protected Monterey Bay National Marine Sanctuary (MBNMS). The Pleasure Point intertidal zone is held in trust under federal protection, and any drilling or the removal of minerals is illegal within the sanctuary. Considering that any drilling or removal of minerals is illegal within the marine sanctuary, it is alarming that Drill Tech Drilling and Shoring was chosen for a project within the marine sanctuary based on their name alone. It is important to note that both drilling and mineral extraction occurred below mean high tide line within the

intertidal zone of the Federally protected marine sanctuary as a direct result of this seawall project. While the Monterey Bay National Marine Sanctuary involvement with the seawall project is outside the scope of this research, it is important to note that they approved the Pleasure Point Seawall Project following significant opposition by their agency to the initial project during the first application proposal in 2003.

It is unclear why the marine sanctuary approved the project during the second permit application even though nothing was altered within the project plans related to the fundamental character of the proposed wall design within the intertidal zone. The Pleasure Point Seawall Project was located on State Lands, and the County obtained a required State Lands lease prior to the project. The projects lifespan or methods for wall removal following the lease of publicly owned State Lands failed to be discussed within any document reviewed for this research. All agency staff included in this research indicated that there has never been a discussion that considered the feasibility or process for project removal if an unforeseen catastrophic failure occurred. Significant water flow from behind the seawall was partially responsible for past bluff failures within the project area.

Water quality was also to be improved as a result of the Pleasure Point seawall project. The 13 water outfalls that existed prior to the project were replaced by 7 outfalls. Of the 7 new outfalls, 5 were constructed with new water quality filtration and treatment units. At the point of application approval, it was unclear how the filtration units would be monitored, cleaned or replaced over the course of the project lifespan. The actual method of filtration was never identified within reviewed permits or documentation. It is also unclear why 2 of the outfalls failed to incorporate filtration units, and may be

understood as contributing to untreated stormwater runoff and associated pollution within the Monterey Bay National Marine Sanctuary as a result.

The riprap that was removed during the project construction should have been removed prior to the seawall project regardless of whether the project application was approved or denied. Within the seawall project, only 350 cubic yards of existing riprap were officially authorized by the Commission, and were placed at the base of the replaced stairway at 35th Avenue to protect the public coastal access corridor (CDP XS-82-83, 1982; p. 24). The Commission was "unable to establish a CDP history" for the extensive riprap along the base of the bluffs from Pleasure Point Park to the Hook along the beach at the bluff face. Prior to the Pleasure Point seawall project construction, existing riprap along the project site was haphazardly placed, or "dumped off the side of the bluff" (County) prior to the California Coastal Act or California Coastal Commission. Certain individuals within this research identified the source of the existing riprap that remained along the beach as being masses of the dilapidated sidewalk that was replaced along the bluff top. Informants remember the old sidewalk being dumped off the bluff top prior to the replacement concrete sidewalk being poured, however, Santa Cruz County had no record of this taking place.

During this research I was unable to locate records of that identified the existing riprap along the beach below East Cliff Drive. Santa Cruz County was unable to "identify specific amounts of rock or rubble that might pre-date CDP requirements" and had "not identified any CDPs authorizing such development" for any of the other placed riprap (p. 24). Prior to the seawall project, a total of 4,000 to 6,000 cubic yards of unpermitted riprap was estimated to exist along the beach within the project location. Surfers who

were interviewed during my research expressed that one aspect of the project that was a significant improvement to the surf breaks along Pleasure Point was the removal of the unpermitted riprap.

It was stated repeatedly by all interviewed surfers within the Pleasure Point area that when the riprap existed at along the beach, conditions when entering and exiting the water were extremely dangerous and represented a significant public safety risk. The uneven riprap surfaces had become dangerously slick as a result of being exposed to the marine environment and the riprap represented a significant public safety concern. Some interviewed surfers stated that they were pleased with the project outcome; however, the satisfaction with the Pleasure Point Seawall Project was founded on the removal of unpermitted riprap along the beach, and was independent of their expressed views of physical seawall construction along Pleasure Point.

Substantial Issues of the Pleasure Point Seawall Project

The Pleasure Point seawall project application appeal was divided into four main categories within the permit documentation. The four main substantial issues raised by the Commission include: "hazards, public access and recreation, scenic resources/community character, and water quality" (p. 26). The LCP "requires that development be sited and designed to ensure long-term stability… by requiring a minimum 25-foot setback from coastal bluff edges as adjusted inland as necessary to achieve at least 100 years of development stability, and to avoid the need for shoreline armoring with its attended impacts" (p. 26). The seawall project has no specified length of anticipated stability or lifespan, and it is increasingly unclear because soil-nail

construction within seawalls has not been significantly tested in wave-dominated coastal systems. During this research I was unable to find another example of a soil-nail based seawall project that had been developed in a wave-dominated coastal system within the State of California. It is clear that after less than 5 years of exposure since completion, the Pleasure Point seawall is experiencing significant structural failure. The permit application required that structural assessments would be conducted at ten-year intervals; therefore both Santa Cruz County and the California Coastal Commission have enabled a mechanism of ongoing denial of significant structural failure within the completed Pleasure Point Seawall Project.

Public access and recreation opportunities are required to be maximized within the LCP and Coastal Act (Sections 30210-30223), and "shoreline land appropriate for coastal access and recreation uses and facilities be protected for that purpose" (p. 27). Sections 30210 through 30214 and Sections 30220 through 30224 of the California Coastal Act specifically protect recreation and public access along coastal shores within the State of California. These sections of the Coastal Act indicate that "in carrying out the requirement of Section 4 of Article X of the California Constitution" (p. 29); maximum access is required to be provided for the public. Section 30211 of the Coastal Act states that "development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation" (p. 29). The Pleasure Point seawall project was designed to armor public access paths that were created by surfers over many decades at places where it was shown to be the safest locations to access the water. The development of this project resulted in a complete loss

and redevelopment of culturally significant coastal access paths within the Pleasure Point coastal landscape. Public right-of-way within the project is not maximized because private properties along the project area remain privatized. Public recreational access improvements cannot be utilized as a result of remaining private property that exists within the project and is inconsistent with the LCP and California Coastal Act use priorities.

Public parking within the project permit application was also incredibly unclear at the time of approval, and demonstrates a significant lack of oversight and ability to enforce the Coastal Act by the Commission. The approved Pleasure Point Seawall Project included "unspecified restrictions on public parking that may diminish public access and recreation opportunities, depending on what configuration of parking the Planning Director approves" (p. 30). The approved application specifically states, "at a minimum, the lack of precision in the approval is a problem because the Commission does not know exactly what parking will remain with the completed project" (p. 30).

The approved seawall project clearly indicates that residents of the Pleasure Point neighborhood and public access to coast was unaccounted for by Santa Cruz County or the California Coastal Commission. The approved application also notes, "parking is critically important in coastal Live Oak, it is protected by the LCP and the Coastal Act, and it is not adequately protected and improved in the County action" (p. 30). The permit approval by the Commission represents a clear example of significant factors related to this project that were unclear and unaccounted for by the County, however, the Commission approved the application regardless of potential damage to community character as a result of the approved project.

Seawalls are representative of existing political power dynamics along the coastline of California. Owners of property along the coastal zone of Santa Cruz County are increasingly cementing their wealth, success and social class into the coastal bluffs in the form of seawalls. Seawalls have materialized into an iconic constructed landscape where social wealth and private property overlook historically iconic coastal areas and the public stakeholders who identify with them. This case study clearly shows a socially constructed landscape where seawalls symbolically reinforce longstanding power dynamics between social inequalities, and that capital influenced political power is currently questioning the democracy of capitalism along the Santa Cruz County coastline.

Chapter 5: Pleasure Point Seawall Project Case Study Interviews

Surfers have been drawn to the waves of Pleasure Point because of the exceptional quality of waves found along the northern shores of Monterey Bay. While most of the northern California coastline is exposed to heavy swell conditions for much of the fall and winter months, Pleasure Point is protected within the shelter of Monterey Bay. Offshore islands and thick kelp forests also act in concert to reduce the raw energy of the ocean, and organize swells so when they peel across Pleasure Point, waves often appear groomed and flawless.

Qualitative data and information collected during recorded interviews has been transcribed and coded. Emerging themes that were coded from within this case study research include public access, non-government organizations (NGO's), government agency, tourism, water quality, wave quality and consistency, El Niño and La Niña, and the Pleasure Point Seawall Project failures. Interview participants are identified with two initials created by the researcher in order to protect interviewee privacy. This research highlights the role of public access, NGO's, government agency, tourism, water quality, wave quality and consistency, El Niño and La Niña, and the ultimate failure of the Pleasure Point Seawall Project.

Wave conditions from the northern shores of California to Alaska are considered unsurfable for much of the year due to dangerous wave conditions, gale force winds, and extreme tidal fluctuations. Pleasure Point is unique in "that it's always rideable" (DA), even when other locations up and down the coast are breaking with punishing inconsistency and force. The open ocean wave climate offshore of Santa Cruz is unique in that it has "two extremes" (DA). The surf breaks throughout the County are either

considered too big to surf, or the waves are too small. Pleasure Point is a "nice point break, and you can just ride the break. It's fun… and you go there for fun times" (DA). Annual weather variations of El Niño and La Niña also significantly affect the waves of the Santa Cruz region.

The past two or three years have been relatively stable, and easing off a dominant La Niña pattern. Surfers have seen "some really good waves in the last two to three years… the La Niña was a good thing for certain sections of the coast" (DA). While Pleasure Point is somewhat protected by Monterey Bay, it can become extremely crowded with surfers. Increased crowds often increase competition for waves and occasionally leads to verbal or physical altercations between surfers both in and out of the water. Most conflict arises when the most experienced surfers are forced to surf at the most popular breaks inside Santa Cruz because waves on the outer beaches are unsurfable due to wave size or wind conditions. Years when La Niña weather patterns dominate allow the best surfers the freedom to surf more remote, and often secret locations, while allowing Pleasure Point to be surfed by local surfers and surfers who may not have as much experience. El Niño weather patterns comparatively produce wave conditions that are unpredictable, are extremely powerful, and have led to significant property damage and loss along the California coastline.

Waves that break along the central and northern California coastline during El Niño winters are significantly larger than waves that reach the shores during La Niña winters. La Niña winters are perceived by surfers to be "small swell years" (DA), where "you can get ten-foot waves every day, and they're barreling like a fucking dream" (DA). During El Niño winters, however, "it gets bigger, like double overhead and it becomes a

nightmare to paddle through" (DA). Surfers who prefer to travel to the outer breaks of Santa Cruz County, and leave the protection of Monterey Bay often come to find a beach with nobody present. One surfer I spoke with explained what it's like during an El Niño winter:

> "One of the first big swells of the year, and it was mega high tide and the whole beach was washed out. There was just a little film of water and then the beach was overlapping… so there were big sand bars and like triple overhead and perfect a-frame (wave type). No one on it… and it's just me. Like shore-pound mean shit… you know? So what do you do? You just look at it and pass it. So perfect, but out in the water it's just too much. You get a dude from SoCal (Southern California) and he's just "ohh yeeeaa!" (excited) and you're like "do you know what you're getting into?". I've seen so many days where it's like freaking perfection but it's just too much. You can't paddle out and the waves are just too gnarly… and you're going to die… like a mean spirit" (AD).

During intense El Niño winters, and during strong winter swells that occur during any given year, surfers seek out Santa Cruz and Pleasure Point for the consistent and perfect surfing conditions. Surfers who prefer the isolation and powerful waves of the County's northern region seek shelter in Monterey Bay when conditions become too powerful. One of the greatest things about Santa Cruz County is that "if it's too big you can always go and find something facing south and get some small waves that you can tackle" (DA). Surf breaks are inconsistent by their very nature because you have to have "the perfect swell and the perfect tide" (DA) with preferably light offshore winds. Surf breaks are "a thing you can't plan because you never know" (DA). Even if conditions are forecasted to be favorable, "you never know what it's going to be doing or how it's going to be" (DA). The same could be said for the coastline itself, as no matter what the forecast indicates, conditions occasionally change and "you can't plan it" (DA). While surfers have seen their landscape as a continuously changing place depending on a

culmination of environmental factors and conditions, privatization and development interests along the California coastline have been unwavering in their drive to plan a coastline in the form of their vision.

Two culturally significant surfing breaks have been completely destroyed in California as a result of development. The first was "Killer Dana" at Dana Point, which was destroyed as a "result of the Dana Point Harbor" (MJ). The other was "a place called Stanley's Diner, which was a surf spot down in Santa Barbara" (MJ). Development at Dana Point gave no compensation for the destruction of one of the World's greatest surf breaks. When Stanley's Diner was destroyed when a development project "basically put land where the surf break was", the California Coastal Commission attempted to replace what they had destroyed:

> "When they changed how the 405 goes down the coast they… basically put land where the surf break was. And I think there was actually some sort of mitigation… or at least they tried to do some sort of mitigation by creating a spot down in Southern California, though I don't think that was very effective. They made that spot down in El Segundo or somewhere around there, you know… which was a little sand bar that lasted for a year or two." (MJ).

The Commission has adopted a recent regulatory acceptance of replacing compromised surfing breaks with artificially constructed surf breaks that are constructed in a social ideology of what is found to be an acceptable plan by the Commission for a surfable breaking wave in place of existing world-class surfing breaks.

Maintaining public access to the ocean and also allowing property owners to do what they want with their personal property is viewed by the surfing community, the County, and the Commission as an emotionally debated issue that has been controversial for more than forty years. While "the fact that (surfers) have had the Coastal Commission

for all the number of years has been the most effective protection, particularly for access" (JM), however, coastal access has not been effectively protected by the Commission. Interviewees encouraged me to "look at what's happened around Santa Cruz in the last 40 years" to understand how "access becomes a key issue" (MJ) for surfers at Pleasure Point:

> "You could pull up where that big fancy house is at Sewer Peak, and park at the cinder block house and watch the surf there. That's long since gone, and I've got very mixed feelings about it" (MJ).

Where MJ remembers "pulling up where that big fancy house is at Sewer Peak" and being able to park to watch the surf was still accessible for the public to access in 1976 when the California Coastal Act was established. The parking area was accessible until the El Niño winter of 1982-83 when the outer edge of the parking area was compromised as a result of active erosion. When the California Coastal Act was established, culturally significant public property along the ocean edge at Sewer Peak was still actively being enjoyed by the general public. After storm wave erosion compromised the stability of the parking lot in 1983, vehicular access to the land was blocked in 1986. By 1993 the posted signage that blocked public access and parking was replaced with a chain link fence and new signage that clearly discouraged public access of any kind. A vertical concrete seawall was constructed during the years between 1987 and 1993 along the edge of the previous parking lot.

By 2002 the homes that previously existed behind the parking lot had established manicured lawns and gardens with fences separating each parcel. Three of the four homes, which are directly protected by the seawall, were one-story homes in 2002. By 2013, the same three homes had been completely rebuilt into two story homes with manicured

yards that exist today where one of the most culturally significant parking lots in the history of surfing once existed. Public land at Pleasure Point that was heavily used and enjoyed by the general public was sold as private property. This land exchange allowed a small number of wealthy individuals to purchase land that was held in public trust under the Public Trust Doctrine, and was in direct violation of the Coastal Zone Management Act of 1972, and the California Coastal Act of 1976. The general public was the victim of a "takings" by Santa Cruz County without adequate compensation for the privatized taking of public lands.

The California Coastal Commission must approve any development or additions to existing homes within the coastal zone and ensure conformity and consistency with the California Coastal Act and County Local Coastal Programs (LCP). One of the three homes at Sewer Peak along Rockview Drive, had submitted their development permit application with the Commission for the construction of a second story in 2010. Within the approved application, the applicants state:

> "That the project conforms with the public access, recreation, and visitor-serving policies, standards and maps of the General Plan and Local Coastal Program land use plan, specifically Chapter 2: figure 2.5 and Chapter 7, and, as to any development between and nearest public road and the sea or the shoreline of any body of water located within the coastal zone, such development is in conformity with the public access and public recreation policies of Chapter 3 of the Coastal Act commencing with section 30200. The finding can be made, in that although the project site is located between the shoreline and the first public road, the site does not afford public access to the shoreline because wave run-up prevents access. Further, there is established public access at the east end of Rockview, approximately 100 feet from the site" (Application 10-0080, APN: 028-304-23, p. 17-18).

Public access to the shoreline at the property site is not afforded because the County developed the historic public access area that once existed in front of the site.

Wave run-up does not prevent public access because of the large seawall that was constructed to block wave run-up. The "approximately 100 feet" of distance from the site to the nearest public access represents the distance of shoreline that has been taken from the general public out of Public Trust held by the County, and sold to private property developers (Application 10-0080, APN: 028-304-23, p. 17). The "cinder block house" has been replaced by the "big fancy house", and the lot where surfers "could pull up and watch the surf" has been replaced by private property and fences that block public access (MJ). The historical and culturally significant parking lot at Sewer Peak was redeveloped into privately owned real estate at the end of Rockview Drive at Sewer Peak, and characterized future redevelopment to the Pleasure Point landscape. While the conversation around surf break protection has long been founded upon protecting the waves and physical surf breaks, "the access issue" has emerged as "more relevant than the loss of surf spots" (MJ). The privatization of access at a surf break of "Privates" located on the southeastern aspect of Pleasure Point is another surf break access loss example.

Pleasure Point surfers have become frustrated because of the lack of understanding that the County and the Commission have shown during the redevelopment project. County commissioners that supported the Pleasure Point Seawall Project were not mindful of the local surfing culture at Pleasure Point and larger surfing community within the greater Santa Cruz County. Elected officials in Santa Cruz County "who move here and get into these positions really don't understand our culture" (HS). Agency staff was not aware that surfers identify the surf breaks of Pleasure Point as like "a church because of the emotional and spiritual connection to ourselves and to nature"

(HS). When the County initiated the seawall project at Pleasure Point, they didn't "understand the true care of what it's going to create or how it's going to affect the quality of life" (HS) after the project is completed.

The geographic area of Pleasure Point and the Live Oak neighborhood has become "more of a destination" (HS) and the surfers "understand what the County is trying to do" (HS) with increasing the number of surfing related businesses. The "retail shops and a lot of the new stores have brought a lot more commerce into this particular area" (HS). Many surfers "didn't see anything wrong with (Pleasure Point) the way that it was" (HS) before the seawall project. Local surfers who reside within the Live Oaks neighborhood have seen significant changes in their quality of life now that the seawall project has been completed. Pleasure Point has become "such a destination, there has been an overcrowding situation" (HS) as a result of the project. Local surfers complain that the "little neighborhood" known as Pleasure Point and encompassing the "quarter-mile stretch" of coastline that has been named a "Sea Trail" has resulted in a "massive influx" of visiting tourists and recreational walkers who arrive with "double-wide baby carriages, ten-speed bikes and dogs on six-foot leashes that are going in different directions" across the seawall project walkway (HS).

Public Access

Privates is a surfing break located along the base of the towering bluffs that characterize Opal Cliffs, located just south of the Hook at 41st Ave. The entrance to Privates, which is also the only public access point within this neighborhood, is blocked by a locked gate that resembles the entrance to one of the privately owned multi-million

dollar homes along Opal Cliffs. The gate is difficult to locate for the general public, and importantly, the gate is locked to everyone except those with a key. To enter the Privates gate, surfers must purchase a key to the gate's lock, which is replaced annually. A local Pleasure Point surf shop "became involved about ten years ago, basically just doing this service of facilitating the sale of the keys" (MJ) that continued to allow access. The beach was "being used as a party spot and some of the people down there would just trash it" (MJ). The sale and regulation of the Privates gate keys is currently handled by the Privates Board, which represents socially respected surfing figures within the community.

The Privates Board "basically offers semipublic access with the virtue that you have to buy a key" (MJ), and has effectively privatized a historically frequented public access point along the Santa Cruz coastline. Keys to the gate have also become increasingly expensive, and are significantly unaffordable for many low-income demographics. When the Privates gate first privatized public access "it was five bucks, and then it jumped to twenty bucks and now it's up to a hundred bucks" (MJ). The Privates gate is not solely funded by the sale of the keys. Residents of the neighborhood "who live in the little recreation area, which is a little triangle surrounding the area there get a discounted rate because part of their property tax goes to fund" (MJ) the socially constructed coastal landscape that improves their property values.

Privates was redeveloped and privatized by the local homeowners and surfers in an attempt to "preserve the access there because many feared that the stairway would fall into disrepair like many other stairways" along Opal Cliffs (MJ). When the Privates gate was established, "a pretty funky old wood set of stairs" led down to the beach, and it "would get mangled by the ocean or get mangled by kids to burn fires on the beach and

stuff" (MJ). Homeowners "used to always have a lot of issues on the beach down there", and "now that it's monitored more, it's improved" the perceived image of public access along Opal Cliffs.

A hired security guard, key holders, and the local homeowners hold the monitoring role at Privates. Surfers perceive a monitoring situation that engages citizens to be better than when agencies have oversight of regulation. In other coastal management situations "usually it's the government that gets involved more to monitor" and "Surfrider Foundation for example, and Save our Shores, and all those type of groups" have emerged as a new wave of non-profit groups that "are certainly effective in bringing issues like that to the public's attention" (MJ). Surfers view non-profit organizations as being effective in bringing important issues to the public's attention. Non-government and non-profit environmental organizations have a significant and influential voice within coastal policy.

Non-Government Organizations (NGOs)

The Surfrider Foundation and Save our Shores were unable to bring enough public attention to the Pleasure Point Seawall Project to stop the project despite the fact that the project had been denied once and been debated for roughly a decade. Non-profit groups were unable to organize a message that the surfers could stand behind as a collective group. Non-profit groups that opposed the Pleasure Point Seawall Project were run primarily by volunteers who have limited time to organize for effective social opposition. One of the oldest volunteer run organizations within the Pleasure Point are the Pleasure Point Night Fighters.

The Night Fighters are "a pretty old group that goes back to the 1920's and 30's and were originally a fire department group that was regenerated back in the 70's and 80's as kind of a combination of a surf club and a service organization" (MJ). The Night Fighters "came back again probably ten or twelve years ago, as again, sort of a surf club slash service organization" (MJ) that was based locally in the Pleasure Point community. When the seawall project was proposed and the application was before the Commission, "the Night fighters were very active in going to the public meetings and giving the County input as to what a reasonable way to particularly create a physical access to the breaks" (MJ) at Pleasure Point. When the County "originally had done the plan, they hadn't consulted the surfers at all and were going to build the access at pretty inappropriate places" (MJ). The Pleasure Point Night Fighters outspokenly opposed the Pleasure Point Seawall Project because they saw the seawall project as a disorganized County project that had failed to consider public safety at coastal access points where surfers have historically entered and exited the ocean. The Night Fighters have reorganized in recent years to effectively bring awareness of redevelopment to the public.

Actively engaging the public within the public process of coastal management has been a significant cause of why coastal development has continued to push forward despite strong voices within the public opposing development. When coastal development projects are proposed, "as soon as the public knows about what's going on, they pay more attention to it" (MJ). Paying attention to development pressures does not mean the public is effectively engaged in blocking development projects. When development projects are proposed and the public stops paying attention, it's "like the squeaky wheel gets oiled" (MJ). When the squeaky wheel runs out of oil "and if nobody

knows about it or hears about it… it (development) just happens" (MJ). The Pleasure Point Night Fighters approach to raising public awareness of critical coastal development decisions, and representing surfers with an effective voice for change is similar to the goals of other non-profit organizations including the Surfrider Foundation and Surfers Environmental Alliance.

Non-profit and non-government organization goals of generating "some public attention" allows for "a little different approach to be taken" in future policy discussions (MJ). The coastal access points that were originally proposed by the County "at pretty inappropriate places" (MJ) were reconfigured within the project as a result of public input after the seawall construction had begun. The County "held public meetings and they actually listened to what people had to say" (MJ) about the seawall project. Receiving public input at public meetings allowed the County to be "able to change the way that they did the access and come up with a lot better solution" (MJ) with public input and significant input from surfers within the local community.

Government Agency

In response to increasing opposition from the Pleasure Point surfers, the County held "two or three meetings that were pretty well attended by active surf clubs and active surfers" who are engaged with the surfing community (MJ). Both the County and Commission were present at the meetings to hear voiced concerns of the public regarding the seawall project because of "overlapping jurisdictions" (MJ). When asked if the County and Commission had come to the surfers, or if the surfers had approached the agencies first, the project "was just kind of going through, and people realized… it's like

one of those things were people realized… like "whoa what are you guys doing?"… so once it came out that that was going to happen, they realized they needed to have meetings and have public input because there was a lot of concern as to how it was going to be done and how it would affect the surf" (MJ). The voice of surfers within the seawall project largely occurred after the project had already been approved.

The County and Commission held public hearings in response to the significant opposition to the Pleasure Point seawall project. Typical coastal development applications that come before the Commission may be responded to by the general public by written letters. In the case of the Pleasure Point seawall project, if public hearings were not organized by the County and Commission, the voice of surfers "would have been nowhere near as effective" (MJ). The effectiveness that was achieved was insignificant, however, as the only changes that were made to the project were to the poorly considered stairways and the inclusion of goat trails. The bluff faces had historically been scaled by surfers to both enter and exit the water. The paths up and down the bluffs become increasingly important when heavy surf and high tides coincide. Surfers have relied on the paths as a critical safety component of their socially constructed landscape along East Cliff Drive. Without the paths, surfers would have no clear or safe exit from the ocean during extreme wave conditions. Only after strong vocal concerns were expressed were goat trails incorporated to mitigate the loss of the culturally significant trails that had been formed by surfers entering and exiting the water over the past century.

From the perspective of the surfing community, "politicians in general are a lot more receptive to people being in their face than writing letters or petitions or emails"

(MJ). Once the supervisor of the seawall project "realized how much public interest there was, they kind of went to bat for the surfers" (MJ) and organized the public meetings. The heightened awareness of the supervisor "was instrumental in having the public meetings held" (MJ) and allowing surfers to have an opportunity to clearly express their views in person. Most decisions that are made by the California Coastal Commission to approve development projects take place behind closed doors. The general public is encouraged to submit their views to the Commission in written form, or attend Commission meetings that are held once a month at changing locations along the California coastline. If surfers want their voices to be physically heard by the Commission, they are forced to commute significant distances.

Tourism

A significant limitation to development in Santa Cruz has been the result of the restricted size of highway seventeen, which is the primary travel route from the greater San Francisco Bay area. Highway seventeen consists of two lanes in both directions, and significantly limits the number of vehicles that are able to enter the Santa Cruz area and the eastern aspect of the Santa Cruz Mountains. The only other access route for northern tourists to commute to Santa Cruz is by Highway 1 that extends from Half Moon Bay in San Francisco through Santa Cruz to the south. Highway 1 is considered a scenic byway and experiences significantly less vehicular use than Highway seventeen. Traffic along highway seventeen on the weekends can be characterized as heavy gridlock, largely a result of families who take day trips from outlying communities to enjoy the beautiful beaches that Santa Cruz County tourism has historically been founded upon.

Pressure to increase the capacity of highway seventeen has been an ongoing concern for Santa Cruz residents who want to avoid overdevelopment. There has been "a lot of push for a long time for three lanes rather than two lanes each way, which would open the faucet a little more" (MJ) for more tourism and subsequent development. The lane restrictions on highway seventeen is "one of the things that has kept the population growth here minimal" (MJ). The other significant limitation to overdevelopment "is that the anti-growth sentiment that Santa Cruz has had for probably the past twenty-five or thirty years as opposed to South County" (MJ), which has experienced heavy coastal development. Counties to the south have "built a lot of really big projects in a very short amount of time in a small area… which is geared sometimes more towards low income housing, but they're really into high density, getting a lot of people in a small amount kind of thing" (MJ). The anti-sentiment towards high-density development "has been pretty major" (MJ) within the Santa Cruz community.

Another significant limiting factor that has prevented overdevelopment in Santa Cruz is "the limited amount of real estate makes it very expensive" (MJ) for development to occur at a large scale. Private property owners along the coastline of Santa Cruz have also financially benefited from the limited large-scale commercial development. Residents and property owners are "lucky if they're already in Santa Cruz and have a little niche, but if you don't (laughs) it's tough" (MJ) to afford real estate. Santa Cruz has experienced a significant increase in the amount of tourists who are priced out of coastal real estate and are forced to live further inland where real estate is increasingly available and financially affordable.

Increasing tourism and the marketing pressures to sell the iconic surfing lifestyle by private development has increased the total number of people coming to Santa Cruz to participate in the sport of surfing. The sport of "surfing has really become an international sport and it's much more accepted as a real sport now and it's a lot more visible than it used to be... and that has stimulated a lot of growth" (MJ) within the Santa Cruz community. Surfers have seen "more and more people surfing every year" (MJ), which has increased pressure on the limited natural resource of surfable waves. Another reason why surfing has become increasingly popular is "that Santa Cruz is really an international surf destination, and particularly last summer (2013), a lot of Europeans, and a lot of people from other countries" (MJ) chose to visit Santa Cruz. As "Santa Cruz has become a pretty well renowned surf spot, there's been a lot of influx on the population as well" (MJ). Compared to the years when surfing established itself within the cultural roots of Santa Cruz, a noticeable shift has taken place.

Anyone surfing at Pleasure Point currently can expect crowded conditions on any given day. Local surfers understand that "it's going to be crowded and that's just the way it is (laughs)… there's no going back (laughs)… you can't put the genie back in the bottle (laughs)" (MJ). Population increases of Santa Cruz residents and increasing tourism pressure has irreversibly changed the character of the socially constructed landscape of Pleasure Point and the surfing culture that has historically considered the unique breaks as culturally significant sacred places. Increasing development pressure that has synonymously increased with increasing populations has also resulted in degraded water quality at many surf breaks in Santa Cruz and poses a significant public health concern for surfers and the general public who comes into contact with marine waters. Water

quality at Pleasure Point was an environmental concern with the seawall project, however there was no significant effort by the County or Commission to incorporate effective best management practices between the protected roadway and the intertidal zone. As a result of the seawall, vegetation along the permeable bluffs was redeveloped into an impervious concrete surface that flushes urban runoff directly onto the beach.

Water Quality

Water quality has been a notably concern for the County and Commission, however, efforts to improve water quality have been limited. The Surfrider Foundation is the primary organization that "has paid attention to water quality" (MJ) at Pleasure Point. Water quality has historically been "something that not a whole lot of people paid attention to" (MJ). There are specific locations within Santa Cruz that have consistently poor water quality, and contribute to water quality conditions at local surf breaks including Pleasure Point. Specific locations of chronically poor water quality largely consist of any water flowing from an inland source. The San Lorenzo River mouth, where surfing first took place in North America in 1885, is characterized by surfers as "a pretty nasty toxic place where you can see there is crap in the water" (MJ). There is "the highest concentration of septic systems of any waterway that directly enters marine waters in the State of California" (LJ). Many of the septic systems have been significantly impaired by seismic activity and have experienced systematic failure resulting from outdated and aged infrastructure. Direct point source pollution has represented a historic and ongoing concern for surfers in Santa Cruz.

Sewer Peak is considered by many surfers to be the highest quality wave at Pleasure Point, and "the reason it was called Sewer Peak is because there was an outfall there" (MJ) that dumped raw sewage into the nearshore waters. One of my interviewees recalled the risk associated with surfing at Sewer Peak before the outfall was removed: "I remember I got… I think it was 1972, I got hepatitis from surfing in the water there… so there was some pretty nasty stuff going on" (MJ). The Santa Cruz community became more aware of the aging sewer system and has made some changes "that kind of cleaned things up a little bit" (MJ). Anytime it rains, however, water quality at surf breaks in urban areas falls below water quality standards for bacteria levels and surfers are warned to avoid water contact for up to 72 hours following any measurable precipitation within areas where urban development is within localized proximity of surf breaks. Precipitation events in Santa Cruz most often occur during winter months when swell conditions are favored by local surfers, and the "rivers and streams that are flushing out haven't been cleaned in a long time" (MJ) discharge accumulated urban pollutants of various non-point sources. Surfers know that near stormwater outflows, they regularly experience "a lot of crud that comes out" (MJ) into the surf zone following precipitous storms. Local surfers regularly choose to ignore posted water quality warnings if local swell conditions are delivering quality waves to local breaks.

Many local surfers reported about other surfers that they know "who will go surf the San Lorenzo River mouth regardless of how many things are posted on the beach there telling them how bad the water is" (MJ). Skilled surfers in the Santa Cruz community and considered "knowledgeable surfers who will make their decisions based on what they know rather than the postings" (MJ) placed by County officials at popular

beaches. While hazardous water quality "postings are probably good for people who don't have a clue about it" (MJ), the benefit of postings are often difficult to observe. Many families are seen by local surfers who "bring their kids down, and see people on the beach south of the Santa Cruz harbor, and they've got their kids playing in this stuff and you look at the water and you go… oh my goodness… (laughs)" (MJ). Surfers tend to ignore posted water quality warnings because of the local knowledge surfers have with visual characteristics of marine flowing water at local breaks. Older local surfers who have observed significant changes to the coastline of Santa Cruz and to Pleasure Point breaks continue to express longstanding feelings of untrusted government oversight.

Surfers who have observed changes to the Pleasure Point landscape "get a little nervous when the government gets involved in stuff. Older generations of local surfers have watched surf breaks historically exploited by government projects and coastal development along California's extensive shoreline. Surfers who remember the ongoing environmental degradation that went unregulated before the California Coastal Act of 1976 maintain the perspective that "the fact that we've had the California Coastal Commission for so long has probably preserved a lot of things that would have not been preserved before" (MJ) the Commission was formed as a regulatory agency. Surfers who witnessed the Commission's creation are still skeptical of government involvement by simply stating "the jury is still out" (MJ). Younger generations of surfers who were born following the California Coastal Commission creation in 1976 are significantly more opinionated about coastal zone management in Santa Cruz County.

Wave Quality and Consistency

Santa Cruz is a socially constructed landscape for the echelon of global big wave surfing and professional elite who train at local breaks in preparation for the most high performance big waves in the World. Many legendary big wave surfers have risen from the local surfing community in Santa Cruz. Local legends that have become internationally famous big wave surfers in recent years include numerous surfers who grew up surfing Santa Cruz breaks from the time they were children, having been taught the unspoken social etiquette and rules from underground surfing pioneers within their childhood neighborhoods. Local wave conditions allow surfers to spend significant time in the water surfing waves that are characterized by exceptional quality and consistency.

The biggest thing "about Santa Cruz is just the amount of surf breaks it has… the huge exposure to swell… from a north swell to a south swell. And then the prevailing winds blow side to offshore… so it's like the best of all worlds. A surfer in Santa Cruz can surf almost ever day theoretically… as long as there's swell in the water and most winds are favorable" (DS). Santa Cruz is a hotbed for surfing talent because "there are a lot of people that just want to surf all day long because the waves are good all day long" (DS). At other surf breaks along the California coastline and other renowned international breaks, "it's usually the case where most surfers have to surf their break early in the morning or right before dark" (DS) because of variable onshore winds that cause waves to break in irregular sections.

Santa Cruz surf breaks are characteristically "good all the time" (DS). The vibe at local surf breaks is also significantly unique compared to other surfing communities because "there's so much surf stoke here compared to other places… but also the quality

of waves is really high… so surfers get really *really* good in Santa Cruz" (DS). The level of surfing stoke, or the primal excitement around surfable waves and culture, are considered a force of "environmental" causes that arise from the influential people who are legendary locals within Santa Cruz surfing culture (DS). Young surfers within the Santa Cruz community are influenced "by the people you're around… and growing up around Flea (Darryl Virostko), Barney (Shawn Barron), Peter Mel, Skindog (Ken Collins), Richard Schmidt… and surfing with those guys makes it more realistic to want to become a big wave surfer because… if you're a kid playing basketball with the top pros at your local court… you're going to think that… I could be that… I could do that" (DS).

Having local professional big wave surfers within the lineup separates Santa Cruz from coastal communities who don't have local big wave surfer representation and respect within local breaks on a daily basis. The big wave culture within Santa Cruz is directly related to the fact that "having Mavericks right here so close is huge" (DS) for the local big wave community to represent their geographic region and socially constructed identity of charging the largest waves in the World. Mavericks is located just North of Santa Cruz at Half Moon Bay and is culturally respected as one of the highest quality and consistently breaking World-class big waves that can be paddled into on the planet today.

A fundamental characteristics of Santa Cruz is that the geographical characteristics of the ledged reef breaks demand that "you have to be a really good surfer to get to that level… and Santa Cruz has such good waves and so much variety… and some nice big waves too… it's a perfect training ground to become a big wave surfer. So

it's totally environmental… from the people to the waves… they're here" (DS). The environmental character of surfing in Santa Cruz is still transitioning from a lifestyle that has long been viewed by the general public as a demographic that refuses to formally contribute to society.

Surfers in Santa Cruz "still carry a lot of that stereotype of… surfers don't really want to work… they just want to surf and that's kind of the truth you know? When the waves are good the surfers want to be surfing because it's not good all the time" (DS). Surfers in Santa Cruz have been transitioning within recent years to move into mainstream society and achieve financial goals that benefit both the local surfing community and the local economy.

The character and vibe of the Pleasure Point community has been changing in recent years in the wake of efforts by the County to redevelop the local image. Santa Cruz County is moving to transform the way that Pleasure Point looks like from the outside. When the Pleasure Point Seawall Project was constructed, it was paid for by the County Redevelopment Agency, and significantly lacked input from the surfing community. Local surfers have raised the idea that the County is attempting to transform the identity of Pleasure Point into a vision that continues to exclude surfers and the socially constructed landscape that surfers have been instrumental in creating.

Santa Cruz currently has significant problems with drugs and homeless transients. The current situation of drugs and crime is an image that the County is attempting to transform with redevelopment projects, and create a landscape that is more affluent. The appearance of an affluent neighborhood along Pleasure Point does not address the

underlying problems that are increasingly becoming representative of Santa Cruz. A participant described the current redevelopment of Santa Cruz County:

> "Like what is Santa Cruz? We don't want Santa Cruz to be like this… we'd like it to be like that. Well what is this? This is what it is currently or what the perceived impression of what Santa Cruz is. We have fucking needles on the beach, and we've got crack heads and fucking meth heads running around. Is that what we want Santa Cruz to be? No. We want Santa Cruz to be… what I feel… Santa Cruz wants… certain people in Santa Cruz want Santa Cruz to be this kind of Silicon (Valley) beach… which is… until everyone is wearing Patagucci (Patagonia/Gucci) jackets… holding Starbucks cups… walking a baby stroller down Pleasure Point… it's not Santa Cruz. Kind of imagining Santa Cruz becoming where all the people from over the hill come to retire." (SK).

Redevelopment plans promote projects that ultimately increase property values and create a landscape of real estate that becomes unaffordable for the people who have historically resided in the Pleasure Point neighborhood. Silicon beach is a reference to Silicon Valley, which generates immense wealth for a limited amount of people that choose to purchase real estate to redevelop. The people who live in the neighborhood fundamentally change the character of the community:

> "So Mark Suckerberg just bought a house right down near Pleasure Point… Google guys... just bought a house down there. So it's only a matter of time before the wealth pushes out the core surfers… pushes out core Santa Cruz and Santa Cruz becomes like a Los Gatos or a Los Altos." (SK).

Santa Cruz has developed a character of being a community that supports artists and other creative and talented residents. Walking through the streets along Pleasure Point, widely diverse demographics are observable together, and create a complex and dynamic fabric that Santa Cruz has been founded on in recent decades. As the interconnected and complex community is redeveloped, there is growing concern within

the established community that Santa Cruz will ultimately resemble other municipalities of California where communities are static, wealthy and conservative:

> "That's kind of a scary thought. Santa Cruz is weird… like "Keep Santa Cruz Weird"… Santa Cruz is unique and it has a lot of different personalities. It has a lot of extremely talented people that live here from all over the place. Talented people… a lot of artists from all different facets. So to see that art kind of get pushed into a corner and all of a sudden all of these yuppies kind of appear as what Santa Cruz is supposed to be like now. So if you are walking through Santa Cruz and you don't look like you're a yuppie then you… you're a fucking kook and you should bounce… type of thing. It's a scary thought. It's a scary future." (SK).

As the County has increasingly supported development projects like the Pleasure Point Seawall Project and authorized existing homes to be rebuilt into much larger homes, surfers are becoming profiled in gentrified neighborhoods. Through the 1970's, 80's and 90's surfers were viewed as a demographic of the general population who were more involved with drug use and unemployment. Within the past decade there has been an observable social shift in how surfers are represented within society. Throughout past decades "surfers used to be dudes who didn't go to school and didn't really want to work", and now that surfing has become more mainstream "people are finding the balance between going to school and finding good jobs and still surfing and being passionate about it" (DS). Social change is evident within the new generation of young surfers. Now that the reputation of surfers is "getting better and better… parents actually encourage their kids to grow up and become surfers because the lifestyle is good… versus twenty or thirty years ago… most parents were like "don't"… they did not want their kids to be surfers" (DS). New generations of young surfers from Santa Cruz have played a significant role in the rise of big wave surfing at a global level.

El Niño and La Niña

El Niño dominated winters cause significant damage to coastal development and private property, and are perceived by the Commission and the County to be a negative force within the coastal zone. Surfers who ride big waves view El Niño driven winters as possibly the best environmental phenomenon on the planet. When a big wave surfer participant is asked what he thinks about El Niño, he "only thinks about huge waves… the waves are going to be massive… and it's going to be a tough year (laughs)" to concentrate on anything other than surfing big waves. Santa Cruz professional big wave surfers are "catching big waves on non-El Niño years" (DS), so the prospect of a big wave environmental phenomenon that is not seen for many years at a time holds real possibility to allow surfers into the biggest waves ever ridden. Big waves cause coastal erosion and the loss of private property, and similarly erode the offshore reefs submerged ledges that physically cause the waves to break with exceptional consistency and quality. Ongoing coastal protection efforts that consist of "all the sea walls and all the riprap on all the beaches" (SD) along the coastline of Santa Cruz pose a problem for the surf breaks. Historical movement of surf breaks indicate that "eventually the breaks have to deteriorate because they naturally should be flowing inward… traveling inward… inch by inch… but you know the waves are going to keep breaking down the reefs and if that reef isn't moving inward at all" (DS) because of riprap and seawalls, it raises clear concerns for "how the surf quality will be later" (DS). There has been a recent shift by the Commission to view seawalls as preferable to riprap placed on the beach to protect private property (Figure 2).


Figure 2. Seawall protecting private property along East Cliff Drive.

A beneficial component of the Pleasure Point seawall project was the removal of riprap that covered the sandy beach below the bluff (Figure 3). The riprap that was removed at Pleasure Point was unlike the large granite boulders that are typically used. Much of the riprap at Pleasure Point was not riprap at all, but rather remnants of the old sidewalk that ran along the coastal side of East Cliff Drive on the bluff top. The specific year that the sidewalk was dumped off the side of the bluff onto the beach below is unclear, however, it was done sometime before the Coastal Act of 1976 and is viewed by the Commission as "not unpermitted", thereby releasing the Commission from enforcing the County to remove the broken slabs of concrete.

Figure 3. Below Pleasure Point Park the beach is now accessible after the removal of dumped riprap and concrete

Riprap poses a significant public safety concern for anyone attempting to move across the uneven and unstable surface. Surfers understood the riprap at Pleasure Point to be a significant hazard when entering or exiting the water. It is clear that "all that old concrete riprap that was down at the bottom for years was terrible. It was so hard to get in or out… it was like… dude, at high tide it was so dangerous… so dangerous" (DS). One of the largely overlooked hazards posed by concrete riprap is that there is often rusty iron rebar that can cut or impale surfers. The primary issue with placing riprap on the beach is the loss of sandy beach under the boulders.

Surfers at Pleasure Point have witnessed the dumping of urban waste both on the beaches and directly offshore even after the California Coastal Act was enacted in 1976. It is unknown whether the dumping was to mitigate coastal erosion, or simply to dispose of waste, but the extent of the dumping was significant. A local surfer who is in his mid-

forties and has lived at Pleasure Point for his entire life remembers dumping as a child. He recalled:

> "There was times when I was a little… and even when I was a kid I was kind of in shock because there used to be these barges… and I don't know if they were doing this on purpose… for the fisheries… I was too young at the time and didn't really ask any questions… but they used to dump right off of here… numerous tires that were bundled up into big circles. I don't know if it was… they used to wash up on the beach pretty regularly. The ocean would push them up on the beach. So they would tie the tires through the holes and bind them in circles… but they dumped thousands of them right off of here (38th Ave). It must have been in the early eighties… or maybe seventy-eight, seventy-nine. I was like "are you kidding me?"… "what are they dumping out there?"… and it was these freaking tires man". (PS).

Components of the Pleasure Point seawall project application that were identified to cause potential negative changes to the existing character of the Pleasure Point neighborhood are now causing significant problems for local residents. Increases in vehicular traffic have become a significant issue along East Cliff Drive and the smaller side streets that have historically experienced low traffic volumes. Mitigation for the increase in driver use was not adequately understood or planned for within the Pleasure Point Seawall Project, and "like many coastal Counties in California, land use planners are addicted to roads" (MM). Protecting the roadway for vehicular traffic is a way of complying with the California Coastal Act to ensure that existing public access is protected and maintained. A local resident describes the increase in traffic as:

> "It's a freaking expressway now, or a highway. You know what we call it bro? The locals? An extension of Highway 1. It's sad. I'm not going to say that it's totally… completely maddening… but it definitely gets on your nerves. You should see this around four o'clock or six o'clock because all the commuters come this way now. On the weekend when they all want to get out of here… it's backed up to 41st Avenue as far as the eye can see. You've got the cars idling and you've got the people who are impatient and they're honking their horns. It's a traffic jam… and then they get angry too. I've seen this too… they'll slow down and then

> they'll bolt our little side streets at like a hundred miles per hour when there are kids and animals and people. I'm exaggerating about the speed… but they go at a high rate of speed down our little neighborhood strips and it becomes dangerous and hostile to the neighborhood to live in." (PS).

County project planners and the Commission failed to understand many of the dynamic preferred use patterns that local surfers and neighborhood residents have historically been accustomed to. East Cliff Drive is a roadway that many surfers have traditionally accessed using bicycles with side-mounted surfboard carriers or by carrying their surfboard under one arm. Curbs that existed before the project were rolled at the edge from years of use and allowed cyclists to safely move up and down the curb to the sidewalk in order to negotiate pedestrian traffic and other cyclists (Figure 4). Within the application, the existing rolled curbs were referred to as "battered", and were to be replaced with a "standard curb" (p. 13). Failure to adequately study surfers as a significant user group, and significant lack of project oversight and conformity to the approved application has resulted in significant public safety hazards within the completed Pleasure Point seawall project.

Figure 4. Cyclist with surfboard along East Cliff Drive. Note rolled and non-rolled curbs.

A local professional Pleasure Point surfer and lifelong community member describes the significance of the standard curb replacements:

> "This is in the agreement too. When I'm riding my bike one handed with my board… see this little lip on the road here… on the curb? That curb is supposed to be rolled… and it's not. So when you have to dodge people out of the way… and I've seen guys on bicycles… on ten speeds eat crap because of it. With their boards… and even just people riding their bikes… because this… I'll show you… (walks over to crosswalk at 38th Ave). See how all the crosswalks are offset… and also the curb is offset. So this is bad. You have to come over here and backtrack over into the other lane… and it becomes dangerous. See how the recesses here are all offset? If you walk up and down this entire East Cliff (Dr.) you are going to see how they are offset to the crosswalk… or they are offset to the actual street. So what happens when people want to get back up on here or they have to avoid somebody… this catches their tire and they eat fucking shit man. I've almost eaten shit… because of this stupid non-rolled… non-rolled hard curb. So I've seen guys go down *hard* here on these kinds of things. Or if you're riding one handed on a bicycle and you have to avoid somebody because there are so many fucking people up here… I've got to jump the curb… and then you know with a board in one hand it is really dangerous and sketch. So it's *all* like that. It's just

> bizarre-o. They should have the road and have dropped the freaking curb… and they haven't. This should have been rolled… for our safety." (PS).

Clear and understandable signage along the completed seawall project is another significant problem that poses a clear risk to public safety and has been overlooked by the County and unenforced by the Commission. Some meaningless signs are unnecessary and should be removed, and others are nonexistent and should be posted:

> "I'm not one for a ton of signs down here… which irritates me how there are a lot of signs protruding on this side of the road. I would love the County to take a lot of them down because they're ridiculous. There's one right by the stairs that says "Coastal Access"… you're like "really" (laughs)… and one of them said "Pacific Ocean" and I'm going "yeah, that's the Pacific Ocean" (laughs). The less signs the merrier… but I'll tell you one thing that we definitely need… and this is putting a voice out to the County… is that we need some signage… unfortunately… because in any society or civilization… when you have an overpopulation… you need to have a certain set of basic rules and people need an understanding of them because "us" as locals are being over run by the wagon trains. Like we are the Indians and the wagon trains are coming in and doing whatever they want. They're shooting up the buffalo… if you will. Or they're posting up their wagons here and there and whatever else and they're not really understanding about our community and how it works and operates here and out on the water… how it's causing conflicts and misunderstandings… in the water… it's been daily." (PS).

Surfers at Pleasure Point have experienced a noticeable increase in the popularity of surfing as a sport, and the amount of people are in the water as a result. While surfing etiquette rules are posted, they are not posted in a conspicuous place near the coastal access points like they are at Steamer Lane along West Cliff Drive. It is unclear whether signage would effectively control crowds, but the surge in surfer use has created a situation where there is exceeding demand for a limited natural resource of surfable waves:

> "People are putting themselves in situations where they should go more or less to a beginner spot or a place that's not over their level. That's something that's of concern because of course… health care and surf equipment are not cheap. They end up either injuring themselves or an individual… or even someone's surf equipment which is not cheap and it's an unnecessary bit of an incident… you know… that truly doesn't have to take place. And then you try to communicate these things… and you know seventy or eighty percent of people appreciate that… but some people take it as maybe you're possibly damaging their egos or what not… and you get a little bit more aggressive… if you will. So surfing has definitely exploded in the past five years I've noticed. San Francisco… now is really onboard… culturally as far as becoming surf oriented I've noticed up the coast. And they have a tendency of visiting down here in Santa Cruz quite a bit because we have a bay… a protected area from the outer oceans and not affected by the conditions of the outer oceans. Because Ocean Beach in San Francisco is of course on the outer oceans." (PS).

The completed Pleasure Point Seawall Project has changed the appearance of the bluffs and the perceived risks associated with entering the ocean. Accessibility has been improved as one of the identified goals of the project; however, improving accessibility has unexpectedly increased the risk to public safety. Many surfers are inexperienced and unfamiliar with potential hazards and the unpredictable force of surf zones:

> "Because it's way more way more accessible. It looks man made… which confuses people… that this isn't just mother nature and she can harm and slap you down. It causes this complacency of "well… it was built this way… this is the staircase… and I should just utilize this because this is the way the County wants me to enter the water"… which there are certain entry points that even I won't utilize on large days because they are so unsafe. It's almost like a cattle slaughter gate. There's one right down here. This one will mess you up bad (Figure 5). I've seen people have their pelvis' broken… and legs… slammed! I've rescued some people right down here… at Thirty-eighth Avenue… you know… in this riprap. This riprap was never here back in the sixties and seventies and eighties. I think it was put in… in the late eighties or something." (PS).

Figure 5. Dangerous public access point constructed as part of the Pleasure Point Seawall Project at 38th Ave.

Specific public access entry points within the completed seawall project represent a significant liability for the County because of the significant risk of serious injuries to unsuspecting surfers or beachgoers. Currently there has been no form of signage that clearly states the inherent risk of using the public access points:

> "There are some entry points that are dangerous too. There's no signage that really conveys that message because they don't want to be fear mongers or scare people… I don't know what their deal is… but it is a liability I would think… to the County if someone were critically injured at certain entry points here. Because of course it's *not* a controlled manmade environment… like it's kind of made Disneyland looking. Mother nature can and will hurt you… if you're not careful or aware of your surroundings" (PS).

Pleasure Point Seawall Project Failure

The most significant overlooked hazard with the Pleasure Point seawall project is within the technology that was chosen to engineer the seawall, and the contractor who was chosen to complete the project. In recent years the California Coastal Commission has clearly indicated that they "prefer seawall applications that include proposed seawalls that consistently mimic natural bluff faces, rather than a hodge-podge of different types of construction, and moving away from riprap" (CS). California law indicates that for public development projects, the lowest bidding developer who can effectively complete the project is chosen. In the case of the Pleasure Point seawall project, the development company selected to complete the project was based in Arizona and had no previous experience engineering seawalls to withstand wave energy of any level.

Drill Tech has primarily constructed retaining walls for transportation projects. The decision to go with Drill Tech "was a terrible decision… the County thought they were getting a great deal but it was a terrible decision" (MM). Santa Cruz County staff clearly indicated "there were some pretty comical moments" when Drill Tech attempted to hold back the tide for the cement to strengthen properly. Approved seawall projects are traditionally intended to have a lifespan of roughly 100 years, but the Pleasure Point Seawall Project is noticeably failing after less than 5 years after project was completed (Figure 6). At the time of my interviews with County and Commission staff, none were aware of the current degradation and ongoing failure of the Pleasure Point seawall project. In accordance with the project, the seawall is not scheduled for an official inspection until 2018. The local surfers are keenly aware of the state of the Pleasure Point seawall:

"Down below you can see different colorization of where they've sprayed the concrete to make it look more natural… there's a big piece that broke off over there. That's where a *big* piece broke off. The gunnite and the cement broke off as a big chunk. Gunnite is a really abrasive stuff they spray over the concrete to make it look more *natural*. Disneyland *natural*. It's totally failing… and also with the cement… because you will see "bleed through" from the steel that they mowed back into the cliff… which of course… it expands. So what happens is it goes down the ends of these rods and they expand… and the cement that is around these rods… it breaks… and starts fracturing. And so when you get that fracture… it just keeps fracturing and fracturing because it doesn't have a skeleton anymore and there is nothing that is holding on to these bars. There is nothing to hold the seawall up. It's done. It's done. It's kind of like when you're building a house and you have a big rain… and all of your fasteners are made out of steel. They start rusting so you put stucco over those nails but what happens is they keep rusting behind the stucco but then they rot to a point where they are not fasteners anymore and then they basically break and the plywood snaps away from the fastener… and it breaks what? Your stucco starts cracking. I saw the rods they were drilling. It was their whole premise of holding that thing back and I was going "really? Are you serious?" (PS).

Figure 6. Pleasure Point Seawall Project corrosion structural failure.

Trying to get politicians to listen is the most frustrating part for the local Pleasure Point surfers when projects are proposed. Once the County decided to go forward with the seawall project "it was every man for himself" (MM). While surfers are largely represented by the organizational structure of the Surfrider Foundation, their non-profit foundation makes it difficult to functionally organize a central message and position that is agreed upon by all surfers and delivered at Commission hearings. Two things are significantly important for the Surfrider Foundation to protect surf breaks. There needs to be "strong environmental laws, and strong public support" (NC). The "California Coastal Act is seriously deficient" (MM) and has never meaningfully accounted for climate change or sea-level rise. The Coastal Act is also significantly problematic for the Commission to legally deny seawall applications to protect existing private property because of the "twin pillars" (MM), which indicates that coastal development shall be authorized if no significant threat is an imminent threat. Once a property owner receives an approval for coastal development, they can "immediately turn around and apply for a seawall permit by indicating that sea-level rise is imminently threatening their existing structure" (MM). The Commission is seeing an increase in "twin pillars" strategic applications, sometimes occurring within the same year.

A significant issue for the California Coastal Commission is the inability to interpret the Coastal Act as it was originally intended. In 1976 when the Act was written, *existing structures* would be understood as all structures that were already constructed in 1976, and structures built after 1976 would not be considered *existing*. The Commission upholds the Coastal Act as any structure *existing* at the time of the permit application. If the Commission continues to interpret the Coastal Act in the current way, prominent

coastal geologists and oceanographers indicate that "in the near future Santa Cruz County can expect more than 50 miles of new seawalls and California could be 90% walled off by the year 2100" (MM). Threats to funding from the State Legislature are an enormously significant cause for the Commission's failure to enforce the true intent of the California Coastal Act. In Sacramento "everyone loves to rail on the Commission" and threatens to "cut their funding even further if they are too hard on private property owners along the coast" (MM). Political interests in the ongoing leniency of the Coastal Act is because "coastal property owners are the primary political donors" for politicians in the State Capitol of Sacramento.

Surfers have found it exceedingly difficult to persuade politicians and the Commission to face the realities of sea-level rise that will significantly impact every foreseeable future generation:

> "Politicians… you know as well as I do that legally… all they need to do is listen to you and go one-hundred and eighty degrees in a different direction. That's what they do… that's what they do. Seriously. The ones who aren't totally proactive are for the people… and the others sit there and listen to you and go a hundred and eighty degrees in the other direction. That's what we find in our funky little town here. Unless you have some entitlement program for such and such and such (laughs)" (PS).

The California Coastal Commission and Santa Cruz County have been unable to uphold the California Coastal Act and the Pleasure Point Seawall Project is clearly inconsistent with the environmental objectives of the Act. Public voice within coastal planning and decision-making is significantly deficient. Surfers represent a significant coastal stakeholder group who has lost confidence in their ability to engage in government supported development projects.

Chapter 6: Conclusion

Coastal erosion remains an increasingly significant threat for the public beaches and private property along the California coastline. Significant wave events and associated large storm events have resulted in significant damage and loss of coastal property. Historic El Niño events have resulted in lasting impacts and the degradation of coastal dependent natural resources and public access along the West Coast of the United States. Damage to civic infrastructure and property has resulted in significant economic losses. The El Niño events of 1982-83 and 1997-98 have become clear indicators of weather variability that California should expect to see as a result of a changing climate.

This research was focused in Santa Cruz County, CA because of the rich surfing history, deep cultural significance of surfing within the local community, and significant pressure to develop the coastline and protect existing development from imminent coastal erosion damage. Santa Cruz County has experienced limited coastal development pressure until recently, and is currently experiencing a significant influx of financial investment within the local real estate market. The intertidal zone of the County coastline is federally protected within the Monterey Bay National Marine Sanctuary, which provides the strongest marine protection policies of any State within the United States. The primary environmental protection policies were designed to protect California's coastal zone from excessive coastal development are the Coastal Zone Management Act of 1972 and the resulting California Coastal Act of 1976. The California Coastal Act of 1976 has not been updated to address sea level rise, and applies significantly vague and dualistic language.

This case study focused on the Pleasure Point Seawall Project in Santa Cruz County. Previous surf break research has been limited in how much information could be obtained from the surfers themselves. Surfers have historically represented a high-use stakeholder group in Santa Cruz County who has been marginalized by urban development, environmental degradation and persistent disregard of public opposition to County projects. The Pleasure Point Seawall Project represents an example of what the California coastline may be characterized as an artificial coastal landscape. Extensive interviews were founded upon a snowball method to gain the trust and willingness of surfers to engage in the research process. This case study identified specific user groups and significant components of existing research that have provided limited information and knowledge regarding development project outcomes in coastal areas.

Identifying and understanding the associated impacts from protecting private property and roadways along the coastline of California is a significant concern for CZM. Coastal development projects in California have resulted in the destruction or loss of several public beaches, and minority stakeholder groups who frequent compromised beaches are negatively and disproportionately affected. Surfers represent a unique minority stakeholder group that is fundamentally dependent on waves as a limited natural resource that is increasingly threatened. Degradation and loss of culturally significant surf breaks has resulted in raised awareness surrounding the protection of surf breaks that are threatened or compromised. Protection and conservation of surf breaks has emerged as a critically important component of CZM in California. Understanding surfers and the cultural legacy of surfing was shown within this research to be significantly important in order to understand the management and protection of culturally significant surf breaks.

Surfing was introduced surfing to North America at the mouth of the San Lorenzo River in 1895 by three visiting Hawaiian princes, and surfing has progressively become more popular. Between 1920 and 1960, Southern California surf breaks experienced a rapid rise in the number of surfers in the water. As Southern California developed and became heavily populated, popular surf breaks became significantly crowded and environmentally polluted in the heavy wake of coastal development. During the late 1960's and 1970's, significant advances in technology and surf equipment resulted in a pivotal changes in surfing culture.

The increasing popularity of surfing has resulted in Santa Cruz County becoming further reliant on their surfing driven tourism industry. Santa Cruz began to identify the local landscape image with iconic images of surfers on Santa Cruz beaches. Both the County and City of Santa Cruz began actively marketing their coastal community as a lucrative surfing destination. Building architecture and interior design within hotels and restaurants enforced the presence of surfing, and tourists were able to experience surfing without ever leaving indoor comforts and safety. Resulting coastal real estate booms made property overlooking the ocean to become increasingly expensive.

Santa Cruz has been reliant on the presence and character of the strong local surfing community as a significant attraction for visiting tourists. Within recent years, the Santa Cruz County has progressively moved to redevelop the public image that represents the greater Santa Cruz community. While Santa Cruz has commercialized, marketed, and exploited surfers for decades, there has been no political action by Santa Cruz County or the California Coastal Commission to effectively address potential impacts to culturally significant surf breaks from coastal development projects.

Surfers represent a unique minority stakeholder group because they frequent specific locations more often than other coastal stakeholder groups, are active in the local marine environment for extended periods of time, and they often utilize culturally significant locations at certain times of the day. One of the primary reasons that surfers are attracted to ocean waves is the escape from everyday stresses and fast-paced society on land. Coastal landscapes allow individual stakeholders to turn their backs on the seemingly fixed and organized structure of modern urban life on land. Many surfers are significantly reluctant to engage with any kind of involvement with coastal regulatory agencies, and have chosen not to participate within the established public policy process as a result of past agency regulation in Santa Cruz County.

Strong environmental protection for the coastal zone of Santa Cruz County has been ineffective in enforcing California Coastal Act violations. The California Coastal Commission is limited by Legislative funding to challenge coastal armoring and seawall construction. The Pleasure Point Seawall Project represents a highly complex socially constructed coastal landscape that is experiencing increasingly intense pressures from the temporary profitability of coastal redevelopment in Santa Cruz County.

In conclusion, this research has found that the coastline of Santa Cruz County, CA is a socially constructed landscape, with an extended history of being modified by privately driven development. Surfers have been attracted to the exceptionally consistent and well formed surf breaks of Santa Cruz County since the time surfing was introduces to the Americas on July 19, 1885 at the San Lorenzo River mouth. Surfing has since experienced many transformations and throughout history, has been commercialized by capitalism across many industries. Surfing has been shaped into an iconology and

figurative representation of what is attractive and marketable within the coastal zone of California. Santa Cruz County has embraced the iconic image of surfers along the shores in recent decades and has marketed Santa Cruz County as cultural landscape where surfers are embraced.

Surfers are exploited as an iconic and marketable image, and do not have an effective voice within coastal management decisions in Santa Cruz County. The California Coastal Commission misinterprets the California Coastal Act of 1976 to aid private property owners along the coast in protecting their property through the construction and development of coastal protection structures. Over many decades, Santa Cruz County has experienced widespread armoring of the coastline in nearly every structural method possible. It may be concluded that fixed seawall construction along the California coastline for the protection of private property is done so at the expense of the general public. I also conclude that the State of California has failed to meet the goals of the Coastal Zone Management Act of 1972. The California Coastal Commission has been ineffective at upholding the California Coastal Act of 1976, and has been unable to enforce Coastal Act violations as a direct result of limited Commission funding by Congressional interests. Although surfers have represented themselves through the public policy system, they have been ineffective largely due to the lack of formal organization and the inability of the California Coastal Commission to effectively protect public beaches from increasing private development threats along the coastline of Santa Cruz County.

Climate change and associated weather phenomena have resulted in progressively increasing significant wave heights and significant wave event frequency. As a result,

coastal erosion rates have continued to encroach on coastal property and inflict significant damage to coastal infrastructure. Property owners along the coast of Santa Cruz County have constructed their landscape to be significantly armored in a temporary attempt to protect their wealth and private ocean view from the increasing strength of the Pacific Ocean. The sandy beaches and iconic bluffs of Santa Cruz County have increasingly been lost to coastal armoring projects and seawall construction in a mismanaged effort to temporarily protect coastal property as sea level rise unwaveringly accelerates into the extended future. The construction of seawalls and other coastal development projects in Santa Cruz County have resulted in a significantly altered coastal landscape, and have irresponsibly disregarded the degradation of federally protected nearshore ecology without meaningfully investigating or considering alternative policy approaches.

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