Triple Bottom Line Thinking and the California Coastal Commission:

Case Studies of Santa Cruz and Laguna Beach, CA

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Abstract

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The California Coastal Commission and the Triple Bottom Line (TBL) business model both use the same set of three main parameters to guide management. The Commission is mandated by the California Coastal Act of 1976, a state law that governs coastal zone management and passed to codify the efforts of a citizens' initiative passed four years earlier. The Act explains that the state's coastline should be managed to ensure that economic, social, and environmental needs of the state are met. Concurrently, the triple bottom line model originated in the mid-1990s from a United Nations sustainable development study and favors replacing a conventional method of measuring corporate performance using financial performance only (a single bottom line) with a performance model that measures community or social performance and environmental performance, as well as financial performance. This method would stress a more complete and accurate measurement of true corporate performance and its effects on society. Although constructed as a business model to be used by businesses, the triple bottom line works well for assessing the performance of a public agency like the Coastal Commission and its policy initiatives. Furthermore, because the Commission acts as the main regulator of coastal development for the state's coastal zone management system, TBL is an effective framework for assessing the overall health of California's coastal society and the coastal environment as used by its citizens. Two case studies are examined to show how the Coastal Commission considered environmental, social, and economic factors in policy actions in two coastal communities in California.

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Colin Bowser

Introduction

The field of marine and environmental affairs fuses two broad areas of applied science into the formal study of people's use of the natural environment. This wide-ranging, interdisciplinary practice blends the social science topics of economics, sociology, and law with natural science area such coastal oceanography, marine biology, and terrestrial watershed ecology. The two halves of this evolving science field — the human science and the natural science — each bring immense complexity and centuries of study, but the union of these halves is still very much evolving today. One nexus for this intersection involves how coastal regions manage their coastal communities' growth in concert with natural resource conservation. Along the US West Coast, this balance historically tilted strongly towards communities and businesses taking advantage of the region's superlative natural beauty by building thousands of structures and expanding hundreds of towns along a rich welcoming shore.

After World War II, a population boom along the West Coast, and particularly in California, saw many reaches of quiet coastline become bustling towns and cities that hosted building booms and fundamentally transforming the coastline. In the 1960s, an awakening of many people to environmental causes and the quickly transforming natural landscapes along the California coast began to gain momentum in the public's eye. While far from being a universally popular view in California, environmental conservation and the desire to preserve the coastline for the public's use and enjoyment grew into a political and social movement by the early-1970's.

The California Coastal Act of 1976 was the culmination of this movement. This landmark legislation, begun as a citizens' initiative, encompassed several of the state's major converging but disparate needs: to more uniformly regulate building development, preserve irreplaceable natural coastal environments, and further the state's economy.

The California Coastal Act of 1976 was pivotal in several important ways, but its attempt to define the three-part need of balancing economic necessity with environmental heritage and the overall interests of coastal communities was both prescient and seemingly obvious. By the 1970s, supporters of a tool like the Coastal Act could easily point to ample evidence for the need to address all three areas of interest in the context of the state's heavily used coast. The state economy was supported by an array of diverse industries, many of which were tied to coastal interests and the quickly increasing populations of coastal communities. The coastal landscape and the adjacent seascape of California were heavily taxed by industry, tourism, and the population's leisure use and all three were intensifying steadily and burdening fragile natural environments up and down the coast. Finally, coastal counties in the 1960s and 70s and their multiplying, expanding communities were often the setting for social justice and environmental movements that had redefined what it meant for a community to thrive and be an appealing, livable place for all.

Sustainability and the Triple Bottom Line

What the Coastal Act of 1976 saw as several coastal pillars of California's vitality were independently adopted by a small, nascent sector of the private business community in the mid-1990's in the form of the sustainability theory. Popularized by business theorist John Elkington, a "sustainable" business is dynamic, ethically minded company whose success is measured by how well it earns a profit, conserves natural resources, and is well-regarded by the local community in which it operates. Sustainability is a long-term business strategy that purposefully eschews short-term decisions driven solely by pursuing profit for a broader business strategy that deliberately embraces the same three values that the California Coastal Act codified for the public good over 20 years beforehand. A sustainable business is successful by the conventional measure of earning profits for its shareholders and remaining a competitive leader in its business sector, but success measurements don't end with the company's financial bottom line. Equally important for the company's long-term sustainable future are how well it benefits its surrounding community and how well it uses and conserves natural resources and respects the natural environment around it. A social or community bottom line and an environmental bottom line share prominence with the well-known financial bottom line such that all three factors are equal measure of success.

While applying a sustainability framework to a private business or a public enterprise is an important concept in its own right, applying it even more deeply and broadly goes farther. Elkington and other advocates of the triple bottom line look beyond sustainable businesses and public enterprises to society eventually accepting more sustainable approaches to lifestyles and broader economic behavior. This possibility occurs across an immense range of scale, which is itself an issue: at the largest macro scale, it stretches from society's willingness to change what sustainability advocates regard as huge, unsustainable economic institutions all the way down to the small scale of individual people changing their living habits to use less and conserve more resources. At the large institutional end and the smaller individual end of this philosophical scale of sustainability, one sees that California's coastal-dwelling population may consciously view their actions in light of the three factors of profit, environment, and community. Crucially, the Coastal Act was written with an acknowledgement of all three: the coastal zone supports so much of the state's economic engine and its population that the Act must help maintain economic vitality. But *simultaneously,* each Californian is entitled to a clean, flourishing, accessible coastline. These three parts of the coastal mandate illustrate the extremely difficult dynamic facing the California Coastal Commission, a dynamic that seemingly never ends and requires political vigilance at all times.

This triad of economic, environmental, and social business interests is the triple bottom line (TBL) or the three tenants of sustainability, and this revolutionary idea was foreshadowed by the California Coastal Act of 1976. As a criterion for a well-functioning private business, profitability or the basic operational viability of a business is a prerequisite for an endeavor's success. If a business or any other kind of operational plan cannot succeed and become self-sustaining, it will fail from the simple standpoint of operational viability. Placing this idea in the

context of development along the coast, if a planned development cannot function and allow the owner to achieve a reasonable profit, then the project is likely not worth pursuing. Countless building and development projects were and still are viewed only against this financial bottom line. This myopic, slanted view of project success has been a leading contributor to suburban sprawl, purely planned developments, and irresponsibly regulated development all along the coveted coastal zone. But it is the addition of the two other crucial bottom lines that the Coastal Act mandated and introduced a means of ensuring that the public could see all three factors of a potential project.

The California Coastal Commission is the strong, independent regulatory body that the Coastal Act of 1976 created to regulate coastal development and raise development and many disparate planning standards up to a single higher statewide level. Until the Commission was created, development was loosely regulated in a piecemeal fashion by cities and counties themselves according to local political whims and often with little regard for a longer-term, holistic coastal development strategy. With triple bottom line concepts already ingrained in the Coastal Act, and therefore into the state's legal mandate to protect the coast with only development that applies the TBL framework, the Coastal Commission should rigorously hold this standard as the guidelines for project approvals. Anything less that considering all three elements of sustainability sacrifices a critical element of success and increases that chance that an ill-planned or poorly executed project will scar the coastal environment, damage a community's interest, and waste money.

Today, the Coastal Commission faces more challenges than ever before in its mission to responsibly regulate coastal development. As California's population grows and changes demographically, pressures to build more along the already-fragile, increasingly crowded, and economically rich coastline only increases. Stakeholders on all sides of the issue are politically savvy, relentlessly driven, and determined to use political force to tilt the balance to their favor. Against this pressure, the Coastal Commission must maintain its focus on triple bottom line criteria and tirelessly advocate for political support in its mission to maintain balance along the coast.

Plan of this Thesis

This thesis examines triple bottom line thinking in the California Coastal Commission. I contend that the authors and influential advocates of the 1976 Coastal Act realized that, like TBL business theorists in the 1990s, a much-sought after and crucial body such as the California coastline must be guided by people, profit, and environment. I extend the three basic criteria of profit, people, and environment to a slightly broader definition in order to fit them to the broader types of not-for-profit developments that the Coastal Commission considers. In this way, I extend the criteria of profit in business to encompass some that is operationally or practically viable such as a private house or a public works project like a road.

I also expand the kind of organizations that can use the triple bottom line from how TBL has conventionally been applied. The triple bottom line originated as the idea sustainability in economic growth - of societal development on a broad scale so that societies grew more advanced without wastefully exploiting natural and human resources with little regard for the future. The triple bottom line business ethos grew as a more narrow extension of the wider view of sustainability for the business community. But the benefits of using the triple bottom line to express business performance work very well for also expressing how the society of the California coast uses its natural environment because the well-being of state's coastline is inextricably tied to the economic and community well-being of Californians. Just as TBL shows that the only meaningful aim of business is no longer simply profit, it also shows that the performance measures of California's coast must be expressed in three crucial ways. This idea will be shown in the thesis.

This thesis is divided into three parts. Part 1 describes the science and practice of coastal zone management in two chapters. Chapter 1 describes CZM's origins and evolution from a small collection of marine sciences and a narrow focus on individual (as opposed to multiple) uses to a more integrated, two-sided discipline of natural science and social science practiced in a multi-sector way. Chapter 2 involves California's partially embraced contemporary CZM in science and in practice. Chapter 3 describes the triple bottom line business model and the related idea of a sustainable business.

Part 2 uses two case studies to show how the CCC, either knowingly or not, used TBL criteria to assess an application for a coastal development permit. Chapter 4 describes a case study in Santa Cruz, CA involving short-tern rentals, more ubiquitously known as Airbnb. The case study in Chapter 5 involves the remodeling of a house in Laguna Beach without a permit. These two case studies show how assessing proposed projects using triple bottom line criteria is a good tool for measuring their overall compliance with the Coastal Act.

Part 3 elaborates on the parallel tracks of California Coastal Commission and triple bottom line theory. In Chapter 6, the two case studies show this parallel expression. The looming future pressures of steady population growth, relentless development pressure, and climate change further exacerbate the pressure on the Coastal Commission in Chapter 7. The Coastal Commission faces constant pressure from all sides of the development-conservation question and recognizing that the Coastal Act and the Commission's mandate have built-in tools like the TBL could help it face this storm of contention. Finally, Chapter 7 makes recommendations for elevating the TBL framework more visibly into the Commission's work in a way that will help the public recognize how important coastal zone management issues are to Californians.

"Watching the coast as it slips by the ship is like thinking about an enigma. There it is before you, smiling, frowning, inviting, grand, mean, insipid, or savage, and always mute with an air of whispering, "Come and find out". " Joseph Conrad, from *Heart of Darkness*

Chapter 1 Coastal Zone Management

In a field as broad and as filled with concepts as coastal zone management (CZM) is, understanding the basic premise of how the field arose and how it defines itself helps understand the scope of the issues that CZM faces. As an integrated science practice and management program, CZM is a new field, but since its inception in the 1970s it has quickly grown to keep pace with the dramatic changes people are unleashing along the coastline.

Definitions

Coastal zone management broadly encompasses people's regulated use of their coastal environment. For as long as communities existed along the coast, people have organized themselves around limited resources and time constraints. Ancient Greeks, Egyptians, Polynesians, and other societies have used both simple and sophisticated means of understanding their coast in order to use it better. Coastal zone management in its modern form is a government function and also a management discipline and traces its modern system to the 1960s. As a formal activity and discipline in the United States, it has existed since the last several decades of the 20th century [1].

As used by the professional CZM community, the official term "coastal zone" has generally been attributed to the Stratton Commission of 1969 which was the first American national-level body to closely examine ocean policy (Fletcher 2015). The Stratton Commission found numerous ways in which US coastal and ocean policy and uses were incompatible with sustainable, wise use of the country's natural coastal assets: coasts nationwide were threatened by increasing population concentrations and commercial, recreational, and residential development (Fletcher 2015). A few years later, Congress acted on the Commission's findings and passed the US Coastal Zone Management Act which began the formal process in the US of applying the first tentative wave of sound management practices to the coastal zone. With formal origins in the US Coastal Zone Management Act of 1972, our modern CZM practice derives from the need to fix management and coordination deficiencies apparent at the time the CZMA was passed (Hershman et al. 1999). Since its passage in 1972, the CZMA has been the dominant context in which federal and state CZM has been practiced. The Coastal Zone Management Act defines the *coastal zone* as:

[1] For a deeper discussions on historical coastal zone management, see The Effectiveness of Coastal Zone Management in the United States by Hershman et al., (1999).

> "the coastal waters, including the lands there under, and the adjacent shore lands, including the waters therein, strongly influenced by each other and in the proximity to the shorelines of the several coastal states, and including islands, transitional and intertidal areas, salt marshes, wetlands, and beaches. The zone extends seaward to the outer limit of state title and ownership under the State Lands Act….The zone extends inland from the shorelines only to the extent necessary to control shore lands, the uses of which have a direct and significant impact on the coastal waters…." [US Coastal Zone Management Act, p. 4, Title 16 USC, Section 1453 (Section 304 within) 1972]

Given the rising popularity and need for CZM, an interdisciplinary periodical called *Coastal Management Journal* was formed (subsequently called *Coastal Management*) to aggregate the growing body of literature and research about CZM. This provided a common forum for exchanging ideas and formalizing the practice or CZM which exists now in both theory and practice, with each side critically tied to the other. Over time, the journal has become more cosmopolitan and offered a wider-ranging expanse of topics to interest the broader expanse of disciplines involved in CZM.

People seeking a livelihood related to the sea, a home near the sea, and companionship with the sea are all the essence of coastal zone management or CZM – managing people near the coast and how people use their coast. One definition for coastal zone management then is to "guide human activities in our coastal zone" as people "seek to do greater numbers of things in less time than before while consuming vast amounts of materials, energy, and space in the process." (Hershman, p. vii, 1973). The CZMA itself defines a *coastal zone management* program as a program that includes but is not limited to

> "a comprehensive statement in words, maps, illustrations, or other media of communications, prepared or adopted by the state in accordance with the provisions of this chapter, setting forth objectives, policies, and standards to guide public and private uses of lands and waters in the coastal zone." [US Coastal Zone Management Act, , p. 5, Title 16 USC, Section 1453 (Section 304 within) 1972]

In spite of its name, coastal zone management's broad collection of natural science disciplines disguises its true nature as a human-focused practice that, when done successfully, begins and ends with people. But to label it as a purely social science or policy instrument too narrowly confines the blended practice without embracing the intricate complexity of interrelated natural science disciplines that, in concert with cultural knowledge, have determined people's expectations about their coast. Managing the coastal zone is creating a structure that allows people to derive many uses from the coastal area while minimizing their impact on each other and the coastal environment itself.

But people use their coastline in many varied ways and the conflicts that inevitably arise need management strategies whose fundamentals are simple to grasp, integrate the dynamic complexity of coastal environments, and embrace the deep, almost-instinctive cultural attachment people have there. Indeed, such a unique place, valued to by so many for so much, is bound to suffer from too much adoration and too little regulatory attention. Thus, coastal zone management is the art of understanding and shaping human behavior in the context of a coastal society and its whole (natural and built) environment.

A dauntingly varied collection of people and livelihoods reply on the coast for needs ranging from direct economic survival to brief, occasional fun. Often without noticing a strong connection to coastal zone management, people depend on the ocean and coasts for a large portion of their direct food supply and as the sole source of other key ingredients in food, in a vast array of consumer products, for disposing wastes and accepting storm water from inland, and for simply being a basic component in a region's cultural identity. Coastal zone management directly touches many marine livelihoods like commercial and charter fishing, shipping and marine transportation, marine-centered tourism, and energy generation. With a less immediate dependency for people's livelihoods but still tied to coastal environments are the recreational and aesthetic value of coasts and beaches that provide a refuge and playground as no other landscape can.

Natural Setting

The natural setting in which mankind has sunk such a deep investment is wild and dynamic, with powerful natural systems of whose intricacies people still have only a basic understanding. Coastlines enjoy the natural abundance of both near-shore marine systems and near-shore terrestrial systems, and because of this confluence of nutrients brought by rivers from land and ocean currents from sea, they are the most biologically rich areas on Earth (Olsen 2003). In terms of species diversity and the amount of life concentrated in one area, coastlines are the world's most productive ecosystems (Olsen 2003).

At the same time that coastlines present a biological bounty, they face the relentless erosive effects of waves and winds from the sea as well as landward sediment starvation, wildfire, pollution, and the destructive effects of human development from the land. Because coastal conditions of weather, tide, sea level, and geological hazard change so frequently, the basic form of a coastline constantly changes. Living things accustomed to these seasonal or daily fluxes and sudden seismic changes adapt and become more resilient or succumb to overwhelming change. But people react differently to changes.

Confronting threats from the environment to homes, businesses, livelihoods, or even themselves, people attempt to blunt the force of waves or radically alter an estuary or beach or sand dune system to suit our relatively short-term needs. People confront a steady stream of challenges in trying to live and make a living from the coast. Fierce storms, damp climates, relentless wind or a harsh sun team up with stark natural variations in some fish

stocks, naturally occurring diseases, or invasive species on the coast mean that steady or predictable conditions for living or working are fleeting. When a temporary calm does settle along the coast, it often elicits a frenzied urgency to claim all that the ocean's resources would give before conditions worsened. Welded to the natural system of the coast is our elaborate attempt to add a built environment to the natural one.

Another facet of what makes the coast a dynamic management arena is the rapid change to the landscape that people make. Especially along the coast of California, Americans began to significantly alter parts of the coastline in the area around Los Angeles, San Diego, and in the San Francisco Bay. The Great Depression that affected the entire country and the Dust Bowl that particularly afflicted the lower Midwest farming region drove thousands of people to seek better living prospects in the West (Starr 2007). After World War II ended and several million servicemen returned home, existing population centers in California rapidly expanded, with economically well-situated coastal cities receiving many thousands of new residents. From July 1945 to July 1947 alone, more than one million people migrated to the state, while between 1940 and 1950 California's population grew by a staggering 53%, from 6.9 million to 10.6 million people (Starr 2007). The rapid influx of people suddenly settling in the state almost all at once quickly produced a severe housing shortage and overburdened road systems and most other fundamental infrastructure. In a state that was already steadily gaining population during the Depression because of its more diverse economy than states in the agricultural heartland, the end of World War II accelerated the pace of development along the coast. Coastal cities and towns expanded housing, roads, public works projects, manufacturing facilities, and the infrastructure needed to support it all. The rugged Pacific coastline that was already ever-changing because of natural forces soon added the disruptive, dynamic force of human development. This human force of change induced responses in the environment and in people that were becoming more inherently different by virtue of their sheer scale than seemingly occurred before. Moreover, people were in a much better position to react to their own human-induced environmental and social changes because they could quickly pivot their habits of living and behave proactively in a quickly-evolving setting along the coast. But the environment around them could not adapt so quickly and deliberately, and the effects on the state's coastal environment from human-driven change would soon become more apparent.

Human Setting

Until the mid-20th century, even in the more-developed parts of the generally more urbanized Western world, dense coastal concentrations of people and infrastructure where scattered along much longer expanses of fairly undeveloped and lightly-changed wild coastlines. Rivers acted as conduits for commerce, connecting industry and agriculture inland to maritime trade routes serving distant markets. Sea ports grew up at the mouths of major rivers and evolved as development nodes catalyzing cities and adjoining regions built near by. This pattern was well in place in the US, too. By mid-century, some of the most prosperous cities in the United States had grown up

along the coast – such as New York, San Francisco, Boston, and Los Angeles – although immense population changes brought on after World War II were about to transform American coastlines. At this short moment in time, their burgeoning regional populations and growing impacts on surrounding environments and communities seemed more atypical compared to the much larger expanse of long ocean coastline or interior of a large country like the United States. This sense of coastal urban settings being contained within a much larger and less developed overall space combined with society's often blithe disregard for environmental and social themes meant that there was seemingly little need to "manage the coast", or regard coastal zones as special places, or pay closer attention to people's effect on coastal environments.

But as coastal populations steadily expanded, beaches and shore communities changed to such a degree under pressures from relentless expansion that a growing number of people saw noticeable social and environmental effects. The increasing pace of houses and businesses springing up where people once enjoyed beaches, bluffs, or simple coastal views began to awaken an idea that the shared nature of the common coastal environment was becoming less shared by all and more owned by a few. Coupled with pollution and other environmental degradation to coastlines, people increasing disputed the way that coastal resources were treated, shared, and allocated. The social or human-centered nature of coastal zone management was born.

Coastal zone management evolved as a collection of narrowly focused or 'sectoral' management practices that were meant to manage usually one or sometimes several of many possible uses of coastal resources (Bremer and Glavovic 2013, Sivas and Caldwell 2008). These management practices were derived primarily from science-based research and knowledge accrued from the growing divisions of natural or Earth sciences. As one segment of a much larger total view, sectoral management focused on how best to manage one sector of the coastal arena, such as commercial and recreational fishing or energy production or port operations. Honing management practices to optimize a sector's performance and mitigate its adverse effects on a locale was the main goal of this early kind of CZM. But this view ignored the ways in which one sector of the total coastal zone quickly impacted another related sector and was biased towards the management of development rather than conservation or sustainability. Further, the paradigm treated one sector's issues in isolation from its neighbors' and both failed to anticipate problems that other sectors would face or advantages that other sectors could use in a more open-minded view of coastal management. The marine space and the coastal zone are in demand by many individuals, businesses, and public uses, so examining how one sector's use impacts another's in this highly prized and shared environment prevents redundant effort, time, and cost while raising the likelihood of success in a complicated operating environment.

Expanding CZM's Scope

Scientists and managers have fundamentally evolved their view of CZM in recent decades. The community of CZM contributors has expanded their awareness of what better-performing CZM must contain in order to succeed and how to assemble and use a much-expanded body of CZM knowledge. One of the most basic ways in which CZM has expanded beyond its earlier grounding in sector-based approaches and natural science is to draw social science and a more human focus into the mix. Before this, coastal zone management was already a blended mix of diverse disciplines containing oceanography, geology, biology, fisheries science, and planning among other fields. But first acknowledging and then capitalizing on the social science areas of economics, law, public policy, livelihoods, and sociology moved the field closer to the real-life way in which it could be applied - towards people themselves (Bennett et al. 2017). The second major way that CZM expanded was by merging the objective-based discoveries of the sciences with a fuller understanding of the audience that would actually use CZM. This merger made management practices more broad-minded and responsive to policy needs and the political realities of implementing them (Bremer and Glavovic 2013). This opening of the field soon extended to the kinds of knowledge and information stakeholders in a CZM issue considered to be applicable and valuable. Where before managers considered only knowledge based on natural science derived from an academic or technical background to be worth considering, increasingly practitioners saw the relevance of cultural knowledge gained from practical experience or indigenous tribal knowledge.

Having broken out of the confines of sector-based paradigms and armed with a broader view of valued information (science-based *and* culturally-based), scientists and managers could more effectively see the entire coastal ecosystem, not just a single sector or locale or information paradigm that shaped people's approach to coastal management. Crucially, the entire coastal ecosystem must encompass people - no other factor in coastal governance, conservation, or economy is as dominating as the people who interact with the coast.

The third broadening characteristic of an expanded view of CZM is including ecosystem-based management. EBM is an integrated management approach that views management decisions in how the issue and its array of details fit within the entire ecosystem and its many sub-systems, including human systems. It looks beyond a single sector, activity or issue to consider the cumulative impacts of different sectors on the ecosystem, with an overarching goal of maintaining a healthy, productive, and resilient ecosystem (McLeod and Leslie 2009). Finally, EBM orients this ecosystem goal towards people, seeking to provide these sustainable ecosystem services for people, thus forming a self-reinforcing feedback loop: people protect and manage a healthy ecosystem that provides them services. Ecosystem-based management is set in a location, and is often has a larger geographic extent than locally based or sectoral-based management constructs because ecosystems can cover hundreds or thousands of miles, crossing many governmental jurisdictions and boundaries. It is this unconventional way of

setting management boundaries and the extensively integrated nature of the system being managed – an entire ecosystem, its component parts, and people – that makes EBM such an appealing but difficult undertaking.

Ecosystem-based management examines a daunting array of variables through multiple points of ecological balance across large areas all at once. This highly integrated method is founded on the connections among scores of marine, terrestrial, and human factors; this web of connections is central to EBM (McLeod and Leslie 2009). Although EBM is based on the location of the ecosystem and defines its management system in part by the connections within it, the place and the connections occur over multiple scales, from a small beach or cove to the entire California Coastal Current stretching down the continental US West Coast. EBM also recognizes how the cumulative effects of many small or seemingly innocuous actions can have effects outside a single sector or across multiple sectors. Finally, EBM stresses that people derive a wide range of benefits from an ecosystem and so the many stakeholders in a management system will have different objectives oriented towards their own needs (McLeod and Leslie 2009). This inevitably requires making trade-offs and considering how various ecosystem services and objectives are related and how impacts to one affects many. Understanding how a coastal zone delivers these services and what affects this delivery process will enlighten our understanding of the best management decision at a given time. The sheer weight of so many connections and relationships among ecosystem items is the most potentially realistic and therefor valuable characteristic of EBM and the trait that makes it so dauntingly difficult to implement. How coastal zone managers actually manage the ever-shifting, ever-changing face of an entire ecosystem may be a task that requires methods that have not yet been conceived of let al.one attempted.

With CZM expanding into a form that more truly reflects how the coastline functions for all who depend on it, a better definition comes into view. Coastal zone management becomes integrated coastal management (ICM) when practitioners add the crucial, real-life elements of EBM, social science, and the hard-won lessons of traditional knowledge and non-traditional science. The California Coastal Act could be regarded as having some connections to EBM in the way it applies a broader, state-level standard of environmental quality instead of a small-scale local level view. The Act also follows EBM in that it regards the state coastline as fused system of people and environment instead of treating the two as separate units. Further, it offers that higher-quality management practices come from managing the state's coastal system as multipart "ecosystem" of people, their livelihoods and economy, and the environment that remains inseparable from the other two.

Politics and Law of CZM

Coastal zone management implies that there is a place, or a zone defined by boundaries. If people are truly the intended focus of CZM, then the fact that they have bothered to draw boundaries across land and sea to divide one area from another implies that there is something valuable and sought after in that area, which means a

political process will immediately follow to settle disputes. Thus, coastal management must be understood to occur within a political process (Beatley et al., 2015). Unique and valuable resources mixed with culturally cherished elements of place all woven into so many people's livelihoods mean that the inevitable clashes that follow will be resolved through governance of some kind. Contemporary state-lead CZM quickly becomes a political exercise with the expected blend of strong wills, influence, negotiation, and emotion among stakeholders. The political expressions of formalized CZM at the federal level have taken place in the role of the US Army Corps of Engineers (USACE) and through the US Coastal Zone Management Act of 1972 (CZMA).

The USACE is the primary American civil engineering institution for large-scale projects that have a significant regional or national impact on US economic or security interests (citation). These included projects like major dams, locks, dikes, breakwaters, and other flood control infrastructure. After the 1960s, the USACE added a role as major facilitator of environmental restoration projects because many projects to restore degraded areas of wetlands, coastlines, rivers, and tidal lands were near USACE projects or caused in part by the unintended or unmitigated effects of past USACE projects (citation).

The US Coastal Zone Management Act is the primary legislative instrument at the federal level to carry out coastal zone management nationwide. The CZMA was one of the products of the country's environmental movement that began in the 1960s and culminated in federal government form by Congress passing several major environmental laws, including the CZMA in the 1970s. Following the country's larger trend in recognizing both the worrisome trends in environmental damage to coastal environments nationwide (including the Great Lakes) and the federal and state governments' potential to deal with the problem, Congress wrote the Act to encourage coastal states to form their own CZM programs. If they did so, and their state programs met federal standards, states would receive several tempting incentives. First, the federal government would partially fund a state's CZM program and contribute funding towards environmental remediation and coastal preservation projects. Secondly, a state would receive technical support and research assistance from the National Oceanic and Atmospheric Administration (NOAA) to provide critical scientific background to a state's CZM program. Thirdly, a state would receive the unusually broad authority to review and potentially disapprove federal actions off a state's coastline that could potentially harm a state's coastline or be inconsistent with state management priorities. (US Coastal Zone Management Act, 1972). This consistency clause has become particularly important to a state like California that wants to limit the federal government's attempt to permit new offshore oil and gas drilling in federal waters beyond state waters. Thus, the federal CZMA encourages states to take the initiative in building a program that suits each state's needs and circumstances, as long as their program meets minimum federal standards. The idea is less prescriptive and more suggestive, in a nod to states determining the fates of their own coastlines while trying to raise all American coastlines to a minimum baseline of quality.

Integration and the Complexity of Fusing Issues

If the true focus of coastal zone management is ultimately people, then the most challenging and complex element of the task is facing a thick, unruly fusion of issues. Facing one or even several of the many issues and disciplines that comprise CZM requires skill and savvy, but to succeed in a complex social setting in a multi-variable natural environment is even harder. Integrating the many variables under a common management framework is an awesome task. On the landward side of the coast, consider zoning and land use policy near the shoreline, public infrastructure along the shoreline, the shore-based portion of port and harbor facilities both big and small, beaches and popular parks now considered important recreational destinations, housing in coastal districts, farming, energy generating facilities, and issues of land use and conservation in watersheds that feed coastal riverine environments. On the marine side of the coast, users and needs related to fishing and aquaculture, marine recreation such as offshore sailing, diving, and surfing, the marine-based side of port facilities such as navigation aids and ship channels, marine infrastructure such as submerged pipelines and cables, and others. Penetrating many of these land and sea issues along the coast are the compounding factors of Native American treaty obligations and rights, military needs, the jurisdictional friction of the many civil agencies responsible for coastal action, and the overarching environmental pressure to which people subject the coast every minute of the day.

Considering too few of these issues risks making important decisions without understanding the full extent of issues, but the true nature of the full extent is daunting. Unless one considers an integrated approach, the risk being overwhelmed or short-sighted increases. This paradox lies at the crux of the latest version of contemporary coastal zone management, one referred to as integrated coastal management (ICM) or integrated coastal zone management (ICZM) by some scholars and practitioners since the 1990s (Clark 1997, Meltzer 1998). The two program titles are the culminating idea in coastal management; that the best-known way to manage and govern a socio-environmental system such as the populated coast is through an orchestration of governments, individuals, and private entities loosely ordered under a broad plan of many sub-plans. ICM acknowledges the many variables at work: the moving and changing equilibriums of a coastal environment, the evolving social and economic backdrop of the human side of ICM, and the political and governmental work necessary for a region's ICM to continuously move forward. In the context of the arduous process of coastal preservation, former California Coastal Commission executive director Peter Douglas said, "The coast is never fully saved, it is always being saved" (Douglas, p. 7, 1999). This sense of ICM as an ongoing, always-progressing process mirrors Douglas' assertion about coastal preservation in California.

Thus, coastal management is best viewed as a science-based management discipline defined by both human dimensions and environmental specialties. It integrates social and economic factors with natural resource use and conservation in a holistic, all-encompassing way whose output should be both large-scale and small-scale plans and

actions derived from those larger-scale plans. The managers, stakeholders, and the coast itself function best when they integrate their resource needs under a common understanding of how they affect their resource

The Effect of Climate Change on CZM

While the challenge of coastal management is now apparent, another factor is complicating this unsteady setting. Climate change is the slowly disrupting force that is eroding coastal management gains and possibly amplifying the magnitude of management losses up and down the California coast. Worldwide, climate change manifests in several broad regional forms and even more smaller scale local forms, including climate and weather changes. Changes in conditions are occurring on land, in the ocean, in the stability of people's built environment, and in how people use governance, policy, and management tools with the natural environment. Along the California coast, these changes have a real effect today.

Climate and weather patterns in the state have changed noticeably in the last century, according to climate records (Bright et al. 2018). In the 20th century, average air temperatures in California rose approximately 1.8 degrees Fahrenheit, with average minimum temperatures increasing by an average of 2.2 deg. F and average maximum temperatures increasing by 1.3 deg. F. Extremely warm days, and especially nights, have become more frequent since 1950, with night time heat waves becoming noticeably more common since the mid-1970s (Bright et al. 2018). As air temperatures have increased, so has the energy demand that is required to cool indoor buildings during hot weather, leading to an increase in "cooling degree days". Well-known in the state during recent years is that California has also become drier as it has become warmer, which is apparent in precipitation records dating back 120 years. Paradoxically, as rainfall generally decreases statewide, severe storms and other extreme weather events have increased.

The most recent drought from 2012-2016 was the most severe since record-keeping began (Bright et al. 2018). Glaciers in the Sierra Nevada Mountains whose seasonal melt water supplies a significant portion of many municipal water plans have decreased dramatically. By 2014, several of the largest glaciers in the Sierra Nevada were, on average, about half their size compared to the beginning of the 20th century (Bright et al. 2018). The amount of water stored annually in mountain snowpacks, upon which the state depends for drinking water, has been highly variable but snowmelt runoff in spring has declined in last century (Bright et al. 2018).

Changes on land have paralleled climatic changes since the beginning of the 20th century. The area burned by wildfires statewide is increasing in tandem with rising air temperatures. Over the past 80 years, pine forests around the state have slowly begun to decline with smaller trees and oaks beginning to spread as water has become generally less available (Bright et al. 2018). These effects, coupled with corresponding changes in agricultural growing conditions and changes in animal and plant habitat conditions, are subtly but steadily affecting the fundamental makeup of the land.

Offshore, climate changes have occurred in step with changes on land. To people whose livelihoods or daily routines are removed from the marine environment, these changes to the coastal ocean have been much harder to appreciate. Looking beyond our contemporary human time reference to a larger geologic time scale, sea levels have generally risen worldwide and along the coast of California since the end of the last ice age about 18,000 years ago. Driven mostly by the melting of vast continental glaciers as the ice age ended, global sea levels rose dramatically from about 18,000 to 8,000 years ago at about 11 millimeters per year and then slowed to a global rate of about 1 mm per year thereafter (Griggs et al. 2017). This rate appeared to remain roughly steady until the 20th century when it began to rise. Measuring global average sea level rise using tide gauges is possible but is made more complicated by a range of regional land motion affects, ocean dynamics, and variations in the Earth's rotation and gravity. The result is a calculated range of global sea level rise of between 1.2 to 1.7 mm per year from 1900-1990 but a rate of more than twice that after 1990 (Griggs et al. 2017). Since the advent of satellite radar altimetry in 1993, measurements of absolute sea level (accounting for land subsidence or uplift as well as sea level rise or fall) show that sea level is rising 3.4 mm per year worldwide (Griggs et al. 2017). In California, all coastal reference locations used to measure local sea level changes have shown sea level increases except along the northern most extent of the state's coast where local tectonic changes have caused the land to uplift somewhat faster than the sea level is rising.

At the Local Level

Infrastructure that supports California's coastal population and some inland population, as well as its economy, is increasingly threatened by climate changes, specifically sea level rise. The state has the largest ocean economy in the US, valued at $44 billion in 2014. Many of the facilities and much of the infrastructure that supports the state's ocean economy lie within a few feet of the present day high tide line (Griggs et al. 2017). More than 4,600 miles of roadways lie within ¼ mile of the coast, and many more threatened roads lie behind levees in the Sacramento-San Joaquin Delta region. This expanse of threatened coastal roads includes major routes such as US Highway 101, State Highway 1 (the Pacific Coast Highway), Route 92, and a number of heavily used road bridges (Hanak and Moreno 2008).

The coastline is dotted with many small harbors and several large seaports, including the two major industrial sea ports of Oakland and Los Angeles-Long Beach. The port of Los Angeles-Long Beach alone handles approximately 44% of all shipping container traffic in the US (Hanak and Moreno 2008). Both major commercial ports are vulnerable to predicted levels of sea level rise that are well within likely sea level rise scenarios cited in recent highly credible scientific studies (Hanak and Moreno 2008). In addition to sea ports, the major airports that serve San Francisco and Oakland are both built on the shore of San Francisco Bay, partially on landfill, and

vulnerable to sea level rise today. Looking farther ahead, San Diego's major airport is built slightly higher but could be threatened if sea level rises to the more extreme end of the possible range.

At the coastal zone, shifts in California's natural and built environment driven by global climate change will likely drive how CZM governance changes to accommodate these fundamental shifts. Some observers of policy conclude that climate change will reinforce the management trade-offs (compromises of people, economy, and environment) that are already present (Hanak and Moreno 2008). Perhaps because the current political and practical system of CZM already requires difficult choices about uses and priorities for coastal development and conservation, a setting in which this calculation becomes harder as conditions change could make compromise and negotiation even more important. In 2015, California's state government implemented three new requirements to include climate change considerations in state- and local-level planning. Governor Jerry Brown signed an executive order that directed state agencies to factor climate change into their planning and investment decisions[2]. This followed the state senate passing a law earlier that year requiring local governments to incorporate climate adaptation and resiliency strategies into their General Plans. Finally, the state senate passed a law to coordinate local and state climate adaptation strategies under one program called the Integrated Climate Adaptation and Resiliency Program under the governor's Office of Planning and Research (Hanak and Moreno 2008).

Even more than population growth and pressure from development interests, climate change is perhaps the greatest policy challenge facing coastal managers (Lester 2103). Few issues have such deep ramifications for how people live, work, and use their environment yet offer so few politically appealing solutions as climate change and its glaring symptom of sea level rise. Making the problem worse is that climate change and sea level effects do not easily appear on the short time scales that people typical gauge their actions by, thus remaining insidiously invisible in spite of its enormous implications for society and the environment. The overall effect of climate change on coastal zone management - through sea level rise alone - will likely be to add urgency to collaboration among stakeholders while complicating the work of planners and governments across all levels of governance.

[2] CA state Assembly Bill 2800 passed in 2017 also mandates that climate change effects be considered in state planning for infrastructure projects.

"The coast is never really saved, it is always being saved" - Peter Douglas

Chapter 2 California's CZM - the Coastal Commission

The way that California chose to implement coastal zone management was driven by wide-spread concern over rapid, insufficiently regulated coastal development on a famously beautiful and beloved coastline. After several decades in the 20th century in which dramatic population growth and industrialization reshaped the state, California created what some regard as among the strongest coastal zone management programs in the world to help preserve its treasured coast (Osborne 2014).

Conditions that Created the California Coastal Commission

By the time California policy makers and legislators enacted meaningful state coastal zone policy in 1965, the state was well into its fourth decade of unprecedented growth - and changes along the coast were apparent. Responding to stark fears of over-development, the state legislature's McAteer-Petris Act created the San Fransisco Bay Conservation and Development Commission (BCDC), the first coastal zone management body in any US state or the country (various, California State Legislature, 1965) Its main job was to regulate development along the edge of the bay and conserve the dwindling natural resource that the San Francisco Bay had become. Decades of poorly regulated and haphazardly conceived development and rampant pollution had seriously degraded water quality, and virtually all aspects of the bay ecosystem. Steady development beginning in earnest after the Gold Rush of 1849 had filled in over two-thirds of the wetlands and marshes that ringed the bay (Osborne 2018). The BCDC would become both a successful CZM body in its own right and also one component of a much larger CZM effort in California.

California's road to coastal management policy was set in motion by a rapidly expanding population and huge civil infrastructure projects that were in full force by the 1930s. This decade laid the foundation for post-World War II development and population growth with corresponding changes to the coastal environment and set the tone for even more drastic growth and changes in subsequent decades. This early setting created the conditions in which the environmental movement and formal coastal zone management would be born in the 1960s.

The state's population boomed in the first few decades of the 20th century, from 1.5 million in 1910 to 5.6 million in 1930 (Starr 2005), helped along by rapid industrialization and expansion of a diverse set of business sectors. By the 1930s, the state was in an enviable economic situation whose pace of growth the Great Depression slowed but did not halt. California rode through the Depression with more resilience than other parts of the country in part because of the sheer diversity of its truly multi-sector economy and the stimulus of huge public

works projects. Many major industries growing and prospering at this time spurred networks of smaller supporting businesses to serve them, creating a web of economic strength in major population centers of the Bay Area, Los Angeles, and San Diego.

The 1930s - Laying the Groundwork of Infrastructure

Industry diversity was a hallmark of the California economy in the Depression. An oil and gas boom that had begun in the 1920s in southern California made the state one of the nation's and the world's leading suppliers of petroleum products. The state's agriculture industry steadily grew, with agricultural productivity the highest in the world in the years between the two world wars (Osborne 2014). The nature of the state's agriculture industry changed, too, with a shift from smaller-scale family farms to huge, large-scale 'agribusinesses'. Dairy farming grew quickly until by the 1930s, until only Wisconsin and a few neighboring Midwest states produced more dairy products than California. The famous film and radio industry had cemented itself in southern California by the 1930s which would give the region a leading advantage over other possible locations in consolidating the growing media industry when television arrived in the early 1950s.

With two large natural harbors anchoring its long coastline and abundant stocks of many types of fish and shellfish, the state's maritime industry was a major economic driver. San Francisco was America's busiest port on its western shoreline in the 1930s and salt water fisheries in California were among the most productive in the world (Osborne 2014). Automobile production and the nascent but growing aircraft manufacturing industry rounded out the state's major economic sectors, but this broad state-wide economic flourishing was enabled in large part by huge public works projects that helped propel the state to the forefront of national prominence and set the stage for further population growth and even more high-impact development in the coming decades.

As historian Kevin Starr wrote, ambitious large-scale public works projects supported by state and federal funding provided the infrastructure that, in effect, completed the state's development. In a region with relatively dry or even arid expanses of open space, a rapidly growing population with large urban centers, and the need for electricity and jobs during the Depression intersected in the form of major water projects in the 1930s. From a population of 319,000 in 1910, by 1930 Los Angeles' population had exploded to over 1.2 million and had become America's fifth largest city (Starr 2005) thanks in part to such projects. With the eager support of President Herbert Hoover, the largest dam in world at that time was constructed in southeastern California from 1931-1935 which provided the water and electrical service foundation for the next wave of southern California's industrial expansion during World War II and the Cold War (Starr 2005).

Another immense water project harnessed two major rivers in central and northern California to supply irrigation water and stable farm land to the ever-growing agriculture industry and drinking water and more electricity to people in the region. The Central Valley Project began construction in 1935 and dammed the Sacramento River

and the San Joaquin River with two huge dams each. The complete network of dams, reservoirs, canals, pumping stations, and power plants organized the Central Valley of California into one grand integrated water system when it was completed in 1949. This more reliable water and electric network supported towns, farms, communities, cities, and the overall growth of the state and people generally embraced this growth in a symbiotic way that perpetuated even more growth.

Like the rest of the country, the large state of California and its widely dispersed population centers happily embraced the car. As cities and smaller communities grew, so did the number of cars and road infrastructure in the state. By 1933, streetcar usage in Los Angeles was half of its peak year of usage in 1925, and in 1935 its usage rate was halved again (Starr 2005). In northern California, two huge public works projects transformed the San Francisco Bay Area's road network in the 1930s. With strong support from President Hoover and the federal Public Works Agency, the San Francisco-Oakland Bay Bridge linked the two largest cities of the Bay Area at a cost of $77.2 million which, at its completion in November 1936, made it one of the most expensive public works projects in the country. In tandem with the Bay Bridge, construction crews built one the most iconic bridges designs in the world to link San Francisco with the north coast of the state with the Golden Gate Bridge (Starr 2005). When the Golden Gate Bridge was completed in April 1937, it finished the process of linking the city to its surrounding counties by road and bound the Bay Area and its people more closely together with easier, more convenient transportation. Even as the decade of the 1930s established the basis for California's 20th century expansion, the decades that followed hungrily gathered that economic and development momentum and accelerated even farther.

The 1940s and 1950s - Immense Growth from War

During World War II, the state mobilized its already vibrant economy, its work force, and its infrastructure for the Pacific conflict against the Japanese. By 1943, the San Francisco Bay Area emerged as the primary site of the military's command center and port of embarkation for the Pacific campaigns of World War II. In 1942, the War Department bought the 122,798 acre Rancho Santa Margarita y Las Flores and its 18 miles of coastal shoreline in San Diego County for an advanced Marine Corps training base (Starr 2005). The enormous ranch that included the estuary at the mouth of the Santa Margarita River became the Marine Corp's Camp Pendleton and today is the largest Marine Corps base in the western US. By the war's end, more than 1.6 million military personnel passed through the Bay Area on their way to the Pacific Theater. All told, the military bases, shipyards, and factories that built materiel for the war effort, a huge influx of new workers from out of state, and the shear number of troops passing through helped further transform the state by adding yet more infrastructure and gradually changing coastal environments with development.

Between 1940 and 1950, the state's population grew by a staggering 53%, from 6.9 million to 10.6 million people. When World War II finally ended in mid-1945, troops returning from war in Europe and the Pacific began

to settle back in their home towns, or else looked for an appealing or familiar place to begin their post-war lives. California absorbed hundreds of thousands of incoming residents returning home from the war or moving in from out of state. In August 1948, Governor Earl Warren admitted that under the weight of so many new immigrating residents, the physical and social infrastructure of the state was being overwhelmed. The state government responded by committing tens of millions of dollars for improvements to parks, schools, public health, higher education, and most strikingly, $1 billion over ten years to expand and improve the state highway system (Starr 2005). On top of the development foundation laid in the 1930s, the layer of expansion and infrastructure statewide in the 1940s capitalized on the previous decade's: new roads, bridges, dams, power plants, and the gradual but relentless expansion of towns that flourished because of these public works projects enabled the state to support the country's massive efforts in World War II. In so doing, these two layers of decadal development begat even more to come in the Cold War.

Cold War Growth

As an economy and population resource, California met the Cold War head on, with a population and infrastructure system already primed from its success during World War II. Although the national post-war draw-down of the late-1940's was also affecting California, when the Korean War (1950-1953) and simmering hostilities with the Soviet Union evolved into the Cold War, California's economic development pushed it into a leading role. The new aerospace industry with shipbuilding, electronics, and other heavy manufacturing companies were joined by hundreds of supporting businesses into a military-industrial sector that was unparalleled in the country. Together with a strong and still-growing university system with research ties to the Defense Department, the state's formidable ties to the country's defense needs only grew stronger. For example, in the mid-1950's, Los Angeles County alone had more than 40% of all aerospace contracts in the country. Research and policy institutes like the Rand Corporation of Santa Monica, CA were engaged in most of the defense-related research in partnerships with college campuses around the state (Starr 2005). By 1960, 25% of all American defense expenditures and 42% of Pentagon research contracts went to companies and universities in the state (Osborne 2014).

It is easy to see how such an economic boom would lead to a boom in housing and the vast infrastructure needs that would follow a housing boom. Development pushed ahead and the tract housing boom began, first in southern California with the Lakewood development near Los Angeles and then spreading to other population centers. Farmland and undeveloped land near existing communities and town was ripe for the taking. As an example of such quick, impactful growth, 10 miles southeast of Los Angeles, Lakewood arose from a former beet field in 1950 and within three years, was a tract house community of 70,000 people. Developers partnered with the Los Angeles country government for municipal services in a successful arrangement that became a model for other low-cost housing developments and municipal service arrangements throughout the state, notably in

southern California and the Santa Clara Valley of the Bay Area (Osborne 2014). This relationship between local governments and housing developers produced thousands of units of relatively affordable housing that benefitted many, but often was conspicuously unavailable to non-white buyers.

From the 1930s into the late-1960s, California developed in successive waves of immense building development and structural changes to its economy and population. Coastal urban areas such as San Francisco, Los Angeles, and San Diego developed outward into sparsely development scenic areas and farmland surrounding them. Watersheds that feed rivers flowing down towards coastal urban centers often changed, too, with housing, roads, businesses and other human activity encroaching into habitats and open lands that were previously little noticed by most of the public. But decades of relentless development throughout the state, but especially in coastal zones, took its toll. The wild success of development in the three large urban centers of San Francisco, Los Angeles, and San Diego helped lead the way in propelling California out of the Depression. Combined with the way that the state played such a decisive role in World War II and became the dominant setting for Cold War defense often came at serious cost to the public's use of coastal public space in these three prominent areas.

Deteriorating Environmental Conditions and the Call for Coastal Conservation

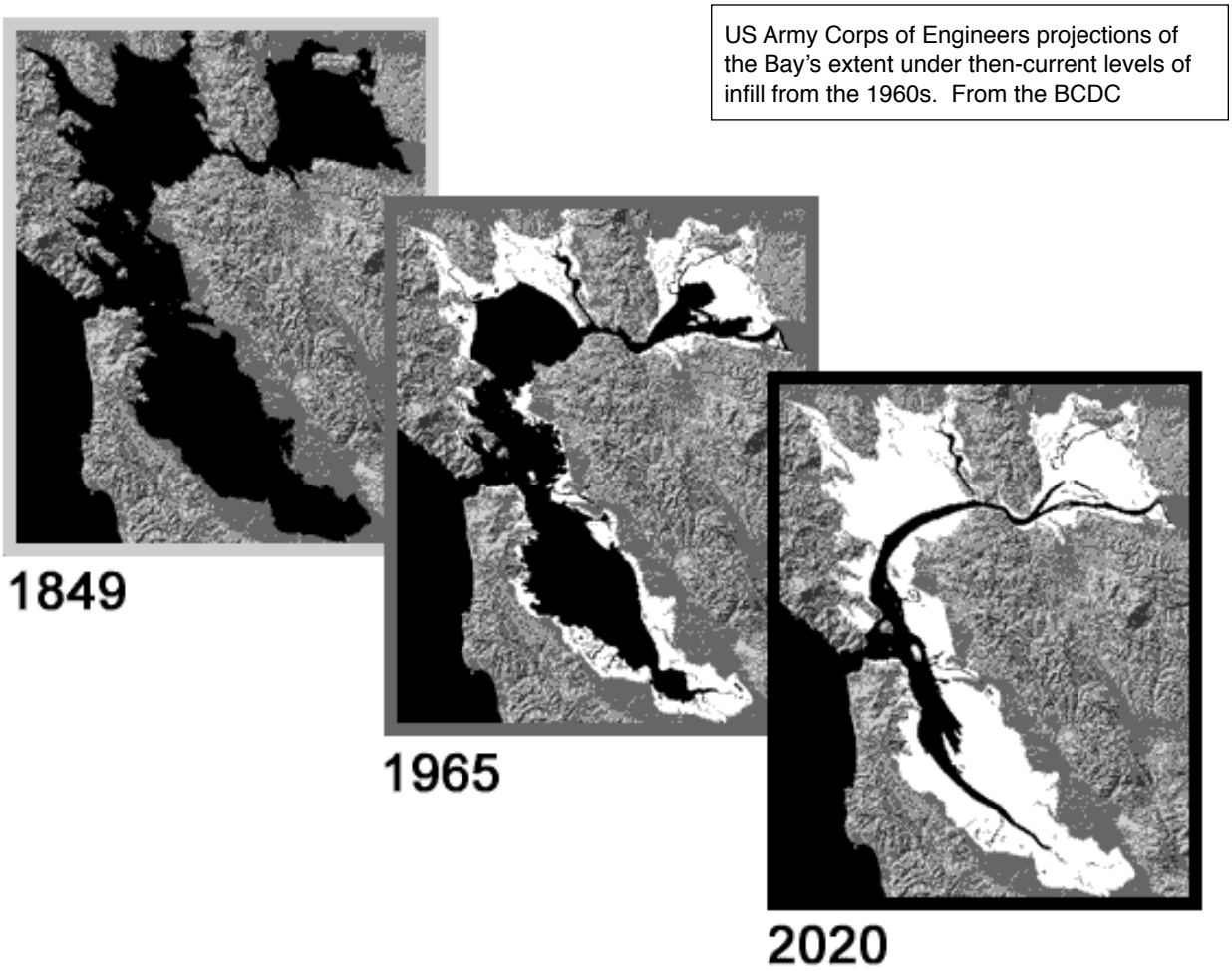
Since achieving statehood in 1850, the California has lost 90% of its coastal wetlands and almost every major river in the state has been dammed (Vermillion 2014). Along its famously beautiful 1,100-mile coastline, seaside towns grew larger, roads became more extensive, and general prosperity allowed more private homes and businesses to sprout where before only beachgoers or those engaged in marine endeavors would venture. Population growth and affluence pushed or pulled more and more people to stake a claim to a piece of the coast or its natural resources, such that by the 1960s, people concerned about the changing look and feel of the state's coastline began to realize that real, irrevocable change was happening. As the country underwent larger cultural changes in the 1960s such as the civil rights movement, concern over the Vietnam War, and ever-present tension of the Cold War with the Soviet Union, looming environmental issues began to grow more prominent in the nation's consciousness.

In California, the deteriorating state of the coastline and broader environmental issues in general began to attract real attention in the 1960s. Even before this, the state's government had a fleeting interest in coastal and ocean issues, driven primarily, it seemed, not from conservation or preservation concerns but from economic concerns. Declines in the prized sardine fishery in coastal waters off Monterey, CA had caught the attention of the state legislature. In 1947, the legislature sponsored an unusually forward-looking study of the ecology of biologically rich Monterey Bay to determine how the fishery was affected by changes in the bay's total ecosystem (Sivas and Caldwell 2008). In a nod to concepts that decades later would be termed 'ecosystem-based management', the

study's authors emphasized that simply examining the bay's condition from the standpoint of fishing yields and not through a more encompassing, holistic view would mischaracterize bay conditions and overlook other important factors in the bay's health, including the role played by people (Sivas and Caldwell 2008). Unfortunately, the strikingly modern view of ecosystem-based management was not implemented as management practices and the sardine fishery in Monterey continued to rapidly decline within a few years (Sivas and Caldwell 2008).

The first group of people to organize to try to slow rampant, unregulated coastal development and protect at least part of the state's shoreline was a group in the Bay Area responding to the slowly disappearing San Francisco Bay. Since the 1850s, the size of the bay had decreased by one-third as development and fill dramatically encroached on the bay's shoreline. In 1959, a US Army Corps of Engineers study predicted that the current pace of fill and development would fill in the bay until it became virtually a broad river instead of the largest estuary on the US West Coast (Figure 1, Osborne 2018).

Figure 1 - Projected Infill of the San Francisco Bay



US Army Corps of Engineers projections of the Bay's extent under then-current levels of infill from the 1960s. From the BCDC

A prominent group of wives of University of California (UC) Berkeley faculty were both alarmed by such reports and able to channel powerful influence against this environmental degradation. Led by Kay Kerr, who was married to UC president Clark Kerr, a small group formed the advocacy organization "Save The Bay" in 1961 which quickly grew from a small group to over 2,500 members by the end of 1962 (Osborne 2018).

Drawing the attention of local like-minded state legislators, Save The Bay attracted the attention of two powerful state assemblymen who took action. J. Eugene MacAteer and Nicholas C. Petris produced the McAteer-Petris Act in 1965 which formed an official state study group that eventually became the San Francisco Bay Conservation and Development Commission (BCDC). The BCDC was the nation's first coastal development regulatory body, and was empowered by the state legislature to study the overall health and development status of the bay, draft a plan to regulate the bay as an overall environment across county and municipal lines, and then apply standardization in development and conservation by issuing building permits for new development projects within the BCDC's jurisdiction (McAteer-Petris Act 1965). The Act created the BCDC to be a temporary organization, but the law was amended in 1969 to make the BCDC a permanent agency.

In addition to the local Save The Bay movement, the 1960s showed other ways in which coastal issues were starting to capture the minds of the public and the California state government. Governor Edmund G. "Pat" Brown convened a conference in Los Angeles in 1964 called "California and the World Ocean" to examine the condition of the California coast. From this conference, Brown established the Governor's Advisory Commission on Ocean Resources which was somewhat reorganized in 1967 under Governor Ronald Reagan (Osborne 2018). The commission met a handful of times but appears to have produced only some unknown contribution to the forthcoming Marine Resources Conservation and Development Act. Several bills in the state legislature in the mid- to late-1960s were proposed to address coastal development and environmental issues, but none received serious consideration except for one in 1967 (Squire and Scott 1984). Reacting to the deteriorating condition of coastal fisheries in and near state waters, the legislature passed the Marine Resources Conservation and Development Act (MRCDA) of 1967 which required the state to develop a comprehensive ocean area plan and set up a commission to determine how the results of the plan would be implemented (Squire and Scott 1984, Sivas and Caldwell 2008). A plan was created, but did not result in effective coastal or ocean management at the state level. (Sivas and Caldwell 2008).

In the near-total absence of formal coastal management policy in the US, the creation of the BCDC and the Marine Resources Conservation and Development Act in the mid-1960s were two small but significant parts of a growing movement at the national, state, and local level to change the status quo of coastal development and environmental awareness. Neither the BCDC nor the MCDCA achieved what a broader and stronger state-lead

coastal regulation could, but each provided stimulus for better coastal governance to come. California and the federal government would each build on these early steps, with progress in creating and then implementing effective policy coming slowly but determinedly at both levels.

Perhaps the strongest part of the McAteer-Petris Act that helped stabilize haphazard development policy around the San Francisco Bay was its requirement for a permit for any new development that would impact the quality of the bay. Scorned by developers, county governments, the building industry, and others who wanted to preserve the status quo, a permit requirement has proven to be the strongest tool available to ensure that development plans conform to meaningful environmental standards. At the time, many who observed the local-level BCDC and the lack of California's state-level coastal policy saw a greater role for something like the BCDC. Its traits of imposing uniform environmental standards for developments along the coastline, guarantees for public access to the coast, and the strength of being a pseudo-independent agency were attributes that a state-level coastal management agency urgently needed (Osborne 2018). The push was on to create a state agency to do for the entire California coastline what the BCDC was doing for the San Francisco Bay. Several failed attempts in the legislature to pass a comprehensive coastal management act led to the organization of a citizens initiative ballot measure in 1972 to create the coastal regulatory and management agency that the legislature could not bridge political divides to create. The result of this effort would be the pubic's passage of Proposition 20 in 1972 that did just that, followed four years later by the California Coastal Act of 1976 which cemented the temporary agency into permanent form.

Federal Catalyst

In parallel with California's attempt to legislate coastal zone management in the early-1970s with a strong law, the US federal government developed its own law to help American shorelines at the national level. The US Costal Zone Management Act of 1972 (CZMA) was enacted in a version of the same public awareness of environmental concerns at the national level as California's Proposition 20 was at the state level. The public's eye was increasing drawn to alarming environmental incidents such as oil spills, obviously inappropriate development in natural areas, noxious pollution discharges, acid rain, commercial whaling, and noticeable declining changes in populations of once-common species of wildlife. Environmental issues and causes broke through a formerly hard barrier of public perception and official recognition to take their place at the legislative table beginning in earnest in the late-1960s. By 1970, this resulted in many new laws at the state and federal level to try to contend with the causes and the effects of environmental damage while stopping short of directing solutions that noticeably encroached on economic conditions (see Table 1).

Table 1 Significant Federal and State Laws Influencing CZM in California

California state law		US federal law	
Marine Resources Conservation and Development Act	1967	Rivers and Harbors Act	1899
Environmental Quality Act	1970	Outer Continental Shelf Lands Act	1953
Coastal Zone Conservation Act (Proposition 20)	1972	Clean Air Act	1970
Coastal Act	1976	Clean Water Act	1972
Ocean Resources Management Act	1989	Coastal Zone Management Act	1972
Marine Life Management Act	1998	Marine Mammal Protection Act	1972
Marine Life Protection Act	1999	Endangered Species Act	1973
Marine Managed Areas Improvement Act	2000	Coastal Barriers Resources Act	1982
Ocean Protection Act	2004	National Environmental Policy Act	1970

The CZMA was the initial legislative enabler of coastal zone management where political considerations and legal custom dictated that it could best be done - at the state level. (Knecht 1973) Considered a law ahead of its time, the CZMA attempted to incentivize coastal states to achieve the difficult balancing act of managing competing uses for coastal land, seas, and resources in a comprehensive way (Ranson and Wall 2019).

The federal act offered coastal states appealing incentives to make their coastal zone management programs meet a minimum federal standard of conservation, coastal land use planning, public access to coastlines and beaches, and environmental quality. Once a state drafted its coastal management plan to these standards, the National Oceanographic and Atmospheric Administration (NOAA) would certify the state's program and grant a state several important incentives. The first and most significant is a state's ability to examine a federal action proposed in federal waters outside a state's jurisdiction and deem it inconsistent with that state's coastal plan. Thus a state would have the rare opportunity to have the final word in a question of federal environmental use - a significant and powerful tool to ensure that development of highly impactful facilities or structures or simple actions by federal agencies remain consistent with a state's own coastal management goals. Secondly, NOAA provided states with funding, technical expertise, and coordination inroads with the array of federal agencies who can affect a state's coastline. NOAA's sponsorship of states' coastal management programs through these powerful incentives created coastal program equipped to address states' individual challenges at the state level of policy, where it can be both uniform and standardized at a moderately broad level, at the state level rather than the local level. Alternately, this policy level is also effective because many land use issues have traditionally been viewed as being the prevue of states more so than the federal government.

Once the CZMA was passed in 1972, coastal states began the process of creating their programs and at the same time, California affirmed, through the hard-fought Proposition 20 initiative, its intent to make a strong coastal program. California's coastal program was quickly distinguished by two prominent traits. The first was its state-wide requirement for new coastal developments to receive a permit from the newly created California Coastal Commission. The second was the prominence of one man in writing the law, forming the policy that resulted from the law, and then leading the agency that managed the policy - Peter Douglas.

The Proto-Commission

Peter Douglas was a young lawyer, recently graduated from UCLA law school, when he was hired in 1971 by California state assemblyman Alan Sieroty to draft the citizens' initiative that became Proposition 20. Assemblyman Sieroty had previously sponsored a bill (AB 1471) in the state assembly to supplant local control of shoreline area land use with uniform state-level control under the authority of a new coastal commission (Osborne 2104). This bill passed the lower house but failed to surmount strong opposition in the state senate from interests aligned with real estate, the building industry, energy and oil companies, railroads, the association of counties, and other groups. But growing public support at the state and national level in favor of environmental issues and the accumulated effect of several aligning factors favored Proposition 20. These factors included changing attitudes from deep societal changes in the 1960s, the convergence of California's surfer culture and counter-culture movement, the Bay Area conservation movement, growing concern over public access to beaches near residential developments, the catastrophic Santa Barbara oil spill, and the growth of organizations committed to protecting natural heritage (Osborne 2014). In spite of being outspent by opponents by almost 100 to 1, Proposition 20 passed in November 1972 by a considerable margin, essentially delivering the state's CZM program straight from voters and bypassing stalemates and maneuverings in the state legislature.

Together with another legislative aide, Douglas wrote much of the language in the successful initiative. Specifically, the initiative established several landmark policies in one sweeping law. It created the State Coastal Zone Conservation Commission (the predecessor to today's Coastal Commission) and six smaller regional commissions, required a comprehensive coastal zone management plan to be drafted and sent to the legislature for review, established a building permit area in the coastal zone from the mean high tide line to 1,000 yards upland, prohibited new development in this coastal zone area without a permit from the Coastal Commission or a regional commission, prescribed the standards for receiving a permit, and appropriated $5 million for the program for the period 1972-1976.

Importantly, the new agency commissioners would be appointed by three different bodies in order to lessen the chance of being politically dominated by a single appointing body. Commissioners from the state and regional commissions would be appointed by the governor, the state senate rules committee, and the state assembly. But

Proposition 20 gave this considerable statewide effort in CZM a temporary status, expiring in 1976 unless renewed or made permanent by law later on. The requirement for coastal zone development permits was perhaps the strongest and most important element of the new law, and a tool patterned after the BCDC's successful use of permits in the San Francisco Bay Area. Additionally, sourcing commissioners from three different state government bodies was instrumental in helping the commission fend off inevitable attempts to unfairly shape the commission, as well as other political challenges that would quickly arise (Osborne 2018). In late 1975, Douglas and others finished drafting the coastal plan which made 162 recommendations for coastal management and submitted it to the state legislature. There, it was immediately attacked as being too favorable to environmental interests at the expense of economic growth. Nevertheless, Governor Jerry Brown signed the plan after the legislature approved it and the coastal plan became the basis for the subsequent 1976 California Coastal Act, which passed with bipartisan support of the legislature and cemented the landmark policy moves of Proposition 20 as permanent (Osborne 2014 and Diamond et al. 2016).

Douglas remained at the center of coastal policy in California form the early 1970s onward, until his death in 2011. His imprint was on Proposition 20 and even more so the Coastal Act of 1976 for which he was the primary author (Osborne 2018). He worked as a legislative aide, a liaison to the legislature to help organized and form the early Coastal Commission after Proposition 20 passed, and then was the lead author on the Coastal Act. He would eventually become its strongest and most outspoken executive director. In these ways, Douglas' talents grew from being a competent lawyer to being an astute political operator and an administrator, accomplishing much as he formed a new coastal land use ideal and a state agency from its inception. His personality, charisma, and talent would leave a profound mark on the new commission and on CZM in California. At the same time, he would guide the commission through lengthy court battles and political infighting among commissioners, staffers, the legislature, and the public as the state coastline grew increasingly pressured from several sides (Osborne 2018).

California's CZM Framework

The federal government, through NOAA, approved the California Coastal Management Program (CCMP) in 1978 (Schwarzenegger n.d.) which consists of three main parts. The first part is the Coastal Commission, headquartered in San Francisco and having six satellite offices along the state coast and in the state capital of Sacramento. The second part is the State Coastal Conservancy whose job it is to acquire and develop land to implement a system of public accessways to and along the state's coastline (Lester 2013, from the California Public Resources Code section 31400-410). The third part of the CCMP is the San Francisco Bay Conservation and Development Commission discussed above, with a mandate and policy practices similar to the larger state Coastal Commission. Together, the three state agencies are the CCMP and provide the strategic backbone of CZM in the state while working with

numerous other local, state, and federal government agencies as well as private citizens, businesses, and non-governmental organizations.

The BCDC has been largely successful in regulating poorly planned and uncoordinated development in the Bay since its first Bay plan was adopted in 1969 (Lester 2013). From an initial focus on reducing infill of the bay's shoreline and applying a balanced conservation-minded approach to development, the BCDC has since expanded its work to face more resource management challenges and climate change. Since its creation in 1976, the State Coastal Conservancy has helped to shape the coastal landscape by acquiring land for use as public parks, beaches, and other open space. The Conservancy also implements statewide resource plans and provides technical support and grant funding to carry out projects by local communities, businesses, non-profit organizations, and private landowners (California State Coastal Conservancy blog 2019). But of the three CCMP components, it is the Coastal Commission that has faced the most challenging legal and procedural battles and had the widest impact in CZM in California. Moreover, the Coastal Commission and the Coastal Act of 1976 that established its permanent course have had a national and global impact well beyond California's borders.

The Coastal Act imbued the California Coastal Commission with several pioneering, important attributes, but the Act also set a high bar for collaborative, comprehensive coastal governance. Beyond establishing the Commission as a permanent body and enacting a permit requirement, the Act reaffirmed Proposition 20's strong emphasis on ensuring public access to the coast. Both maintaining existing access and enhancing access to the beach and shoreline were a priority, as was protecting and conserving coastal resources (Diamond et al. 2016). The Act protected an impressive array of resources that reflected the broadening conservation and social values of the time: wetlands, sensitive plants, animals, and habitats, views, and aesthetic values. The Act also emphasized careful long-range planning of proposed development along the coast and that development priority would be given to uses that directly depended on the coast such as fishing and other marine businesses. Significantly, the Act also emphasized the inherent need for citizens to be involved in shaping coastal zone policy and the Commission's work in order to keep the process close to the public that the Act was intended to serve.

Local Rule

Unlike Proposition 20's strict use of a state-level commission for all permitting, the Coastal Act delegated most planning and permitting to the local level under local coastal programs (LCPs). The Coastal Act found that "to achieve maximum responsiveness to local conditions, accountability, and public accessibility, it is necessary to rely heavily on local government and local land use planning procedures and enforcement" (California Coastal Act of 1976). In practice, the Coastal Act and the LCP's that implement it require public agencies and private individuals to obtain a coastal development permit to build or significantly alter a structure in the coastal zone. A structure could be a building, a road, or parking lot on land, or breakwater, pier, or other structure offshore. If the

Figure 2 - Example of the Variable Extent of the Coastal Zone

development changes the characteristics of the coastal area or somehow impacts the coastal area in a significant way, the developer - whether a public or private entity - must obtain a permit from the local jurisdiction or in some cases, the Coastal Commission itself. The process of obtaining a permit generally forces the project plan to conform to a standard that ensures a satisfactory level of environmental conservation and consideration for public benefits such as beach access and environmental preservation.

This recognized the value of solving a local problem at the local level and was a policy move that helped deflect some of the tendency of property rights and local "home rule" advocates to believe that higher level regulation was inappropriately matched to local land use issues. Thus, a local coastal jurisdiction and its LCP would dictate most development, except in major projects with larger state-wide impacts or on contentious local issues that were elevated on appeal to the state Coastal Commission. Coastal counties and cities must write and submit a local coastal program to the Coastal Commission for approval, and once approved, LCP's become the driving force in coastal development (California Coastal Act of 1976).

Most LCP's were written and approved in the 1980s and 1990s, and by 2013, 61 of the 76 coastal counties and cites that are required to submit an LCP, had done so (Lester 2013). Looking more closely, coastal communities often chose to divide their LCP into segments that cover different geographic areas of their particular jurisdiction. The Coastal Commission must then certify each LCP segment similarly as it would the entire LCP. As of June 2018, the Coastal Commission had approved 93 of 126 LCP segments (73%) covering 87.5% of the total land area potentially under the purview of an LCP (California Coastal Commission 2018). The remaining unfinished LCPs are for areas extending up and down the coast but are predominantly in the southern part of the state (see Table 2).

Table 2 - Communities Still Working on Initial LCPs

Communities and their uncertified LCPs or segments thereof		
Del Norte County (1)	City of Los Angeles (6)	City of Aliso Viejo
City of Fortuna	City of Santa Monica	City of San Clemente
Mendocino County (1)	City of Hermosa Beach	San Diego County
San Francisco City & County (1)	City of Torrance	City of Carlsbad (1)
City of Monterey (5)	Orange County (3)	City of Solano Beach
City of Pacific Grove	City of Seal Beach	City of San Diego (1)
City of Goleta	City Huntington Beach (1)	City of Costa Mesa
	Los Angeles County	

Coastal communities may not have completed an LCP for several reasons, related mostly to time, demand, and difficulty. If a community had not made significant progress on its LCP in the first decade of the state's coastal program, there was significantly less federal and state grant funding available to give to local communities to finish. Also, some coastal segments are small and there is little local demand for coastal development permits (CDP), thus placing an insignificant demand on local governments to create an LCP.

Thirdly, the planning and negotiating process can be extremely difficult and involves many stakeholders with starkly opposing views of LCPs in general, let al.one the many details of one (Lester 2013). Still, almost three-quarters of the coastline is covered by an LCP representing local decision-making authority with a high rate of CDP approvals. This shows the value of distributed, decentralized CZM governance in effect along the California coast: the federal CZMA proving the overarching background and support, the state Coastal Commission setting basic policy standards, and local communities executing the policy at the most direct level of governance. One concerned citizen or two commissioners on the Coastal Commission who believe that a local authority has wrongly issued a permit can appeal certain permit decisions to the state Coastal Commission on the grounds that the issued permit conflicts with the approved LCP (California Coastal Act 1976). However, this authority is not often used. As reported by Lester in 2013, only 5.4% of all permit applications since 1981 were appealed, and during the period from 2001 through 2011 only 6% of appealed permits resulted in denials. The vast majority of appeals were either approved outright, approved with modifications to the proposed project to comply with the LCP, or withdrawn (Lester 2013).

How the Commission Works

Above the local level, the California Coastal Commission is a state agency unlike any other in California of perhaps the world (Osborne 2018). Its authority to dramatically set the tone and the standards for coastal development by issuing coastal development permits for any new construction that affects the coastline - including seemingly indirect effects such as changing views or an aesthetic quality - is considered its foremost ability and one that remains unprecedented among US states and most of the world. The Coastal Act explicitly describes how crucial the California coastline is to its citizens, its economy, and the nation while also acknowledging that some development compromises will be necessary to preserve access, ecosystems, and economic vitality. It notes that the "coastal zone is a distinct and valuable natural resource of vital and enduring interest to all the people and exists as a delicately balanced ecosystem" and that "the permanent protection of the state's natural and scenic resources is a paramount concern to present and future residents of the state and nation" (California Coastal Act, Section 30001, 1976). In addition, it quickly introduces the main challenge to any land use agency by noting that, as important as environmental conservation and scenic preservation are, "existing developed uses, and future developments that are carefully planned and developed consistent with the policies of this division, are essential to

the economic and social well-being of the people of this state and especially to working persons employed within the coastal zone" (California Coastal Act 1976). This duality of purpose would become the essence of many commission deliberations in years to come. The Act set five main goals for coastal zone management in California:

1. Protect, maintain, and where feasible, enhance and restore the overall **quality of the coastal zone environment** and its natural and artificial resources
2. Assure orderly, balanced **utilization and conservation of coastal zone resources** taking into account the social and economic needs of the people of the state
3. **Maximize public access** to and along the coast and maximize public recreational opportunities in the coastal zone **consistent with sound resources conservation principles and constitutionally protected rights of private property** owners
4. Assure **priority for coastal-dependent and coastal-related development** over other development on the coast
5. Encourage state and local initiatives and cooperation in preparing procedures to implement **coordinated planning and development** for mutually beneficial uses, including educational uses, in the coastal zone. (California Coastal Act of 1976, Section 30001.5, emphasis added)

The blue line denotes the official extent of the coastal zone boundary and shows how variable the boundary can be, from 1,000 yards ashore to several miles inland. From the CA Coastal Commission

The Coastal Commission's jurisdiction extends along the state's entire coastline, from the international border with Mexico to the state border with Oregon, except within San Francisco Bay whose coastline remained under the control of the BCDC (see Figure 1). Laterally, the agency's jurisdiction extends offshore from the three-mile limit of state waters, over the beach, and inland to generally 1,000 yards from the mean high tide line.

In significant coastal estuarine, coastal habitat, and recreational areas it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards (see Figure 2, California Coastal Act of 1976). All coastal islands are also within the commission's jurisdiction. Although the Act acknowledges the need to view coastal areas as ecosystems made of many important parts, the role of watersheds in the coastal zone is noticeably absent from the agency's jurisdiction, even anecdotally. Although the original coastal plan that was drafted for the

legislature in 1975 did include watersheds, political negotiations to implement the Act cut out wetlands from the final program. Peter Douglas would later regard this compromise in the early negotiations to pass the Act as one of the great losses of what could have been for coastal ecosystems in California (Osborne 2014).

The commission is comprised of 15 members, of which the Secretary of the Natural Resources Agency, the Secretary of Transportation, and the Chairperson of the State Lands Commission are non-voting members. The 12 voting commissioners are selected in a novel way that helps maintain the important independence of the commission by ensuring that no single authority can shape the commission. Six commissioners are selected from the public at large, with two each appointed by the governor, the senate rules committee, and the speaker of the assembly. The other six commissioners are selected from six coastal regions, with the same three appointing bodies selecting two members from various coastal regions of the state. The coastal regions, in turn, comprise between one and three coastal counties (California Coastal Act 1976). Since 1977, the Coastal Act has been amended many times, including eight amendments that determine how members are appointed. One of the governor's appointments to the commission is now required "to reside in, and work directly with, communities in the state that are disproportionately burdened by, and vulnerable to, high levels of pollution and issues of environmental justice including, but not limited to, communities with diverse racial and ethnic populations and communities with low-income populations" (California Coastal Act, Section 30301, 1976). This split manor of

The ever-popular La Jolla Shores beach near San Diego, CA. Photo by Sebastien Burel

appointing members is undoubtedly one for the reasons that the Coastal Commission has resisted being "captured" by special interests and other forms of severe political manipulation.

Limitations on the Commission's Power

As powerful and far-reaching as the Coastal Commission is, the agency is reigned in by several important constraints. The first is jurisdictional. The fact that the Coastal Act limits the law's reach to the immediate coastal zone close to the shore and not more landward into the watersheds of rivers and streams is a significant ecological limit. From an ecosystem view, the area from which precipitation drains downhill across the contours of a landscape to be collected into a waterway is an important boundary area that directly affects the adjoining sea. As precipitation flows into a small stream and then into successively larger streams, and then into the sea, water settles into soil and rocky layers of earth, being filtered and absorbed by plants, soil, and porous layers of rocks. In this process of natural filtration and flow, stream water is cleaned and its temperature regulated until it flows out into the sea. Tree cover, the extent of vegetation, soil and rock characteristics, how much the watershed's land has been altered and disturbed by development, and other factors determine how well a watershed performs this important hydrological function. Ultimately, this bears directly on coastal parameters such as sediment loads across the coastal zone, the quality of terrestrial and marine habitat near the stream mouth, water quality, and other important factors.

Figure 4 - The three interconnected elements of the triple bottom line framework. From blogs.ubc.ca

Besides the ecological limitations of omitting watersheds from the commission's cognizance, important legal and political restrictions were put in place. This forms the second restraint on the agency's authority. From the very beginning, coastal zoning or a system of coastal land use that involved permitting faced hard challenges from advocates of private property rights and others who were suspicious of regulating how a property owner could use a parcel of coastal land. Opponents of coastal land use stoked fears of a government land grab or more subtle attempts by any empowered government agency to dictate restrictions on land use. As the November 1972 elections approached and Proposition 20 hung in the balance, land use concerns and the fear that conservation interests would unjustly tie the hands of landowners was a potent rallying cry of the anti-Proposition 20 side (Osborne 2018). However, the Coastal Act clearly states that coastal preservation and regulated development must

exist in a careful balance with firm constitutional laws that unquestionably protect property rights (California Coastal Act 1976).

Thirdly, the commission is constrained by being vulnerable to unsteady funding and abrupt budget cuts. The Coastal Commission is funded through the state budget's General Fund instead of a more reliable funding line. This allows political fights over land use and development to take a real, practical toll on how the commission operates through direct limitations on staffing, enforcement, and the speed (or lack of speed) of its work. Funding constraints have a real effect on the basic functions of the commission and thus, how effective the public and other stakeholders perceive the commission to be (Osborne 2014). This has become especially relevant as local jurisdictions rely on the state commission to help them make long-overdue updates to their LCPs. Finally, the commission is simply not above the law and clearly subject to court rulings, as will be discussed further in this piece (Osborne 2018).

The People Who Drive the Commission

Legislation requires real human hands to translate the law into practice. In its most formative years, the Coastal Commission had very capable leadership and staff talent to realize the mission voters had given it. In 1973, Governor Ronald Reagan chose Republican Melvin B. Lane, a successful, politically-savvy magazine publisher to be the commission's first executive director. Lane had previously led the BCDC and was considered a solid choice to guide the early commission (Osborne 2018). This appointment set the tone for the agency at a crucial time, helping to establish the commission as a reputable force able to live up to the hard-fought electoral process that created it. After two other executive directors followed Lane, Peter Douglas was appointed to be executive director in 1985.

It would seem unusual that one individual could so sharply define the course of a state government agency, but Douglas was no ordinary agency employee and the Coastal Commission was no ordinary agency. Douglas reached the executive director position after benefiting from over a decade of the closest possible perspective of coastal zone governance in the state. As an attorney who understood legal processes, an assemblyman's astute legislative aide, the author of the Coastal Act, and the Coastal Commission's deputy executive director, his experience made him supremely qualified to lead the agency (Osborne 2018).

This body of experience was infused with Douglas' sharp political instincts, a dedicated passion for preserving the coast, strong pragmatic problem-solving skills, and fierce tenaciousness (Osborne 2018). Douglas was the longest-serving Commission leader thus far, and he is credited with guiding the coastal preservation and balanced development goals of the Coastal Act with a bias towards conservation. In practice, Douglas pushed the 'precautionary principle': if the outcome of a development or other plan to change the coastline involved too much uncertainty, the commission would reject the permit request and prioritize preserving the coastline as-is out

of precaution against harming it (Osborne 2014). He and many observers regarded this ideal as the basic intent of the long-term goals of the Coastal Act - preserve the state's treasured coast, allow carefully conceived coastal development in areas that are suited for it, and prevent ill-advised development for the sake of future Californians.

The Coastal Commission is an organization with two working halves - the commissioners and the agency staff. While the 12 voting members of the commission are political appointees from the legislative and executive branches of state government, the staff are civil servants employed by the agency. The staff is an autonomous body that supports the commissioners by analyzing requests for coastal development permits and writing reports on such permit requests for the commissioners to use as they deliberate a permit request. Staff expertise ranges from biology, law, economics, urban planning, and other disciplines to form a collective body of expertise that allows the commission to make informed, science-based decisions. Commissioners reply on staff reports to be strong enough to withstand potential legal challenges and to consider all available information on a permit request, the setting in which the permitted development would operate, and any complicating factors. After hearing public testimony on the proposed project and weighing the staff's report, commissioners use their independent judgement to vote on a permit request (Holmes 2016). Meetings of the commission can be public forums or private deliberations, but both are governed by standard rules for official state agencies.

The two halves of the Coastal Commission thus differ rather noticeably, both in the roles they play in coastal zone management and in their backgrounds. Observers of the Coastal Commission from both pro-conservation and pro-development sides have watched commission deliberations and viewed outcomes of permit decisions with occasional apprehension about whether the two halves are in sync with each other. Coastal preservation advocates and environmentalists who follow state coastal policy have noticed when the commission's decisions conflict with staff recommendations on a permit application vote.

In 2016, the commission was roiled by the drama surrounding the firing of executive director Charles Lester, who seemingly had the support of many knowledgeable observers outside of the agency, but was nevertheless fired by a vote of the commissioners because of poor job performance (Holmes 2016). Afterwards, the always-vocal group of Coastal Commission observers charged that the agency's commissioners had lost a degree of balanced perspective and bowed to pressure from the building industry to remove the agency's leading conservation-minded figure. Former commissioners described a sense of troublesome familiarity between the commission and representatives of building and development businesses and media reports went so far as to characterize this suspicion as "coziness" that could inappropriately influence the outcome of the Commission's decisions (Lopez 2016). That political appointees could be vulnerable to outside influences such as lobbying is not a revelation, nor is conflict surprising between the two different halves of a much-scrutinized agency like the Coastal Commission. But in an agency living at the center of bitterly fierce debates every day and the watchful suspicion of any potential political influence, rumblings of "coziness" were ominous.

Such stories of tension and high stakes in Commission underlie the incredibly high stakes of the Commission's decisions and illuminates the emotional ties that many people have with the coast. The California coast remains the state's most valuable natural asset (Sivas and Caldwell 2008), an inseparable piece of the state's identity, and a magnet for disputes among a large, powerfully determined group of stakeholders (Figure 3).

Figure 3 - Stakeholders at a southern California beach

"*Business is the force of change. Business is essential to solving the climate crisis, because that is what business is best at: innovating, changing, addressing risks, searching for opportunities. There is no more vital task.*" - Richard Branson

Chapter 3 The Triple Bottom Line

The idea that businesses are responsible to society for more than simply engaging in commerce and making money is not new. In the 19th century in the US, a few progressive-minded large companies operating in "company towns" even made huge investments in their employees' social well-being by investing in schools, parks, medical facilities, in order to enrich employees' lives and ensure their loyalty to the company[3]. While not always purely motivated by benevolence, such companies showed that accounting for the social needs of a community could directly benefit the company. This kind of outlook that proactively factored social well-being into a company's overall measure of success was rare, and a similar regard for a company's environmental well-being did not follow on a noticeable scale for decades. But eventually it did, and the notion that a company's more complete measure of success involved not one or even two measurements but three, emerged in the 1980s and has expanded even since.

The Origin of Sustainability

Beyond the mere definition of a company as *a commercial business*, a company as an organization of people and ideas working together to produce something at a profit more closely approaches the nature of what a company really is. Being comprised of people and their seemingly infinite ideas makes a company potentially more dynamic and more fluid in how one characterizes the business that human work imbues with life. As a business grows bigger and more successful, it can reach farther into markets, communities, and the common pool of resources from which it can draw materials and talent to grow stronger. Historically, the overwhelming majority of for-profit companies and their investors have measured a company's success in only one way - by how much money the company earns. This is a sensible starting point for gauging success using a purely capitalist mindset, and for millions of business over many centuries, this has been the only measurement that matters. Because people's livelihoods and family security are intertwined in wages earned predominantly from business work, wages and money are easily viewed as the beginning and the end of most peoples' view of companies.

But prosperity through commerce is far from evenly spread across the globe, and as many people around the world enjoyed 20th century economic success, many others saw that what fueled that success was finite and

[3] There are many examples of company towns in 19th century America, but within the context of sustainability, Savitz's description of Hershey, PA reinforces several lessons tied to the triple bottom line. See The Triple Bottom Line by Savitz (2014).

increasingly exhaustible. Moreover, commercial success on the immense scale of many modern 20th century companies often cost surrounding communities in ways people increasingly became aware of. Large, far-reaching businesses drawing on huge quantities of raw materials from nearby and distant sources generate more-than noticeable impacts in their immediate communities. With that, supplying such an intense commercial operation with resources and talented employees creates supply chain and infrastructure needs that compound a company's baseline impacts. After World War II, developed countries could turn away from economies directed towards winning an all-encompassing global conflict and devote their full industrial weight towards commercial success. A few decades later, the side effects of large-scale industrial production and human development on an enormous 20th century scale were leaving scars of pollution and profound change on the environment that could no longer be ignored. This affected communities, landscapes, and coastal environments, and sometimes adversely shaped a populace that only one generation before, lived in towns and natural environments much different from how they were then evolving.

Rapid, profound changes to communities and the environment after World War II that seemingly occurred in such a short timeframe - a single generation - gave rise to a new concept in societal development. In 1983, the United Nations (UN) convened an international commission to discuss then-current trends and long-term projections for development in the context of the social and environmental change that accompanied it. Four years later, the commission's output was consolidated into a book called *Our Common Future* (commonly referred to as the Brundtland Report in honor of the conference's presiding chairman) in which the concept of sustainability was first formalized. **Sustainability** was defined as development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs (Brundtland 1987).

The Brundtland Report proposed many aspirations and ideas about alleviating poverty, protecting the environment, furthering basic human needs, and voluntarily changing the behavior of the world's many consumption-based economies. By the 1990s, the concept of sustainability had diffused outward from the broad context of responsible global development and was expressed as a business philosophy that similarly emphasized responsibility. Business theorist John Elkington more explicitly defined the Brundtland ideal of sustainability to be the principle of "ensuring that our actions today do not limit the range of economic, social, and environmental options open to future generations" (Elkington 1999). Sustainability as a business principle blossomed into a broad working framework with several underlying themes and related tenants. These include "green" business, corporate social responsibility (CSR), corporate environmental responsibility (CER), ethical sourcing, and other terms that invoke principles of responsible, ethical, and broad minded business operations.

Evolving Sustainability and the Triple Bottom Line

One of the main themes of contemporary business sustainability is that modern companies can impact the world so strongly that they have an ethical obligation to promote the positive effects and carefully limit negative effects associated with their business (Savitz 2014). According to this tenant of sustainability, a responsible business is now accountable for much more than simply earning as much money as possible and winning the competitive market battle among its peers. A sustainable business is accountable to its shareholders, as before, but that scope of accountability is greatly expanded to include many more people and entities who can be affected by the business's activities. At this point, an important subjective point arises in the sustainability description as one must apply a reasonable standard to a business's true effect. It is true that modern technology can extend a business's reach farther into society and also extend a person's perception of that business's reach on them at a personal level. The easy ways in which multiple routes of news media can reach a casual observer may raise issues beyond their true significance and give the impression that a company has affected a distantly linked person in real ways in spite of there being only a faint, tangential relationship. This seems partly the result of the heightened state of awareness that consumers have of brands and company reputations in today's constantly updating news cycles and intense marketing environment.

Beyond the ethical importance of a company's role in society, there is a purely performance -driven reason for companies to embrace the triple bottom line. A growing number of companies have recognized that treating employees and customers well (two hugely important groups of stakeholders) and conserving resources to avoid waste and control costs is a mindset that benefits their financial bottom line. That is, there is a strong business case for sustainability - a sustainable company is a more profitable company and the triple bottom line ethos is a long-term financial asset (Savitz 2014).

A company's performance measured only by the profit it earns requires only that an observer study a company's financial bottom line. This is conventional single-bottom line accounting and is singularly focused on measuring financial performance for the main audience of that company's shareholders. In conventional capitalist economies in which shares of a publicly owned company are traded on a stock market, shareholders own the company and assess the company's performance - and thus, their investment's value - by the company's financial bottom line. However, the sustainability movement disrupts this prevailing paradigm by stating that this narrow measurement is insufficient and unsustainable. Companies can affect the environment and communities more profoundly than people previously thought, and one can now measure those effects more accurately than before. This gives the public a heightened sense of a modern company's reach, and in that sense, a new way to measure just what its effects on the environment and the community are.

The **triple bottom line** (TBL) adds two accounting measures to the still-important financial bottom line so that company performance is measured with environmental, social, and financial bottom lines. This more accurately

shows a company's full effects in three areas that are central to sustaining long-term performance. The triple bottom line is a practical framework for the sustainable development ideal, one emphasizes maximizing today's growth and opportunities while actively preserving opportunities that are at least as good for future generations. It does this by applying the common idea that parameters that are important enough to measure must be important enough to actively manage[4]. So, while maximizing profits has always been centrally important to businesses and thus very actively tracked and managed for a company or an enterprise, a company's responsible use of natural resources and care for the environment is worth the same care. Moreover, the community and social structure that supports a company and provides it with human resources and good will is eminently important enough for the effect on it to be astutely measured and managed in the same way. As the triple bottom line operationalizes the concept of sustainability, the company's idea of performance and accountability becomes one of "people, profit, and planet".

Elements of the Triple Bottom Line

Stakeholders and their role in driving a company's fate also takes on new meaning in a sustainability context. If accountability is confined only to shareholders and their single bottom line, only shareholders have a true, measurable stake in the company and their dictates solely set the tone for the company. But using the triple bottom line immediately expands that narrow view of who stakeholders are, anointing many other people as stakeholders because of their affect on and the way they are affected by the company (Savitz 2014). This again is because of the two-part change in the way stakeholders view a company, its power to affect the world, and people's willingness to uphold higher standards for their communities and environment. The public increasingly acknowledges that even a small company can demonstrably affect its surrounding community and environment, those affects matter, and more people than ever expect people who cause the effects to be accountable for them. Correspondingly, when an enterprise embraces the triple bottom line and works to meet the needs of communities, the environment, and its shareholders, benefits flow outwards towards a much greater expanse of stakeholders, thus enriching far more people than it would have before (Savitz 2014). Under a triple bottom line framework, stakeholders beyond shareholders may include employees, non-governmental organizations (NGOs), government agencies, regulators, the media, neighbors, and customers. All of these stakeholders expect something from the company, whether directly through goods or services provided or indirectly from an expected positive affect or omission of a feared negative affect. In the fast, constant swirl of today's media, negative reactions spread quickly and an organization's relationship with its array of stakeholders can quickly change. This

[4] For a further treatment of business sustainability and the triple bottom line, see *The Sustainable Company* by Laszlo 2005, *The Next Sustainability Wave* by Willard 2005, *The Sustainability Handbook* by Blackburn 2007, *The Sustainability Champion's Guidebook* by Willard 2009, *Triple Bottom Line Risk Management* by Bowden et al.. 2001, and *The Sustainability Advantage* by Willard 2002.

presents challenges to an organization's leadership to carefully cultivate relationships with stakeholders whose influence can decisively affect the organization.

A defining term of the triple bottom line then, is that organizations are more accountable now than ever before, that **accountability** is linked through more stakeholders than ever before, and a company's success is thus more easily affected by who and what it affects.

With the shifts in attitudes and accountability described above, the setting in which organizations operate becomes more transparent, the number of observers and concerned parties grows, and the stakes for success or failure increase. New members of the stakeholders group, including advocacy groups, NGOs, and legions of interested internet followers increasingly demand that an organization be transparent about its activities and share information about topics that a previous generation of officials would have expected to remain secret (Elkington 1999). Managing the dialogue between stakeholders and the organization becomes at once more important, more complex, and requires greater skill and agility in order to manage expectations. This shift to transparency extends to some degree to regulators who expect companies to increasingly report their regulated activities more quickly and thoroughly. One of the best examples of this regulatory environment is the Sarbanes-Oxley Act of 2002 that mandated broad new methods in financial reporting in the wake of the Enron Company accounting scandal in 2001.

Transparency is crucial to success in an era of vigilant citizens, employees, and interest groups all whom make up a group of demanding stakeholders (Savitz 2014). It would seem that as long as the political process remains open and completely accountable to the public, shifts towards triple bottom line thinking and vastly greater connectedness among stakeholder groups can drive an organization more today than only one generation ago.

In the triple bottom line, an organization seeks long-term success measured by earning profits, being a well-regarded member of the community, and while responsibly using natural resources. It does these things while engaging a wide array of stakeholders and transparently sharing information that stakeholders expect. The first of the three elements of the triple bottom line is a company's drive for profit which for a for-profit company, is the underlying reason for its existence and the life-blood of the company's day-to-day operations. A company must meet its basic expenses and generate enough revenue to plan for its future in a competitive marketplace. This original bottom line tied to financial performance needs a broader definition as applied to the California coast, though.

In this thesis, I propose that the meaning of *business profit* be extended to the level of an individual and a community such that either is understood to need more-than-adequate wages and the prosperity of an economically healthy community. Instead of company profit, I will use the term **livelihoods** to describe a person's fulfilling paid occupation that allows him/her the opportunity for honorable employment and helps secure the economic necessities of life.

The second of the three bottom lines is company performance in the **community** in which an organization operates. The community encompasses the larger framework of neighborhoods, economic fabric of employment, crime, community amenities like parks, local and regional culture, and other factors that determine the appeal or the feel of a community. Community quality is important in many ways, but is a crucial measurable bottom line because of how a company can strongly influence surrounding communities through wages, working conditions, and the tone a large company can set in a community of any size. If a company shows a long-term commitment to its community's well being, it makes strategic decisions in line with larger-scale concerns for the definitive parts and the intangibles of community life.

The third of the triple bottom lines is the company's performance with respect to the natural **environment**. This parameter includes the physical environment of land, water, atmosphere, animal and plant life, and the resources derived from all three that a company consumes and conserves. The sustainability ethic guides an organization to actively track whatever natural resources that it uses, consuming only what is necessary and conserving resources at every point in its business process. Pollution is kept at an absolute minimum and the organization actively seeks ways to eliminate it and waste as much as practically possible. Sustainable operations certainly still use resources, emit wastes, and burden the environment but they actively and constantly seek to minimize these environmental impacts for the benefit of long-term well-being.

Reporting Sustainability and the Triple Bottom Line

At a higher level, sustainability and its offshoot, the triple bottom line framework, attempt to change huge global forces in fundamental ways. The economic institution of capitalism is a monolithic and highly successful way for people to interact in the economic setting of society. Sustainability offers an alternative to pure capitalism and seeks to modify the way people use capitalism by instilling the conscious ideal of conservation more strongly into a system that too often rewards short-term use of finite resources. With poorly valued rewards for conserving them for the next generation's use, organizations orient too many of their business decisions without regard for the livelihoods, community and environment. The triple bottom line, with an atmosphere of increased public accountability, an expectation of transparency, an expanded and complex array of empowered stakeholders, and a greater focus on long-term prosperity seeks to change the basic premise of measuring business performance.

Implementing the triple bottom line in practice is a different undertaking than understanding its concepts. Sustainability and the triple bottom line are ideas - principles and frameworks to which an organization adds real actions. Chief among those actions is the process of actually measuring a business enterprise's real effects on the livelihoods, the community, and the environment of its stakeholders. While the triple bottom line is an elevated or more complete form of business accounting, it remains essentially a process structured around formal accounting practices. Even though organizations report their TBL performance themselves, like single-line financial accounting,

rigorous standards have evolved to create a baseline level of standard reporting. The Global Reporting Initiative (GRI) is an independent international organization founded in 1997 and based in the Netherlands that has become the primary governing body for global sustainability standards (Blasco and King 2017 and GRI 2019). GRI has formalized a tiered framework of general standards and more descriptive topic standards that cover economic, environmental, and social topics. This structure of reporting standards allows an organization to measure itself according to GRI's commonly accepted measures and thus gives a degree of credibility to a company's self-reporting. GRI claims that 93% of the world's largest 250 corporations use this method to report their sustainability performance (GRI 2019).

Sustainability reporting or "corporate responsibility" (CR) reporting has gained traction worldwide and appears to have become the norm rather than the exception. In a large survey of over 4,900 large- and mid-size companies around the world, the Swiss accounting conglomerate KPMG noted in its 2017 CR report that most of the world's biggest companies now integrate financial and non-financial data in their annual financial reports. In addition, companies in all business sectors that it surveyed in 2017 now have a CR reporting rate of at least 60%. The GRI reporting standard was used by about two-thirds of the companies surveyed, with the other third using a different format that was not disclosed in the survey (Blasco and King 2017). In a sign that broader public and regulatory attention to sustainability may be taking hold, the KPMG survey showed that as in previous years, business sectors with high environmental and social impacts such as oil & gas development, mining, and chemical production typically have high reporting rates (Blasco and King 2017). In the US, three factors may be driving companies to better report their sustainability performance. The most significant is shareholder and investor interest in sustainability; the second is the US Security and Exchange Commission (SEC) requirement to include a climate-change disclosure in company filings. The third factor is the attention that the influential Sustainability Accounting Standards Board (SASB) directs at companies through the industry-specific reporting guidelines that it publishes (Blasco and King 2017).

Carrying out a sustainability assessment using the common GRI measurements requires a considerable effort of time and attention to accounting practices that gather great deal of data on how an organization operates. The process is similar to the well-practiced and time-intensive process of standard financial accounting in that it requires a large amount of data collection, planning for how to gather and record the data over the year, and coordination of the organization's various departments and management from whose sustainability data will be gathered. The process begins with GRI's mandates that a reporting company comply with ten reporting principles, and then continues through the more specific topic standards where users actually record sustainability progress and draw conclusions about their performance (GRI 2018).

One of the faults noted about the TBL is the lack of a common unit if measurement for the non-financial measurements of social and environmental effects (Robins 2006). Financial accounting has the straightforward unit

of currency, adopted universally by any organization that tracks its financial parameters. But an accountant could track social and environmental performance in numerous, varied ways depending on the unique circumstances of a particular organization. This leeway in choosing accounting measures is both a strength and a fault because without rigid doctrinal parameters on social and environmental measures, a company's reporting details can accurately track the genuine details a company's real circumstances without distorting the true nature of its operations with an ill-fitting metric. This openness and adaptability in reporting can encourage honest, factual data rather than data that is forced to comply with a standard unit that may not be what the company actually deals with. By the same token, standardization allows common comparisons across companies, divisions, and sectors which translates many varied ideas into a unified scheme. This allows the kind of comparisons and accountability that more easily holds organizations to an enforceable standard that leaves little room for evasion and disingenuous reporting. In the absence of strong regulatory governance, a standard leaving little debate over format also helps the public and a business community have faith in sustainability ideals.

Making sustainability reporting more difficult is the persistent fundamental paradigm of the precarious economic footing of many small and even mid-sized companies, early in their life cycle. Sustainability concepts in many parts of the world are not yet pervasive enough for their principles to be born into a company from its inception. Thus, many small and mid-sized companies do not consider operating in a sustainable way until they are financially secure and established enough to endure the greater business risks associated with sustainability (Okanga and Groenewald 2017). With this, many companies still regard mandatory regulatory compliance and the threat of unfavorable publicity as driving forces in adhering to sustainability laws or trends more so the ethical desire to act in a sustainable way (Depkem and Zeman (2017). Finally, a business seeking to change its business model from a conventional approach that does not consider TBL to more sustainable approach to business faces two hurdles.

The first challenge is a fundamental shift in strategy and expectations. An organization that adopts TBL must regard its transition as a long-term process with no real end point: the goal of a sustainable company is to lessen its impact in areas that it could negatively affect which is an effort that requires it to always be attuned to the changing nature of the world around it (Savitz 2014). Since markets, communities, and social forces are constantly evolving, a sustainably-focused company will therefor always adapt to such changes and will always be on a path to a more optimized TBL. The second challenge is that TBL accounting practices require planning and investments in time and training that some small companies find prohibitively hard to invest (Depkem and Zeman (2017). Even among companies that recognize the need and the benefits of becoming more sustainable, learning how to adopt real sustainable operating practices and then measuring how well they implement them is a significant investment in effort.

Results and Outcomes Using the Triple Bottom Line

If an organization actively plans for and realizes real advances in its social and environmental performance, the benefits in those two bottom lines obviously improve for the company, its community, and its environment. But financial performance may also improve as a result. Savitz, in his 2014 book *The Triple Bottom Line*, gathered several financial performance measures and found that companies listed in stock trading indices performed noticeably better than companies with no sustainability basis. The Dow Jones Sustainability Index, the Financial Times Stock Exchange Good Index (FTSE4 Good), the Winslow Green Index, and the FTSE KLD400 Index (an index that tracks socially responsible companies) had higher returns on investment than indices comprised of companies that did not adopt sustainable business practices. Savitz reports the findings of a research team from Harvard University Business School that compared sustainably-oriented businesses to businesses not geared in such a way and found that not only did sustainable practice not sacrifice profitability, it improved it:

> *"This finding suggests that companies can adopt environmentally and socially responsibly policies without sacrificing shareholder wealth creation. In fact, the opposite appears to be true: sustainable firms generate significantly higher profits and stock returns, suggesting that developing a corporate culture of sustainability may be a source of competitive advantage for a company in the long run." (Savitz, p. 43, 2014)*

While some resistance to change in an already competitive business environment where risk is careful managed seems natural, too much ambivalence about sustainability may hurt more than preserve a company's future. There are real challenges for companies who contemplate converting their strategic ideas and operating principles to a sustainable footing, but social change and environmental change may be join financial gain as three good reasons for doing so.

Case studies in the next two chapters will show how the California Coastal Commission assesses two coastal development issues that can be viewed in terms of the triple bottom line. Because the triple bottom line's measures of performance are very similar to the primary mandate of the California Coastal Act, when observers assess the merits of the upcoming case studies through TBL, they simultaneously see how well these merits ascribe to the general purpose of the Coastal Act. The case studies are somewhat different from one another, in spite of sharing some similarities. In one of the case studies, the coastal development that is occurring is not a new or renovated structure, but a new way of using existing structures - residential homes used for short-term lodgings. While in the second case study, the coastal development in question is an extensively remodeled house. The setting in each case study is noticeably different, even if both occur in well-known coastal communities. Both case studies show how difficult it can sometimes be for the Coastal Commission to recognize and act on ideas that both the Coastal Act and the triple bottom line business framework would seem to make clear.

Finally, in as much as the Coastal Commission is the main driver for regulating development and promoting collaboration among coastal stakeholders, it also acts as a surrogate for the state's coastal society itself. The Commission works at the center of the ongoing debate on how the main elements of the coast meet and interact. Hundreds or thousands of details about the economy, the environment, and the communities of the state's coastline are all ultimately represented by the Commission's work. A regulatory agency like the Coastal Commission can thus be said to embody the people and the place of the coast, so that when observers evaluate the Commission's actions, they also evaluate the social, economic, and environmental effects on the coast itself.

"*Your next-door neighbor is not a man; he is an environment. He is the barking of the dog; he is the noise of the piano; he is the dispute about a party wall; he is the drains that are worse off than yours, or the roses that are better than yours."* - G.K. Chesterton

Chapter 4 Case Study 1: Short-term Rental Properties

Short term rental properties (STRs) present a new kind of challenge to coastal communities and the California Coastal Commission, complicating the constant balancing act of competing needs while sorely testing municipal governments. How coastal communities and the Commission weigh important factors such as economic need, private property rights, and neighborhood feel are juxtaposed against the evolving definition of 'coastal access'. The dilemma of regulating short-term rental lodging has arisen quickly and gained momentum around the world. The peer-to-peer or 'sharing economy' rapidly moved into territory formerly occupied solely by traditional hotel-motels and the zoning laws under which they operate. This case study centers on the city of Santa Cruz, CA and illustrates the trade-offs and decision elements that the Commission and communities face as they interpret the Coastal Act's direction in the face of challenges the Act could not have foreseen. Through this, one can see how well the Commission's decision making process and outcomes measure in a triple bottom line framework. I will first describe the issues surrounding short-term rentals (STR's) and then proceed into the five other parts of the case study: the conceptual setting in which the issue unfolds, some of the Coastal Commission's possible options to resolve the issue, the historical setting of Santa Cruz and the case itself, the Commission's chosen course of action, the triple bottom line perspective, and a discussion of the case including how well the Commission applied a triple bottom line framework in the case.

The Issues

Primary Issue: The Rise of Short-Term Rentals within the Peer-to-Peer Economy

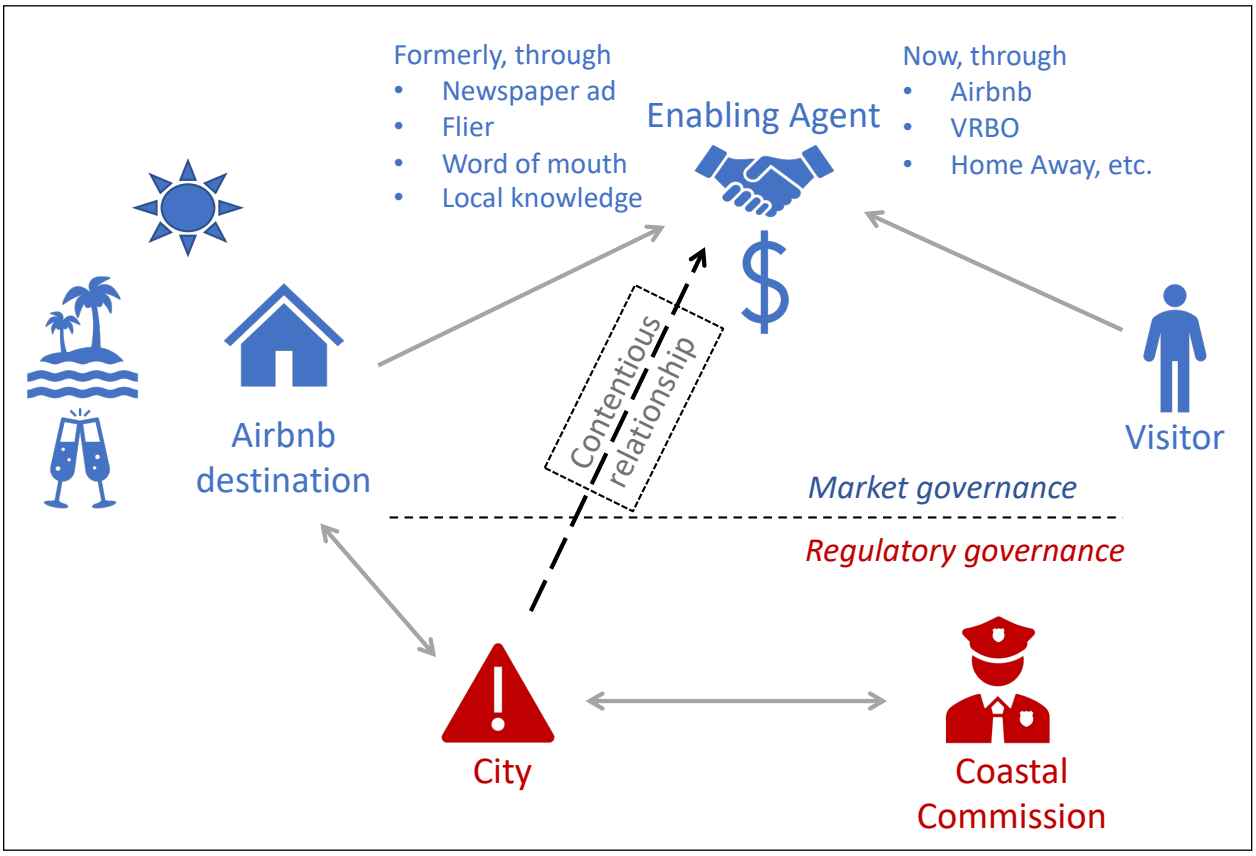
As with so many other aspects of the modern world, the far-reaching effects of information technology permeate into unanticipated corners of life. In this case, information-age commerce found its way into the lodging industry with the meteoric rise of internet-enabled private lodging rentals. This has fundamentally changed the paradigm of tourism, temporary lodging, and neighborhood culture in many parts of accessible, tourist-driven regions. Where before tourists or others seeking a place to stay for a short time period could stay at hotels, motels, hostels, or even camp sites, the emergence of a peer-to-peer economy has radically changed that notion.

Short-term rental lodging is a class of privately-owned lodging rented by private property owners for periods of generally between 27 and 31 days. Short-term rentals have been an informal fixture in many tourist locales for decades, and before the internet, were typically advertised by advertisements in newspapers and periodicals, on

signs or fliers posted in view, and passed by word of mouth in a tourist location. But with the huge reach of internet connectivity, a purpose-built website could link a private lodging offering to a customer with features that made the transaction much easier, more convenient, and more secure.

A 'peer-to-peer' or 'shared' economy refers to individuals directly selling goods or services to other individuals without an enabling agent (like a hotel company or a taxi cab company) acting as the facilitator or host company for the transaction. In the lodging paradigm, this enabling agent would be a hotel company that provides a hotel room for a visitor seeking a bed. The peer-to-peer economy is based on a web-based connection between a private service provider - in this case, a property owner offering a place to stay - with a buyer, with both parties dispensing with a traditional enabling agent, the hotel. The transformative aspect of the peer-to-peer economy is that the enabling agent is a web-based company who likely does not own the item be purchased, but only the platform through which the transaction is conducted.

Figure 5 - The Relationships Within an Airbnb System



The major companies in peer-to-peer short-term lodging industry are Airbnb, HomeAway, Craigslist, and Vacation Rentals By Owner (VRBO), but Airbnb is by far the most dominant company in this new industry. Valued at over

$30 billion in 2017, Airbnb has over 3 million lodging listings in 190 countries and has more total rooms available than major hotel chains like Hilton, Marriott, and Intercontinental (Nieuwland and van Melik 2018). In popular language, web-based STR's are practically synonymous with Airbnb, Inc., indicating its industry-leading success and power in the mature modern realm of short-term rentals. Airbnb so dominates the short-term rental industry, that I will use its name ubiquitously throughout the rest of the thesis to denote the STR industry in general.

Consumers on both sides of the transaction have eagerly embraced this lodging option. With price, availability, and a vacation experience different form the paradigm offered by traditional hotels as drivers of choice, short-term rentals offer consumers attractive options in lodging and in their overall travel experience. Property owners offer short-term rentals in a wide array of lodging styles and prices, from locations near traditional tourism centers with prices and amenities akin to prevailing hotels to areas well off the beaten path of typical tourist routes, with much lower levels of comfort and price. Tourists and those seeking a short-term rental lodging have flocked to Airbnb world-wide, giving fortunate property owners and Airbnb significant and formerly unrealized income.

In parallel with strong consumer demand, property owners embrace a peer-to-peer lodging arrangement for the suddenly lucrative profits they bring. While alternatives to hotel lodgings have existed for decades in the form of bed & breakfast inns, hostels, and limited private vacation home offerings, Airbnb revolutionized this business setting in 2008 with a simple website interface and straightforward bookings that made it easy for property owners to list a place to stay at a very low cost to the owner. Through Airbnb, property owners have undercut traditional hotels and reaped considerable profit, especially in regions already popular with tourists. In coastal California, where already-high property values have continued to accelerate in recent decades, income generated by renting part of their property has enabled some home owners with limited incomes to continue to afford to live in their own homes as property taxes and living expenses along the coast continue to outpace the incomes of many people there (Ruby 2016).

It would seem that a useful and mutually beneficial arrangement has developed between people with an appealing service to sell and a clientele eager to buy it, all in atmosphere that has opened the way to heretofore unknown benefits to many, if not all with the means to enjoy it. Underlying this amiable new construct, however, lie several contentious issues related to social benefits along the coast.

Underlying Issue: Coastal Access versus Neighborhood Character

The issue of STR's is emerging in coastal communities and beyond as a tradeoff between easier access to the coast through more affordable visitor lodging on one hand and the resulting changes to neighborhood character that denser Airbnb offerings bring on the other. Deliberating this main issue and its related sub-issues have placed the California Coastal Commission and local municipal governments at odds with each other. Beyond the simple arrangement of private lodging owners and more flexible lodging customers are undercurrents of upheaval in a

system of municipal zoning, expectations of how a residential neighborhood should feel, and the basic meaning of access to the coast. In particular, the way that attributes of a residential neighborhood are perceptively different from those of a commercial area, where before Airbnb, one would expect to be the designated location of hotels and other lodgings. Attributes like traffic flow, the cleanliness of streets and sidewalks, the basic framework of houses and their yards, the familiarity with one's neighbors, and other noticeable subtleties aggregate into one's impression of a neighborhood's feel. People who are reasonably satisfied with the way that their neighborhood feels likely do not want that feeling to change, nor substitute those attributes for the less familiar and desirable attributes of a commercial district that does not feel like a permanent home.

Short-term rentals have injected jarring disruptions into tourism and travel lodging, and exacerbated the disparity in high cost-of-living areas between homeowners and those who don't own their home. This disparity is exasperated by including those who can earn money from their home and those who cannot, inadvertently providing financial options for those living in appealing tourist areas to rent some part of their home while leaving many other residents without this tantalizing option. The issues of how short-term rentals exist within zoning laws, affect neighborhood feel, and enable access to the coast are primarily social questions with undertones of economic fairness as well. Among those three issues, the main purpose of zoning laws, which is to separate residential property from commercial property becomes the main Airbnb issue for existing home owners. At the same time, the question of how significantly Airbnb raises rents and home ownership costs for those not already benefiting fro home ownership becomes the main issue for other local residents. From the perspective of how the California Coastal Act envisions a properly developed and preserved coastline for all Californians, the main issue among the three is short-term rental's ability to give access to the coast. Access has come to mean more than simply being able to walk to the beach with a reasonable amount of effort; the practical definition may be changing to include the ability to carry out the several pieces of a coastal visit, from transportation, to lodging, to physical access to the beach.

Thus far, policy-makers and the public have found only a few options to address this new situation. These options exist as a range of regulatory stringency: at one end of the range, lies the option to apply no regulatory control and allow the tension and changes of STR's and neighborhoods to evolve on their own. Doing nothing would likely create more Airbnb rooms in more desirable coastal neighborhoods and further "hotelize" (Lee 2016) or "commercialize" some neighborhoods near tourist attractions. At the other extreme, policy-makers could ban STR's outright, as a few cities such as New York have done (Ruby 2016). This would likely invite court battles between Airbnb and cities and would ban a service that many people enjoy and regard as not just allowable but beneficial. In the middle of the range is where the most agreeable solution seems to lie — some degree of regulation that allows STR's with some conditions built in to address community concerns.

Conceptual Setting - Airbnb Dynamics

Airbnb offers lower cost lodging options that allow more tourists to visit the coast at an expense more people can more easily afford. It is this enabling factor of access through lower cost that the Coastal Commission staff have described as the main reason to allow short-tern rentals in coastal communities, even as opponents of Airbnb deplored its negative effects (Lee 2016, Nieuwland and van Melik 2018, California Coastal Commission 2018). Thus, the debate takes shape across lines that the Coastal Act has not had to address until technology and the deep economic changes that it ushered in began to transform the social and economic equations of coastal tourism.

Short-term rentals contribute a different kind of defuse economic vitality across a broader swath of a local economy than more centralized hotels and motels do. As tourists and Airbnb occupants stay near and explore more areas beyond the easy reaches of traditional hotels, they spend their money across a wider area of the locale where they stay. Visitors buy more goods from outside the hotel complex and its immediate vicinity and they may make a smaller negative impact on the surrounding environment than do hotel occupants (Airbnb 2018). At the same time, if Airbnb and the short-term rental industry help the Coastal Act by promoting more access to the coast, this gain in access seems to have thus far come at a cost of degraded neighborhood social fabric, possibly higher rents, and a greater disparity of income opportunities for residents in coastal communities.

Zoning laws separate land uses that are perceived as incompatible or require space from each other because of noise, pollution, privacy, traffic, or other aesthetic qualities. Residential neighborhoods are perhaps the most sacred type of zoning because of how singularly incompatible residential neighborhoods are with other types of zoning in urban and commercial areas. Some kinds of commercial, mixed-use, or even light industrial zoning can exist near residential neighborhoods in some circumstances, but too much noise and commotion from nonresidential uses quickly intrudes on a neighborhood's peace and quiet. Eroding the expectation of calm in a neighborhood intrudes on residents' personal space and their expectation for solace on their street from the tumult of work and commuting, and degrades what virtually everyone feels should be the basic peace of their home.

Short-term rentals can change the character of neighborhoods in several ways. Economically and socially, neighborhoods reflect the people who can afford to live there and Airbnb appears to change neighborhoods by raising real estate values of houses and apartments and, therefore, neighborhood demographics. In wealthier neighborhoods near tourist attractions, such as in many developed coastal communities, residents and real estate industry professionals anecdotally report rises in home values with a corresponding increase in Airbnb listings in their neighborhoods (Ruby 2016). Tourists and other short-term visitors drawn to scenic coastal communities for play and vacations take advantage of the qualities that make Airbnb lodging so appealing: access to a unique experience with opportunities for shaping one's trip that are less confined to what hotels offer for a cost that is typically lower than hotels.

In some ways, the residential rental housing market can reflect the way Airbnb acts on supply and demand forces. Some Airbnb's are located in homes that would not be used for longer term rental; the Airbnb's only suitable use in a rental market is as a short-term use like a couch in a living room. Such an arrangement does not affect a community's larger rental housing supply because that couch listed on Airbnb is not intended to be anything but a short-term arrangement that only temporarily benefits a low-budget traveler. However, when a home suitable for long-term rental use, like a larger portion of a house or the entire house, is offered on Airbnb, doing so removes it from a community's long-term rental and owner-occupied market. This tightens the rental market, reducing housing stock and correspondingly raising rents for segments of the population that are often more acutely affected by increased living costs (Lee 2016). Thus, Airbnb can change a neighborhood economically by raising home values and rents in desirable neighborhoods to benefit of some and the detriment of others. This change within a neighborhood can extend outward to surrounding neighborhoods as people priced out of one neighborhood look for places to rent in adjoining neighborhoods and beyond, an effect already seen in Los Angeles (Lee 2016). Ultimately, this homogenizes the demographics of a neighborhood, squeezing out lower-income segments and gentrifying a neighborhood.

In addition to the economic structure of a neighborhood, short-term rentals in residential neighborhoods can also change neighborhood feel through the nuisance and poor behavior of guests who act without regard for the real, permanent residents of the neighborhood. Loud parties, trash, parking congestion on residential streets, and general disregard for the neighborhood have led several communities in California to try to limit or ban Airbnb (Logan 2015). These problems of guest behavior and residential demands for respecting neighborhood feel are less widely felt, more easily confined, and more effectively managed when zoning separates homes where residents expect peace from lodging areas where guests expect fun. Short-term rentals blur this line, and add tension to resolving the issue by infusing money and an expectation of entitlement into the debate.

The potential for nuisance guests and rowdy behavior grows when Airbnb property owners do not live on-site and leave their house unattended and guests unsupervised. Clearly, potentially misbehaving guests are less likely to cause problems for neighbors when the Airbnb host remains on site, but this is by no means guaranteed. In fact, a growing number of Airbnb lodgings are in unhosted homes or even homes owned by a business devoted to buying multiple homes, converting them to Airbnb offerings, and then operating them in a hotel-like fashion from afar. It is the unhosted Airbnb properties that most degrade neighborhood feel, upset neighbors, and cause nuisance problems that begin to wear on city governments (Figure 3).

As the Airbnb lodging method has reordered the lodging industry since 2008, many like-minded people with rooms or whole houses to rent have reaped considerable profit from the fortunate and simple circumstances of owning a house near an appealing place. The tantalizing chance to earn considerable profit with relatively small effort in areas where the high cost of living makes such an endeavor even more appealing is a chance many people

jump at, even if doing so risks antagonizing their neighbors. This scene has played out in tourist areas around the world as visitors continue to look for travel features that short-term rental business are designed to give: the experience of travel lodging in different, 'unconventional' locales, distinct from a hotel experience; a greater variety of lodgings; and lower prices than conventional hotels.

Another negative consequence of Airbnb is the potential economic losses to the hotel industry and the service industry sub-sectors that support it from competition with Airbnb. While fair competition in a marketplace is undoubtedly good for consumers, producers, and communities, some in the hotel and service industry contend that because STR companies can take advantage of market opportunities inadvertently granted by outdated zoning laws, Airbnb enjoys an unfair edge in the market for visitors' lodgings. Unlike conventional hotels, Airbnb's do not employ the many housekeepers, maintenance staff, cooks, and management needed to operate a commercial lodging business. Further, it remains to be seen how well cities will collect occupant taxes from the portion of Airbnb's that are properly registered[5]. As Airbnb's proliferate, many in the hotel industry and some city leaders worry that some low-skill and entry-level jobs are lost, as private home owners need almost none of these service and support workers in their own homes to support an Airbnb operation.

Options for Resolution

Communities have viewed the issues surrounding short-term rentals similarly, but have approached solutions to the perceived problem differently. The issues related to Airbnb rentals — unwelcome changes to a neighborhood's character, pressure on the residential rental market from decreasing supply and increasing prices, and the sense that zoning laws and the basic way in which residential places are expected to feel are not keeping up with changes driven by technology advances — are broader than what the Coastal Act is meant to address. However, public access to the coast remains one of the state's important coastal zone management imperatives, and Airbnb's have been interpreted by the Coastal Commission *staff* (emphasis added) as an important tool for maintaining or increasing access to the coast (Craig and Carvill 2018). This improved coastal access is thought to be enabled by adding more lodging options at lower prices than could be found in a lodging market without Airbnb.

When a community regulates development in its coastal jurisdiction, it codifies those changes in its Local Coastal Program. As an official regulatory tool, LCPs are laws enacted and made subject to oversight and approval by the

[5] Enforcing municipal laws that require property owners to register their Airbnb offerings is largely seen as a difficult talk for cities, even without stricter restrictions recently under consideration. Some smaller tourist towns, even more so than in larger cities with large tourist sectors in their economies, already struggle with enforcing civil municipal codes. Expanding regulatory oversight, improving enforcement of Airbnb regulations, and collecting transient occupancy tax would be a challenge for many towns.

coastal Commission, as stipulated by the Coastal Act (California Coastal Act of 1976, chapter 3 articles therein)[6]. When a community seeks to change its LCP, the Coastal Commission weighs in to approve those changes, and in the case of LCPs that address Airbnb, the Commission has generally sought to allow Airbnb's. The main driver of the Commission's actions was its view of Airbnb as a beneficial tool for promoting access to the coast, but as the Santa Cruz case will show, a strong case that Airbnb negatively affects affordable housing stock in a certain locale can weaken the Commission's historical stance strongly favoring coastal access. But the Commission helping to decide how a community zones its land area and determines a community's mix of land uses seems like a distant expression of the Coastal Act's main intent. As such, the Commission's efforts can easily be seen as misguided attempts to harness a town's desire to address complicated issues like affordable housing and community feel. This, in turn, can undermine the Commission's worthy intentions of improving coastal access and adding sound judgement to thorny issues. To address community complaints about the negative effects of STR's, cities have tried to ban Airbnb's outright, regulate them by limiting where they can operate and how many and how dense they can be within a neighborhood, and also by doing nothing and waiting for the problem to progress farther until the most agreeable solution rises to the surface.

Some coastal cities have sought to heavily regulate Airbnb in all parts of the city, near the coast and beyond. A city and the Commission may attempt to restrict Airbnb in some neighborhood's but allow them in others, perhaps in order to preserve the character of neighborhoods that are already heavily used by tourists and are challenged already by heavy traffic or the effects of being near commercial or other non-residential zoning and its associated commotion. But cities are reluctant to impose strict restrictions on Airbnb, in part because Airbnb has filed suit against cities that try to strictly limit Airbnb on the grounds that such regulations impose unfair restrictions on private property use and on this lightly regulated business. Especially for small cities, with a small municipal legal team and limited budgets to wage legal battles against a highly determined foe like Airbnb, the prospects of defending itself against legal suits are daunting.

In 2018, the Commission approved the city of Santa Cruz's proposal to cap the number of hosted Airbnb rooms permitted in the city today at 250 and actively phase out non-hosted Airbnb rooms (Gumz 2018). By the city's reckoning in 2018, Santa Cruz had approximately 330 Airbnb offerings, thought to be evenly divided between hosted and non-hosted rentals. But that number is likely much higher as a data mining search company found in 2018 that around 1,000 Airbnb units were listed at that time. That the city plans to no longer issue new Airbnb permits would end new sanctioned Airbnb offerings and probably tempt many others to clandestinely offer their Airbnb rooms underground. If an Airbnb operator were running an Airbnb without a permit at the time that the new law was passed in 2018, he or she would not be able to then apply for a permit after the fact (Gumz 2018). In

[6] The articles of Chapter 3 in the Coastal Act delineate the CZM topics that an LCP should address. These include articles on public access, recreation, the marine environment, land resources, development in general, and industrial development in particular. Thus, the scope of how important an LCP is to a coastal area becomes clear.

choosing the option to approve Santa Cruz's strict cap the numbers of Airbnb rooms in the city, the Commission helps Santa Cruz appease disgruntled residents of some neighborhoods and the community's affordable housing advocates, but it likely invites criticism, too. The policy seems inconsistent with the Commission's other recent actions on the topic in which it intervened to keep other coastal towns from firmly regulating their own Airbnb disputes in a similar way as Santa Cruz has.

The Santa Cruz Case

History

From early exploration of the area by non-Native explorers in 1769, the Santa Cruz grew slowly as a Spanish missionary outpost. Mission Santa Cruz was built in 1791 on the San Lorenzo River and was one of the three original "pueblos" established by the Spanish in the California territory. By the 1820s, Mexico had assumed control of the region from Spain and Americans slowly began arriving in growing numbers (City of Santa Cruz, March 28, accessed 2019). Santa Cruz was incorporated as a town in 1866 and the young community received a crucial shot in the arm in 1875 when the Southern Pacific Railroad built a narrow-gauge rail line connecting the town to the wider railroad network beyond (Santa Cruz Economic Development, accessed March 28, 2019). A fishing industry quickly followed the railroad, and at its height, between 75 and 100 fishing boats operated from the town harbor hauling in hundreds of tons from a rich fishery that had not been commercially exploited. Commercial fishing was joined by logging, lime processing, and agriculture as the town's main economic drivers in the late-19th century, but today much of the commercial fishing industry has been supplanted by recreational charter fishing[7]. (Griggs and Ross 2006, City of Santa Cruz, accessed March 28, 2019)

Santa Cruz enjoys a pleasantly moderate climate beside the sea and tourists of the day began to venture to the area for its healthful climate and consistently gentle weather compared to the more hot and cold extremes of the state's interior. Public baths sprang up around the beach area, and together with restaurants, curio shops, and photo stands, a tourist draw was formed that informally accompanied the main attraction of the beach. In 1907, the Santa Cruz Beach Boardwalk and Casino opened and solidified Santa Cruz's place a full-blown tourist magnet on the Central Coast. Even though the casino eventually closed, the boardwalk remains one of the recognizable landmarks of the entire Central Coast. The city now draws over 1 million visitors per year, employs over 8,000 people county-wide, and contributes over $500 million per year in direct travel expenditures (Santa Cruz Economic Development, accessed March 28, 2019).

[7] For a more complete view of Santa Cruz's history, see *Santa Cruz Coast (Then and Now)* by Griggs and Ross, 2006 and excerpts from *Pacific El Dorado - A History of Greater California* by Osborne, 2013.

Industries geared towards the area's natural resources slowly diversified in the later twentieth century to include higher education with the opening of the University of California Santa Cruz campus in 1965 and high technology. Its location just over the low mountains of the coastal range gives tech some quieter distance from the lightning-fast pace of nearby Silicon Valley to the east, but also affords easy access. The local tech business community includes established electronics and computing companies in business for decades as well as a familiar strain of tech start-up's. Notably, the local technology industry of Santa Cruz includes pioneering work in genome sciences, with UC Santa Cruz being the research site of the first complete mapping of the human genome (Santa Cruz Economic Development, accessed March 28, 2019).

Figure 6 - Map of the Coastline Around Santa Cruz, CA

Coastal zone boundary map from the California Coastal Commission

The city was badly shaken in 1989 by the Loma Pieta earthquake which was centered in the mountains of the Forest of Nicene Marks State Park about 10 miles northeast of town. The earthquake lasted for 15 seconds and killed three people in Santa Cruz and 59 others throughout the Bay Area. Parts of Santa Cruz's downtown area were destroyed by collapsed buildings and debris was scattered around streets int he city's center.

Today, the city's contemporary economy relies heavily on its second century of tourism, but that sector has expanded to include visitors to area wineries, spas, organic farms, and other newly established destinations, as well as familiar stays for beach goers and outdoorsmen. To support a modern tourist economy in Santa Cruz, the local lodging and hotel sector's service industry has grown and now shares the concerns and advocacy views of other labor sectors in the county like agriculture and produce packing. Like many small communities along the coast, the City of Santa Cruz depends on tourism for a large share of its economy. The city is located along the peaceful and lightly developed central coast of the state, at the northern end of Monterey Bay (Figure 4). The community is within an easy one-hour drive from the dense urban centers of the sprawling San Francisco Bay Area and lies near the confluence of several features that enrich Santa Cruz culturally, economically, and aesthetically. The town abuts heavy agricultural production in fields that begin a few miles beyond the developed community, it hosts a growing University of California campus just north of its downtown, enjoys the famous draw of the Pacific Ocean at the western edge of the city, and receives a steady stream of tourists from throughout the region, seeking respite from crowds and heat over the mountains that separate it from Silicon Valley. The community has hosted a famous beach boardwalk amusement park for over 100 years while small Victorian houses, blue-collar neighborhoods, commercial fishing, surf culture, and the UC campus grew up nearby. The town's slowly enlarging confines and economic fortunes have grown noticeably in recent decades.

Short-term Rental Decision

Hotels and motels in Santa Cruz lie within set zoning boundaries, as they commonly do elsewhere, but as the regional economy of the Bay Area has grown and real estate values there and along the coast have risen, Santa Cruz has maintained a mix of residents' income ranges, home values, and a diverse economy that includes vital inputs from tourism and its supporting service industry. As area hotel prices steadily increased, little appealing low-cost hotel and motel space arose to fill the price void created by rising hotel room prices. In 2008, the sudden appearance of the nascent short-term rental industry with Airbnb in the lead quickly signaled that Santa Cruz, San Diego, Santa Monica, and other coastal communities would experience new challenges in their social fabric.

In Santa Cruz, this effect on the rental housing market concerned city leaders enough for the city to successfully impose restrictions on the numbers of Airbnb offerings in 2018 in spite of objections from the Coastal Commission staff (Gumz 2018). The staff contended that restricting Airbnb and other would unfairly limit accessibility to the

coast when the larger problem of nuisance and other property owners' complaints could be addressed through better law enforcement and more precise, targeted regulations at the city level (Craig and Carvill 2018).

The city's Airbnb conflict came to a head in 2017. Faced with pressure from exasperated home owners fed up with how their neighborhoods were changing, hotel and service industry leaders concerned that Airbnb's were undercutting their business, and growing perceptions that Airbnb lodgings were worsening the affordable housing problem, the city council began an official study of Airbnb lodgings in the city (Gumz 2018). One year later, the council believed that strict regulations were the best solution for Santa Cruz and prepared to consider new limitations on the number and type of Airbnb lodgings in 2018. The course of action for Santa Cruz that the Coastal commission staff favored would have taken no action towards restricting STR's. The staff regarded questions of affordable housing supply in the city to be a separate issue and distinct from what it sees as the main coastal management issue of public access. It also considered neighborhood complaints of nuisances associated with Airbnb guests to be a problem of the city inadequately enforcing its public nuisance laws and not an issue worthy of restricting STRs (Craig and Carvill 2018).

In the last several years, the commission has advised coastal communities that it considers Airbnb to be a viable tool to maintain and improve coastal access. As such, the Commission appears loathe to approve almost any changes to local coastal plans that restrict Airbnb except under unique circumstances only relevant to a specific community (Craig and Carvill 2018). In Santa Cruz, however, the commissioners ultimately disregarded the recommendations of their staff and voted to allow Santa Cruz to heavily restrict STR's. Unlike their staff, they saw viable connections between the growth of the UC campus and the tightening housing market in Santa Cruz. In addition, they appeared to accept the city's contention that neighborhood complaints and local hotel industry worries were connected to unregulated Airbnb lodging.

The Triple Bottom Line Perspective

Seen through the lens of the triple bottom line, the issue of short-term rentals along the coast presents a perplexing, multi-pronged policy test. Short-term rentals present a challenge to the basic zoning framework of separating incompatible land uses within a community and organizing a community's complex land arrangements. Zoning laws with origins in the early twentieth century could not have anticipated the complicating factors of the information technology age and changes in commerce associated with land and zoning that followed. At the same time, it seems natural to assume that the Coastal Act of 1976 would define 'access' as being more than physically standing on or having access to the beach as a public trust resource, but just how much more? Virtually every beach visitor needs some modicum of infrastructure support, be that parking, paths, stairs, and more. But where that accommodating degree of access ends remains to be definitively set; it seems likely that only the legal process can truly establish a definition of access for the new Airbnb world. The triple bottom line helps us determine how

well a system like coastal Airbnb rentals performs in a broad sense. But this is only one small element of a larger performance measure.

Little hard evidence exists to prove that Airbnb lodgings markedly increase rents but perceptions among many suggest that even if their effect is small, any additional pressure on a difficult rental housing market is certainly unneeded (Lee 2016). Other coastal communities in California have faced the same Airbnb problem as Santa Cruz in the recent years, with similar tactics used to try to appease both sides of the lodging transaction. In 2014, city officials in Malibu, CA began gathering data on its Airbnb offerings which are allowed within in the city with no restrictions as long as they register with the city and pay its 12% losing tax (Stevens and Groves 2014). In 2015, the city of Santa Monica, CA outlawed all whole-house Airbnb offerings of less than 30 days, but allowed so-called home-sharing wherein a home owner could rent out a room of a house for less than 30 days. A host running an Airbnb operation in Santa Monica would have to pay the city's 14% lodging tax just as a hotel would (Logan 2015). San Diego passed a series of new Airbnb regulations in 2018 that seem to have please few in the ongoing debate (Molnar 2018). The Commission was not involved in any of these cases, so few usable comparisons can be made to Santa Cruz. In both all these cases, however, assessing the city lodging tax is used as way to begin treating Airbnb as the lodging unit that they are. This could be one way to clarify what nearly all see as the reality of a new form of true lodging. In acknowledging this reality, cities and the Commission could ease tensions among the Airbnb camp and its opponents in coastal residential neighborhoods.

In what follows. this case study shows that the Coastal Commission acted in ways that can be judged as high-scoring and low-scoring for the same area of TBL depending on the commissioners' perspective or the staff's. Simultaneously, the Santa Cruz decision also showed how access to the coast remains one of the more well-guarded tenets of the Coastal Act. The triple bottom line measures an organization's performance by financial, environmental, and social performance, as discussed previously. In Santa Cruz, how the Coastal Commission considered these three areas in its decision is assessed below with grades of GOOD, MODERATE, POOR, or UNDETERMINED for each of the three performance parameters. TBL normally examines the viability of a company, but in this case and more broadly in the coastal environment, the Coastal Commission acts as a surrogate for the viability of the whole California coast. In this larger sense, the coast is composed of the natural environment, the people who depend on it directly and need it indirectly, and the coastal-oriented economy that has grown up with the state. If triple bottom line methodology examines the long term viability of Coastal Commission decisions, it also by extension, examines the long term viability of the California coast and all that goes with it. The principle of cumulative effects applies in this context. When the Commission and local governments make well-conceived decisions about coastal management with long-term benefits for the "the total coast" (environment, social well-being, and economy), these governance bodies make a sound decision judged through TBL. Furthermore, such sound decisions are simply a part of good governance (Orbach 2019) and are bound to have multiplying positive

effects. Ecologists and other natural scientists have also sounded the alarm about the opposite effect, as well: a series of badly conceived, short-sighted decisions aggregates its harmful effects into a more serious problem than each of the smaller decisions standing alone.

Financial - financial considerations seemed to be critical in the Commission's decision. The Commission responded to financial concerns — whether sufficiently proven or not — to help alleviate the city's affordable housing problem by restricting Airbnb and presumably help move those lodging options into a longer-term rental market. Proponents of this tactic assume that this increase in supply will satisfy demand and help reduce rents. Interestingly, owners of Airbnb's stand to lose significant income from their Airbnb once the city's ordinance takes effect, which is a financial loss that the Commission seemed willing to accept. The city of Santa Cruz would also feel this financial loss because it would lose revenue from its 11% transient lodging tax (TOT) on STR's, but possibly recoup a portion if visitors simply stay at a hotel instead of the lost Airbnb offering. The Commission acted with a moderate degree of financial care. It tacitly acknowledged the loss of revenue felt by many home owners offering lodging on Airbnb and the City of Santa Cruz's potential loss of unknown tax revenue from losing TOT derived from Airbnb. Simultaneously, the Commissioned may have helped easy pressure on the city's rental housing market while maintaining a smaller but viable means of lower cost lodging through STR's. **FINANCIAL PERFORMANCE - Moderate**

Environmental - there were few direct environmental considerations here. Little objective evidence is available to show whether STR's, in general, are a better use of environmental resources than hotels. Airbnb claims that guests in a residential homes use less water, create less trash, and are more likely to recycle materials than hotel guests are (Airbnb 2018), but this claim is unverified. Using existing homes for short-term lodging instead of devoting building materials, energy, and fresh water to a new hotel seems inherently more environmentally responsible than staying in hotels. Only formal studies of the true environmental impact of Airbnb in coastal first-world communities would adequately answer this question. **ENVIRONMENTAL PERFORMANCE - Undetermined**

Social - there are two distinctly different social issues at work in this case study. The Commission and its staff were split on which of two different issues should be paramount, with the commissioners siding with the City of Santa Cruz in its attempts to firmly regulate Airbnb because of its perceived effects on affordable housing and nuisance complaints. On the other hand, the commission staff placed much more importance on Airbnb as a positive tool for improved coastal access and seemed to extend the Coastal Commission's reach farther into a community's inner workings than even the strong push for public access would deem as reasonable. The Commission ultimately saw its role in this case as helping a community deal with the serious social issue of affordable housing in a tight rental housing market. Thus far, the

Commission has not determined how to effectively satisfy both the mandate to improve coastal access and further a city's legitimate community housing goals in a setting like Santa Cruz. So, while social considerations dominated this case, the Commission could not resolve the issue in way that satisfied both social issues. The debate will surely continue and likely require more intervention from the Coastal Commission. **SOCIAL PERFORMANCE - Moderate.**

Discussion

Airbnb has opened a Pandora's Box of intertwined, thorny questions that revolve around whether people agree to allow exceptions to accepted zoning practices for the good some and at the expense of others. For coastal zone managers who seek to maximize public access through more than day trips to the coast, and thus expand access to the coast overall, Airbnb is a useful tool. Airbnb provides a less-expensive avenue to more people enjoying more time at the coast than before it emerged in 2008.

But the Santa Cruz case shows that measuring the social performance of Airbnb in a community is not a straight-forward metric and the performance measure can be different for different stakeholders. Seen from the Commission staff's primary perspective of enabling more coastal access to the public, Airbnb's social performance in Santa Cruz is fairly high because it succeeds at providing less expensive varieties of lodging options. But seen from the perspective of city leaders, some local residents, and parts of the local business community, Airbnb scores low in the social performance category because it likely reducing the stock of rental housing, creates nuisances in some residential neighborhoods, creates mismatches in zoning with commercial uses placed in residential zones, and puts unanticipated stress on several city's government departments. Issues like these and others related to TBL performance will be discussed more in Chapter 6.

The questions and possible answers of the Santa Cruz case spread more broadly than just the central issue of access. First, the very definition of access has morphed into a question that the Coastal Act seems to not address directly and leaves open to interpretation. How far the most logical and appropriate definition of access should go to provide transportation, lodging, food, and amenities to create access and fulfill that mandate of the Coastal Act remains to be seen. This might prove to be the most pressing question to arise from the Airbnb debate for the Commission and the courts. Secondly, one of most important relationships among the many involved in integrated coastal management is between the Coastal Commission and local governments. Each must support the other in managing the coast for Californians; the Airbnb issue has tested this relationship by pitting the Commission's mission to uphold the Coastal Act against Santa Cruz's imperative to address an important local issue. The Coastal Act gives local governments broad powers to regulate development practices in their coastal communities for good reason: local perspectives are usually most attuned to community needs. When this important perspective is

combined with the high standard of a state-level agency that can help drive well-conceived development and conservation, the result is a powerful force for good governance along the coast.

It may be expected, and even be seen as logical, for the Coastal Act to have not anticipated this kind of issue, but how the Commission and the city of Santa Cruz resolve the issue shows how important it is that the two sides work together. The second case study will illustrate this point in more stark detail.

"The first person who, having enclosed a plot of land, took it into his head to say, 'this is mine' and found people simple enough to believe him was the true founder of civil society."
Jean-Jacque Rousseau

Chapter 5 Case Study 2: The Laguna Beach House

The case of the house at 11 Lagunitas Drive in Laguna Beach, CA provides a timely example of how a single project can expose several critical layers of issues at one time. The expensive private home located close to the shore along Victoria Beach in the city of Laguna Beach, CA is one of many impressive residences in a beautiful community located between less-developed coastal hills and the blue ocean just south of Los Angeles. At one property, the entire assembly of coastal governance issues, zoning regulations, user conflicts, and environmental concerns are stacked atop a small, sparkling strip of shrinking coast.

In the seaside enclave of Laguna Beach, the frenetic hustle of Orange County and nearby Los Angeles are temporarily calmed by a beautiful but highly developed stretch of fantastically valuable shoreline. The coastline here is treasured by older locals who remember the locale's increasingly distant past as simply an expanse of beach, a surfing and diving spot, and a place to picnic between waves and coastal bluffs. Younger locals likely know the small beach within the city of Laguna Beach as the birthplace of the sport of skim boarding and have watched the area grow, prosper, and homes in the area become even more expensive in the process. The home remodeling project at 11 Lagunitas Drive exposes how well the Coastal Act of 1976 can handle an issue involving an intractable property owner and a local government unwilling to enforce its local coastal program (LCP). As in a similar manner with the Santa Cruz case, in this chapter, I will describe the issues, the setting, the story of this contentious case, options for resolution, the TBL perspective, and a discussion.

The stakes for all involved are high: the property owner, the larger public of California residents, the smaller public community of beach goers, and the natural environment itself. But perhaps the stakes are highest for the California Coastal Commission - it must affirm its authority to properly regulate development or else unleash an onslaught of similar compliance issues up and down the coast.

The Issues

Primary Issue: Upholding the Coastal Act

As noted above, this case study encompasses several important coastal management issues in the story of a family that was determined to renovate a beach house amid natural hazards and regulatory limits. The couple faced two significant problems in trying to renovate the house. The first is the property's location directly fronting the beach and its vulnerability to storm waves that in winter storms today, would easily damage any exposed

structure built facing the ocean. The second significant obstacle to renovating the house is the California Coastal Commission's permit specifically written for the property that allowed an outdated seawall to remain in order to protect an existing house, but prohibited extensive renovations of the house. If these conditions or others imposed by the Commission were violated, the seawall would lose its grandfathered permit and would have to be removed.

However, and as will be seen, the property owners disregarded the Commission's explicit limitations on how the house could be renovated and still be allowed to keep its old seawall. Instead, the family benefitted from the city of Laguna Beach's questionable planning and building code enforcement and built an almost completely redesigned and rebuilt house that is well-beyond what the Commission's guidance intended. The new house is far more valuable than the old one, but still relies on the same seawall to protect it from ocean waves that would quickly damage the house in a winter storm. After the property owners refused to work with the Commission to change their plans and curtail their house renovation, the Commission ordered the family to stop construction and eventually imposed a $1 million fine. The couple launched their own offensive against the Commission by suing the agency, claiming that they have been wronged by the Commission's process and have lost significant property value. A county court judge stayed the Commission's fine until the law suit begins in June of this year.

At stake is the basic balance of public benefit and private use of the coast. If the Commission wins in court, the rule of law effectively is upheld along the coast — local coastal programs and the state Commission's ability to

The property at 11 Lagunitas Dr. along Victoria Beach in Laguna Beach CA. 2018 Google Earth image

enforce its own rules will prevail. The couple will be forced to contend with dismantling part of their newly constructed house and the seawall that protects it so that the beach and bluff may be restored to their former condition before the seawall changed the face of the beach landscape. Most importantly, the case will send an important message to coastal property owners that the Commission's permits and local governments' development permits must be taken seriously. While passionate advocates for coastal conservation decried the project, oversimplifying the case as a choice between a lavish seaside house or a public beach (Xia 2018), the crux of the case is more far-reaching: whether the Coastal Commission can enforce its own laws and rely on a stable partnership with the local government of Laguna Beach.

If the property owners win, then the framework of regulating some conditions of private property along the coast for the benefit of the public will be seriously weakened. Moreover, seawalls and other hard armoring structures that protect small patches of built coastline will be granted a reprieve. More broadly, the Coastal Act and almost all the resources that it was meant to guard will be made more vulnerable to the effects of climate change and the determined will of coastal property owners. While the basic framework and rule of law for regulating coastal development is the main issue of this case study, several important underlying issues are also involved.

Underlying Issues: Responsible Property Ownership, Ecological Value, and Quality Intergovernmental Partnerships

There are two underlying issues in this case. The first is the idea that property ownership in special places imposes some inherent limitations on how a property owner can use the land. In places with special value to a community — whether at the scale of town, state, or country — the natural heritage derived from that place is unique and innately treasured at some basic level by the community. This forms part of the basic identity of 'place' and is part of what it means to be from a place as special as a beautiful coastal town like Laguna Beach. Property ownership in places like this comes with consideration for maintaining the uniqueness of that place; along the coast, that can involve helping to ensure that coastlines endure and remain special places for all.

The second underlying issue in this case is the sometimes-difficult process of maintaining good working relationships among different levels of governance. Part of the foundation of the Coastal Act is the critical need for sound working relationships between the state-level Commission and local-level city and county governments. Local governments are charged with implementing most of the development regulations mandated by the public through the Act, and do so with guidance and sometimes oversight from the Commission. This collaborative relationship applies a common standard of balanced, well-conceived planning to the wide variety of practical decisions that local governments have the insight to make. As will be discussed below, this relationship between

the Commission and the city of Laguna Beach failed, allowing property owners to violate both state and local laws with at least some understanding that the city condoned their actions.

From the standpoint of the natural environment, the case exposes the ecological issues of restoring damaged parts of Southern California's natural environment and is an early indicator of how well people are willing to prepare for the effects of climate change. Seawalls are designed to shield a valuable place from the damaging effects of waves. Building a seawall along a coastline fundamentally changes dynamic natural processes that continuous shape a beach. These processes are easily seen near Laguna Beach, where bluffs along the oceanfront gradually erode and supply the beach at the base of the bluff with a nourishing supply of sand, rock, and other material that comprised the bluff. Incoming waves strike the beach with steady force and distribute eroded material across the beach and in the nearshore waters below the beach. Waves can add sand from the near-shore seafloor back onto the beach, but that process alone is often not a reliable source of sand to sustain a beach. Usually, this ever-changing process is slow and gradual, but seasonally, with the force of winter storms, waves and wind can quickly erode a beach and bluff and noticeably change the profile and contours of both. This is, of course, a precarious place to build a very expensive house unless a protective seawall is built to protect this enormous investment from the natural world around it.

Once a seawall is built, eroded bluff material that would have replenished a beach assaulted by waves is retained behind the wall. Waves continue to deposit some sand on a seasonal basis, but the net results is often more wave erosion than deposition, ultimately yielding the beach to erode and shrink. Such is the case on Victoria Beach, with evidence of the changing widths of different stretches of beach coinciding with the presence of absence of seawalls (Moddelmog 2018) along the beach. A shrinking beach provides less access to the public, less buffer to the land from seasonal storms, and less habitat for the array of plants, birds, and other life that add their mix to the natural setting of the coast. Finally, a seawall erected to protect one structure from wave erosion simply deflects that wave energy outward along the beach which causes adjacent stretches of beach to erode and threaten nearby properties.

The Setting of Laguna Beach

Laguna Beach is a small beachside community at the secluded coastal west side of Orange County, within the vast greater Los Angeles metropolitan area and about 45 miles south from downtown. From its official founding in 1927, the town grew up at a comfortable distance from the quickly expanding city of Los Angeles but close enough for its picturesque beaches and coves to draw many coastal visitors from the city (Visit Laguna Beach website, March 22, 2019). The town has been home to movie industry professionals, artists, and ocean enthusiasts for decades, and is now one of the more tony coastal enclaves in Southern California. Today, the community of approximately 24,000 people blends coastal canyons just inland from the shore, swanky shops and galleries in its

main village, and some of the region's most desirable coastal neighborhoods. The area has become more desirable in part because it is surrounded by a considerable amount of undeveloped land which, in the crowded region around Los Angeles, is an even more a desirable quality.

Like virtually all other communities in southern California, Laguna Beach's roots are set in Native American settlements that gave way to Spanish and, later, Mexican ranches. Before reaching Santa Cruz to the north in 1769, Spanish surveyor Gaspar de Portola's expedition route passed through the area around Laguna some weeks before. In 1776, Spanish missionaries founded Mission San Juan Capistrano about eight miles southeast of Laguna Beach which, like in Santa Cruz, would serve as a base for steady Euro-American influence in this part of the early California territory (Laguna Beach Historical Society, accessed March 29, 2019). Once California was ceded from Spanish to Mexican rule, the government made land grants to dozens of prominent Mexican families. The Mexican government gave one of these land grants near the inland canyons and valleys just north of Laguna Beach to a prominent local family but it was eventually sold after a severe drought to American real estate speculator and businessman James Irvine in 1865. Following the American Civil War, homesteaders began filtering into the hills and canyons above the beach in the mid-1870s, and before the end of the century, the area's mild climate and picturesque natural setting was attracting artists, travelers, and romantics to the fledgling town (see Figure 7, Laguna Beach Historical Society, accessed March 29, 2019).

Laguna Beach became a noted destination for landscape painters who were drawn by the dramatic coves, canyons, and sunlight. One prominent local water color painter of the area enticed a larger group of impressionist-style painters to follow, and by the late-1920s, half of the town's full-time residents were artists. The first art gallery opened in the city in 1918 and as the town's art scene grew, the Pageant of the Masters was founded that featured live depictions by posing models of famous paintings. The event carries on today (Forbes 2005, accessed March 29, 2019)[8].

The community has remained a getaway spot for Hollywood stars since the silent film area and some citizens lamented the impending rush of newcomers when the formerly remote area was connected by the new Pacific Coast Highway in 1926. The counter-culture and hippie movements of the late-1960s made Laguna Beach their unofficial southern California base in the late-1960s and budding mountain biking surge beginning in the late-1970s added to the town's tourist luster that was already highly polished by scenic, artistic, and celebrity status (Laguna Beach Historical Society, accessed March 29, 2019).

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[8] For more descriptions and photos of Laguna Beach's history, see the Laguna Beach Historical Society's informative website at http://www.lagunabeachhistory.org.

Curiously, Laguna Beach experienced a sobering natural disaster within a few years of Santa Cruz's 1989 earthquake. In October 1993, a raging one-day wildfire, started by an arsonist, consumed 14,000 acres and destroyed 441 homes before steep canyons and weather condition helped contain it. In the aftermath of the fire, the city made several improvements to its city emergency preparedness posture. City officials greatly revamped its emergency preparedness by updating firefighting and civil communications capability and changing the city building code to prohibit roofs made of shake shingle and requiring new and remodeled home to have automatic sprinkler systems (Ritchie 2018). Since 2000, Laguna Beach has continued to develop as a desirable mecca for

Figure 8 - The remodeled home as it appeared in 2018

vacationers, art enthusiasts, and those seeking an incredible scenic home setting in comfortable isolation from Los Angeles.

Today, the town and surrounding area tries to balance difference for its fortunate land and seascape with intense pressure to capitalize on it. The area is the site of five 5-star resorts (more than on any of the Hawaiian Islands), a city marine reserve or "blue belt" to go with its established green belt and trail network, over 300,000 visitors per year for the Pageant of the Masters art festival (Laguna Beach Historical Society, accessed April 2, 2019), and real estate hawks always searching for an appealing coastal property.

The eight miles of shoreline in Laguna Beach is well-known for its natural beauty, with coves, beaches, bluffs, and walkable paths nearby. This lovely stretch of coast has also been sought-after for homes and holiday cottages for decades. Beginning in the late nineteenth century, small homes began to be built on coastal bluffs and some stretches of beachside. By the mid-20th century, larger and more elaborate houses were common along Laguna Beach's shore, and today, real estate values have skyrocketed here and in many other highly desirable communities around coastal Los Angeles. Throughout this area, where oceanfront land that can be developed for homes has become exceedingly rare, prices for beachfront homes typically exceed $10 million and quickly find many willing buyers. As a result, real estate in an area like Laguna Beach becomes sought after as a place to live and also as an investment.

The property at 11 Lagunitas Drive is a beachfront plot in a private gated neighborhood a few miles down the beach from the main center of town. The private neighborhood agreed to allow public access to the beach in front of the neighborhood through an easement required by the California Coastal Commission in 1987 (Moddelmog 2018). This small half-mile stretch of beach, known as Victoria Beach, fronts the property and lies between bluffs at the north and south ends of the beach. Victoria Beach is the original site where lifeguards invented and popularized the sport of skim boarding and the beach is still a favorite local place to gather for fun (Visit Laguna Beach website, March 22, 2019).

The original house at the property was built in 1952 on a bluff overlooking Victoria Beach. In 2005, the then-current owner faced a dire situation when ocean waves crashed against the beach with enough force to seriously threaten the house. The owner appealed to the Coastal commission for an emergency coastal development permit to hastily build a seawall to protect the threatened house (Moddelmog 2018). The Commission approved the emergency request but required the owner to either remove the temporary seawall at a later date or apply for a full coastal development permit (CDP) to retain the seawall. The owner did neither, failing to either remove the seawall or proceed with the regular CDP process. Following this incident, the house changed hands twice before the Katz family bought it with its seawall in late-2015. The Katz's and their architect soon embarked on an ambitious project to extensively renovate the old house outside the Commission's strict regulatory framework that governs coastal development.

While working with a previous owner of the property shortly before the Katz's bought the home, the Coastal Commission had stipulated that the seawall could remain in place only under certain limited conditions, one of which was that the old house could be maintained but only lightly remodeled. This idea being that the Commission sought to follow widely accepted coastline ecological policy of phasing out old seawalls and other hard shoreline armoring structures and allowing natural shorelines to recover. If the old house were extensively remodeled or torn down and replaced with a new modern home, it too would depend on a seawall and thus perpetuate a destructive development cycle that required a seawall to protect a house that ultimately should not be sited at such a vulnerable location.

The Katz family disregarded this and other conditions in the permit, and in 2016, proceeded with a near-total renovation of the beach house. After a prolonged period of contentious dealings between the Katz's architect and attorney and the Commission during which the house remodel project continued, the Commission formally ordered Jeffrey and Tracy Katz in 2018 to cease and desist their renovation project and later imposed a $1 million fine (Moddelmog 2018). Before the fine could officially be imposed, the Katz's quickly responded by filing a lawsuit against the Coastal Commission and claiming that the Commission's actions were unfair, not consistent with its own permitting authority or that of the City of Laguna Beach, and had deprived the family of its right to rent or sell the now-contested property. A court judge stayed both the Commission's $1 million fine and the Katz's lawsuit until the case can be settled in court in summer 2019.

Creating Contention

The fight over allowing a seawall for a house remodel prohibited by the state but with the dubious acquiescence of a city government is a microcosm of a present-day fight and a larger future struggle. These circumstances will easily be repeated up and down the coast, and If the courts or the Coastal Commission allows one homeowner to protect a poorly sited house behind a seawall, many others will likely follow. From there, part what keeps California's coastline even partially protected today will erode, just as sea level rise has begun to wear away beaches, too. How the fight over 11 Lagunitas Drive evolved shows important parameters about how this case can be seen through a triple bottom line lens.

In 2005, the original house by the shore at 11 Lagunitas Drive was in danger of being damaged by string ocean waves. The home owner applied to the California Coastal Commission (CCC) for an emergency coastal development permit (CDP) to build a seawall to protect the threatened house (see Figure 8). But she did not wait for the Commission to approve the permit, presumably because the immediate threat to her house was so dire and the Commission's response was too slow. Instead, she had the seawall built straight away even though the Commission did issue an emergency CDP sometime after she began construction on the seawall, and in the ensuing months, she failed to apply for a full CDP for the seawall after the fact, as the Commission required. Without a

proper CDP, the seawall did not comply with the law, but the Commission subsequently took no decisive action to press the case against the home owner. The seawall remained and the house was foreclosed on sometime later (Moddelmog 2018).

The house changed hands two more times before MSSK Ventures bought the property in 2013 and made the first attempt to remodel the house (see Figure 9). MSSK Ventures hired well-known architect James Conrad as architect and agent to handle forthcoming plans for the property. In early 2014, MSSK Ventures applied for a CDP to rebuild the property's seawall and extensively remodel the aging house. In March 2014, the city of Laguna Beach, through its local coastal program (LCP), approved the CDP by authority delegated to the city by the Coastal Act of 1976. Two commissioners on the Coastal Commission soon learned of the property and the city's approval of the CDP and were alarmed at the prospects of a seawall possibly being allowed to remain on a famous beach in a heavily developed coastline when modern coastal regulations would surely not allow one (Moddelmog 2018).

James Conrad met with Commission staff in the spring of 2014 and by the fall, the resulting conversations led him to scale back his remodeling plans. Commission staff would not support an extensive remodel of the house because it would perpetuate the need for a seawall and the harmful effects that result. He stated at the time that he understood from these conversations with Commission staff that the seawall could only be repaired and allowed to remain to protect the existing 1952 house, not a remodeled or redeveloped contemporary house. He then told the Commission staff that he would only do "paint and carpet work" on the house and reinforce the existing seawall (Moddelmog 2018).

One of the major fights in this case is determining what regulation was actually violated. The CDP issued by the Coastal Commission in 2015 allowed the seawall to remain in place as long as the existing house remained in its present state and was not improved or remodeled. However, in the legal fight with the Coastal Commission that followed, the Katz's seemed to direct attention away from that plain, almost binary stipulation - a house in its then-current state or a remodeled house - to an argument about the level of remodeling that occurred. This deviation from the 2015 CDP's actual wording to a disagreement about the degree of remodeling that constitutes major work strays beyond the intent of the Commission's 2015 permit conditions. The home owners contend that the City of Laguna Beach LCP's common definition of a major remodel is replacing 50% of a structure and they claim that they actually replaced less than 10% of the former home. While the original 2015 CDP did not cite the 50% figure, nor any other definition of a "major remodel", observing the huge amount of work done on the house, from replacing floors, roof, structural framing, windows, and so on would cast serious doubt on the dubious contention that less than 10% of the house was remodeled (Moddelmog 2018).

Months passed, then in June 2015, in a curious unexplained turnaround from its previous appeal of Laguna Beach's CDP, the Commission found that its own appeal "raised substantial issues with conformity to the City's local coastal program" (Moddelmog 2018). In essence, the Commission seemed to reconsider its last move and seemed

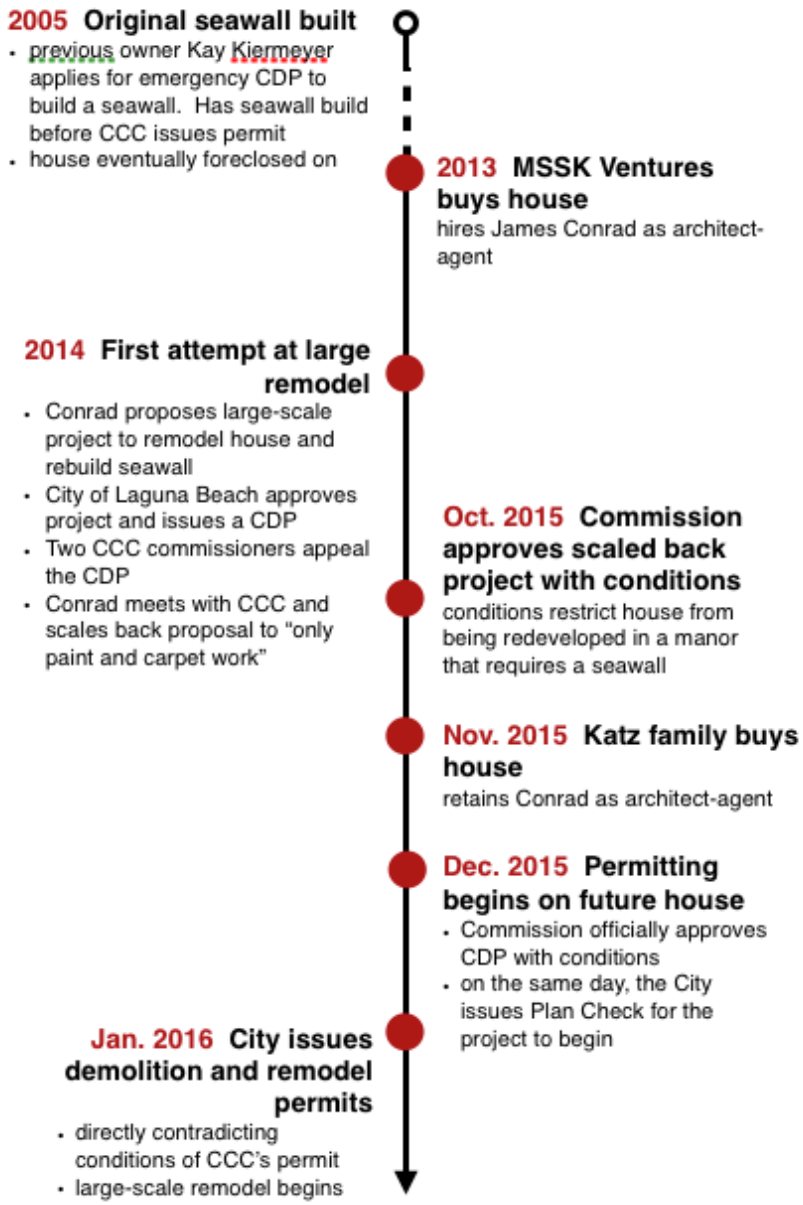

Figure 9 - Timeline of Events at 11 Lagunitas Drive

to wonder whether it should question the decision of Laguna Beach whose LCP was supposed to direct how the coastline in its local jurisdiction would be managed. In doing so, the Commission may have emboldened some staff at the city of Laguna Beach to expect less oversight in how the city handled the process as it moved forward. The Commission then took what would become the crucial step in the entire process by approving MSSK Venture's CDP, but with some important conditions. Among the several conditions, two would be the primary points on which the case turned: the first was that the seawall would be authorized for now, but would lose this authorization if the house that the seawall protected were redeveloped "in a manner that constitutes new development". The second

condition was that "no future development or redevelopment was allowed to rely on the seawall for protection". Thus, the grandfathered seawall could remain only to protect the current pre-Coastal Act house and could not be relied on to protect the house in a redeveloped state or protect a new house in its place. The Coastal Commission approved the CDP with these conditions at its scheduled hearing in October 2015 (Moddelmog 2018).

Less than a month later, Jeffrey and Tracy Katz, who lived next door to the property at 9 Lagunitas Drive, bought it from MSSK Ventures on November 4, 2015 and retained James Conrad as architect-agent. The Katz's used the legal entity *11 Lagunitas LLC* to represent them and the project going forward. The Commission officially issued the CDP for 11 Lagunitas Drive on December 28, 2015 and the city of Laguna Beach issued a plan check for the house on the same day[9]. Unbeknownst to the Commission, the Katz's began immediately to obtain other permits for a much more extensive project at the site, including the first demolition permit one week later in early January 2016. What would ensue from this point was a full-scale remodel of the old 1952 house into a heavily modified and much more valuable house under the nose of the Commission but seemingly with tacit approval of key personnel at the city of Laguna Beach[10].

Remodeling of the house progressed throughout 2016. The city issued more permits for further demolition and permits for interior and exterior remodeling in the first half of the year and most demolition appeared to have occurred in the summer of 2016. Strangely, the city planning official who had issued all of the project's plan checks in the initial stages of the remodel was barred from working further on the project in the fall of 2016 (Moddlemog 2018). This official was thought to be the source of a perceived conflict of interest between herself and the city planning and permitting process and James Conrad, the well-placed architect-agent for the Katz's project that the city seemed to be slightly uneasy about. This apparently close connection between 11 Lagunitas LLC and the city's planning office added suspicious element to the project and cast doubt on the efficacy of the city's planning and permitting process.

A neighbor suspected that the renovation work progressing next door was questionable and contacted the city to enquire about the project. So, in January 2017, the city opened an investigation of the project. City planning and zoning officials who visited the site had conflicting opinions about whether the extensive work happening at 11 Lagunitas Drive constituted a remodel. After visiting the project site, one city building official called the work a "100 percent remodel and addition" with "every area inside and outside of the house" rebuilt, but the now-barred planning official who also visited the site at around the same time stated that the work still had not met the city's

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[9] A plan check is generally a process in which a municipal government reviews building plans to ensure that they comply with basic safety, engineering, and planning rules. The City of Laguna Beach's plan check involves determining if the planned structure complies with zoning regulations related to property lines, set back, allowed height, and other guidelines related to whether a structure is properly sited on its lot. *City of Laguna Beach/ Community Development/Building & Construction, accessed March 24, 2019).*

[10] A local news service reported in 2018 that Jeffery Katz was a close personal friend of a city of Laguna Beach zoning administrator (Bruno and Renda 2018).

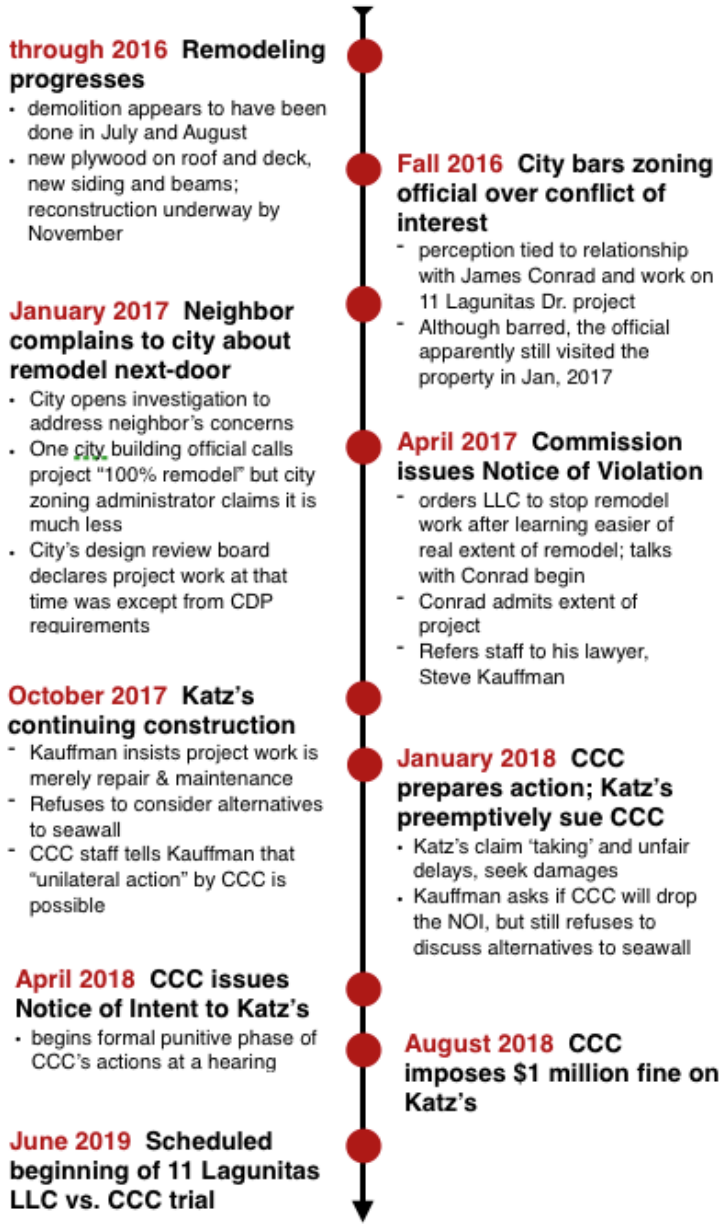

Figure 10 - Timeline of Events at 11 Lagunitas Drive (continued)

definition of a "major remodel". This was in spite of the city having already issued permits for a major remodel to the house in addition to earlier demolition permits (Moddlemog 2018). Throughout this period, neither the Katz's nor James Conrad communicated with the Coastal Commission nor did the city of Laguna Beach. The city declared that the project work was covered under the earlier CDP that it had lawfully granted to the Katz's and that the project was exempt from the Commission's further oversight even though the seawall — an absolute necessity for protecting any house built at this property — was covered under the Commission's permit, not the city's.

More than one year had passed since the Coastal Commission issued the CDP for the property's seawall, stipulating unambiguously what kind of work to the house could be done and still be able to retain the now-grandfathered seawall: the seawall could remain as long as the original house was not developed in a manor that constituted new development. It is not clear to what extent the City of Laguna Beach knew of or understood the conditions of the CDP, but the Katz's and the city acted as if the stipulations were irrelevant. The City issued a total of 45 permits for the remodeling during the course of the project (Bruno and Renda 2018).

After learning that the city had declared that the work was exempt from needing a CDP and that the old house on the property was being extensively remodeled, the Commission sent Conrad, on behalf of the Katz's, an official Notice of Violation in April 2017 and declared that their development was unpermitted and requested that they stop or face further consequences. The Commission and Conrad discussed the project and he admitted that more than just "paint and carpet" work was going on at the property in spite of what he had earlier stated months before. He further stated that the current owners bought the house next door to theirs with the desire to remodel the house and would not consider any alternatives to keep the seawall. Conrad admitted that, from the beginning, 11 Lagunitas LLC wanted to remodel the house without getting a CDP or dealing with the Coastal Commission at all. He soon directed the Commission to discuss the matter further with his lawyer, former Coastal Commission attorney Steve Kauffman.

The strange, contradictory stance of those working towards the 11 Lagunitas remodel continued when Kauffman joined the story. Commission staff met with Kauffman, exchanged letters, and spoke by phone with him in the next several months and throughout these exchanges, he insisted that the remodeling work was merely repair and maintenance of the original house (Moddelmog 2018). Finally, in October 2017, Kauffman admitted that the Katz's had not stopped construction on their house as the Notice of Violation had directed and they would not consider an alternative to retaining the seawall. With this revelation and 11 Lagunitas LLC's insistence that it would not consider alternatives, Commission staff in November 2017 wrote to Kauffman that the Coastal Commission would take unilateral action on the case, if necessary.

As the Commission prepared its next actions on the case, 11 Lagunitas LLC filed a lawsuit on January 18, 2018 in Orange County Superior Court against the Coastal Commission. The lawsuit argued, among other things, that the Commission unduly delayed the proceedings (presumably, the entire process or at least the CDP process) and had committed a temporary 'taking'[11] of the property. They sought undisclosed damages for this and other actions of the Commission surrounding the case The staff prepared an administrative enforcement tool called a Notice of Intent (NOI) which initiates the official process of the Commission imposing a penalty upon an entity that violates the Coastal Act. When the Commission was officially served with the lawsuit on February 1, 2018, it halted its

[11] A 'taking' refers to the so-called Takings Clause of the U.S.Constitution's 5th Amendment which states that private property shall not taken for public use without just compensation. This federal law was extended by the 14th Amendment to include actions by states and local governments, in addition to actions by the federal government.

preparations for a hearing on the NOI and turned its attention to preparing for the impending lawsuit. After one final round of unsuccessful communication between Commission staff and Steve Kauffman in which the staff again offered to discuss the remodel and Kauffman refused to discuss seawall alternatives, the Commission issued the NOI in April 2018.

The Commission ordered the Katz's to remove the seawall protecting the 11 Lagunitas Drive property and later fined them $1 million for flagrantly violating the Coastal Act. (Wiskoll 2018). In June 2018, an Orange County court judge stayed the fine until the lawsuit is settled; the suit is scheduled to be heard in court starting in June 2019 (Moddelmog 2018). The seawall remained intact in November 2018 (Davis 2018) and there has been no movement on dismantling the seawall before the lawsuit is settled.

Options for Resolution

Above the rancor swirling around the case, one sees unambiguous issues of compliance with state and local law, the serious consequences of ineffective relationships between state and local governments, and the question of valuing ecological functions that benefit many or valuing a seawall that benefits only a few. As an aside, I also observe that even within the Coastal Commission, there were different views about the proper outcome for this case. A former Coastal Commissioner and a commission staff member chose to work for 11 Lagunitas LLC and the Katz family after they left the Coastal Commission.[12] This plainly shows that even among people regarded as among the most well-informed coastal management practitioners, there are clear differences in viewpoint.

As state law that provides a framework for local and state governments to jointly manage the extraordinarily valuable California coast, the Coastal Act must carry its appropriate weight to people who would knowingly try to flaunt the law in the form of the 2015 CDP. If the law cannot do that, it becomes useful only to those who would display it as an example of the belief that it is inherently futile to try to manage a valuable natural asset for the public in the first place. Obviously, a tremendous amount of past, present, and future value lies in the state's foremost natural resource and the Coastal Act and those who seek a life connected to the coast need a strong Coastal Act. The thrust of this case centers on the ability of people and governments to adjust their sensibilities about property design and management in light of responsible longer-term values, and how private property aspirations fit alongside the public good.

It would seem that a property owner seemingly bent on pursing a plan to renovate a house that contemporary sensibility and state regulations show to be built in a hazardous place should heed the advice of the Coastal Commission. The Commission was loath to allow a seawall and the well-understood harm it caused to the

[12] Steve Kauffman formerly worked for the California Coastal Commission as a staff attorney and, as of this writing, is in a private law practice. Another of the Katz family's representatives in the 11 Lagunitas Drive case was Susan McCabe, a former Coastal Commission commissioner who now leads a private consulting firm working on coastal development.

environment at Victoria Beach and the limitations to access that it imposed there. It only did so because the seawall was protecting a house built before the Coastal Act of 1976, in spite of the seawall being built long after the Coastal Act would have prevented a contemporary house from being sited in such a precarious and inappropriate beachside location. There is little doubt to even the most casual observer that the house underwent an extensive remodel, and thus clearly exceeded the Commission's conditions that allowed the grandfathered seawall to remain. According to the Commission and a city of Laguna Beach building official, nearly every part of the house had been rebuilt, reinforced, or otherwise remodeled, from the framing, floors, roof, and joists to walls, windows, and exterior areas of the property. Reinforcing the idea that the seawall CDP's conditions were violated and a full remodel was done there, the Katz's lawsuit claims that the property value increased through their project work from $14 million to $25 million, which clearly supports the idea that a great deal of valuable remodeling work was done to the house. This property truly was developed well beyond its original state when the 2015 CDP allowed the seawall to remain in place. Thus, the CDP's conditions were plainly violated.

This case provides a clear example of competing uses for a prized and limited natural resource. The public expects natural resources that function as close to the resource's full, natural capability as possible regardless of who owns adjacent property. Simultaneously, a private person expects that his or her property title includes all facets of unobstructed use of the property, even if lawful conditions are placed on the property for the public good. One good summary of the case is simply whether the beach on which both the public relies for recreation and the Katz family relies on to site a seawall is the most appropriate use of the land (Xia 2018).

The Triple Bottom Line Perspective

Here, I assess that how that the Commission acts in accordance to TBL considerations is tantamount to how well the overall coast is protected and responsibly used. In essence, the Commission acts as a surrogate entity for the coast and I connect the idea that earning high grades for TBL performance benefits the public, its social institutions, and the natural environment. Upholding the Coastal Act, therefore, earns high TBL grades, and vice versa. The grading criteria of GOOD, MODERATE, POOR, or UNDETERMINED for each of the three performance parameters remain.

> Financial - in attempting to place public use above privileged private use at Victoria Beach, the Commission protects real economic value and livelihoods. Retaining a seawall and thus allowing a public beach to become degraded limits recreational value at the beach and all the tangible economic benefits that would bring to a local area. A degraded beach draws fewer visitors who contribute less to a local economy, but a degraded beach also offers less respite and aesthetic value to people who would find comfort and solace in this pleasant natural setting. This almost-therapeutic value to people may be compensated by other forms of respite, but that could come

with added costs in other ways. The beach and the happiness that it brings to people are meant to be broadly shared, open to all, and come with little cost. These ecological function values that serve the broader population have real financial benefits and the Coastal Commission's decision serves those interests well, as the Coastal Act directs. In all time frames — short, middle, and long term — prioritizing the viability of Victoria Beach by removing a harmful seawall and prioritizing public use over private use favors much stronger financial performance for many more people than a single private use at the beach. **FINANCIAL PERFORMANCE - GOOD**

Environmental - Clearly, the seawall at Victoria Beach degrades the environmental functions of the beach, the near-shore seafloor, and the bluff area. None of those three linked sub-areas can function as habitat for living organisms that would ordinarily live there, nor can the integrated system of the three areas and the surrounding areas function properly as a larger ecosystem with seawalls disrupting the beach there. The seawall precludes the environment functioning for its own sake, and precludes it from providing full ecosystem services for people who live near or visit the area. These services include the beach acting as a buffer from storm waves and storm surge, the bluff providing structure for plants to grow which strengthens the soil structure of the bluff area, and the intact viable system of shore-beach-bluff providing a place for human uses such as fishing, surfing, and diving. The Commission acted on these factors, showing that it recognized the environmental implications of allowing a seawall to remain in place (Christie 2018).

ENVIRONMENTAL PERFORMANCE - GOOD

Social - The largest and most obvious social implication for the Coastal Commission in this case was the question of whether the public or the private party should have precedence in how the beach would be used. The Coastal Act mandates that coastal managers strive to maintain, and if possible, increase the public's access to the coast. With the direct link between seawalls and beach erosion, this case propels the issue of beach access for the public to the forefront of the overall case. Concluding that 11 Lagunitas LLC broke the Commission's CDP conditions that allowed the seawall to remain in place was a logical result of the remodel, and as such, restoring a beach without the impediment to beach access would seem to be logical, as well. The Commission ordering that the seawall be removed is a rational and reasonable move to restore compromised beach access and strongly advocates for greater social benefits from beach access.

SOCIAL PERFORMANCE - GOOD

Discussion

As sea level rise, increasing population, and surging real estate values increase pressure on the coast, it is very likely that the Laguna Beach case will be repeated soon somewhere else along the California coast. Because of this very fact, it was important for the Commission to set the precedent for taking a long view of issues that will only become more critical as these three above factors all converge on the coast.

This case study shows how the Commission decisively followed the parallel mandates of the Coastal Act and the triple bottom line. Both the highest purpose of Coastal Act and TBL would lead to the outcome seen here, in which social, environmental, and economic values are maximized by making a sound decision oriented towards the long term. It is exactly this long-term view that favors a beach with fewer seawalls, more ready to embrace the needs of the many stakeholders with vested interests in Victoria Beach than a beach holding a seawall built for a single house.

The physical characteristics of beach extent and size, the stability of bluffs and cliffs, and the proximity of onrushing storm surge up the beach face towards our built environment are critical and must be acknowledged as fragile and not guaranteed to endure without the Commission's full attention. Ordering the seawall removed helps improve the physical health of the coast in Laguna Beach. Beyond the physical well being of the coast, the 11 Lagunitas Drive case shows the link between the coast's physical well-being and the value of social benefits through improved access.

On another level, one sees that conflicts easily arise on coastal management issues between individuals and agencies at different levels of governance. Influential individuals in key positions of power can have an inordinately large effect on a process that is meant to be driven by a commonly held view of coastal management. In other words, local officials would be expected to follow local regulations properly and at the same time honor cross-governance commitments like those that the state-level Coastal Commission and local-level city agencies share.

"*Destroying rainforest for economic gain is like burning a Renaissance painting to cook a meal.*"
E.O. wilson

Chapter 6 Triple Bottom Line Thinking from the Coastal Act of 1976

The parallels between the basic mandate of the California Coastal Act of 1976 and the triple bottom line business ideal are so plainly close that they must have a common root. Each boils down the best measure of success - whether in business or in coastal management - as the same three-part model: true long-term success economically, socially (or in society, the community, or for "the common good"), and environmentally. Another term for this ideal would simply be good governance (Orbach 2019). Well-conceived, responsible governance that creates opportunities for long-term prosperity for individuals and livelihoods, in communities, and that makes careful use of natural resources is good governance. The Coastal Act was written during a period of California history in which political differences could be harsh, but pragmatic cooperation between democrats and republicans to achieve a needed outcome was real and often prevailed (Starr 2005). This fleeting climate of political will in significant, weighty questions of the day - like a landmark law to actively manage the state's entire 1,100 mile coastline - was a political environmental that allowed a piece of "good governance" to emerge.

Similarly, the triple bottom line business framework optimistically emphasizes the best that people imagine a company or an organization to be: a business that creates generous profits and wages for its employees and shareholders, fits comfortably into the fabric of its community, and prudently uses and preserves nature resources. This, too, is good governance, but expressed not through public governance but through business governance.

The Coastal Act and Triple Bottom Line are Complimentary

Among the many dozens of elements written into the California Coastal Act of 1976, its main drivers that have steered coastal management policy are shaping the coast for the benefit of its people, its coastal economy, and the shared environment. This three-part emphasis can be paraphrased into a construct of social or cultural value, coastal livelihoods and the ocean-based economy, and responsibly using and preserving coastal environments in the state. In addition to repeatedly stressing all three of these necessary values, the Coastal Act also emphasizes that sound policy decisions must consider the long-term implications of each decision and their cumulative impacts. The Coastal Act explicitly states these triple mandates, expresses them as interdependent factors, and emphasizes the importance of taking a long view of coastal management early in the text of the law. It succinctly ties the three together early in the 137-page law, stating on page 3 that protecting coastal environments benefits

all three related parts of this management triad (with emphasis added): "…to promote the public safety, health, and welfare (*social aspects*) and to protect public and private property, wildlife, marine fisheries, and other resources (*economic aspects*) , and the natural environment, it is necessary to protect the ecological balance (*environmental aspects*) of the coastal zone and prevent its deterioration and destruction (California Coastal Act of 1976, Section 30001). The Coastal Act also asserts that a forward-looking, long-term view that encompasses coordinated planning is vital to the effective large-scale coastal management that the state needs. Especially with respect to social and economic well-being, it declaring that: "existing and developed uses, and future developments that are carefully planned and developed consistent with the policies of this division are essential to the economic and social well-being of the people of this state and especially to the working persons employed within the coastal zone." (California Coastal Act of 1976, Section 30001). Further, shaping coastal policy through a *long-term lens* is a primary focus of state-level coastal management in that "protection of the state's natural and

Table 3 - Factors Considered in the Santa Cruz Airbnb Decision

Economic	Social	Environmental
amount of affordable housing	neighborhood disruption caused by rowdy Airbnb visitors	(none noted in the record)
jobs provided by traditional lodging or by Airbnb	public access to the coast	
	changing character or saturation of Airbnb in residential neighborhoods	
	city's willingness to enforce existing civil codes that affect neighborhood feel	

red - primary determining factor; orange - secondary determining factor

scenic resources is a paramount concern to present and future residents of the state and the nation (emphasis added). (California Coastal Act of 1976, Section 30001). In this way, sound coastal management in the state is vital to Californians and also to the United States in general because the state's coast is a cherished piece of national heritage and such a crucial economic factor for the country's largest state economy that it becomes important to the country as a whole.

The Coastal Act of 1976's mandate to manage the California coast for the public, the environment itself, and for the state economy is replicated inadvertently in the triple bottom line framework of the 1990s. But the thinking that makes the Coastal Act so powerful and effective predates the TBL idea by 20 years

In a strong parallel to the Coastal Act, the triple bottom line business philosophy proposes that measuring a business's performance according to the same three measures of people, profit, and environment best shows how well a company performs in the long-term (Savitz and Weber 2014). Moreover, achieving a balance of triple

bottom line considerations, or at least attempting to manage systems with a TBL framework in mind, goes farther in satisfying an array of stakeholders. Crucially for a business organization and a coastal society, aiming for sound performance in these three areas drives long-term, sustainable success. TBL is meant to more completely and effectively measure organizational performance according to more contemporary attitudes about the role of companies and organizations. Similarly, the people-profit-environment mandate in the Coastal Act shows that government recognizes that the best way to manage the coast is by letting those three areas guide management decisions and outcomes.

Achieving enduring triple bottom line performance requires a long-term mindset among leadership and decision-makers - something that is certainly implied, if not advocated, in the Coastal Act, too. So, one readily sees the main edicts of a long-term focus on three-part measures of success in the Coastal Act and in the triple bottom line framework. The Coastal Act's elements of a healthy social system, economy, and environment are encompassed in the term *sustainability*, which is the term most often used to sum up the main goal or outcome of the triple bottom line.

Today, one can only speculate about whether Peter Douglas and other authors of the Coastal Act used the term 'sustainability' in the same manor that contemporary advocates of the triple bottom line would, but it seems likely that they would have. The two governance systems of the Coastal Act and the triple bottom line are parallel concepts, close enough in outlook and emphasis that they seem patterned after each other. Common sense approaches to simple, good governance would lead a responsible public servant or business leader to address these three areas in high-stakes settings that combine people, their livelihoods, and the places that they live. It is easy to imagine that the Coastal Act's authors recognized and appreciated the exact factors that make triple bottom line accounting a powerful tool today (Caldwell 2019).

The Success of the Coastal Act and Triple Bottom Line

Protecting and carefully managing the California coast has been accomplished by myriad government agencies at the local, state, and federal levels, by private citizens, non-governmental organizations (NGOs), and concerned businesses. Usually, several of these entities have coordinated at least some of their actions towards the goal of achieving an outcome that is favorable to most stakeholders and to the ubiquitous goal of preserving the coastal environment. The Coastal Commission has played a central role in this ongoing process, usually not by acting alone to affect an outcome, but by acting in concert with local or state agencies, private citizens, or businesses. Perhaps the best overall indicator that strong state-level governance has helped the public, the state economy, and California's coastal region is that the 1980s and 1990s, the state's gross economic product from its ocean-related economy contributed over twice as much to the overall state economy as did agriculture (Sivas and Caldwell 2008). This is in a state with the largest agriculture production in the US and in spite of, or possibly because of, having

among the most stringent coastal building regulations in the country. There is no reason to believe that the state economic trends observed above in the 1980s and 1990s have not carried forward to today.

More of the state's coastal management success is evident in a deceptively obvious way. As the Commission's former director, Peter Douglas, said, success is evident in what people do not see as they travel along the state's coastline (Osborne 2018) more so than what they do see. At least outside of the Los Angeles area, observers see few large areas of development that overwhelm the landscape around it. Observers do not see many large housing developments, large industrial plants, and few interstate highways that together would mar the huge scenic value of the coast. In requiring that new development projects be concentrated in areas that have already begun to be heavily developed, the Coastal Commission has helped to keep intense development near the infrastructure and connections that development projects need to sustain their operations while maintaining a buffer or delineation from areas that can be kept more wild and preserved. This has helped economies in coastal counties continue to

Table 4 - Factors Considered in the Laguna Beach House Decision

Economic	Social	Environmental
loss of community economic benefits derived from an ecologically well-functioning beach	loss of public beach access because of erosion	disruption of the beach-bluff ecosystem
	willful disregard for state law	harm to near-shore marine ecosystem and upland terrestrial ecosystem
		beach erosion and loss of usable beach

red - primary determining factor; orange - secondary determining factor

grow while at the same time keeping their green areas untrammeled for these counties' growing populations. This is shrewd triple bottom line strategy in that as economies grow, people's community needs for wild space and scenic value are maintained, and the environment is protected. This adds social, economic, and environmental value to the entire region.

The peninsula of land encompassing the several counties that connect bustling San Francisco to the technology and residential hub of the Santa Clara Valley to the south are a prime example of how shepherding competing needs shows triple bottom line traits. This peninsula and the adjoining counties of the Bay Area are home to over 7 million people, with the peninsula's east side having been engulfed in urban development for decades. But the on the west side of the narrow peninsula, merely 20 miles from the Bay, over the Santa Cruz Mountains and along the coast of Half Moon Bay, lies mostly rural open space, protected parks, and pieces of a coastal-oriented economy of fishing and tourism embedded into the larger economy (Lester 2013).

Another way in which the Coastal Act and its emphasis on a long-term, three-part mandate is successful is in how effectively it carries out the basic function of reviewing, negotiating, and adjudicating coastal development permits. While the Coastal Act delegates most authority to review and approve coastal development permits (CDP's) to local communities through their local coastal programs (LCP's), the Coastal Commission may still review permits that are appealed or remain within the Commission's cognizance because of a proposed project's large size and potential impact. From the standpoint of how many CDP's local communities approve or deny, the Coastal Act can be seen as an effective guiding framework for local jurisdictions to follow with only about 6% of CDP's that were appealed to the Commission being denied because they were inconsistent with the LCP or the Coastal Act (Lester 2013).

Much of regulatory strength in the Coastal Act comes from negotiated outcomes with people seeking a coastal development permit. Without a CDP, the often expensive development project cannot legally proceed. By their very nature, LCP's and the Coastal Act require development projects to meet an effective minimum standard for protecting the natural environment. This is expressed through careful attention to landscape factors like managing ground water runoff, soil stability, siting a structure with setbacks away from potentially hazardous site conditions, maintaining plantings, and restoring parts of a site that are disturbed in the building process. When a proposal fails to meet minimum standards, a negotiating process almost always begins which usually results in the party requesting the CDP to alter their plan to conform with the LCP or Coastal Act. Only in a fairly small minority of cases does the municipality or Commission fail to reach an agreement with the requesting party. In a study of the Commission's record of approving or denying CDP's, Hui used quantitative data mining techniques to scour Commission meeting records and found that CDPs for single-family homes (the most frequent type of CDP application) were approved about 80% of the time (Hui 2017). All approved CDP's followed a negotiation process that conformed the project to minimum standards which were designed to maintain the basic value of the coast: its intrinsic aesthetic value, the public's sustained ability to access the beach near the development, and basic healthy functioning of coastal ecosystems.

In regulating coastal development to a high standard of social, economic, and environmental value at such a high rate of success for permit applicants (using single-family home applicants as an indicator of broader success), one sees that the Coastal Commission is largely successful in its three-part mandate. In this context, the Commission seems to succeed in following a triple bottom line framework and effectively performing the service to the state that the law intended. This example also alludes to the overriding quality of 'good governance' and the way in which the public benefits from well-conceived coastal policy derived from a law that sought to balance important elements in public life: the economic vitality of communities and coastal livelihoods, and the natural environment in which all of this takes place. This is simply 'good governance' (Orbach 2019) and one can see the connection between good governance in the Coastal act and in the triple bottom line. This ideal of good governance may be the truest intent and the greatest benefit of the Coastal Act.

How Case Studies of Santa Cruz and Laguna Beach Demonstrate Triple Bottom Line Benefits

Santa Cruz

One can apply the lens of triple bottom line thinking to evaluate the case studies of Airbnb regulations in Santa Cruz and the beach house development at 11 Lagunitas Drive in Laguna Beach and see how well the Coastal Commission considered people, profit, and the environment. Broadly speaking, when the Commission uses a triple bottom line methodology to evaluate a development project, it subscribes to the general overriding theme of the Coastal Act. Notwithstanding how difficult a process this is and how contentious negotiations may be, it is critical for the well-being of coastal communities, their ocean-based economies, and the coastal environment that the Commission follows this mandate.

In Santa Cruz, the Coastal Commission faced difficult pressure from several sides of the city's Airbnb debate, including from within the agency itself. Ultimately, the Commission voted to uphold the city's proposal to update its LCP to restrict the number of hosted Airbnb lodgings in the city, and gradually phase out unhosted Airbnb lodgings completely in the future. The Commission considered several stakeholder points of view. First, it respected Santa Cruz's local jurisdictional authority and the credibility of its LCP, which was embodied during the deliberations by the Santa Cruz city council and its city's various municipal interests. Of the three triple bottom line areas of interest, the economic pillar coincided with the primary need emphasized most by the city, which was to ease pressure on the scant supply of affordable housing in the area (see Table 2). The city government and other proponents of limiting Airbnb in the city regarded rental properties operated as Airbnb lodgings as lost from the potential supply of long-term rental units, thus increasing pressure on the tight supply of affordable housing. The social pillar of the triple bottom line was a secondary factor and here, it showed the Commission following the city's stance on the Airbnb issue. The Commission deferred to the city's desire to ease complaints and pressure from disheartened residents near the beach who bear the brunt of Airbnb visitor noise, trash, and congestion in their neighborhoods. This deference was reflected in the city's move to gradually phase out unhosted Airbnb rentals whose lack of supervision by the property owner is considered more likely to lead to disruptive behavior by unruly visitors.

After considering the city's concern about affordable housing supply, the Commission heard complaints from the local hotel industry and its related service worker industry about the perception that Airbnb lodgings indirectly reduce job opportunities in the service industry. Airbnb lodgings need fewer housekeepers, building maintenance workers, cooks, and other lodging service personnel than do hotels and motels, and in Santa Cruz, this reduced demand for relatively low-skill workers is thought to decrease employment opportunities for some. The Commission did not directly address this issue, and it seems unlikely that the issue would prevail in the larger

Airbnb question in a coastal community like Santa Cruz because service industry jobs are not directly related to the ocean economy, and thus, would not be an economic sector, like fishing or diving, that the Coastal Act would address.

Interestingly, the most distinct point of conflict in the Santa Cruz case came from within the Commission itself and was related to the social pillar of the triple bottom line. Unlike the twelve Commissions themselves, the Coastal Commission staff in their official recommendations for Commissioners shifted the focus away from economic needs within the city and instead focused on coastal access and economic needs of the larger public beyond. This shift in emphasis away form local needs to higher-level state or public needs is a long-standing element of wider thinking in the Coastal Act and a sentiment often seen in Commission decisions, but ultimately disregarded in this case. The staff regarded coastal access as the main coastal management issue at hand and saw plentiful, relatively low-cost Airbnb lodgings as a way to further more public access to the Santa Cruz coastal area. They considered Airbnb and other such short-term rentals as a viable and needed alternative to more expensive hotels and motels whose comparatively higher room prices could limit access for lower income visitors or larger groups of visitors.

In a precise TBL examination of the Santa Cruz Airbnb case, however, one can see that the Coastal Act applies in only a limited way and the most pressing issues in the case are not related to problems that the current version of the Coastal Act is meant to address. As originally written, the Coastal Act of 1976 did mention the need for affordable housing in the coastal zone, but that language in the law was later removed (Osborne 2018). Undoubtedly, affordable housing is an especially important concern in a coastal community like Santa Cruz with a diverse multi-sector economy whose jobs have widely varying levels of pay. But the issue no longer has definitive bearing from a strict reading of today's Coastal Act. Restricting Airbnb may have real deserving credence with residents who strongly desire (and would seem to be entitled) to protect their residential neighborhoods from being used in a way not intended by zoning laws - thus become "hotelized" - but that issue is outside the bounds of what the Coastal Act is designed to do. The Commission seemed to latch on to the affordable housing issue in concert with the city of Santa Cruz at the expense of other issues that did, in fact, have specific connection to today's Coastal Act. One could argue that the Commission staff's emphasis on furthering access to Santa Cruz's coastal zone by recommending that Airbnb be unrestricted places the larger public good above neighborhood residents and local economic concerns. In their argument for allowing unrestricted Airbnb, Commission staff attempts to shift the onus of maintaining neighborhood peace and cohesion away from the general Airbnb construct and towards specific issues of city public safety programs and city governance (Craig and Carvill 2018).

If affordable housing supply and low-and moderate-wage jobs in Santa Cruz are viewed as social benefits in a triple bottom line sense, the Coastal Commission seems to confine those social benefits locally in the immediate Santa Cruz area. In so doing, it helps the city of Santa Cruz form city policy that has little, if any, real connection to

coastal policy. The reason that the matter would come before the Commission in the first place is that the LCP addresses lodging issues. But if Airbnb really does improve access to the coast (an unproven idea, so far), than the Commission staff correctly focused on the main social issue advocated by the Coastal Act - maintaining and improving public access to the coast.

In this case study, environmental concerns are practically absent, notwithstanding previously discussed points about Airbnb visitors producing less waste and the houses where they stay consuming less resources to build than do hotels. Santa Cruz leaders and the Coastal Commission left environmental issues out of the debate, so triple bottom line factors in the context of the environment are less relevant to a conclusion here.

In summary, the Santa Cruz case shows the Commission taking a more narrow or immediate view of the Airbnb issue and its relation to the coast than the Commission staff does. In choosing this perspective, the Commission protects some legitimate local-level interests (maintaining neighborhood character and the possible effect of Airbnb on housing and employment[13]) but constrains wider social benefits; again, assuming that Airbnb lodgings do encourage coastal access. The triple bottom line perspective would advocate for the Commission to see social benefits in a broader way.

Laguna Beach

Using the triple bottom line to view the Laguna Beach case study is much more straight-forward than for the Santa Cruz case. Each of the three TBL measures of environment, community, and economy are represented more clearly in the Laguna Beach case (see Table 3). Here, the commissioners and the staff were united in easily recognizing the clear violation of Coastal Act, the details of the case, and the way forward. In contrast to the Santa Cruz Airbnb case, the environmental measure of the triple bottom line is paramount among the three and the economic factor is the least pressing of the three.

The seawall that the home owners used to protect their illegally renovated house is the flagrant environmental factor upon which the rest of the case turns. With its strong negative attributes of furthering beach erosion, disrupting the coastline's beach-bluff ecosystem, and the ensuing loss of public beach access that results, the seawall and its environmental costs are the primary factor in the case and also trigger negative measures in the other two TBL measures. If the seawall were removed, all three TBL measures would improve: the community would enjoy the social benefits of greater beach access and the aesthetic benefits that follow, greater economic benefits would flow to the area's shops and restaurants from beach-goers who visit the area, and the coastal environment would obviously improve.

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[13] For a more thorough description of this issue, see "*How Airbnb Short-Term Rentals Exacerbate Los Angeles's Affordable Housing Crisis: Analysis and Policy Recommendations*, by Lee (2016), and *Regulating Airbnb: How Cities Deal With Perceived Negative Externalities of Short-Term Rentals*, by Nieuwland and Melik (2018).

The Commission's actions here are in line with upholding a triple bottom line way to assess the 11 Lagunitas Drive development and are an important signal that long-term decisions about development are crucial for sound coastal management. In the long run, a single seawall in Laguna Beach is unlikely to be the last one allowed to stand, if the Commission loses in court against the home owners here. The cumulative effects of other seawalls at other sites where property owners are emboldened by the Commission's loss in court would create a much greater long-term triple bottom line loss.

"You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete." -Buckminster Fuller

Chapter 7 Consequences and Recommendations

The future of the California coast and the management structure enacted decades ago by the Coastal Act are constantly changing, even if only subtly. For all its treasured beauty and immense value, the landscape and marine boundary of the coast almost certainly will change under the weight of rising human population, increased development pressure, and the changing biological mix of plants and animals as species adjust to these pressures. These sources of pressure are easy to anticipate and have been the subject of a growing body of research, but California's main governance body for dealing with these changes at the state level, and secondarily, at the local level, must also adapt. The Coastal Act seems poised to remain the preeminent tool to manage people's use of the coast, but the people who serve the Coastal Commission as commissioners, staff, and political benefactors will need even more refined tools in order to fulfill the mission demanded by the Coastal Act. In this sense, the Coastal Act should continue to be refined and the team empowered with helping Californians use their coast should be reinforced. The triple bottom line way of thinking can be that powerful tool that helps CZM stakeholders (chief among them, the public) see the best way forward in coastal policy.

To help sustain the state's ocean and coast-based economy and help its major coastal population centers adjust to the factors listed above, and especially to the looming multi-part threat of climate change, the Coastal Commission should direct its energies in a two-level strategy. The first level involves helping municipalities on the front lines of these challenges to adjust to the more immediate social and environmental pressures that people will increasingly feel. The second strategy will involve reinforcing a commitment - embodied in triple bottom line thinking - to make policy decisions based on long-term goals for the California coast (including its people), and thus, for the state as a whole.

Together, these refinements to how coastal managers apply the Coastal Act will help stakeholders achieve better triple bottom line performance. This, in turn, will help Californians live in greater balance with their coastal environment.

Consequences and Future Challenges

Even as the nation's most populous state with several major urban centers on its shore, the California coast is still considered fairly well-managed and has mostly avoided large-scale, damaging development in the years since the Coastal Act went into effect on January 1, 1977. The Coastal Act and its array of advocates, implementers, and supporters has so far largely succeeded in the difficult mission to preserve the environment, create a setting rich

and alive for communities, and enable a strong coastal economy. This can be attributed to several powerful factors beyond the effectiveness of the Coastal Act.

The state's shear size and the long 1,100 mile coastline place the large urban centers of the San Francisco Bay Area, Los Angeles, and San Diego within long stretches of still-fairly quiet coastline. Some stretches of the central and northern coast are too difficult to profitably build new developments because of their inconveniently great distances from major economic and employment clusters. Other reaches of coast have limited potential for significant development because of their limited natural supply of fresh water and the expanse of building new infrastructure in a fairly wild place (Orbach 2019). In this way, large parts of the coast have so far escaped contentious fights over developments. If their accidental fortune of distance had not been on their side, it seems unlikely that all currently quiet reaches of coastline would be as intact as they are today.

The state's coastline has benefited from dedicated allies in the many and varied non-governmental organizations (NGO's) and environmental activist groups that are keenly attuned to coastal preservation issues and new development proposals. At the same time, the Coastal Commission has been forced to hone its management practices to a fine point by the equally powerful opposing forces of developers, private property advocates, and grass-roots political groups dedicated to "small government" and rabidly suspicious of powerful state-led programs like coastal management. This constant adversarial posture imposed on the Coastal Commission and, by extension, the Coastal Act and its major themes, has helped maintain a level of energy and urgency that has probably helped the Commission remain relentlessly focused on guiding state coastal management forward.

This tension gained a higher pitch in the 1980's and onward when Governor George Deukmejian's administration sharply cut the Coastal Commission's budget, leading to staff cuts and slowing the agency's ability to carry out its basic functions. However, the Commission maintained strong allies in the state legislature where many in the assembly and the state senate are reluctant to compromise the Coastal Act. This reliable support in both chambers of the state legislature may be one of the strongest sources of security for the Coastal Act (Caldwell 2019).

Throughout the text of the Act, the authors reaffirm the key role of the public in being involved in debates about coastal management issues and active in participating in the management process. The coastline as its own distinct entity remains unquestionably popular in public opinion polls taken to gauge public attitudes towards policy questions of the environment and state economy. Although the total number of people who attend Coastal Commission hearings may be relatively small in a given year, there is little doubt that the public truly supports coastal preservation and wise coastal management. Nevertheless, as climate change, housing costs, and other pressing state issues vie for the public's attention, it would be easy for the public to lose sight of how crucially important a well-managed and preserved coast is to California's livelihoods and the public's own direct well-being. Therefore, it remains especially important for local and state governments to actively engage the public in participating in the coastal management process, to stay informed, and demand a high standard of regulatory

transparency and competence in coastal zone management decisions. This was emphasized from the very beginning of the state's environmental movement and was embedded in the Coastal Act itself. Building more public involvement in local and state CZM will remain a challenge and a key to success for the Coastal Act.

To be sure, the Coastal Act and the coastal management process have loopholes and ambiguities that can be manipulated for narrow, exploitive gain. No law can use language broad enough to cover the entire breadth of a subject while also being explicit enough to anticipate intricacies needed in future interpretations. The Coastal Act is certainly no different, and several gaps in the way the law is interpreted have allowed questionable and destructive building plans to go forward in spite of the general intent of the Act. Proponents of both the triple bottom line and the overall purpose of the Coastal Act would give this maneuvering low measures of performance intended to benefit only a few people in the short-term, instead of many people (the stakeholders, in TBL terminology) in the long term.

Several terms in the text of the Act have been used outside of their intended purposes and have provided some property owners a way to skirt important provisions of the Coastal Act. Two of these ambiguities are closely related to the Laguna Beach case study described above. The first area of ambiguity is the contextual question of the word "existing" as it applies to when structures were built along the coast. The Coastal Act allows structures that existed at a certain time to be protected from coastal erosion by using seawalls or other hard beach armoring. Sections 30235 and 30253 of the Coastal Act refer to this provision, but neither section firmly establishes when exactly the time date of "existing" should be: either the law can refer to structures that existed when the statute went in to effect in 1977 or when the structure was built and began to be threatened by coastal erosion and other natural conditions (California Coastal Act of 1976, Reiblich and Hartge 2016). This is an enormous difference because the Coastal Commission would grant many fewer structures the necessary permit to build a protective barrier from the sea if the law refers to only structures that existed before 1977. But if virtually any vulnerable structure existing today were threatened by coastal erosion and could potentially receive a CDP for a protective barrier, the coastline could be vulnerable to scores of new hard barriers and their harmful environmental, social, and economic effects.

Taken within the context of the law's broader intent to protect the state's coastline from multiple types of damage, it seems highly unlikely that the Coastal Act's authors intended to create a variable time reference associated with the term "existing". It is much more likely that the law was meant to offer a 'grandfather' clause that would give property owners of existing structures the fair right to protect their property when the landmark law and its impending changes to the status quo went into effect in 1977. Making the question more confusing, though, the Coastal Commission has interpreted the word "existing" both ways in different cases, in spite of being acutely attuned to the law's intended use (Reiblich and Hartge 2016). To rectify this ambiguous situation in today's political setting, the Commission should try to have the law's wording slightly changed through the legislative

process to firmly establish a time baseline going forward. Failing corrective action in the state legislature, the Commission should proactively move to use only the more narrow definition of "existing" that refers to when the law went into effect in 1977. This would establish clear rules and set a more definitive standard for coastal armoring, which is an issue likely to become even more pressing as sea levels rise in the coming decades.

The second way that terminology can be misused in the Coastal Act was seen in the Laguna Beach case study. The property at 11 Lagunitas Drive is a prime example of an uncaring property owner trying to exploit a clause meant for repairs and maintenance on their property in a very dubious way. Section 30610(d) of the Coastal Act allows coastal property owners to repair and maintain their house without obtaining a CDP as long as the work reasonably stays within the bounds of normal repair and maintenance (California Coastal Act of 1976). If such work exceeds this reasonable bound and becomes more extensive renovation or rebuilding, the property owner must obtain a CDP. The Act clearly intends for property owners to be able to take care of their homes in ordinary and reasonable ways, as any property owner would, while also ensuring that the normal coastal development oversight process is followed if more extensive and intrusive work is planned. Before they simply tried to avoid the Coastal Commission altogether, the Katz's first tried to mask their extensive remodeling and rebuilding work behind the veil of "repair and maintenance". Their architect and advisor tried to use semantics to label their extensive renovation project as mere "repair and maintenance" and in so doing, utterly misapply the law's plain intent (California Coastal Ct of 1976 Section 30610, Moddelmog 2018).

Specific Recommendations - Using the Triple Bottom Line in CZM

Recommendation No. 1: As mentioned above, the Commission should try to resolve the unintended issue home repair and maintenance arising from misuse of Section 30610 by imposing a specific physical or monetary cap on actual repair and maintenance projects. This would identify and discourage extensive, costly renovations disguised as repairs. In addition, and as part of broader mitigation programs focused on climate change and sea level rise, the Commission could encourage home owners whose more frequent repair and maintenance issues arising from their home's precarious site to relocate upland through tax breaks or state financial grants. Presently, the Coastal Act allows a home damaged by coastal storms and erosion to be rebuilt in the same location, but doing so simply replaces one threatened scenario with another equally risky and threatened one (Reiblich and Hartge 2016). As previously mentioned, rising sea levels will likely exacerbate this situation and continue to elevate the risks of (re)building structures in fundamentally vulnerable locations. The fact that incentives exist today that not

only fail to entice coastal property owners to make better risk decisions[14], but encourage them to remain vulnerable through loopholes like Section 30610 shows a dire area that needs the Commission's attention.

Coastal zone management in general, and the California Coastal Commission in particular, operates at the exact center of an interface between science and policy. Viewed in a common political framework of opposing interests (not shared or interwoven ones) , CZM shares this precarious middle ground with other policy endeavors that try to use intangible concepts like natural science to temper human needs in societies. This inevitably arranges a conflict of cold impersonal information on the science side with emotion and the nuance of human interests on the policy side. This common paradox of how reason gingerly approaches emotion becomes even more pointed when people acknowledge that both natural science and social science should share the role of advising policy decisions. In order to most fully explain how to reasonably approach a course of action that succeeds on all three levels of TBL, public and private interests need informed input from both the natural and social sides of science. This would increase the chances that science maintains and builds its credibility in today's policy debates and helps achieve the smart outcomes that the state needs in its coastal policy.

California has already worked hard to build a coastal governance structure through the Coastal Act and the many partnerships among public and private stakeholders that enables the full coastal management scheme that is in place today. In addition to the federal Coastal Zone Management Act and other national-level policy tools, the state has both a long, well-known record of environmental consciousness and a formidable, if not a simple, array of state agencies and local councils to manage the coast (Diamond et al. 2016). This governance structure can be fragmented at the state level by excessively redundant shared responsibility and laborious political infighting, but it has operated well enough to deliver laudable results that favorably compare to CZM in most other coastal states.

Recommendation No. 2: Explicitly promote the three-part value of the state's coast to the public. Although the state has an evolved governance structure, this existing governance cannot be expected to endure unaltered while the environmental, social, and political setting around it changes. While the state's population continues to grow, its demographics also change, and there is no assurance that the same political and cultural attitudes that produced the Coastal Act and its adjoining governance structure will remain as welcoming in the future. The Coastal Act and the state's CZM structure must anticipate such fundamental changes in the state's basic citizen make-up and take direct steps to promote awareness of how vital sound CZM is to the social, economic, and environmental health of the state.

Recommendation No. 3: In short, coastal policy makers should take a TBL approach to promoting CZM - show the public that it is best served by using social, economic, and environmental measures to assess how the public uses

[14] California is far from being the state with the most pressing issues of destructive financial incentives for better coastal building and management. For a larger description of how taxes, insurance, and other financial incentives affect CZM, see *Taxes, Subsidies, and Insurance as Drivers of United States Coastal Development* by Bagstad, Stapleton, and D'agostina 2006.

its coastline and make TBL the de facto standard that drives state and local CZM measures of effectiveness. This approach is a worthy ideal at the public level, and at the same time, can be viewed as altruistic and even irrelevant at the level of private property where there is no presumption of a requirement to act for the public good. One hopes and expects that while any property owner who acts in their own best interests does not intentionally undermine the public's best interests at the same time, the massive importance of a productive coastal environment should necessitate more assurance than expectations bring.

Recommendation No. 4: For the reason of public and private responsibility for risk described above, the Coastal Commission should continue to require that property owners who succeed in obtaining a CDP for a risky project through litigation or exportation of legal loopholes be required to sign a legal document indemnifying the state against liability for future property losses (Caldwell 2019). This transfers risk from the public to the property owner and his/her insurance company. Beyond this, the Commission should show all stakeholders how a coastal development project would score on the three TBL measures with estimates of cost and other impact that best show how the public would be affected in several time frames and climate change scenarios. TBL can act as an intermediary between science and policy to provide ways to measure possible impacts to people, their communities, institutions, and environment. In this way, TBL can be an effective way to marry science to policy, but it is prone to political pressure and bias, and can be swayed by undue influence. If measuring criteria like TBL are debated, vetted, and then made official markers of project impacts, some degree of subjectivity can removed from the debate and all parties have a more meaningful expression of a project's coastal effects.

Recommendation No. 5: Fully fund the Coastal Commission as the state prepares for accelerating changes of climate change and population growth. As described earlier in the text, state CZM authorities consider the issue of outdated local coastal programs (LCP's) to be among the most pressing needs that near-term CZM faces (Hanak and Moreno 2008, Lester 2013). Over 80% of LCP's were written in the 1980s with major financial support provided by federal agencies at the time. Many of these LCP have not been significantly revised and still reflect attitudes and paradigms of decades ago (Hanak and Moreno 2008). For communities to successfully adjust their coastal-dependent systems to modern conditions of climate change and other evolving factors, managers must update these guiding programs. The Commission recently reaffirmed in urgent language how high the stakes are in helping coastal communities face the litany of factors that will complicate coastal governance as climate change progresses (Bochco and Turnbull-Sanders 2018). But so far, expanded resources to help local governments revise their LCP's have not come forward from the state legislature or the federal government. The Commission and its political allies must find a route to achieve this urgent need.

The California Coastal Act and the triple bottom line business framework share the powerful, common-sense attributes of simple good governance. This is surely no coincidence because both seek to optimize two powerful and meaningful entities - the iconic coastline of California and influential modern businesses. Both the coast and a

company receive the emotion and the toil of people who are attached to them, and both serve a variety of conflicting interests. Both can be well-served when people use a timely, well-regarded set of performance measures to determine the best direction for them to proceed into the future.

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