



PILLAR POINT HARBOR FISHING COMMUNITY SUSTAINABILITY PLAN

DRAFT
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SAN MATEO COUNTY HARBOR DISTRICT FISHING COMMUNITY SUSTAINABILITY PLAN

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ACKNOWLEDGEMENTS

A Community Sustainability Plan (CSP) is a story, with a narrative built on economic, environmental and social performance and culminating in recommendations. Much of the data is available on agency websites, in academic journals, and stock assessment reviews but the “life” of a CSP is the voice of the commercial fishing industry. The Consultant Team spent weeks conducting one-on-one interviews with commercial fishermen and industry stakeholders and observing everyday life in the workplace.

The commercial fishing community provided information not available elsewhere, drawing upon and sharing their own experiences. Without this input, the project would not have been possible. Our Team was struck by and extremely grateful for the generous and very warm treatment we received in all of our interactions with the commercial fishing community in Pillar Point Harbor.

We would like to acknowledge and thank everyone who contributed to the Pillar Point CSP, in particular: Lisa Damrosch, Jim Anderson, Porter McHenry, Steve Fitz, Geoff Bettencourt and Rob Kraencke.

We would also like to thank Harbor District staff, Peter Grenell (General Manager), Scott Grindy (Harbormaster), John Draper (Assistant Harbormaster), Debra Galarza (Director of Finance) and Emily Cooper (Administrative Assistant). We’d also like to thank the Board of Harbor Commissioners, Supervisor (District 3) Don Horsely and Senior Legislative Aide Nicholas Calderon.

A very special thanks to Jana Robertson and the Marine Fisheries Statistical Unit at the Department of Fish and Wildlife and Pacific Information Network/Pacific State Marine Fisheries Commission Data Manager Brad Stenberg.

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1. INTRODUCTION

Under the direction of the San Mateo County Board of Harbor Commissioners and with urging from the community, the San Mateo County Harbor District (SMCHD) initiated a Strategic Business Plan project (Plan) in April of 2014. A center point of the project is an assessment of the commercial fishing industry. Other major components include an Existing Infrastructure and Facilities Assessment, a Financial Conditions Assessment, and a Capital Facilities Plan, which are being completed under separate cover.

Project managers at the Harbor District and the fishing community agreed that the Scope of Services for the analysis of the commercial fishing industry and its place in the greater working waterfront should be addressed as a Fishing Community Sustainability Plan (CSP). The intent of the CSP is to:

- Provide a vehicle by which the commercial fishing industry is able to communicate their needs and accomplishments to regulators, policy makers, harbor managers, the greater working waterfront community, the County, and within the industry;
- Give the commercial fishing industry a stronger voice in management of the physical infrastructure and operations and the decisions that affect their livelihood;
- Provide a comprehensive baseline and easy to access store of data on the performance and contributions of commercial fishing in Pillar Point Harbor;
- Act as a strategic roadmap for the commercial fishing industry and the Harbor District on the priorities and actions in the allocation of resources for the commercial fishing industry;
- Raise awareness among local business, civic and political leaders, seafood consumers, and the general community on the economic, social and environmental value of commercial fishing; and
- Fulfill the tenets of the Magnuson-Stevens Fisheries and Conservation Act (MSA) for fishing communities engaged in the West Coast Limited Entry Groundfish trawl industry.

The Pillar Point Harbor Community Sustainability Plan (CSP) is part of a comprehensive assessment of harbor infrastructure and operations and is also intended to be a standalone document.

According to the MSA, "to be eligible to participate in a limited access privilege program to harvest fish, a fishing community shall...develop and submit a community sustainability plan to the Pacific Fisheries Management Council (PFMC) and the Secretary that demonstrates how the plan will address the social development needs of coastal communities...Federal Register" (MSA 2007 p. 121, Stat. 3587-3588).

Groundfish is a historically important fishery and continues to provide economic opportunities for the commercial fishermen in Pillar Point Harbor. Several commercial fishermen are engaged in the Limited Entry ITQ fishery in Pillar Point Harbor and are working with regulators, conservation NGOs, and other regional fishing communities to secure access to the groundfish resource for local fishermen into the future.

All dollar figures in this CSP are adjusted to 2014 levels.

Under the MSA, CSPs are required for fishing communities that wish to remain eligible for Limited Access Privilege Protocol Programs (LAPP). The Individual Transferable Quota (ITQ) management system that was instituted in the Limited Entry Trawl Groundfish fishery in 2011 is an LAPP program. Limited Entry Trawl Groundfish is a key fishery in Pillar Point Harbor. Groundfish are also targeted by the Limited Entry Fixed Gear, Open Access, and recreational fisheries, which are not LAPPs.

Groundfish landings have generated over \$6.9 million in earnings at the dock between 2000 and 2013 at an annual average of over \$477,000. Groundfish have a long history in the Pillar Point Harbor commercial and recreational fishing community. Rockfish, a large portion of the multi-species groundfish complex, enter the top five species list as early as 1951 (Scofield, 1954).

While groundfish is an economically and historically important fishery in Pillar Point Harbor, commercial fishermen and project managers at the SMCHD saw the CSP as an opportunity to take a broad and inclusive approach and assess the performance and priorities of the entire commercial fishing community, across species, gear types, and scale of operation. The approach puts an emphasis on personal interviews with commercial fishermen and industry stakeholders, and an assessment of economic, environmental, and social performance measures within the context of the greater working waterfront.

The Plan culminates with recommendations that draw from this comprehensive and targeted analysis of commercial fishing and other components of the greater Strategic Business Plan project.

The CSP should be considered a living document, and a vehicle for continued dialogue between the commercial fishing community and regulators on the formation of commercial fishing policy. It should also be considered a communication and education tool aimed at raising awareness in the local community for an industry that generates jobs and income, contributes to the nation’s trade balance, is marked by a high-level of environmental stewardship, and strengthens social bonds in communities throughout the West Coast of the U.S.

Inherent in any Community Sustainability Plan is a working definition of a “fishing community.” According to the Magnuson-Stevens Act (MSA), a fishing community is described as:

...a community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community.

To take that concept a step further, the fishing community is seen as those individuals who have direct or indirect involvement, interest, or concern with the fishing industry and its history as located within a geographic proximity of the Johnson Pier and Pillar Point Harbor. This definition of a fishing community also includes a nucleus of fishermen working across gear type and related entities such as processors, offloaders, wholesalers, retailers, regulators, and scientists, all of whom are substantially dependent on fishery resources. This group constitutes the core of the fishing community but is not the sum. Broader ties to this central community are those citizens of San Mateo County who consume or have an interest in seafood, fishing, and fishing resources. While this definition is more inclusive, spanning across occupations, values, or interest-

The greater working and recreational waterfront in Pillar Point Harbor includes the commercial fishing industry, Commercial Passenger Fishing Vessel (CPFV) fleet, shellfish aquaculture, launch ramp, rental of surfing gear, fishing gear, fishing off the pier and jetties, standup paddleboards, bicycles and kayaks, restaurants, a yacht club, and slips and moorings for commercial and recreational vessels, as well as a fuel and ice facility, Johnson Pier, fish buying businesses, offloading hoists, a fish pump, and de icer.

based definitions, it as an important conceptual tool when discussing the challenge of sustaining a fishing industry through time.

APPROACHES AND METHODS

CONSTITUENT DRIVEN

The project approach relied heavily on one-on-one interviews with commercial fishermen and related industry stakeholders, site visits, public workshops, and archival research. The backbone of the research was personal interviews conducted with approximately 40 commercial fishermen and commercial fishery stakeholders. The intent of the interviews was to gain an insider's perspective of the workings on Johnson Pier and within the Harbor District. The survey method employed open-ended questions, designed to gather commercial fishermen's perspective on: what was working well, what was not, and what might be done to maintain the successes and mitigate for weaknesses. This method allowed the fishermen to drive the interview process and discuss priorities as they see them in relation to their profession and their reliance on Harbor District resources. Gathering input directly from commercial fishermen also included dozens of phone calls and emails to complete or clarify information. The survey instrument and protocol used in the interviews can be found in the Social section, Chapter 04.

The design for the fieldwork protocol derives, in part, from Arthur Kleinman, a psychiatrist and medical anthropologist, who established the importance of questions that are informant-centered, that "honor" the informant's perception of a problem, and that work toward integrating two views of the same problem.



Photo: LWC Senior Researcher interviews a commercial albacore fisherman who has been selling off the boat in Pillar Point Harbor for 11 years.

The aims of the research evolved from ongoing and recent dialogue in the scientific community about the need for collaborative efforts between a variety of professions and disciplines. Particularly relevant is the awareness that fishing communities must be more involved in decision-making and implementation processes of policies and changes that affect their livelihood (Ingles & Sepez, 2007; Pollnac, 1989; Walters et al. 1998).

ARCHIVAL SOURCES

The Plan includes data from the archives of the California Department of Fish and Wildlife (CDFW), Marine Fisheries Statistical Unit, the Pacific States Marine Fisheries Commission (PSFMC), Pacific Fisheries Information Network (PacFIN), NOAA's National Marine Fishery Service (NMFS) and Economics: National Ocean Watch program (ENOW), the U.S. Bureau of Labor Statistics, and the U.S. Economic Census. Research also incorporates relevant past work in the Harbor District. For the environmental section, the research drew on findings from the Marine Stewardship Council (MSC) and the Monterey Bay Aquarium Seafood Watch Program.

TRIPLE BOTTOM LINE

Since the publication of the Brundtland Report (1987) and subsequent passing of greenhouse gas and climate change regulations (such as AB32 and SB375 in California), cities, counties, ports, and harbor districts have been more greatly focused on establishing triple bottom line (TBL) performance metrics. Such analysis evaluates the economic, social, and environmental implications of development (Brown, Marshall, & Dillard, 2006). In the case of the Pillar Point Harbor CSP, the triple bottom line refers directly to the performance of the commercial fishing industry within the context of the greater working waterfront. Performance indicators and metrics in Pillar Point include:

Economic indicators and metrics analyzed for the industry are based on landings and earnings at the dock, species mix and trends, price per pound, the number of trips and vessels operating in the harbor, changes over time, and the presence of offloading, staging, processing, gear storage, bait supply, and related services and infrastructure. Economic performance also includes employment generation, employment types and synergies, and alliances between and among industries. See Chapter 02, Economic Setting.

Environmental indicators and metrics include the extent and type of regulation for each species landed by the commercial fishing fleet, summary of science-based directives and assessments of fish stocks, the diversity of species, gear types and habitats in which Pillar Point fishermen are engaged, assessments on fish stock health from high-profile, third-party sources such as the Marine Stewardship Council and the Monterey Aquarium Seafood Watch Program, and strict reporting requirement on fishing activity. See Chapter 03, Environmental Setting.

Social indicators and metrics were assessed through extensive personal interviews with industry participants, site visits, and public workshops. Social metrics analyzed include leadership, cohesion, collaboration and cooperation among participants, equity/equality among fishing-related businesses, the community's ability and effectiveness to represent itself in the political, local/regional business and regulatory arena, relationships with the waterfront jurisdiction, and the degree of community support for commercial fishing and fishermen. See Chapter 04

The aim of assessing sustainability concepts through indicators and metrics is to enable commercial fishermen, related industry stakeholders, civic leaders, and the business community to more accurately gauge the industry's performance and anticipate what adjustments might be made to maintain or attain desired levels of activity and growth.

Between 1990 and 2013, the commercial fishing industry has generated over \$183 million in Ex-Vessel Value (EVV) or price paid to fishermen at the dock. 2013 saw the highest earnings in that period of \$17.4 million a 550% increase from historic lows of \$3.2 million in 2009.

All of the species landed by Pillar Point commercial fishermen face state or federal oversight that includes limits on the amount of catch, spatial, temporal, gear, and size-sex restrictions and closures, strict reporting requirements, and in some cases, the obligation of the vessel owner to carry a federally-trained observer on board.

The Pillar Point commercial fishing community has established a voice in local land use and strategic planning projects, developed formal representation through establishment/re-establishment of organized associations, and partnered with regional commercial fishing communities and conservation NGOs to secure access to groundfish in Pillar Point Harbor.

The exercise of identifying and assessing indicators and metrics and the ability to take strategic action will enable the community to better maximize available resources and achieve long-term success. Taking strategic action may mean: obtaining or replacing capital equipment; making changes to infrastructure; pursuing grants or loans; supporting or opposing a regulatory policy; and developing relationships/partnerships or the formation of entities to take advantage of opportunities that individuals otherwise may not. It should be noted that evaluating the suite of sustainability indicators and metrics should be considered an on-going exercise; some measures rise or fall in importance over time, and may be replaced as a community and/or the arena in which it operates changes and evolves.

PROJECT TEAM

The Harbor District, with unanimous support from the Board of Harbor Commissioners, chose a diverse, well-qualified and experienced Consultant Team to prepare the Strategic Business Plan. Economics and Land Use Planners Lisa Wise Consulting, Inc. led the project, and were responsible for preparing the CSP. LWC coordinated with and drew from the analysis and findings of subconsultants: Moffat & Nichols, a nationally renowned marine structural engineering firm and experts in sea level rise, Nelson\Nygaard, an innovative regional transportation planning firm, and Tenera Environmental, a team of biologists focused on assessing human impacts on the marine environment.

PROJECT SETTING

Pillar Point Harbor is located in the unincorporated coastal community of Princeton, also known as Princeton-by-the-Sea. It is twenty-five miles south of San Francisco and approximately ninety miles northwest of Monterey.

Pillar Point Harbor is extremely well protected, because of its orientation within Half Moon Bay and the presence of an outer and an inner breakwater. The U.S. Army Corps of Engineers began construction on the outer breakwater after World War II to create a harbor of refuge for the fishing fleet. The outer breakwater was completed in 1961 and Johnson Pier and the inner breakwater were built during the 1970's and 1980's.

The marine ecosystem off the coast of Pillar Point Harbor is marked by a diversity of rich marine habitats which support consistently productive Dungeness crab, rock crab, halibut, groundfish, salmon, albacore, coastal pelagic (Market squid and Pacific sardine) and spot prawn fisheries. Habitats include rocky neashore, deep and shallow reefs, soft, sandy bottoms, large underwater sand dunes, the continental shelf, shoals, ridges, and banks. The region is also marked by the California Current, one of the world's four major wind-driven upwelling systems, the other three systems being located along the west coasts of South America, and southern and northern Africa (GFNMS, 2014). This offshore transport of surface waters results in the upwelling of cold, nutrient-rich waters from depth into sunlit surface waters to support a food-rich environment and promote the growth of organisms at all levels of the marine web.

Generating a community sustainability plan involves incorporating social and economic objectives into the environmental quality of place. These objectives arise from key indicators that are defined through community participation and may change over time. Creating a community sustainability plan is as much a process as it is a goal.

LWC recently completed the first two CSPs in California for the Cities of Morro Bay and Monterey and has been focused on revitalization and economic strategies in coastal communities since 2006.

FIGURE 1.2 PILLAR POINT - REGIONAL CONTEXT

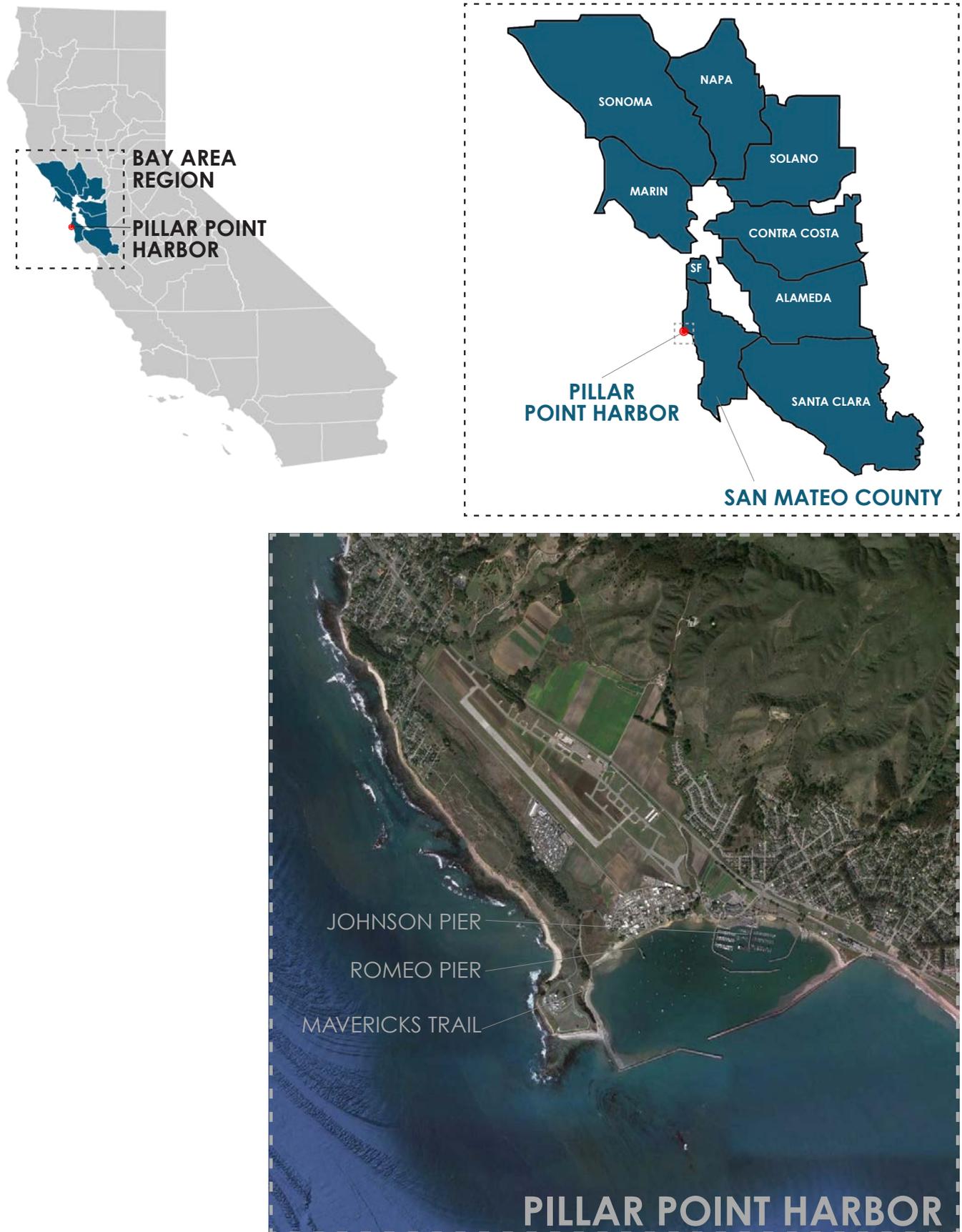
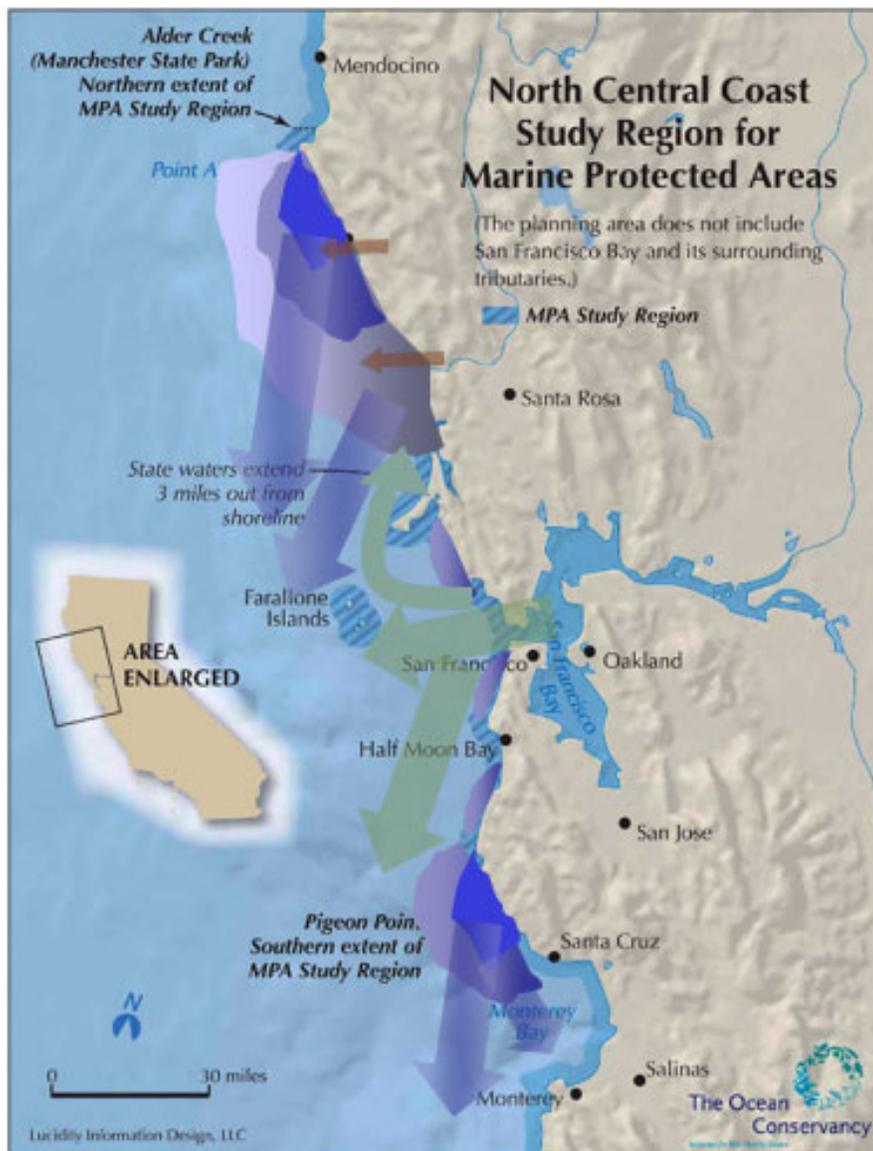


FIGURE 1.3 NORTH CENTRAL COAST CALIFORNIA, MAJOR UPWELLINGS SUPPORTING PRODUCTIVE MARINE LIFE AND HABITATS

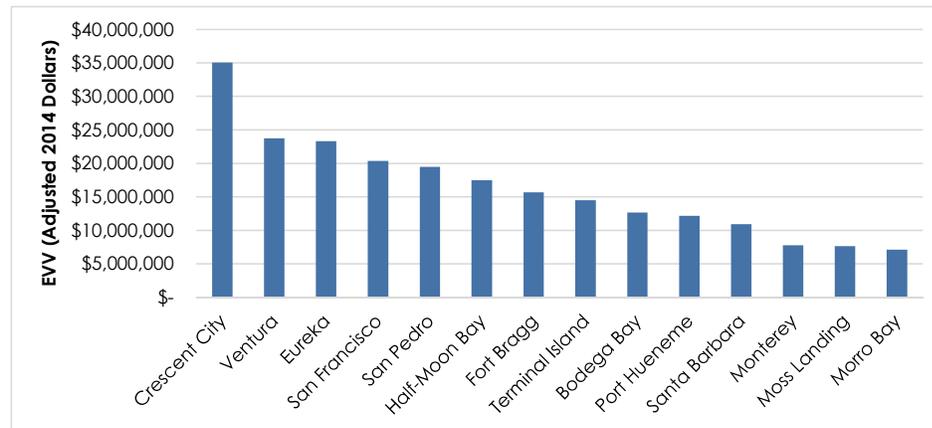


Schematic of major oceanographic features off the north-central California coast: Blue zones indicate upwelling centers that may be localized at capes (Point Arena, Pigeon Point) or expand along much of the coast), while blue arrows indicate plumes of upwelled waters moving south and offshore from upwelling centers. Green arrows indicate plumes of San Francisco Bay outflow, moving either south (during upwelling) or north (during weak winds or winter). Strong winter outflow from rivers like the Russian and Gualala is demarcated by brown arrows. Not shown is the retention zone in Drakes Bay and smaller zones in Bodega Bay and Half Moon Bay. These schematic patterns change with the wind, land runoff, seasons and years. (Sources: MLPA Regional Profile: J. Largier, Bodega Marine Lab, and the Ocean Conservancy 2007).

TOP COMMERCIAL FISHING PORT

Pillar Point Harbor (referred to as Princeton-Half Moon Bay by CDFW) is one of the top commercial fishing ports on the California coast. In 2013, the port was sixth in the State in earnings and seventh in landings by weight. Commercial fishing trips out of Pillar Point Harbor, a measure of commercial activity, rose from a low in 2009 of 1,704 to over 3,000 in 2013. The number of Vessel IDs, a measure of the port's ability to support commercial fishing activity and attract visiting vessels, rose from a similar low in 2009 of just under 92 to over 250 in 2013. These data point to a resilient and capable commercial fishing industry, with strong "internal" connections within the industry, "external" connections in the market, access to a healthy marine resource, knowledge of fish stocks, fishing gear, and weather patterns, and the collective ability to navigate the maze of shifting and often overlapping State and federal regulations.

FIGURE 1.1 TOP COMMERCIAL FISHING PORTS BY EARNINGS, CALIFORNIA, 2013



SOURCE: CDFW

CRITICAL INFRASTRUCTURE AND SERVICES

While maintenance and upgrade needs were identified by commercial fishermen who participated in the project (noted below), Pillar Point Harbor has much of the critical infrastructure and services on which an active commercial fishing industry relies. Those include: offloading pier, ice, fuel, offloading facilities (hoists, fish pump, forklifts, totes), seafood buyers, bait, parking, vehicle access, boat launch ramp, proximity to major distribution routes, sufficiently dredged harbor entrance and channels, slips, fresh water, electrical power, and one of the most vibrant off-the-boat sales markets on the coast. However, many commercial fishermen who responded to the survey indicated that the following facilities and services were inadequate:

- Capacity of Johnson Pier to accommodate semi articulated vehicles associated with the modern commercial fishing industry;
- Congestion and public safety related to the limited capacity of Johnson Pier in light of vibrant pedestrian traffic and a busy, working environment;
- Congestion on the water and long wait times for offloading, particularly during Dungeness crab season;

- Working relationship with the Harbor District and Board of Harbor Commissioners
- Limited fuel dock hours and fees;
- Lack of a quality of ice/outdated ice machine;
- Lack of a haulout and boatyard facility;
- Only one public hoist (for gear offloading);
- Maintenance of the docks and piers;
- Limited and a lack of reserved parking;
- Insufficient dredging particularly in the inner harbor at the bulwark (near the public hoist);
- Increasing berthing fees, poorly maintained restrooms and insufficient cold storage; and
- Water quality in the Harbor.

These services and facilities represent opportunities for improvement and inform the research and recommendations.

JOHNSON PIER

The Pier is the physical workplace of the commercial fishing industry and where the majority of commercial fishing-related activity takes place, such as offloading vessels, packing seafood for transport, loading of semi trucks, vessel fueling, taking on ice, and sanitary and waste oil pumpouts. The Pier and the slips where seafood is sold off the boats are important economically as a workplace and socially as the physical space where the commercial fishing industry and the community come together. Visitors flock to the Pier drawn by a connection to the ocean, to experience the urgency of seafood being offloaded from a boat and loaded on a truck to be distributed across the region and the world, and to satisfy an innate human curiosity of where our food comes from. People also flock to Johnson Pier and slips to purchase the last of wild-caught foods, a fresh source of protein and in many cases a food with a connection to their cultural heritage (direct sales are discussed below). Fishermen, dockworkers, forklifts, semi trucks, and a curious public make for crowded conditions. Crowded conditions on Johnson Pier were noted in 1994 in a report prepared for the California Coastal Conservancy and in the 1991 Harbor District Master Plan, which noted that further study of improvements to the Pier was a high priority.

Johnson Pier is a pile-supported, reinforced concrete structure. The 16" octagonal piles are pre-stressed and tied together by cast-in-place concrete pile caps and beams. The deck is constructed of pre-cast concrete panels, which are held in place with a cast-in place closure pour. There are five ramps that emanate from the Pier and lead to floating landings and finger piers D, E, F, G, and H. The finger piers provide slips for commercial and recreational fishing vessels.

FIGURE 1.4 PILLAR POINT - JOHNSON PIER AREA MAP

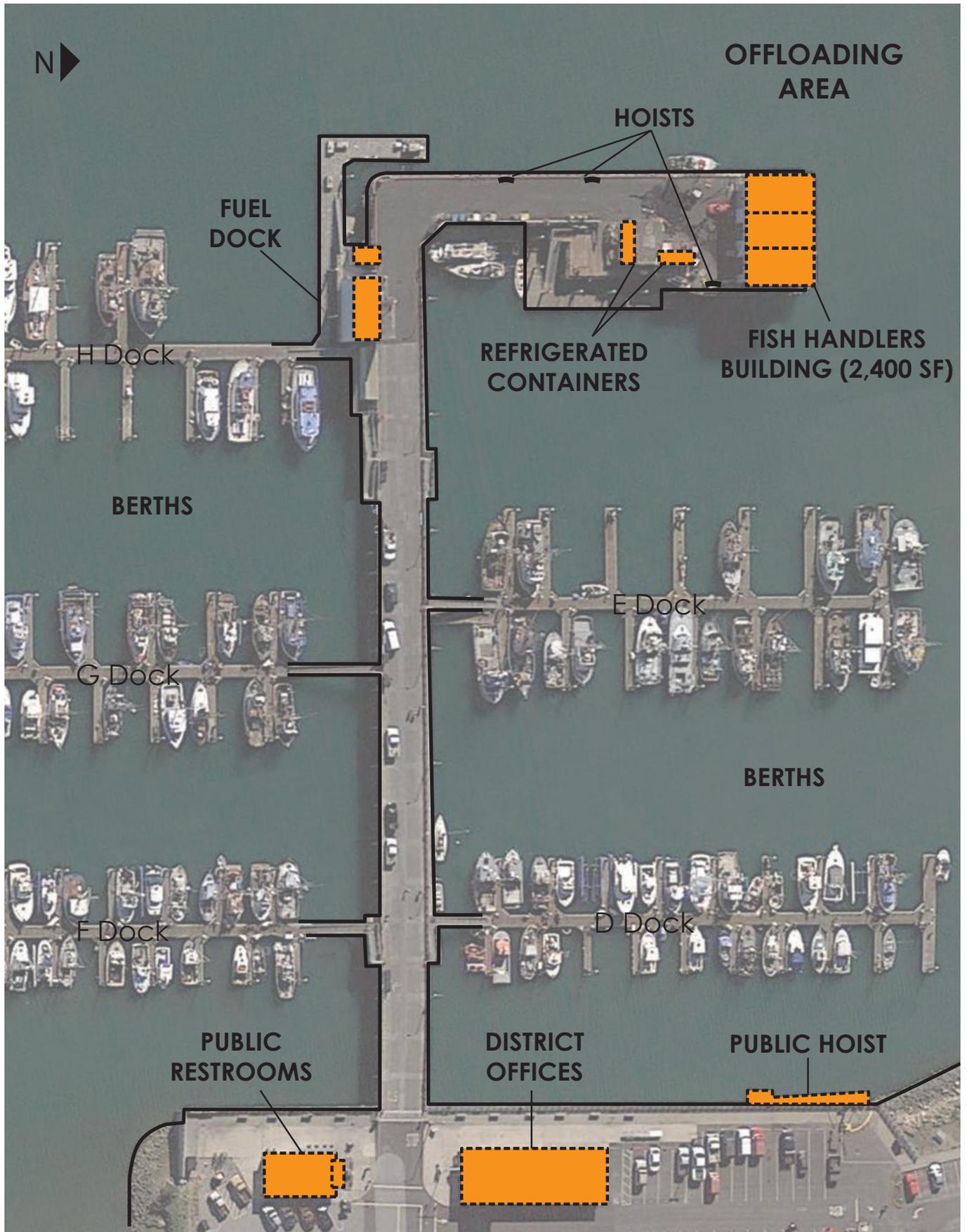




Photo: Posting board at the District Offices adjacent to Johnson Pier where visitors can learn what fish are available and the name and location of the boat.

Utilities on the Pier include electrical power to the fuel and ice facility and Fish Handlers building, lighting, sewer, potable water, fire protection, and fuel. There are three refrigerated containers, but they are noted by fishermen as being inadequate. The Harbor District has explored the feasibility of moving the containers off the Pier to help alleviate congestion.

A fuel and ice facility with a waste pumpout (Pillar Point Fuel Dock - Fuel and Ice) is located on the southeast edge of the Pier.



Photo: The fuel dock and ice plant on Johnson Pier.

The “Fish Handlers” building is on the Pier’s head or northern tip and houses three fish handling/buyer stations of about 800 square feet each: Morning Star Fisheries, Three Captains, and Princeton Seafood Company. This space is utilized for seafood handling, storage, physical equipment and office operations. Operations include unloading (offloading) of commercial fishing vessels, weighing, sorting, preparation for transport and loading of delivery trucks. Fishing operations that do not have a facility on the Pier must conduct business with one of these buyers. There are currently four jib boom hoists on Johnson Pier: two at Princeton Seafood, one at Morning Star, and one at Three Captains of approximately 500 to 1000 pound capacity. They are considered by many commercial fishermen to be in need of repair or upgrade. A sixth hoist was recently installed but its use is being postponed until the Harbor leadership and the commercial fishermen can agree on the circumstances surrounding its installation and how it might affect overall operations on the Pier.

Southern California Seafoods installed a fish pump on the inside of the head of the Pier in 2012, enabling Pillar Point Harbor to increase its participation in the lucrative Coastal Pelagic Species fishery (primarily squid and sardine). Since the pump was established, over 30 million pounds and \$10.5 million of CPS were offloaded in Pillar Point Harbor. The CPS industry supports over 700 CPS processing-related jobs in Salinas and Watsonville and thousands of jobs in the State, primarily Oxnard/Ventura and San Pedro (LWC, Monterey CSP, 2013).

TOURISM & THE WORKING WATERFRONT

Tourism is a vehicle through which the commercial fishing industry communicates with the public. Tourist dollars support local businesses and generate tax revenue for the County.

The presence of commercial fishing vessels, strong landings, earnings and offloading activity cement Pillar Point’s place and identity as a working port. A working port is an important draw for tourism and tourism spending. A 2007 opinion poll of over 800 California residents found that 71% “seek out and enjoy going to working waterfronts” (Responsive Management, 2007). Furthermore, in a 2008 survey of over 140 tourism professionals in Morro Bay, Monterey, and Crescent City, respondents gave, “tourism from having an active waterfront,” a mean rating of 8.82 out of 10 in importance (Responsive Management, 2008). In that same survey, tourism professionals indicated that, “having local, fresh seafood available was of great importance in attracting business to their community”. Interviews conducted for the CSP effort suggest that the sentiments expressed in these reports have remained, and perhaps grown stronger, in favor of the interest in a working waterfront and access to fresh, local, sustainable seafood.

Photo: A visitor on Johnson Pier and his purchase of fresh seafood directly off the boat.



DIRECT SALES

Pillar Point Harbor is widely known as having the most vibrant and successful direct to consumer sales on the California Coast. Off the boat sales generate vibrant tourism and drive spending at local businesses as well as provide more options for fishermen to earn a higher return. Off the boat sales in Pillar Point Harbor represents a wide diversity of fishing operations, gear types, and habitat types, and is a showcase for the commercial fleet's ability to form partnerships within the commercial fishing industry and with outside groups. All of these characteristics point to an economically viable, environmentally sustainable and socially competent industry.

The Board of Harbor Commissioners unanimously approved off the boat sales in 1998.

OFF THE BOAT SALES DRIVE TOURISM AND SPENDING

Pillar Point Harbor is Many of the visitors to Johnson Pier are there to buy a host of species directly off the boat. Depending on the season, there are twenty-five boats selling salmon, Dugeness crab, rock crab, halibut, lingcod, abalone, and a host of others seafood options.

HIGHER EARNINGS FOR COMMERCIAL FISHERMEN

Off the boat sales give commercial fishermen another option on where, to whom, and how to sell their fish. On average, fishermen earn more per pound than if they sold into the traditional wholesale market. One example, is salmon. In 2013, the price per pound in Pillar Point Harbor fluctuated from \$5.88 and \$7.17. Fishermen selling off the boat claimed to earn \$8.00 to \$10.00 per pound for whole salmon in the same year (Faily Journal, May 1, 2014).

DIVERSITY OF OPERATIONS

The range of commercial fishing operation engaged in off the boat sales, includes small, trailerable vessels all the way to sixty-two foot Mr. Morgan. Reliance on the diversity of species, habitat types and scale of fishing operation mean less pressue on any one of these individual variables and ia a hallmakr to a sustainable system.

PROMOTION AND COLLABORATION

Commercial fishermen and the Harbor District collaborate in promoting off the boat sales through the FishFone (650.726.8724), a service that is accessed through a local phone number that provides a voice message on what species is available in the Harbor that day. Fishermen can also advertise by writing the name and location of their vessel and the type of fish they have for sale on white boards available near the foot of the pier and several other locations. The commercial fishing community also has done a great job partnering with FishLine and CrabLine, on-line crowd source directories for locally caught seafood for sale at the dock. These apps have over 20,000 followers/users. The app can be downloaded here: FishLineApp.com. Fishermen interviewed for this project also pointed out the relationship with the County's "As Fresh As It Gets" campaign and fishermen's relationships with the local media to promote salmon "give aways" popularized direct sales in the Harbor.

Successful off the boat sales at Pillar Point Harbor is based on a reputation formed by hard work and relationships forged by commercial fishermen over 10 to 15 years. One commercial fisherman interviewed for this project pointed out that when he started selling off the boat, around 1999, he spent many afternoons in the rain selling very few fish. He attributed the relationships between fishermen and local seafood consumers, quality, diversity of species, and consistency as the keys to success.

"Sales continue to grow," says John Draper, Assistant Harbormaster. "On the day they sell, fisherman mark the harbor notice board with name and location of their vessel, and what fish they have, then we update the Fish Phone. For the most up to date info, call that number or check the new Fish App." (John Draper, Almanac, October 9, 2014)

"As Fresh as it Gets" is a cooperative effort by the farming, fishing, and hospitality industries and County government to support and encourage consumption of local products.

AQUACULTURE

Pillar Point Harbor has a history of abalone production. U.S. Abalone operated out of the Harbor in 1998 and 1999.

Part of the rich working waterfront and commercial seafood economy in Pillar Point Harbor is the cultivation and sales of abalone. In 2003, an abalone farm was permitted to raise up to 500,000 individual abalone in Pillar Point Harbor. At that time a floating structure was erected just outside the breakwater (Half Moon Bay review, July 9, 2003). Abalone are available directly off the boat in Pillar Point Harbor. With no commercial abalone harvest in the State, direct sales of this delicacy draws seafood consumers from around the region and adds to the value of seafood production and strong draw on tourism and tourist spending.



Photo: Commercial fishing vessels at Pillar Point



Photo: Visitors watch a fishermen measure and weigh his catch

2. ECONOMIC SETTING

Performance in the commercial fishing industry is typically measured by abundance of fish stocks and habitat conditions. Equally important and part of an interconnected and holistic approach is the economic performance of individual participants and their community. A commercial fishery cannot be sustained if its participants are not rewarded and incentivized for their hard work, regulatory compliance, environmental stewardship, or the physical and financial risks they take. As such, establishing a benchmark of economic performance is a key element in the CSP process.

All dollar figures in this document are adjusted to 2014 levels based on the Consumer Price Index.

Pillar Point Harbor is firmly established as one of the top performing commercial fishing ports in California. In 2013, Pillar Point Harbor was the 6th highest grossing port in the State, outperforming dozens of other commercial fishing communities including Terminal Island (San Pedro), Bodega Bay, Port Hueneme, Moss Landing, Fort Bragg, Morro Bay and Santa Barbara.

TABLE 2.1 CALIFORNIA TOP TEN COMMERCIAL FISHING PORTS, 2013

	Port	EVV
1	Crecent City	\$ 34,340,906
2	Ventura	\$ 23,254,847
3	Eureka	\$ 22,856,227
4	San Francisco	\$ 19,971,689
5	San Pedro	\$ 19,086,264
6	Half-Moon Bay	\$17,129,228
7	Fort Bragg	\$15,360,057
8	Terminal Island	\$ 14,220,278
9	Bodega Bay	\$ 12,415,403
10	Port Hueneme	\$ 11,293,632
11	Santa Barbara	\$ 10,713,272
12	Monterey	\$ 7,611,016
13	Moss Landing	\$ 7,506,836
14	Morro Bay	\$ 6,961,372

Source: CDFW

Economic indicators, or categories used to gauge performance are production and gross revenue, and metrics are the measures within the categories such as the landings by weight (pounds or tons), and earnings at the dock by dollar value. Such variables are consistent with the literature that supports adaptive use of sustainability indicators (Reed, Dougill, & Baker, 2008; Reed, Fraser, & Dougill, 2006).

Despite the significance in economic contributions of the commercial fishing industry, it is often overlooked and misunderstood. Part of the intent of this work is to bring a greater understanding to civic leaders, elected officials, regulators, industry participants and the public, of fishing's contribution to local communities and the overall economy.

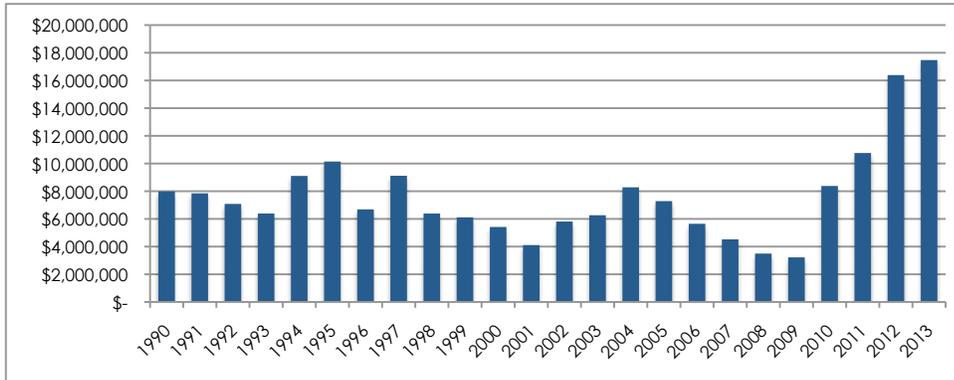
EARNINGS

2013 was the highest grossing year for the Pillar Point commercial fishing industry since 1990 and part of a powerful 5-year trend in growth.

The commercial fishing industry in Pillar Point Harbor has, through hard work and ingenuity, more than quintupled their earnings at the dock between 2009 and 2013. Earnings at the dock have risen steadily from a low in 2009 of \$3.2 million to almost \$17.5 million in 2013. Every dollar earned by commercial fishermen represents wages for skippers, deckhands, dockworkers, truck drivers, fuel, ice and supplies purchases, offloading fees, slip fees, and earnings for local diesel and refrigeration mechanics, welders and electronics technicians.

One commercial fisherman interviewed for this project commented that: "5-10 years ago, the harbor was sleeping. Now it is booming".

FIGURE 2.1 EX-VESSEL VALUE, PRINCETON HALF MOON BAY, 1990-2013



SOURCE: CDFW

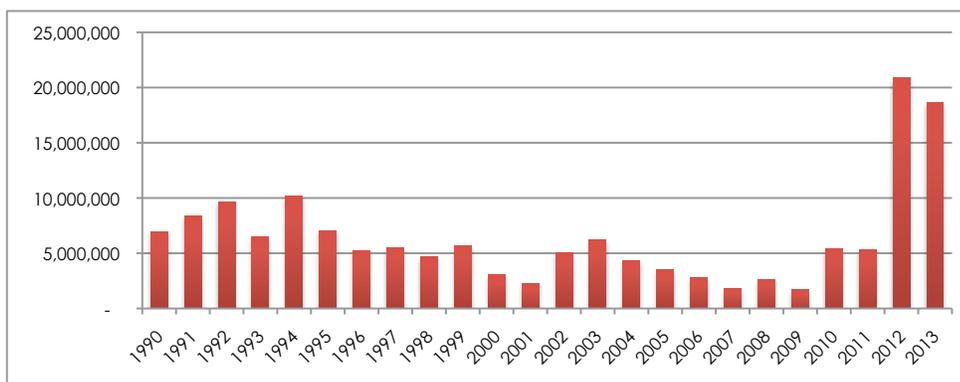
LANDINGS

Commercial fishermen in Pillar Point landed over 153 million pounds of seafood between 1990 and 2013.

Commercial fishermen in Pillar Point Harbor landed over 18 million tons of seafood in 2013, only second to 2012 when they landed over 20 million tons and the highest in 24 years. This represents the 7th highest landings in the State of California for that year. This 540% rise in landings is attributed to the establishment of a new fish pump, Pillar Point's expanded participation in the Coastal Pelagic Seafood fishery (mainly Market squid in 2012 and 2013) and strong landings in the salmon, Dungeness crab, spot prawn, halibut, albacore, sablefish, rock crab and sand dab fisheries.

Coastal Pelagic Species (primarily market squid) landings in Pillar Point topped 17.7 million pounds in 2012 and 15 million pounds in 2013.

FIGURE 2.2 LANDINGS IN P PRINCETON HALF MOON BAY, 1990-2013



SOURCE: CDFW

PRICE PER POUND, REGIONAL COMPARISON

The price that commercial fishermen earn per pound is influenced by local, regional, state, national and international demand, consumer preferences, supply, competition (pricing in other markets) and fishermen's ability to time fishing trips, switch target species, and capitalize on market forces through connection with buyers, distributors and throughout the distribution chain. Price per pound in turn, plays a role in what species fishermen target, the attraction of new entrants, and to what extent commercial fishing remains a viable business option. Price per pound is also influenced by the local fish buyers' knowledge, experience and relationships (with fishermen and other buyers and distributors), ability to anticipate and capitalize on market forces and their access to physical infrastructure and space. The top three species in Pillar Point Harbor are Dungeness crab, salmon and Market squid. Price per pound for these species are compared to other top performing ports and against State average below.

Dungeness crab, Regional Comparison: In a 2-year average regional comparison, commercial Dungeness crab fishermen in Pillar Point Harbor out-performed nearby ports and the State average in price per pound. Dungeness crab fishermen in Pillar Point Harbor earned an average of \$3.25 per pound in 2012 and 2013, outperforming Monterey and San Francisco and beating the State average by \$0.09 per pound between \$2.04 and \$3.34 per pound and averaged \$3.25 per pound.

TABLE 2.2 DUNGENESS CRAB, EVV 2013, PRICE PER POUND 2012-2013

	Dungeness Crab	
	2013 EVV	\$/LB 2 Yr. Avg
Pillar Point Harbor	\$ 7,609,245	\$ 3.25
Monterey	\$ 2,219,039	\$ 3.23
San Francisco Area	\$ 19,535,461	\$ 3.23
Eureka	\$56,056,975	\$ 3.09
California	\$ 90,784,166	\$3.16

SOURCE: CDFW

Chinook salmon, Regional Comparison: At \$6.83, average price per pound for salmon in Pillar Point Harbor (in 2012 and 2013) topped nearby ports and the California average. Price for salmon in Pillar Point Harbor between 2009 and 2013 fluctuated between \$5.88 and \$7.17 per pound and averaged \$6.83 per pound.

TABLE 2.3 CHINOOK SALMON, EVV 2013, PRICE PER POUND 2012-2013

	Chinook Salmon	
	2013 EVV	\$/LB 2 Yr. Avg
Pillar Point Harbor	\$ 3,663,145	\$ 6.83
Monterey	\$ 2,219,039	\$ 5.87
Fort Bragg	\$ 7,818,055	\$ 5.33
San Francisco Area	\$ 7,482,453	\$ 6.53
California	\$ 23,253,950	\$ 5.83

SOURCE: CDFW

The top three species in Pillar Point Harbor are Dungeness crab, Chinook salmon and Market squid. They account for approximately 87% of total EVV in the last 10 years.

In 2-13, Dungeness crab fishermen earned approximately 7.7% of the State total and outperformed average price per pound by \$0.09 cents.

Commercial salmon fishermen in Pillar Point Harbor earned approximately 15.5% of the State total in 2013 and outperformed price per pound by \$1.00.

Commercial squid fishermen in Pillar Point Harbor earned approximately 6.6% of the State total in 2013 and matched price per pound.

Market squid: The majority of the Market squid landed on the West Coast of the U.S. is packaged and frozen in blast freezers and then loaded into refrigerated containers for processing in Asia and redistribution. As such, Market squid trades in the global market and price per pound is consistent across the communities engaged in this fishery. Price for Market squid has fluctuated between \$0.27 and \$0.39 per pound for an average of \$0.32 per pound, matching the State and regional levels

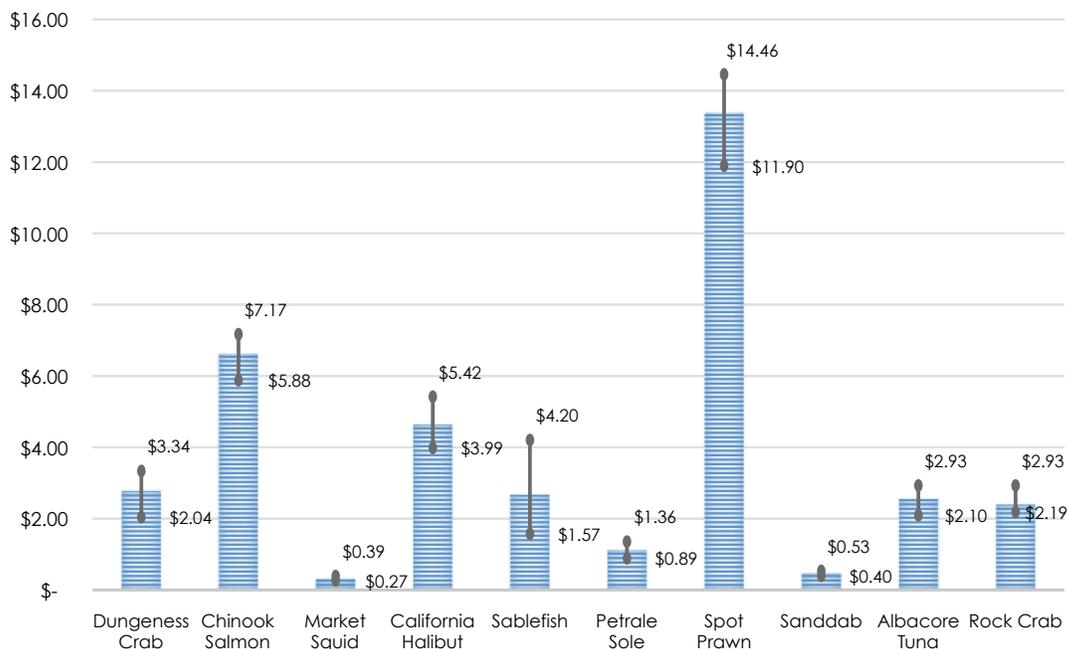
TABLE 2.4 PILLAR POINT, MARKET SQUID, EVV 2013, PRICE PER POUND 2012-2013

	Market Squid	
	2013 EVV	\$/LB 2 Yr. Avg
Pillar Point Harbor	\$ 5,052,925	\$ 0.32
Monterey	\$ 10,036,733	\$ 0.32
Santa Barbara	\$ 32,276,413	\$ 0.32
San Francisco Area	\$ 5,278,323	\$ 0.32
California	\$ 75,162,534	\$ 0.32

SOURCE: CDFW

The price per pound performance of the top ten species over the last 5 years, with average (thick blue bar) and highs and lows depicted in black vertical lines is depicted below.

FIGURE 2.3 PILLAR POINT HARBOR TOP TEN SPECIES, PRICE PER POUND, 5-YEAR AVERAGE AND HIGHS AND LOWS



SOURCE: CDFW

TOP SPECIES AND SPECIES DIVERSITY

In the last 10 years (2004-2013), the top ten species in Pillar Point Harbor have accounted for 98.3% of total EVV. These species represent a broad diversity of gear types, habitats, markets and scales of operation. Diversity means that the community is less reliant on any one species and protects them in the event of a poor season or seasons and translates to greater stability in employment and earnings.

TABLE 2.5 TOP TEN SPECIES EARNINGS BY SPECIES, 2004-2013

Species	EVV Total 2004-2013	% of Total
1. Crab, Dungeness	\$ 43,771,371	56.1%
2. Salmon, Chinook	\$ 12,994,682	16.7%
3. Squid, market	\$ 11,256,531	14.4%
4. Halibut, California	\$ 3,212,295	4.1%
5. Sablefish	\$ 1,756,766	2.3%
6. Sole, Petrale	\$ 1,178,258	1.5%
7. Prawn, spot	\$ 965,682	1.2%
8. Sanddab	\$ 532,378	0.7%
9. Tuna, albacore	\$ 511,615	0.7%
10. Rock crab*	\$ 237,808	0.3%

SOURCE: CDFW

Dungeness crab and spot prawn are caught using traps; salmon and albacore by surface troll (trailing a lure behind a slowly moving vessel); squid are caught by seiners, halibut are caught in shallow water using a trawl net and with hook and line; sablefish are caught using traps and hook and line; and sand dabs and Petrale sole by trawl and Scottish seine.

Seiners are vessels that deploy a purse seine net to target schooling fish like squid and sardines. The net has rings along its bottom through which a line passes that draws the net closed before being hauled out of the water.

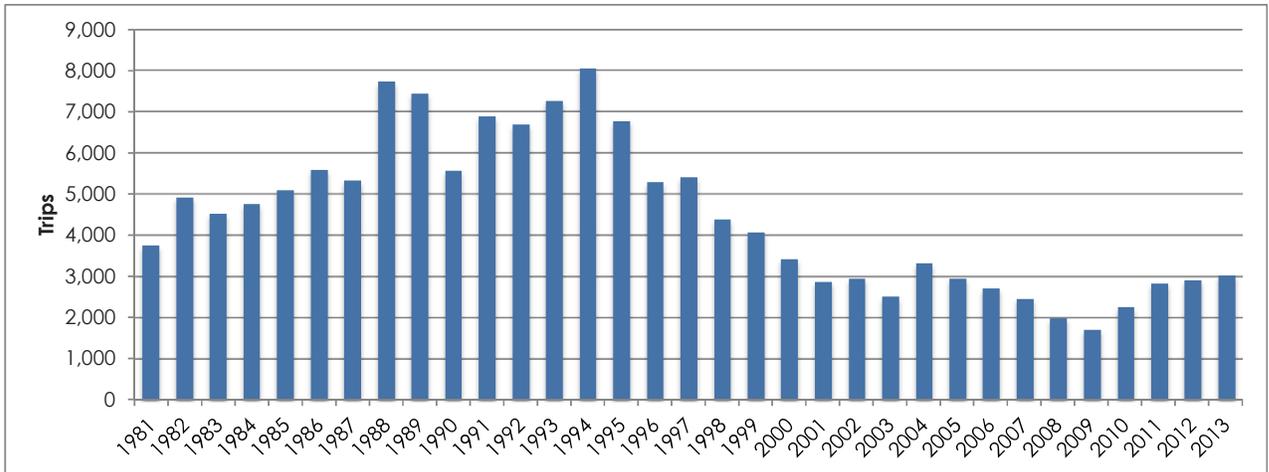
TRIPS

The California Department of Fish and Wildlife records commercial fishing activity through fishing trips. Fishing trips are a measure of economic activity and as such, an important performance metric. Fishing trips are defined in the Magnuson-Stevens Act Provisions (the overriding federal law affecting fisheries in the U.S.) as “the time period that begins when a fishing vessel departs from a dock, berth, beach, seawall, ramp, or port to carry out fishing operations and that terminates with a return to a dock, berth, beach, seawall, ramp, or port.”

Commercial fishing trips out of Pillar Point dropped from a high in 1993 of 7,267 to a low of 1,704 in 2009. Between 2009 and 2013 commercial fishing trips trended upwards to just over 3,000. This trend could be attributed, in part, to a healthy fish stock levels, strong consumer demand, and itinerant performances in Dungeness crab, sablefish, Market squid and salmon fisheries.

Statewide salmon closures in 2008 and 2009 contributed to a historic low number of commercial fishing trips in Pillar Point Harbor.

FIGURE 2.4 PILLAR POINT TRIPS (1980-2013)



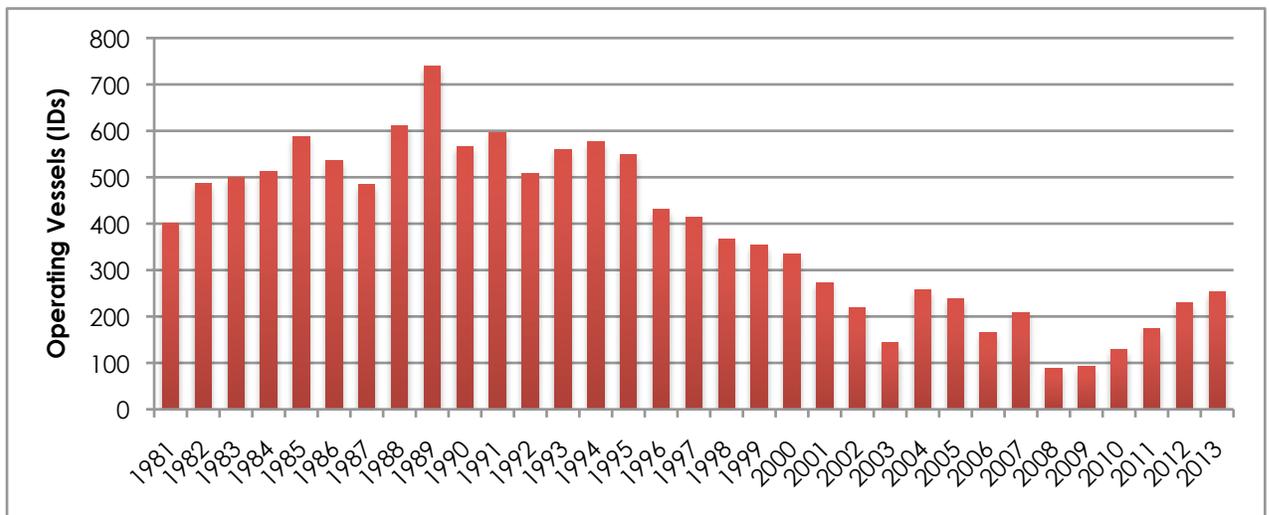
SOURCE: PACFIN

VESSEL IDS

Vessel IDs is a tally of the individual vessels that have engaged in commercial fishing activity in any given year. Vessel IDs are one indicator of the level of commercial activity, and the port’s ability to sustain local vessels and attract and accommodate visiting vessels. Each additional vessel represents increases in economic activity and an increased level of participation in the industry. Steady and increasing numbers of active participants through Vessel IDs are an indicator of sustainability.

The number of commercial vessels operating in Pillar Point Harbor rose from a 24 year low in 2008 of 88 and almost tripled in 2013 at 253. 1991 saw the highest level of commercial participants in Pillar Point Harbor at 596.

FIGURE 2.5 PILLAR POINT VESSEL IDS 1990-2013



SOURCE: PACFIN

TOP SPECIES PERFORMANCE

The top three species in Pillar Point Harbor make up over 87 percent of total earnings between 2004 and 2013, the top ten nearly 98 percent of the total. The next ten species each represent a fraction of a percent (between 0.1 and 0.3 percent). Based on this distribution and economic significance, the top ten species, earnings, landings and price per pound between 1990 and 2013 are highlighted in this section. They are: Dungeness crab, Chinook salmon, Market squid, California halibut, Sablefish, Petrale sole, Spot prawn, Sandabs, Albacore, and Rock crab. Detailed earnings analysis is not included for Sablefish, Petrale sole, Spot prawn and Sandabs, out of observance of confidentiality for the one or two fishermen in those fisheries.

The species described in this section are the top 10 income generators between 2004 and 2013. They played a significant role in supporting and sustaining fishermen and fishing families and contributing to the waterfront and greater Coastside economy.

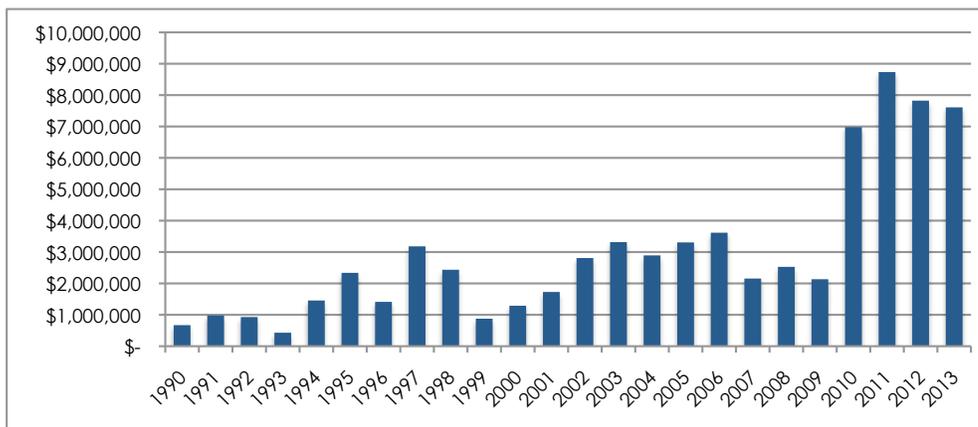
DUNGENESS CRAB

EARNINGS

Dungeness crab is the number-one earning fishery in Pillar Point. Earnings at the dock totaled \$71 million between 1990 and 2013 or approximately 39% of the Pillar Point Harbor's total. Earnings in this fishery in the 10 years between 2004 and 2013 have translated into nearly \$44 million in earnings at the dock or 56% of the total. Dungeness crab has been in the top ten species list in Pillar Point Harbor for all 24 years between 1990 and 2013.

Dungeness crab fishermen in the State of California generated \$90.7 million in 2013. The Pillar Point Harbor Dungeness crab effort produced \$7.6 million at the dock or a little over 8% of the State total (2013).

FIGURE 2.6 PILLAR POINT DUNGENESS CRAB EARNINGS IN 2014 DOLLARS, 1990-2013



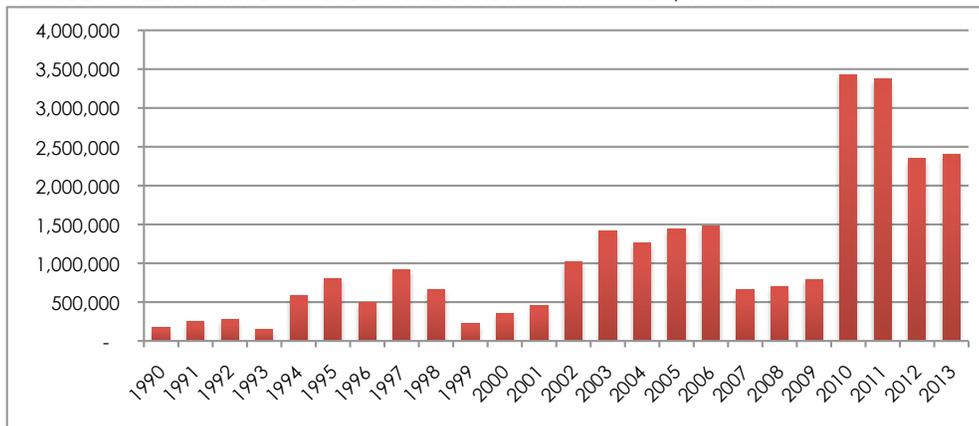
SOURCE: CDFW

LANDINGS

Dungeness crab accounted for over 25 million pounds of landings between 1990 and 2013, approximately 16% of total landings for that period. The Dungeness crab fishery is highly cyclical, as evidenced by distinct peaks and troughs in the landings graph. Commercial fishermen in Pillar Point Harbor have performed well because of their ability to capitalize on Dungeness crab and when fishing conditions and market conditions present the greatest opportunities.

Dungeness crab is a trap fishery. Traps with bait are set on the bottom and "pulled" and emptied after several days, when they are re-baited and set on the bottom once more. There is virtually no bycatch or habitat disturbance in the Dungeness crab fishery.

FIGURE 2.7 PILLAR POINT DUNGENESS CRAB LANDINGS IN POUNDS, 1990-2013



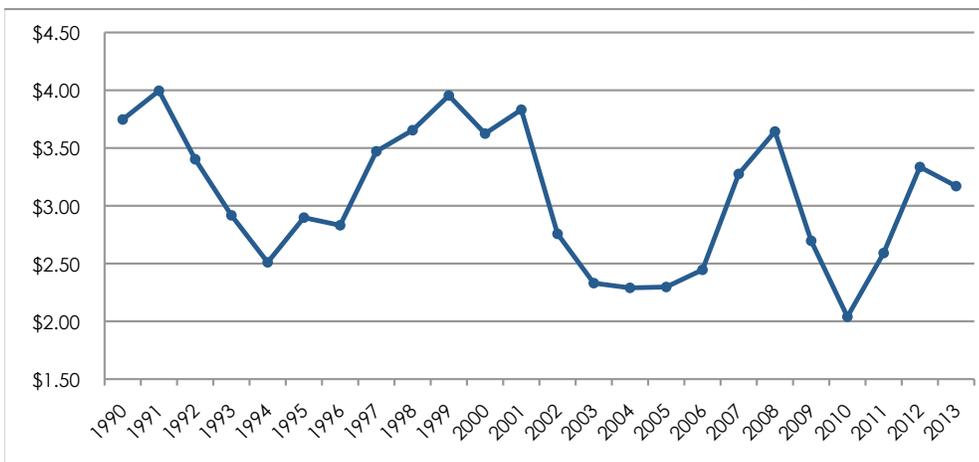
SOURCE: CDFG

PRICE PER POUND

The commercial fishing industry is very cyclic, ride the highs and get ready for the lows (personal communication with Dungeness crab fisherman, Pillar Point Harbor, June 2014).

Prices in the Dungeness crab fishery fluctuate with timing of regional opening dates of the season, abundance of stock, duration of the season and market forces. Highs between 1990 and 2013 center around 1991, 1999, and 2008 and appear to coincide with lower landing years. The last 2 years in the study period, 2012 and 2013 have seen higher than average landings and relatively strong price per pound. This may indicate the seafood consumer market's growing awareness and demand for Dungeness crab.

FIGURE 2.8 PILLAR POINT DUNGENESS CRAB PRICE PER POUND IN 2014 DOLLARS, 1990-2013



SOURCE: CDFW

CHINOOK SALMON

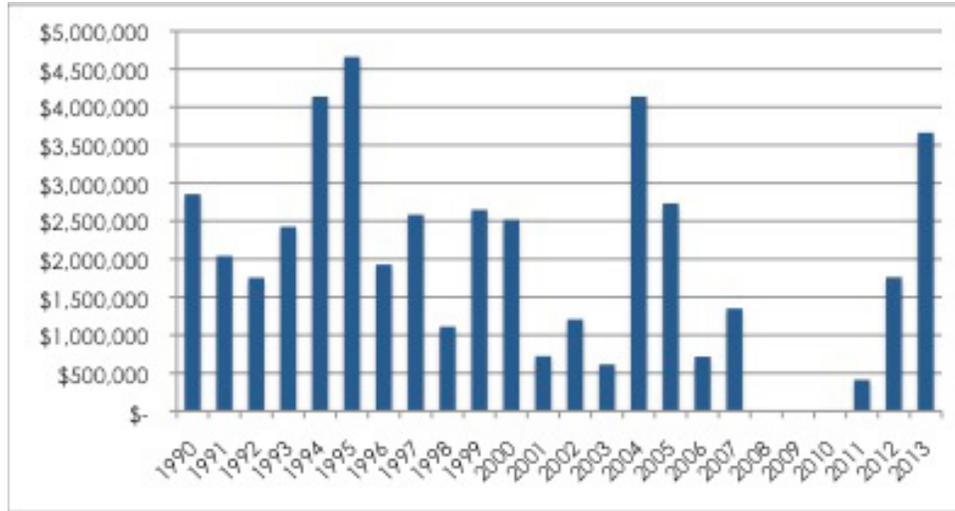
EARNINGS

Chinook or King salmon are the most prevalent commercially landed salmon species in California and Pillar Point Harbor. In the years following regulatory closures in 2008 and 2009 and a truncated season in 2010, commercial salmon fishermen in Pillar Point Harbor have generated over \$5.8 million in earnings. 2013 was one of the highest earning years in the 24 year period between 1990 and 2013 at \$3.7 million, only surpassed by three seasons (1994, 1995 and 2004). Salmon have been a top ten species in Pillar Point Harbor for 20 of the 24 years between 1990 and 2013.

2013 was the 4th highest earning year for commercial salmon landings in Pillar Point Harbor in 24 years (1990-2013).

A sudden collapse of the Sacramento River fall salmon stock in 2007 led the Pacific Fishery Management Council (PFMC) to enact a complete closure of the fishery in 2008 and 2009. While the fishery was reopened in 2010, commercial ocean salmon fishing remained severely constrained to allow the stock to rebuild (Palmer-Zwahlen, Melodie; Kormos, Brett; Simon, Jennifer; Coombes, Julia. "Status of the Fisheries Report: Pacific Salmon" 2011. California Department of Fish and Wildlife).

FIGURE 2.9 PILLAR POINT CHINOOK SALMON EARNINGS IN 2014 DOLLARS, 1990-2013



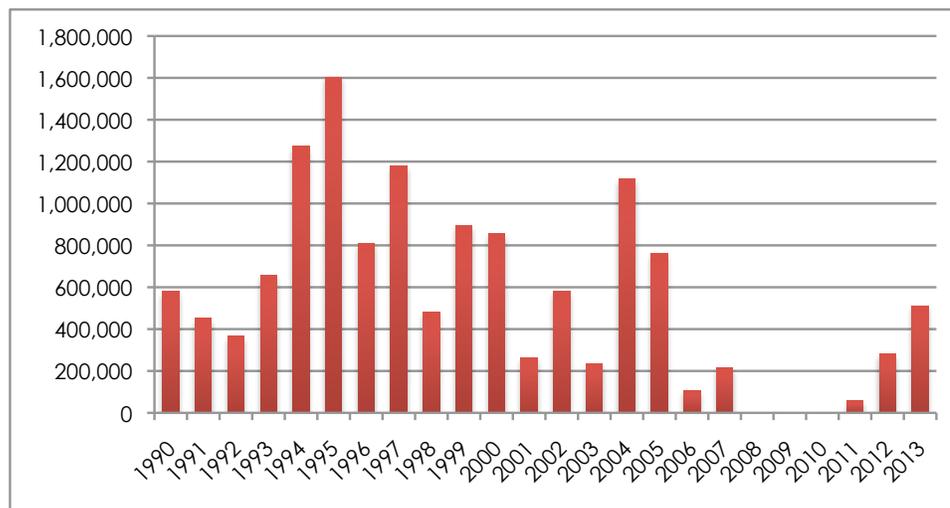
SOURCE: CDFW

LANDINGS

At 13.3 million pounds, salmon accounted for 8.6% of total landings by weight in Pillar Point Harbor between 1990 and 2013. After several years of regulatory closures and reduced seasons in 2008, 2009 and 2010, salmon landings in Pillar Point have shown a rising trend. 2013 landings topped 510,000 pounds.

Salmon are taken by trolling, or trailing a "jig" (lure with a hook) through the water at a slow speed. Salmon are caught one fish at a time.

FIGURE 2.10 PILLAR POINT CHINOOK SALMON LANDINGS IN POUNDS, 1990-2013



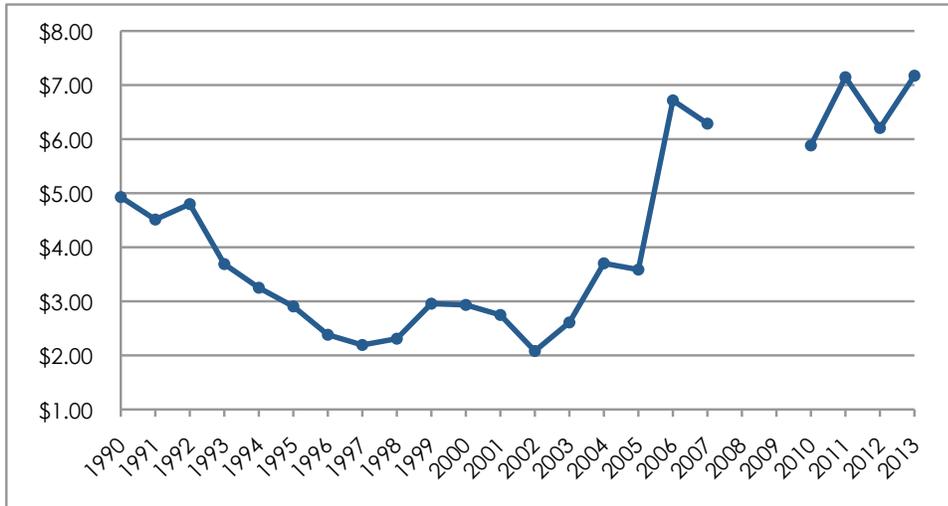
SOURCE: CDFW

In 2013, commercial salmon fishermen in Pillar Point Harbor earned \$7.17, the highest price per pound in 24 years (1990-2013)..

PRICE PER POUND

Salmon prices hit a 24-year high in 2013 of \$7.17 per pound and have been on a steady rising trend since a low of \$2.08 per pound in 2003. The West Coast of the U.S. and Alaska are one of the last places on earth that wild salmon are harvested commercially.

FIGURE 2.11 PILLAR POINT CHINOOK SALMON PRICE PER POUND IN 2014 DOLLARS, 1990-2013



SOURCE: CDFW

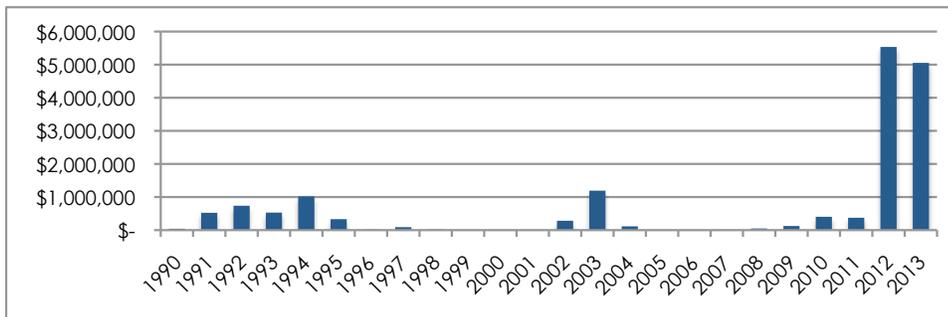
MARKET SQUID

EARNINGS

Since the establishment of a specialized fish pump in 2012 and Pillar Point Harbor's participation in the CPS fishery, over \$10.5 million has been generated at the dock from Market squid. This fishery is executed by seiners, typically larger vessels, with capacities of up to 100 tons and 3 or 4 deckhands. As such, seiners typically make larger fuel and supplies. Market squid appear in the top ten species list in Pillar Point Harbor for 14 of the 24 years between 1990 and 2013.

Squid and sardines are "vacuumed" from the hold of vessel in a slurry of seawater and ice with a specialized pump. From the pump, the fish are loaded on to a de-icer and then into plastic totes for transport and shipping.

FIGURE 2.12 PILLAR POINT MARKET SQUID EARNINGS IN 2014 DOLLARS, 1990-2013

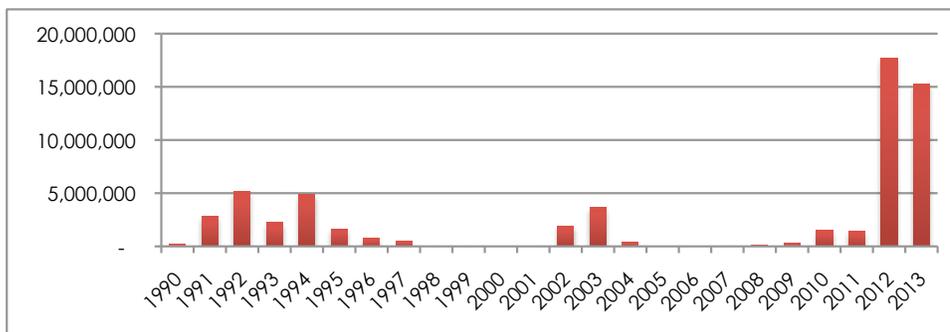


SOURCE: CDFW

LANDINGS

Nearly 33 million pounds of Market squid have been landed in Pillar Point Harbor in 2012 and 2013, more than half of total landings between 1990 and 2013. The CPS fishery is a high volume, low value model. CPS are usually quoted and traded by the ton.

FIGURE 2.13 PILLAR POINT MARKET SQUID LANDINGS IN POUNDS, 1990-2013



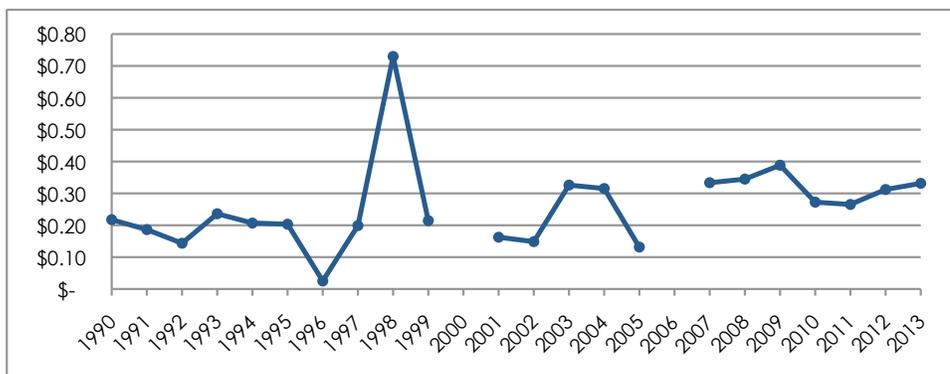
SOURCE: CDFW

According to NOAA, California's market squid fishery quickly expanded during the 1980s when international demand for squid grew due to declining squid fisheries in other parts of the world. Today, California squid make up the majority of the squid supply on the global market. The species also by far represents the highest landings for any species in the state, with 230 million pounds caught in 2013. Landings at Pillar Point represent for 6.6% of this figure.

PRICE PER POUND

Recent price per pound levels are in the mid to low \$0.30 range. The squid fishery is a high volume, low value model. CPS are usually quoted and traded by the ton.

FIGURE 2.14 PILLAR POINT MARKET SQUID PRICE PER POUND IN 2014 DOLLARS, 1990-2013



SOURCE: CDFW

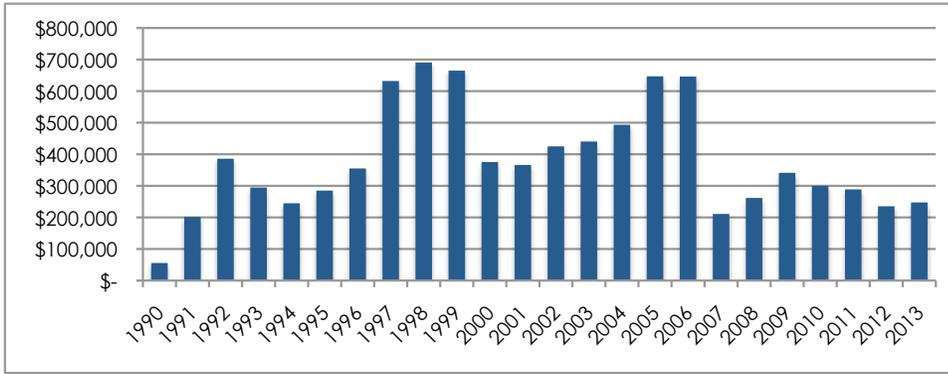
CALIFORNIA HALIBUT

EARNINGS

Commercial fishermen in Pillar Point Harbor generated over \$9 million in earnings from California halibut between 1990 and 2013 at an average of over \$378,000 per year. Earnings peaked with highs in 1998 (\$690,437) and 2005 (\$646,779). California halibut provides opportunities for the small vessel fleet as well as sales off the boat. Halibut have been a top ten species in Pillar Point Harbor for 22 of the 24 years between 1990 and 2013.

Halibut are caught using hook and line or a trawl net in shallow waters.

FIGURE 2.15 PILLAR POINT CALIFORNIA HALIBUT EARNINGS, 1990-2013



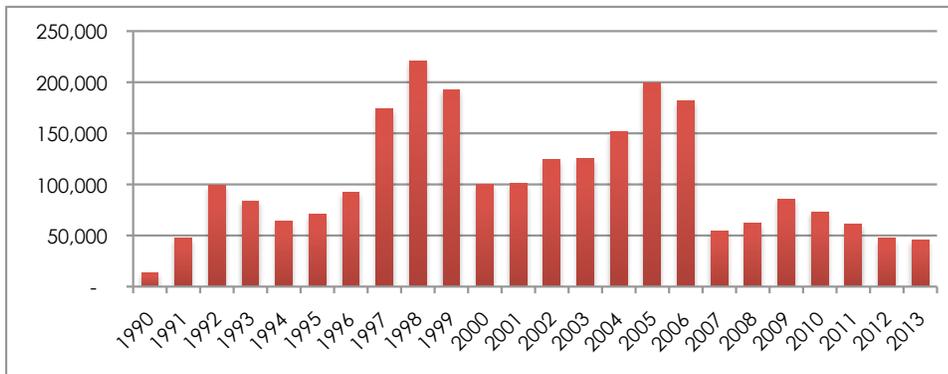
SOURCE: CDFW

LANDINGS

Commercial fishermen in Pillar Point Harbor land an average of over 103,000 pounds of California halibut per year.

California halibut appear in the top ten species landed in Pillar Point Harbor for 22 of the 24 years between 1990 and 2013. Landings in that period totaled nearly 2.5 million pounds, and peaked in 1998 (221,053 pounds) and 2005 (199,437 pounds). Price per Pound: California halibut averaged \$3.89 per pound between 1990 and 2013. An upward trend beginning in 2005 was capped with a 24-year high in 2013 of \$5.42 per pound. Between 2009 and 2013 the average price fluctuated between \$3.99 and \$5.42.

FIGURE 2.16 PILLAR POINT HARBOR CALIFORNIA HALIBUT LANDINGS IN POUNDS, 1990-2013

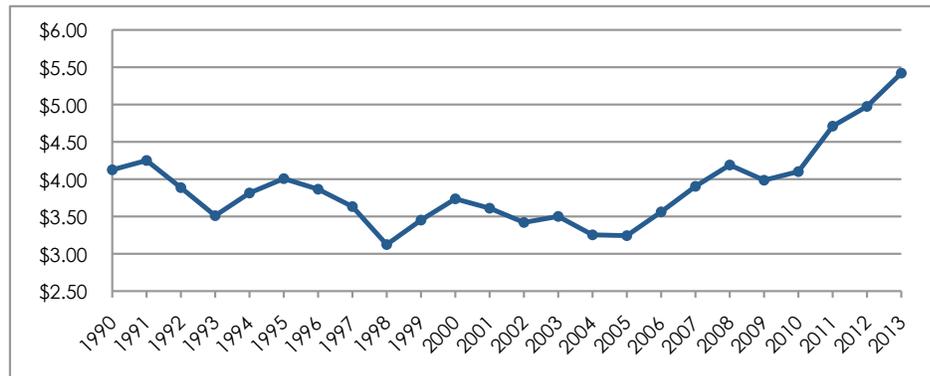


SOURCE: CDFW

PRICE PER POUND

California halibut averaged \$3.89 per pound between 1990 and 2013. An upward trend beginning in 2005 was capped with a 24-year high in 2013 of \$5.42 per pound. Between 2009 and 2013 the average price fluctuated between \$3.99 and \$5.42.

FIGURE 2.17 PILLAR POINT HARBOR CALIFORNIA HALIBUT PRICE PER POUND, 1990-2013



SOURCE: CDFW

SABLEFISH

Sablefish is one of the top fisheries in Pillar Point Harbor. As sablefish is currently targeted by one or two commercial fishermen, the species is assessed from a general perspective, without detailed data on earnings, landings or price per pound for confidentiality purposes.

Sablefish are part of the groundfish complex.

EARNINGS

Sablefish also known as black cod has been one of the top ten species in Pillar Point Harbor for 22 of the 24 years between 1990 and 2013. Commercial sablefish fishermen generated a total of over \$5.1 million in the same period. Sablefish are caught by hook and line, trap and trawl and by commercial fishermen participating in three management regimes (see Environmental Setting XXX).

LANDINGS

The Pillar Point Harbor commercial fishermen have landed nearly 3.5 million pounds of sablefish in the 24 year period between 1990 and 2013.

PETRALE SOLE

There are currently one or two commercial fishermen targeting Petrale sole in Pillar Point Harbor. Petrale sole is assessed from a general perspective, without current data on earnings, landings or price per pound for confidentiality purposes.

Petrale sole are part of the groundfish complex.

EARNINGS

Total Petrale sole earnings topped \$4.0 million between 1990 and 2013. Based on earnings at the dock, Petrale sole has been in the top ten species in Pillar Point Harbor for 22 of the 24 years between 1990 and 2013.

Petrale sole are caught using trawl or Scottish seine.

In 2013, Pillar Point Harbor had the second-highest earnings and landings of Petrale Sole south of San Francisco after Morro Bay.

LANDINGS

Commercial fishermen in Pillar Point Harbor landed over 3 million pounds of Petrale sole between 1990 and 2013.

SPOT PRAWN

Detailed data on landings, earnings and price per pound is not reported here in observance of confidentiality as there is only one fisherman engaged in that fishery in Pillar Point Harbor. The National Marine Fisheries Service (NMFS) estimates a total of 27 participants in the California Spot Prawn trap fishery, of which one vessel is active in Pillar Point Harbor.

Spot prawn are caught using traps with little or no habitat disturbance or bycatch.

EARNINGS

Spot prawn is one of the most valuable fisheries in Pillar Point Harbor and has held a place in the top ten species by value in 22 of the 24 years between 1990 and 2013. Spot prawn represent over \$2 million in earnings at the dock during that period.

LANDINGS

Nearly 200,000 pounds of spot prawn were landed in Pillar Point Harbor between 1990 and 2013.

SANDDAB

Sanddabs are part of the groundfish complex and taken by trawl and Scottish seine.

Detailed data on landings, earnings and price per pound is not reported here in observance of confidentiality as there is only one or two fisherman engaged in the sanddab fishery in Pillar Point Harbor

EARNINGS

Commercial fishermen generated a total over \$5 million in Sanddab earning between 1990 and 2013. Sanddabs have been a top-ten earnings species in Pillar Point Harbor for 21 of the 24 years between 1990 and 2013.

LANDINGS

Commercial fishermen in Pillar Point Harbor landed a total of 9.8 million pounds of sanddabs between 1990 and 2013.

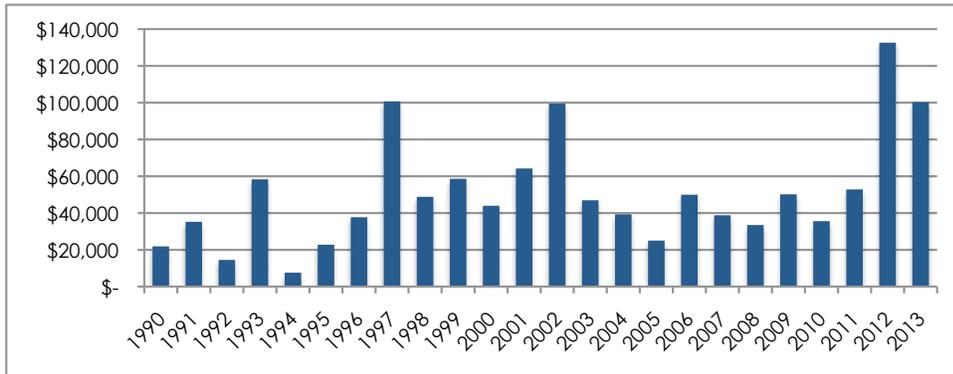
ALBACORE TUNA

The majority of the approximately \$40 million earnings in the West Coast commercial albacore fishery take place in Washington and Oregon.

EARNINGS

Commercial fishermen in Pillar Point Harbor generated earnings of over \$1.2 million from albacore between 1990 and 2013. In 2012, the highest earnings year, commercial fishermen generated \$132,612. Earnings at the dock in 2013 were the third highest in the 24 period between 1990 and 2013 and albacore hold a place in the top ten species list for 13 of those 24 years.

FIGURE 2.18 PILLAR POINT ALBACORE TUNA EARNINGS IN 2014 DOLLARS, 1990-2013

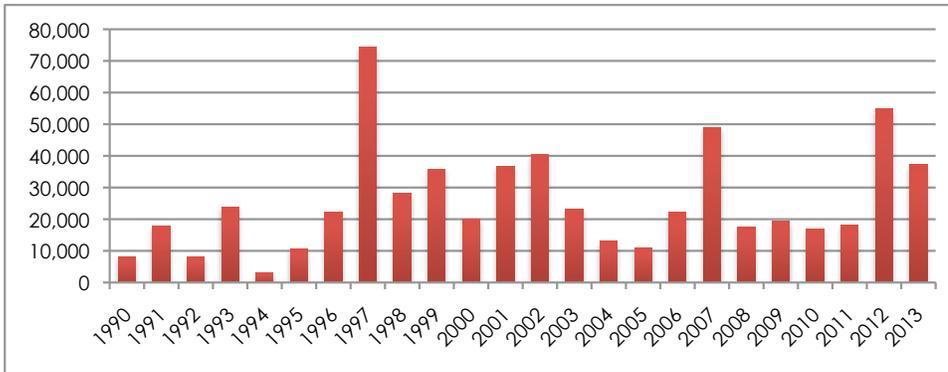


SOURCE: CDFW

LANDINGS

Commercial landings of albacore in Pillar Point Harbor between 1990 and 2013 were over 600,000 pounds. The highest landings achieved during that period were in 1997 at over 74,000 pounds, and the lowest in 1994 at just over 3,000 pounds. In 2013, commercial fishermen landed over 37,000 pounds, back up to the levels of the late 1990s and early 2000s.

FIGURE 2.19 PILLAR POINT ALBACORE TUNA LANDINGS IN POUNDS, 1990-2013

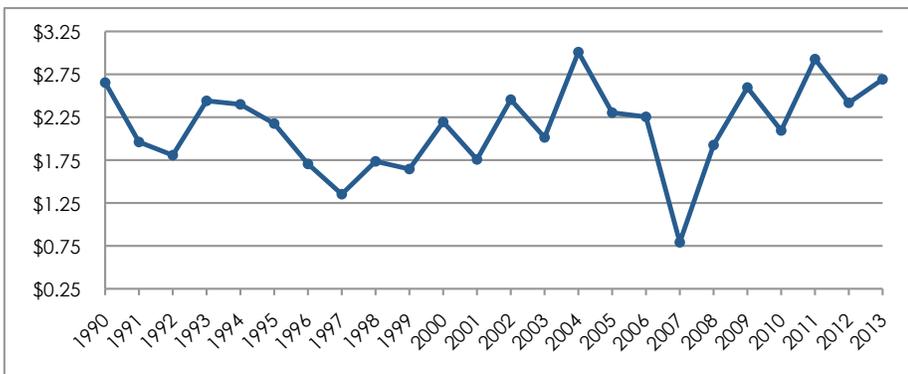


SOURCE: CDFW

PRICE PER POUND

In 2013, commercial albacore fishermen in Pillar Point Harbor earned \$2.69 per pound, the fourth highest figure in a 24 year period, behind 2011, \$2.93, 2004, \$3.01 and 1990, \$2.65. Average price per pound for the 24 year period between 1990 and 2013 was \$2.14.

FIGURE 2.20 PILLAR POINT ALBACORE TUNA PRICE PER POUND, 1990-2013



SOURCE: CDFW

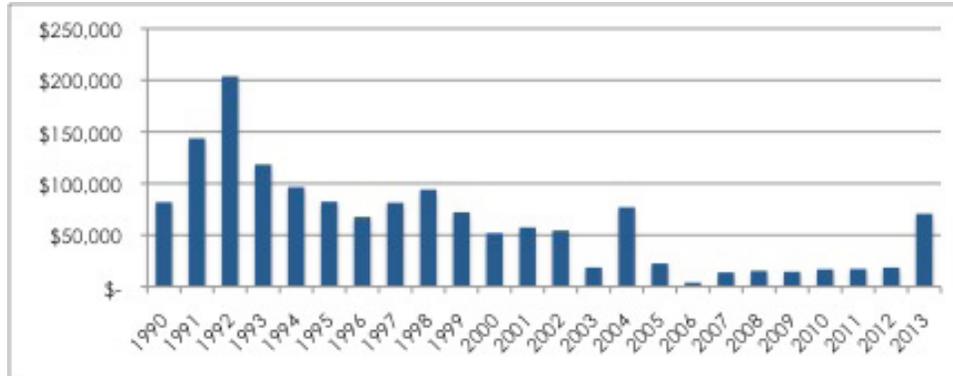
ROCK CRAB

EARNINGS

In 2013, commercial fishermen in Pillar Point Harbor generated the highest landings of rock crab since 2005 and the second highest since 2000.

Commercial fishermen in Pillar Point Harbor generated a total of approximately \$1.5 million in earnings from rock crab between 1990 and 2013. The highest earnings in that period of \$203,859 occurred in 1992 and the low of \$4,084 in 2006. While earnings were on a downward trend between 1990 and 2006, commercial rock crab fishermen earned over \$70,000 in 2013, returning to early 2000s levels.

FIGURE 2.21 PILLAR POINT ROCK CRAB EARNINGS IN 2014 DOLLARS, 1990-2013

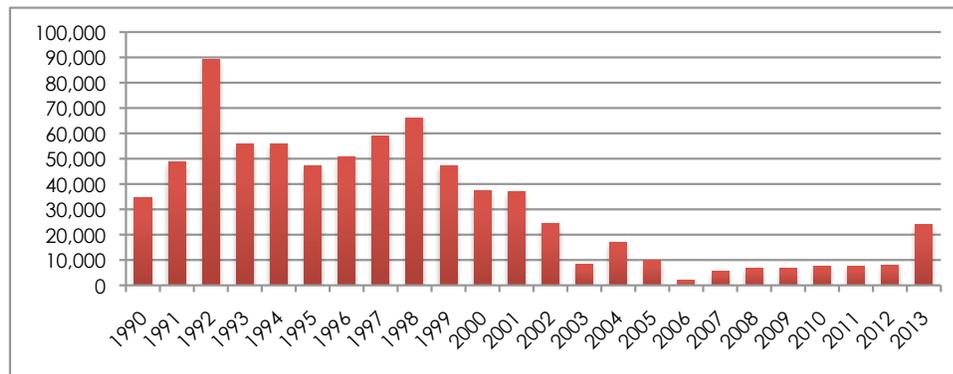


SOURCE: CDFW

LANDINGS

Commercial fishermen in Pillar Point Harbor landed over 750,000 pounds of rock crab between 1990 and 2013. The highest landings of that period, 89,195 pounds, occurred in 1992 and the low of 1,878 in 2006. In 2013, commercial fishermen generated 69,369 pounds of landings, the highest landings since 2002.

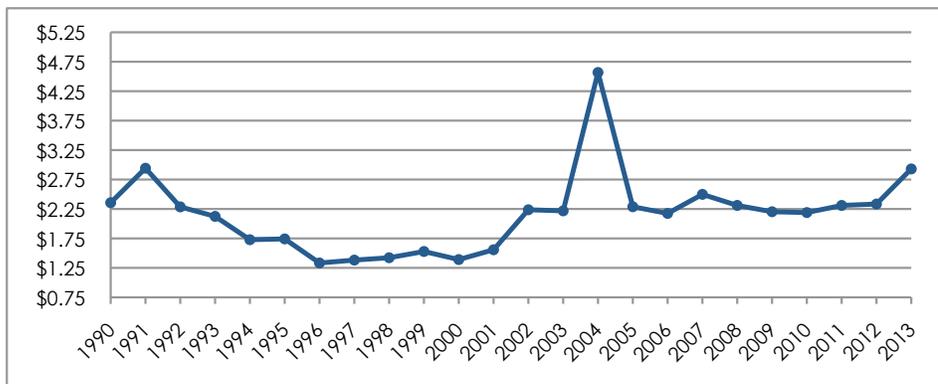
FIGURE 2.22 PILLAR POINT ROCK CRAB LANDINGS IN POUNDS, 1990-2013



SOURCE: CDFW

PRICE PER POUND

Rock crab prices hit their lowest levels in Pillar Point Harbor in 1996 and have been on a slight upward trend since. Highest price per pound was achieved in 2004 at \$4.57 and in 2013 commercial rock crab fishermen earned \$2.93 per pound the highest level since of the 24 year. Average price per pound in Pillar Point between 1990 and 2013 is \$2.17.

FIGURE 2.23 PILLAR POINT ROCK CRAB PRICE PER POUND, 1990-2013

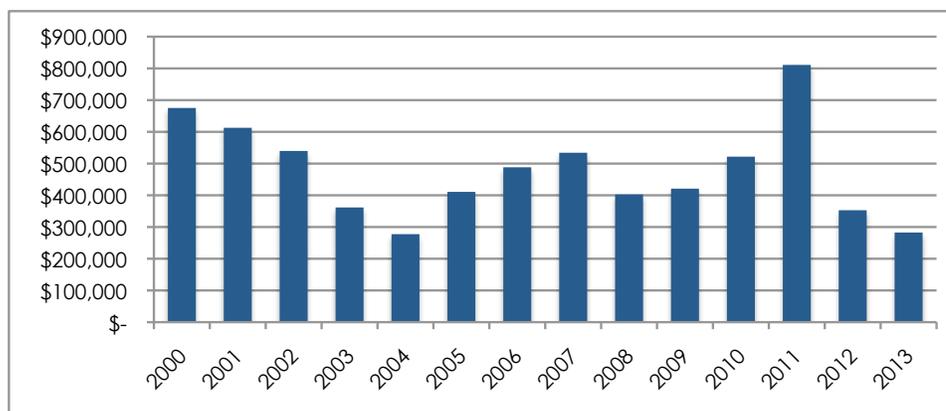
SOURCE: CDFW

GROUNDFISH COMPLEX

Groundfish have played an important historical role in the growth and performance of commercial fishing in Pillar Point Harbor and continue to represent significant economic, environmental and social return. Rockfish, a significant component of the groundfish complex appear in the top five species as early as 1951 (Scofield, 1954). Earnings generated from the groundfish fishery in Pillar Point Harbor between 1990 and 2013 were nearly \$6.7 million and landings by weight, over 5.3 million pounds. Groundfish, unlike salmon, albacore or Dungeness crab is a year-around fishery, and complements those species with a steadier supply of earnings for skippers, deckhands and dockworkers, landing fees for the Harbor District and purchases of ice and fuel.

EARNINGS

Commercial groundfish fishermen in Pillar Point Harbor generated more than \$6.7 million between 1990 and 2013 with the highest earnings of over \$810,000 in 2011 and a low of approximately \$277,000 in 2004. Average annual earnings for that 14-year period are approximately \$478,000.

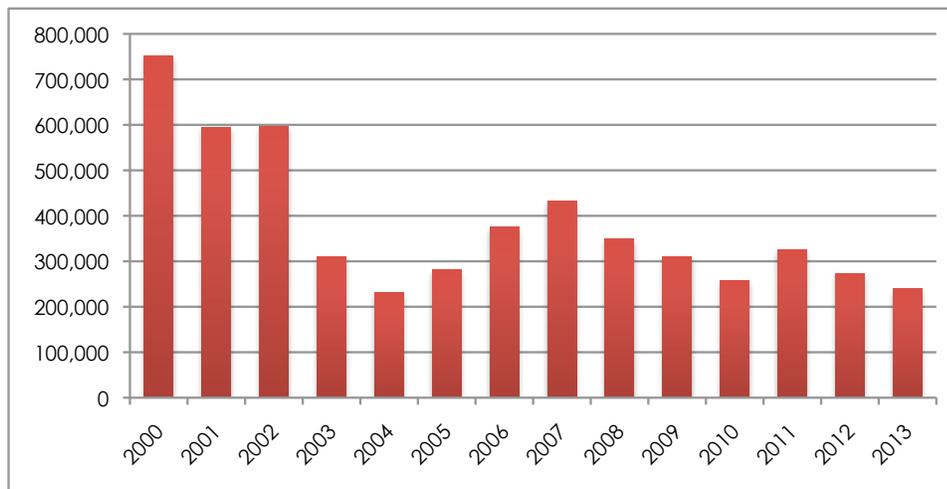
FIGURE 2.24 EX VESSEL VALUE, GROUNDFISH, PILLAR POINT HARBOR, 2000 - 2013

SOURCE: CDFW

LANDINGS

The groundfish fleet in Pillar Point Harbor landed over 5.3 million pounds between 2000 and 2013 at an average of over 380,000 pounds per year. The highest landings in the period occurred in 2000, approximately 752,000 pounds and the lowest landings in 2004, approximately 231,000 pounds.

FIGURE 2.25 LANDINGS BY WEIGHT, GROUNDFISH, PILLAR POINT HARBOR, 2000 - 2013

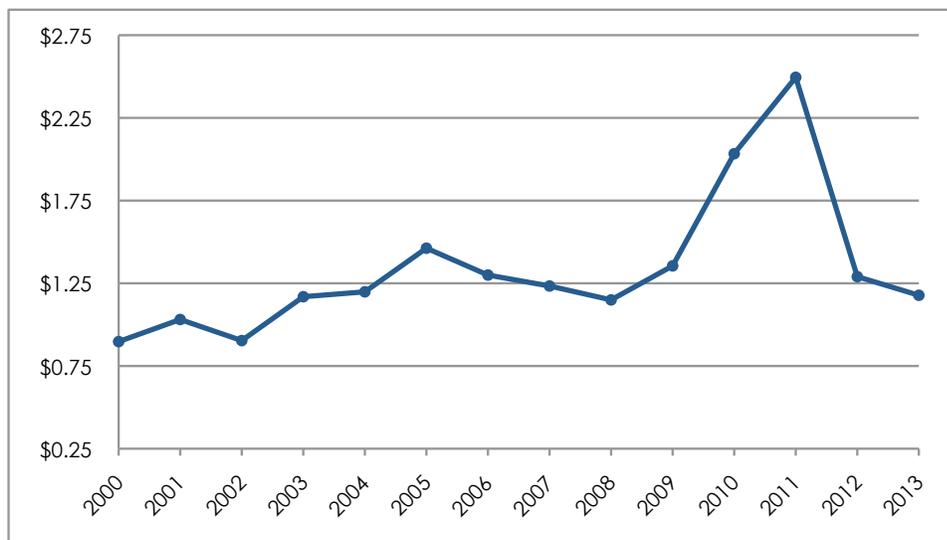


SOURCE: CDFW

PRICE PER POUND

In the 14 year period between 2000 and 2013, groundfish fishermen in Pillar Point Harbor earned an average of \$1.34 per pound. Price per pound has been on a steady rise, except for a dip between 2005 and 2008 and a jump in 2011. Average annual price per pound was approximately \$0.90 in 2000 and \$1.18 in 2013.

FIGURE 2.26 PRICE PER POUND, GROUNDFISH, PILLAR POINT HARBOR, 2000 - 2013



SOURCE: CDFW

NEARSHORE

The Nearshore complex consists of 19 species and is managed by the Nearshore Fishery Management Plan. There are approximately 10 commercial fishing operations in Pillar Point targeting the Nearshore and deeper nearshore species, mainly comprised of smaller, trailerable boats. Sales of Nearshore landings are typically off the boat, in many cases live and attract a relatively high price per pound. Price per pound for the seven primary Pillar Point Harbor species in this fishery ranges from \$4.18 to \$8.24. The Nearshore fishery in Pillar Point is comprised primarily of the following rockfish species: Gopher rockfish, Brown rockfish (bolina), Black rockfish, China rockfish, Blue rockfish, Copper rockfish, Black and yellow rockfish and Cabezon. In 2013, Nearshore fishermen in Pillar Point Harbor generated \$35,556 in earnings and 7,314 pounds in landings by weight for an average of \$4.86 per pound.

Pillar Point Harbor Nearshore fishermen typically engage in other fisheries throughout the season, such as Dungeness crab, salmon, switching back and forth to take advantage of market opportunities and the movement and proximity of fish stocks.

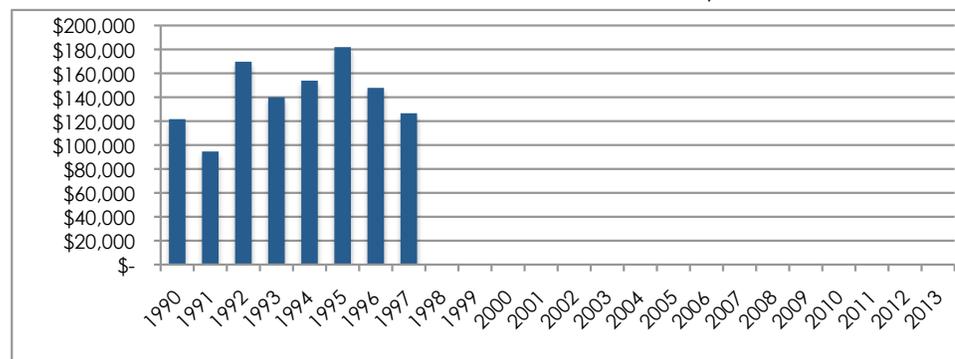
HISTORICALLY SIGNIFICANT SPECIES

RED ABALONE

Red abalone was one of the highest-earning species at Pillar Point during the 1990s, appearing in the port's top ten list for seven consecutive years until 1998, when regulations closed the commercial fishery. Between 1990 and 1997, commercial red abalone fishermen in Pillar Point Harbor generated over \$1.85 million during which time annual earnings consistently topped \$160,000. Red Abalone earnings reached a high in 1992 of approximately \$288,000.

Red abalone is an example of a species that while no longer landed, played a role supporting fishermen and fishing families.

FIGURE 2.27 PILLAR POINT RED ABALONE EARNINGS IN 2014 DOLLARS, 1990-2013



SOURCE: CDFW

SUMMARY OF ECONOMIC CLIMATE

Commercial fishing in Pillar Point Harbor is a strong contributor to the economic vibrancy of the San Mateo County Harbor District through the generation of earnings at the dock, employment and wages, purchase of supplies from local businesses (ice, fuel, technical and mechanical contractors); slip fees, offloading fees and the attraction of tourism to Johnson Pier. Commercial fishermen earned over \$183 million at the dock between 1990 and 2013. Each dollar represents earnings for skippers, wages for dockworkers, truck drivers, and the purchase of ice and fuel and offloading fees. In 2013, commercial fishermen earned nearly \$17.5 million at the dock, the highest level in 24 years, which placed Pillar Point in the top six commercial fishing ports in the State.

Overall earnings, price per pound and trips and the number of vessels operating in the Harbor are a key economic performance measures.

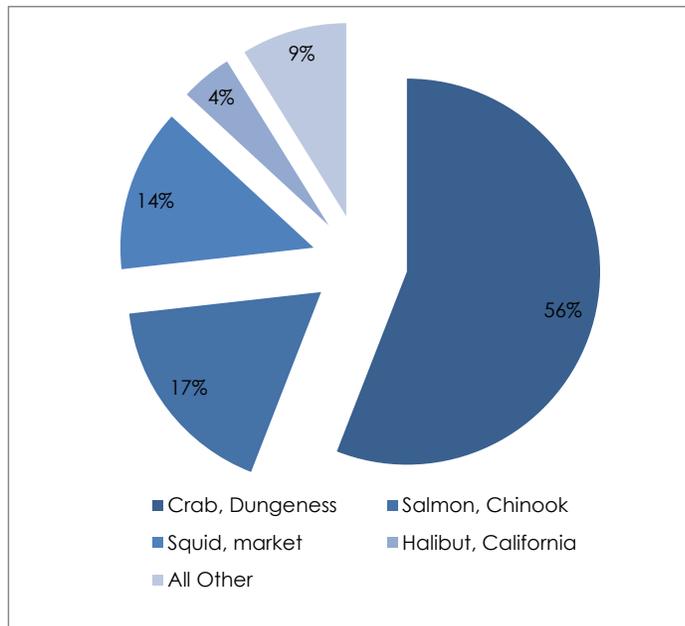
In 2013, Pillar Point also outperformed regional ports in price per pound for top fisheries such as salmon and Dungeness crab. Price per pound for top species like Dungeness crab, salmon, California halibut, Petrale sole, sanddab, albacore and rock crab is on the rise. These are positive signs and indicate the potential for sustained stability and value in these fisheries. Overall price per pound has dropped due, in part, to increased Market squid landings in 2012 and 2013 and weak salmon seasons in 2008 and 2009 (regulatory closures) and shifts in the sablefish market.

After approximately 20 years of decline (mirroring trends in the State), the number of vessels operating in the Harbor is on an upward trend and has grown from 88 in 2008 to 253 in 2013. The number of commercial fishing trips has similarly grown from 1,704 in 2009 to 3,026 in 2013. These are positive signs of increasing economic activity and vibrancy and bode well for the industry if they can be maintained at current levels or increased.

Catches and prices from many fisheries exhibit high interannual variability, leading to variability in the income derived by fishery participants. The economic risk posed by this may be mitigated in some cases if individuals participate in several different fisheries, particularly if revenues from those fisheries are uncorrelated or vary asynchronously (Fishery Income Diversification and Risk for Fishermen and Fishing Communities of the US West Coast and Alaska, Kasperski & Holland, NMFS/NWFSC 2012).

Earnings for Pillar Point commercial fishermen occur across a diversity of species, gear types, habitats and scale of fishing operation, a key contributor in the long-term economic resiliency of the commercial fishing industry. There may be opportunities, however, to strengthen the resiliency of the Pillar Point commercial fishing industry by creating greater diversity in landings and earning. Specifically, 87 percent of earnings are generated by three species - Dungeness Crab, Chinook Salmon, and Market Squid and relative value per species falls below 1 percent at the eighth position. As such, there is a considerable amount of value in a small number of individual species/fisheries. In the event of a weak season or seasons in any one, or combination of these three species/fisheries, earnings and economic opportunities for the Pillar Point commercial fishing industry would suffer more than if the distribution of earnings was spread across a greater number of species. By comparison, in Morro Bay Harbor, for example, 87 percent of earnings are distributed across nine species. Relative value consequently does not fall below 1 percent until the 11th position. This concept has been explored and reported on by NOAA's Northwest Fisheries Science Center (see textbox) and is supported on the individual vessel level and community level.

FIGURE 2.28 PILLAR POINT TOP SPECIES DISTRIBUTION, 20014-2013



SOURCE: CDFW

3. ENVIRONMENTAL SETTING

The California coastal zone and marine habitat is widely recognized by scientists and the public as incredibly diverse and productive and increasingly subject to human activity. Commercial fishing grounds off of the North Central/Central Coast are characterized by a nutrient-rich upwelling of cold water that supports marine life from plankton to whales, seabirds and a number of important fisheries. The marine habitat boasts a wide diversity of productive habitats, including rocky intertidal areas and estuaries, offshore islands, kelp beds, soft sandy bottoms, rocky canyons, sea mounts and the Continental Shelf. This diversity is reflected in seafood landings in Pillar Point Harbor from bottom habitats, including spot prawn, rockfish, Dungeness crab, Rock crab, Petrale sole and California halibut; to mid-water column species, including salmon, and sablefish and highly migratory species; albacore tuna, as well as forage fish like squid and sardines. Commercial fishermen in Pillar Point Harbor also benefit from the rich San Joaquin-Sacramento watershed and its tributaries that provide critical spawning habitat for Chinook salmon, one of the State’s most valuable fisheries and Pillar Point Harbor’s second most valuable fishery (in the years between 2004-2013).

Of the thousands of species off the coast of Pillar Point Harbor, all of the approximately 30 to 40 targeted by the commercial fishing industry are managed by state and federal agencies and subject to a combination of regulatory measures, science-based stock assessments and evaluations, strict reporting requirements and enforcement. This oversight is evidence of a well protected resource and basis for a sustainable commercial harvest levels.

After the passage of the Magnuson Stevens Act in 1976 and a rush to gain American fishing dominance in the newly established 200-mile Economic Exclusion Zone (EEZ), state and federal oversight of commercial fishing by the Department of Fish and Wildlife and the National Marine Fisheries Service has led California to become one of the most highly regulated and monitored in the world. California’s management of depleted stocks has been described by leading fisheries scientists as “one of the most spectacular rebuilding efforts” (Worm, Boris; Hilborn, Ray et al., 2009). As a result, commercial fishermen are faced daily with a maze of restrictions, requirements, and regulations imposed by both state and federal agencies. The following chapter is meant to give an overview of regulations that commercial fishermen in Pillar Point Harbor face. Those regulations are aimed at setting sustainable harvest levels, protecting important habitat and ultimately assuring there is a viable commercial fishing industry in Pillar Point Harbor and California’s future.

The variety of habitats adds to the productivity and diversity of California fisheries. Compared to other coastal states, California’s continental shelf (the submerged extension of the coast before it drops off to the ocean bottom) is relatively narrow and deep. In addition, offshore islands add to the amount and diversity of available habitat for marine organisms, further enhancing the productivity and resulting fisheries of California waters (CA Sea Grant Extension).

Formalized in 1982 by the U.N. Convention on the Law of the Sea, the EEZ is an area extending 200 nautical miles from a country’s shoreline within which said country retains sovereign rights for the purpose of, “exploring, exploiting, conserving, and managing natural resources,” (Presidential Proclamation No. 5030, March 10, 1983).

The MSA was enacted to promote the U.S. fishing industry’s optimal exploitation of coastal fisheries by “consolidating control over territorial waters” and establishing eight regional councils to manage fish stocks (May, 2008).

Petrale sole, a top species in Pillar Point Harbor, are no longer considered overfished as part of a successful rebuilding plan, though unexploited levels remain slightly below management targets (2013 PFMC Stock Assessment Review (STAR) Panel)

Salmon: In 2011, the NOAA declared the Chinook salmon fishery as “rebuilt” following a complete closure in 2008 and 2009 (National Marine Fisheries Service 2011 Report to Congress, The Status Of U.S. Fisheries)

An example of successful management and fish stock rebuilding efforts is recognition by Non Governmental Organization (NGO) conservation and industry oversight groups such as the Marine Stewardship Council which recently awarded the West Coast Limited Entry Trawl Groundfish Fishery “sustainable” certification (NOAA Fisheries, West Coast Region, 2014). Some of the species that were certified by MSC include the most prevalent in Pillar Point Harbor: Petrale sole, sablefish, Dover sole, English sole and lingcod.

The Top Species Management Measures table (below) depicts the top species and fisheries in Pillar Point Harbor and the corresponding management tools used applied by state and federal regulators. Each of the management tools and how it is relevant in Pillar Point Harbor is discussed subsequently.

The fisheries and species shown in the table represent over 98% of the commercial landings in Pillar Point between 2004 and 2013.

TABLE 3.1 INDICATORS OF SUSTAINABILITY

	CPS	Dungeness Crab	Nearshore	Salmon	Groundfish	California Halibut	Highly Migratory Species	Spot Prawn
Management Level	State/Fed	State	State/Fed	State/Fed	State/Fed	State	Fed	State
Fishery Management Plan	•		•	•	•	•	•	
Reporting Requirements	•	•	•	•	•	•	•	•
Spatial Closures			•		•	•	•	•
Catch Limits	•		•	•	•	•		
Seasonal Closures	•	•		•		•	•	•
Gear Restrictions		•	•	•		•		
Sex/Size		•	•	•		•		
Number of Vessels	•		•		•	•		•
Trap Limits		•						•
Quota-Based Management					•			

SOURCE: CDFW, NOAA, NMFS

Dungeness crab, “Stock status: Landings have fluctuated around a moderately stable long-term mean; stock assessments not conducted, though fishery is generally considered healthy due to management measures and crab life history characteristics” (Ocean Protection Council, 2013).

FISHERY MANAGEMENT PLANS (FMP)¹

A key component of fisheries management in California, Fishery Management Plans (FMP) serve as a comprehensive document detailing management of the state’s marine resources. Many of the key species in the commercial fisheries are subject to federal and interstate FMPs, most notably those regulating Salmon, Groundfish, and Highly Migratory and Coastal Pelagic Species. With the exception of Spot Prawn, and Dungeness crab, all of the top species and the majority of the catch harvested by the Pillar Point Harbor commercial fishing fleet are regulated by FMPs.

¹ Information in this section adapted from “The Master Plan: A Guide for the Development of Fishery Management Plans” 2001. *State of California, Department of Fish and Game, Marine Region*. Accessed 10 June 2013

The purpose of the FMP is to inform and guide species management as well as ensure ecosystem health. Prior to adoption, FMPs are subject to prolonged research and discussion to ensure agreement across involved agencies and robust scientific backing. The Marine Life Management Act and the Fisheries Management Master Plan set the contents and organization of all California FMPs. Closely following the structure of federal FMPs, they are meant to include the following elements:

- Description of the fishery
- Fishery science and essential fishery information
- Basic fishery conservation measures
- Habitat provisions
- Bycatch and discards
- Overfishing and rebuilding
- Procedure for review and amendment of an FMP

Bycatch are those “Fish which are harvested in a fishery, but which are not sold or kept for personal use” (MSA).

STOCK ASSESSMENT & FISHERY EVALUATION

The federal register defines the Stock Assessment & Fishery Evaluation (SAFE) report as “a document or set of documents that provides regional management Councils with a summary of information concerning the most recent biological condition of stocks and the marine ecosystems in the Fishery Management unit (FMU) and the social and economic condition of the recreational and commercial fishing interests, fishing communities, and the fish processing industries. It summarizes, on a periodic basis, the best available scientific information concerning the past, present, and possible future condition of the stocks, marine ecosystems, and fisheries being managed under Federal regulation.”

Implementation of SAFE reports and FMPs represents a modern fisheries science based approach to management. Reliance on empirical data and clearly delineated regulatory measures make these tools hallmarks of sustainable fisheries.

An important component of the FMP process, SAFE reports are intended to combine empirical data collection with ecologically informed statistical modeling in order to present a valid estimation of stock status among a single species or species grouping. A SAFE report is a valuation of the success of management measures at maintaining desired stock levels.

Top commercial fisheries in Pillar Point Harbor with SAFE Reports as part of the management framework: Albacore Tuna (Highly Migratory Species), Groundfish (sablefish, sablefish, chilipepper rockfish, Dover sole, English sole), Salmon and Market squid and sardines (Coastal Pelagic Species).

TRANSPARENCY, REPORTING REQUIREMENTS

Commercial fishermen in California are subject to strict reporting requirements on all commercial fishing activity and must submit a fish ticket upon landing for every fishing trip. Fish tickets capture the date/duration of the trip, species, geographic code where the fish were caught, gear type, ex-vessel value or money earned at the dock, permit number, and name of vessel. Information on landings by weight, and earnings by species, at the port level, is made available to the public on the CDFW and PacFIN websites (with some lag time).

Transparency is a foundation to a sustainable system and part of the obligation and cost born by commercial fishermen in the management and stewardship of the marine resource.

Market squid fishermen are required to submit logbooks to regulators. Groundfish vessels in the ITQ fishery are required to carry a NMFS-trained human observer on board for each trip who records and reports on landings and discards. Groundfish vessels are also required to be equipped with a Vessel Monitoring System (VMS) that tracks their movement via GPS. This level of transparency, availability and consistency of fishery-related data does not exist for the United States' top seafood trading partners, particularly China, Thailand and Indonesia and is critical to a sustainably managed fishery.

SPATIAL CLOSURES

Monterey Bay ranks among the densest collection of spatial closures on the West Coast.

The Pillar Point commercial fishing fleet operates within a complex climate of spatial closures in the form of Marine Protected Areas (MPAs), Essential Fish Habitats (EFHs), Rockfish Conservation Areas (RCAs), and an array of trawl and bottom contact gear bans and restrictions. Pillar Point Harbor's central location on the coast gives commercial fishermen relatively close access to waters proximal to the port, but also productive grounds to the north and south, namely Monterey Bay, and the San Francisco Bay Area, and Bodega Bay.

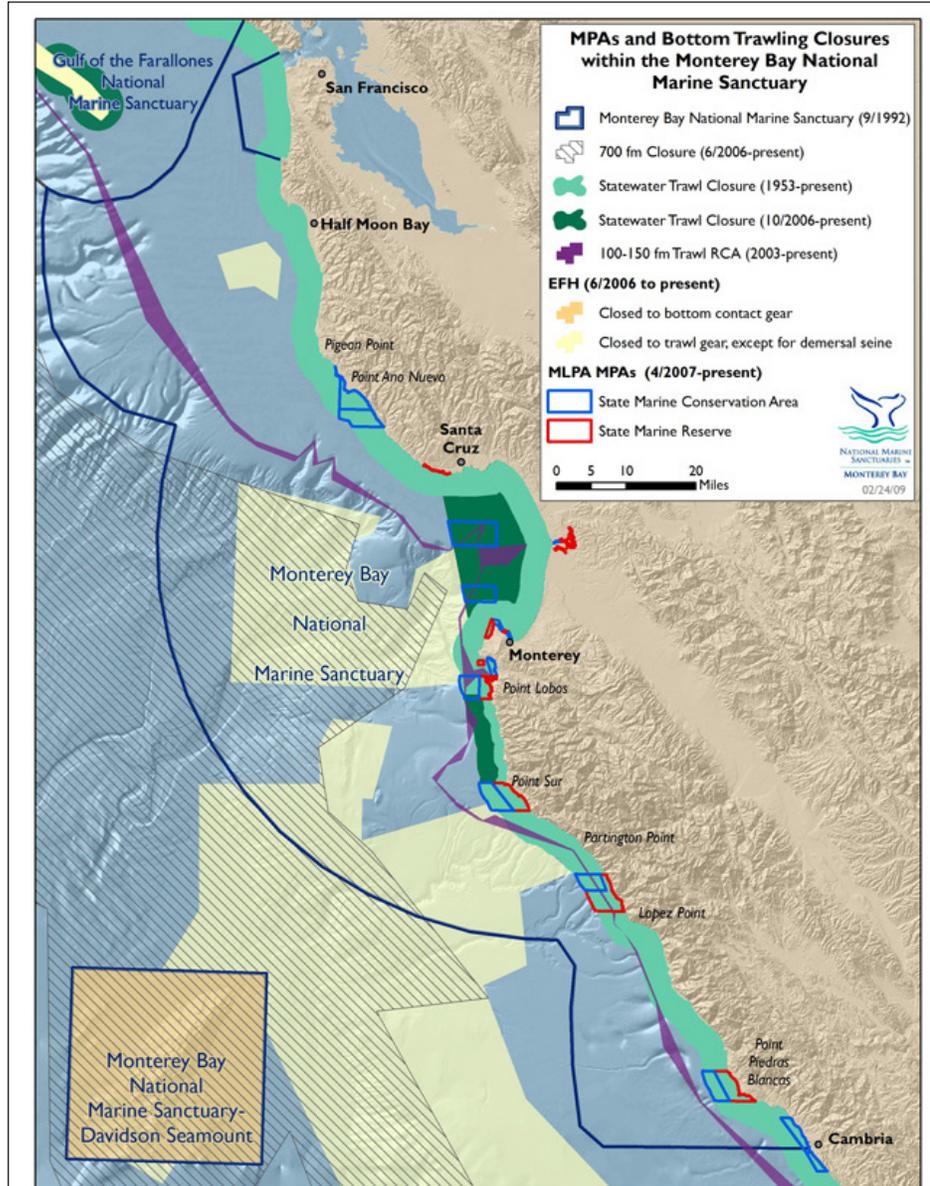
Marine Protected Areas (MPAs)

MPAs off the California coast are designated as either State Marine Conservation Areas or State Marine Reserves. Both the conservation areas and the reserves fall within the nearshore state waters trawl closure. The distinction between Marine Reserves and Marine Conservation Areas are described as:

Marine Reserves: Tend to be relatively small areas where any take of marine organisms is prohibited.

Marine Conservation Areas: Are generally larger areas that may allow limited commercial and recreational fishing. Allowable take is specific to each area, though many allow salmon and albacore fishing and a handful allow take of pelagic finfish. As relatively small nearshore areas, they generally do not greatly restrict commercial fishing.

FIGURE 3.1 REGULATORY CLOSURES IN AND AROUND MBNMS & HALF MOON BAY



SOURCE: MBNMS

Essential Fish Habitat (EFH)

As part of the Magnuson-Stevens Fishery Conservation and Management Act (1996) Fishery Management Plans must identify and protect essential fish habitats. EFHs are areas that are “most commonly used by the species” or “the habitats supporting the highest relative abundance; growth, reproduction, or survival rates; and/or production rates within the geographic range of a species.”² Since 2006 NOAA has designated more than 130,000 square miles of marine waters off the West Coast as essential fish habitat for Groundfish. In much of this area, fishing methods such as bottom trawling are prohibited. Pillar Point Harbor commercial fishermen regularly come into contact with several EFHs: Farallon Islands/Fanny Shoal, Monterey Bay / Canyon Conservation Area, the East San Lucia Bank, the Point Conception EFH, the Davidson Seamount, and the largest, the Big Sur Coast-Port San Luis EFH which encompasses 3.8 million acres, an area roughly the size of Connecticut.

²Essential Fish Habitat Section: “Fishery Conservation and Management.” 50 CFR 600.815. 2002.

RCA's span the length of the Coast and limit where and how Pillar Point Harbor commercial fishermen can fish in the areas between 100 (600 feet) and 150 fathoms (900 feet) in depth.

Rockfish Conservation Areas (RCAs)

NOAA defines a Rockfish Conservation Area as “a geographic area defined by coordinates expressed in degrees latitude and longitudes, wherein fishing by a particular gear type or types may be prohibited.”³ RCAs span the length of the coast and can be changed from year to year and the National Marine Fisheries Service (NMFS) reserves the right to alter boundaries midseason so long as the new boundary is a boundary that has existed at some point in the particular RCA’s history. In California, there are two different classifications of RCAs, nontrawl and trawl. The Trawl RCA prevents fishing using any type of trawl gear within its boundaries and consists of a narrow strip overlapping the seaward side of the non-trawl area. The nontrawl area prohibits commercial fishing with any gear other than trawl gear. Both closures are meant to protect species living on the continental shelf at depths from around 100 fathom to 150 fathom.

CATCH LIMITS

Pillar Point commercial and recreational fishermen are currently engaged in collaborative projects to assess the health of fish stocks in the RCA. Project partners include federal regulators and conservation NGOs.

Several of Pillar Point Harbor’s top commercial fisheries are subject to catch limits as set by relevant Fishery Management Plans. Most notably, many groundfish species are limited by weight and even in Open Access Groundfish Fisheries effort is limited by trip limits and bi-monthly limits. Market squid fishermen face seasonal catch limits. Once catch amount limits are reached in a fishery all fishing effort is required to cease.

TEMPORAL CLOSURES

Many commercial species landed in Pillar Point Harbor are subject to some variety of temporal closure. Closures can take the form of set seasons in which take is allowed such as salmon or, in the case of market squid, restrictions on fishable days per week. Many of the temporal closure regulations allow for delays in opening the fishery, seen in the Dungeness crab fishery, or if stock assessments raise concerns about the ability to withstand fishing pressure. Seasons may also close once a set landings limit has been reached. The Market squid is closed from Friday through Sunday, reducing effort in that fishery by 30%. Spot prawn fishermen face temporal closures in November and January and May and August. The salmon season for fishermen in Pillar Point Harbor is restricted to May 1 through September.

SIZE AND SEX RESTRICTIONS

Setting standards of minimum size and sex of individuals that can be taken is a key component of traditional fisheries management. While not necessarily useful for all species it has proven especially effective at maintaining the Dungeness crab stock, with acceptable take limited to males exceeding 6 1/4 inches in width, Rock crab are limited to a 4.25 inch carapace width. Salmon size is set each season and varies by region, but generally ranges between 26 and 28 inches total length.

³ Rockfish Conservation Areas (RCAs): Fish Habitat Section: Groundfish Conservation Areas,” Title 50 Code of Federal Regulations, Pt. 660. 2007 ed.

GEAR RESTRICTIONS

Most types of gear used by commercial fishermen in Pillar Point Harbor are governed by various state and federal regulations. Traps used in the spot prawn, groundfish and crab fisheries must meet restrictions on mesh and entry ring size and have features such as escape doors for undersized individuals and degradable materials to prevent “ghost fishing” should the traps be lost. Beginning in March of 2013, vessels fishing Dungeness crab are also limited, through a system of tiered permits, in the number of traps they can fish. Commercial salmon fishermen are allowed single-point, single-shank barbless hooks and no more than six lines are allowed per vessel.

The groundfish trawl fishery has very defined regulations on trawl mesh size limits, trawl (net) configuration requirements to reduce bycatch, and trawl roller gear size restrictions.

LIMITING NUMBER OF VESSELS

Several of the commercial fisheries targeted in Pillar Point Harbor are regulated by the use of restricted access, such as limitations on the number of participants. This includes the groundfish Limited Entry (LE) Trawl and Fixed gear sectors, Market squid fishery, Nearshore and the Spot prawn fishery. At the time of this report, the statewide market squid fishery is limited to 55 vessels and the spot prawn fishery is controlled through limited available permits, of which there are currently 26 active statewide. There are currently approximately 27 Limited Entry Trawl ITQ permits in California. The halibut trawl fleet is limited through permit control, primarily through strict limits on transfers and sales.

Limited Entry describes a management measure where the number of participants is regulated or controlled by the requirement of a permit, the number of permits available and how those permits may or may not be transferred.

TRAP LIMITS

Commercial Dungeness crab and Spot prawn fishermen are faced with a limit on the number of traps they can deploy. Limits in the Dungeness crab fishery are set by The Dungeness Crab Task Force, a collaborative approach to fishery resource management that was established in 2009. Membership on the taskforce is designed to represent fishermen along the California coast, from large and small boats, recreational fishing concerns, processors, and NGOs. The Task Force has helped to establish limits on the number of crab traps individual fishermen can use, with seven tiers of crab trap limits ranging from 175 to 500 pots.

QUOTA-BASED MANAGEMENT, INDIVIDUAL TRANSFERABLE QUOTA (ITQ)

The LE trawl groundfish fishery is the only fishery on the West Coast of the U.S. (excluding Alaska) to adopt an ITQ regulatory structure. Commercial fishermen participating in the ITQ fishery are required to hold a Limited Entry Trawl Permit, maintain quota account, submit logbooks to regulators, carry a federally-trained human observer on each trip and offload at a NMFS-approved offloading facility.

Fishermen in Pillar Point Harbor have taken a highly pro active and collaborative approach to ITQ management by participating in several programs to help secure access to groundfish in the community. Those include a California Groundfish Collective (CGC), which is a collaboration among ITQ Groundfish communities (Morro Bay, and Fort Bragg) to better manage interaction with overfished species and reduce bycatch rates. Fish caught in this collective have received a “Green” rating from the Monterey Aquarium Seafood Watch Program. The Pillar Point Harbor ITQ fishermen also participated in programs aimed at understanding the impacts of ITQ management on small operations and small fishing communities as far back as 2008. Those include testing cameras (Electronic Monitoring) as an alternative to costly human observer coverage requirements and testing the economic viability of switching from trawl gear to trap or hook and line, which is a component of the ITQ program.

SUMMARY OF REGULATORY CLIMATE

Although many vulnerable species still require reduced exploitation to recover, the exploitation rates in a number of well studied ecosystems [like California] are below levels the models predict to be sustainable (Worm, Hillborn et al., 2009).

In closing, there is an intense level of state and federal regulatory oversight in the Pillar Point Harbor commercial fishery aimed at assuring acceptable harvest levels and conservation of fish stocks and habitat for future generations. All of the top species in are subject to strict reporting requirements as well as spatial or seasonal closures, gear restriction, size and sex restrictions and are subject to management planning and stock assessments. In most, if not all cases, management measures are evaluated periodically and changes are made based on findings. Recognition by regulators, scientists, global sustainability certification programs such as MSC and the Monterey Aquarium Seafood Watch Program are a testament to the investment of commercial fishermen in marine stewardship. Their investment is evident in compliance with shifting and often overlapping regulation (catch limits, area closures, gear restrictions, acquiring permits, managing quota accounts, carrying human observers and maintaining vessel monitoring systems), engaging in collaborative partnerships with regulators and conservation groups, and transparency in fishing activity.

Commercial fishermen, particularly smaller operations, have struggled to comply with these regulations. The number of active commercial fishing vessels in the State of California has fallen from 6,899 in 1981 to 1896 in 2013 (PacFIN). Many of the Pillar Point Harbor commercial fleet have been able to adapt to heightened regulation as well as competition from inexpensive foreign imports and shifts in consumer preferences. Their future and the future of commercial fishing in Pillar Point Harbor is dependent on healthy fish stocks and a balanced approach to regulation that sets sustainable policy and allows commercial fishermen to continue to supply consumer markets and to earn enough to compensate for hard work, risk and environmental compliance.



Photo: Dungeness crab landed at Pillar Point

4. SOCIAL SETTING

Pillar Point Harbor is a vibrant commercial fishing community that supported over 250 local and visiting vessels and generated over 3,000 commercial fishing trips in 2013. Commercial fishing activity is characterized by a range of vessel sizes, gear types, selling practices, and fishing experience. It ranges from larger vessels that move up and down the Coast for squid and Dungeness crab to smaller “trailerable” boats in the nearshore, halibut and live fish fisheries, from full-time fishermen to part-time fishermen, from fishermen who offload their catch to fish buying businesses to those who sell off of their vessels, from fishing families that have worked out of Pillar Point Harbor for generations to those who are new to the industry. The foundation of the CSP and this section in particular were drawn from a pool of fishermen representing this range.

GEOGRAPHIC CONTEXT AND CONNECTION WITH LOCAL MARKETS

Because of Pillar Point Harbor’s location on the Coast of San Mateo County, separated from the inland urban populations by the Santa Cruz Mountain chain, Half Moon Bay has evolved into an independent, self-reliant and close-knit community. At the same time, Half Moon Bay lies very close to regional urban centers, including San Francisco and San Jose. Those cities in particular and their surrounding regions are relatively aware of the benefits of consuming local and sustainable seafood. The Slow Food movements, Community Supported Agriculture (CSA), farmer’s markets in San Francisco and San Jose and San Mateo County’s effort to promote locally produced, grown and caught food play a large role in the growing popularity of seeking out, buying and eating “local”.

Further, the regional population surrounding Pillar Point Harbor, to the north and east in particular, are made up of of cultures that maintain a traditional cuisine based heavily on fresh and live fish. Consequently, the Harbor receives a large number of visitors from the surrounding communities during the week and more so on the weekends and holidays to buy live and fresh fish directly from the fishermen.

One of the hallmarks of the Pillar Point Harbor commercial fishing community is its direct fishermen-to-public fish sales. This service was started by fishermen in the late 1990s in response to low and inconsistent prices offered by buyers. Fishermen felt that having the ability to host off-vessel sales would leverage their market power. Large and small vessel owners sell off of their boats, making salmon, crab, albacore, rockfish, live fish available to

While the region supports a market that values locally and sustainably caught and grown fish and produce, consumers are generally unaware of the cost, expertise, physical and social infrastructure and effort it takes it happen. Opportunities to promote these efforts are addressed in the Recommendations section.



San Mateo County’s As Fresh As It Gets is a collaborative program that promotes locally grown, produced and caught food.

The direct sales at Pillar Point Harbor has been a boon to local business as well as fishermen: "The hotline is wonderful. It started about 26 or 27 years ago and bring in thousands of people annually. The local businesses have boomed as a consequence" (personal communication, HMB, 9/11/14)

"There are about 20 fishermen that have a direct sales permit. What makes it viable is the 6 million people of Asian descent in the region who love seafood and love it fresh. We must keep it; if not, we would not be fishing" (personal communication, HMB, 9/11/14)

a wide variety of discerning customers who travel to the docks to make their selection. A seller's permit costs a fisherman \$250 annually. One fisherman notes that in the past, a fisherman was responsible for carrying his own liability insurance, which was quite costly, but now "the port carries the insurance" (personal communication, HMB, 9/11/14). Pillar Point Harbor also provides a separate sales dock that is often used by small vessel owners to sell live fish. All fishermen interviewed for this report feel such sales are a critical feature of the local commercial fishing industry's success, enabling many to remain in commercial fishing when they may not otherwise.

Commercial fishermen in Pillar Point also supply regional, state and global markets. Pillar Point sanddabs, for example, can be found in restaurants across the Bay Area as well as supermarkets like Draeger's, Whole Foods and Mollie Stone's (Severson 1999).



Backcod or sablefish from Half Moon Bay (Pillar Point Harbor) at Whole Foods in San Francisco

BUILT ENVIRONMENT AND SENSE OF PLACE

Places with a strong identity help to enhance community awareness and bonding. In this sense, social cohesion contributes to place identity. At the same time, places with a strong identity make social cohesion easier. (Uzzell, Pol & Badenes, 2008)

The physical layout of the harbor facilitates a fishermen's community and a strong sense of place. Johnson Pier is the central feature with finger docks (Docks D, E, F, G, and H), slips and vessels extending from it. A separate set of docks (Docks A, B, and C) lies in close proximity. It is on these docks that consumers and commercial fishermen intersect, through fish sales, handshakes and the sharing of stories. The restaurants provide a place for fishermen to meet, formally and informally. Most fishermen interviewed reported this sense of community to be a key reason that commercial fishing has persisted and thrived in Pillar Point Harbor despite regulatory and market pressure and problems they perceive with the Harbor District. They also report the ability to hold off-vessel, direct-to-buyer seafood sales as key to their resilience and growth and a contributing factor to the greater working waterfront.

In many ways, the off the boat sales contributes to the social cohesion of the fishing community as fishermen stay in port for longer periods of time and on their boat, sharing conversation, stories, and meals and “covering for” each other at the occasional time when one is not available to sell. Commercial fishermen in Pillar Point generally work very well together, helping each other where possible and keeping the work place easy going and free of conflict in one of the busiest and most robust direct sales markets on the Coast (\$17 million came across the dock in 2013).

LEADERSHIP AND COLLECTIVE REPRESENTATION

Pillar Point Harbor has two active fishermen’s associations: the Half Moon Bay Seafood Marketing Association (HMBSMA) and the Half Moon Bay Groundfish Marketing Association (HMBGMA). Both organizations are instrumental in working with and through policy, empowering individual commercial fishermen, disseminating information to members, and providing a forum for more consolidated “industry” voice. A great number of active commercial fishermen in Pillar Point Harbor are the members of one or both entities.

The HMBGMA membership consists primarily of active West Coast Limited Entry Trawl ITQ fishing operations. The aim of the HMBGMA is to help fishermen sustain their fishing operations and benefit the community by securing long-term local access to the groundfish resource. The HMGMA is also focused on working on the various policies and programs associated with Individual Fishing Quota (IFQ) program, including risk pools, alternatives to human observer coverage requirements and recognition by third-party certification entities of stewardship measures that have led to the rebuilding of many fish stocks. HMBGMA has developed productive partnerships with The Nature Conservancy and the Environmental Defense Fund, as well as commercial fishing associations in Morro Bay and Fort Bragg, to form the California Groundfish Collective. Members of the Association have also developed partnerships with the California Fisheries Fund (CFF), a nonprofit revolving loan fund that invests in the fishing industry on the West Coast.

The Half Moon Bay Seafood Marketing Association, formerly Half Moon Bay Fisherman’s Association, is the older organization, having been formed in the 1960s as a means to collectively bargain for better prices. It also sponsored and organized community events, thus serving as a vehicle for creating a stronger bond between the fishing community and the general public. It remained active until the early 1990s and was reformed in 2013 as a means to give commercial fishermen a collective voice in harbor decision-making and governance. One fisherman notes, “Fishermen are now committed to speaking for themselves; (before) they have allowed people to speak for them” (personal communication, HMB, 9/16/2014). While the association was re-established with the intention of creating a strong voice, it also serves other functions, such as providing educational scholarships and hosting an annual crab feast and other community events. The HMBSMA is said to represent from 80% to 90% of the commercial fishing activity out of Pillar Point Harbor and that “it is hoping to be the ‘go-to’ organization, a way to get a formal collective opinion” (ibid).

The level of engagement and the activities and actions associated with these commercial fishing organizations reflect strong attributes: the ability to self-organize, to self-represent and to collectively act upon opportunities. These attributes are key to social as well as environmental and economic robustness and the sustainability of a fishing community.

Self-organization, as a social process permits and facilitates “sustainability” and solidarity, justice, community values and democracy. (Complexity and Sustainability, Wells, Routledge, 2013)

The California Fishery Fund mission is to support borrowers (fishermen, fishing businesses, ports, communities and others) succeed in fisheries that achieve environmental conservation, improved profitability for the industry and stability for port communities. <http://www.californiafisheriesfund.org/about.html>

INTERGENERATIONAL EMPLOYMENT

Lack of new entrants has been emphasized by fishing communities along the coast as the largest threat to the industry's survival.

Another defining feature of the Pillar Point commercial fishing fleet is the entrance of a younger generation fishermen, a trend noted to be missing in other U.S. fishing ports and a feature considered of significance importance to the sustainability of an industry (see e.g. Carothers 2008). In many ports throughout the world, there is noted to be a general decline in the entrance of younger generations into the industry due to lack of veneration, lack of capital, concerns about a sustainable livelihood (largely related to higher costs of fishing, increased regulations, and decreased prices), concerns about safety, conflicts with current lifestyles (e.g. family life) and values, and loss of knowledge. Intergenerational transference of fishing skills, knowledge, business is essential to the future of fishing. The Pillar Point fleet is exemplar for the entrance of younger fishermen into the industry who not only bring revived energy to the port but also a new outlook. Positive, invigorated, innovative, and hard-working, these individuals are a key to a sustainable fishing fleet and the persistence of commercial fishing in Pillar Point Harbor. They work as captains, deckhands and offloaders/buyers and serve key roles in the associations, giving a vibrant and powerful voice for the fleet.

COMMERCIAL FISHERMEN'S PERSPECTIVE, OVERVIEW OF ISSUES

The commercial fishing community remarked on a number of positive qualities defining Pillar Point Harbor. Through interviews with approximately 40 members of the Pillar Point commercial fishing industry, however, a number of key concerns and challenges were raised. Many of these deal directly with physical infrastructure while others relate to socio-political infrastructure. The top concerns listed by commercial fishermen included the following, in order to priority:

1. **Johnson Pier design and related issues of congestion and safety**
2. **Harbor Commission**
3. **Fuel and ice**
4. **Haulout**
5. **Hoists**
6. **Dock maintenance**
7. **Parking**
8. **Dredging**
9. **Restrooms**
10. **Berthing fees**
11. **Harbor water quality**

1. JOHNSON PIER DESIGN AND RELATED ISSUES OF CONGESTION AND SAFETY

Johnson Pier is an L-shaped pier with one wing off of the main pier extending out to the west. The approximately 2,500 square foot Fish Handling facility sits at the end of this “wing”, housing three separate offloaders/fish buyers, several freezers, totes, four operational hoists (a fifth non-operational hoist is located near the fuel dock), and offloading equipment. An ice machine and a Texaco fuel station sit on the end of the pier on the far east side.

The main pier accommodates both vehicular and foot traffic together. Public buyers and tourists wander along the main pier to view the fishing activity, including the offloading and loading, with the Dungeness crab season reportedly being the busiest due to its coincidence with the holiday season and popularity of Dungeness crab as a delicacy.

Primarily, if not exclusively, fishermen who sell to one of the three offloaders/buyers (not off their boats), reported the pier design as a major concern. The majority of their comments pointed at the clustered placement of the three offloaders/buyers as the greatest cause of congestion on the pier and in the water. Many respondents expressed concern for pedestrian safety, in part related to pier design and congestion. Those fishermen who sell off the boats did not report congestion as a major concern for their business but noted that pedestrian traffic appeared unsafe.

On-pier congestion was cited as a key challenge to fishing operations. Generally, commercial fishermen report that there is high frequency of traffic on the docks, with trucks and forklifts moving continually and simultaneously during busy periods. Some note that the right angle turn at the end of the pier toward the west presents a tricky maneuver (blind turn) and that this arm of the pier is too narrow to fit trucks, forklifts, totes and pedestrians simultaneously. Several fishermen suggested widening this section of the dock, one mentioned adding a wedge in the crook of the right angle to allowing more turning radius and room for pedestrians. Others suggested moving the freezers to the parking lot to create more space, and providing storage in the parking for bins and totes.

Congestion on the water surrounding the Pier also factored as a significant concern. Fishermen described traffic on the water during the opening of Dungeness crab season as causing hours-long delays. “Boats will be lined up 15 at a time for each buyer” noted one, implying that as many as 45 boats many surround the tip of the right wing of the pier during Dungeness crab and less so salmon seasons. One commercial fisherman estimated he can lose up to eight hours of fishing time waiting for offloading traffic.

Public safety was a priority concern for a number of respondents. Though it did not arise as frequently as other concerns (inadequacy in pier design, congestion, wait times), those who listed it as a top concern were adamant, asserting that “it is surprising no one has been hurt yet.” Many mentioned a concern of having tourists with stroller and pets walking around fast-moving forklifts, trucks and blind, tight turns. Some mentioned a resolution of cantilevered walkways, some a separated walking area to the side of the pier, and others better signage defining pedestrian and vehicle lanes.

Given a hypothetical situation of being granted \$5 million to spend on harbor improvements (the final question in the survey), fishermen held a consensus that they would address Johnson Pier congestion and safety as the first order of business in a budget.

“The pier goes out and takes a hard right turn. That turn is inaccessible when there are a lot of trucks. We normally haul truck loads of pots (traps) out and use the hoist to load. When it’s congested, we can’t get near the end of it, so we’re forced to have the crew carry the pots – about 150 pounds each and we load 100 or more of these pots.”

Depending on the length of the season, movement and proximity of the fish (or crab), market price, weather and considering regular and emergency vessel repairs, one day can mean the difference between success or failure for a small commercial fishing operation.

Commercial fishermen in Pillar Point Harbor earned \$7.6 million from Dungeness crab in 2013, if weather, seasonal restrictions and ebbs and flows in abundance are accounted, approximately \$30,000 came across the dock per hour.

Concerns with safety abound, One fisherman notes, “The pier is a deadly place. There are hundreds to thousands of people who come up and down this down in a given week. It is certain someone will get hurt. It is like a parade on the weekends.” (personal communication, HMB, 9/11/14)

2. CONCERNS PERTAINING TO HARBOR DISTRICT MANAGEMENT

"We need a voice and a seat, because we are part of the process. We need to be included when it comes to big decisions." (personal communication, HMB, 9/12/14)

The issue of dredging came up within the context of transparency and how fishermen's needs were valued by the Harbor District. There was a sense that decisions on dredging were made behind closed doors and dredging projects were rumored to be starting and canceled with little or no direct communication with fishermen. Altogether, the issue of dredging elicited responses of frustration and distrust from the commercial fishing community.

The HMBSMA has taken an active role in local politics and issues that directly affect them by supporting three candidates for the November 2014 election. Fishermen displayed banners on boats, and promoted two new candidates and one incumbent. All 3 candidates supported by HMBSMA went on to win the election. This success has generated optimism for the future, and proven that an organization of commercial fishermen can make a difference when working together.

Having a trusting, transparent working relation between the Harbor District and commercial fishermen is key for the economic, social, and environmental sustainability of any port. Adequate and appropriate representation among commercial fishermen, the ability for fishermen and other stakeholders in the commercial fishing industry to voice concerns and report on needs for their operations is essential in effective harbor governance.

The relationship between commercial fishermen and the body of port government across all ports is unique and a function of many variables: interpersonal relationships and social dynamics; structure of governing body; physical and social geography; demographics; and value systems. The seat of San Mateo County is situated in the Santa Clara Valley and is geographically separated from Pillar Point Harbor by the Santa Cruz Mountains, also known as Montara Mountain. The governance at Pillar Point Harbor is enacted through the decisions of the San Mateo County Harbor District, a department of the larger San Mateo County whose seat is in San Carlos, roughly a half hour drive away. Though relatively close in distance (13 miles), weather patterns, physical and social landscapes, community and work life, and concomitant value systems are markedly different. Importantly, while noted through social science (from an anthropological perspective), this difference was a marked theme in conversation with fishermen: "How can someone who lives and works inland over there makes decisions for us?"

The social and political climate of a port at any given time can influence responses. At the time of the interview effort for this project, the General Manager had announced his retirement and in part this may have influenced responses. Prior to this set of interviews, there was a high level of conflict among stakeholders of the commercial fishing industry and the Harbor Commission and Harbor District. Concerns voiced by stakeholders during interviews included: lack of transparency in operations; dishonest operations; and lack of acknowledgement to commercial fishermen's needs. During interviews, it was noted that fishermen felt somewhat appeased or vindicated by the recent Grand Jury findings, and this influenced responses in a way that would not have occurred three or four months prior.

Despite the fact that the interviews took place during a relatively tenuous time for the Harbor Commission and the Harbor District, opinions were mixed. Nearly all fishermen gave some note to the current state of affairs regarding the Harbor Commission and the Harbor District. Over one quarter or 25% of those interviewed cited direct and serious concerns with the Harbor District governance (Harbor Commission and Harbor District) as it pertains to commercial fishing operations: namely: lack of transparency in operations; dishonest operations; and lack of acknowledgement to commercial fishermen's needs. Other issues included: holding meetings during the day as opposed to the evening when fishermen can more readily be available; allowing for fishermen to voice concerns at meetings; affording commissioners health care benefits; and increasing fees associated with berthing and offloading. While serious concerns on Harbor District governance were widespread across respondents, most fishermen found resolution through the formation of a fisherman's association, recognition from an outside authority (Grand Jury) that improvements were needed at the Harbor and through increased involvement and representation in County projects and meetings. Internal strengthening of the commercial fishing community is seen by many as a solution to improve the situation.

3. FUEL AND ICE

Fuel and ice are critical to operations at Pillar Point Harbor and to any commercial fishing industry. Fuel and ice (combined) was the third top concern of commercial fishermen in Pillar Point Harbor. Some fishermen separated fuel and ice in their commentary; others combined the concerns. If fuel is considered separately, it features as the fourth major concern and ice, if considered separately, as the fifth major concern. Combined, however, they hold a significant weighting and the third place in priority from the perspective of commercial fishermen in Pillar Point Harbor.

Pillar Point Harbor supports one fuel dock situated on the east side of the end of Johnson Pier. Fishermen report the hours to be 7am to 5pm, though in practice the facility does not usually open until 8 a.m. Fishermen typically are out on the ocean by 5 a.m. and often return late in the evening. Having restricted hours requires fishermen to cut their day short or to plan around these hours in order to not miss a day of fishing. Hours have become an increased issue in light of recent facility emergency closures of the facility due to a misunderstanding about what was perceived as a fuel leak. Such closures are seen by commercial fishermen as potentially disastrous, particularly if such closures were to occur during critical times, such as the opening of the Dungeness crab or salmon season.

Some fishermen also reported higher fuel fees at this facility in comparison to others along the coast. One suggested that the commercial fishing industry find a means to subsidize fuel costs.

Access is yet another concern related to fuel. With the dock in close proximity of the buying stations, fishermen cannot always easily access the dock. One fisherman points to Bodega Bay as an example of an efficient port for fueling, where the fuel dock is at a distance from the offloading areas.

Ice is critical to the primary fisheries operating out of Pillar Point Harbor, notably squid, crab, groundfish and salmon, and having a functioning machine that produces a sufficient quantity of quality ice is key to a successful commercial fishing industry. While few fishermen had concerns about the quantity of ice, nearly all fishermen who commented on this item noted the quality to be poor and the machine to be outdated. Two fishermen noted the quantity to be insufficient, particularly if following in queue a squid vessel.

4. HAUL OUT AND BOATYARD FACILITY

The lack of a haul out and boatyard facility proved a significant concern for commercial fishermen. All respondents who listed this as a concern noted that they spend substantial time and cost traveling to other places, including Point Richmond and Moss Landing, to have their boats hauled out for regular maintenance and repair work. Many noted they take their boats out of the water once or twice a year, paying \$1,500 to \$2,000 in haul out fees each time. They noted that quick and convenient haul outs really become necessary in emergency situations, particularly during the height of a season, such as Dungeness crab season. If something goes wrong during the opening, for example, a fisherman could be set back a week as he travels to and from another port. This could mean make or break for the year. "Image missing a whole year in salary?" asked one respondent. Also, in the event a vessel is severely damaged, the fisherman has the options to risk motoring to Moss Landing or Point Richmond, tow the

Restrictions for commercial fishermen due to hours of operation of the fuel and ice facility are exacerbated by delays in offloading caused by congestion, particularly during the Dungeness crab season.

Marine diesel fuel prices in the State of California have risen from under \$1.00 per gallon in 1999 to a mean of \$3.81 in December of 2013 (Pacific States Marine Fisheries Commission Economic Fisheries Information Network).

vessel or allow it to become inoperable. Towing is expensive and an inoperable vessel is a potential environmental risk for the Harbor. Trailering a vessel to the nearest haul out facility is considered “scary” (personal communication, HMB, 9/12/14).

Given a hypothetical situation of being granted \$5 million to spend on harbor improvements (the final question in the survey), fishermen held a consensus that they would develop a haul out and boatyard facility in Pillar Point Harbor as the second order of business in a budget.

5. PUBLIC HOISTS

Presently, there is one public hoist available for fishermen to load and offload fish and gear from and onto their vessels. This hoist is deemed insufficient, particularly in light of its location on the bulwark and the buildup of silt in the area. Currently, only vessels with shallow drafts during high tide can use this hoist. Further, the location requires a hard left turn to maneuver around the end of D Dock where boats are berthed, making for navigation into a relatively tight area.

Direct sales fishermen were those who primarily commented on this issue. Many noted that they do not use the public hoist to load gear but rather hand carry, transport fish or gear via dolly or other carrying mechanism, down to the boat, load after load, moving from the parking lot along the pier to their dock and boat. The inefficiency of this method was glaring to most, but they commented “we work around it.” Some have suggested having a public hoist or two located on Johnson Pier (particularly if was redesigned and enlarged). Access and number of available public hoists become particularly critical during crab season.

6. DOCK MAINTENANCE

Quality and condition of docks is important to commercial fishermen, largely for safety, as fish buyers and tourists venture down onto the finger docks to buy fish. Fishermen have concerns about loose boards, exposed screws, and tilting walkways. At times, fishermen must back into slips in order to sell off the stern as the adjacent dock is too dangerous for pedestrians. Here, the lack of dock maintenance deters business and could limit sales in the long run.

One response pertaining to concerns with docks included widening the berths. It was noted that vessels are built wider today than in the past and that berthing should be updated to accommodate these vessels.

7. PARKING

Participants in the survey report that parking reserved for commercial fishermen report is insufficient. The Harbor has allocated sections for 2 hour, 24 hour, 48 hour, and 72 permitted parking. Parking beyond 72 hours is available in the upper lot, further away from the docks. Most fishermen report being out at sea for 4-5 days, hence the need to park further away and carry gear from the boat to the parking lot. Many report there to not be enough parking, particularly during holiday seasons when crab season is at its height.

8. DREDGING

Dredging of the harbor presents as a key concern for a number of fishermen, including those with vessels of shallow and deep draft. Fishermen note that several places in the harbor are quite shallow, requiring careful navigation or restricted movement to coincide with high tide(s). One place in particular of frequent mention is the inner harbor near the bulwark. It was noted that, should investments be made in larger and deeper draft vessels, routine dredging would become an even higher priority.

Several fishermen were very informed of the complicated and expensive nature of dredging projects but resented not being included in the decision making process or being kept better informed of Harbor District efforts.

9. RESTROOMS

Fishermen report various issues with the restrooms in the Harbor District. Presently, there is a restroom allocated to fishermen on one side of the dock, while those on the other side must use the public facility across from the Harbor Master's office. Both restrooms are reported to be unclean/unkept and lacking amenities (e.g. a soap/shampoo hold in the showers). Some fishermen prefer not to share a restroom and shower area with the general public.

FEEES ASSOCIATED WITH BERTHING & 10. OFFLOADING

Fishermen report a substantial increase in both slip or berthing fees and offloading fees as appropriated by the Harbor District

Pillar Point Harbor houses approximately 370 berths, the majority of which are leased out through the year. Those that stand empty, either due to a lack of a lease or during the time a fisherman is out of port (for long term fishing or for a haul out) are available for lease to transient vessels. An increase in slip fees for commercial fishermen has caused some hardship. One fisherman reports that 15 years ago his slip fees were \$200 per month, with small incremental increases over the years. Last year, however prices jumped to \$480 per month, a notable increase from the previous year's fees and what is considered to be markedly different from rent in other ports. Another notes that he paid rent on a slip which was leased to another vessel while he was out at sea. This created a feeling that the Harbor District was not "playing fair" and does not value commercial fishermen's contributions to the community. One respondent speculated that the Harbor District raised slip fees to make up for penalties from not keeping up with loan payments to upgrade the docks.

One informant noted that he as a commercial fisherman operating out of Pillar Point Harbor is responsible for parking permit fees, approximately \$450 a year, berthing (\$400 per month), and a stall to stage crab gear at the commencement of a season (\$500 per season), on top of fuel, ice, wages for crew and maintenance of his vessel.

Offloaders and fishermen alike noted considerable increases in offloading fees or wharfage. Wharfage is a fee levied by the Harbor District based on the amount of seafood landed or trucked to a tenant's facility. The Harbor District wharfage is currently 5 cents per pound for wet fish (squid and sardines) and 1 cent per pound for other species. One informant notes, "So this will kick it up to \$10,000 extra in fees (for the offloader)" who then charges the fishermen a fee to offset this expense.

Other fees mentioned include parking and storage fees.

11. WATER QUALITY

Fishermen in Pillar Point Harbor believe cold and freezer storage will give them more control of the form, when and how much of their seafood is available on the market as well as to store baited gear and enable faster turn arounds.

Several commercial fishermen and related-industry stakeholders expressed concern over water quality in the Harbor. The commercial fishing community takes pride and responsibility in the harbor and are keenly aware that water quality is part of the perception of the seafood they sell.

OTHER CONCERNS

Other concerns noted by fishermen and stakeholders in the commercial fishing community include: cold storage, onerous regulations, including MPAs; lack of gear storage; the need for a bigger/better work dock; stairs directly down from main pier to the sellers dock; better security; stronger search and rescue team; relocation of the Harbor District office to an area behind the restaurants; restoration of Romeo Pier; and better signage. While these items did not hold considerable consensus, they were mentioned as a point of significance by a few.

\$5 MILLION QUESTION

An approach that poses hypothetical questions allows the interviewer insight into where and how individuals would act upon opportunities. This approach directs attention away from immediate concerns and challenges and toward constructive feedback.

Where possible and where time permitted, fishermen were asked what he/she would do for the harbor if given \$5 million. This question provides fishermen sense of a more active role in the community and the interview process and, importantly, produced greater insight into the infrastructure items deemed important.

Responses to this question revealed that fishermen in general would invest larger sums of money, if given the opportunity, on one or two key infrastructure needs, rather than disperse spending over a multitude of smaller, less-costly infrastructure needs. Two key needs presented were: 1) Redesign of Johnson Pier and 2) Haul out. Other responses included: public hoist, dredging, and ice facility improvements/replacement.

Fishermen in general felt that both the reconfiguration of Johnson Pier and a Haul Out would add to their time on the water and diminish overall expenses. Many concerns were inherently tied to one or both of these items.

SUMMARY OF SOCIAL CLIMATE

Fishermen out of Pillar Point Harbor have a strong sense of community and the ability to self organize. The industry is also marked by “internal capability” or strong patterns of cooperation among fishermen and “external capability”, the ability to engage in substantive collaboration with a diversity of partners such as the County’s As Fresh As It Gets campaign, regulators and scientists, and conservation groups. The fishing community has a trusting and productive relationship with local seafood consumers as is evidenced by a robust direct sales market over 15 years old. Despite the diversity of fisheries and how fishermen market and sell their fish, results of the survey show that there is a general consensus regarding the needs in Pillar Point Harbor, needs that will enhance the economic, environmental, and the social sustainability of the fishing industry.

Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (MSA),

One commercial fisherman remarked that; whatever eventually happens with the Harbor District, the Harbor Commission or the County...whether the stay or go, the commercial fishermen would still be there.

Despite the degree of concern with issues of transparency and trust with the Harbor District and the Board of Harbor Commissioners, commercial fishermen appeared willing to communicate and cooperate in order find solutions to strengthen the Harbor District, their industry and place in the community.

5. RECOMMENDATIONS

The Recommendations are a culmination of the research conducted for the project and draw heavily on direct input from the commercial fishing community, and the assessment of the economic, environmental, and social conditions that characterize commercial fishing in Pillar Point Harbor. As this is a Community Sustainability Plan, the recommendations are aimed at enabling and empowering the sustainability of the commercial fishing community and the working waterfront and perpetuating the economic, social and environmental returns.

It is important to note that many of the Recommendations in this section are already underway to one degree or another and may require additional or continued support to bring them to fruition; some will require additional technical or financial feasibility analysis, some will require funding or change to current policy, and many will provide compelling co-benefits such as increased tax revenue, increased visitor spending, and increased conservation outcomes. The recommendations are ultimately intended to provide a strategy for the investment of limited resources and to help the commercial fishing community leverage local and outside support in key issue and high-return/high-need areas. Also important to note that in several cases, the commercial fishing industry's participation on committees and in meetings is urged in order to increase visibility, strengthen bonds with the community and assure that the commercial fishing industry's voice is heard on high-priority topics. Meetings and participation on committees is burdensome for a busy commercial fisherman but should be viewed as an investment in a stronger and more sustainable future for commercial fishing in Pillar Point Harbor. Representation through associations is one way to help reduce that burden.

The recommendations are not in any particular order of priority and could be addressed concurrently and/or individually when possible.

Each of the recommendations carries one or all economic, social or environmental implications.

Support can take the form of an written endorsement, a statement in the press or public meeting from a civic or political leader, citizen group or an individual. Support could mean providing staff or funding or serving on a committee or board of a project.

A consolidated voice through fishing associations that enable fishermen to pool responsibilities such as meeting attendance and participation on committees is a common approach and one that Pillar Point Harbor shares with commercial fishing communities in San Diego, Santa Barbara, Port San Luis, Morro Bay, San Francisco and Fort Bragg among others.

PROMOTE AND UPDATE

Promotion of the commercial fishing industry could potentially increase interest and demand for the unique “brand” of locally caught seafood, increase tourist traffic in the Harbor District and generally raise awareness and support for the hard work and achievements of commercial fishermen.

Part of the intent of the CSP was to bring Pillar Point Harbor into compliance with federal law (MSA) for participation in the Limited Entry Groundfish Trawl Fishery.

Another option to generate awareness and support for the local commercial fishing industry is through academic journals. LWC recently collaborated with Dr. William Riggs at California Polytechnic State University in San Luis Obispo to publish an article on Community Sustainability Plans in Focus; the Journal of the City and Regional Planning Department. The article focused on findings from the Morro Bay and Monterey CSPs, completed in 2013: Community Sustainability as a Tool for Increased Environmental Sustainability: The Case of Two California Cities.

After the 2014 Economic Impact Report for the commercial fishing industry in Morro Bay was picked by the SLO Tribune (“Morro Bay Fishing Industry Reels in Largest Catch in 20 Years”), the local Community Supported Fishery reported a doubling of sales at farmers markets the following week.

Pillar Point Harbor is important to the overall economic, environmental, and social well-being of San Mateo County, providing both a food source and a place of economic, cultural and historic significance to the larger surrounding populations. At the same time, the general population has little understanding of this significance and its role in the County economy. Education is key, especially where public policy concerning the Harbor is involved.

The commercial fishing community should consider and the Harbor District should support, where possible, a sustained and diverse promotional campaign to broadcast and promote the contributions of the industry via presentations at public meetings (Board of Harbor Commissioners, County Board of Supervisors, City Council, etc.), at educational institutions, conferences and seminars (College of San Mateo, Moss Landing Marine Lab, etc.), business and special interest groups (Chamber of Commerce, San Mateo County Convention & Visitors Bureau, Midcoast Council, Pillar Point Harbor Yacht Club, etc.) and schedule a presentation to the Pacific Fisheries Management Council when the CSP should be submitted to comply with the objectives of the Magnuson-Stevens Act (MSA). The Harbor District and the commercial fishing community should also work with local news sources (print, digital, radio and community television) to promote key findings in the report; such as those that highlight the robust economic, social and environmental accomplishments of commercial fishermen and commercial fishing industry stakeholders.

As an on-going component of the promotional campaign, the commercial fishing industry should work with the Harbor District to improve informational/educational signage, develop a working waterfront app, and consider the installation of an informational/educational kiosk.

The commercial fishing industry and the Harbor District should consider updating the CSP, particularly the Economic section, ideally yearly or every two years (or at what interval they are able or find appropriate). The updated information on landings, earning, price per pound, number of vessels operating in the harbor and trips will provide valuable data to commercial fishermen and commercial fishing industry stakeholders on key performance measures. Updates will also enable and motivate a better informed and on-going dialogue in the promotional efforts. The chambers of commerce and tourism boards should receive the updated reports, and presentations should be made to the County and City of Half Moon Bay every year (or as often as possible). The press should come to expect updates and the commercial fishing industry should expect that the news is “carried” by media partners.

VISITOR USE SURVEY

The commercial fishing industry in collaboration with the Harbor District and other visitor serving businesses should initiate a visitor use survey to better illustrate and quantify the connection between tourism and the working waterfront. Results from will help inform decision makers at the Harbor District on the importance of the components of the working waterfront and provide input on infrastructure and service improvements that will increase the benefit to Harbor District businesses. The survey should focus on: motivation of visit, activity participation, demographics, visit duration, measures of satisfaction, and trip spending connected to the visit.



Photo: Example interpretive signage (solarpedia.com)



Photo: Educational signage on Johnson Pier

Co-management, or the participation of fishing stakeholders in the formulation of fishing policy, is cited as crucial to sustainable management of the marine resource. Economist and Nobel Laureate Elinor Ostrom, in her work, cited the importance of collective-choice arrangements wherein “most individuals affected by the operational rules can participate in modifying the operational rules.”¹⁶ Morro Bay has a long history of participation in fishing policy (Ostrom, 1990).

The Harbor Manager in Monterey is a member of the PFMC Habitat Committee and as such attends meetings and better assures that commercial fishermen in Monterey are “connected” to regulatory decision making through the Council process. The Harbor District may consider including similar participation as part of the job description of the General Manager or Harbor master.

“Commercial fishermen are on the water every day, through all of the seasons and over the course of many years....we have a knowledge and a perspective that regulators and politicians do not” (Personal communication, 2013)

Morro Bay, Monterey, Fort Brag and Pillar Point Harbor are four communities that are leading the State in creating entities that can secure local access to groundfish in the community. Such entities (quota funds/banks) provide economic, environmental and social returns.

PARTICIPATION IN THE REGULATORY PROCESS

The Pillar Point commercial fishing industry should continue and the Harbor District should support, where possible, efforts to work with regulators, scientists, educators, politicians, civic leaders, other commercial fishing communities and conservation NGOs to influence policy that protects and favors the commercial fishing industry and marine resources and oppose policy which may burden commercial fishing communities or impair fish stock or ocean health.

Commercial fishermen in Pillar Point Harbor and in any commercial fishing community rely on fishing policy that balances environmental and human wellbeing and needs. One of the most effective ways for commercial fishermen to assure this balance is participation in the regulatory process, an approach referred to as co-management. Leading fisheries scientists cite co-management as the best way to create a sustainable fishery (Gutierrez, Hillborn & DeFeo, 2009). The Half Moon Bay Seafood Marketing Association and the Half Moon Bay Groundfish Marketing Association are currently providing a forum for commercial fishermen to consolidate their voice and position themselves to make a more compelling argument in support of policy that favors the commercial fishing community and the marine resource and oppose that which might limit or harm them.

Examples include participation in the California Groundfish Collective, a collaboration



among commercial fishing communities aimed at reducing interaction with overfished species and sensitive habitat. The Associations are also working with other fishing communities and conservation NGOs to secure long-term access to the groundfish resource and to convince regulators to adopt electronic monitoring (the use of cameras and evaluation of film) as an alternative to 100% human observer coverage. In a similar collaboration, one of Pillar Point’s CPFV skippers is working in a collaborative project with the National Marine Fisheries Service (NMFS), Moss Landing Marine Laboratories, Central California Seafood Marketing Association (CCSMA), The Nature Conservancy (TNC), and Environmental Defense Fund (EDF) to gain a better understanding of the distribution, abundance, and size of overfished rockfishes inside of the trawl Rockfish Conservation Areas (RCA) between Pt. Conception and Pt. Reyes, in order to help inform bycatch avoidance plans, and enable fishermen to target healthy populations while avoiding depleted ones.

In these cases, regulators might gain a better picture of the more generalized needs of small commercial fishing communities.

REDUCE CONGESTION ON JOHNSON PIER

Commercial fishermen and the Harbor District should work closely to initiate or continue programs aimed at reducing congestion and increasing safety and efficiency on Johnson Pier through short-term solutions such as: improved signage, engaging a dedicated individual with authority and responsibility to direct traffic during peak periods (Harbor District staff, part time/seasonal hire) and/or physical marking/stripping to separate pedestrian and vehicle traffic. Commercial fishermen and the Harbor District should also consider longer-term solutions or capital improvement such as those described in the 1994 State Coastal Conservancy-sponsored Johnson Pier Expansion Feasibility Study (updated to meet current standards and consider current costs) and described in the 2014 DOT Tiger Grant application. Funding for such a large scale capital project will require coordination among local entities, the California Coastal Commission, support of regional and state political leaders and likely, several funding sources. Such a project may be best served with the formation of a Task Force or Committee to initiate and maintain the effort required and keep all of the parties engaged informed. Reconfiguration and/or expansion efforts should also consider improving the efficiency of movements of commercial fishing vessels as they queue for offloading, fueling and/or taking on ice, particularly during peak periods.

Congestion on Johnson Pier and associated threats to personal safety, and efficiency of commercial fishing-related operations on the pier and in the water were the first priorities identified by commercial fishermen in extensive personal interviews conducted for the project.



Photo: Semis and box trucks load on Johnson Pier

Improvements on Johnson Pier as described in the 1994 Pier Expansion Feasibility Study and 2014 TIGER Grant application include: the addition of new deck space, reconfiguration the fuel and ice facility, addition of new hoists, and the upgrade of utility systems. These projects can be addressed concurrently or on a individual basis, depending on available funding and level of availability of Harbor District resources for project management.

RELATIONSHIP WITH THE HARBOR COMMISSION AND HARBOR DISTRICT

The commercial fishing industry and the Harbor District (including the Board of Harbor Commissioners) should work closely to establish a better understanding of the accomplishments of the industry and the role of commercial fishing to the County (economics, regulatory, and as a regional competitive advantage), and to better assure the industry's needs are understood by leaders at the Harbor District and are being met.

The commercial fishing industry should use the CSP as a forum to communicate the unique and powerful advantages commercial fishing provides to the Harbor District and the local community, particularly contributions in economics, environmental stewardship and cultural heritage. The commercial fishing industry and the Harbor District should consider working formally; for example through an agenda item (presentation and discussion) in an upcoming Board of Harbor Commissioners meeting to present the key accomplishments of the industry. The commercial fishing industry should schedule these presentations at a regular interval such as every 6 months or one year and during hours conducive to fishing schedules. The commercial fishing industry and the Harbor District/Board of Harbor Commissioners should consider holding at least one or two workshop(s) or panel(s) per year to set, modify and report on progress on key priorities. The commercial fishing industry and the Harbor District should also consider meeting less formally over a crab boil or fish fry at least once a year, where interpersonal relationships can be initiated and strengthened. The fishermen and the Harbor District work in close proximity and share mutual goals. The hope is that formal and informal efforts will give way to a better understanding and effective on-going communication and a forum in which mutual priorities can be accomplished.

FUEL AND ICE

The CPFV fleet, recreational boaters, Harbor Patrol and search and rescue operations all rely on access to fuel.

Fuel and ice accessibility and price are “make or break” inputs to any commercial fishing operation. Timely access to fuel and ice, in a sufficient quantity and quality is a powerful influence to an efficient fishing operation and ultimately to the amount of fish caught. Fuel and ice price are major factors in the net profit equation and is tied to the overall economic sustainability of a fishing industry. While Pillar Point Harbor fishermen have access to an operational fuel and ice facility, they express concerns about timely access and inefficient layout/design, price and quality of ice.

Fuel is universally described as one of the most expensive overhead costs for commercial fishermen. Statewide, the price of fuel has increased from an average of \$0.92/gallon in 1999 to an annual average of \$3.91/gallon in 2013 (Source: PMFC), an increase of 325% in 15 years.

As the facility is leased by a private party, the commercial fishing industry and the Harbor District should consider a collaborative effort to improve hours of operation as well as to design and fund improvements or replacement of the ice machine. Such a collaboration may include an Ad Hoc Committee which gathers background data on needs and performance and makes recommendations to the Harbor District on next steps. The formation of the Committee would coincide with findings in the Facilities Assessment of replacing or refurbishing the fuel dock in the next one to two years. The Committee could also consider the placement and construction of a new ice machine, a better design and/or the development of an emergency fuel and ice plan wherein both can be trucked in immediately. The Committee should also focus on identifying funding partners.



Photo: The Ice facility at Pillar Point Harbor (April, 2014)

Commercial fishermen also identified fuel price in Pillar Point Harbor as a priority. The fuel business is marked by high volume and low margins. The commercial fishing industry and the Harbor District should work with the lease holder and investigate approaches (such as a regional fuel coop, non-profit biodiesel coop, price hedging or subsidies for fishermen) for lower prices to fishermen while maintaining a viable return for the operator.

FUEL COOPERATIVES: Petroleum Traders Corporation and Wholesale Fuels Inc. may provide price advantages but require minimum purchases (8,000 gallons) and contractual commitments. Although, collaboration with nearby ports could address volume requirements.

PRICE HEDGING: Pricelock, Inc. is a nationwide hedge provider for fuels including gasoline and diesel. Pricelock offers a cap/call hedging option where businesses set a cap on fuel price and pay an upfront premium. Plans are tailored based on fuel type, protection price, fuel quantity purchased, and plan duration. Pricelock requires a year-long contract and a monthly minimum of 8,000 gallons.

In 2006, the California Coastal Conservancy helped fund a state of the industry ice facility in Morro Bay with an 18 ton per day production capacity and 35 ton storage capacity.

An Ad Hoc Committee tasked with finding solutions for the fuel and ice facility should include the lease holder, and a commercial fisherman, CPFV operator, recreational boater, member of District Staff, a local civic leader or political leader and a member "at large".

Fuel prices in the State are generally the highest in the region. California is known as a "fuel island" and has no pipelines linking it to petroleum sources outside of the State. According to a 2003 Energy Information Administration study, "California is an isolated market, both geographically and because it uses a unique gasoline that most refineries outside of the State cannot produce." (*Fueling California Consumer Alliance for Responsible Fuel Policies: What Makes the California Fuel Environment Different in Terms of Policy, Cost, and Vulnerability? 2009*).

Access to fuel and reasonably priced fuel are critical sustainability performance measures.

HAULOUT AND BOATYARD

Commercial fishermen typically haul their boats out of the water for bottom maintenance and to replace zincs every one or two years and undertake major repairs every four or five years. As such, a haulout and boatyard facility is high on the priority list.

The commercial fishing industry and the Harbor District should consider an assessment of the potential demand, site alternatives and preferred site option, financial feasibility analysis and assessing acquisition and management strategies and the procurement of a Coastal Development Permit for a boatyard and haulout facility. The Harbor Vessel Haul-Out Facility Demand Assessment and Financial Feasibility Analysis sponsored by the Harbor District (Dornbush, 2007) should be used as a reference. Such a facility could be approached from a perspective of the public good (with some Harbor District ownership or management) and less a private enterprise, as it would address the needs of diverse community stakeholder groups including the commercial fishing industry, recreational fishing industry, recreational boaters, Harbor Patrol and the environmental community. The environmental community may value and support such a facility as it addresses protection of water quality through the community's enhanced ability to react to and remove derelict/leaking vessels.

After Aquarius Boatworks closed their doors in Santa Cruz Harbor, the District took up the management of the facility. A further investigation of Santa Cruz as a case study may be informative and part of the first step in the Analysis.



Photo: Santa Cruz Harbor Boatyard, Santa Cruz

DOCK MAINTENANCE

Johnson Pier is the beating heart of the commercial fishing industry, where all commercial fishing activity takes place. Maintenance and upkeep of Johnson Pier is critical for the sustainability of commercial fishing.

The structural condition of Johnson Pier was found in the recently completed Facilities Conditions Assessment to be “good”. However, maintenance, repairs and upgrades of certain parts of the top deck, ramps and hand rails should be a priority for the Harbor District. The Harbor District should work with the commercial fishing industry to identify the most pressing issues and integrate them into the maintenance and capital facilities plan.



Photo: Finger Pier at Pillar Point Harbor

DREDGING AND PUBLIC HOIST

The launch ramp was last dredged in 1998-99 and 2006. Another maintenance dredging episode was conducted in 2013.

Many commercial fishermen who participated in this project felt that their concerns on dredging were not being addressed by the District.

Dredging and disposal of dredge material is an expensive and complicated process. Permitting and commenting agencies for such a project include: Bay Conservation and Development Commission (BCDC), Army Core of Engineers, California Coastal Commission (CCC), US EPA, Regional Quality Water Board, Fish and Wildlife Service, and California Department of Fish and Wildlife. The Dredge Material Management Office is a fairly successful attempt to bring all permitting agencies (except CCC) under one roof.

A well dredged harbor and launch ramp is critical to the sustainability of commercial fishing. Fishermen need to be able to launch their vessels, navigate to the offloading pier, to their slips and up to shoreside services such as offloading hoists. An area of particular concern for commercial fishermen is along the bulwark at the public hoist.

Commercial fishermen should work closely with the Harbor District to continue to communicate their needs and concerns on dredging and how it affects access to piers, slips and shoreside services) at public presentations, workshops and in writing. Commercial fishermen should recommend the formation of a Dredging Committee (to the Harbor District and Board of Harbor Commissioners). The commercial fishing industry should consider participation on the Committee to assure their dredging-related concerns are considered.

The Harbor District should continue its efforts to assess, permit, fund and manage dredging in the harbor, as indicated in the District's 2013 Dredging Needs, Erosion Control, and Dredged Material Beneficial Reuse and Disposal Strategy at Pillar Point Harbor (Strategy). The Strategy points to conducting bathymetric, volumetric, physical, and chemical characteristics analyses of the bottom sediment before commencing the permit process. The Harbor District should prioritize regular communication with the commercial fishing industry on dredging as indicated in the Strategy: Future public meetings will be arranged to facilitate information exchange and public input to the several [dredging] project efforts as they proceed. Such a public meeting should be held as soon as possible. The meeting should be held in the evening (to facilitate commercial fishermen's attendance) and the commercial fishing industry should be notified and urged to attend.

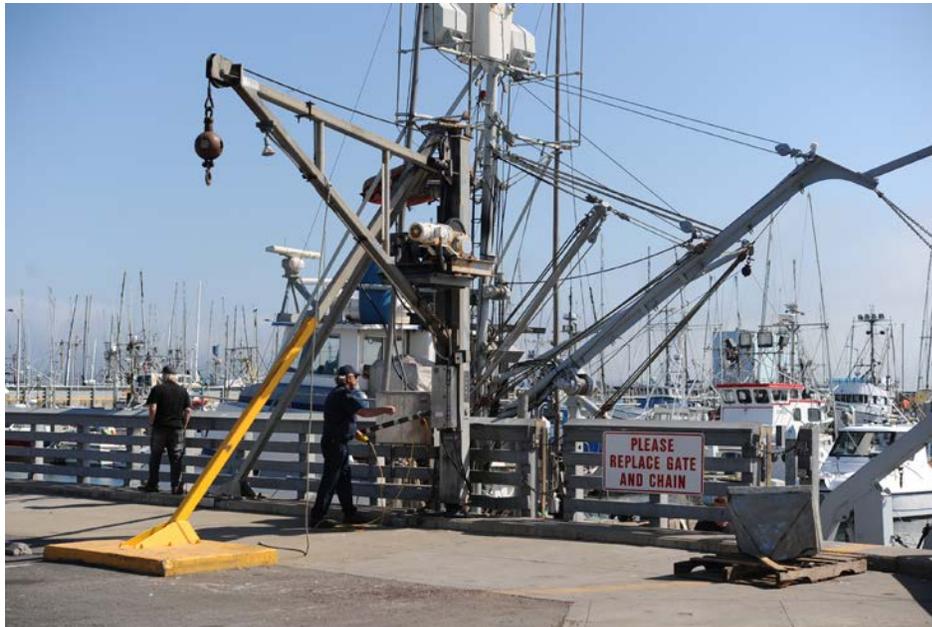


Photo: A vessel prepares to use the public hoist at Pillar Point Harbor

Dredging and disposal of dredge material is an expensive and complicated process. Permitting and commenting agencies for such a project include: Bay Conservation and Development Commission (BCDC), Army Core of Engineers, California Coastal Commission (CCC), US EPA, Regional Quality Water Board, Fish and Wildlife Service, and California Department of Fish and Wildlife. The Dredge Material Management Office is a fairly successful attempt to bring all permitting agencies (except CCC) under one roof.

WATER QUALITY

Pillar Point Harbor on the open coast is less exposed to pollution from industrial water commerce and from large metropolitan areas, but fecal contamination has been a water quality concern. Suspected sources have included sewage discharges from people living aboard vessels moored in the harbor and fecal contamination from dogs, birds, wildlife and marine mammals. Although all of these sources contribute to the problem, the most significant contributions are from stormwater runoff from inland areas, which transports fecal contaminants from cattle, deer, and other animals into the harbor. It is a concern of the commercial fishing industry, especially in light of direct sales and seafood consumer's perception of the Harbor and the fish that are sold there.

Commercial fishermen should work with the Harbor District and participate in and support the Clean Marina Program and on-going certification to the extent possible as well as participate and promote (to harbor visitors) on-going local efforts to assess and improve stormwater and pollution controls. The Clean Marina Program and other efforts aimed at maintaining and improving water quality could be showcased on informational/educational signage, as part of the working waterfront app and overall promotional campaign. Commercial fishermen should also consider partnerships with the various agencies and jurisdictions that are addressing stormwater and pollution issues in the County and the region; including the Resource Conservation District, sewer districts and educational institutions. A partnership could be participation on a committee, attendance to meetings, a letter of support or a statement in a public meeting or in the press.

In spring 2013, Pillar Point Harbor became one of 124 harbors, marinas, and yacht clubs in California to receive Clean Marina Program certifications in recognition of their accomplishments to protect water quality. The Harbor District with the collaboration of commercial fishermen should also consider a seabed debris clean-up, using volunteer sources such as local SCUBA dive clubs and the Yacht Club. The commercial fishing industry should promote these environmental stewardship activities as an example their (and the entire Harbor's) efforts to improve all aspects of water quality in Pillar Point Harbor.

A U.C. Davis study aimed at Identification of Sources of Fecal Pollution Impacting Pillar Point Harbor offered several thought about recommendations that should be considered in the efforts to maintain and improve water quality in the harbor. They include: pursue stormwater filtering technologies, reduce biofilm and biofilm reduction in stormwater drainage systems, encourage proper disposal of dog feces, further investigate fecal sources from wildlife and stormwater drainage systems and continue upstream bovine best management practices.



Photo: The San Mateo County Harbor District earned a Clean Marina Certification in 2013

RESTROOMS

The Harbor District and the commercial fishing community should work to confirm an acceptable schedule of maintenance for the restroom and shower facilities. Maintenance of restrooms and shower should be an issue in the on-going dialogue between the commercial fishing industry and the Harbor District.

Consideration may be given to increasing the size of the private restroom and shower facility to accommodate all fishermen so as to avoid a sharing of the public facility with the non-fishing public.

BERTHING AND OTHER FEES

The commercial fishing industry and the Harbor District should work closely to assure that berthing, wharfage, offloading and buying fees are reasonable, and in line with industry standards (comparable with nearby communities: Monterey, Moss Landing, Santa Cruz, Morro Bay). The commercial fishing industry in collaboration with the Harbor District may consider a percentage-based fee, for example 1% or 2% on finfish and crab. The Harbor District should continue work on this issue and communicate with the commercial fishing community once a Harbor District-funded study on fees is complete. It is important in setting the level of fees, that the commercial fishing industry's contribution to tourism and to cultural heritage are considered. Berthing fees, wharfages, fish sales permit cost and other fees in the Harbor should be included in a "Fee Schedule", a public document and made available on the Harbor District website and a hard copy should be posted in the Harbor District office.

REGIONAL WHARFAGE EXAMPLES

The San Mateo Harbor District charges between \$0.01 and \$0.05 per pound wharfage on finfish and between \$8.00 to \$10.00 per ton for coastal pelagic species like Market squid, Pacific sardines.

Monterey charges wharfage at a rate of \$1.30 per ton, set in 1999, with annual increases between 2% and 4%. The current wharfage is approximately \$1.74 per ton on all species and a truckage fee of 0.05% of gross receipts. Monterey also levies a fee on the number of abalone sold by the one aquaculture business on Municipal Wharf II of: \$0.01 each up to 50,000, \$0.02 each for 50,000 to 100,000 and \$0.04 each for sales over 100,000. Morro Bay elected to waive the \$0.02 per pound wharfage about 10 years ago to support and stimulate the commercial fishing industry and as an acknowledgment that the industry provides valuable synergies with tourism, contributes to a rich cultural heritage and is a source of healthy, sustainably caught food.

Some harbors like Santa Barbara and Spud Point Harbor have elected to generate revenue through use fees on public hoists to offload fish, and not levy a wharfage.

Three species (Dungeness crab, Market squid and Chinook salmon) represent 86.9% of all commercial landings in Pillar Point Harbor in 2013. Diversification across multiple fisheries can reduce variation in catches and the associated financial risk. It can also increase the minimum annual revenue relative to average revenue, which should reduce the risk of a business failure (Kasperski and Holland, 2013).

OTHER/INCOME DIVERSIFICATION

Commercial fishermen capitalize on a range of opportunities on the water and in the market to enhance production and profitability which contribute to the value and stability of the Harbor District. However, there may be potential for increased opportunities particularly in light of the top three species representing 87% of the total value of commercial landings. The Harbor District and the commercial fishing industry should consider efforts to support the increase in the relative diversity of species. This may include assuring better access to physical infrastructure such as the public hoist through better placement and dredging, live fish tanks and refrigerated and freezer storage (in upgrades, renovation or redesign of Johnson Pier) and/or support commercial fishing policy that enables greater access to underutilized species.

In their 2013 work on the subject of income diversification and risk for fishermen and fishing communities, NOAA Fishery Economists Kaperski and Holland (2013) state that diversification across multiple fisheries can reduce variation in catches and the associated financial risk. It can also increase the minimum annual revenue relative to average revenue, which should reduce the risk of a business failure.

CONCLUSION

In conclusion, the commercial fishing fleet in Pillar Point Harbor is extremely capable and resilient. The industry continues to play a foundational role in the cultural identity of the community, as well as to generate jobs and investment within a framework of science-based regulation that have proven successful in protecting fish stocks and habitat. Despite concerns on the part of commercial fishermen, many of which are addressed in the Recommendations; earnings at the dock in the last five years (2009-2013) have risen from approximately \$3.2 million to over \$17 million, a five fold increase. The industry has generated a resurgence in fisheries such as Market squid, where earnings in 2012 and 2013 (over \$10.5 million) outpaced the total earnings between 1990 and 2011. Commercial fishermen in Pillar Point Harbor are also on the front line of environmental stewardship as is evidenced by recognition of the sustainable harvest of several key species by the Marine Stewardship Council and the Monterey Bay Aquarium Seafood Watch Program. All of this points to a sustainable industry that will benefit the entire community into the future. The Recommendations, which find a direct voice in the commercial fishing community, are aimed at providing an even stronger and more stable platform from which the industry to work.

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6. POTENTIAL FUNDING SOURCES

The following are potential funding sources, grants and lending sources that the fishing industry and the City should consider to fund any of the recommendations.

GRANT FUNDING SOURCES

NATIONAL FISH AND WILDLIFE FOUNDATION

The National Fish and Wildlife Federation's Fisheries Innovation Fund Grant provides funding for improving capacity in fishing communities, including promoting participation in community-supported fishing associations; reducing bycatch; and improving fishery-related data collection and quantity for use in science, management and business purposes.

<http://www.nfwf.org/Pages/fisheriesfund/2012-fisheriesfund-rfp.aspx#.UR6cEEpVSrU>

CALIFORNIA COASTAL CONSERVANCY

The Coastal Conservancy's Urban Waterfronts Program funds a wide range of projects that promote public access to the coast, natural resource management, and restoration of urban waterfronts. These grants can include funding construction of infrastructure.

<http://scc.ca.gov/category/grants/>

CALIFORNIA SEA GRANT

California Sea Grant programs are structured around healthy marine ecosystems, sustainable resource use, coastal community development, new technology, and education, training and public information. Strategic goals include working with stakeholders to resolve conflicts over resource-use, creating social and economic incentives to encourage the preservation and sustainable use of marine resources, and promoting vibrant coastal economies. Sea Grant has funded projects on fisheries habitat, marine reserves, and the groundfish trawl fishery.

www-csgc.ucsd.edu/FUNDING/IndxFunding.html

COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)

Operated by the California Department of Housing and Community Development, the purpose of the CDBG program is to create or retain jobs for low-income workers. This program provides funding for economic development projects, public infrastructure improvements, as well as housing and community related projects and activities. Two projects in Noyo Harbor are being funded by CDBG funds and administered by the County of Mendocino. One of those projects is directly aimed at economic revitalization of the harbor area and creating commercial fishing industry jobs.

www.hcd.ca.gov/fa

PACKARD FOUNDATION

The Packard Foundation, working with the Resources Legacy Fund, created the Sustainable Fisheries Fund to promote participation in the Marine Stewardship Council certification program. The Sustainable Fisheries Fund provides grants for pre-assessments, full assessments, stakeholder participation, and strategic planning and capacity building that may be required to demonstrate sustainability. http://www.resourceslegacyfund.org/pages/p_fish.html

COMMUNITY FOOD PROJECTS COMPETITIVE GRANTS PROGRAM

The U.S. Department of Agriculture's (USDA) Community Food Projects (CFP) Competitive Grants Program is a major funding source for community-based food and agriculture projects nationwide. The CFP program is administered by the Cooperative State Research Extension and Education Services (CSREES) of the USDA and receives \$5 million per year in mandatory funding. Community Food Projects should be designed to: (A) meet the food needs of low-income people, (B) increase the self-reliance of communities in providing for their own food needs, and (C) promote comprehensive responses to local food, farm, and nutrition issues.

Projects may also be funded if they meet specific state, local, or neighborhood food and agriculture needs for: (A) infrastructure improvement and development, (B) planning for long-term solutions, or (C) the creation of innovative marketing activities that mutually benefit agricultural producers and low-income consumers. Private nonprofit organizations are eligible to receive funding directly, but collaborations with multiple stakeholders or with public and private for-profit entities are recommended.

www.csrees.usda.gov/fo/communityfoodprojects.cfm

ECONOMIC DEVELOPMENT ADMINISTRATION (EDA)

The EDA is part of the U.S. Department of Commerce. EDA investment programs include: Global Climate Change Mitigation Incentive Fund, Public Works and Economic Development Program, Economic Adjustment Assistance Program, Research and National Technical Assistance, Local Technical Assistance, Planning Program, University Center Economic Development, and Trade Adjustment Assistance for Firms. Applications for EDA programs are evaluated based on the following guidelines: (1) market-based and results driven, (2) strong organizational leadership, (3) advance productivity, innovation, and entrepreneurship, (3) looking beyond the immediate economic horizon, anticipating economic changes, and diversifying the local and regional economy, and (4) high degree of commitment through local government matching funds, support by local officials, cooperation between business sector and local government. A recent economic revitalization plan in Moss Landing was

funded by an EDA grant and administered through the County of Monterey and the City of Santa Cruz is funding a Wharf Master Plan with \$850,000 of EDA money.

www.eda.gov/InvestmentsGrants/Investments.xml

MOORE FOUNDATION

While the Moore Foundation typically works with conservation NGOs, they are dedicated to advancing environmental conservation and cutting-edge scientific research. The Marine Conservation Initiative focuses on area-based management and fisheries management reform. The Foundation has made significant contributions to the California Fisheries Fund, Cape Cod Commercial Hook Fisherman's Association, The Nature Conservancy and the Environmental Defense Fund with programs aimed at commercial fishery reform.

www.moore.org

NATURE EDUCATION FACILITIES PROGRAM

The Nature Education Facilities Program was created with the overall goal of increasing the public's understanding of California's natural resources and inspiring environmental stewardship. The funds will be given to projects that enhance development of nature education facilities and galleries that inspire and educate the public, as well as, equipment and facilities for marine wildlife conservation research. Grant funded projects must be open to the public or support facilities that are open to the public. The program accepts applications from cities, counties, California state agencies, districts, and 501(c)(3) non-profit organizations. The California State Parks department oversees the program.

www.parks.ca.gov/?Page_id=26026

THE NATURE CONSERVANCY AND THE ENVIRONMENTAL DEFENSE FUND

These conservation NGOs are currently working with local fishermen and on sustainable fishing issues in the State and on the Central Coast and should be considered potential partners, particularly on projects associated with the Limited Entry Trawl ITQ fishery.

www.edf.org/oceans/catch-shares

www.nature.org/ourinitiatives/regions/northamerica/unitedstates/california/howwework/central-coast-groundfish-project.xml

CENTRAL COAST JOINT CABLE / FISHERIES LIAISON COMMITTEE (CCJCFLC)

The CCJCFLC was formed to work directly with the fishing community to mitigate for loss and disruption of fishing grounds due to the installation and presence of communication cable(s) on the seafloor in local waters. The Committee is made up of representatives from the communication companies and the local fishing industry. While focused on fisheries in the Morro Bay and Port San Luis area, it has funded projects that benefit regional fishermen, particularly the trawl industry as they were impacted the most heavily.

<http://www.slofiberfish.org/index.html>

SALTONSTALL-KENNEDY GRANT

The Saltonstall-Kennedy (S-K) Grant Program is a competitive program administered by the National Marine Fisheries Service (NMFS) of the National Oceanic and Atmospheric Administration (NOAA). Through grants and cooperative agreements, the program provides funding assistance for research and development projects that benefit the U.S. fishing industry. Program priorities vary from year to year and projects that primarily involve business start-up or infrastructure development are not eligible.

http://www.nmfs.noaa.gov/mb/financial_services/skhome.htm

WATER RESOURCES REFORM AND DEVELOPMENT ACT AND THE HARBOR MAINTENANCE TRUST FUND

With the recent passing of the Water Resources Reform and Development Act (WRRDA) (H.R. 3080), \$8.2 billion has been authorized for port, dam, and flood protection and environmental projects throughout the country, largely to be administered by the Army Corps of Engineers. Within this bill are provisions for the expanded use of the Harbor Maintenance Trust Fund, intended for the operation and maintenance of harbors and ports. The Trust Fund can be used for maintenance dredging, dredged material disposal areas, jetties and breakwaters.

SEA PACT

Sea Pact is a coalition of seafood industry leaders who strive to advance environmentally sustainable fisheries and aquaculture practices and provide the building blocks of a long term and sustainable seafood industry by financially contributing to improve the fishing and fish farming systems from which they procure.

With periodic grants, Sea Pact aims to select a project in line with their goals, including fishery and aquaculture improvement projects, habitat restoration efforts, scientific research and other related work.

<http://www.seapact.org/projects.html>.

DEBT FUNDING

CALIFORNIA FISHERIES FUND

The California Fisheries Fund is a small loan fund for fishermen, processors, distributors, ports, communities and non-profits that provides funding for a variety of projects, including dockside infrastructure and marketing.

<http://www.californiafisheriesfund.org/>

CALIFORNIA MARITIME INFRASTRUCTURE BANK AND AUTHORITY

The California Maritime Infrastructure Bank and Authority services financing for ports and harbors, and provides lease financing for infrastructure used by ports and port tenants. The Bank and Authority is not a commercial bank, and only member authorities may participate in financing programs. Thus to seek funding from the Bank and Authority, the Port of Monterey must become a member of the organization.

<http://www.californiamaritimeinfrastructureauthority.org>

NEW RESOURCES BANK (NRB)

New Resources Bank funds businesses and organizations that contribute to environmental and social sustainability. NRB is working with Ilwaco Fish Company and Wild Planet to facilitate their growth and capacity.

<https://www.newresourcebank.com/>

COMMUNITY LENDING

Under the federal Community Reinvestment Act (1977), depository institutions are required to help meet the credits needs of the community in which they operate. Many banks have community-lending programs. For example, Wells Fargo has a Community Lending division that provides interim construction financing for community development commercial real estate projects. Wells Fargo offers construction loans, permanent loans, bond financing, and letters of credit to developers and public agencies.

GENERAL OBLIGATION BONDS

General Obligation Bonds may be sold by a public entity that has the authority to impose ad valorem taxes. Ad valorem taxes are based on an assessed value of real property and must be approved by a two-thirds majority vote of the people. Primary use of this tax is to acquire and improve public property.

NOAA FISHERIES FINANCE PROGRAM

The NOAA Fisheries Finance Program is a direct government loan program funded by Congress to provide long-term loans to aquaculture, mariculture, and commercial fisheries industries. There is no minimum or maximum loan amount, but it cannot exceed 80 percent of the eligible project's cost. The loan interest rate is fixed at two percent over the U.S. Treasury's cost of funds with loan maturities up to 25 years and no early pay-off penalties. A one-time filing/commitment fee equal to half of one percent of the proposed loan amount is required at the time the application is filed.

www.nmfs.noaa.gov/mb/financial_services/ffp.htm

COMMUNITY FACILITIES DISTRICT (CFD)

A CFD or Mello-Roos District is an area where a special property tax on real estate, in addition to the normal property tax, is imposed on those real property owners within a Community Facilities District. These districts seek public financing through the sale of bonds for the purpose of financing public improvements and services. The property tax paid is used to make the payments of principal and interest on the bonds. The services and improvements that CFDs can finance include streets, sewer systems and other basic infrastructure, police protection, fire protection, ambulance services, schools, parks, libraries, museums and other cultural facilities. By law, the CFD is also entitled to recover expenses needed to form the CFD and administer the annual special taxes and bonded debt.

U.S. SMALL BUSINESS ADMINISTRATION (SBA) LOAN PROGRAMS

The 7(a) Loan Program includes financial help for businesses with special requirements. For example, funds are available for loans to businesses that handle exports to foreign countries, and for other very specific purposes. Qualifying businesses may use proceeds to purchase land or buildings, and/or to cover new construction as well as expansion or conversion of existing facilities. Commercial fishing vessels are eligible to receive loans under this program.

The 504 Loan Program provides approved small businesses with long-term, fixed-rate financing used to acquire fixed assets for expansion or modernization. 504 Loans are typically structured with SBA providing 40% of the total project costs, a participating lender covering up to 50% of the total project costs, and the borrower contributing 10% of the project costs. Under certain circumstances, a borrower may be required to contribute up to 20% of the total project costs. To be eligible for a 504 Loan, businesses must be operated for profit and fall within the size standards set by the SBA. Under the 504 Program, a business qualifies if it has a tangible net worth not more than \$15 million, and an average net income of \$5 million or less after federal income taxes for the preceding two years prior to application.

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