

Port of San Diego

Commercial Fisheries Revitalization Plan

Background and Existing Conditions Report

October 2009



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Funded by the California Coastal Conservancy

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If anyone has been left from the list, let them be assured it is due to our poor memory and not lack of gratitude.

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PROJECT OVERVIEW

Section 1

1.1 Project Overview

The California Coastal Conservancy (Conservancy) authorized \$450,000 to the Port of San Diego in May 2007 for the preparation of a commercial fisheries revitalization and coastal public access plan for Driscoll's Wharf and Tuna Harbor. The Port of San Diego contributed \$50,000 in cash and \$50,000 of in-kind services, bringing the total project cost to \$550,000. The work was directed to address public outreach; enhanced public access along the waterfront; analysis of economic, physical, access/circulation, and ecological/natural resource constraints; fisheries market feasibility analysis and marketing plan; and preliminary conceptual designs encompassing industry and visitor serving facilities; parking; and utilities including runoff treatment.

The Conservancy made the funds available to offset the pressure of regulatory changes and environmental and economic factors on a fishing industry they deemed worthy from a conservation and management perspective. The Conservancy and Port of San Diego's goals for the work include updating deteriorating infrastructure, incorporating the development and enhancement of waterfront access including the California Coastal Trail and providing for water-dependent uses and facilities. Intended beneficiaries of the plan are local fishermen and those from other ports that use the Driscoll's Wharf and Tuna Harbor facilities, local residents and the millions of tourists that visit the area every year. The project received early support from Senator Denise Ducheny (40th District, San Diego), Assembly Member Lori Saldana (76th District, San Diego), the San Diego Port Tenants Association, the Working Waterfront Group (San Diego), and various commercial fishermen and fishing-related businesses.

Following the grant authorization, the Port of San Diego formed a stakeholders' project advisory group, named the Commercial Fisheries Core Committee, in accordance with the Conservancy's recommendations. The Core Committee consists of representatives from the commercial fishing community and commercial fishing-related businesses, government officials, port staff, and the Conservancy project manager (see Table 1-1 for a list of the Core Committee Members).

Table 1-1 Core Committee Members

Deborah Ruddock	California Coastal Conservancy, Project Manager
Scott Breidenthal	Commercial urchin diver, San Diego Professional Fishermen's Association
August Felando	Maritime Attorney, Fishery Historian
Peter Fournoy	Maritime Attorney, Western Fishboat Owners Association
Jonathan Hardy	District Representative, Senator Denise Moreno Ducheny
Kelly Falk	Project Manager, Asset Manager, Real Estate, Port of San Diego
Matt Valerio	Environmental Planner, Port of San Diego
Bruce Cummings	Operations Manager, Port of San Diego
Cathy Driscoll	Lease holder, Port of San Diego
Tom Driscoll	Lease holder, Port of San Diego
Peter Halmay	Commercial urchin diver, San Diego Waterman's Association
Scott Hawkins	Commercial fisherman, American Albacore Fishing Association
Steve Foltz	Seafood processor, Chesapeake Fish Company, President
Mitch Hobron	Commercial urchin diver, Alternate

The California Coastal Conservancy's attention was called to the area by local fishermen who felt their voice was not being considered in a development (Sasaki/Quigley) at the Tuna Harbor site and that in general, commercial fishing interests were not sufficiently addressed in the Sasaki/Quigley Plan.

In June 2007, the Port of San Diego and Conservancy signed a contract confirming the cost and scope of the project. A comprehensive Request for Proposal/Request for Qualifications (RFP/RFQ) was released by the Port of San Diego on November 16, 2007. Proposals were submitted on the 28th of December. In April of 2008, a Consultant Team led by Lisa Wise Consulting, Inc. was hired. The Consultant Team is comprised of seven local firms, viewed as leaders in their particular fields (see Table 1-2 for a list of the Consultant Team Members).

Table 1-2 Consultant Team

Lisa Wise Consulting, Inc.	Project management, infrastructure, market, economic analysis, analysis of other ports and other fishing models, landings, regulations, certifications and financial feasibility
Project Design Consultants	Collaborative project management, landscape architecture, civil engineering, planning, site design and analysis
Moffat & Nichol, Blaylock	Marine structural inspection and assessment, above deck/water and below water
Linscott, Law & Greenspan	Traffic, parking inventory and analysis
TerraCosta Consulting Group	Geotechnical analysis and reporting, sea level change analysis and reporting
Merkel & Associates	Marine environmental assessment and review
Helix Environmental Planning	Terrestrial environmental assessment and review
KMA Architecture & Engineering	Architectural renderings and drawings

Upon initiating the work, an immediate and concerted effort was made to contact and gain input from each commercial fishing slip holder in Driscoll's and Tuna Harbors. More than 140 hours were spent on personal interviews with fishermen and commercial fishing stakeholders, in addition to numerous site visits and meetings. The Consultant Team believes the commercial fishermen and commercial fishing stakeholders hold the solutions to problems facing the fishery. All survey instruments, questionnaires and consultations were conducted in a bottom-up manner, where the informant drove the process/conversation and was allowed to voice views without interference or bias.

Project Components

The project will produce two major reports. The first, the Background and Existing Conditions Report, includes analysis of the historic and current state of the commercial fishing industry in Tuna Harbor and Driscoll's Wharf as well as an industry overview. The Background and Existing Conditions Report provides justification for recommendations and alternatives for improvement that will be presented in the Implementation Report.

The first deliverable is the Background and Existing Conditions (BEC) report, which is a compilation of findings from each Consultant Team member. The BEC report gives a comprehensive view of the fishery and related infrastructure; markets; fishery management efforts; landing and earning trends; comparisons to state and national fisheries and other ports; existing projects; wet and dry utilities; traffic and parking; marine structural; geological and soil composition of the sites; environmental conditions and potential constraints; and a review of pertinent documents (Port Act, Master Plan, Strategic Plan, 1980 and 1998 Commercial Fishing reports). This report is the product of personal interviews; site visits; physical inspections; analysis of port, city and county archives; review and analysis of California Department of Fish and Game (CDFG) maps and data; Pacific Fisheries Information Network (PACFin) and National Marine Fisheries Service (NMFS); California Seafood Council (UC Davis); Bureau of Labor Statistics; U.S. Census Bureau; U.S. Department of Department of Commerce data; pertinent USDA publications and Fish and Game Commission meeting notes. This report, as all others produced by the Consultant Team for this project, will be reviewed by the Port of San Diego and Core Committee prior to finalizing.

The next phase of the project, Alternatives Analysis, also requires extensive community input. Based on the findings in the BEC report, the Consultant Team, Core Committee and Port of San Diego will devise infrastructure, market, financial, management and site improvement alternatives. The Consultant Team will then conduct a feasibility analysis of each component of the alternatives. Time, cost, management capacity and regulatory climate will be considered for each.

The final deliverables are a Preferred Alternative and Implementation Plan. With the help of the Core Committee and Port, the Consultant Team will identify a Preferred Alternative with costs, metrics for success, timeframe, roles and responsibilities and potential funding sources.

Consultant Team Motivation

The Consultant Team engaged in this project with the following understanding of the value of the San Diego commercial fisheries, and the entire U.S. commercial fishing industry.

A Well Regulated Industry The U.S. commercial fishing industry is one of, if not the most, heavily regulated in the world.

Regulatory Compliance U.S. fishermen are some of, if not the most, regulatory compliant in the world.

Rising Demand for Seafood Demand for seafood is increasing globally and domestically.

Unintended Consequences If consumers don't support U.S. fisheries, demand for seafood will shift to nations with little or no regulation.

Opportunities to Participate Supporting U.S. fisheries is supporting a well-managed resource and an example for other fisheries.

Message Buy local seafood, eat local seafood. Know where seafood is from and how it is caught.

Support for Commercial Fishing There is overwhelming support for the commercial fishing that is conducted in San Diego by family-owned operations on small boats with small crews. The growing "local" and "Slow Food" movement have provided productive forums for this concept. Many eyes are on carbon footprints and the resources necessary to move goods from production to market. In a state with 36 million inhabitants, the "home team" concept is significant.

Investment for the Future Non-Governmental Conservation Organizations (NGOs), California Coastal Conservancy and Ocean Protection Council, and the State of California (California Fisheries Fund) are investing in revitalization efforts and research in Morro Bay, the Channel Islands, and San Francisco. Due to the fact they are models of small-scale, family-run fishing businesses that are heavily regulated and compliant, and place a priority on the health of fish stocks; a strong contrast to poorly regulated fisheries around the world.

The intent of the Consultant Team is to create practical solutions for San Diego that will bring value and stability to the fishing industry and provide a model for other fisheries on the Pacific Coast and beyond.

1.2 Community Input

Information for the San Diego Commercial Fisheries Revitalization project was gathered from: (1) interviews with fishermen, port operations and management personnel, and fisheries-dependent business owners; (2) extensive review of California Department of Fish and Game (CDFG), Pacific States Marine Fisheries Commission (PSMFC), Pacific Fishery Management Council (PACFIN), and National Marine Fisheries (NMFS) landing data; (3) analysis of regulations and their impacts; (4) surveys of fish buyers, processors, retailers, chefs and restaurant owners; (5) site visits, field research and careful consideration of value-added services, their costs, and potential benefits; (6) related literature and published documents; (7) evaluation of potential funding sources; (8) evaluation of potential management entities; (9) meetings and public outreach; and (10) extensive input from the Consultant Team.

Input from the above-listed sources informed and guided the analysis. Extensive personal interviews were conducted with more than 138 individuals. An average interview was more than an hour in length, resulting in more than 140 total hours. This calculation does not include time

spent preparing for, scheduling, reviewing, revising, and summarizing notes, or travelling to the interview sites.

A special emphasis was placed on in-person interviews with commercial fishermen and stakeholders with a working knowledge of waterfront infrastructure, market channels and marketing efforts, landings, pricing, history, employment, local goals, fleet composition, regulations, health of the resources and changes over time. More interviews were conducted with this group than any other. The Consultant Team attempted to contact (phone, email, personal interview) each of the 84 commercial fishing slip holders at Tuna Harbor and Driscoll's Wharf, and completed interviews with 50 (at the time of this Report). The result was more than 40 hours of interviews directly with commercial fishermen. The Consultant Team made numerous trips to the docks to meet fishermen at their boats and experience infrastructure issues they face. Many fishermen were consulted numerous times throughout the project in an effort to understand and draw upon their knowledge of existing local conditions and examples of other ports. The objective of the interviews was first to discover what aspects of the commercial fishing infrastructure either facilitate or impede fishermen's ability to work efficiently and economically. This objective is based upon the understanding that the fishermen, who depend on infrastructure for their livelihood, hold knowledge that cannot be found elsewhere. Second, our team attempted to contact each commercial slip holder at both study sites as well as several fishermen from Mission Bay and Oceanside to deter any sense of disenfranchisement from the Revitalization Process. The input from the commercial fishing community is an ongoing component to project completion and success.

The interview process and subsequent analysis was based on a community consensus approach that seeks to elicit information in a bottom-up fashion. Cultural consensus approach and analysis comes from the field of anthropology and is theoretically based on an understanding that cultural knowledge is shared. The approach works to gain an understanding of shared ideas within a community and how those are prioritized. Understanding the consensus among the fishermen and fishery-related stakeholders is an essential component of this project and serves as a basis for forming viable revitalization alternatives.

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SUMMARY OF FINDINGS

Section 2

The Background and Existing Conditions Report is intended to provide a foundation for decision-making by examining the historic and current state of the commercial fishing industry, with particular attention to issues that impact fishermen based out of Tuna Harbor and Driscoll's Wharf. The Report does not make recommendations for improvements or action, but serves as the basis for the San Diego Commercial Fisheries Revitalization Project Implementation Plan to be released in April 2009.

The following Summaries of Findings are the product of five months of interviews, site visits, inspections, field analysis and existing data review and analysis. Anecdotal information was gathered through hundreds of hours of personal interviews, one-on-one and in groups; telephone interviews; emails; and meetings both formal and informal. Responses were gathered from fishermen and fishery-related stakeholders in San Diego and 12 other ports, Port staff, the Core Committee, and distribution chain participants. Technical data was gathered from various sources (maps, plans, drawings, internet, public documents, government data) and is referenced in the individual reports.

The summaries are meant to be concise, informative and representative of more extensive work contained in the report and appendix (see Attachments A-E). The summaries, in order of appearance and followed by the Consultant Team members responsible are:

Commercial Fishing Industry Analysis	<i>Lisa Wise Consulting, Inc.</i>
Specific Site Design Conditions	<i>Project Design Consultants</i>
Land-Based Environmental Analysis	<i>Helix Environmental Planning</i>
Marine Based Environmental Analysis	<i>Merkel and Associates</i>
Geotechnical Analysis	<i>TerraCosta Consulting Group</i>
Marine Structural Analysis	<i>Moffat & Nichol-Blaylock</i>
Traffic and Circulation Analysis	<i>Linscott, Law and Greenspan</i>

The findings will guide and inform the project as it moves into Preliminary Conceptual Design Alternatives analysis, Preferred Alternative analysis and Implementation Plan. The findings will provide the foundation on which to base future work, and inform potential funding sources, regulators and supporters on the conditions facing the San Diego commercial fishing fleet as well as offer perspective on appropriate opportunities for improvement and expansion.

2.1 Commercial Fishing Industry Analysis

Industry Overview

San Diego is the second largest city in California, and the seventh largest city in the nation. With more than 1.26 million residents in 2006, the city of San Diego represents almost half of the nearly three million residents in San Diego County. The region's economic and social development is closely linked with the bay and maritime activities, from strategic military defense and international trade to tourism and commercial fishing.

History of Commercial Fishing From as early as 1911 and the opening of the first tuna cannery, the San Diego commercial fishing industry provided a cultural backdrop and employment for hundreds of families while establishing its place as the world's top tuna fishery. San Diego surpassed other ports by its adoption and mastery of a lighter, nylon purse seine net and the power block. By 1985 and the closing of the last tuna cannery, tuna landings had shrunk to a fraction of their 1950s levels.

The closing of San Diego Tuna canneries, commencing in 1982, was caused by a number of factors, including but not limited to federal trade policy, legislation, regulations, and a ruling by the US International Trade Commission. After the last major cannery left California in 1984, many San Diego tuna vessel owners sold their vessels to foreign citizens or moved to American Samoa or Guam. During 1990, newly enacted federal legislation and regulations helped caused the remaining San Diego Tuna Seiners to be sold to foreign citizens or move their fishing operation to ports in the Western Pacific. These new 1990 laws and rules did not allow US Tuna Purse Seine vessels to fish competitively within their traditional fishing grounds located in waters south of San Diego.

San Diego was also historically home to a fleet of small boats targeting rockfish and other species. The urchin fishery in San Diego emerged in the early 1970s and peaked in the mid 1990s at approximately \$2.5 million and currently supports a small fleet of divers. Shark, halibut, crab, lobster and spot prawn also played roles and landings continue today. In addition to traditional fisheries, the emergence of high price per pound "live fish fisheries" (lobster, spot prawn, sablefish, sheephead, crab, and shortspine thornyheads) has helped increase local EVV. Landings in 2008 were valued at \$7 million and the fishery is in a position to give San Diego and California consumers an opportunity to support and participate in a well-regulated, viable fishery by demanding local seafood. Currently, the industry provides a tourist draw, employment and economic contributions, and an important food source.

Employment Commercial fishing supports hundreds of jobs, directly or indirectly, primarily through small businesses and sole proprietorships. The number of employees in the commercial fishing industry in San Diego County has declined by more than 50% from 232 employees in 1997 to 102 employees in 2005. However, in San Diego County, commercial fishing-related jobs are expected to increase by more than 30% from 130 to 170 jobs by 2016. In San Diego County, a commercial fishery-related worker earned an average of \$40,026 in 2008, approximately \$6,000 less than the average county worker.

Tourism and Public Support Commercial fishing in San Diego plays a significant role in the economy and culture through support from locals and tourists. In a 2007 study by Responsive Management, a public opinion research firm, more than 70% of Californians agreed either strongly or moderately that when visiting a coastal community they seek and enjoy visiting working waterfronts. These findings are particularly significant in San Diego, where visitor spending was more than \$7.2 billion between August 2007 and June 2008. Approximately two-thirds of respondents, or 66%, stated that family-run commercial fishing does not harm the

ocean, but 58% agreed that large corporate commercial fishing companies are damaging the environment. These results show ongoing and significant support of well-regulated, highly compliant, small, family-owned fishing boats that make up the present San Diego fleet.

Site Context

The two Commercial Fishing Revitalization sites, Driscoll's Wharf and Tuna Harbor, are under the jurisdiction of the Port of San Diego. The Port was created in 1962 and is governed by a seven-member Board of Port Commissioners comprised of representatives from San Diego, Chula Vista, Coronado, Imperial Beach and National City. The Port of San Diego is given discretionary power over land use decisions and real property development within the Port's boundaries, consistent with the California Coastal Act. This includes emphasis on the protection and preservation of coastal dependent uses (i.e. commercial fishing) and coastal access. Future planning and development of either site must be consistent with the goals and policies of the Port Master Plan, the corresponding Precise Plans, and any applicable land/tideland use designations. All new construction, reconstruction, modification, demolition, or tenant improvements (Tenant Projects) within the Port of San Diego jurisdiction require Port approval.

The Port Master Plan provides the official planning goals and policies for the physical development of the land/tidelands within the Port of San Diego and prescribes policies through precise plans as well as land/tideland use designations (permitted uses). The Port of San Diego manages approximately 4,483 tideland acres, of which the Port Master Plan currently allocates 14 acres for commercial fishing and an additional 61 water-acres for commercial fishing berthing. Driscoll's Wharf is in the Shelter Island/La Playa Planning District, America's Cup Harbor Basic Subarea; Tuna Harbor is in the Centre City Embarcadero Planning District, Tuna Harbor Subarea.

There are several current and pending projects in and around the Tuna Harbor and Driscoll's Wharf to improve coastal access, commercial fishing-related uses, and recreational accommodations and services.

Coastal Public Access

Coastal Public Access is integral to a vibrant and healthy working waterfront. Public access to the coast is also an effective tool for perpetuating the protection of the shared coastal resource. Increased and enhanced public access to the waterfront can benefit fishermen by raising the public's awareness and understanding of a locally caught food source and by making the physical connection with commercial fishing activities and participants.

Infrastructure for pedestrians, and bikes, and links to the surrounding area by train, trolley, and car are major components of public access. Parking, signage, visitor serving facilities, and hotels also play important supporting roles.

Driscoll's Wharf and Tuna Harbor are both accessible to the public, although they experience different levels of utilization.

Driscoll's Wharf is not located near high profile tourist facilities, and there are currently no restaurants or visitor serving uses at the site. Notably, there is a significant interruption in the

footpath to the south. Although a sign marks the entrance to the facility, it is not immediately clear from the street that the facility is open to the public. Vehicle access to Driscoll's Wharf is provided off Torpedo Point, and is restricted to right turns only. While two public parking areas are available near the site, only the parking area near the public restroom appears to be well utilized. There is no public parking within Driscoll's Wharf. The closest bus stop is located 800 feet from Driscoll's Wharf. The nearest train station is the Old Town Transit Center, approximately 3 miles away, which is served by the trolley, Coaster and Amtrak. There is no cruise ship terminal within walking distance, while Lindburg Field, San Diego's International Airport, is located approximately 2 miles away. The nearest hostel to Driscoll's Wharf is Hostelling International Point Loma, and is located approximately 1.4 miles away. There is permanent public restroom available at the site.

Tuna Harbor is located near the tourist attractions of Seaport Village, the USS Midway and B Street Cruise Ship Terminal, and next to The Fish Market restaurant. Bench seats are located along the tree-lined walkway that surrounds the large public parking lot in front of Tuna Harbor and are used by tourists and locals. Vehicle access is provided via G Street and Harbor Lane from North Harbor Drive. Three well-marked public parking areas are located near Tuna Harbor, and all appear to be well utilized. Each commercial fishing slip at Tuna Harbor has one dedicated parking space. The closest bus stop to Tuna Harbor is located near the B Street Pier and Harbor Drive, approximately 1625 feet, or 0.3 miles, from the site. The Santa Fe Depot is located approximately 2,200 feet, or 0.4 miles away, and is served by the trolley, Amtrak and Coaster. A bike path is provided along North Harbor Drive, but there are no bike racks in the vicinity. Tuna Harbor is located approximately 2,000 feet, or 0.38 miles, from the B Street Pier Cruise Ship Terminal and approximately 2.5 miles from Lindberg Field, San Diego's International Airport. The closest hostel to Tuna Harbor is Hostelling International San Diego Downtown, and is located approximately 0.9 miles from the site. There is a permanent public restroom available at the site.

Infrastructure Analysis

The two study sites, Driscoll's Wharf and Tuna Harbor, have the infrastructure necessary to support an active, if limited, fishing industry. Each harbor has infrastructure components that are in good condition, and others can be expanded and improved to support growth and greater efficiency. The Infrastructure Analysis Section describes these components in detail and is based on hours of fishermen interviews, site visits, and analysis of existing data.

Driscoll's Wharf is located in Point Loma and is privately-owned and operated under a lease from the Port of San Diego. It houses one offloading/hoist, a restroom facility, electricity and water, but no ice facility. Security, the number of slips, and fresh water and waste facilities at this site are deemed satisfactory by the fishermen. Although some ice is provided by a privately-owned processing facility on site, it is insufficient to meet fishermen's needs. Located on a long, narrow piece of land in the America's Cup Harbor basin, there is limited space for parking, storage, equipment repair, and truck access. The basin's shallow channel depth restricts larger vessels from using this facility. Fishermen at Driscoll's identified the following areas as important to the fishing and fishing support effort and in need of improvement or expansion: offloading capacity and efficiency; gear storage and repair; continuing maintenance in dock and pier structures; channel depth; replacing finger docks with floating structures; consistent 220 volt

power to key slips; improved truck access; connection to new and existing pedestrian paths and a fishermen-owned or operated ice facility.

Tuna Harbor, located near Seaport Village in downtown San Diego, has a municipally-owned offloading facility that is managed by the privately-owned processor onsite. The processor provides ice to the fishermen from its facility. The Port of San Diego maintains the slips and moorings and provides amenities including parking, restrooms, fresh water and electricity. Fishermen agreed that while wake issues persist, the quantity and design of slips was satisfactory, as was truck access and access to bait. They expressed gratitude that the Port of San Diego has addressed lighting and security issues, yet stressed that both issues are in further need of attention. Fishermen also consistently identified the following as areas in need of improvement or expansion: parking, waste disposal, security, consistent 220 volt power to key slips, improved pedestrian access, internet access and gear storage. Tuna Harbor fishermen also stated that a fishermen-owned or operated ice and offloading facility would play a key role in their independence and hence, viability. There was consensus in the fleet that fishermen would benefit from either or both sites having refrigerated and deep-cold storage facilities as well as live fish holding facilities.

Commercial Landings

Analysis of commercial landings in San Diego, the State of California and the United States provide the background for understanding the relative size and value of the San Diego commercial fishing industry and provide guidance in assessing infrastructure, marketing and management opportunities and requirements. This analysis tracks San Diego's prominence in the 1970s and 1980s, decline through the 1990s and compares rises and falls with national and state trends. The work also highlights areas of growth and stability in recent years. This data will inform recommendations and strategies for implementation.

National, State, Local Comparison Commercial fish landings in the United States totaled \$4 billion in 2006, down from peaks of \$6 billion in the late 1970s and 1980s. In 1950, commercial landings in California represented nearly 25% of national EVV (ex-vessel value, the price paid to fishermen at the dock); however, by 2008, California landings represented less than 3% of national EVV with less than \$113 million. San Diego Area EVV was nearly \$290 million in the 1980 and represented 35% of California EVV at the time. Following a steep decline, San Diego Area EVV fell to just 6% of California EVV and never reached more than \$10 million annually from 1985 to 2008. Although San Diego Area EVV has fallen, the average price per pound has risen from approximately \$1 during the 1970s to more than \$3.00 a pound in 2007. National and state EVV never reached more than \$1 per pound between 1950 and 2008.

Regional Regionally, the West Coast and Pacific region accounted for nearly 70% of US commercial landings in 2008. Meanwhile, commercial landings on the East Coast and Gulf of Mexico have dropped to approximately 15% each by 2008. The West Coast and Pacific Region accounted for just above 50% of national EVV in 2008 with nearly \$2.3 billion in EVV at an average value of \$.40 per pound. In contrast, the North East Atlantic Coast region accounted for almost 30% of national EVV at an average value of just under \$1 per pound. The South Atlantic and Gulf Coast region accounted almost 20% of national EVV in 2008 at an average value of approximately \$.60 per pound.

San Diego In San Diego, four ports accounted for greater than 99% of all commercial landings between 1986 and 2008: Tuna Harbor, Driscoll's Wharf, Oceanside, and Mission Bay. Traditionally, the largest percentage of commercial landing activity took place at Tuna Harbor, but by the mid-1990s, landings at Tuna Harbor declined and activity at the other three ports began to increase. In 2008, nearly 2.5 million pounds were landed among the four ports – Tuna Harbor (34%), Driscoll's Wharf (18%), Mission Bay (26%) and Oceanside (22%). Between 1985 and 2008, EVV in the San Diego Area totaled nearly \$200 million (2009 dollars), with nearly \$7 million in 2008 alone. In 2008, EVV at Tuna Harbor was \$2.32 million, Driscoll's Wharf \$703,000, Oceanside \$1.6 million, and Mission Bay \$2.1 million. The average value for species landed at each of the four ports between 2000 and 2008 ranges from \$1.33-\$4.72 pound.

The San Diego fishing industry encompasses a range of species and catch methods. Ten species landed in the San Diego Area accounted for nearly 91% of EVV between 1985 and 2008: swordfish (30%), California spiny lobster (24%), red sea urchin (13%), sharks (6%), rockfish (5%), spot prawn (4%), albacore tuna (3%), rock crab (3%), California halibut (2%), and California sheephead (2%). Two of every three dollars paid to San Diego fishermen came from the sale of swordfish, California spiny lobster, and red sea urchin.

While many of the top-landed species have shown downward trends in overall landings and EVV (except spot prawn and lobster), five species (blackgill, sablefish, white seabass, California sheephead, and shortspine thornyheads) have climbed from just over 1% of total EVV in 1985 to more than 10% in 2005.

Although landings have decreased in the San Diego Area since 1985, the commercial fishing industry continues to make large contributions to the local economy. The sale of commercially-landed seafood provided fishermen with more than \$6.7 million in 2008. From the time the seafood is sold at the dock to the time it reaches the consumer's plate (locally, domestically, and internationally), hundreds of jobs and millions of dollars are generated.

Imports/Exports The United States trails only the European Union and Japan as the world's largest importer of seafood. Leading U.S. import nations are: Canada, China, Chile and Indonesia. U.S. seafood imports have more than doubled from \$5.4 billion in 1989 to \$13.5 billion in 2007. Currently, more than 70% of the seafood consumed in the United States is imported. U.S. per-capita seafood consumption is expected to rise from its current level of approximately 15 pounds a year to 20 pounds a year by 2025. In 2005, the U.S. seafood trade deficit was approximately \$9.2 billion, three times the \$3 billion deficit in 1989. Swordfish, lobster, and tuna, which are all significant species in San Diego, are net imports, and sea urchin is a net export. Seafood imports, especially from nations with little or no regulations or compliance, impact the demand and price of U.S. caught, hence, San Diego caught product.

Fishery Management Efforts

An analysis of San Diego commercial fishing landings highlights the fishery's long history, biological diversity and commercial importance. Fishery management efforts play a large role in affecting landings and earnings. The relationship between regulators and fishermen is often strained, however, it is this relationship that differentiates the U.S. and hence, San Diego, from other competitor nations with little or no regulations that produce cheaper imports. The Fishery Management Efforts analysis also illustrates that while fishermen are often blamed for overfishing,

it is regulators who are responsible for conducting stock assessments and setting quota. License requirements, and the link between vessel ownership, vessel insurance, fishing permits, reporting obligations on buyers and offloading facilities and enforcement assure that U.S. commercial fishermen are one of the most compliant in the world. The fisherman/regulator relationship offers opportunities for improvement. Advancement will be made with a stronger and more concerted voice from the commercial fishing fleet. The analysis of regulations and their impact in San Diego will guide the movement on this issue and inform the implementation process. Efforts to preserve the economic and biological viability of the resource have resulted in numerous management techniques. This section includes an analysis of regulatory measures for nine of the top species in San Diego: swordfish; urchin; thresher and shortfin mako shark; lobster; albacore; halibut; crab; spot prawn; and rockfish. Management efforts include geographic restrictions; fisheries closures; catch quotas; size limits; reductions in permits; changes in allowable fishing gear; depth and "distance offshore" restrictions; creating new fishing seasons; human-observer coverage requirements; and reducing the length or closure of existing fishing seasons.

Swordfish, shark. Since the early 1980s, the commercial drift gillnet fishery for swordfish, thresher shark and shortfin mako shark have seen a multitude of regulations. These include, limiting permits to 150, seasonal restrictions, area closures, a mandatory fishery-paid observer program, banning specific gear types, and requirements on allowable fishing gear.

Lobster. The commercial fishery for California spiny lobster has experienced a precipitous drop in the number of permits from 450 in 1994 to 246 by 2002. California spiny lobster landings are also influenced by export markets, and populations fluctuate due to weather; food availability; changes in habitat; hatching and survival rates; and ocean currents.

Tuna. The commercial fishery for albacore tuna has experienced decreased landings due to the large reduction in the tuna fleet, market conditions and cyclic oceanic conditions.

Halibut. California halibut landings have declined since the mid-1980s. Regulations affecting the commercial fishery for California halibut include a trawl and set gillnet ban within three miles of shore, and the closure of Mexican waters to commercial fishing.

Urchin. The red sea urchin fishery has been regulated by CDFG placing a moratorium on new permits, minimum size limits, and a fishing season to reduce fishing effort.

Rock crab. For the rock crab fishery, regulations include a minimum size limit, trap restrictions, minimum trap checking timeframes, and a restricted access program for the southern rock crab fishery.

Spot Prawn. The spot prawn fishery has seen a multiple regulations, including a trawl ban, geographic and seasonal closures, a maximum number of traps per vessel, a restricted access program, and a trap-only fishery.

Area Closures. In addition to these management efforts, the commercial fishing fleet of San Diego has experienced large, blanket geographic closures. These include the Cow Cod Conservation Areas, which closed 5,696 square miles of historical fishing grounds, and Rockfish Conservation Areas that are delineated by specific depth contours. Both of these have closed

historically valuable groundfish fishing areas that were previously accessed by San Diego's commercial fishing fleet.

Marine Protected Areas. Additional closures in the San Diego area include 10 existing Marine Protected Areas (MPA) that restrict the recreational and/or commercial take of marine life from 2,355 square miles of state waters. The marine waters surrounding the San Diego area are part of the South Coast Study Region (from Point Conception to the Mexican border, including offshore islands within state waters) and are next in the statewide process of establishing additional MPAs under the Marine Life Protection Act (1999). The formation of new MPAs may further restrict San Diego's commercial fishing fleet.

Market Analysis

In order to learn about the local market conditions, demand and potential for San Diego-landed seafood, interviews were conducted with 23 local restaurants, eight retailers, seven distributor/processors and four ports where fishermen conduct direct-to-consumer sales. These interviews provide a base for exploring existing and potential relationships amongst San Diego fishermen (and their catch) and market channels by identifying the perceived advantages and obstacles facing sellers and buyers of San Diego-landed seafood.

Overall, each market channel had a positive view of San Diego seafood, although respondents' knowledge about what locally-caught seafood is available, how to obtain it and when it is in season varied. Demand exceeds current supply, and opportunities exist to increase demand through marketing efforts at the restaurant and retail level. Many of interviewees currently serve or sell some San Diego seafood, and a majority of those said they would carry more if it were available. Many respondents currently purchase seafood directly from fishermen or have explored direct purchase opportunities in the past.

The most commonly-cited obstacle preventing these market channels from carrying more locally-landed seafood were intermittent and/or limited supply. A lack of consistent communication with skippers, dock operations and/or suppliers about what was available was also noted. Several interviewees noted that communication could be improved by establishing a chart or website that carries information on when species are in season and thus, available.

A majority of interview respondents agreed that advantages to San Diego-caught seafood include freshness due to less time spent in transport and reduced handling. Several also stated a preference for local-caught seafood due to its limited environmental impact from traveling shorter distances. Overwhelmingly respondents cited a growing interest in "local" and "sustainable" food and a growing demand on the part of their customers to know where their food is from and how it is harvested. They also cited a general support for and identification with local fishermen and the local fishing industry. Many respondents stated that supporting a local, artisanal industry was in keeping with the current direction of the market and they would be failing if they did not consider it.

Management Entities

Currently, there is no entity or organization that represents the interests of commercial fishermen in San Diego. However, it was indicated by a number of commercial fishermen, and corroborated by several commercial fishing stakeholders, that a management entity is

necessary to implement needed change to the industry, in particular, to attract funding, create an effective marketing and communication program or make infrastructure improvements. The examination of various models, roles, responsibilities, and structure of a potential management entity for San Diego will be addressed in the Implementation Plan.

Fisheries Models

The Analysis of Other Commercial Fishing Areas examines 12 U.S. commercial fishing ports as potentially beneficial examples of well designed and operated infrastructure, management, marketing and distribution and/or value added services. San Diego commercial fishermen nominated eight of the ports: Ventura; Santa Barbara; Monterey; Pillar Point; Noyo Harbor; Astoria; Westport; and Honolulu. The regional ports of San Pedro, Mission Bay, and Oceanside, were included due to proximity. Cape Cod was selected for its success and visibility in forming a management entity, the Cape Cod Commercial Hook Fisherman's Association and the formation of a fisheries trust, the Cape Cod Fisheries Trust.

A feature of focus at each port was management of infrastructure and facilitation of shore-side fishing activities. This was typically the responsibility of a harbor master or dock master, and was seen as part of the larger landscape of support and communication between the port, fishermen and surrounding communities and government agencies.

Items of attention for the San Diego commercial fishing industry, based on the analysis of these select ports, include enhanced offloading facilities, gear storage options, floating docks and cold storage. It was also found that fishermen at several of the ports enhance their revenue and promote community awareness by selling their catch directly to the public at established markets or by developing their own clientele. Diversity in the species was also found to help enhance the economic viability of the fishing industry at other ports. When comparing Tuna Harbor and Driscoll's Wharf landings to other regional ports, and in discussions with local fishermen, it was speculated that there may be opportunities to increase wetfish (squid, sardine, anchovy, mackerel) landings.

Also, increasing the San Diego commercial fishing industry's presence and effectiveness in the regulatory process through a fishermen-representative management entity was brought to light in this analysis as well as exploring opportunities for creating a trust to fund infrastructure, management and marketing opportunities, and may be included in recommendations.

2.2 Land Based Environmental Analysis

This analysis of existing conditions and environmental constraints for the revitalization of the Tuna Harbor and Driscoll's Wharf commercial fisheries sites focuses on the following land-based issues:

- Biological resources (not including in-water and intertidal resources)
- Hydrology, water quality, storm water runoff and floodplains
- Geology/seismicity
- Paleontological resources
- Visual/aesthetics
- Cultural resources
- Air quality
- Noise
- Hazards and hazardous materials
- Utilities/emergency services

All potential development of Tuna Harbor and Driscoll's Wharf will comply with the California Environmental Quality Act (CEQA).

Biological Resources

Biological resources are subject to regulatory review by the federal government, State of California, and local jurisdictions. Both project sites are located within the highly urbanized setting of the San Diego waterfront area. Outside the waters and intertidal zone of San Diego Bay, they are almost entirely lacking in terrestrial native vegetation and associated wildlife. However, there are three bird species (two federal and state-listed endangered bird species and a third that is a California Bird Species of Special Concern) that are likely to be present at both project sites and may require additional design and development considerations.

If project development at the two sites were to involve near-shore dredging operations, these would likely be subject to measures to mitigate the formation of turbidity plumes in the upper water layers. Such mitigation could involve the use of silt curtains or other measures to contain the turbidity plumes. In addition, the placement of intertidal (rather than sub-tidal) riprap may be regulated by the Army Corps of Engineers (Corps) due to potential impacts to waters of the U.S. The United States Fish and Wildlife Service (USFWS), through the Section 7 consultation process, also would have oversight because of the potential effects on forage species for listed bird species. Furthermore, noise associated with pile driving and other construction activities could create significant impacts on sensitive bird species. Because of the proximity of the California least tern nesting site on the Naval Fleet Anti-Submarine Warfare Training Center (NFASWTC) grounds adjacent to Driscoll's Wharf, noise restrictions may particularly apply to this site. Once the proposed projects have been defined, and impacts have been identified and assessed, the lead federal agency can then begin a Section 7 consultation with the USFWS. Once issued by the USFWS, the Biological Opinion can then be submitted to the Department of Fish and Game for a Section 2081 determination as to whether the USFWS Biological Opinion is "consistent" with the California Endangered Species Act. A Coastal Development Permit would also be required.

Hydrology, Water Quality, and Storm Water Runoff

The project sites are subject to a number of federal, state and local regulatory requirements related to hydrology, water quality and storm water runoff. These guidelines are intended to avoid or reduce associated adverse effects through efforts such as maintaining pre-development conditions, providing adequate post-development drainage conditions/facilities, avoiding/minimizing contaminant discharge and treating post-development runoff. As such, any construction or development activities at the project sites would be subject to the provisions of the National Pollution Discharge Elimination System General Construction and Municipal permits, and future Total Maximum Daily Load (TMDL) limits applicable to San Diego Bay as a whole (particularly with respect to Polychlorinated Biphenyls [PCBs]) and specific to copper at the Driscoll's Wharf site. Compliance would require the implementation of specific best management practices (BMPs) and other measures to ensure that development of the project sites would not result in significant water quality impacts. If new docks are proposed at either of the project sites, creosote should not be used, to prevent further contributions to Polynuclear Aromatic Hydrocarbon (PAH) levels in San Diego Bay. If in-water projects such as mariculture or fish grow-out activities are proposed at either of the project sites, potential fish or shellfish contamination due to the poor existing San Diego Bay water quality could prove to be a constraint. In addition, care would have to be taken to ensure that the proposed in-water projects did not contribute to water quality degradation because of project-generated animal waste or uneaten feed.

Geology/Seismicity

The project sites are subject to a number of regulatory requirements and industry standards related to potential geologic hazards, which typically involve measures to evaluate risk and mitigate potential hazards through design and construction techniques. As part of the development process, the preparation of site-specific geotechnical investigations and associated applicable findings and recommendations would likely be required. Development would have to conform to appropriate regulatory guidelines and standard engineering practices, including the Uniform Building Code (UBC) and local building codes. Remedial grading and standard engineering/design techniques would be used to address potential issues related to liquefaction and soil-related hazards such as expansion and compression. In addition, static and pseudo-static slope stability analyses would be evaluated for proposed cut and fill slopes. With the implementation of such measures, geology/seismicity issues are unlikely to represent significant site constraints.

Paleontological Resources

Under CEQA and the State CEQA Guidelines, potential impacts to paleontological resources resulting from project implementation must be evaluated and, if found to be significant, mitigated to below a level of significance. According to U.S. Geological Survey maps (Kennedy and Peterson 1975), the project sites are underlain by artificial fill, below which lies the Pleistocene-age Bay Point Formation. Although this formation is considered to have a high resource sensitivity, no information is currently available as to the depth of artificial fill present at the two project sites, and as a consequence, it is not known at this time whether there is the potential to expose fossil-bearing geologic formations. A geotechnical study would be necessary to evaluate this possibility. In the case of potential paleontological impacts associated with development at either or both project sites, mitigation could take the form of

preparation and implementation of a paleontological monitoring program. Such mitigation would reduce potential paleontological impacts to below a level of significance.

Visual/Aesthetics

One of the primary aesthetic constraints associated with development of the project sites is maintenance of the availability and quality of publicly accessible views of San Diego Bay. Any structures developed at these sites would likely have to be low rise, to prevent obstruction of views, and to comply with the Port of San Diego Master Plan (Port Master Plan) design guidelines, which govern the visual characteristics of future development at the project sites. Development also must consider the inclusion of public art per the Port Master Plan, and preservation of existing art and memorials. Improvements that would make the sites more attractive to tourism and that connect to existing neighboring public amenities (promenades, parks, etc.), while maintaining views and supporting the sites' primary commercial fishing function, would likely have a high chance of success. This is especially true of the Tuna Harbor site because of its proximity to Seaport Village, with its associated intensive tourist traffic, although the existing and recent development of tourist sites near Driscoll's Wharf (e.g. the hotels along North Harbor Drive, Point Loma Marina and the newly developed Liberty Station) also should be considered.

Cultural Resources

Surveys of cultural resources conducted for the development of the San Diego Downtown Community Plan and the North Bay Revitalization Area identified the closest historical resource to the Tuna Harbor project site to be the Old Police Headquarters building on Harbor Drive and the closest historical resources to the Driscoll's Wharf project site to be components of the NFASWTC and former Naval Training Center/Liberty Station. The presence of historical buildings near the project sites, especially the Old Police Headquarters, which is in poor condition, may require special care during construction on the project sites. No published regulations or standards exist for vibration levels; however, general engineering considerations indicate that care must be taken when sustained pile driving is conducted within approximately 55 feet of any building and 100 feet of a historical building or building in poor condition. Concerns regarding other cultural resources are unlikely to represent significant constraints on the development of the two project sites.

Air Quality

The San Diego Air Pollution Control District (APCD) operates a network of monitoring stations to measure ambient concentrations of pollutants and determine whether ambient air quality meets the federal and state standards. Over the last three years, air quality recorded at the Beardsley Street Downtown monitoring station, which is the closest station to the project sites, has seen a general improvement with regard to pollutant concentration levels. With necessary precautions, air quality concerns are not likely to represent significant constraints on the development of the two project sites; however if the development of either of the project sites is expected to generate additional vehicle traffic (increasing mobile source air emissions) or involve establishment of new sources of stationary source emissions (e.g. electric generators or other fossil-fuel-burning machinery), air quality impacts may be significant. Such impacts could also occur as a result of particulate matter generated during construction activities, including dust, diesel exhaust from heavy equipment, and hazardous compounds such as asbestos-

containing materials and lead-based paint released by demolition or renovation of existing structures. Additionally, the use of diesel equipment (whether stationary or mobile) during construction or operation of the projects could generate some nuisance odors, as could the offloading or processing of fish and seafood. Project development would likely be required to consider design measures to avoid or minimize nuisance odors.

An air quality study would be required to evaluate potential air quality impacts to sensitive receptors. If impacts would be significant, mitigation is likely to include construction BMPs, such as dust suppression techniques, controls on diesel equipment operation, use of low Volatile Organic Compound (VOC) coatings, and City and State safety requirements for demolition and removal of toxic materials.

Noise

Because the Port Master Plan does not contain a specific regulatory framework for regulation of noise, the City of San Diego's and State of California's plans and policies relating to noise would apply to the project sites, and a noise technical study would be required to determine possible noise impacts.

The waterfront area is subject to various noise sources including traffic (e.g., freeway and street grid traffic), aircraft from San Diego International Airport and Naval Air Station North Island (NASNI), railroad activity, and to a lesser extent commercial and industrial activities. Noise levels associated with vehicular traffic generated at the sites would not be allowed to exceed the defined levels for different land uses. Furthermore, if on-site operational noise from mechanical equipment, maintenance, or other functions would be significant, roof-top location of mechanical equipment or enclosure of ground-level sources with noise attenuation barriers would likely be required.

Allowable hours of construction activities would likely be limited to 7:00 a.m. to 7:00 p.m. on weekdays (unless a variance for nocturnal or weekend work were obtained from the City), and would not be allowed to exceed 75 dB(A) Leg (one-hour) for this 12-hour period. As noted in the biology section of this report, noise associated with pile driving and other construction activities could create impacts on sensitive bird species. This could require construction limitations during foraging and nesting activities, especially at the Driscoll's Wharf project site, which is near a California least tern nesting site.

Hazards and Hazardous Materials

Within the federal framework of the U.S. Environmental Protection Agency, several sets of federal, state and local laws and regulations are applicable to environmental concerns and mitigation as they relate to hazardous materials. Information on local water quality conditions, oil spills, underground storage tanks and documentation of nearby contaminated and hazardous materials sites suggest that materials on the two sites may pose hazards to the environment, to workers or to the public. Due to the potential impacts, mitigation may be required if precautions are not structured into the project design. Such precautions and mitigation may include evaluation of soil and groundwater contamination at the sites for the potential for inhalation risk, contractor/worker training for contamination awareness and safety procedures prior to construction, and testing and disposal of any excavated soils suspected of contamination in compliance with applicable regulations.

Prior to issuance of a Coastal Development Permit, a survey to inventory hazardous building materials would need to be performed at both sites by a qualified environmental scientist, including any recommendations for demolition, renovation or disturbance of the structures. All contractors and workers would need to be trained on the potential presence of hazardous building materials, and only licensed asbestos and lead abatement removal contractors would be allowed to remove any asbestos-containing materials or lead-based paints. Additionally, any potential mercury-containing thermostats/switches, PCB-containing items, fluorescent light tubes, exit signs, and Freon-containing refrigeration systems would need to be removed and properly recycled or disposed of by a licensed contractor. Phase I Site Reports would be required as part of the environmental review process for development at the two project sites, which would recommend a number of measures to avoid or minimize potential impacts related to hazardous waste or hazardous material issues.

Utilities/Emergency Services

Public utilities and emergency services issues would not be expected to constrain the development of either of the project sites, as there is an extensive infrastructure in place near both projects with the support of police and fire protection, electrical power and natural gas services, telecommunication systems, water demand/supply and systems, and wastewater and solid waste services.

2.3 Marine Based Environmental Analysis

Both Driscoll's Wharf and Tuna Basin are similar to other developed areas within San Diego Bay with regard to distribution of habitats, biological features, and sediment characteristics. The existing habitat types within the project areas include: intertidal and shallow subtidal rip-rap; intertidal and shallow subtidal seawall; subtidal unvegetated soft bottom; subtidal vegetated soft bottom (i.e., eelgrass beds); dock structures (piles and docks); and open water. Table 2-1 summarizes the common fauna and flora present within each habitat type.

The habitat of greatest concern within each site is eelgrass. Eelgrass vegetated habitats are an essential component of Southern California's coastal marine environment, and are regulated as a Special Aquatic Site under the Clean Water Act and Habitat Area of Particular Concern by the National Marine Fisheries Service. Eelgrass beds function as important habitat for a variety of invertebrate, fish, and avian species. For many species, eelgrass beds are an essential biological habitat component for at least a portion of their life cycle, providing resting and feeding sites along the Pacific Flyway for avian species, and nursery sites for numerous species of fish. Refer to Figures 2 and 6 in Attachment B for eelgrass distribution within Tuna Harbor. Eelgrass distribution at Driscoll's Wharf is based on the 2008 Baywide Survey, which has not yet been published. Tuna Harbor distribution is based on a pre-construction survey conducted for the Port of San Diego in fall 2008.

Table 2-1 Common Species Present Within Each Habitat Type

Habitat Type	Organism	
Intertidal Rip-Rap or Seawall	Algae	Ulva, Sargassum, Diatoms
	Invertebrates	limpets (<i>Lottia</i> spp.), barnacles (<i>Balanus</i> sp.)
Subtidal Rip-Rap or Seawall	Algae	<i>Ulva</i> sp., <i>Sargassum</i> sp.,
	Invertebrates	colonial ascidians (<i>Botryllus</i> spp.) sponges (Porifera), bryozoans, lobster (<i>Panulirus interruptus</i>)
	Fish	opaleye (<i>Girella nigricans</i>), black surfperch (<i>Embiotoca jacksoni</i>), kelp bass (<i>Paralabrax clathratus</i>), garibaldi (<i>Hypsypops rubicundus</i>)
Subtidal Unvegetated Soft Bottom	Algae	<i>Gracilaria</i> sp., <i>Ulva</i> sp.
	Invertebrates	bivalves (<i>Musculista senhousia</i>), anemones (<i>Pachycerianthus fimbriatus</i> , <i>Anthopleura Artemisia</i>)
	Fish	barred sand bass (<i>Paralabrax nebulifer</i>), round stingray (<i>Urobatus halleri</i>), midshipman (<i>Porichthys myriaster</i>)
Subtidal Vegetated Soft Bottom	Algae	<i>Gracilaria</i> sp., <i>Ulva</i> sp.
	Invertebrates	bivalves (<i>Musculista senhousia</i>), anemones (<i>Pachycerianthus fimbriatus</i> , <i>Anthopleura Artemisia</i>)
	Fish	barred sand bass (<i>Paralabrax nebulifer</i>), round stingray (<i>Urobatus halleri</i>), midshipman (<i>Porichthys myriaster</i>), halibut (<i>Paralichthys californicus</i>)
	Plants	eelgrass (<i>Zostera marina</i>)
Dock Structures (piles and docks)	Algae	<i>Dictyota flabellate</i> , <i>Colpomenia</i> sp., <i>Ulva</i> sp
	Invertebrates	solitary tunicates (<i>Ciona</i> sp., <i>Styela plicata</i>), colonial ascidians (<i>Botrylloides</i> sp., <i>Riferella</i> sp.), sponges (<i>Leucilla nuttingi</i> , Porifera), bivalves (mussels [<i>Mytilus</i> sp.], Olympia oyster [<i>Ostrea lurida</i>]), feather duster worms (Sabillidae), bryozoans (<i>Bugula</i> sp., <i>Eurystomella</i> sp., <i>Zoobotryon verticillatum</i> , <i>Thalamoporella californica</i>)
	Fish	barred sand bass (<i>Paralabrax nebulifer</i>), round stingray (<i>Urobatus halleri</i>), midshipman (<i>Porichthys myriaster</i>), sculpin (<i>Scorpaena guttata</i>)
Open Water	Fish	mullet (<i>Mugil cephalus</i>), topsmelt (<i>Atherinops affinis</i>), northern anchovy (<i>Engraulis mordax</i>), deepbody anchovy (<i>Anchoa compressa</i>)

Sensitive Species

Species identified as protected, rare, sensitive, threatened or endangered by the California Department of Fish and Game (CDFG) or the USFWS, that may be expected at various times include three bird species and two marine mammals. Table 2-2 lists sensitive species that could potentially occur within the project areas. The California brown pelican and the double-crested cormorant are likely to use the project areas for loafing and foraging. Terns would likely use the project areas seasonally for foraging, but would not use them for regular loafing or nesting.

Table 2-2 Protected Species Potentially Occurring Within the Project Areas

Common Name	Scientific Name	Status	Occurrence at Project Areas
California Brown Pelican	<i>Pelicanus occidentalis californicus</i>	SE, FE	Regular
Double-Crested Cormorant	<i>Phalacrocorax auritus</i>	CSSC	Regular
California Least Tern	<i>Sterna antillarum browni</i>	SE, FE	Regular*
Peregrine Falcon	<i>Falco peregrinus</i>	SE	Occasional
Harbor Seal	<i>Phoca vitulina</i>	MMPA	Occasional
California Sea Lion	<i>Zalophus californianus</i>	MMPA	Regular

SE – State Endangered; **FE**- Federally Endangered; **CSSC**- CDFG Species of Special Concern; **MMPA** – species protected by the Marine Mammal Protection Act
 *Least terns are a migratory summer breeding resident found in San Diego Bay from approximately April 1 through September 1 of each year.

Considerations for Potential Design Alternatives

- Any infrastructure redevelopment (e.g., dock extensions) should consider bay coverage with the understanding that there will be no net change in surface coverage.
- Any land-based alternatives should consider storm water or any potential discharge into Bay waters and any construction activities will require a Report of Waste Discharge Permit (Clean Water Act 401) from the Regional Water Quality Control Board (RWQCB).
- Any potential dredging must consider sediment testing and characterization per the Environmental Protection Agency and United States Army Corps of Engineers (ACOE) Testing Manual, known as the “Green Book” to determine disposal options.
- A CEQA analysis and Essential Fish Habitat Assessment will need to be prepared to meet ACOE Clean Water Act 404 Permit requirements.
- Prior to any in-water disturbing activity, a *Caulerpa taxifolia* survey must be completed per the National Marine Fisheries Service (NMFS) 2001 Caulerpa Control Protocol.
- Impacts to eelgrass from any activity (e.g., dredging, new construction) is mitigated at 1.2 to 1 per the Southern California Eelgrass Mitigation Plan. Generally a baseline survey should be conducted prior to the National Environmental Policy Act (NEPA)/CEQA analysis to determine potential impacts, and to begin formal consultation with NMFS. Pre-and Post-Construction Surveys will be required prior to construction to document project-related impacts, and to initiate migration planning.

2.4 Geotechnical Analysis

The Driscoll's Wharf and Tuna Harbor commercial fishing facilities both lie within the zone of marginal shoreline within San Diego Bay that has been changed by dredging and filling for more than 100 years. San Diego Bay was formed by a tectonically down-dropped fault-controlled geologic feature known as the San Diego Embayment Graben, which was later scoured by erosion during the peak of the last ice age when eustatic water levels reached a low on the order of 384 feet below today's mean sea level.

The soil conditions in and adjacent both sites are fairly well-known and, although susceptible to seismically-induced liquefaction, the entire area is deemed to be provisionally suitable for any additional development that may be contemplated. Competent formational materials exist at relatively shallow depths (elevation -10 to -25 feet), and pile foundations can essentially eliminate these seismically-induced geotechnical hazards.

Near-surface soils throughout the planning area are generally granular in nature, are free-draining and not expansive, and, thus, provide good subgrade support for both pavement sections and other flatwork improvements. Virtually the entire study area is situated bayward of the 1918 mean high tide line, and these lands have been reclaimed, generally with hydraulic fills, on the order of 50+ years ago. Although unsuitable for the direct support of heavily-loaded, multi-story structures, these hydraulic fills can safely support conventional lightly-loaded structures with only minor post-construction settlements. Any heavily-loaded or multi-story structures contemplated as part of any future improvements will likely require deep foundation support, with pile foundations transferring building loads to the formational soils underlying the near-surface hydraulic fills and embayment deposits. In addition to providing foundation support, these pile systems can be designed in conformance with contemporary seismic standards to mitigate the effects of liquefaction.

Both active and non-active faulting should be addressed as part of the planning phase for the Commercial Fisheries Revitalization Plan; although active faults are not mapped as directly crossing either of the two facilities, current geologic mapping indicates the alignment of faulting within a few 100 feet of both areas. Additionally, the marginal tidelands locations of both facilities suggest that these areas will be subject to liquefaction in the event of a significant earthquake.

2.5 Marine Structural Analysis

A rapid reconnaissance Waterfront Facilities Inspection (WFI) and assessment was completed for Driscoll's Wharf and Tuna Boat Harbor in San Diego, CA in July and August 2008. The purpose of the WFI was to generally ascertain the suitability of the two sites to support the project known as the Port of San Diego Commercial Fisheries Revitalization Plan (CFRP).

Driscoll's Wharf

The inspection of the Driscoll's Wharf facilities included a one-day above deck and below deck investigation and one-day below water investigation by engineer/divers. Elements inspected include the guard railings, timber deck, stringers, pile caps, piles, revetment and associated appurtenances.

The piers are in fair condition above water. The above deck damage consists primarily of drying and splitting damage of the timber decking and bull rail. The timber pile caps and stringers are also in fair condition. The below water portion of the piling are in satisfactory condition, with moderate corrosion of the steel rail piles noted in the splash zone. The revetment is in poor condition. The damage is consistent with expectations for well-constructed timber structures having approximately 60 years of exposure to a marine environment.

Certain repairs were recommended if it is desired to restore the facilities to serviceable condition.

Tuna Boat Harbor Facilities

The inspection of the Tuna Boat Harbor Facilities included a one-day above deck investigation and one-day below water investigation by engineer/divers. Elements inspected include the piers, the wharf, floating dock systems, revetment and associated appurtenances.

The pier and wharf structures were in good condition above water. Localized concrete damage was observed at various locations throughout the facilities. The below water portion of the piling are in good condition. The float structures and appurtenances were also in good condition with the exception of specific damage found at a few locations. The conditions described are consistent with expectations for well-constructed and maintained concrete and float facilities with approximately 30 years exposure in the Southern California marine environment.

Certain repairs were recommended if it is desired to sustain the facilities in serviceable condition.

2.6 Traffic and Circulation Analysis

The scope of the study areas was developed based on the review of the City of San Diego Traffic Impact Manual, a review of approved traffic studies in the area, and a working knowledge of the local transportation system.

Existing weekday AM and PM peak hour traffic volumes were collected at the study intersections to capture peak commuter activity. The AM and PM peak hour manual turning movement counts were conducted in September 2008. Existing street segment Average Daily Traffic (ADT) volumes were also collected in September 2008. LLG also conducted parking occupancy surveys in October 2008. The data was collected to capture peak parking demand.

Level of service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Level of service designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

LLG analyzed the study intersections, street segments, and parking demand versus supply. Average vehicle delay was calculated for the study intersections. Street segments volume-to-capacity (V/C) indices were calculated. Both intersection and street segment calculation results were qualified with a corresponding LOS. The project parking analysis was determined based on the review of the parking occupancy counts and available supply during peak hours of demand. LLG also conducted site visits, documenting traffic and parking observations.

Driscoll's Wharf

The Driscoll's Wharf commercial fishing facility is located along Torpedo Point off North Harbor Drive within the America's Cup Harbor and is part of the Shelter Island area. The Driscoll's Wharf facility currently consists of four, two-story buildings, totaling approximately 35,000 square feet. The waterside facilities include four mooring piers with capacity for approximately 123 boats and an off-loading pier.

The study area falls within the Peninsula Community of San Diego. Roadway classifications were determined from the review of the Peninsula Community Plan. The study roadways include North Harbor Drive, Rosecrans Street, Nimitz Boulevard, and Torpedo Point. The study intersections include Rosecrans Street/N. Harbor Drive, Scott Street/N. Harbor Drive, Torpedo Point/N. Harbor Drive, and Nimitz Boulevard/N. Harbor Drive.

In general, traffic flows well in the area, with some congestion during the afternoon peak hour. The surrounding area is generally underutilized from a land use perspective. A brief review of historical traffic counts in the area indicate very little change in traffic volumes over the past 10 years, with certain areas showing a small drop in traffic volumes. The study area intersections and street segments are calculated to operate well under existing conditions (LOS D or better). Site access to Driscoll's Wharf is provided via Torpedo Point from North Harbor Drive. Movements are restricted to right-turns only. Traffic counts commissioned by LLG indicate peak traffic activity for Driscoll's Wharf occurs midday, between noon and 1:00PM. Traffic counts also indicate illegal left-turns are being made to enter the site. Despite the illegal movements, acceptable operations were calculated (LOS A and B).

Further review of the intersection of North Harbor Drive and Torpedo Point indicate deficiencies in design and configuration. Torpedo Point does not align with the opposite driveway on the north side of North Harbor Drive, the center median break allows for illegal movements. The frontage road with multiple access points on the south side of North Harbor Drive adds unnecessary vehicle conflict points.

A review of the existing parking conditions was conducted for the project. Driscoll's Wharf provides a dedicated parking area, with double loaded drive aisles and 90-degree parking stalls. The total available parking supply was observed at 160 spaces. It should be noted that 17 spaces were observed as unavailable to drivers seeking to park. These spaces were occupied with a storage container, supplies, a motor home, and boat trailers. The results indicate the peak parking demand occurred at approximately 11:00AM. At this time, 74% of the parking spaces were occupied.

Tuna Harbor

The Tuna Harbor commercial fishing facility is located at G Street and Harbor Lane off North Harbor Drive and is part of the Centre City Embarcadero area. The Tuna Harbor facility currently consists of a floating dock system with approximately 127 mooring slips and a joint use off-loading pier. The Chesapeake Fish Company, a major fish processing facility, is near Tuna Harbor.

The study area falls within the Centre City community of San Diego. Roadway classifications were determined from the review of the Centre City Community Plan. The study roadways include N. Harbor Drive, Pacific Highway, and G Street. The study intersections include

Broadway/N. Harbor Drive, G Street/N. Harbor Drive, Harbor Lane/N. Harbor Drive, and Pacific Highway/N. Harbor Drive.

In general, traffic flows very well in the area, despite increased vehicular traffic due to downtown and tourist activity. The surrounding area is well utilized from a land use perspective, with expected redevelopment from the North Embarcadero Visionary Plan and the Old Police Headquarters project, among others. The study area intersections and street segments are calculated to operate well under existing conditions (LOS D or better).

Site access to Tuna Harbor is provided via G Street and Harbor Lane from North Harbor Drive. Full movements are provided. Traffic counts commissioned by LLG indicate peak traffic activity for Tuna Harbor occurs midday, between noon and 1 pm. As shown in Table 4-2 in Attachment E, acceptable intersection operations are calculated (LOS B and C).

Further review of the access points at G Street and Harbor Lane indicate poor utilization of the center left-turn lane along North Harbor Drive. Center left-turn lanes are designed to act as a defacto left-turn and receiving lanes to minimize friction on the major street. Observations indicate vehicles are using the through lane to execute their turning movements and, at times, blocking traffic momentarily.

A review of existing parking conditions was conducted for the project. Tuna Harbor is served by two parking areas at G Street and Harbor Lane. Parking is dedicated with signage as these areas are also shared with the general public and employees of the Fish Market and Seaport Village.

The G Street parking area provides parking with double loaded drive aisles and 90-degree parking stalls. The majority of parking stalls are located adjacent to mooring slips. Commercial fishermen based out of Tuna Harbor are guaranteed one permitted parking space per slip. The Harbor Lane parking area can be divided into two parking fields. The first parking field is located on the north side of North Harbor Drive. The second parking field is located opposite the truck loading docks of the Chesapeake Fish Company. Both provide double loaded drive aisles and 90-degree parking stalls. Reserved commercial fishermen parking is not provided in either parking field.

The total available parking supply was observed at 117 spaces. It should be noted that one space was observed as unavailable to drivers seeking to park. The results indicate the peak parking demand occurred at approximately 10:15 am. At this time, 72% of the parking spaces were occupied.

INDUSTRY ANALYSIS

Section 3

3.1 Industry Overview

San Diego is the second largest city in California, and the seventh largest city in the nation. With more than 1.26 million residents in 2006, the City of San Diego represents almost half of the nearly three million residents in San Diego County. The San Diego metropolitan gross domestic product (GDP) was approximately \$157 trillion in 2006, and ranked 16th in the nation (ranked 5th on the west coast behind Los Angeles, San Francisco, Seattle, and Phoenix).

The City of San Diego is on track to be one of the top 10 cities in the nation for job growth through 2025, with major jobs sectors in manufacturing, defense, tourism, and agriculture. The region's economic and social development is closely linked with the bay and maritime activities, from strategic military defense and international trade to tourism and commercial fishing. While there is no comprehensive measure of commercial fishing's economic, social or cultural contribution to the region, it is inextricable from the fabric of the City's identity and culture. Additionally it supports, either directly or indirectly, hundreds of jobs, primarily through small businesses and sole proprietorships.

The Port of San Diego is an integral part of the working waterfront's past, present and future. The Port manages approximately 5,483 acres or about 37% of the total tidelands on San Diego Bay. The shoreline frontage is nearly 33 miles or about 61% of the total bay shoreline. With more than 600 employees and 2007 revenues of \$133.7 million, the Port of San Diego seeks to "foster a world class Port through excellence in public service" while "...balance[ing] economic benefits, community services, environmental stewardship, and public safety on behalf of the citizens of California." The relationship between the Port, commercial fishermen and the public is key to ensuring the longterm economic viability of the commercial fishing industry in San Diego.

Sources include: the 2006 United States Census, the Bureau of Economic Analysis-U.S Department of Commerce, the County of San Diego and the San Diego Regional Chamber of Commerce Economic Research Bureau, and the city of San Diego website.

History of Commercial Fishing

Commercial fishing has played and continues to play a significant role in the San Diego economy and cultural identity. From 1950 to 1975, San Diego was home to 67% of the California fleet larger than 100 feet (104 of 155 vessels), and approximately 13% of the entire California fleet. Currently, there are less than a handful of these larger boats in San Diego. In 1968, total commercial fish landings in San Diego exceeded 70 million pounds, and peaked at 200 million pounds in 1980, ranging from 7% to 18% of state totals, according to the California Department of Fish and Game (CDFG). By 2006, landings fell to 2.6 million pounds, approximately 5% of state totals.

San Diego is synonymous with tuna and gained prominence over other ports in this fishery by its early adoption and mastery of larger, lighter, nylon purse seine nets and the power block, a mechanical device that closed and gathered the net quickly. The bait-pole and purse seine fisheries drove tuna landings and the development of extensive support infrastructure and services including canneries that provided employment for hundreds of San Diego families. Inexpensive foreign imports, negative press, gear restrictions to accommodate the escape of dolphins, area closures in Mexican waters, and mercury-related health concerns, amongst other pressures, combined to reduce the tuna industry to a fraction of what it was. In 1970, albacore landings in San Diego were 3 million pounds, in 1971, 6 million pounds, in 1976, 9 million, by 1985 landings dropped to 1 million and 1986, 200,000 pounds. Non-albacore tuna landings (bigeye, skipjack, yellowfin) were at 95 million pounds in 1976 and dropped to less than 1 million pounds by 1986. The last tuna cannery closed in 1985. The tuna fishing effort and support industries engaged participants from the Italian, Portuguese, Chinese, Japanese and Slavic communities.

During the early days of the commercial fishing industry (Chinese/Japanese-abalone, lobsters, fresh fish), the trade could be characterized as "the fresh fish market trade" which was distinguished from the "canning trade." This is true even though much of the trade was in salted fish, which is not recognized as "fresh fish." Even during these years before 1911, much of the fish products landed in San Diego were traded in counties north of San Diego and in markets outside of the State of California, (e.g. Arizona, Nevada, New Mexico).

The shift of San Diego fishermen from market fish operators to the one or two sardine canners was very minor before 1911. Then in 1911, the shift became important with the seasonal fishery for Albacore tuna. World War I allowed tuna canners to profitably process sardines during 1916-1919. By about this time, the Albacore tuna trade had developed nationally and the need for new, reliable sources of tuna emerged with some degree of urgency.

Fortunately, new Bluefin and tropical tuna (Yellowfin/Skipjack) fishing grounds were found south of San Diego, off the Mexican coast and islands. More and more San Diego fishermen shifted their operations to supply tunas to increasing the growing number of tuna canners located in San Diego and San Pedro. Canning tuna was no longer a seasonal operation, it became year-round by the late 1920s. San Diego's tuna fishermen were favored geographically over San Pedro fishermen because of their access to the Mexican tuna grounds, whereas San Pedro fishermen were favored geographically because of their access to the seasonal sardines/mackerel fishery. Therefore, the San Pedro fishermen fished seasonally for tunas and San Diego fishermen developed a year-round fishery for tuna.

Currently, there is no canning trade in Southern California, and so the shift is back to fishing for the fresh fish market trade with some interesting modern twists. For instance, the "live fish" innovation that started in San Diego County gives fishermen the opportunity to trade with restaurants or buyers other than the traditional fresh fish market trade. Lobsters caught off San Diego are shipped live for delivery to Hong Kong and in Europe. The Sea Urchin trade is no longer limited to the export market in Japan; domestic markets are developing. The Swordfish/Shark landings in San Diego are shipped to many markets outside of the State of California.

~Local historian and Maritime Attorney, August Felando

San Diego was also historically home to a small but vibrant fleet of boats harvesting nearshore species (rockfish and sculpin) and played a key role in the shift from the declining abalone fishery to red sea urchin during the early 1970s. The red sea urchin fishery grew into one of the most lucrative in the state. In San Diego, annual urchin earnings peaked at \$2.5 million in 1994 and 1995 and through the Sea Urchin Advisory Council, has evolved into a model of a collaborative management between the regulatory agencies and fishermen.

In 1985, halibut earnings in San Diego were more than \$400,000 and dropped to less than \$100,000 in 2006. Swordfish landings dropped similarly, from \$5 - \$7 million in 1985-1986 to \$1.5 million 22 seasons later, in 2006.

While loss of infrastructure has also contributed to a decline in commercial fishing activity, the present facilities support millions of dollars of landings. San Diego fishermen landed more than \$7 million in 2006, including dozens of species (swordfish, halibut, lobster, crab, spot prawn, rockfish, white sea bass, yellowfin, shark). The current fleet and infrastructure is capable of producing higher landings. Strategic improvements can bring greater efficiency, while major overhauls could contribute to a significant rise in activity.

San Diego fishermen are innovative and resilient. They have kept their boats working, provided for their families and provided jobs for crew, fish buyers, processors and in related industries despite shifting and complex regulations, foreign competition, international regulatory pressure and uncertain and cyclical resources. San Diego fishermen are among the most regulatory compliant in the world and are in a position to offer an example of economic viability in a heavily regulated environment. As population increases and demand for seafood follows, it is this model that is worthy of support and attention. A concerted effort amongst the fishermen, the Port of San Diego, the community and partners like the California Coastal Conservancy will allow the industry to regain some of the vibrancy of its past and maintain resiliency for the future.

San Diego Commercial Fishing Employment

The U.S. Department of Labor Bureau of Labor Statistics (U.S.BOL/BLS) is the primary source for employment data in the United States. Due to the varied and complex nature of the commercial fishing industry, employment data is not easily obtainable, especially at the county level. In order to gain the most comprehensive view of employment data, two classifications, Standard Occupational Classification System and North American Industry Classification System, (SOC and NAIC) are considered and cited where appropriate. The majority of the data came from the California Occupational Guide 2008, which uses SOC data.

Note: Due to the fact that employment data requires accurate and timely reporting by the informant, and employer, some inconsistencies may be present. The intent of this analysis is to gain a better understanding of economic trends and relative position of the San Diego commercial fishing industry.

In 2008, in San Diego County, a commercial fishery-related worker earned an average of \$40,026, approximately \$6,000 less than the average county worker (see Table 3-1).

Table 3-1 San Diego County 2008 Average Annual Income

	Fishing and Related Workers	All San Diego County Workers
Average Annual Income	\$40,026	\$46,285

Source, 45-3011, U.S. Department of Labor Bureau of Labor Statistics and California Occupational Guide '08

Nationally, the number of commercial fishermen and fishing-related workers is expected to decrease by approximately 16% between 2006 and 2016, a net loss of 6,200 jobs. However, in San Diego County commercial fishing-related jobs are expected to increase by more than 30% from 130 to 170 jobs by 2016, according to the Department of Labor (see Table 3-2).

Table 3-2 Commercial Fishing Projected Growth

	Estimated 2006	Projected 2016	Difference	Percent Difference
San Diego County	130	170	40	31%
United States	38,372	32,179	-6,193	-16%

Source: Standard Occupational Classification System,45-3011, U.S. Department of Labor Bureau of Labor Statistics and California Occupational Guide 2008

Nearly two-thirds of commercial fishing-related employees are self-employed. Nearly 57% claim that their status as a self-employed commercial fishing-related employee is their primary occupation, while nearly 9% claim that their status as self-employed commercial fishing-related employee is not their primary occupation (see Table 3-3).

Table 3-3 National Commercial Fishing Projected Job Losses

	2006 Employment		2016 Projection		Difference	
Self-employed Workers	25,129	65.5 %	21,222	66.0 %	-3,907	-15.6 %
<i>Primary Job</i>	21,819	56.9 %	18,436	57.3 %	-3,382	-15.5 %
<i>Secondary Job</i>	3,311	8.6 %	2,786	8.7 %	-525	-15.8 %
Non-self-employed Workers	13,243	34.5 %	10,957	34.1 %	-2,286	-17.3 %
Total	38,372	100.0 %	32,179	100.0 %	-6,193	-16.1 %

Source: Standard Occupational Classification System,45-3011, U.S. Department of Labor Bureau of Labor Statistics and California Occupational Guide 2008

According to the NAICS, the number of employees in the commercial fishing industry in San Diego County has declined by more than 50% from 232 employees in 1997 to 102 employees in 2005 (see Table 3-4).

Table 3-4 San Diego County Commercial Fishing-Related Employment Data

	1997	1998	1999	2000	2001	2002	2003	2004	2005
Number of Employees	232	234	240	234	-	190	-	152	102

Source: North American Industry Classification System, 1141, U.S. Department of Labor Bureau of Labor Statistics and California Occupational Guide 2008

Data Caveats

Two classification systems were cited in this data analysis: the North American Industry Classification System (NAICS) and the 2000 Standard Occupational Classification System (SOC).

1. NAICS was developed jointly by the U.S., Canada, and Mexico in 2002 (revised in 2007) to provide new comparability in statistics about business activity across North America and replaced the U.S. Standard Industrial Classification System (SIC), not to be confused with the SOC. The data in table (2.1-4) uses NAICS code 1141: Fishing which includes finfish (114111), shellfish (114112), and other marine fish (114119) fishing and is described as being comprised of "establishments primarily engaged in the commercial catching or taking of finfish, shellfish, or miscellaneous marine products from a natural habitat, such as the catching of ...salmon, tuna, clams, crabs, lobsters... [and] sea urchins..." and does not include Aquaculture (11251) and Seafood Product Preparation and Packaging (31171).
2. SOC is a Federal classification system used by statistical agencies to sort workers into one of more than 820 occupational categories for the purpose of collecting, calculating, or disseminating data in the United States. The data in table (2.1-1, 2, and 3) uses SOC code 45-3011: Fishers and Related Fishing Workers and is described as occupations that "use nets, fishing rods, traps, or other equipment to catch and gather fish or other aquatic animals from rivers, lakes, or oceans, for human consumption or other uses... [and] include aquaculture laborers who work on fish farms..."

Tourism and Public Support

The continuing cultural and economic significance of commercial fishing and working waterfronts in California is evident in a study published in 2007 by Responsive Management, a public opinion research firm that focuses on natural resources. The report, *California Residents' Opinions and Attitudes Toward Coastal Fisheries and their Management*, was based on a poll of 801 Californians (randomly chosen from counties throughout the state) on issues concerning commercial and recreational fishing and threats to marine health. Questions included the perceived importance of various industries on California's economy, respondents concern that family-run fishing boats continue to operate in California, and whether respondents are drawn to visiting working waterfronts.

The report is representative of the unanimous public support found during Consultant Team interviews and is useful for gaining a more specific understanding of how commercial fishing and the issues facing small fishing businesses are viewed by state residents. The study found that general support for small-scale, local commercial fishing businesses is high and that working waterfronts are an important tourist attraction in coastal communities.

More than 70% of Californians polled agreed either strongly or moderately that when visiting a coastal community they seek and enjoy visiting working waterfronts. This is particularly significant to San Diego, where visitor spending was more than \$7.2 billion between August 2007 and June 2008. One-third of respondents, or 66%, stated that fishing as a whole does not harm the ocean, but 58% agreed that large corporate commercial fishing companies are damaging the fish stocks. However, water pollution was the greatest perceived danger to California's oceans, with 72% of respondents ranking it as a high threat. To gain better understand how San Diegans and visitors view commercial fishing, it is recommended that a similar study be undertaken at the regional level.

3.2 Site Context

The Site Context outlines the regulatory environment as it applies to the San Diego commercial fishing industry, and more specifically, Driscoll's Wharf and Tuna Harbor. The analysis addresses legislative language related to the commercial fishing industry, applicable land use policies and development review and entitlement process. The Section also describes the California Coastal Act and the structure and basis of the Port's authority over land use decisions. In addition, the existing site features at Driscoll's Wharf and Tuna Harbor are depicted in aerial photographs, the immediate surrounding land uses, and pending projects are identified. Finally, Coastal Access and the integration of existing pedestrian enhancement projects such as the San Diego/California Coastal Trail are addressed. A more detailed analysis of the site features at Driscoll's Wharf and Tuna Harbor are contained in Section 4: Infrastructure Analysis.

California Coastal Act

The California Coastal Act regulates any changes to Coastal infrastructure in this project. The California Coastal Commission was established 1972 (Proposition 20) and was made permanent by the California Legislature in 1976 through adoption of the California Coastal Act. The Coastal Commission, in partnership with coastal cities and counties, regulates the use of land and water within the coastal zone consistent with the California Coastal Act. In regard to commercial fishing, the Act states:

"The economic, commercial, and recreational importance of fishing activities shall be recognized and protected... therefore, ports shall not eliminate or reduce existing commercial fishing harbor space, unless the demand for commercial fishing facilities no longer exists or adequate alternative space has been provided. Proposed recreational boating facilities within port areas shall, to the extent it is feasible to do so, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry." (Sections 30234 and 30703, California Coastal Act)

Port Authority and Governance

The Port of San Diego was created by the California Legislature in 1962 with adoption of the San Diego Unified Port District Act. The purpose and powers of the Port are described to be:

"...for the acquisition, construction, maintenance, operation, development and regulation of harbor works and improvements, including rail and water, for the development, operation, maintenance, control, regulation, and management of the harbor of San Diego upon the tideland and land lying under the inland navigable waters of San Diego Bay, and for the promotion of

¹ Sources include: the County of San Diego and the San Diego Regional Chamber of Commerce Economic Research Bureau.

commerce, navigation, fisheries, and recreation thereon..." (Section 4, San Diego Unified Port District Act)

Board of Port Commissioners

The Port of San Diego is governed by a seven-member Board of Port Commissioners comprised of residents from five cities surrounding San Diego Bay: San Diego, Chula Vista, Coronado, Imperial Beach and National City. The San Diego City Council appoints three commissioners to the Board, and each of the other four city councils appoints one commissioner. The Act states:

"All of the powers and duties conferred upon the district shall be exercised through the board of commissioners." (Section 17, San Diego Unified Port District Act)

The Port of San Diego is given discretionary power over land use decisions and real property development (see Section 30 of the Act) within the Port of San Diego boundaries, including the use of eminent domain (see Section 27 of the Act). The Port of San Diego also is given the power to generate and acquire funds through debt financing, bonds (see Section 29 of the Act) and fees (see Section 36 of the Act) to pay for Port operations and capital improvement projects.

Port Master Plan

In order to carry out the provisions of the San Diego Unified Port District Act, the board was instructed to:

"...draft a master plan for harbor and port improvement and for the use of all of the tide lands and submerged lands which shall be conveyed to the district..." (Section 19, San Diego Unified Port District Act)

The Master Plan provides the official planning goals and policies for the physical development of the land/tidelands within the Port of San Diego and prescribes policies through precise plans as well as land/tideland use designations (permitted uses). Decisions made by the Board of Commissioners must be consistent with the goals and policies of the Port Master Plan. The Board can amend the Master Plan by a two-thirds vote.

Driscoll's Wharf and Tuna Harbor are under the jurisdiction of the Port of San Diego. Future planning and development of either port must be consistent with the goals and policies of the Master Plan, the corresponding Precise Plan, and applicable land/tideland use designations.

The Port Master Plan States:

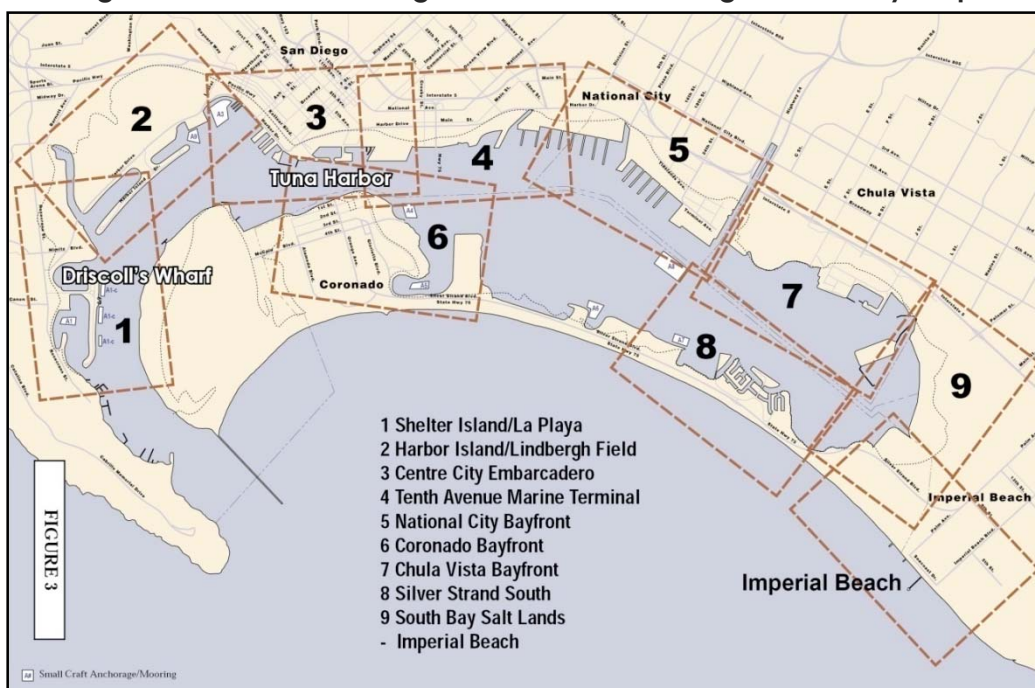
"It is the intent of this Plan to encourage the development of the local fish market fishery. Facilities for the commercial fishing industry are not to be reduced or eliminated unless the demand for the facilities no longer exists or adequate alternative space has been provided. Berthing, fresh market fish unloading and net mending activities are encouraged to be exposed to public view and to be a part of the working port identity." (Port Master Plan, p. 19)

Components of the Master Plan

Precise Plans and Land Use Designation are two important components of the Master plan and will guide and inform the Alternative analysis, choice, and implementation. Precise Plans offer a more specific and targeted analysis within the Master Plan and focus on defined areas called "districts" within the Port of San Diego (see Figure 3-1 Port Master Plan Planning Districts Key Map). Precise Plans outline projects that are deemed appropriate within each district that can

be achieved in a short period, usually within one, five, or 10 years. Precise Plans carry out the more broadly stated goals and policies of the Master Plan.

Figure 3-1 Port of San Diego Master Plan Planning Districts Key Map



Source: Port of San Diego Master Plan

Land Use Designations outline the types of uses that are allowed within the designated land use category. For example, the Commercial Fishing land use designation is intended to meet the needs of the commercial fishing fleet for:

“marinas, berthing and moorings, net mending and the minor repair of fishing equipment; the loading of stores and provisions; fish unloading and transshipment; and fresh fish market operations involving restaurants, retail and wholesale operations, including some limited accessory fresh fish processing activities...” (Port Master Plan, p. 17)

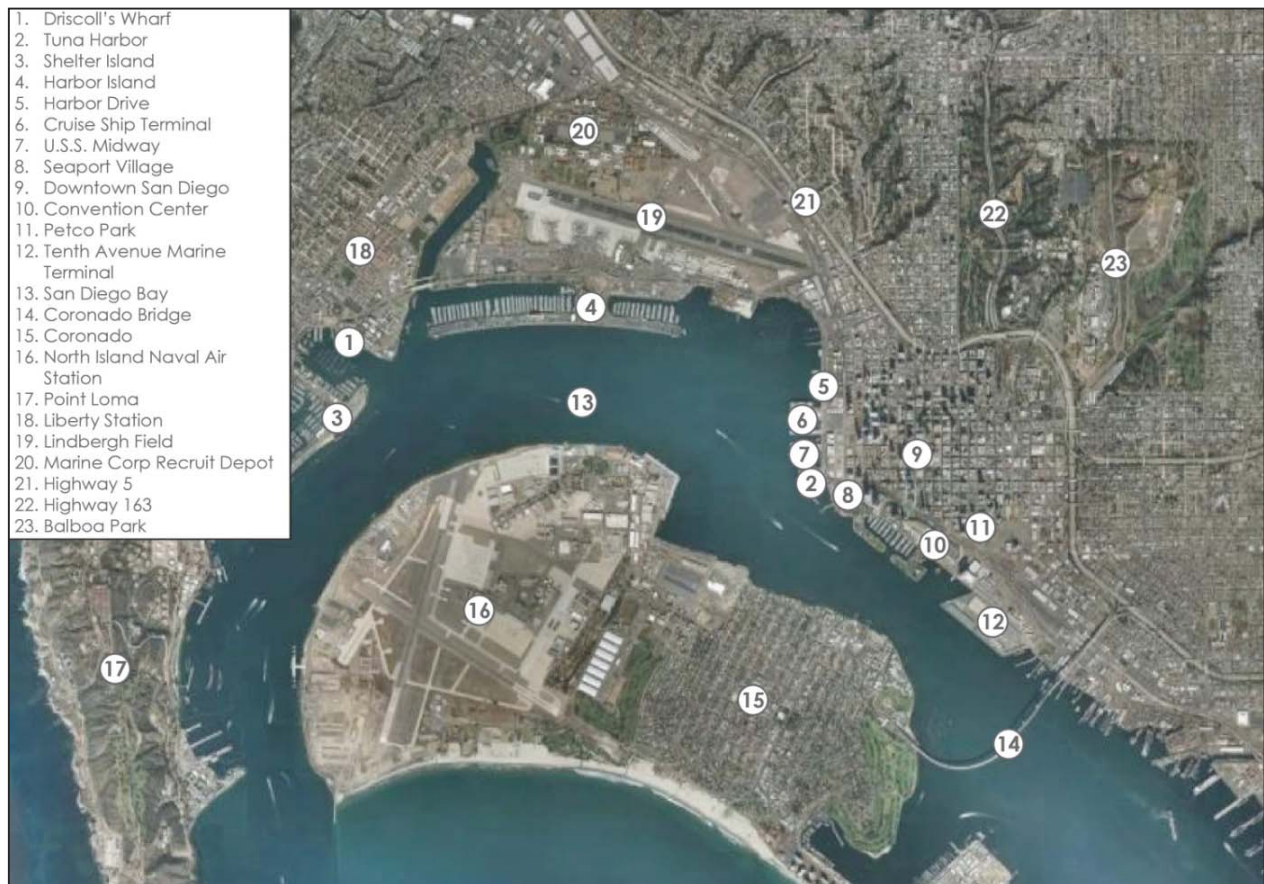
The Port Master Plan currently has allocated 14 acres for commercial fishing and an additional 61 water-acres for commercial fishing berthing. Although specific uses are listed, the intent of the land use designations is to indicate compatible use groups. If a use is not listed but is deemed compatible and consistent with the surrounding character, such a use is permitted.

Development Review and Entitlement

All new construction, reconstruction, modification, demolition, or tenant improvements (Tenant Projects) within the Port of San Diego jurisdiction require approval by the Board of Commissioners. Tenant Projects over \$500,000 or that significantly alter the appearance or silhouette require approval by the Board of Commissioners, and must:

1. Submit a pre-application (Application For Tenant Project Plan Approval) to the Port of San Diego's Real Estate Architectural and Mapping Services Section (A&MS).
2. Submit plans and specifications that include drawings, renderings, cost estimates, and compliance with applicable regulations, and make a presentation to the Board.
3. Gain approval from the Board to proceed.
4. Obtain all necessary Permits from the City.

Figure 3-2 Site Location Map and Surroundings



Source: Lisa Wise Consulting, Inc.

Site Features

Driscoll's Wharf

Driscoll's Wharf is located along Torpedo Point off North Harbor Drive within the America's Cup Harbor and is part of the Shelter Island area. Site access to Driscoll's Wharf is provided via Torpedo Point from North Harbor Drive (see Figure 3-3).

Driscoll's Wharf

Planning District 1

Shelter Island/La Playa

Planning Subarea 16

America's Cup Harbor Basin

Assessor Parcel Number(s)

APN: 760-004-41, 760-004-42

Land Use Designation(s)

Commercial Fishing

The Precise Plan states that the planned land and water uses of the Shelter Island area remain essentially unchanged from the existing uses. There is very little language regarding current or future commercial fishing activity. The major emphasis of the development program is directed toward renovation of obsolete structure(s), improvement in the quality of the landscape, and visual and physical access to the bay front. Driscoll's Wharf is designated entirely Commercial Fishing.

Figure 3-3 Driscoll's Wharf Site Features



Source: Lisa Wise Consulting, Inc.

Tuna Harbor

The Tuna Harbor commercial fishing facility is located at G Street and Harbor Lane off North Harbor Drive and is part of the Centre City Embarcadero area. Site access to Tuna Harbor is provided via G Street and Harbor Lane from North Harbor Drive (see Figure 3-4)

Tuna Harbor
Planning District 3
 Centre City Embarcadero
Planning Subarea 34
 Tuna Harbor
Assessor Parcel Number(s)
 APN: 760-013-28, -29; 760-015-05, -13, -16, -17, -18, -23, -28, -29; 760-013-33
Land Use Designation(s)
 Commercial Fishing,
 Commercial Recreation,
 Commercial Fishing Berthing,
 and Park/Plaza.

The Precise Plan for Centre City Embarcadero, based on the Quigly/Sasaki Plan, aims to create a unified waterfront, both visually and physically, which creates an overall sense of place. The development program emphasizes making the Embarcadero a pedestrian spine, directing through-traffic to Pacific Highway in order to enhance the pedestrian environment, improving amenities and people places, renovating marine terminal facilities, developing new piers and mooring basin for the commercial fishing industry, and connecting and enhancing the adjacent downtown area with new major hotel and recreation facilities. Unlike the Shelter Island/La Playa Precise Plan, the Centre City Precise Plan describes many commercial fishing plans for Tuna Harbor.

Figure 3-4 Tuna Harbor Site Features



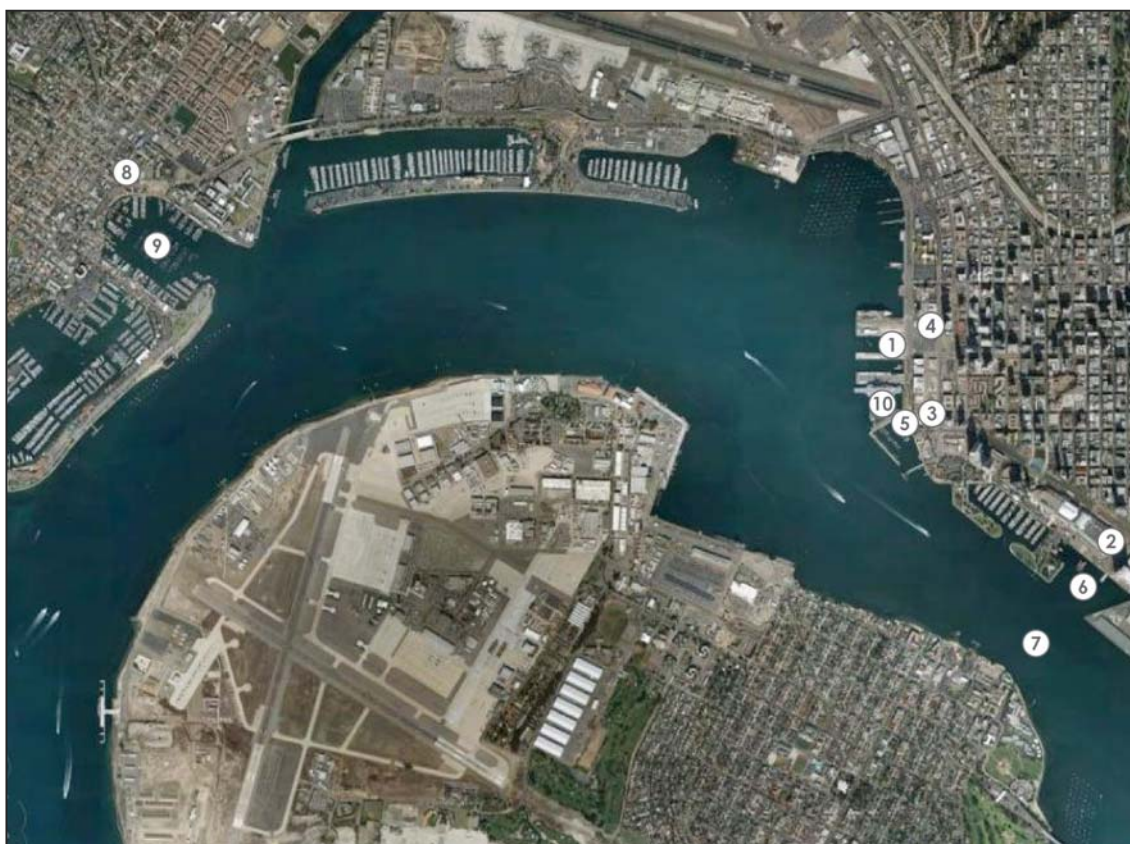
Source: Lisa Wise Consulting, Inc.

The Precise Plan states that the commercial fishing industry is given emphasis at several locations within the planning area. The plan recommends replacing commercial fishing berthing designations with specialized berthing to accommodate multiple uses; however, commercial fishing boat berthing is given the highest priority. The plan envisions offices for the tuna and fresh fish fleet, small seafood processors, fish markets, and new floating docks.

Pending Projects

The following is a summary of current development projects being processed through the Port of San Diego in the vicinity of Tuna Harbor and Driscoll's Wharf (see Figure 3-5). The numbers on the map correspond to the following summaries for each pending project.

Figure 3-5 Port of San Diego Master Plan Planning Districts Key Map



Source: Lisa Wise Consulting, Inc.

- 1. North Embarcadero Visionary Plan (NEVP).** The NEVP benefits from its location convenient to all forms of public transportation, bus, trolley, Amtrak, water taxis, Coronado-San Diego ferry, and cruise ships; and is centered on water-related cultural facilities such as the Maritime Museum and Midway Aircraft Carrier Museum. The NEVP is not only a downtown destination, but also an important regional and international destination. Highlights of the NEVP include:
 - A grand entrance along West Broadway, from the Santa Fe Depot train station west to the water, including plazas for large public events;
 - A 1.2 mile Esplanade with trails for walking and jogging along Harbor Drive that extends along the waterfront from Market Street to Laurel Street;

- Reconfiguration of Harbor Drive to become a pedestrian-friendly tree-lined roadway along the bayfront;
- A Wharf for civic events across from the County Administration Park; and
- A pier at Grape Street and North Harbor Drive.

Phase I of the NEVP is comprised of improving West Broadway, relocating Harbor Drive from West Broadway north to B Street, and constructing Esplanade improvements between the Former Navy Pier and the B Street Pier. The project will include:

- The addition of landscaping, trees and lighting along the Esplanade;
- A comprehensive sign program including interpretive, informational identification, regulatory, and directional and gateway signs along the Esplanade;
- Replacement of existing maritime service provider kiosks with new kiosks beneath shade pavilions on the Esplanade;
- A continuous 30-foot wide bayfront promenade adjacent to the Bay, for mixed pedestrian and bicycle use;
- An approximately 12,000 square-foot plaza on the Esplanade between the Broadway Pier and the intersection of West Broadway and North Harbor Drive;
- An information building;
- A walk-up café on the Esplanade beneath shade pavilions;
- Marine-related hardware, including cleats and bollards, to preserve and enhance water-dependent uses such as harbor tour and transient vessel berthing public along the bayfront promenade;
- Innovative storm water drainage system improvements along Harbor Drive including biological and structural water treatment within an eight foot 'water quality band' along the Esplanade.

2. Hilton San Diego Bayfront Hotel. One Park Boulevard, LLC has a lease with the Port for a 1,200 room Hilton San Diego Bayfront Hotel on the former Campbell Shipyard site. The Campbell Shipyard site was used for industrial activities including the manufacturing of bulk petroleum and gas waste disposal. Consequently, extensive environmental remediation has been required to clean up the site for development. The facility will open in December 2008 and will include:

- A 385' tower with 30 stories.
- 165,000 square feet of meeting space.
- 2,800 square feet of retail space.
- A 23,082 square foot health club and spa.
- 1,190 private rooms.
- Two restaurants and a lobby bar.
- A 4.3 acre waterfront park open to the public.
- A water taxi dock to serve hotel guests.

3. Old Police Headquarters. Located south of Harbor Drive between Pacific Highway and Kettner Boulevard. The site consists of 6.29 acres in the South Embarcadero area of Downtown San Diego and is comprised of a set of improvements that will enhance the Downtown Historic Harborfront. The redevelopment will activate the waterfront site with retail shops, restaurants, and public space. The plan includes:

- Retention and adaptive reuse of the old police headquarters for specialty retail, entertainment, and restaurant uses.
 - Reconfiguration of parking lots.
 - New public park (Ruocco Park) and plaza areas.
 - A parking management program.
4. **Lane Field.** The first private development to proceed under the NEVP. The project will bring two new hotels to a former baseball park. Plans include:
- Lane Field North - A 200' hotel with 275 guest rooms, and suites, ballrooms and meeting space, plus 30,000 SF of retail and restaurants.
 - Lane Field South - A 275' hotel with 525 guest rooms, suites, ballrooms and meeting space, plus 50,000 SF of retail and restaurants.
 - A subterranean parking garage for nearly 1,300 vehicles.
 - The project will meet the requirements of LEED silver certification.
 - C Street will be extended to improve access to the site and to preserve views.
 - View terraces on the third floors of the proposed hotels will be open to the public.
 - Public plazas will be included at Broadway and at C Street.
5. **Ruocco Park.** Located south of Harbor Drive and west of Pacific Highway on portions of the Harbor Seafood Mart site. The site consists of 3.3 acres that will enhance the downtown historic harbor front. The park will be a public waterfront park of outstanding urban design.
6. **Campbell Sediment Remediation/Aquatic Enhancement.** Remediation of contaminated sediment within the former Campbell Shipyard basin by capping in place affected sediment. The engineered cap in place would be designed to provide enhanced subtidal and intertidal habitat, protection from propeller wash, stabilization of seawall, recreational boating access, and a transient marina. A deep-water engineered cap will also be constructed adjacent to the Tenth Avenue Marine Terminal to allow sufficient depths for navigation and berthing. During the final phase of remediation, 9.2 acres of waterside sediment was capped with 5 feet sand, gravel, and rock. Included in the capping phase was 1.6 acres of mitigation area to replace eelgrass habitat lost by the project.
7. **Post-Dredging Recolonization Study in San Diego Bay.** In April 2008, the Port continued funding for the post dredging recolonization study in San Diego Bay. The Ports of Los Angeles and Long Beach, the National Marine Fisheries Service, the United States Navy and Merkel & Associates have committed to providing matching funds for the project.
8. **Marina Green Bayside.** The Marina Green Bayside Commercial Site project is being developed by Point Loma Marina, LLC. The waterside project was first approved by the Board of Port Commissioners in September 2006. Three buildings, a 50-slip marina, a 16,000-square foot park and a new shoreline promenade are all part of the plan. The first phase, which included two buildings, the marina, park, public promenade, a pedestrian pier and recreational dock and dine facilities was recently completed. The two buildings will incorporate a restaurant, marine-related offices and marina support facilities. At the October 2008 Board of Port Commissioners meeting, a 424-space parking structure that will be built at the former Westy's Lumber site was approved. The parking facility will provide parking for the Marina Green project plus additional parking to accommodate overflow parking for other businesses in the America's Cup Harbor area.

9. America's Cup Harbor. A redevelopment implementation plan was initiated with the Sun Harbor Marina project and is being followed by the Marina Green, the Sportfishing Landings and Kettenburg Boatyard. The plan is intended to promote the redevelopment of the America's Cup Harbor, enhance public access linkages, create waterfront promenades, and provide recreational opportunities throughout the area. The plan includes:

- Consolidation of buildings and redistribution of parking.
- Added shoreline walkway in the Shelter Island Drive corridor.
- Development of a continuous public promenade.
- Additional park acreage.
- Public parking and street enhancement to North Harbor Drive.
- Associated land use changes.

10. Tuna Boat Pier and Fleet Landing Repairs. This project is due for completion at the end of 2008 and includes the following components:

- Demolition and removal.
- Concrete repair demolition.
- Polymer modified portland cement repair.
- Concrete crack injection.
- Metal fabrications.
- Pier timberwork.
- Mobilization and demobilization.
- Beam connection repairs.
- Joint cover plate repairs.

Coastal Access

Increased and improved public access is a top priority for the Commercial Fisheries Revitalization project. The Core Committee, the Port of San Diego, fishermen and fishery-related stakeholders have all cited increased public access as a critical element of the revitalization process. Recommendations on coastal public access will be consistent with the California Coastal Conservancy's goals and guidelines (see Attachment F) and attention is being paid to integration with the extension and enhancement of the San Diego Bay Trail/California Coastal Trail. In addition, future plans will take into consideration the various public access components of pending projects on San Diego Bay, particularly adjacent to the study sites.

The California Coastal Act places great emphasis on public access to the California coast. The Act states:

"In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse." (Section 30120 of the California Coastal Act)

Furthermore, the Act states:

"Development shall not interfere with the public's right of access to the sea... including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation." (Section 30211 of the California Coastal Act)

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COASTAL PUBLIC ACCESS

Section 4

Coastal public access is a key component to a healthy working waterfront. As such, protection and enhancement of coastal access is a cornerstone of the Commercial Fisheries Revitalization Project. Also, coastal access is one of the most effective tools in perpetuating the protection and stewardship of the shared coastal public resource. Given the waterfront's proximity to the large urban center of San Diego, and Californian's support of family-owned commercial fishing businesses, both Tuna Harbor and Driscoll's Wharf can benefit by attracting a greater pedestrian audience. The public will also benefit by gaining a better understanding of a locally caught food source and making the physical connection with the place that fish are landed, sorted, and purchased, and with commercial fishing participants. This Section examines the current level of public access at Driscoll's Wharf and Tuna Harbor, including fishermen's views. The analysis is broken into nine categories for each commercial fishing area:

- Vehicle Access
- Public Parking
- Bus
- Bicycle
- Trolley
- Train
- Cruise Ship
- Airport
- Hostels

Driscoll's Wharf and Tuna Harbor are both accessible to the public, although their location and design has resulted in different levels of utilization. Driscoll's Wharf is not located near high profile tourist facilities, there are currently no restaurants or visitor serving uses at the site, and there is a significant interruption in the footpath to the south. There is little pedestrian, bike, vehicle or water borne access from the north. Although a sign marks the entrance to the facility, it is not immediately clear from the street that the facility is open to the public. As a result, Driscoll's Wharf experiences little incidental foot, bicycle

and car traffic.

Figure 4-1 Footpath and Work Area at Driscoll's Wharf



Source: Lisa Wise Consulting, Inc.

Figure 4-2 Public Restroom, Pedestrian and Bicycle Path at Tuna Harbor



Source: Lisa Wise Consulting, Inc.

Figure 4-3 Wall interrupting access at Driscoll's Wharf from west



Source: Lisa Wise Consulting, Inc.

Tuna Harbor is located adjacent to “destination” tourist attractions including Seaport Village, the USS Midway and B Street Cruise Ship Terminal, and a popular seafood restaurant. Bench seats are located along the tree-lined walkway that surrounds the large public parking lot in front of Tuna Harbor. These seats are used by tourists and locals.

Fishermen based out of these ports expressed occasionally conflicting views on public access. However, most agree that raising public awareness benefits the industry by providing consumers with more information about how seafood is caught, and personalizing seafood purchasing decisions by creating relationships and reinforcing longstanding cultural and community ties to small-scale, family-run commercial fishing operations.

4.1 Coastal Trail

The California Coastal Trail (CCT) was proposed by California voters through legislation in the 1970s. In 2000, the CCT was declared an official state trail (resolution ACR20) and more legislative attention was given to completing the trail in 2001 (SB980). The diverse trail follows California's 1,200-mile Pacific shore as closely as possible. The CCT offers the commercial fishing industry in San Diego an opportunity to take advantage of the synergy amongst stakeholders united in the common goal of increased access to the coast.

In San Diego Bay, the California Coastal Trail is located along North Harbor Drive adjacent to both Driscoll's Wharf and Tuna Harbor. Several existing coastal access points are located along this trail (see Figure 4-4 for Driscoll's Wharf Trails, Coastal Access, and Bikeways Map and Figure 4-5 for Tuna Harbor Trails, Coastal Access, and Bikeways Map). According to the California Coastal Commission's Public Access Action Plan, San Diego Bay contains many public access opportunities, marinas, and parkland. Approximately 50 miles, or 62.5%, of San Diego's coast is accessible by the public. Major gaps in the California Coastal Trail include about 20 miles at Camp Pendleton (a Marine Corps Base), a military reservation in Point Loma, naval shipyards, and portions of the Port of San Diego. The trail skirts the two site areas, following North Harbor Drive. The trail does not follow the waterfront through the private developments along the commercial basin, which contains Driscoll's Wharf, although many businesses throughout that corridor have created walkways and footpaths to utilize waterfront property. Currently, a wall separates Driscoll's Wharf from a pathway that runs along the water in front of an adjacent private development (see Figure 4-3).

Figure 4-4 Driscoll's Wharf Trails, Coastal Access, and Bikeways Map



Source: Project Design Consultants, Aerial-DigitalGlobe 2008, Data-SanDAG 2007

Figure 4-5 Tuna Harbor Trails, Coastal Access, and Bikeways Map



Source: Project Design Consultants, Aerial-DigitalGlobe 2008, Data-SanDAG 2007

4.2 Driscoll's Wharf

At Driscoll's Wharf, several of the commercial fishermen interviewed stated that increasing public access would benefit them from a marketing and sales perspective as well as raise the public's perception of the industry. However, they stated that increasing public access at the site would likely place additional pressure on the limited space currently available for shore-side commercial fishing activities, including net mending and trap repair. Several fishermen stated that they would like to see the appearance of the facilities at Driscoll's Wharf improved before efforts are made to increase public access.

Vehicle

Access to Driscoll's Wharf is provided via Torpedo Point from North Harbor Drive. Movements are restricted to right-turns only. Field observations indicate no "public access" signage and poor incorporation of views of San Diego bay.

Parking

Two public parking areas are available near Driscoll's Wharf. The first parking area (see Figure 4-6) is located at the southwest corner of North Harbor Drive and Torpedo Point. This area appeared to be under-utilized and lacks any signage designating the area as an access point for public use of the waterfront. The second parking area (see Figure 4-7) is located at the waterfront and terminus of Torpedo Point. This area appears to be very well utilized and provides public restrooms. Parking within both areas is limited to 24 hours. Public parking within Driscoll's Wharf is not permitted. See Figure 4-8 for a map of public parking at Driscoll's Wharf.

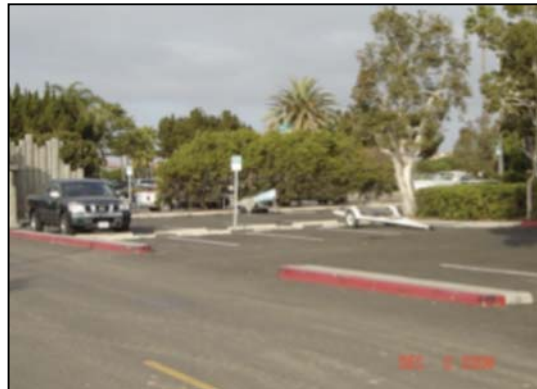
Bus

There is not a bus stop at Driscoll's Wharf. The closest bus stop, on Route 923, is located approximately 800 feet (0.15 miles) away at the corner of Nimitz Boulevard and North Harbor Drive. See Figure 4-9 Driscoll's Wharf Public Transit Map. Route 923 serves downtown San Diego, Roseville, and Ocean Beach. There are sidewalks and crosswalks between the bus stop and the waterfront that appear to comply with the Americans with Disabilities Act.

Train

The nearest train station to Driscoll's Wharf is the Old Town Transit Center, which is located approximately 3 miles away (see Figure 4-9). The Coaster, a train-based transit system that links North and Central San Diego County, and select Amtrak trains stop at the Old Town Transit Center.

Figure 4-6 Parking at Driscoll's Wharf



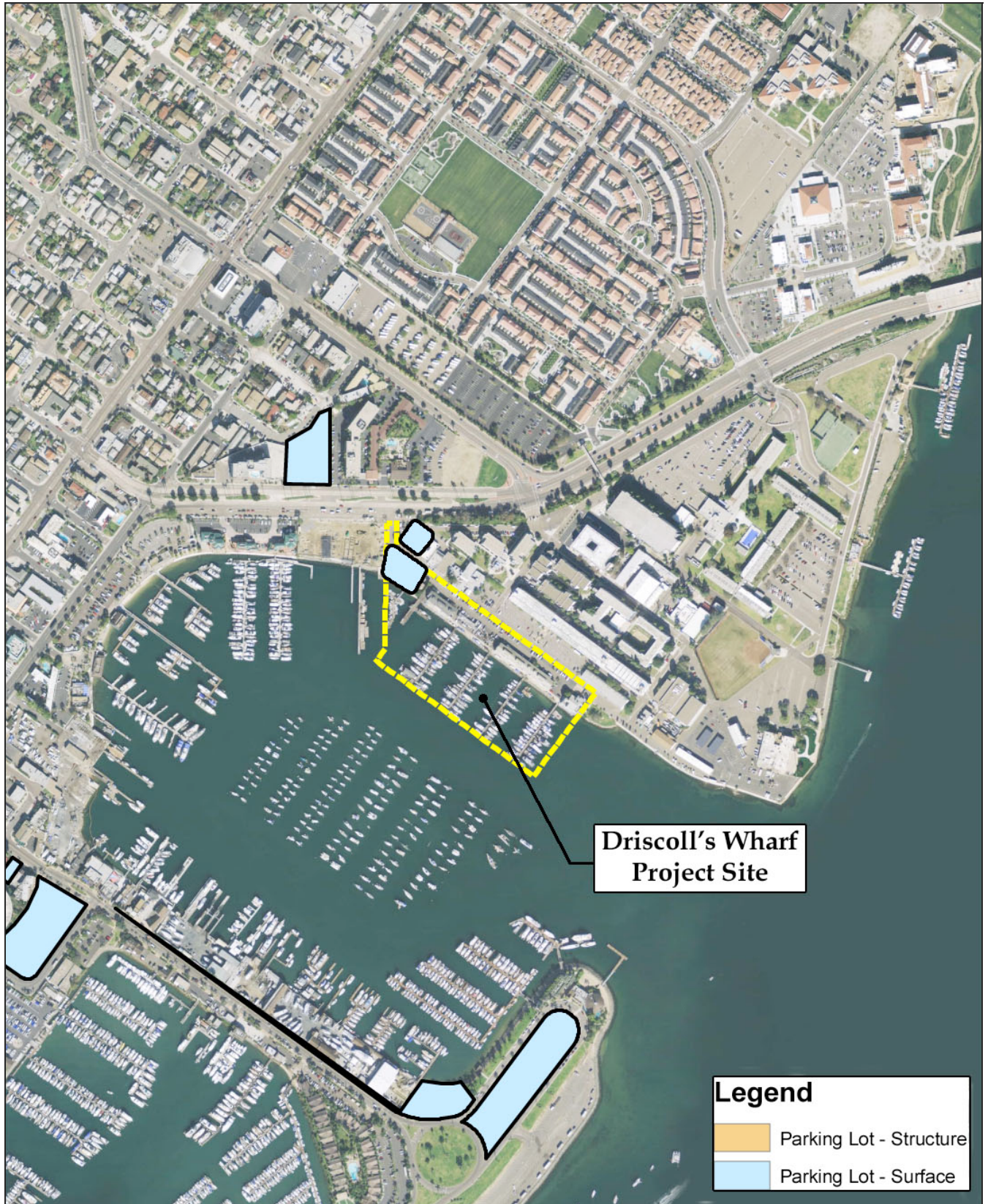
Source: Linscott Law & Greenspan

Figure 4-7 Parking at Driscoll's Wharf



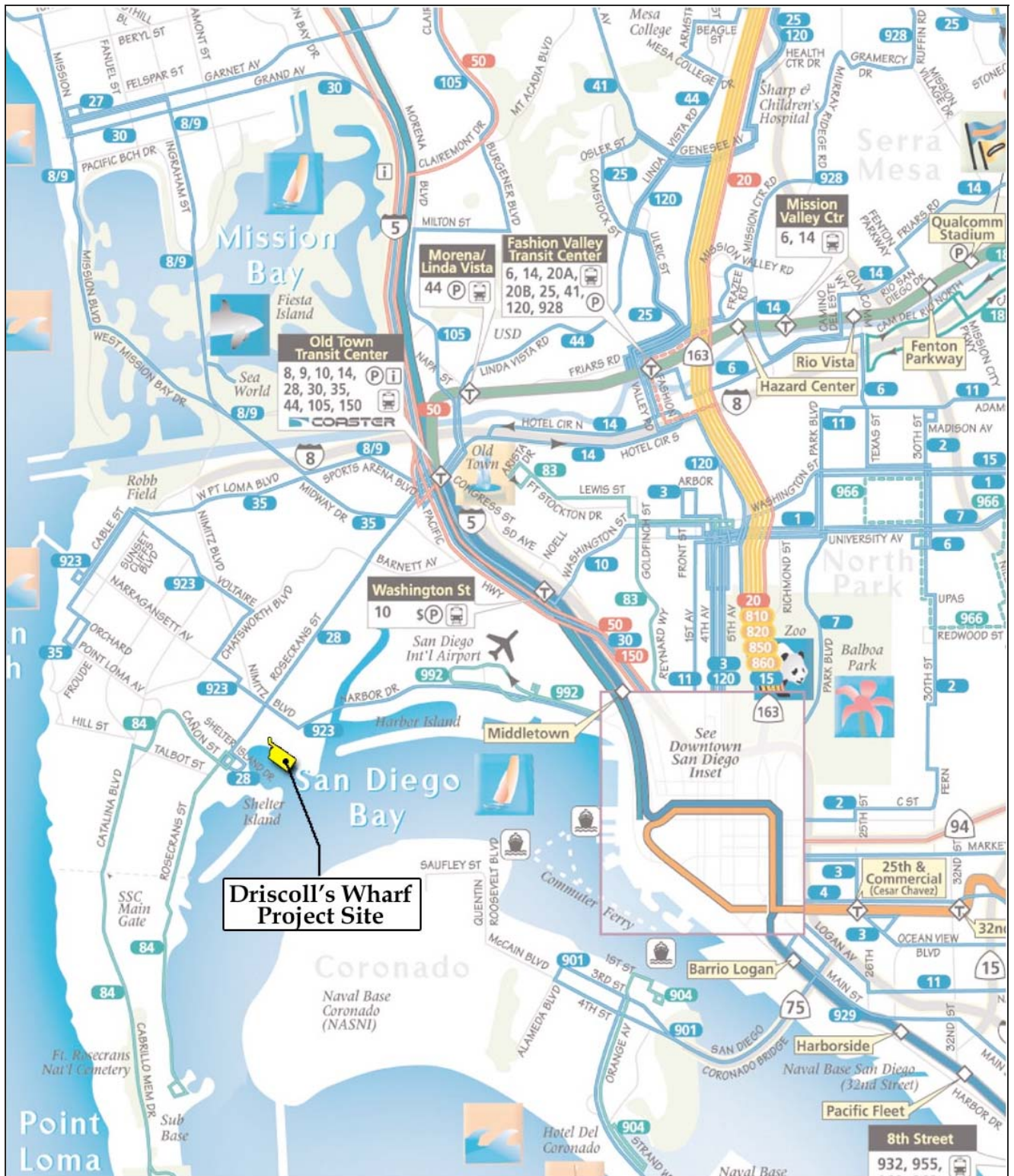
Source: Linscott Law & Greenspan

Figure 4-8 Driscoll's Wharf Public Parking Map



Source: Project Design Consultants, Aerial-DigitalGlobe 2008, Data-SanDAG2007

Figure 4-9 Driscoll's Wharf Public Transit Map



Source: Project Design Consultants, San Diego Metropolitan Transit System Downtown Regional Map

Bicycle

There are bicycle lanes along North Harbor Drive and bike racks are provided at the waterfront at Driscoll's Wharf.

A reduced speed or restricted access bike path ends near North Harbor Drive and Kincaid Road, approximately 2,000 feet from the project site. Access is restricted or speed limits are posted along this path due to congestion or other safety considerations. From there, a suggested bike route runs along North Harbor Drive adjacent to Driscoll's Wharf. A suggested bike route is not an official bikeway, but a route recommended for cycling within the roadway, intended for experienced bicyclists. The suggested route is heavily utilized by bicyclists. A designated bike lane connects North Harbor Drive with Nimitz Boulevard (see Figure 4-4 Driscoll's Wharf Trails, Coastal Access, and Bikeways). Figure 4-10 shows bicycle racks at Driscoll's Wharf.

Figure 4-10 Bicycle Racks at Driscoll's Wharf



Source: Linscott Law & Greenspan

Trolley

There are no trolley stops within walking distance to Driscoll's Wharf. The closest transit center is located at Old Town, approximately 3 miles away.

Cruise Ship

There is no cruise ship terminal within walking distance of Driscoll's Wharf; however, tourists that arrive by cruise ship can travel to Driscoll's Wharf by bus, pedicab, or taxi.

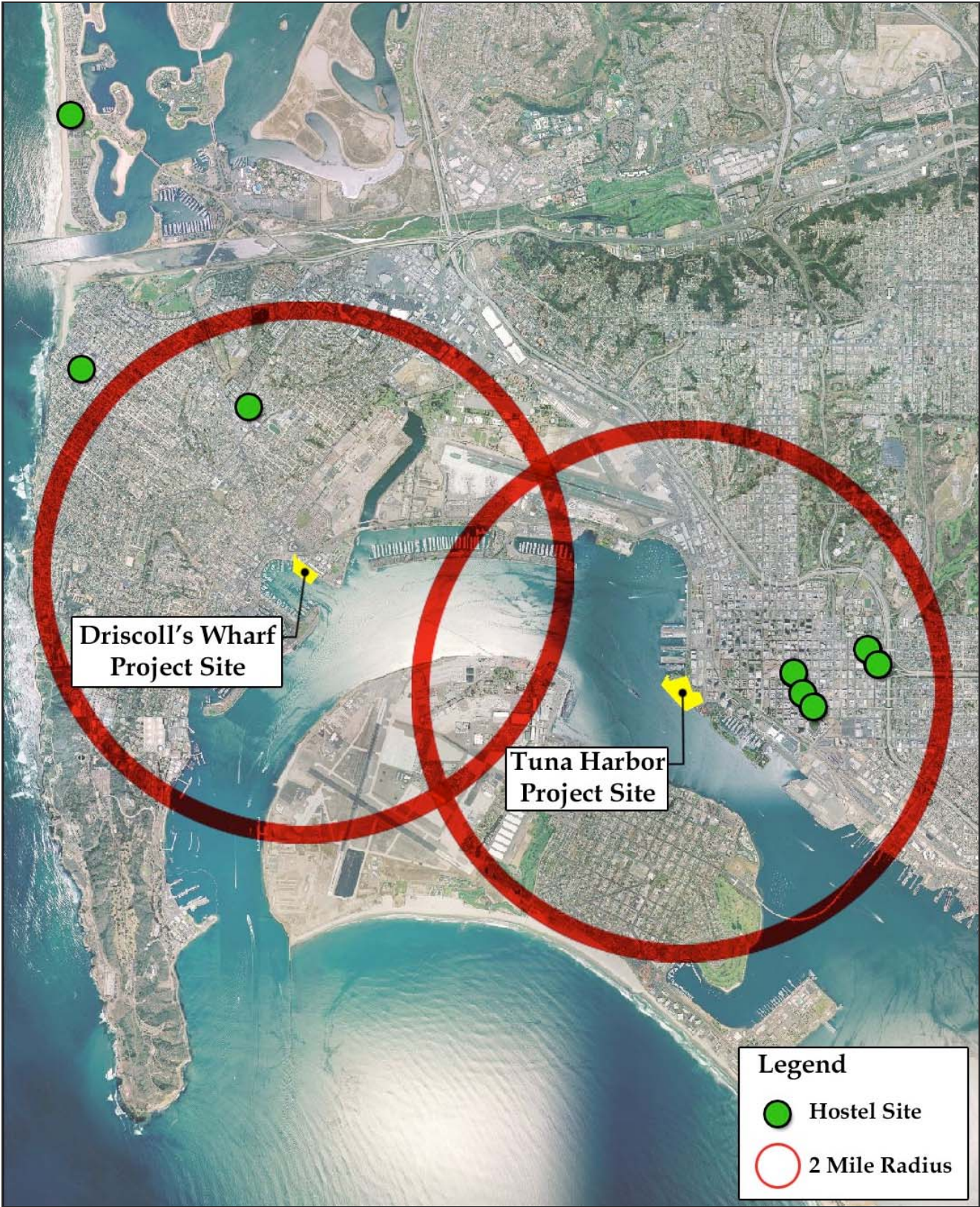
Airport

Driscoll's Wharf is located approximately 2 miles from Lindberg Field, San Diego's International Airport. Car rental services, taxis, buses, and shuttles are available near the airport.

Hostels

The California Coastal Commission and the Coastal Conservancy recommend that hostels be located at intervals of 20 to 40 miles, on or near the coast, and within two miles of recreational trails. Hostels are low-cost public travel accommodations that provide sleeping, kitchen, and bath facilities for families, groups, and individuals of all ages. They combine low-cost lodging with educational, social, and cultural opportunities. There are six hostels within a two mile radius of the commercial fisheries sites (see Figure 4-11). The closest hostel to Driscoll's Wharf is Hostelling International Point Loma, located at 3790 Udall Street, approximately 1.4 miles away.

Figure 4-11 Hostels Location Map



Source: Project Design Consultants, Hostels.com, retrieved 2008

4.3 Tuna Harbor

At Tuna Harbor, fishermen see high levels of public access as both a benefit and a challenge, particularly for security. Some fishermen stated that keeping their boats in a visible location prevents certain thefts that occur in more remote ports. However, other fishermen at Tuna Harbor said that the high levels of accessibility leads to increased security concerns from transients sleeping on boats, and using boats and gear piles for rest and eating areas and potentially damaging equipment.

Vehicle

Public access to Tuna Harbor is provided via G Street and Harbor Lane from North Harbor Drive. Full movements are provided. Field observations indicate excellent incorporation of views of San Diego bay. No "public access" signage was observed.

Parking

Tuna Harbor is served by three public parking areas at G Street, Harbor Lane, and along North Harbor Drive. Parking is well marked in these areas with signage and 2-hour meters. Parking is also dedicated to fishermen and employees of the Fish Market and Chesapeake Fish Company (see Figures 4-12, 4-13, and 4-14).

Seaport Village, adjacent to Tuna Harbor, is a major, local tourist destination that also provides public access to the waterfront and parking. All parking areas seem well utilized, with the exception of the parking area at Harbor Lane. (See Figure 4-15 for a map of Public Parking at Tuna Harbor.)

Bus

There are several bus routes that serve the downtown area. The closest bus stop to Tuna Harbor is located near the B Street Pier and Harbor Drive, approximately 1,625 feet, or 0.3 miles, from the site (see Figure 4-16). Routes 992, 2, and 210 stop in this area. Route 992 serves downtown, Golden Hill, South Park, and North Park. Route 2 travels between downtown and Point Loma, and route 210 serves downtown, City Heights, Kearney Mesa, and Mira Mesa.

Sidewalks are provided from the bus stops and along the waterfront, and appear to comply with the Americans with Disabilities Act.

**Figure 4-12, 4-13, and 4-14
Public Parking at Tuna Harbor**



Source: Linscott Law & Greenspan

Figure 4-15 Tuna Harbor Public Parking Map



Source: Project Design Consultants, Aerial-DigitalGlobe 2008, Data-SanDAG 2007

Figure 4-16 Tuna Harbor Public Transit Map



Source: Project Design Consultants, San Diego Metropolitan Transit System Downtown Regional Map

Train

The Santa Fe Depot is located approximately 2,200 feet, or 0.4 miles, from Tuna Harbor (see Figure 4-16). Both Amtrak trains and the Coaster stop at this station. Amtrak trains provide service to destinations throughout the United States while the Coaster is a commuter rail that provides service from Oceanside through the other coastal cities to downtown San Diego. The Coaster runs Monday through Saturday with special service on Sundays for Padres home games. The Coaster holds more than 1,000 passengers per train and serves people commuting to work or recreational activities. The Oceanside Transit Center provides transfer opportunities from the Coaster to the Sprinter, a light rail train that provides an east-west mobility link between Oceanside, Vista, San Marcos and Escondido.

Bicycle

A bike path is provided along North Harbor Drive. No bike racks are provided at the waterfront.

A reduced speed or restricted access bike path is located adjacent to Tuna Harbor. Access is restricted or speed limits are posted along this bike path due to congestion or other safety considerations. This bike path connects to a ferry service where bicycles are permitted on a ferry that travels to Coronado. The reduced speed or restricted access bike path also connects to a bicycle route where bicyclists share the roadway with motorists. The shared right-of-way is designated by signs only. Bike lanes and suggested bike routes continue throughout the downtown area (see Figure 4-5 Tuna Harbor Bikeways Map).

Figure 4-17 Sidewalks and Crosswalks near Tuna Harbor



Source: Lisa Wise Consulting, Inc.

Trolley

The San Diego Trolley, operated by San Diego Metropolitan Transit System (MTS), provides service to Seaport Village, which is located just south of Tuna Harbor, through the Orange Line. The Seaport Village trolley stop is approximately 1,800 feet, or 0.3 miles, from Tuna Harbor. The Orange Line serves downtown San Diego and heads east and north to Gillespie Field in El Cajon. The closest transit station (Coaster, MTS, Amtrak) is located at the Santa Fe Depot, approximately 2,200 feet, or 0.4 miles, away. This transit station provides transfer access to the Blue Line, which serves Old Town, downtown San Diego, and heads as far south as San Ysidro near the United States/Mexico border. Both the Blue Line and the Orange Line connect to the Green Line, which provides east-west service from Old Town to Santee. The closest transfer to the Green Line from the Orange Line is at the Grossmont Transit Center and the closest transfer to the Green Line from the Blue Line is at the Old Town Transit Center (see Figure 4-18).

Figure 4-18 Trolley Map



Source: Project Design Consultants, Metropolitan Transit System Trolley Map

Cruise Ship

Tuna Harbor is located approximately 2,000 feet, or 0.38 miles, from the B Street Pier Cruise Ship Terminal (see Figure 4-16). The Port of San Diego welcomes more than 190 cruise ships throughout the year at this Cruise Ship Terminal. The B Street Cruise Ship Terminal is conveniently located a short distance from numerous attractions including the Tuna Harbor G Street Pier, the USS Midway, and Seaport Village. Seasonally, the Holland America Line and Celebrity Cruises use San Diego as a homeport. Other cruise lines that visit San Diego include Princess, Carnival, Norwegian, Royal Caribbean, Regent Seven Seas, Crystal Cruises, Hapag-Lloyd Line, and The World of ResidenSea.

Airport

Tuna Harbor is located approximately 2.5 miles from Lindberg Field, San Diego's International Airport. Car rental services, taxis, buses, and shuttles are available near the airport.

Hostels

The California Coastal Commission and the Coastal Conservancy recommend that hostels be located at intervals of 20 to 40 miles, on or near the coast, and within two miles of recreational trails. Hostels are low-cost public travel accommodations that provide sleeping, kitchen, and bath facilities for families, groups, and individuals of all ages. They combine low cost lodging with educational, social, and cultural opportunities. There are six hostels within a two-mile radius of both commercial fisheries sites (see Figure 4-11). The closest hostel to Tuna Harbor is Hostelling International San Diego Downtown located at 521 Market Street, approximately 0.9 miles from the site.

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PORT INFRASTRUCTURE

Section 5

Port infrastructure is an asset and key component of the San Diego fishing industry. Infrastructure can ultimately determine the success and longevity of the industry. Further, it furnishes the physical connection between fishing and the community. The working waterfront, its draw for tourism, and fishing-related employment are critical features of a healthy, sustainable fishery.

This Section encompasses an inventory of existing port infrastructure in Tuna Harbor and Driscoll's Wharf. The inventory provides an overview of the condition, as well as the commercial fishery participants' perception and evaluation of existing infrastructure, given changing regulatory and resource constraints in the region.

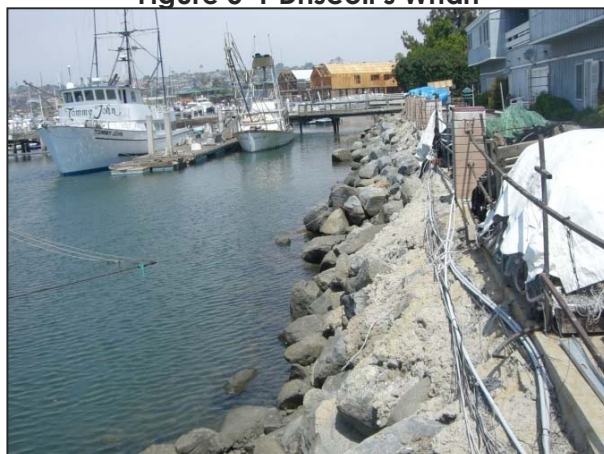
The infrastructure analysis is broken into the following categories for each of the ports:

- Port Overview and Condition
- General Port Features and Condition
- Vessel-related Services
- Commercial Fishing-related Services

Driscoll's Wharf and Tuna Harbor have the key infrastructure to support an active fishery. Individually, however, these two harbors have different infrastructure components, capacity, and needs. Some components provide opportunities to maximizing fishing effort; others provide challenges. Physical location and management have largely determined the make-up of the infrastructure. Tuna Harbor, located near Seaport Village in downtown San Diego, has a municipally-owned offloading facility that is managed by the privately owned processor onsite. The processor also provides ice to the fishermen from machines that it owns and operates in the course of doing business. The Port maintains slips and moorings and provides amenities including parking, restrooms, fresh water and electricity. Nevertheless, due to the public location of the harbor, challenges of parking availability, waste disposal, security, and storage are prominent.

Driscoll's is leased and managed by a private entity. It houses one offloading hoist but no ice facility. Fishermen have limited access to ice from a privately owned processor on site, but it does not provide sufficient capacity or reliability to meet the fishermen's needs. Located on a long, narrow piece of land in the America's Cup Harbor basin, there is limited space for parking, storage, gear repair, and truck access. A shallow channel depth characterizing the basin restricts larger vessels from using this facility.

Figure 5-1 Driscoll's Wharf



Retaining Wall and Offloading Dock

Some infrastructure improvements to be considered in the short- to mid-term at Driscoll's include: increased offloading capacity, ongoing maintenance, repair and beautification, deeper channel depth, enhanced slips (floating), and an ice facility. At Tuna Harbor, short- to mid-term infrastructure needs include: increased net, trap and gear storage, additional security, and increased parking capacity. Refrigerated and deep-cold storage are potential improvements at both harbors. Increasing electrical output, gear storage, and net and gear repair space at both harbors should also be considered for mid-term goals. Increased and improved offloading capacity for both gear and catch at Tuna Harbor and increased gear offloading potential at Driscoll's may be appropriate goals to be pursued over the next three to five years.

5.1 Driscoll's Wharf Infrastructure

Port Overview and Condition

Driscoll's Wharf is privately leased from the Port of San Diego and is located in the America's Cup Harbor Basin. It sits on a 2.9-acre strip of land and encompasses 5.7 acres of water designated for commercial fishing use. The marina holds 125 slips, of which 56 are occupied by registered commercial fishing vessels. The facility houses one offloading dock and a 1,500 pound maximum hoist. Its primary use is loading and unloading of commercial fishing vessels. Bilge pump-out is also available on the dock or vessel-based service, Holding Tank Pumpout. The wharf has no ice plant, processing, or fuel onsite. Cold storage is extremely limited. Gear storage, parking, and truck access is limited. American Seafood, a small seafood wholesaling company, is located at the facility.

While much of the wharf's infrastructure has been maintained and is in an operable state, a number of components require repair and replacement.

General Harbor Features and Services

Depth of Channel Channel depth at Driscoll's Wharf is considered inadequate. The basin, including the offloading dock, cannot accommodate the 65' vessels offloading when the tide is low. Vessels more than 65' in length are unable to berth and have difficulty maneuvering particularly during low tides at Driscoll's. Boats more than 80' in length are unable to offload during low-to-mid tides. Reportedly, the basin at Driscoll's wharf has never been dredged, while

the adjacent marina had been dredged four times within the last decade. Over the years, silt has slowly crept into the basin, creating shallow areas.

Security Security at Driscoll's Wharf is largely afforded by its hidden location. Many, if not all, of the facility users tie up there and many live on their boats creating a tight community that is intrinsically vigilant and "safe". However, the wharf's management also supplies a security guard five days a week, shared with two other businesses in the Shelter Island area. At present, security is considered adequate.

Parking Parking is considered adequate at the present. In part, this is attributed to the vacant office spaces onsite. Any potential redesign of the property or re-designation of use may create challenges to parking. There are roughly 200 parking spaces, a portion of which is reserved for commercial fishermen. With a parking structure under construction adjacent to the wharf, parking needs are expected to met or exceeded. For comprehensive analysis of parking conditions and constraints, see Attachment E.

Retail/Office Space Three retail/office space buildings are located onsite.

1. 4904 Harbor Drive features 7,876 square feet (4,645 + 3,231)
2. 4918 Harbor Drive 18,757.75 square feet (8818' + 9939.75')
3. 4922 Harbor Drive 7,794 square feet of useable retail or office space.

Total rentable space is 34,428 square feet. All of this is designated for commercial fishing and commercial fishery-related use only. Currently, only 2,500-square-feet are not leased. The Blue Crab Restaurant leased (4922 sq. ft.) for several years, but, due to lack of clientele, went out of business in 2002.

Wake Management Heavy surge from wave and wake is naturally managed by the location of the wharf at the eastern end of the America's Cup Harbor basin. This system of management is considered inadequate during stormy weather and with increased sport boat traffic in the summers. Pier 8 is left unprotected and serves as the buffer for other piers.

Restroom Facilities A restroom facility is located on the property immediately adjacent Pier 6. A shower facility is located here as well, with two shower stalls for men and one for women. The condition of these facilities is considered poor. There is no laundry facility at Driscoll's Wharf.

Solid and Toxic Waste Disposal Onsite facilities for both solid and toxic waste are considered adequate. The site holds a small waste area contained by a berm. It houses an oil waste barrel with 300 gallon capacity and is disposed of every two months by Asbury Environmental. Batteries are kept on concrete until disposal. Toxic waste disposal at Driscoll's Wharf is in compliance with Haz-Mat. Trash is disposed of three times a week by Allied Waste.

Urban Runoff Management Runoff from the City of San Diego is managed through the Port of San Diego Urban Runoff Management Program. This program is considered adequate.

Wet Utilities Water and sewer utilities serving Driscoll's are located near the vehicular entrance to the wharf. They currently considered adequate, with an 8" water service and a 6" sewer force main connecting to larger utility mains within Harbor Drive.

However, should the current buildings be renovated, new buildings constructed, showers added, laundry facilities added, water demand increased on piers, or ice facilities added the capacity of these utilities may be inadequate and should be examined.

Dry Utilities Electricity service is provided within the vehicular entrance to Driscoll's. There is also a 2" high pressure gas main and phone service within North Harbor Drive. The capacity of the electric service will need to be reviewed to provide additional voltage to the moorings. Also should additional electric service, phone, or gas be required by building renovation or construction these utilities may require extensions or upgrades.

It is worth noting that there are currently improvement plans in process with the City of San Diego, at the direction of the Port of San Diego, to reduce the right-of-way width of Harbor Drive by approximately 60'. This reduction would reconfigure Harbor Drive and create a significant increase in parking from Scott St. to Nimitz Blvd.

Vessel-Related Services

Docks and Moorings There are adequate number of moorings at Driscoll's, with 125 slips accommodating vessels ranging from 18' to 65'. Rental rate is considered affordable. Commercial fishing vessels are charged \$2.72 a foot per month, while pleasure crafts run \$12 a foot. Prices rise every December 1, with the Consumer Price Index. Slips for commercial fishing vessels are leased on an annual basis with proof of commercial fishing activity, provided through fish tickets.

Only two moorings are wide enough to accommodate 65' vessels, at 24' in width. Although the occupancy is 100%, approximately 40% of these are commercial fishermen. Opportunities may exist for wider slips. Slips should accommodate a 70-90' vessel, translating to 28-29' wide. Two other constraining issues are the lack of floating docks that limits access to the boats and the pilings onto which boats are tied create a hazard for boats, as lines are often abraded by friction.

Electricity The amount of electricity supplied to vessels is considered inadequate. Only those moorings at the end of the piers accommodate 220 volts. Although all moorings have 110-voltage, not all function properly, with some outlets delivering only 90 volts.

Water Water is supplied to fishing vessels on one side of each pier only via lines that run the length of each pier. While the supply is adequate, the distribution system (PVC pipe run on top of each pier) is considered inadequate and in need of repair or replacement.

Haul-Out Haul-out services for the repair of vessels is provided by a number of nearby shipyards. Driscoll's Boatyard at 2500 Shelter Island Drive is conveniently opposite the basin of Driscoll's Wharf and is heavily used. Koehler Kraft Co. at 2302 Shelter Island Drive, and occasionally Knight and Carver Yacht Center (for bigger boats) at 1313 Bay Marina Drive also provide haul-out service to the Driscoll fleet.

Pump-Out Pump-out services are provided onsite and are considered adequate. A variety of nearby marine businesses also provide pump-out services, including the Shelter Island Harbor Police at 1401 Shelter Island Drive.

Fuel Fuel services are provided by a variety of nearby fuel docks. Most fishermen at Driscoll's purchase from High Seas Fuel Dock at 2540 Shelter Island Drive and Cortez (Texaco) at 1880 Harbor Island Dr. High Seas accommodates vessels up to 240' and has a fuel rate of up to 160 gallons per minute per hose. Depending on fuel price, fishermen may also purchase from Pearson's Fuel Services at 2435 Shelter Island or Harbor Island West Fuel Dock at 2040 Harbor Island Drive. As fishermen manage expenses, they may travel elsewhere to obtain fuel, such as Mission Bay or even Mexico. Other adaptive strategies include driving more slowly to conserve fuel, though this takes a toll on work time.

Fuel has long presented a concern to fishermen, but is earmarked here as a feature of the port or the working waterfront that affects the effectiveness of the fisherman's business. Since 2001, the price of fuel has risen excessively, reducing profit margin. AS the cost of marine diesel fuel increases, a fisherman has a smaller error margin seeking fish and fishing grounds.

Commercial Fishing-Related Services

Repair Space The repair of gear and equipment presently takes place along the wharf. Such space is considered insufficient and is deemed a conflict to pedestrian traffic. Fishermen who elect to dock at this facility have learned to work cooperatively in the limited space. Nevertheless, they remain aware that the present gear repair space is insufficient and the present haul-out and space to work on boats is completely lacking.

Offloading Facility The offloading facility at Driscoll's consists of one offloading dock with a hoist that handles an absolute maximum of 1,500 pounds, depending on the size of the boat. The offloading facility is considered inadequate in terms of: capacity of dock to accommodate more and larger vessels; capacity to handle heavy equipment (trucks, fork lift); and the capacity of hoist to lift fishing heavier equipment.

Figure 5-2 Driscoll's Offloading Facility



Source: Lisa Wise Consulting, Inc.

The current condition, size, and capacity of the dock are considered inadequate. The dock is reported to hold up to 9,500 pounds only. The dock can only offload one large vessel or two small vessels at a time, with a maximum length of 65' at low tide. Most offloading is tide dependent, and this is due to the depth in the basin. The dock is also unable to support a refrigerated truck, requiring catch to be loaded onto a forklift and then on to a waiting truck. Most catch, with the exception of albacore, some lobster and some urchin, is offloaded at Driscoll's and trucked to Catalina Offshore Products, where it is processed. The additional offloading step creates a lag in offloading, additional cost and, on occasion, a wait. A number of fishermen cited a combination work dock/offloading area as an appropriate and attractive solution.

Access to offloading is also considered inadequate. At present, only one side of the dock can be accessed, as boats tied to the adjacent dingy dock block the entry to the offloading dock. Yet, even under “normal” circumstances, the present facility is unable to handle more than two small vessels.

The hoist, its capacity, and its length are considered inadequate. It handles up to 1,500 pounds. Two fishermen report that the minimum hoist requirements are 6,000 to 8,000 pounds, while the dock master reports a need for a 10,000-pound hoist.

Gear offloading Offloading of nets and traps is a concern. Nets are presently offloaded from boats onto the wharf via hand and forklift. The rock retaining wall against the wharf presents an impediment as nets are caught and are torn. Presently, trap fishermen must load three or four traps onto a dolly and wheel along the piers to their boats. This is time-consuming (between the back-and-forth and also the frequent rate at which traps are bumped off the dolly) and laborious.

Ice Production and Distribution Typically, fishermen purchase ice from one of two facilities: Chesapeake Fish Company, located at G Street, or American Seafood. American Seafood produces a small amount of ice (up to two totes per week per fisherman utilizing this service), although, mostly for its own operation. Chesapeake Seafood produces up to ten tons of ice daily. Approximately 30% of fishermen at Driscoll's buy from American Seafood while 70% purchase from Chesapeake. Chesapeake is a 40-minute run, one way, from Driscoll's Wharf, making it inconvenient and expensive for fishermen harboring at Driscoll's.

Cold Storage There is no cold storage, freezer storage or blast freezer facilities at Driscoll's. Fishermen speak of a need for cold storage as a means to hold product off the market when prices are low. The combination of quotas and seasonality that regulate many of the fisheries has been known to create a flood/drought effect on the market. The market fills with supply during the beginning of a period as fishermen rush to meet the quota and beat the market before prices drop.

Cold storage will also afford fishermen to hold catch until a buyer's truck arrives for a pick up and not be required to keep it in an ice-filled or refrigerated hold, this can translate into fishermen turning around at the dock more quickly and being able to make more trips.

Wholesaler American Seafood provides wholesale service onsite. Ninety-five percent of American Seafood fish is sold to local retail and restaurants, including El Pescador, Point Loma Seafoods, Jimbo's and the Fish Market restaurants. However, half of the fish supplied to American Seafood comes from other places besides the Driscoll Wharf fleet. Most of the product offloaded at Driscoll's is trucked to Catalina Offshore.

Gear and Equipment Storage Net gear is stored alongside the wharf and in an approximately 600-square-foot room located in one of the vacant retail spaces. Net storage is presently considered inadequate. With between two and six nets per fisherman, and with approximately 40 net fishermen at Driscoll's, there is need for considerably more space. Presently, 11 piles of nets, measuring 30'x6'x6' each, consume space alongside the already narrow walkway. Each net, drawn in full length, measures approximately 15 miles. Repairs for a portion of a number of nets are continually being conducted alongside the walkway.

Some trap gear (approximately 200 traps) is stored onsite and along the wharf. Monthly rotation of net gear means the wharf is continually used as storage. Eight lobster fishermen require storage. The average number of traps is 400 per person. Traps range from 2x3' to 2x4' in size, and are typically stacked 5-high for optimal working height, though they can go 6-high.

Spare parts, spare gear parts, such as swordfish rails, are presently stored in an open, two level structure, measuring 20' wide x 100' long x 10' high, including a three-foot-wide staircase. Present storage space is roughly 4,000 feet. The facility is considered inadequate in space, as gear overflows on the bottom level. Being open, it is also considered unsightly and more prone to sun damage, rust and salt air corrosion as well as being in a position to be jostled or damaged by moving and relocating equipment, particularly by forklift.

Bait Bait is supplied by buyers or is purchased offsite. Bait supply is considered adequate. Space for holding and storing bait is considered desirable.

Live Fish Holding Facilities Storage for live catch is considered inadequate. No live catch holding facilities exist at Driscoll's Wharf. Approximately seven fishermen currently participate in a live fishery, notably lobster. Also, there are currently 10 fishermen involved in the urchin fishery and have cited the need for chilled, recycled water tanks. Some trap fishermen store their catch in receivers at their slips. However, as with Tuna Harbor, water temperatures, differ greatly from the depth at which fish and crustaceans are caught, and create a high mortality rate and in no way bespeak a high quality, high value handling method.

5.2 Tuna Harbor Infrastructure

Port Overview and Condition

Tuna Harbor is located at the G Street Mole south of Navy Pier and is administered by the Port of San Diego. It encompasses 4.7 acres of land and 23.4 acres of water and includes permit parking spaces, a restroom facility, solid waste receptacles, and 129 slips for commercial fishing usage. The Port of San Diego provides an offloading facility with two hoists of capacity 800 pounds and 2 tons. There is one active offloading and processing facility at Tuna Harbor: Chesapeake Fish Company at 535 Harbor Lane. Chesapeake Fish Company handles more than 12 million pounds of fish per year, roughly 10% of that being San Diego catch.

Tuna Harbor provides attractive and unique tourism potential. It lies in the vicinity of Seaport Village and is situated adjacent to the Fish Market Restaurant and the USS Midway. At the same time, its proximity to downtown creates challenges, notably those related to parking, security, and limited space for storage and repair.

The physical condition of Tuna Harbor docks is considered good/adequate and is not presently an impediment to offloading or transportation at the facility.

General Harbor Features and Services

Depth of Channel Depth at Tuna Harbor is considered adequate. The basin easily accommodates the 80'+ vessels mooring and maneuvering there.

Pier Established in 1978 for the support of the commercial fisheries, this pier serves as the primary asset to the harbor. It protects the basin against heavy wake, allows for additional vessels to tie off, and provides a space for fishermen to work. While otherwise in good condition, pilings supporting the end of the pier have been considered in need of attention.

Security Security of vessels, equipment and gear is considered inadequate at Tuna Harbor. Equipment and gear are frequently reported missing and boats and nets occasionally are used as sleeping accommodations by transients. Security issues are associated with the harbor's proximity to downtown and the number of homeless in the City. Since the installation of the lighting system along the pier a few years ago, the incidences of vandalism and robbery have been reduced but not eliminated.

Parking Parking for fishermen is provided by a lot adjacent to the docks with limited opportunity for expansion. The ratio of parking to slip space is presently 1:1 at Tuna Harbor. The parking facility is shared with the Fish Market Restaurant and visitors to the USS Midway museum. Boat owners are allocated one permit each. The cost is \$360 per year for the boat owner's permit. A boat owner may apply for a second permit, which costs \$360 per quarter. The number of parking spaces allotted per fisherman at Tuna Harbor is considered inadequate.

Restroom Facilities A men's/women's cinder block restroom facility is located adjacent to the docks and serves fishermen and public. A small storage unit attached to this facility is used by municipally-employed gardeners and grounds' keepers. Tuna Harbor does not house either a laundry or a shower facility; two components of a harbor considered beneficial and identified by the fishermen as a need.

Wake Management A 900-foot apron pier on the outer boundary of the Tuna Harbor basin is the primary structure for managing wake. Nevertheless, docks and vessels remain susceptible to movement and potential damage from heavy wake, particularly from Navy vessels. The present system of wake management is thus considered inadequate and presents a relatively high level of concern for fishermen.

Solid and Toxic Waste Disposal Onsite facilities for both non-toxic solid and toxic waste are inadequate as is the management of these facilities. Trash is kept in two four-yard long dumpsters and is collected daily, except Sunday. However, the waste disposal area suffers from lack of maintenance and empties directly into the ocean. No facilities currently exist at Tuna Harbor for toxic waste disposal. An onsite waste oil collection center was removed approximately 10 years ago after the Coast Guard cited the Port of San Diego for numerous waste spills. An agreement that is amenable to the Port, Coast Guard and the fishermen needs to be created before a toxic waste facility is considered again and will likely include a maintenance, management and accountability plan.

Figure 5-3 Tuna Harbor Security Gates



Security gates off of dock have combination locks but do not ward off vandals

Urban Runoff Management Urban runoff is managed by the Port of San Diego Urban Runoff Management Program. This program is considered adequate.

Port/Fishermen Communication Communication between Port of San Diego officials and commercial fishermen who lease from the port and rely on their services is an essential component of infrastructure and receives much comment. At present, communication between the Port of San Diego and fishermen and other lessees is considered poor but improving. Fishermen and other commercial fishing-related lessees claim to have been uninformed of meetings and dockside events and have not been included in strategic planning.

Wet Utilities Available record drawings show that Tuna Harbor is serviced by wet utilities (water and sewer) at multiple locations. Wet utilities appear to be sufficient for current usage levels, although any related projects should take increased usage into consideration.

Sewer An 8" sewer main exists that enters the south east corner of the Harbor and splits into three services of 6"-8". Two of these services are providing for existing structures (Chesapeake Fish Company and the public restroom). The third appears vacant. There is also a 10" sewer main that runs north through the embarcadero and west through G Street. This main has a 6" service directed south toward the Harbor around the beginning of the parking for the Fish Market Restaurant.

Water At the southeast corner of the harbor is an 8" water service providing for the restroom. This 8" service is fed from a 16" main from Pacific Highway and Harbor Drive. From this same main further north there are 4" and 6" services within G Street. There appears to be sufficient capacity and connection points should an expansion warrant additions to these two utilities.

Dry Utilities Record drawings could not be located showing dry utilities (electricity, telephone, and gas) for West G Street and Pacific Highway; however, the Consultant Team is continuing to research these areas. Based on the existence of multiple electrical, telephone and gas lines that run into the site area, it is believed that dry utilities are considered adequate. Improvement projects at Tuna Harbor will require additional investigation into dry utility infrastructure capacity.

Electricity and Telephone Multiple electrical and telephone lines fall within this area ranging from 2" to 8". From these lines there are services that stub into the embarcadero and West G Street.

Gas A 1" gas line running the length of the Embarcadero and/or Harbor Drive provides service to the north side of Tuna Harbor, while a 3" gas main (with a 1½" service) provides for the Chesapeake Fish Company on the south side of Tuna Harbor.

Vessel-Related Services

Docks and Mooring The docks and slips at Tuna Harbor are considered adequate in number, size and quality. The slips are comprised of stable, durable side docks attached to a main dock. This allows for easy entry into the vessel and the ability to work on a vessel regardless of the tide.

Table 5-1 Trend in Commercial Fishing Moorings to Occupancy Ratio Since 1976

Year	1980	1998	2008
Slip/Occupancy	210:~100	129: 76	129:46

Additional tie spaces are offered along the piers. The harbor has 129 slips, ranging from 30 feet to 80 in length. Only 46 slips are occupied by commercial fishing vessels, representing a decline from 76 vessels in 1998. The slips at Tuna Harbor accommodate larger vessels that are unable to tie up at Driscoll's Wharf. While the quantity of slips accommodates the commercial fishing fleet, the present number represents a decline from 150 slips and 60 mooring spaces in 1980. This decline is congruent with the decline in the number of fishing vessels comprising the San Diego fleet.

Figure 5-4 Slips at Tuna Harbor



Source: Lisa Wise Consulting, Inc.

Electricity Most slips at Tuna Harbor accommodate 110-volt, 30-amp electrical outlets. This is considered inadequate, as the majority of boats require 220-volt, with 3-phase power and some 440-volt to operate tools and generators.

Fresh Water Potable water is supplied to fishing vessels via lines that run the length of each pier. Water supply and distribution system is considered adequate at Tuna Harbor.

Haul-Out Services Haul-out services for the repair of vessels are provided by a number of nearby shipyards: Driscoll's Boatyard at 2500 Shelter Island Drive; Koehler Kraft Co. at 2302 Shelter Island Drive; Shelter Island Boatyard at 2330 Shelter Island Drive; Nielson Beaumont Marine Inc. at 2420 Shelter Island Drive; Knight and Carver at 1313 Bay Marina Drive, National City; and Marine Group Boat Works at 997 G Street, Chula Vista.

Pump-Out Services Pump-out services can be accessed by a variety of nearby marine businesses. Some nearby services include: Sun Harbor Marina at 5000 Harbor Drive; Cabrillo Isle Marina at 955 Harbor Island Drive; and Laurel Street Landing at North Harbor Drive. Services are free.

Fuel Fuel services are provided by three nearby fuel docks. These include: Pearson's Fuel Services (Chevron) at 2435 Shelter Island; High Seas Fuel Dock at 2540 Shelter Island Drive; and Harbor Island West Fuel Dock at 2040 Harbor Island Drive. Fuel may also be purchased through San Diego Mooring Company. All are located in the northern part of the bay.

High Seas Fuel Dock is the predominant supplier to fishermen at both Tuna Harbor and Driscoll's Wharf. Roughly 80% of High Seas' customers are fishermen, both recreational and commercial. Harbor Island West, caters primarily to non-commercial fishermen, and offers a one-stop shop for transmission oil change, lube oil and filter change and disposal, salt, ice, limited chandlery and some provisions. High Seas invested in underground waste tanks, a filter crusher and other equipment to increase service and decrease customers' wait time.

In general, while some fuel dock owners stated that they have "good" relations with the Port, others said they felt challenged as sub-lessees of the Port, particularly with regard to increasing rent prices without a perceived return in services and infrastructure improvements. Rent prices have been identified as one cause of higher fuel prices and fuel services. Much displeasure has been voiced in the Port's allowing vessels to be fueled from trucks. Further, while present space for operational facilities is deemed adequate, space for storage is considered poor. Other challenges to fuel docks include stringent regulations on the oil/gas service industry and proximity to Ensenada, a popular locale for fueling, particularly of larger boats. The mega-yacht industry presents the greatest opportunity for keeping the fuel docks viable during difficult economic and regulatory times.

Commercial Fishing-Related Services

Gear Storage Gear storage is considered inadequate at Tuna Harbor. Nets are stored on the pier while traps are stored offsite. The pier is not a sanctioned storage area for nets. Also, nets are not secured from the public. Lobster fishermen use gear only six months of the year (October to April), so the remainder of the time they must store traps elsewhere. The crab fishery, by contrast, is year-round. The average number of traps for most fishermen is 200 to 300, though some may have as many as 2,000.

Bait Bait service is considered sufficient. Bait is provided to commercial fishermen by fish buyers.

Cold and Freezer Storage Refrigerated and freezer storage is provided by Chesapeake Fish Company, with 35 degrees F and -10 degrees F facilities, respectively. Chesapeake operates two freezer units, which is considered inadequate. Product is often moved from freezer space to refrigerated space to create capacity. Freezer usage varies according to season and market demand. Cold storage is considered inadequate, as fishermen can benefit from holding their catch until prices are favorable or until their buyer's refrigerated transportation schedule can accommodate a pick up. Also, seafood that is maintained at consistently low temperatures through landing, storage, transport and processing has longer shelf life and is deemed more valuable by buyers.

Fishermen note a need for independently-owned and operated cold storage facilities so as to be able to manage their offering more effectively.

Processing Chesapeake Fish Company, the largest processor in San Diego, is located on the waterfront at Tuna Harbor. Chesapeake was established in the early 20th century, but came under its current ownership in 2002. It is a 20,000-square-foot facility and buys from roughly 95% of the Port's gillnet fleet, or 23 fishermen, plus five to eight lobster fishermen and one urchin fisherman. This comprises roughly 10% of the total product processed. Chesapeake has a fleet of refrigerated trucks, including semi-trucks and box trucks, which deliver seafood to local

restaurants and transport wholesale product to and from cargo planes for and from international shipment. The company handles 12 million pounds of fish per year.

Offloading and/or Crane One offloading facility is present at Tuna Harbor. The offloading facility is municipally owned but operated and managed by Chesapeake Fish Company. The facility has two cranes capable of handling 2.8 tons total. The oldest crane is considered nearly inoperable, and handles only 800 pounds. While the second, newer crane handles 2 tons, it is considered insufficient for all needs and inaccessible to those who wish to sell product elsewhere (besides Chesapeake). Fishermen would like an offloading facility that operates independently and that can assist in offloading gear as well as catch. At present, gear is offloaded by hand or by (the vessel's) boom or a rental crane, which is cost ineffective.

Ice Production and Distribution Ice is produced and distributed by Chesapeake Fish Company. Chesapeake has four ice machines producing a total of 20 tons of white flaky ice per day on average. The ice is used predominantly for operational, but may include commercial fishing, purposes. The quantity of ice is considered good; however, the distribution is considered poor. Fishermen are required to transport ice to their boats in trashcans. San Diego Ice Company also produces ice, but the price is not cost-effective to fishermen. There is strong support for a fishermen-owned and operated ice facility so fishermen do not feel beholden to a fish buyer. Independence is an important issue for the fishermen and their future.

Live-Catch Storage Storage for live catch is considered inadequate. No live-catch holding facilities exist at Tuna Harbor. Roughly 15 fishermen are in a live-catch fishery, including lobster, spot prawn and live (rock) fish. Some live-fishermen store their catch in receivers at their slips. However, bay temperatures at the slips are higher than the nearshore waters where live fish are accessed, making this a short-term solution and inappropriate for providing a high priced, quality product that differentiates Tuna Harbor-landed seafood. Fish stored in chilled, filtered holding tanks live longer and are more valuable to buyers and consumers. There is consensus that live-holding tanks would be beneficial at Tuna Harbor.

COMMERCIAL FISHING LANDINGS

Section 6

Commercial landings by weight and ex-vessel-value (EVV, price paid to fishermen at the dock) are key measures of a fishery's performance. Landings are the culmination of fishing efforts; fleet size and composition; effects of resource regulation; experience and innovation; infrastructure capacity; and health and proximity of fish stocks. Landings drive employment, capital improvement projects, value-added service opportunities, and expansion and reinvestment. Landings and earnings also attract new participants to the industry, a key feature of a healthy industry.

This section examines commercial landing activity for:

- The United States, California, and San Diego County (Section 6.1)
- Three national regions: Western Pacific, Northeast Atlantic, Southeast Gulf (Section 6.2)
- San Diego's four most active ports (Section 6.3)
- Other Species to Watch (Section 6.4)
- U.S. Seafood Imports and Exports (Section 6.5)

The following analysis is a reflection of the best data available, and does not account for errors, inadvertent or fraudulent, or improper recording. Thus, the summary of the data is intended to provide an understanding of trends and a relative depiction of landing activity.

All monetary values have been adjusted for inflation to 2009 levels. Figures were adjusted using the Consumer Price Index (CPI) Inflation Calculator from the U.S. Bureau of Labor Statistics.

The California Department of Fish and Game (CDFG) requires all buyers of commercially caught seafood to report the species purchased, its volume (pounds), and the price paid to the fishermen. This information is recorded on a "Fish Ticket" and is submitted to CDFG, where the information is combined and summarized. Each year, CDFG releases data showing the total weight landed and the total EVV per area, per port, per species. Tuna Harbor and Driscoll's Wharf are located in the San Diego Area.

The Fisheries Statistics Division of the National Marine Fisheries Service (NMFS), which is part of the National Oceanic and Atmospheric Administration (NOAA), also provides commercial landing data. In addition to CDFG and NMFS, this section references data from the San Diego Bay 1998 Market Fishing Fleet Report compiled by the Port of San Diego Land Use Planning Department.

6.1 National, State, and Local Commercial Landings Comparison

Commercial landing activity occurs in every coastal state in the United States. In order to gain a comprehensive view of commercial activity, relative value, scope and trends in the San Diego Area, and specifically at Tuna Harbor and Driscoll's Wharf, this analysis considers national, state, and local commercial landing data.

The following examines commercial landing data in terms of:

- Volume (pounds)
- Relative Volume
- EVV
- Relative EVV
- Average value per pound from 1950 to 2008

National and state commercial landing data from 1950 to 2008 was obtained from the NMFS statistical unit. Landing data for the San Diego County area from 1970 to 1984 was obtained from the San Diego Bay 1998 Market Fishing Fleet Report, and data from 1985 to 2008 was obtained from the CDFG statistical unit.

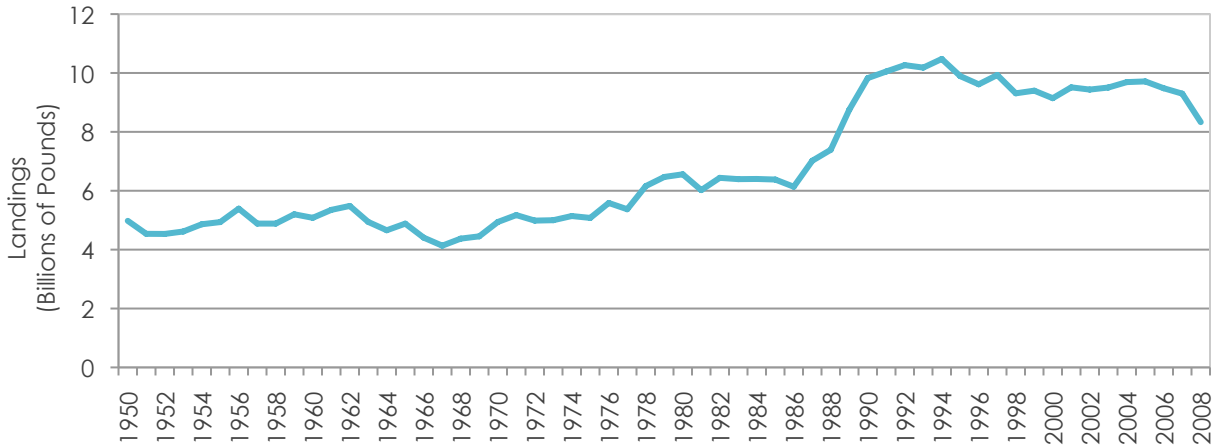
Annual Volume (Pounds)

National In 2008, the United States reported commercial landings of over 8 billion pounds (see Figure 6-1), twice the average annual volume reported between 1950 and the mid-1970s. In 1985, commercial activity in the United States began increasing rapidly from approximately six billion pounds to more than 10 billion pounds by 1990. Since 1990, annual, national commercial landings have remained between 8–10.5 billion pounds.

California Unlike national trends, California commercial landings have decreased from nearly 1.6 billion pounds in 1950 to approximately 315 million pounds in 2008 (see Figure 6-2). Between 1950 and 1952, commercial landings at California ports declined by nearly 50% from nearly 1.6 billion pounds to 800 million pounds, where they remained until the late-1960s. By the mid-1970s, commercial landings had increased to 1.2 billion pounds followed by a 50% decline by 1980. Landings continued a fluctuating downward trend, and since 2003 have remained less than 400 million pounds.

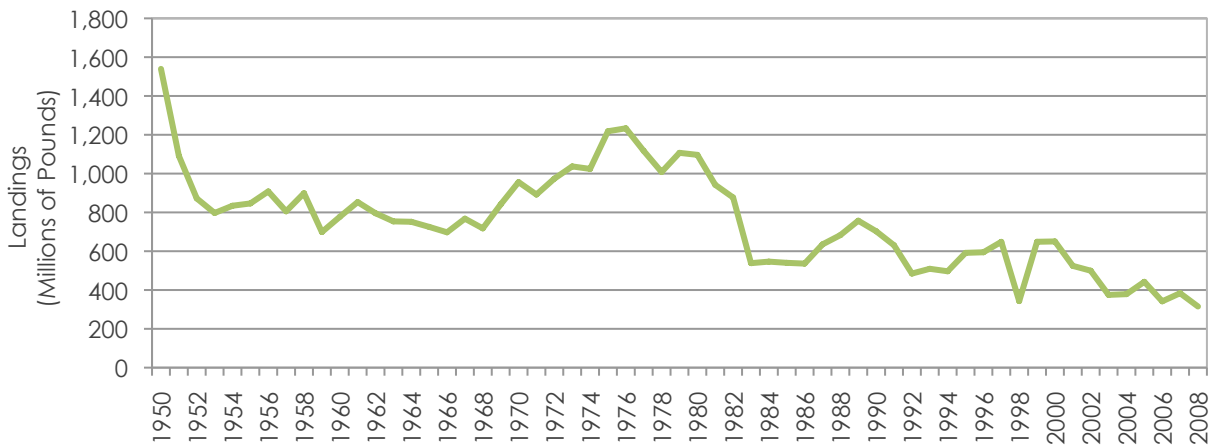
San Diego Commercial landings in the San Diego Area differ from state and national trends. Between 1975 and 1980, commercial landings nearly tripled from approximately 70 million pounds to approximately 200 million pounds (see Figure 6-3). By 1985, commercial landings had declined to fewer than seven million pounds, a 95% decrease from 1980. Landings in the San Diego Area continued to decline steadily for the following two decades to approximately 2.4 million pounds by 2008.

Figure 6-1 National Commercial Landings (1950-2008)



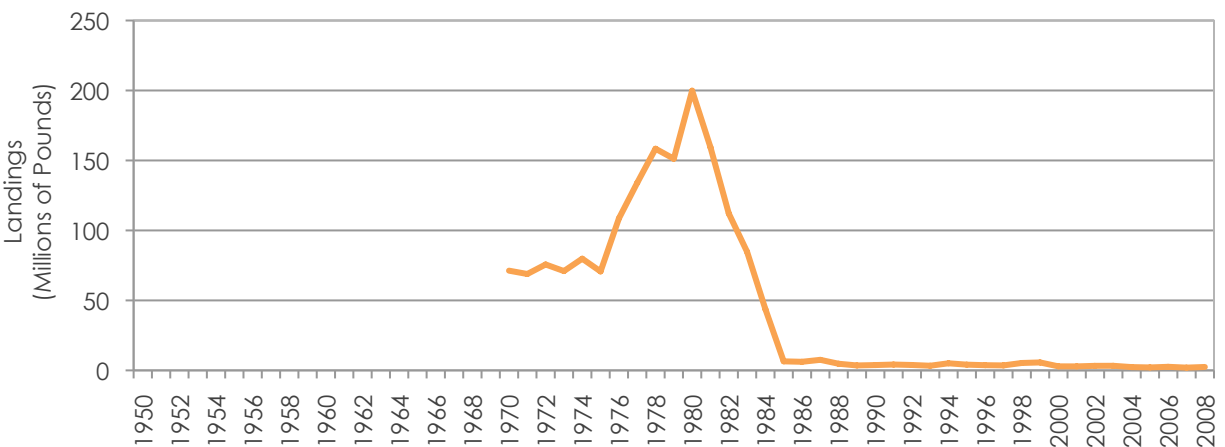
Source: National Marine Fisheries Service (NMFS)

Figure 6-2 California Commercial Landings (1950-2008)



Source: National Marine Fisheries Service (NMFS)

Figure 6-3 San Diego Area Commercial Landings (1950-2008)



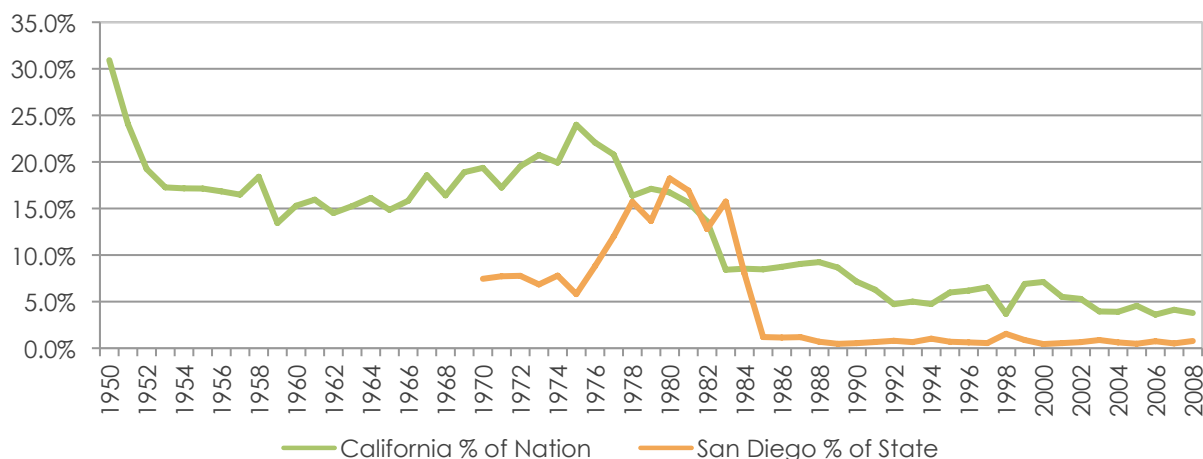
Source: CDFG and the San Diego Bay 1998 Market Fishing Fleet Report

Relative Volume

California Commercial landings at California ports represented more than 30% of all commercial landings in the United States in 1950 (see Figure 6-4). By the late 1950s that percentage had fallen to less than 15%. California's share of national commercial landings rose to nearly 25% by the mid-1970s, but fell to less than 10% by 1983. California's contribution continued to fall and, since 1992, California commercial landings have remained at approximately 5% of the national number.

San Diego Commercial landings in the San Diego Area rose from 7% of state landings in 1975 to nearly 18% in 1980. By 1985, however, commercial landings in the San Diego County Area represented approximately 1% of the statewide number, and remained at that level through 2008.

Figure 6-4 Commercial Landings as a Percentage of National and State Landings



Source: NMSF, CDFG, and the San Diego Bay 1998 Market Fishing Fleet Report

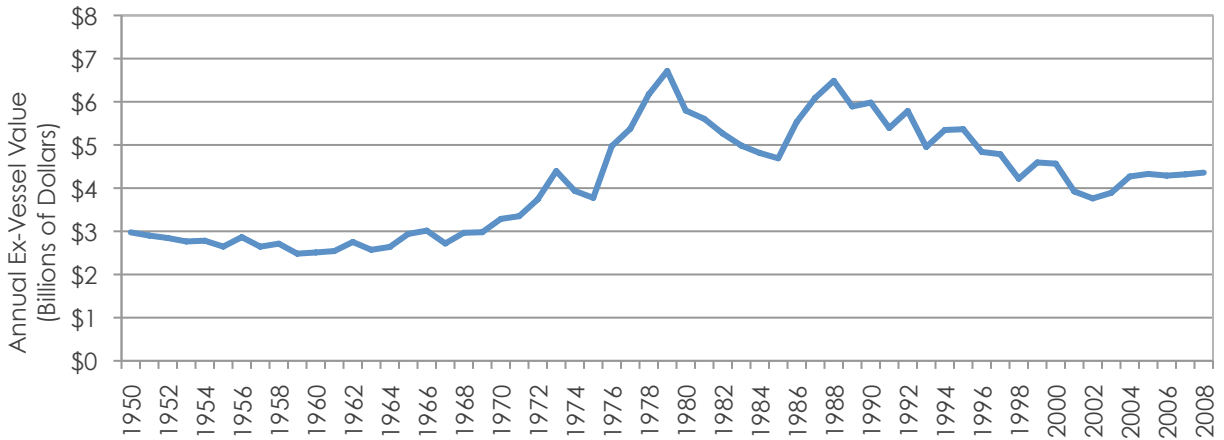
Annual Value (2009 Dollars)

National The ex-vessel-value (EVV) of commercial landings in the United States was nearly \$3 billion in 1950, and following a slight decrease, returned to nearly \$3 billion by 1969 (see Figure 6-5). By the late 1970s, national EVV had more than doubled to nearly \$7 billion. Following a sizable decline between 1980 and 1985, EVV climbed back to more than \$6 billion by the late 1980s. National EVV began declining again in 1998 and fell until 2005 when national EVV reached a \$4.3 billion plateau.

California In California, the EVV of commercial landings in 1950 was approximately \$750 million, a figure that fell by 50% by the mid-1960s (see Figure 6-6). By 1980, the EVV in California peaked at approximately \$820 million, but fell by more than two-thirds to \$261 million by 1985. By 2007, the EVV in California was approximately \$113 million, or 7 times less than in 1980.

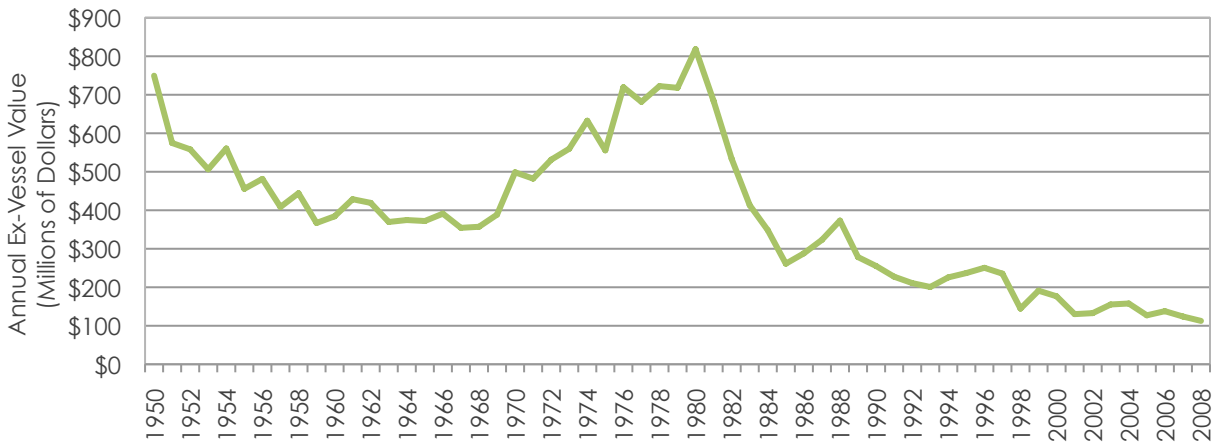
San Diego The EVV of commercial landings in the San Diego Area ranged from \$71 to \$98 million between 1970 and 1975, and increased to more than \$280 million by 1980 (see Figure 6-7). By 1985, it had fallen to less than \$14 million. Since 1988, San Diego EVV never reached more than \$10 million, and in 2008, the EVV in the San Diego Area was approximately \$7 million.

Figure 6-5 National Commercial Landings EVV from 1950-2008 (2009 Dollars)



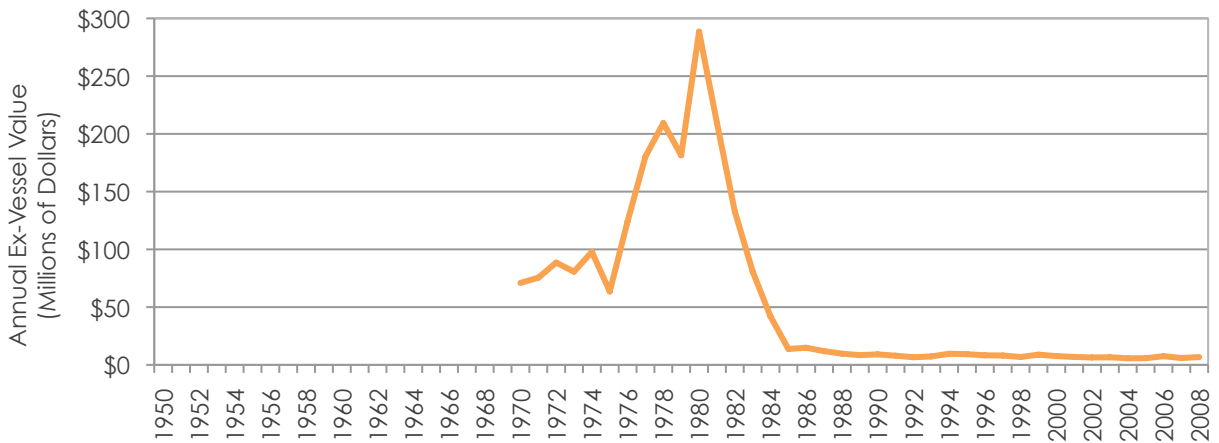
Source: National Marine Fisheries Service (NMFS)

Figure 6-6 California Commercial Landings EVV from 1950-2008 (2009 Dollars)



Source: National Marine Fisheries Service (NMFS)

Figure 6-7 San Diego Area Commercial Landings EVV from 1970-2008 (2009 Dollars)



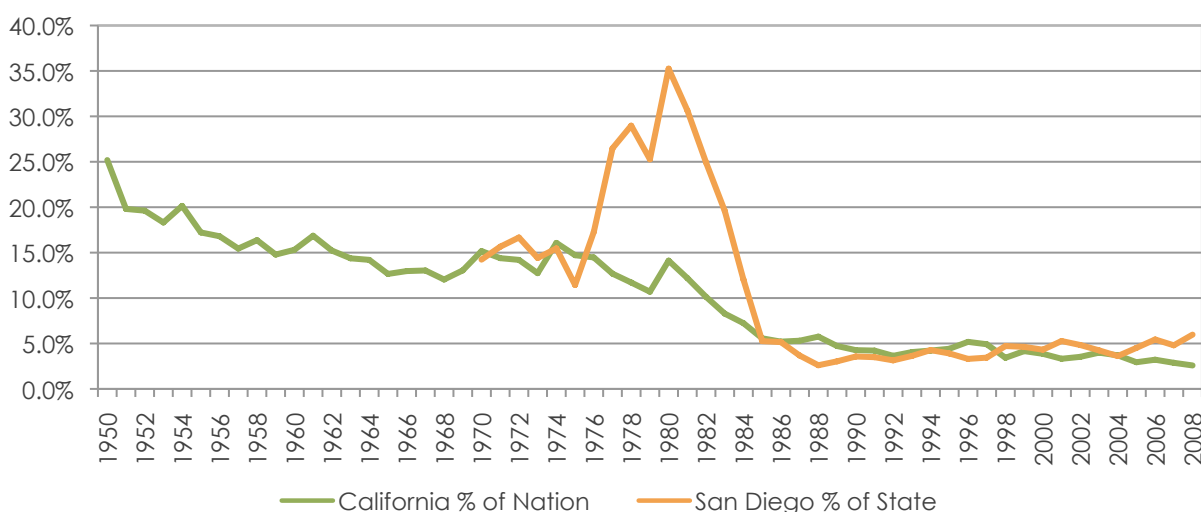
Source: CDFG and the San Diego Bay 1998 Market Fishing Fleet Report

Relative EVV (2009 Dollars)

California. In 1950, EVV of commercial landings in California represented 25% of the national number (see Figure 6-8). Between 1955 and 1980, California EVV represented approximately 15% of national EVV, and by 1985 California EVV fell to approximately 3-5%, where it remained through 2008.

San Diego. In 1970, the EVV of commercial landings in the San Diego Area represented approximately 15% of the statewide total. Following a slight decline in the mid-1970s, San Diego EVV rose to 35% by 1980. Between 1980 and 1985, EVV in the San Diego Area fell sharply to 5% of statewide totals where it remained through 2007.

Figure 6-8 Commercial Landings EVV from 1950-2008 (2009 Dollars) as a Percentage



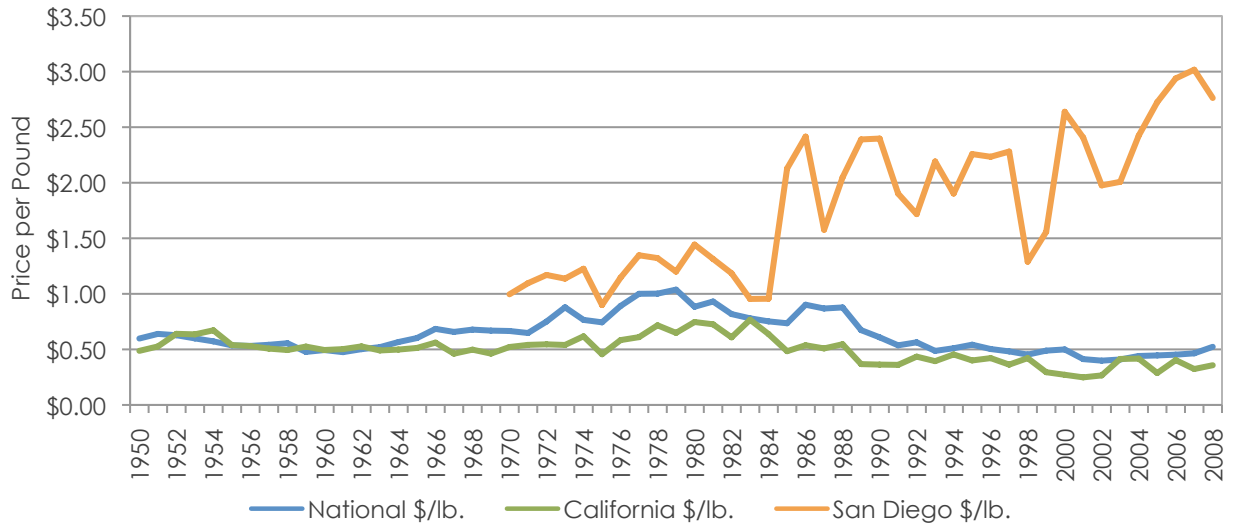
Source: NMFS, CDFG, and the San Diego Bay 1998 Market Fishing Fleet Report

Average Value per Pound (2009 Dollars)

The average value per pound of commercial landings was determined by dividing the total annual EVV by the total volume in the same year (see Figure 6-9).

National and California. National and state value per pound trend-lines remained similar between 1950 and 2008, ranging from \$.50 to \$1, although national values were slightly higher than California between the mid-1960s and the late-1980s.

San Diego. Average value per pound in San Diego has remained above national and statewide values since 1970. Between 1970 and the mid-1980s, average value per pound in San Diego remained about \$1 per pound. By 1985, the average value per pound had risen to nearly \$2.50, and although the values fluctuated through the following two decades, by 2007 the average value per pound for commercial landings in the San Diego Area was more than \$3 per pound.

Figure 6-9 Commercial Landings Average Value per Pound in 2009 Dollars (1950-2008)

Source: NMFS, CDFG, and the San Diego Bay 1998 Market Fishing Fleet Report

6.2 Regional Landing Comparison

The following examines commercial landings between 1950 and 2008 for three regions in the United States comprised of 22 coastal states. Landings in these regions accounted for at least 98% of national EVV in any given year. Commercial landing data for 1950 to 2008 was obtained from the NMFS Statistical Unit. The three regions are:

West/Pacific Region:	Alaska, Hawaii, California, Oregon, and Washington
Northeast/Atlantic Region:	Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Virginia
Southeast/Gulf Region:	Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Texas

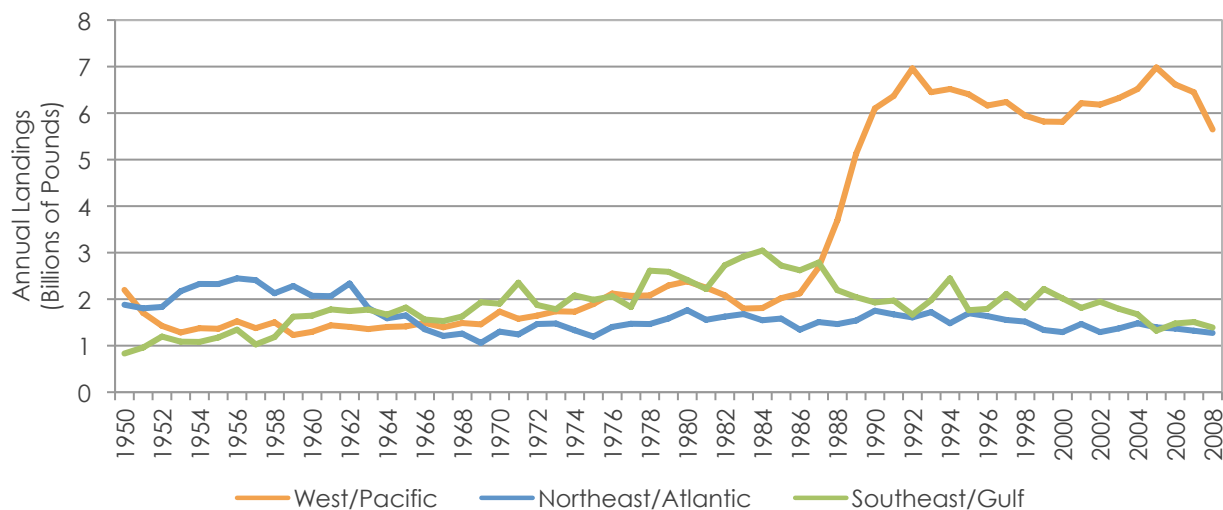
Data from these regions is discussed in terms of:

- Volume (pounds)
- Relative Volume
- EVV
- Relative EVV
- Average Value per Pound

Annual Volume (Pounds)

Between 1950 and 1985, commercial landings declined in the Northeast/Atlantic region while the Southeast/Gulf region and Western/Pacific region experienced increases (see Figure 6-10). By 1992, landings in the Western/Pacific region rose 3.5 times from two billion pounds to seven billion pounds. The Western/Pacific region was the most active between 1992 and 2008, with landings between six billion and seven billion pounds annually, compared to an average of 1.5 billion pounds in the Northeast/Atlantic region and Southeast/Gulf region.

Figure 6-10 National Commercial Landings by Region (1950-2008)

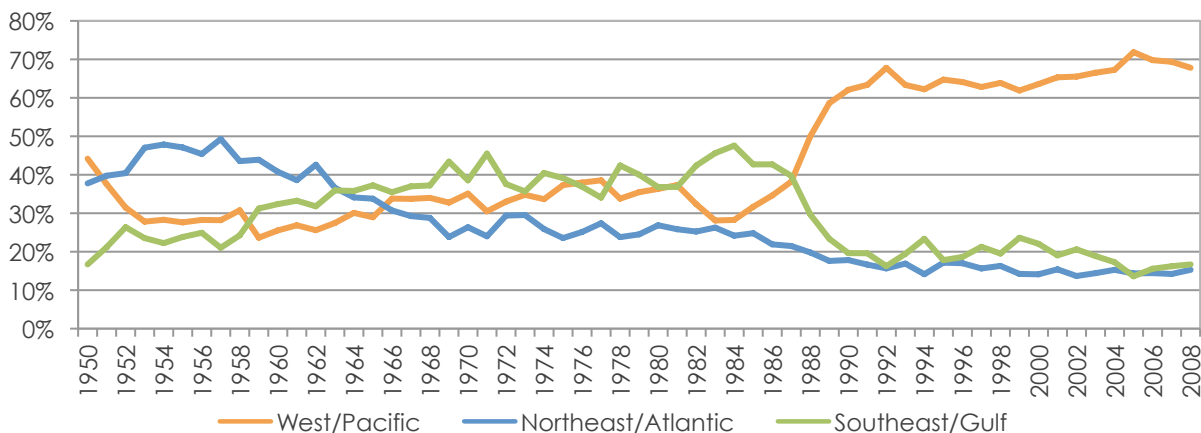


Source: National Marine Fisheries Service (NMFS)

Relative Volume

As a percentage of national landings in 1950, the Northeast/Atlantic region and Western/Pacific region represented approximately 40% each, and the Southeast/Gulf region represented almost 20% of total landings (see Figure 6-11). The Northeast/Atlantic region has shown a continual decline as a percentage of national landings and in 2008 represented 15%. Meanwhile, commercial landings in the Southeast/Gulf region rose from 20% of national landings in the early-1950s to nearly 50% in the mid-1980s. By the early 1990s, that percentage fell to approximately 20%; and since 2005, landings in the Southeast/Gulf region dropped to approximately 15% of national landings. From the mid-1950s through the late-1980s, commercial landings in the Western/Pacific region represented between 25% and 40% of nationwide landings. By 1990, landings in the Western/Pacific region rose to represent more than 60% of national landings, and since 2005, landings in the Western/Pacific region represented approximately 70% of nationwide landings.

Figure 6-11 Commercial Landings by Region as a Percentage of National Landings (1950-2008)



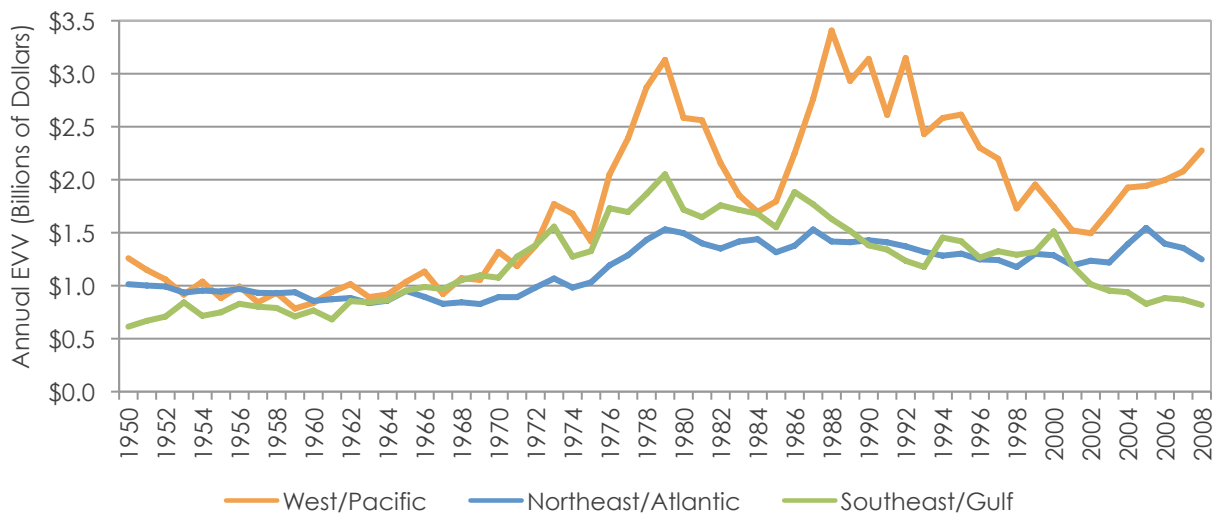
Source: National Marine Fisheries Service (NMFS)

Annual EVV (2009 Dollars)

Annual EVV for the Northeast/Atlantic region remained at or below \$1 billion until the mid-1970s (see Figure 6-12). By the late 1970s, the Northeast/Atlantic region's annual EVV had reached nearly \$1.5 billion, and remained between \$1 billion and \$1.5 billion through 2008. Annual EVV in the Southeast/Gulf region rose steadily from approximately \$500 million in 1950 to nearly \$2 billion by the late-1970s. From a peak of \$1.9 billion in 1979, annual EVV in the Southeast/Gulf region fell, and in 2008 EVV was approximately \$800 million.

Annual EVV in the West/Pacific, Southeast/Gulf, and Northeast Atlantic regions were similar to each other until 1976 when the West/Pacific region rose from less than \$1.5 million to more than \$3 million by 1979. Following a decline to \$1.5 million by 1984, the West/Pacific region's EVV rose to nearly \$3.5 million by 1988. EVV dropped to approximately \$1.5 million by 2001, and have climbed to \$2.2 billion by 2008.

Figure 6-12 National Commercial Landings EVV (2009 dollars) by Region (1950-2008)



Source: National Marine Fisheries Service (NMFS)

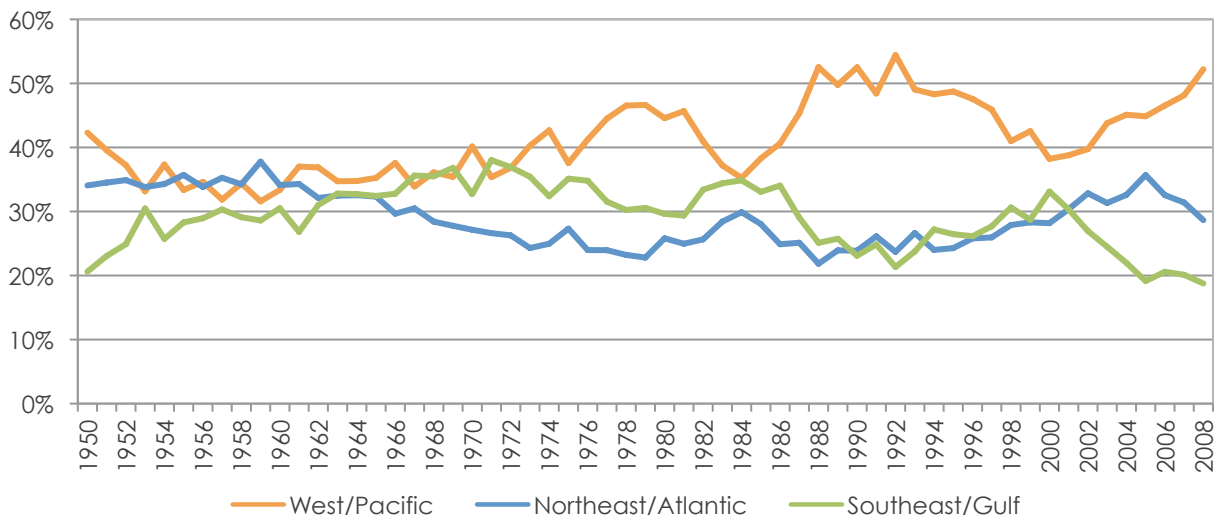
Relative EVV

The Northeast/Atlantic and Southeast/Gulf regions represent approximately the same percentage of nationwide EVV in 2008 as they did in 1950 (see Figure 6-13). The portion of national EVV in the Northeast/Atlantic region declined from approximately 35% in 1950 to nearly 20% in the late-1980s, and then rose to 36% in 2005; by 2008 the Northeast/Atlantic region made up approximately 29% by 2008. The percentage of national EVV in the Southeast/Gulf region rose from 20% in 1950 to more than 35% by the late-1970s, and then fell back to 20% by the early-1990s and has remained at that level since. Following an increase to more than 30% by 2000, the Southeast/Gulf region's percentage of national landings again have remained at approximately 20% since 2005.

EVV in the West/Pacific region fluctuated between 32% of national EVV in 1950 and 42% in 1975. After a sharp decrease in the early-to-mid-1980s, the West/Pacific region's percentage of national EVV rose to more than 50% by 1988, and fluctuated around that level through 1996.

Following another decline, the West/Pacific region's percentage of national EVV climbed to 52% in 2008, more than half of national EVV.

Figure 6-13 Commercial Landings EVV (2009 Dollars) by Region as a Percentage of National EVV (1950-2008)

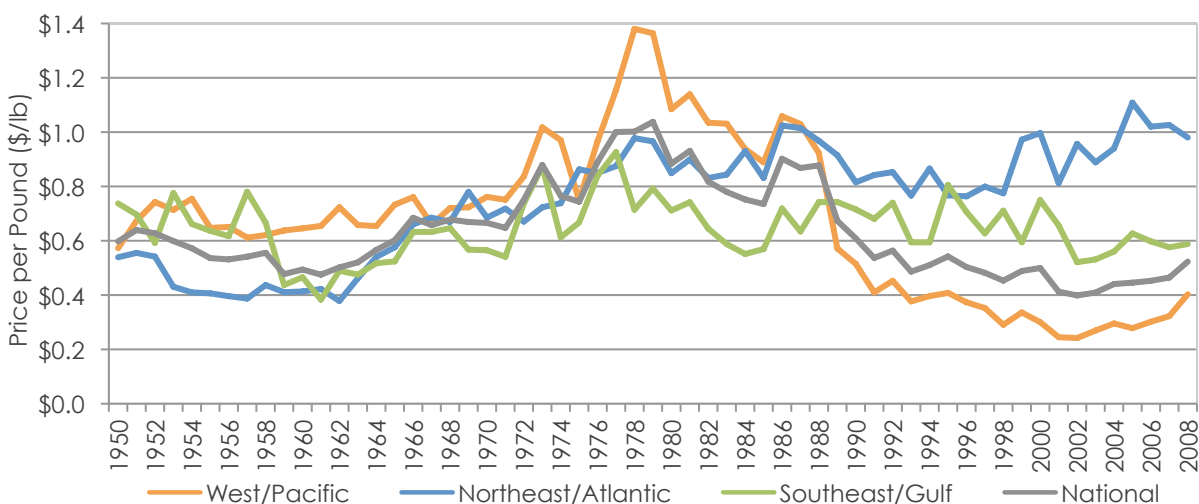


Source: National Marine Fisheries Service (NMFS)

Average Value per Pound

The Northeast/Atlantic region's 2008 average value per pound of \$0.98 was nearly twice the national average of \$0.52 per pound, the highest of the three regions in 2008 (see Figure 6-14). The Southeast/Gulf region had the lowest average value per pound during the 1970s and 1980s, but by 2008 its per pound value of \$0.59 was higher than the national average of \$0.52. After falling from a high of \$1.38 per pound in 1978, the West/Pacific region has the lowest average value per pound, \$0.40 in 2008, the lowest of the national average. However, the high volume of landings makes the West/Pacific region the highest in overall EVV.

Figure 6-14 Commercial Landings Average Value per Pound (2009 Dollars) by Region (1950-2008)



Source: National Marine Fisheries Service (NMFS)

6.3 Local Commercial Landings

The following section describes landing activity at the four most active ports in the San Diego Area from 1985-2008: Driscoll's Wharf, Tuna Harbor, Oceanside, and Mission Bay. Oceanside and Mission Bay were included to gain a more comprehensive view of regional landing activity and to measure how Driscoll's Wharf and Tuna Harbor compare in species landed, tonnage and EVV. The data shows that Oceanside and Mission Bay (1) have significant landings compared to Driscoll's Wharf, (2) are landing several high value species, and thus higher average value(s) per pound, and (3) are targeting some species not historically landed in the study areas (Driscoll's Wharf, Tuna Harbor). This illustrates that collaboration with Oceanside and Mission Bay fishermen may be appropriate and/or beneficial and that fishermen from these two ports may find improvements or expansion at Driscoll's and Tuna Harbor attractive enough to use the facilities occasionally or permanently.

In 1985, 1988, and 1993 the data shows very little landing activity at Driscoll's Wharf and in 1986, 1987, 1989, 1990, 1991, and 1992, there was no reported landing activity. It has been reported that at least one fish buyer who purchases seafood landed at Driscoll's Wharf was instructed by CDFG to use port code 880, the code for Tuna Harbor. In addition, the CDFG data also contains a section labeled "All Other Ports," which could contain landing activity from Driscoll's Wharf or Tuna Harbor. Situations such as these might explain parts of the missing data.

Methodology

The data in this section was obtained from the California Department of Fish and Game. Each table shows landing activity per port, by species, and includes total EVV and weight. In each table, the ports are presented in order of their annual EVV. Species are then listed per port starting with the species with the highest EVV that year.

There are 13 ports in the San Diego area that reported landing activity between 1985 and 2008. In every year except 1985, four of those ports (Point Loma, Tuna Harbor, Oceanside, and Mission Bay) represented 99% or more of the total landings. Tuna Harbor and Driscoll's Wharf are not listed as "ports" in the San Diego Area. The CDFG port names do not necessarily match the names most commonly used. A PacFIN Report titled: Pcid Codes and Corresponding Agency Ports (updated in October 2008) lists every "Agency Description" and "Agency Port Code" in Washington, Oregon, and California (see Attachment G). Using this table, the four most active ports can be identified based on their unique three-digit code issued by CDFG.

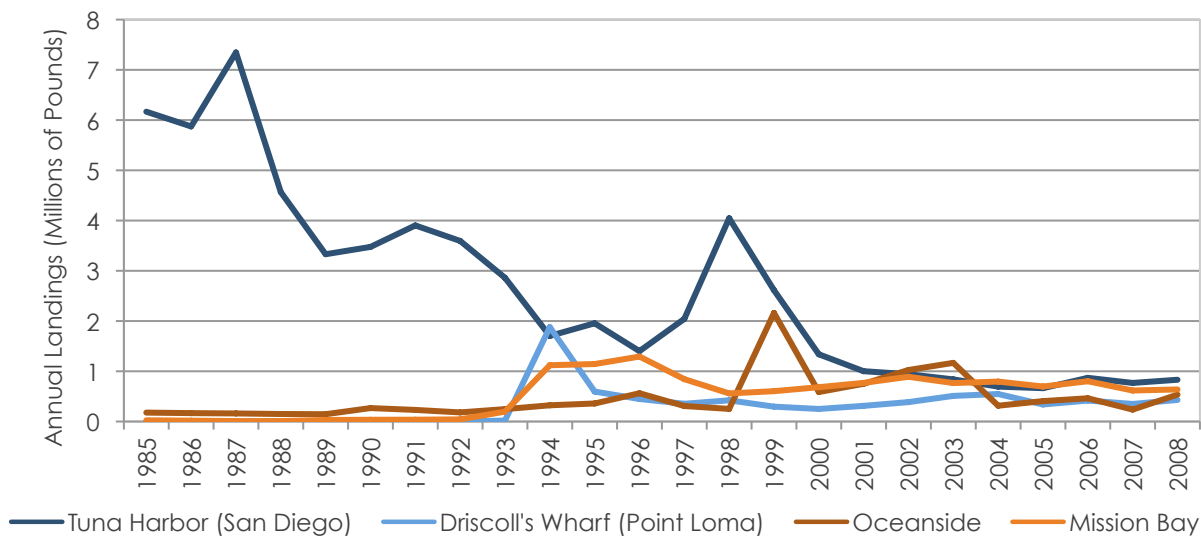
In California, any buyer of fish from a commercial vessel must complete and submit a CDFG Fish Ticket, which requires a fish buyer to indicate the "port of first landing" using the port's unique three-digit code. Fish buyers at Driscoll's Wharf and Tuna Harbor indicated that Tuna Harbor is 880 and Driscoll's Wharf is 881. Using the PacFIN Table a link was made between the "Agency Description" (port name) and the "Agency Port Code" (port code) in the CDFG Data Tables and the ports in the Study Area.

In the PacFIN tables, Tuna Harbor (880) is referred to as "San Diego" and Driscoll's Wharf (881) is referred to as "Point Loma." For the purposes of this report, "San Diego" is referred to as Tuna Harbor and "Point Loma" as and Driscoll's Wharf.

Commercial Landings Overview

Volume Since 1985, commercial landings in the San Diego Area totaled nearly 95 million pounds, most of which was landed in the mid-1980s and early-1990s. Traditionally, most commercial landing activity took place at Tuna Harbor, but by the mid-1990s as commercial activity at Tuna Harbor declined, commercial landing activity at the other three ports began to increase (see Figure 6-15). In 2008, 430,000 to more than 830,000 pounds were landed among each of the four ports – Tuna Harbor (34%), Driscoll's Wharf (18%), Mission Bay (26%), and Oceanside (22%).

Figure 6-15 San Diego Area Annual Landings (pounds) 1985-2008



Source: California Department of Fish and Game (CDFG)

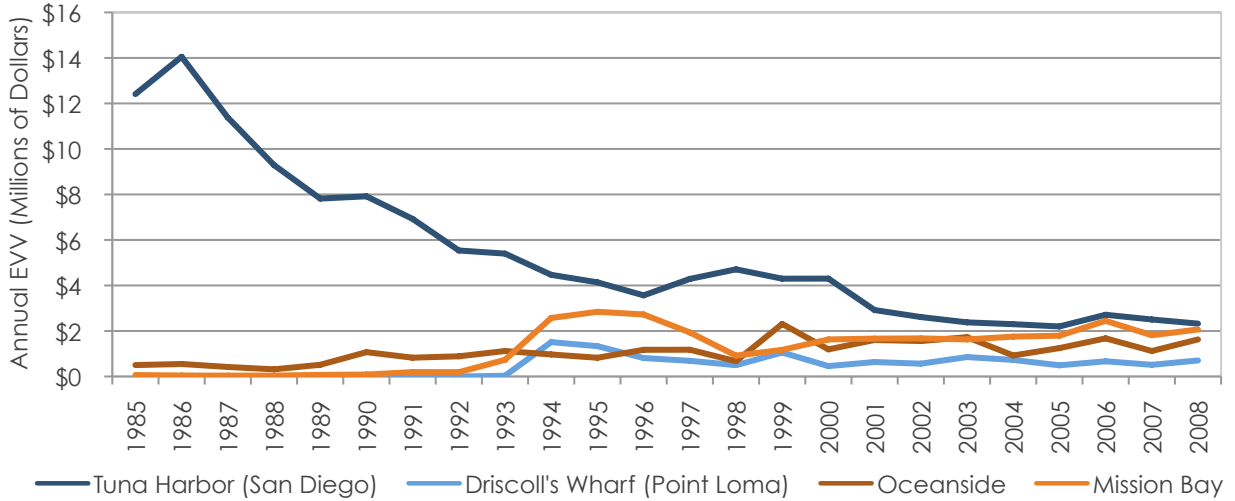
Value Since 1985, EVV in the San Diego Area totaled nearly \$200 million (2009 dollars), an average of over \$8 million annually, although it has followed a downward trend. Tuna Harbor accounted for most of the landing activity in the San Diego Area during the mid-to-late-1980s, however, between the mid-1990s and mid-2000s EVV for commercial fishermen who landed at the three other major ports rose. In 2008, annual EVV at the major ports were: Tuna Harbor - \$2.32 million, Driscoll's Wharf - \$703,000, Oceanside - \$1.6 million, and Mission Bay - \$2.1 million (see Figure 6-16).

In the San Diego area, landing activity has been steady since 2000, with EVV totaling between \$5 and \$7 million annually (2008 dollars). Considering a cumulative EVV of over \$59 million between 2000 and 2008, commercial fishermen continue to make a large contribution to the local economy and food supply.

Value per Pound Figure 6-17 shows the average annual value per pound for each of the four major ports in the San Diego bay from 1985 to 2008. The average annual value per pound at each port ranges from less than \$1 per pound to more than \$5 per pound. Since 2000, the average value per pound of commercial landings at Tuna Harbor has remained between \$2.75 and \$3.31, higher than the previous 15 years. Prior to 2000, the average value per pound of commercial landings was between \$1 and \$2.50. The average value per pound at Oceanside and Mission Bay has traditionally been higher than Tuna Harbor and Driscoll's Wharf. The

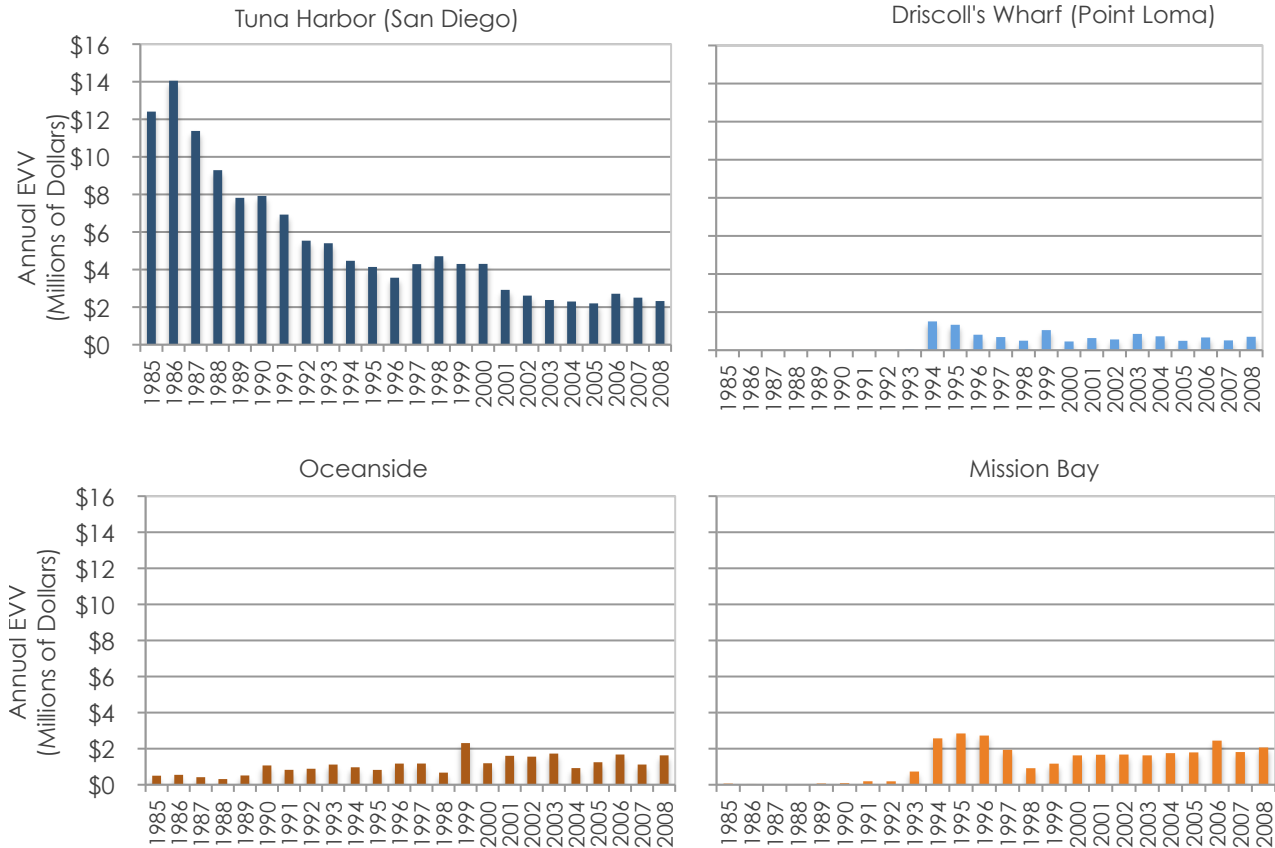
averages over the entire period for each of the four ports were: Oceanside, \$2.95; Mission Bay, \$2.83; Tuna Harbor, \$2.40; and Driscoll's Wharf, \$1.82.

Figure 6-16 San Diego Area Annual EVV (2009 dollars) 1985-2008



Source: California Department of Fish and Game (CDFG)

Figure 6-17 Average Value per Port (2009 dollars) 1985-2008



Source: California Department of Fish and Game (CDFG)

Top Landed Species

The top landed species were determined by examining the 10 species with the highest total EVV from 1985-2008 (2009 dollars) in the San Diego Area (see Table 6-1). EVV is considered a better indicator of the economic condition and viability of the fishery.

Table 6-1 Top Landed Species

	Species	Total EVV	Percent of Total*
1.	Swordfish	\$58.1 million	30.4%
2.	CA Spiny Lobster	\$ 46.0 million	24.1%
3.	Red Sea Urchin	\$ 23.8 million	12.5%
4.	Shark**	\$ 11.2 million	5.9%
5.	Rockfish	\$ 9.6 million	5.0%
6.	Spot Prawn	\$ 7.0 million	3.7%
7.	Albacore Tuna	\$ 5.6 million	2.9%
8.	Rock Crab	\$ 5.2million	2.7%
9.	CA Halibut	\$ 4.3 million	2.3%
10.	CA Sheephead	\$ 3.7 million	1.9%
	Total	\$ 174.6million	91.3%

* Percent of Total EVV for the entire San Diego Area.

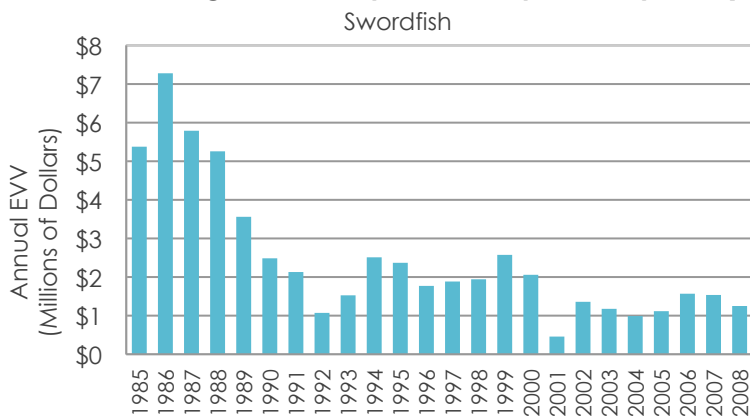
** Includes all DFG recorded shark species (basking shark, bigeye thresher shark, blacktip shark, blue shark, brown smoothhound shark, gray smoothhound shark, horn shark, leopard shark, Pacific angel shark, pelagic thresher shark, salmon shark, sevengill shark, shortfin mako shark, sixgill shark, smooth hammerhead shark, soupfin shark, spiny dogfish shark, thresher shark, white shark, cow shark, and unspecified shark)

Note: Nearly \$8.6 million (2009 dollars) of albacore, bigeye, blackfin, bluefin, skipjack, and yellowfin tuna were landed in the San Diego Area between 1985 and 2008. Albacore represented more than half of all tuna EVV. Due to discrepancies in yellowfin tuna EVV (see Attachment H) that reflect potential underrepresentation of the price paid at the dock, yellowfin was not included in this analysis.

Top Landed Species: Total EVV

Figure 6-18 shows the total EVV (2009 dollars) in the San Diego area for each of the top landed species between 1985 and 2008.

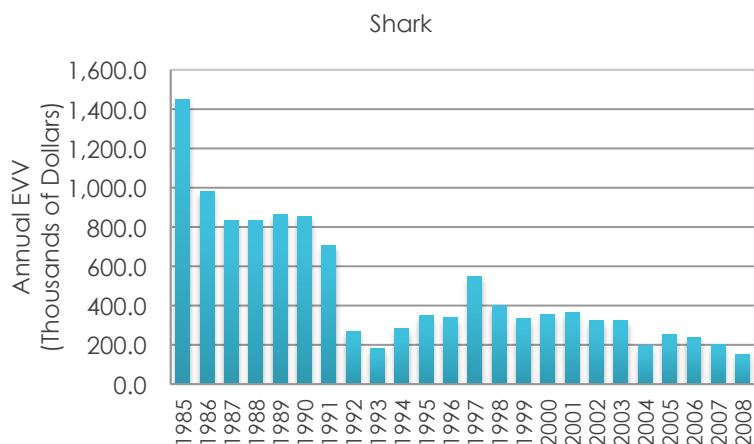
Figure 6-18 Top Landed Species by EVV (2009 dollars) 1985-2008



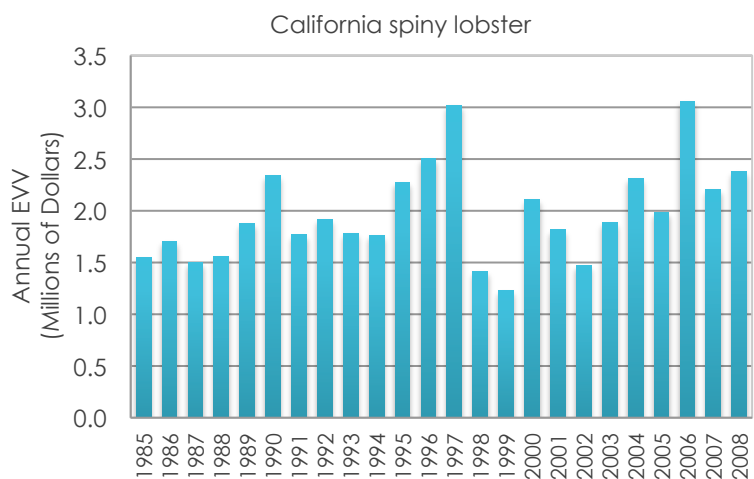
Although swordfish landings have dropped sharply since the mid-1980s, landings accounted for more than 21% of total San Diego EVV in 2008. At just over \$3 per pound, swordfish landings earned fishermen more than \$1.2 million in 2008.

Source: California Department of Fish and Game (CDFG)

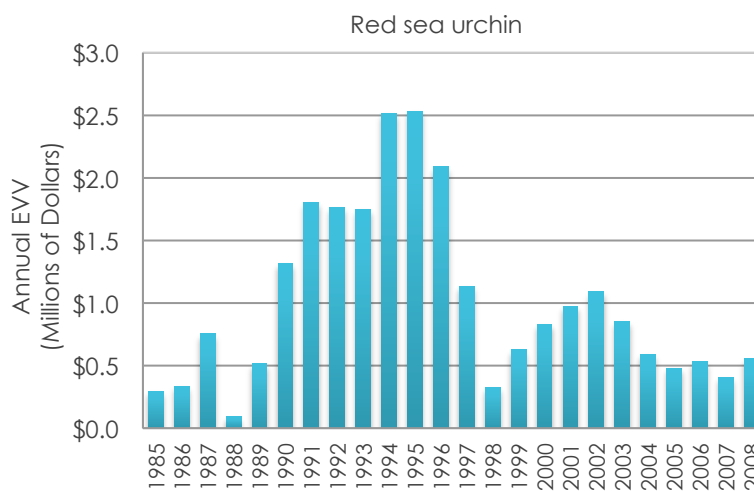
Figure 6-18 Top Landed Species by EVV (2009 dollars) 1985-2008, continued



The species shown here include thresher, shortfin mako, and soupfin shark, which are species generally caught using drift gillnets. Shark earns on average \$1.50 per pound. These shark species follow very similar landing trends as swordfish landings.



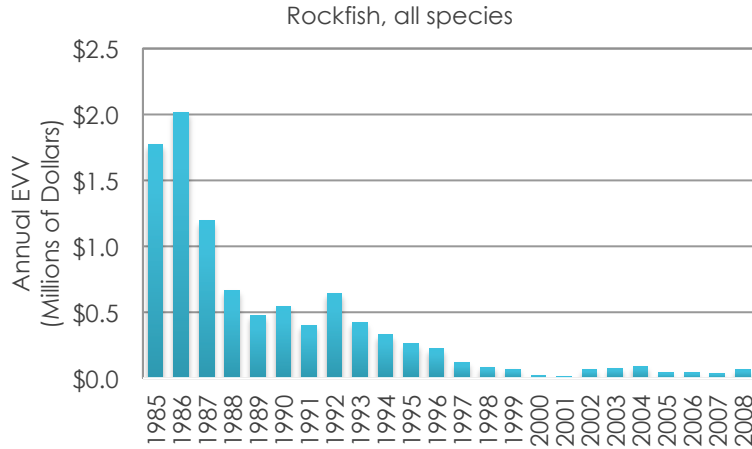
California spiny lobster is traditionally caught in traps, and is a low volume/high value fishery with an average of more than \$7.50 per pound. Lobster EVV was higher in 2006 than any other time since 1985, accounting for nearly \$2.9 million in total EVV, or 41% of all EVV.



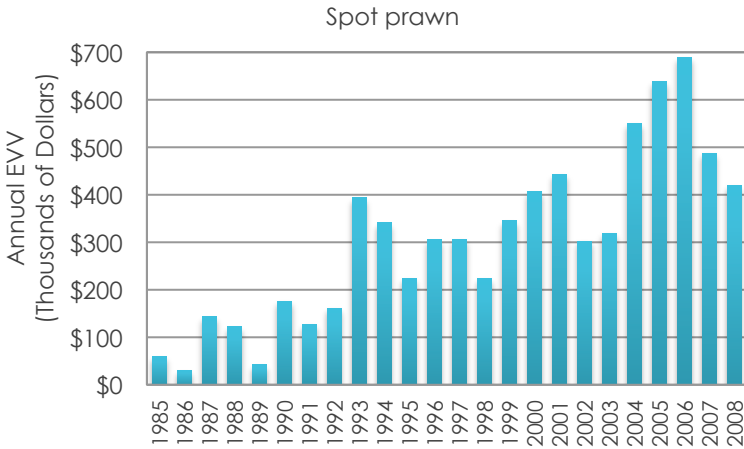
Sea urchin is traditionally caught by divers. On average, divers receive \$1 per pound; but since 2003, they have received less than \$1 per pound. EVV for sea urchin was \$554,100 in 2008, 9% of total EVV for the San Diego Area. The highest annual EVV since 1985 were 1994 and 1995, when it reached nearly \$2.5 million.

Source: California Department of Fish and Game (CDFG)

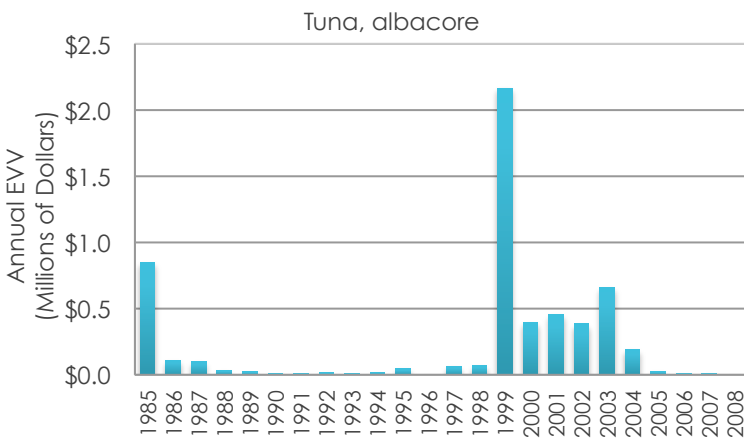
Figure 6-18 Top Landed Species by EVV (2009 dollars) 1985-2008, continued



Rockfish is traditionally a trawl fishery and is cited as a top species in the San Diego Area due to the large volume of landings in the mid-1980s. Since then, rockfish landings have fallen, and in 2007 rockfish landings were near their lowest to date.



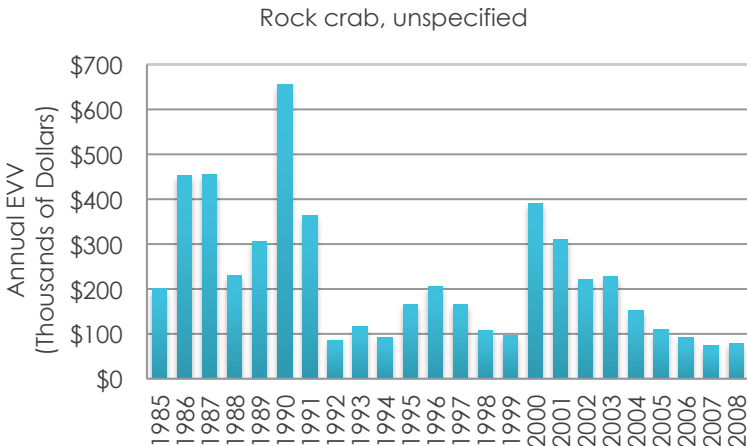
Spot prawn is traditionally caught in traps and is a high value species with an average of more than \$9 a pound. Spot prawn landings have generally been increasing since 1985, and in 2006 EVV was at its highest. Spot prawn represented approximately 9% of total EVV in 2006 but in 2008 dropped to 7% with a total EVV of approximately \$419,000.



Albacore is traditionally a pole and purse seine fishery. Tuna is an important fishery for San Diego; however, tuna landings have decreased dramatically since the mid-1980s. Excluding a spike in 1999 and landings in the early-2000s, tuna landings have been minimal since 1985.

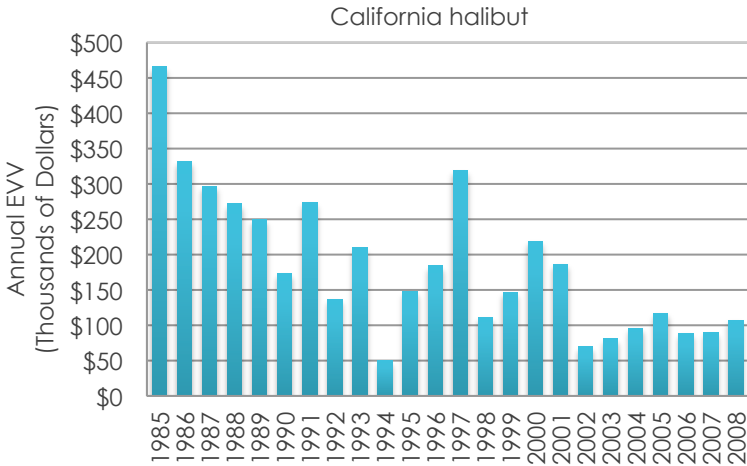
Source: California Department of Fish and Game (CDFG)

Figure 6-18 Top Landed Species by EVV (2009 dollars) 1985-2008, continued

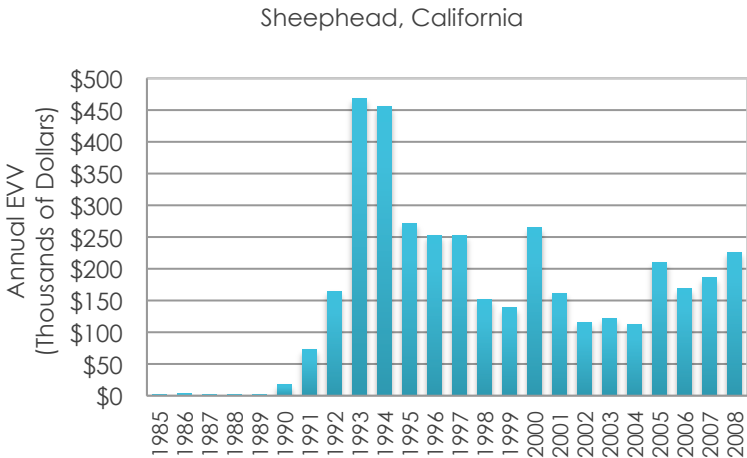


Rock crab is traditionally caught in traps and is a highly cyclical species. Rock crab earns approximately \$1.15 per pound, and landings have shown a downward trend in recent years. Some of the lowest crab landings during the time period occurred in 2007.

Source: California Department of Fish and Game (CDFG)



Halibut is traditionally caught using set gill and trammel nets and trawl gear, and earns on average more than \$3.75 per pound. Halibut landings have shown a downward trend, and in 2006 and 2007 earned San Diego fishermen less than \$100,000.



Sheephead represent a valuable fishery in San Diego at more than \$4.20 per pound, indicating a live fishery. Although fishermen earned less than \$200,000 for sheephead in 2006, 2007, and 2008, landings are much higher than they were between 1985 and 1990.

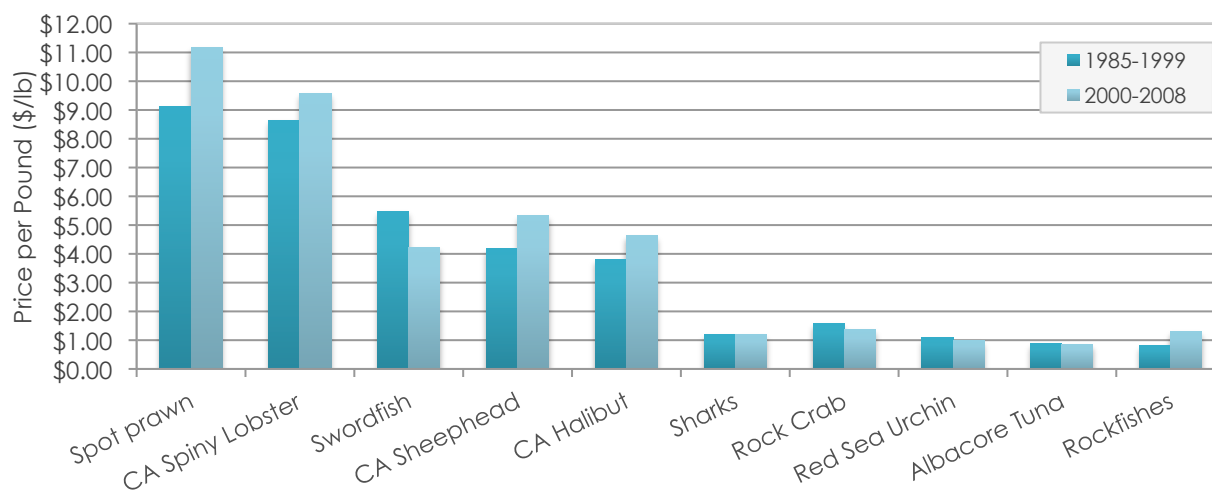
See Attachment I for a complete San Diego area, Gear Type by Species chart.

Source: California Department of Fish and Game (CDFG)

Recent (2000-2008) and Past (1985-1999) Local Landings Comparison

Figure 6-19 shows the average value per pound (2009 dollars) of each of the 10 top species for the time periods: 1985-1999, and 2000-2008. The two time periods were chosen to show changes in value per pound or landings from the “previous period” (1985-1999) to the “current period” (2000-2008). The species with the highest value per pound are listed from left to right.

Figure 6-19 Top Landed Species Average Value per Pound (2009 dollars) 1985-2008



Source: California Department of Fish and Game (CDFG)

Price Per Pound

Spot Prawn, has the highest value per pound at more than \$11 on average between 2000 and 2008, higher than in previous years and was ranked #4 in total EVV from 2000-2008.

CA Spiny Lobster, has the second highest value per pound at more than \$9.50 on average between 2000 and 2008, more than in previous years. It was the top landed species (rank #1) in total EVV from 2000-2008.

Swordfish had the third highest value per pound on average from 1985-1999. Swordfish in recent years yields fishermen more than \$4 per pound, a decrease from nearly \$5.50 per pound in previous years.

CA Sheephead is earning more than \$5 per pound, nearly 25% higher than previous years. It ranks 10th in total EVV from 2000-2008.

CA Halibut had the fourth highest value per pound from 1985-1999. It ranks #11 in total EVV from 2000-2008, and is earning fishermen nearly \$4.65 per pound, up nearly \$1 per pound from previous years.

Shark Species earned fishermen an average of approximately \$1.20 per pound between 2000 and 2008, almost identical to previous years, and ranks #6 in total EVV from 2000-2008.

Rock Crab rank #8 in total EVV from 2000-2008 in the San Diego Area. They also earned fishermen approximately \$1.60 per pound previously. More recently, rock crab now earn fishermen on average of \$1.40 per pound.

Red Sea Urchin (#3), Albacore (#7), and Rockfish (#14) rank 8th, 9th and 10th respectively in terms of average value per pound, selling for approximately \$1 between 2000 and 2008. Red sea

urchin and albacore have seen a decline in average value per pound in recent years while rockfish have seen an increase to \$1.30 per pound (likely from live fish sales).

Top Landed Species: Port Distribution

This analysis is meant to illustrate trends in earnings that will inform marketing, management and renovation and expansion of infrastructure.

The following pie charts (see Figure 6-21) show the distribution of the top species landed at each of the four major ports based on EVV for two time periods, 1985-1999 and 2000-2008, to show trends in landings. EVV was used instead of tonnage because it better illustrates the economic performance of the fishery.

Below is a summary of EVV for each of the top landed species for the recent time period of 2000-2008 and the past, 1985-1999 (depicted in Figures 6-20 and 6-21):

Figure 6-20 Top Landed Species Total EVV (2009 dollars) 1985-2008

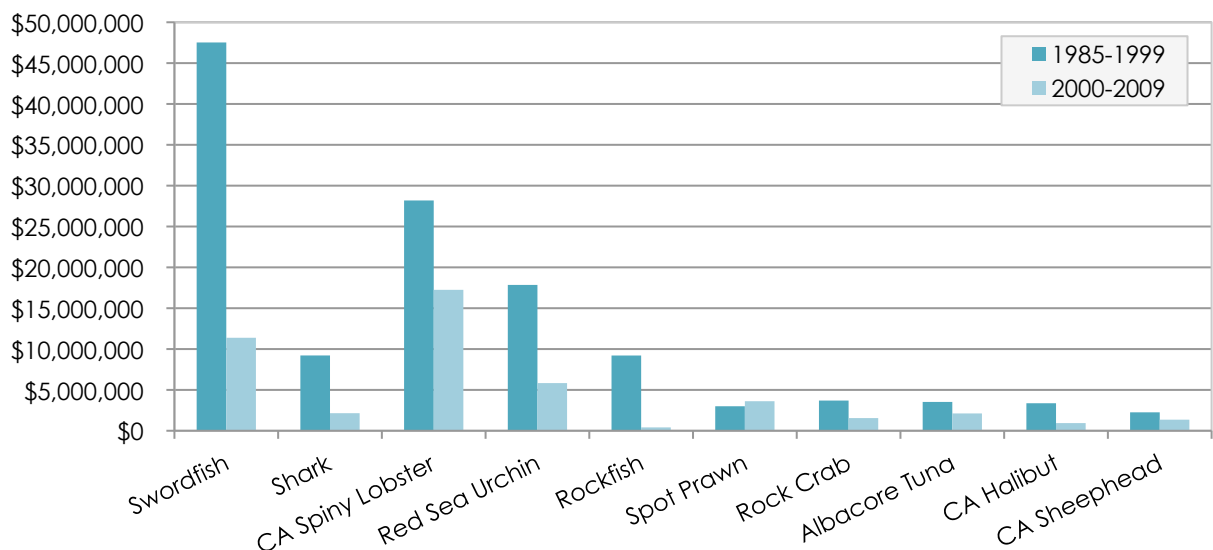
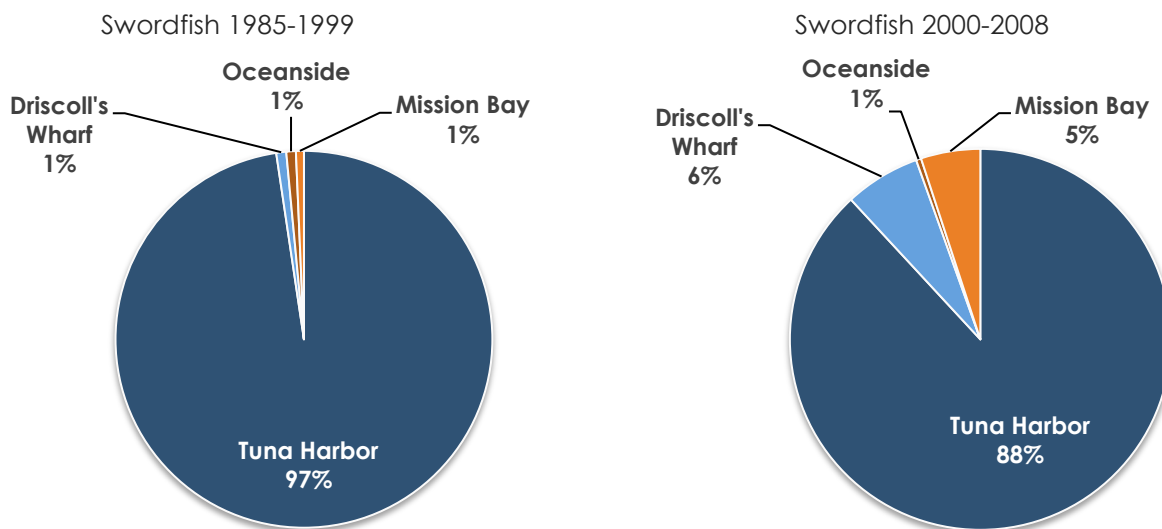
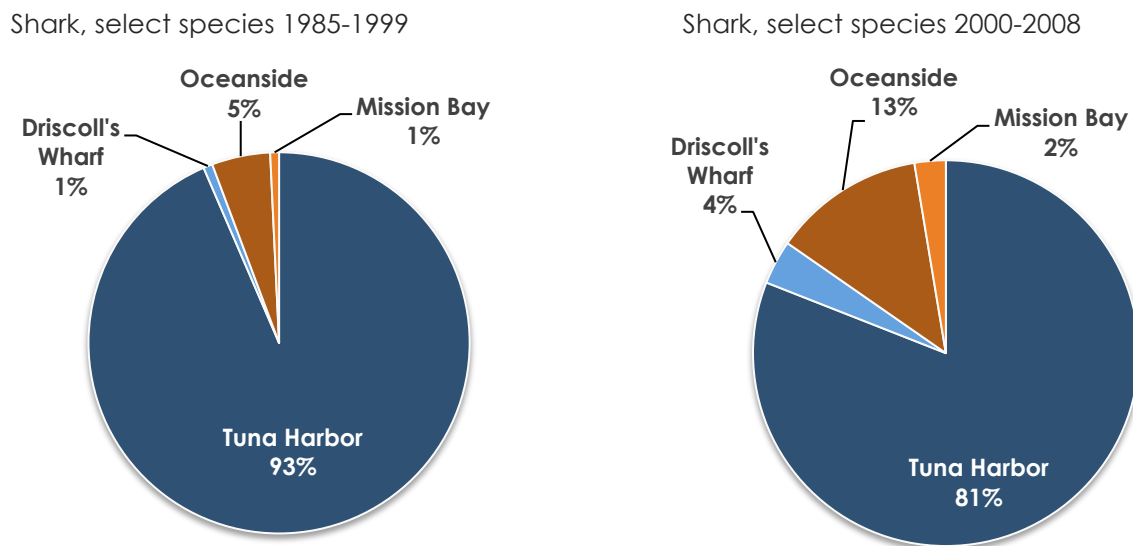


Figure 6-21 Top Percentage of Species Landed per Port (EVV - 2009 dollars)

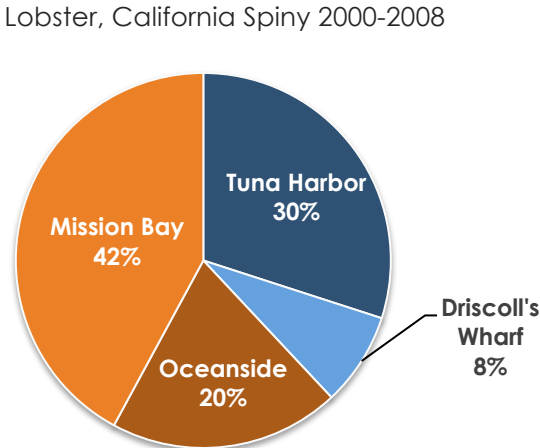
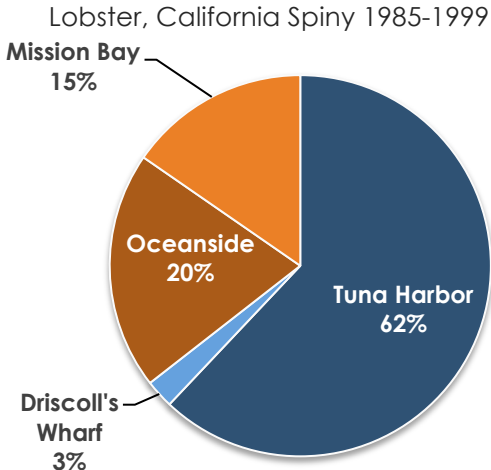


Swordfish: More than 88% of swordfish was landed at Tuna Harbor between 2000 and 2008, although landings have decreased from 98% in previous years. Swordfish landings at Driscoll's have increased from less than 1% between 1985 and 1999 to more than 6% between 2000 and 2008.

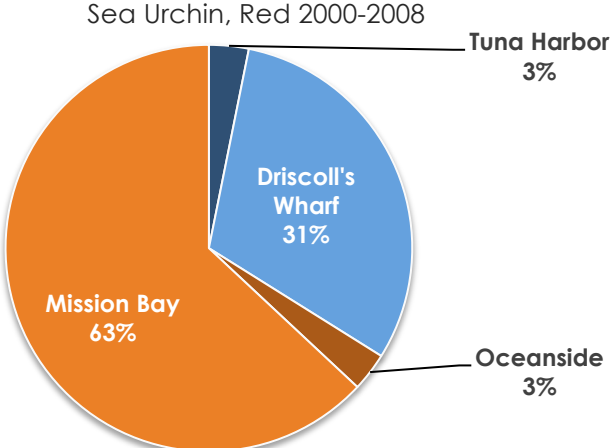
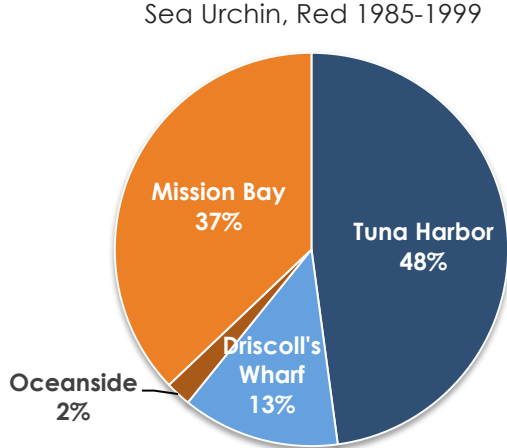


Shark species: Most shark species are landed at Tuna Harbor (81% in recent years); although Oceanside represented 13%, up from 5% historically.

Figure 6-21 Top Percentage of Species Landed per Port (EVV - 2009 dollars), continued



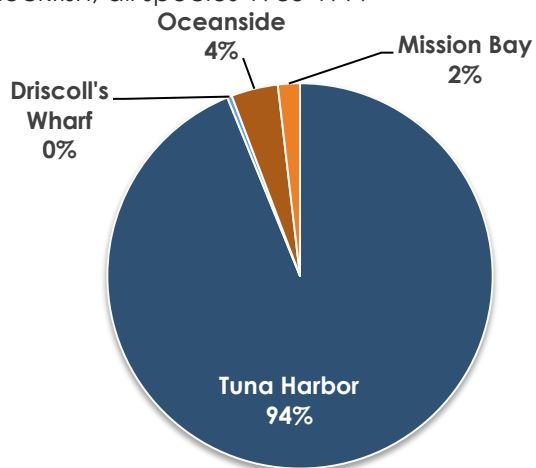
CA Spiny Lobster: 62% of San Diego-caught lobster was historically landed at Tuna Harbor, however, in recent years lobster landings at Tuna Harbor have fallen to 30%. Presently, 42% of lobster is landed at Mission Bay and 20% at Oceanside.



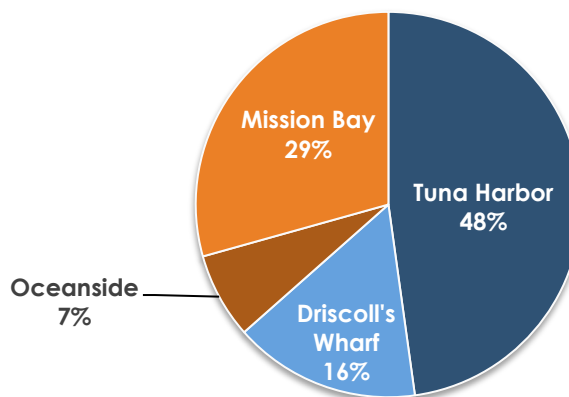
Red Sea Urchin: Nearly half of the red sea urchin was landed at Tuna Harbor in the past compared to 3% in recent years. Over 30% were landed at Driscoll's Wharf between 2000 and 2000. More than two-thirds was landed at Mission Bay from 2000 to 2008.

Figure 6-21 Top Percentage of Species Landed per Port (EVV - 2009 dollars), *continued*

Rockfish, all species 1985-1999

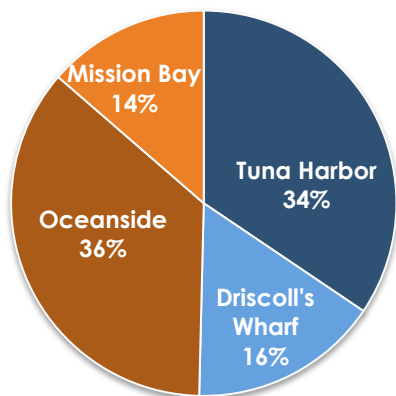


Rockfish, all species 2000-2008

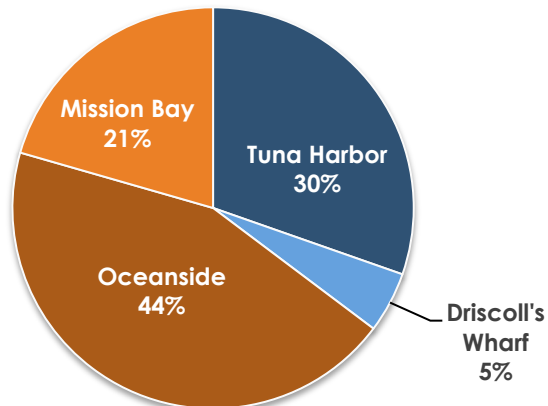


Rockfish: Nearly 94% of rockfish were landed at Tuna Harbor in the past compared to 47% in recent years with 16% now at Driscoll's Wharf. Rockfish landings in recent years at Mission Bay represented almost 30% of the total San Diego landings of that species group.

Spot Prawn 1985-1999



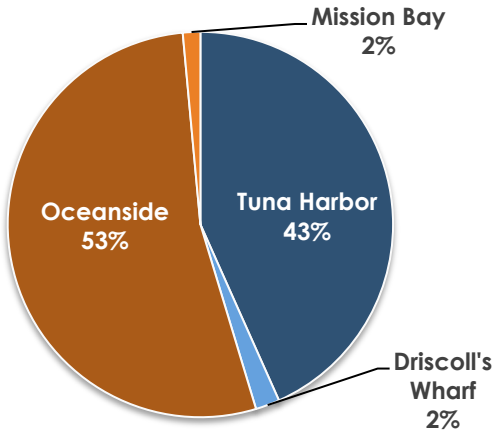
Spot Prawn 2000-2008



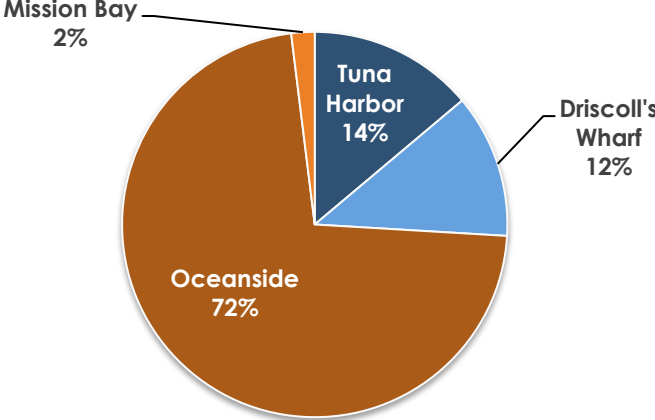
Spot Prawn: Spot Prawn landings distribution have not changed significantly. In recent years, 44% of spot prawn was landed at Oceanside, 30% at Tuna Harbor, 20% at Mission Bay, and 5% at Driscoll's Wharf.

Figure 6-21 Top Percentage of Species Landed per Port (EVV - 2009 dollars), continued

Tuna, Albacore 1985-1999

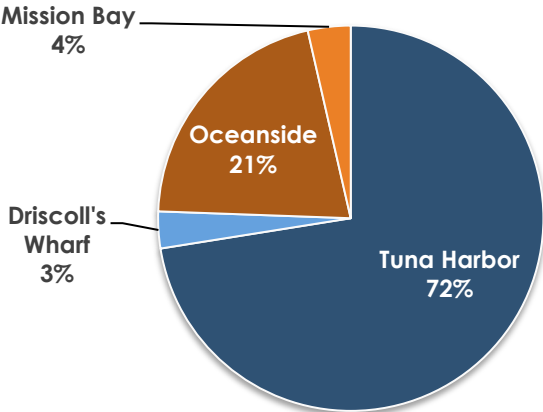


Tuna, Albacore 2000-2008

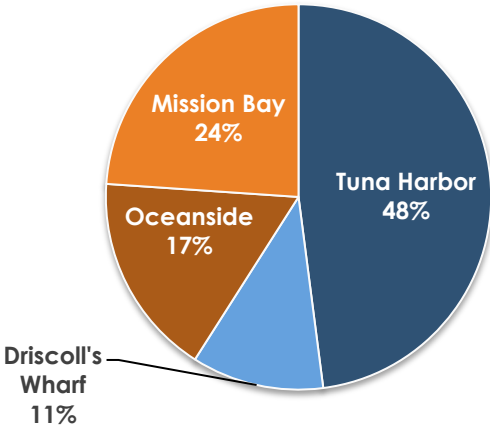


Albacore: In the past, the majority of albacore landings were split between Oceanside (53%) and Tuna Harbor (43%). More recently, 72% of San Diego albacore was landed at Oceanside with Driscoll's Wharf landing 12% and represented 14%.

Crab, Rock unspecified 1985-1999

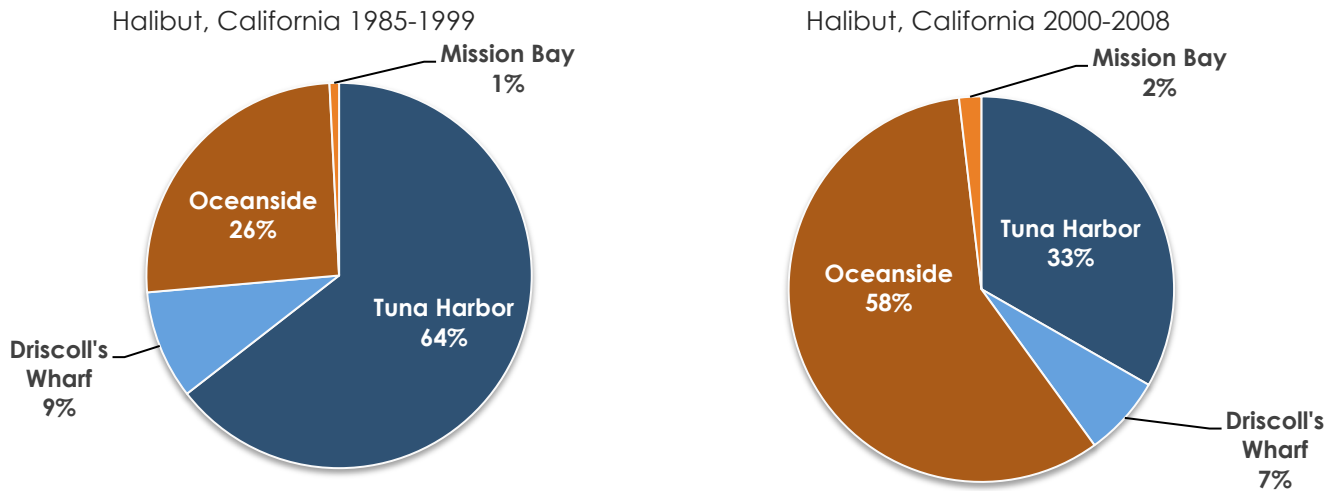


Crab, Rock unspecified 2000-2008



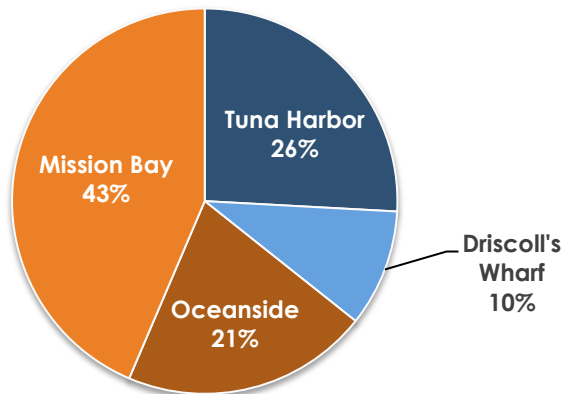
Rock Crab: 72% of rock crab used to be landed at Tuna Harbor compared to less than 50% in recent years. The rest of the rock crab is split by the other three ports: Mission Bay (24%), Oceanside (17%), and Driscoll's Wharf (11%).

Figure 6-21 Top Percentage of Species Landed per Port (EVV - 2009 dollars), *continued*

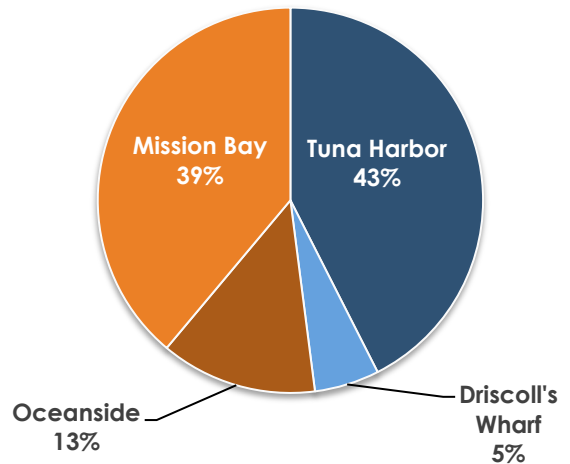


CA Halibut: Nearly 60% of halibut landings are at Oceanside in recent years, up more than two-fold from in the past. Thirty-three percent of Halibut are landed at Tuna Harbor, down from 64% in the past. In 2007 and 2008, Sablefish landings have pushed halibut from the top ten list.

Sheephead, California 1985-1999



Sheephead, California 2000-2008



CA Sheephead: Previously, the majority of sheephead was landed at Mission Bay (44%). More recently, Mission Bay's share has dropped to 39% with Tuna Harbor landing 43%.

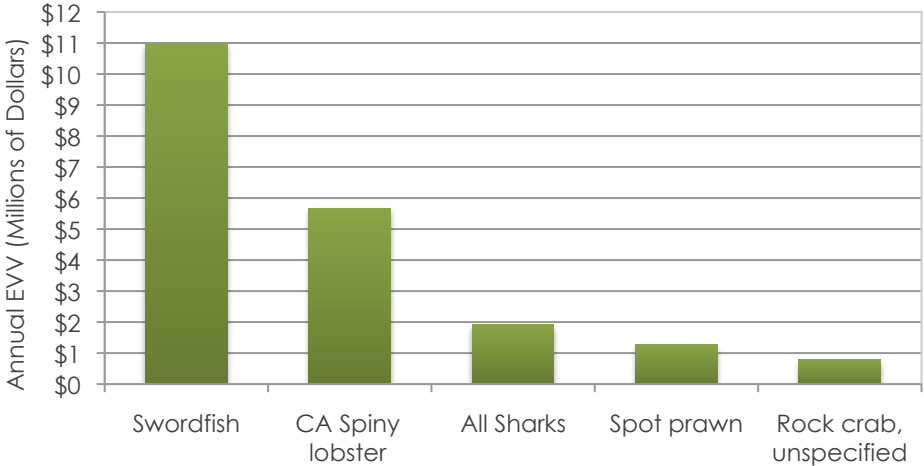
Source: California Department of Fish and Game (CDFG)

Top Landed Species: by Port (Tuna Harbor, Driscoll's Wharf, Mission Bay, Oceanside)

The following analysis examines top species per port at each of the four most active ports, Tuna Harbor, Driscoll's Wharf, Mission Bay and Oceanside between 2000 and 2008.

Tuna Harbor swordfish accounted for the highest EVV at nearly \$11 million (see Figure 6-22). Spiny lobster came in second at approximately \$5.7 million. The shark species came in third. Spot prawn and rock crab came in at fourth and fifth respectively at approximately \$1 million each between 2000 and 2008.

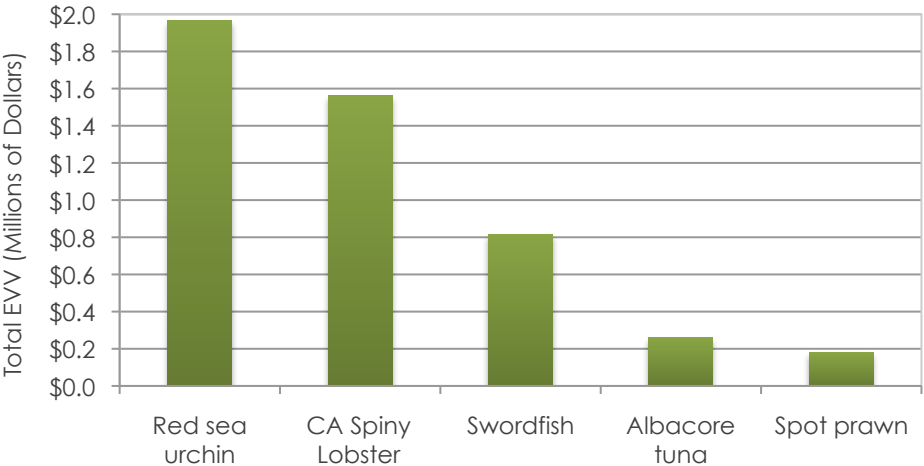
Figure 6-22 Tuna Harbor Top Species by Annual EVV (2009 dollars) 2000-2008



Source: California Department of Fish and Game (CDFG)

Driscoll's Wharf between 2000 and 2008, red sea urchin and CA spiny lobster represented the highest EVV at approximately \$2.0 million and \$1.6 million respectively (see Figure 6-23). Swordfish came in third at more than \$800,000 between 2000 and 2008, followed by albacore and spot prawn.

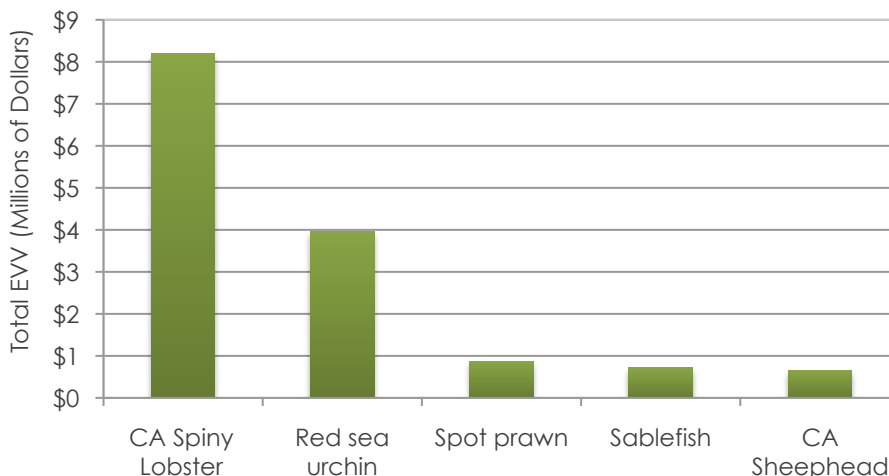
Figure 6-23 Driscoll's Wharf Top Species by Annual EVV (2009 dollars) 2000-2008



Source: California Department of Fish and Game (CDFG)

Mission Bay total EVV of spiny lobster from 2000-2008 was approximately \$8 million, greater than the EVV from lobster landed at Tuna Harbor and Driscoll's Wharf combined (see Figure 6-24). Red sea urchin had the second highest EVV at Oceanside with nearly \$4 million. Spot Prawn and sablefish came in at third and fourth respectively with a total EVV of more than \$600,000 each. Sheephead was fifth with a total EVV of approximately \$660,000. As mentioned previously, California sheephead ranks 10th in the top ten species regionally. Sablefish ranks 9th regionally.

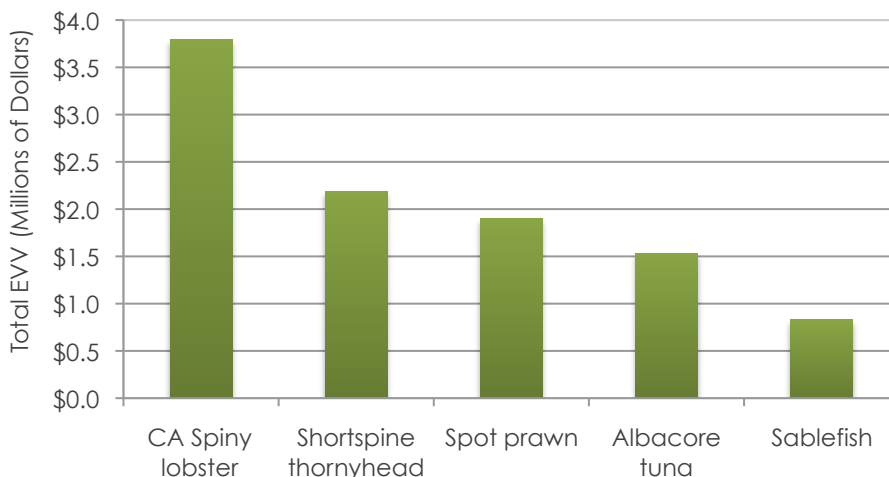
Figure 6-24 Mission Bay Top Species by Annual EVV (2009 dollars) 2000-2008



Source: California Department of Fish and Game (CDFG)

Oceanside EVV of CA spiny lobster totaled \$3.8 million between 2000 and 2008, the highest of any species landed at the port (see Figure 6-25). Shortspine thornyheads (\$2.2 million EVV), spot prawn (\$1.9 million EVV), and albacore tuna (\$1.5 million EVV) came in second, third, and fourth, respectively. Sablefish came in fifth at nearly \$830,000.

Figure 6-25 Oceanside Top Species by Annual EVV (2009 dollars) 2000-2008

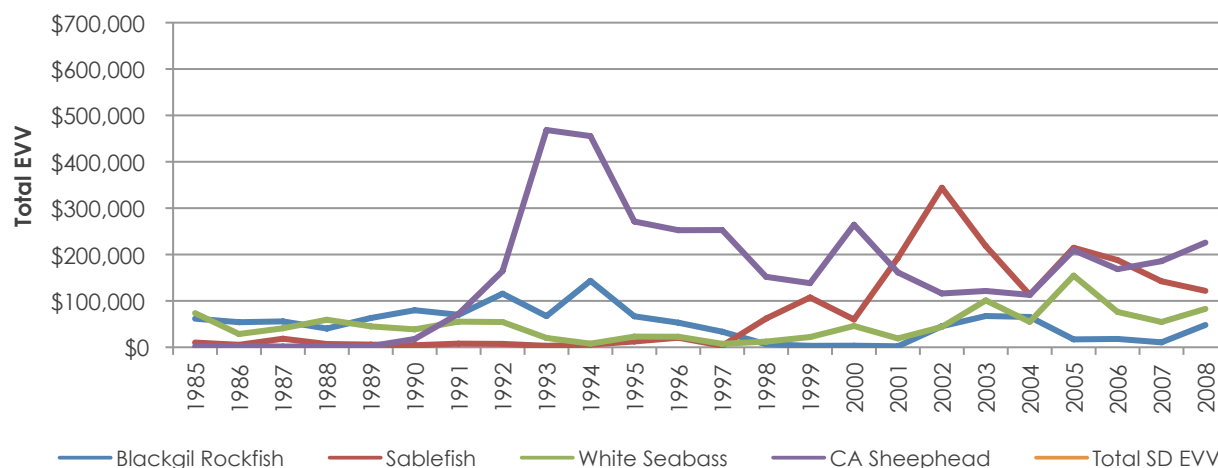


Source: California Department of Fish and Game (CDFG)

6.4 Other Species to Watch

The following is an analysis of five species that have grown in earnings for San Diego fishermen between 2000 and 2008. These trends are taken as an indication of potential opportunities for local fishermen and will inform the implementation process, particularly in marketing, management and infrastructure strategies.

Figure 6-26 Other Species Annual EVV (2009 dollars) 1985-2008

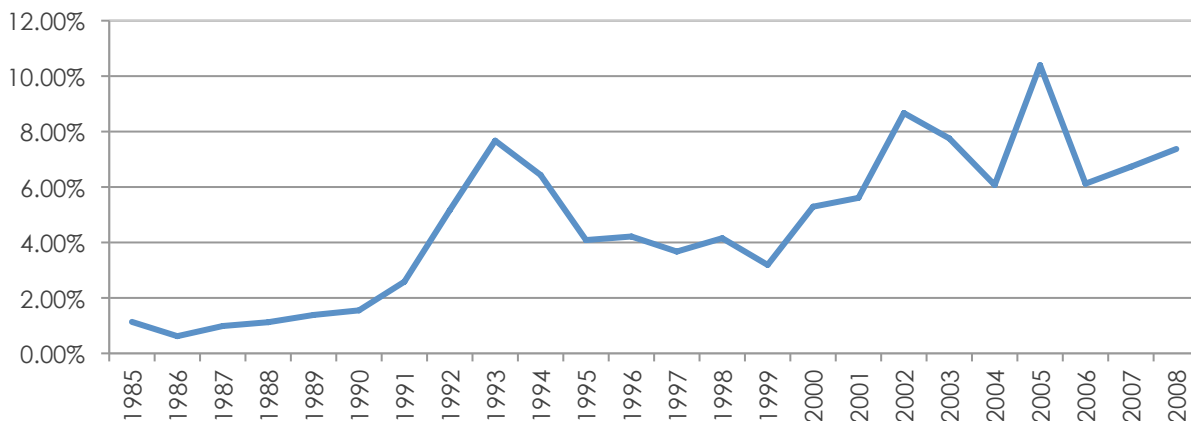


Source: California Department of Fish and Game (CDFG)

As shown in Figures 6-24 and 6-25, sablefish and thornyheads are described as top landed species at Oceanside and Mission Bay between 2000 and 2008. Sablefish and thornyheads are two of five species (the others being blackgill rockfish, white seabass, and CA sheephead) that have shown increased landing activity in recent years, higher than the 1985 – 1999 period (see Figure 6-26).

Note: CA sheephead ranked #10 on the Top Landed Species in the San Diego Area (see Table 6-1). As a percentage of total EVV, these five species combined have climbed from just over 1% of total EVV in 1985 to more than 10% in 2005 (see Figure 6-27).

Figure 6-27 Other Species Percentage of Total EVV (2009 dollars) 1985-2008



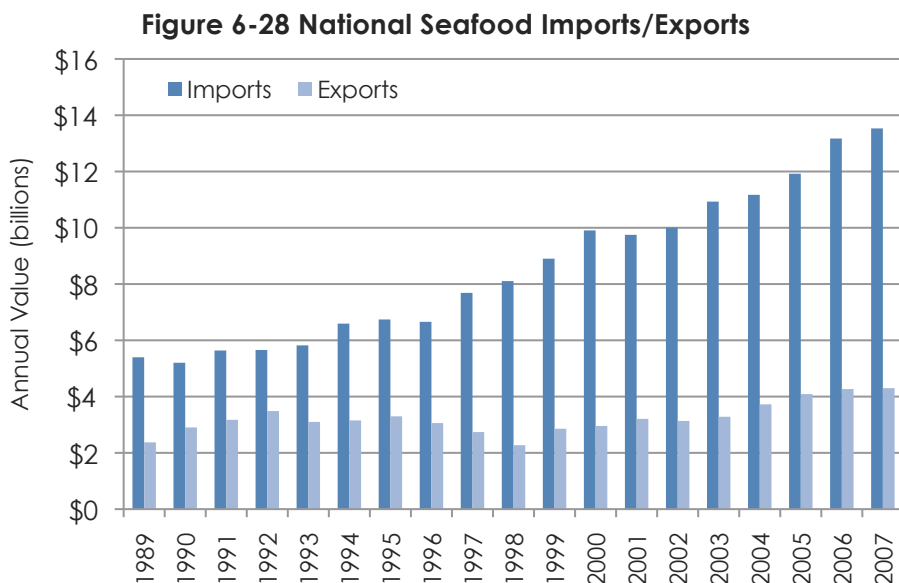
Source: California Department of Fish and Game (CDFG)

6.5 U.S. Seafood Imports and Exports

US seafood imports and exports are analyzed due to their influence on demand and price of San Diego caught seafood products. Species, country of origin and the prevalence of foreign imports will inform and guide marketing and promotional efforts, and provide further motivation for San Diego consumers to demand locally caught seafood. Analysis of seafood trade will give consumers, political leaders and potential funding sources of the revitalization effort a more comprehensive picture of opportunities and the extent of pressures facing the San Diego fleet.

The United States is the world's third largest importer of seafood behind the European Union and Japan¹. U.S. seafood imports have risen steadily since 1989 and have more than doubled from \$5.4 billion in 1989 to \$13.5 billion in 2007 (see Figure 6-28). Exports have increased, but have not kept pace with imports. In 2005, the seafood trade deficit was approximately \$9.2 billion, three times the \$3 billion trade deficit in 1989. Canada represents the largest percentage of U.S. imports, followed closely by China, Thailand, Chile, and Indonesia¹.

U.S. per-capita seafood consumption is expected to rise from its current level of approximately 15 pounds a year to 20 pounds a year by 2025 as farm raised products become more affordable. By 2025 it is projected that 50% of the U.S. seafood supply will come from aquaculture. Currently, more than 70% of the seafood consumed in the U.S. is imported, of which at least 40% is farm-raised¹.



Source: Imports of SITC 03, TradeStats Express, Office of Trade and Industry Information (OTII), International Trade Administration, U.S. Department of Commerce

Top Traded Species in the U.S.

Imports. In 2004, shrimp accounted for 34% of all seafood imports, followed by salmon (10%), crab (10%), groundfish (9%), lobster (9%), and tuna (8%).

Exports. In the same year, groundfish represented 37% of exports, followed by salmon (16%), lobster (9%), crab (4%), and shrimp (3%). See Figure 6-29 and 6-30².

Figure 6-29 2004 National Seafood Imports

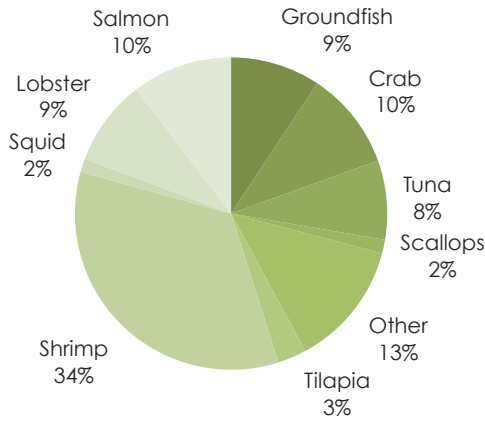
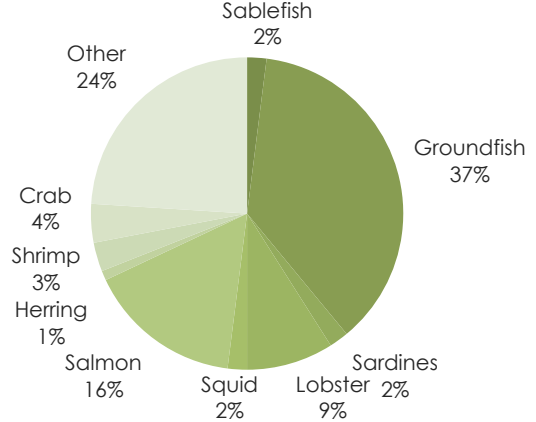


Figure 6-30 2004 National Seafood Exports



Source: NOAA, US Department of Commerce (DOC), U.S. Bureau of the Census

¹ Source: July 2005 International Trade Report, USDA Foreign Agriculture Service, Commodities and Marketing Programs

² Source: National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce

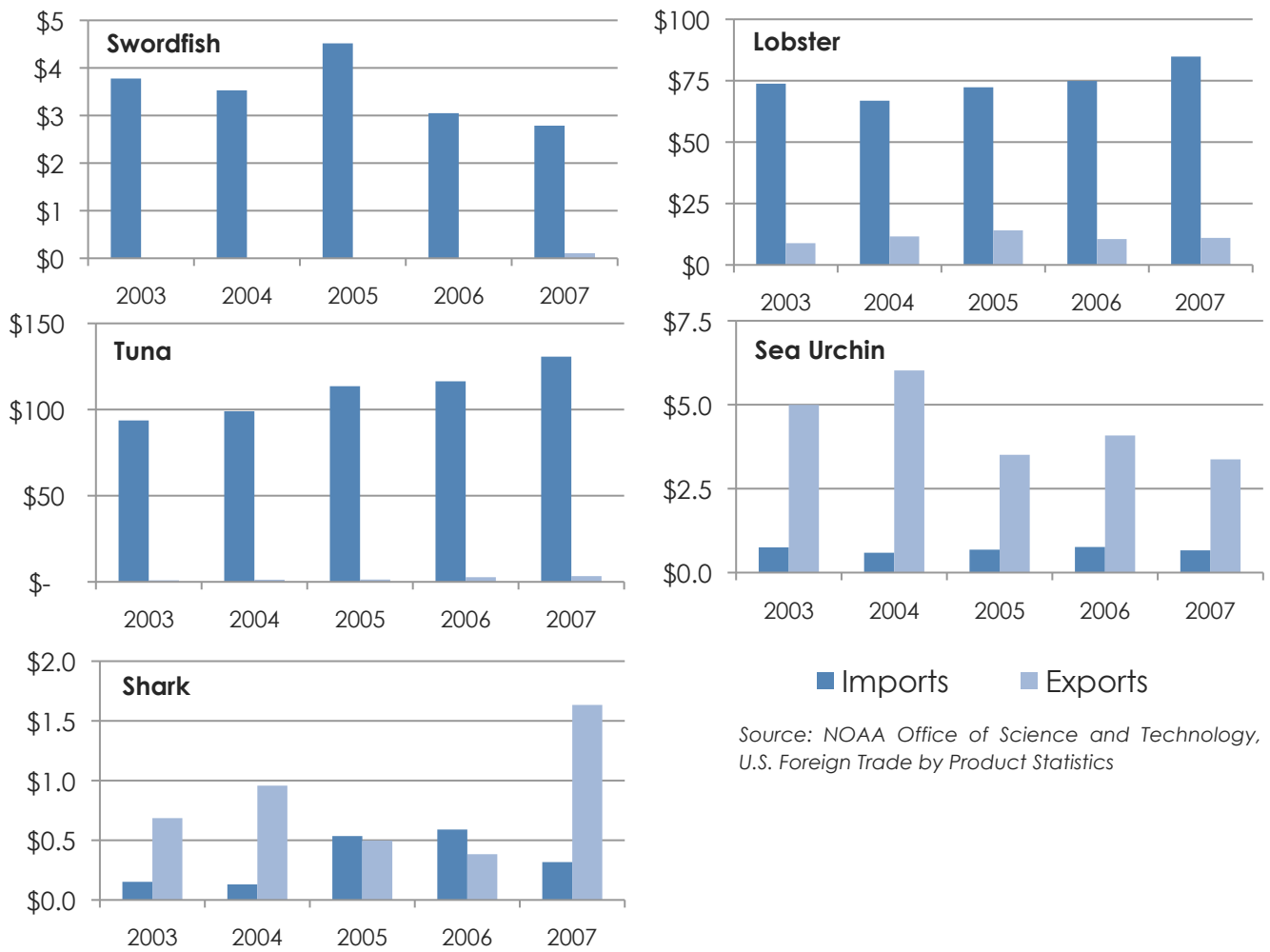
San Diego Top Species Imports and Exports

This analysis offers a description for consumers, political leaders, fishery managers and regulators of the opportunities provided by a local, small scale, well-regulated fishing industry and will guide the recommendation and implementation plan.

In San Diego, swordfish, lobster, shark, red sea urchin, and albacore have been identified as top landed species between 1985 and 2008. Of those, the U.S. imports more tuna, lobster, and swordfish than are exported, while sea urchin and shark are net exports. See Figure 6-31 for the value of U.S. imports and exports per species in millions of dollars from 2003 to 2007.

Swordfish imports declined slightly from more than \$3.5 million in 2003 to less than \$3 million in 2007. Exports were nearly non-existent from 2003-2007. Lobster imports grew from more than \$70 million in 2003 to more than \$80 million in 2007. Exports remained at or near approximately \$10 million annually. Tuna imports rose from approximately \$90 million in 2003 to nearly \$130 million in 2007. Exports were nearly non-existent from 2003-2007. Sea Urchin imports remained well under \$1 million between 2003 and 2007, fluctuating between \$400,000 and \$700,000. Exports ranged from more than \$6 million in 2004 to more than \$3 million in 2007. Shark exports reached more than \$1.5 million in 2007, nearly three times as much as imports in 2003. Imports have remained near or well below \$500,000 annually.

Figure 6-31 San Diego Species U.S. Imports and Exports (millions of dollars)



Source: NOAA Office of Science and Technology, U.S. Foreign Trade by Product Statistics

FISHERY MANAGEMENT EFFORTS

Section 7

Analysis of regulations is included due to their impact on the economic viability and conservation performance of the San Diego commercial fishing industry. This section examines swordfish; urchin; thresher and shortfin mako shark; lobster; albacore; halibut; crab; spot prawn; and rockfish, which all play, have played and may play a role in San Diego's commercial fisheries. Regulatory measures such as area closures; gear restrictions; catch and size limits; permit and license requirements; seasons and calendar restrictions had, and continue to have, major impacts on the San Diego fisheries. Combined, these measures make the U.S. fishing industry one of, if not the most, heavily regulated in the world. The regulatory climate and its effect on local fishermen will guide the revitalization effort, particularly on strategies for improvement or expansion of infrastructure, marketing, potential management entities, and funding sources. Analysis of the regulations will also provide fishery managers, consumers, supporters from the political community and potential funding sources with a comprehensive view of the pressures on local fishermen, across sectors and regardless of slip location.

Fishery management efforts are intended to create and maintain a sustainable commercial fishing industry. Due to historic human harvest of marine resources throughout the eastern Pacific, and specifically along the coast of California, both federal and state fishery managers have instituted a variety of new regulations or have changed existing regulations in recent years to address issues related to fish stock reductions, habitat protection and marine mammal interactions. These new regulations or changes to existing regulations have made commercial fishing much more complex and difficult and have resulted in a reduction in fish landings and earnings, the number of commercial fishing participants and fisheries related businesses in the Port of San Diego.

Measures taken by federal and state fishery resource managers to reduce or eliminate impacts on marine resources by commercial fishing have included reducing fishing effort through reductions in total allowable catch (TAC), size limits, changes to fishing gear, seasonal closures, geographic closures, permit reductions and depth restrictions.

The following section looks at fishery management efforts for the nine top species from the major landing facilities in San Diego Bay (Tuna Harbor, Driscoll's Wharf, Oceanside and Mission Bay).

7.1 Species Specific

Swordfish

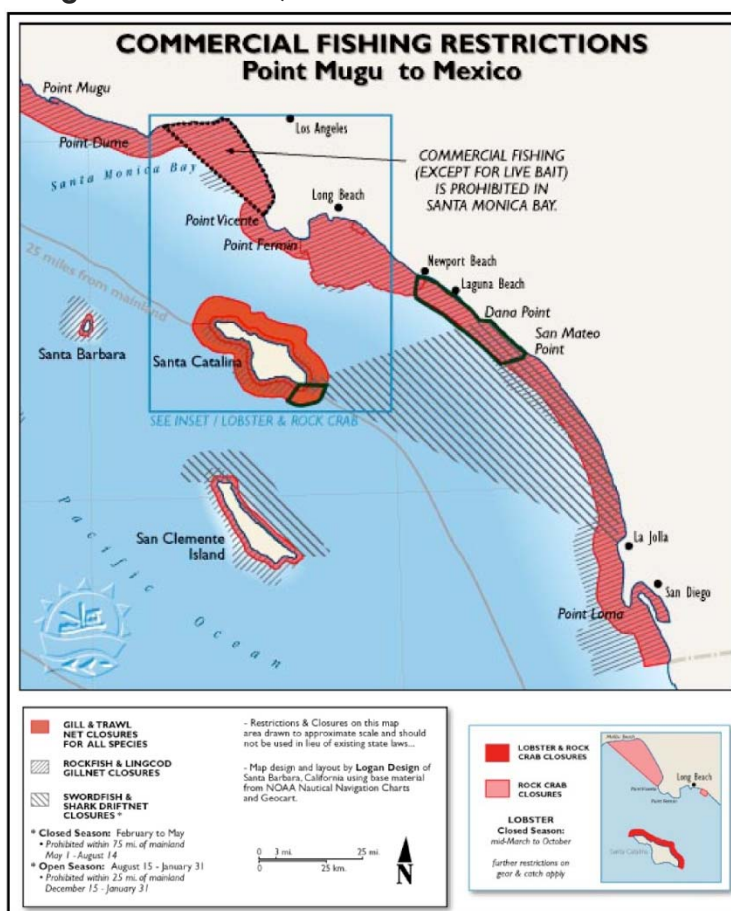
Prior to the mid-1970s, swordfish were typically harvested (commercially) with harpoons. Around the same time, the drift gillnet fleet began to catch swordfish while targeting thresher sharks. The effectiveness and efficiency of drift gillnets resulted in a large shift from harpooning. As a result, swordfish landings peaked in California in 1984 with 5.2 million pounds with ex-vessel value (EVV) of \$10.3 million. Following a multitude of regulations enacted from 1985 to the early 1990s, the landings declined to a little more than 200,000 pounds in 1992.

The California legislature enacted 17 bills between 1980 and 1987 regulating the use of gillnets in California. In 1985, the state enacted regulations to reduce fishing effort and swordfish landings by commercial fishermen utilizing drift gillnets. The state accomplished this by limiting the number of permits to 150 and restricting season of operation with time/area closures. In 1990, voters passed Proposition 132 that prohibited the use of gillnets within three miles of the mainland in Southern California and within one mile of the Channel Islands beginning January 1, 1994.

In early 2004, waters within 200 miles were closed to longline fishing for swordfish.

Current permits needed to harvest swordfish by drift gillnets include the drift gillnet (shark and swordfish) and general gill/trammel permit, both of which are transferable and issued by the California Department of Fish and Game (CDFG). The drift gillnet (shark and swordfish) permit has restrictions on the transferability, including, the permittee hold the permit for three years prior to transferring it. A drift gillnet permit can only be transferred to a person holding a valid general gillnet permit, which is also a transferable, restricted access permit. Both permits (drift gillnet and general gill/trammel net) needed for this fishery are restricted access permits and have to be transferred from one individual to another as CDFG no longer issues new permits for this fishery. These restrictions are aimed at reducing the number of participants in the fishery and require fishermen to understand and comply with overlapping and complex laws. If a U.S. fisherman fails to comply with these regulations, they are subject to fines, loss of license and potentially loss of their vessel.

Figure 7-1 Gill Net, Trawl Net and Drift Net Closures



Source: ca-seafood.ucdavis.edu, retrieved November 2008

Current gear regulations include limiting drift gill net length to 6,000 feet (one nautical mile) with a minimum mesh size of 14 inches and require the use of acoustical deterrent devices (pingers) on all nets to reduce interaction with marine mammals. In addition, the fishery is closed within 25 miles of the mainland from December through January to protect migrating gray whales. Legislation enacted in 1990 prohibits drift gill netting for swordfish or shark within 75 miles of the mainland from February 1 through July 14 to conserve the thresher shark resource. The Marine Mammal Protection Act mandated 100% human observer coverage on drift gill net vessels since 1989, at a cost borne by the fishermen. NOAA observers cost upwards of \$300-\$400 per day.

In 1985 there were approximately 220 active drift gillnet vessels fishing for swordfish in the state. Due to these regulations, there are now approximately 120 vessels, with only 100 actively fishing for swordfish using drift gillnets.

The four top nations harvesting swordfish in order of landings, by weight, are Japan, Chile, Philippines and the U.S. (California). The California swordfish fishery has, possibly, the smallest impact on the Pacific swordfish stocks, but is the most heavily regulated. CDFG swordfish stock assessment studies in the Pacific Ocean have shown that the resource is in good condition (population density and range, size, age and sex distribution) and are being harvested at or below their estimated Maximum Sustainable Yield (MSY).

Thresher Shark

The commercial thresher shark fishery in California began in the mid-1970s with vessels utilizing short-length drift gillnets. The thresher shark fishery grew very rapidly and spread along the coast and into Oregon and Washington. By 1982, there were 225 commercial boats fishing for thresher sharks with drift gillnets in California and in the same year, landings peaked at 2.3 million pounds.

In the mid-1980s, various regulatory measures were put in place to manage the thresher shark resource, to deal with interaction between commercial and recreational swordfish fishing efforts, and to protect marine mammals. These measures consisted of area and season closures, and precipitated a drop in landings in San Diego from 470,000 pounds in 1985 to approximately 140,000 pounds in 1986. From 1986 to 1990, thresher shark landings fluctuated between 140,000 to 220,000 pounds. In 1990, the voters approved a ballot initiative that banned gillnet use within three miles of the coast and eliminated drift gillnet fishing with time-area closures. Landings in San Diego dropped from approximately 200,000 pounds in 1990 to 50,000 pounds in 1992. In 2001, regulations were imposed to protect loggerhead sea turtle mortality by closing the area between Point Conception and the U.S.-Mexico border from August 15 to August 31 and during the month of January to drift gillnet fishing if an El Nino event is occurring or predicted. New regulations also require commercial fishermen participating in the drift gillnet fishery for swordfish and thresher sharks to attend a skipper education workshop.

Currently there is no quota for thresher sharks and the permits for this fishery are transferable. Shark permits are subject to the same transfer restrictions as swordfish permits, including requirements that the permittee hold the permit for three years prior to transferring it, and cases where hardship such as injury or death of the permittee. Thresher shark permits can only be transferred to a person holding a valid general gillnet permit, which is also a transferable restricted access permit.

It is speculated that the regulatory management measures enacted in the mid-1980s and the consequential reduction in fishing effort for thresher shark contributed to the rebuilding in the stock. No current stock assessment has been conducted, but the species was included in the Pacific Fisheries Management Council's fishery management plan for highly migratory species.

Shortfin Mako Shark

Prior to 1987, shortfin mako shark were not a commercially targeted species; rather, they were caught incidentally by the commercial swordfish and thresher shark drift gillnet fisheries. In 1988, an experimental fishery was started for shortfin mako and blue shark employing drift longlines. The fishery proved efficient, but numerous regulations were enacted to reduce bycatch and subsequent discard of blue shark by developing a market for them. Fishermen had difficulty establishing a market for the blue shark bycatch, and thus the Fish and Game Commission, in 1992, did not renew the longline permits. Shortfin mako shark landings in California have declined from 612,000 pounds in 1987 to 69,000 pounds in 2006.

Currently, the majority of shortfin mako shark taken commercially are by drift gillnets targeting swordfish and thresher sharks. Current regulations for the shortfin mako shark fishery using drift gillnets are the same as those governing the drift gillnet fisheries for swordfish and thresher shark.

Current stock assessments have shown the shortfin mako shark resource is not being overfished in Southern California. This is an example of regulations protecting a resource and putting a U.S. fishery in position to harvest, benefit economically, and provide consumers with a product that is monitored, well-managed and local.

California Halibut

Commercial fishing gear used to harvest California halibut has varied from otter trawl, set gill and trammel nets and hook and line. The use of all gear types has been heavily regulated over the years. Today, trawling is permitted for California halibut in federal waters (from three to 200 nautical miles offshore) with nets having a minimum mesh size of 4.5 inches. In Southern California, set gill and trammel nets are restricted to waters beyond three miles off shore and excluded from one mile or 70 fathoms (whichever is less) around the Channel Islands.

Commercial landings of California halibut were cyclical between 1916 and 1970, but stabilized in 1980 to an annual average of approximately 1 million pounds. From 1916 to 1967, California halibut caught in Mexican waters were landed at California ports and contributed to the overall landings in San Diego. However, in 1983 the Mexican government established a protected area along the Pacific Coast that extended from the shoreline to 50 nautical miles offshore. The establishment of the protected area stopped most halibut fishing in Mexican waters and the subsequent landings in San Diego ports. Landings of California halibut at the four major ports in San Diego have been declining steadily since 1985. San Diego landings fell from approximately 130,000 pounds in 1985 to 20,000 pounds in 2006.

CDFG stock assessments for California halibut have included both fisheries-dependent and independent surveys. The California halibut population is cyclic and relies heavily upon bay and estuarine habitats. An early 1990s, trawl survey estimated the Southern California population to be approximately 3.9 million individuals.

Albacore

Albacore is a highly migratory species that has been commercially important in California for more than 100 years. Commercial fishing for albacore has fluctuated due to market demands and cyclic oceanic conditions. During the peak of the albacore fishery in 1950, there were approximately 3,000 commercial fishing vessels in California targeting albacore. By the mid-1990s that number dropped to fewer than 500.

The National Marine Fisheries Service (NMFS) approved the Highly Migratory Species Fishery Management Plan in 2004. Currently, there are no specific regulations that manage albacore fishing effort or landings. In addition, the Pacific Fisheries Marine Council is not anticipating the implementation of a restricted access or quota management at this time.

Stock assessments in the North Pacific have shown that albacore are being harvested at or below their estimated maximum sustainable yield. Catch-per-unit-effort data from the U.S. troll fishery (an index of population size) has shown the albacore population to be relatively stable over the last ten years.

Albacore is an example of a resilient resource that is managed well, yet cyclical and not present in San Diego waters in recent years. San Diego Albacore fishermen have been forced to fish in waters off Washington and Oregon and land there.

Red Sea Urchin

The red sea urchin fishery started in Southern California in 1971 as a part of a program to develop fisheries for underutilized species. This came at an opportune time for commercial fishermen as the abalone fishery was declining. Since 1971, the commercial red sea urchin fishery has been one of the most valuable in the state with more than 27 million pounds landed in Southern California in 1990. Since 1990, commercial landings have decreased due to a reduction in effort, largely due to foreign competition, reduced international markets, regulatory closures and declining urchin populations. In the San Diego area, commercial red sea urchin landings have fluctuated between 600,000 and 1,500,000 pounds from 1985 to 2006.

Yellowfin Tuna and Porpoise

Purse seiners started to replace bait boats in the late 1950s, and by 1961, supplied the majority of the commercial yellowfin tuna landings in California. Purse seine carrying capacity ranged from 150 tons to 2,000 tons.

Purse seiners, because of their size and ability to stay at sea for long-periods of time, expanded the fishery to areas between Southern California and Peru and out to 150°W longitude. Historically, three types of sets have been used to catch yellowfin tuna: sets on fish associated with schools of dolphins, sets on fish in free-swimming schools and sets on fish associated with floating objects. Until the 1990s, U.S. purse seiners in the eastern Pacific primarily caught yellowfin tuna in sets associated with schools of dolphins. Purse seiners employed a standard purse seine with the exception of a porpoise panel that was used to reduce entanglement of dolphins.

The purse seines were deployed with a seine skiff and, when fishing dolphin schools, speedboats were used to herd the dolphins into a compact school so that the net could be set around them. Once the schools of tuna and dolphins were surrounded, the net was pursed and a backdown procedure was used to free the trapped dolphins. In the mid 1970s, marine mammal regulations were enacted to reduce dolphin mortality associated with purse seine fishing and in the 1990s canneries stopped buying yellowfin tuna caught on dolphins. The canneries "dolphin safe" policy drove many U.S. purse seiners to the western Pacific and as a result, the U.S. fleet that operated in the eastern Pacific decreased from 141 purse seiners in 1976 to nine in 1999. From 1984 to 1999, purse seine landings averaged 86% of the total yellowfin tuna landings in California.

Originally, management of the red sea urchin fishery was the responsibility of the California Legislature, but in 1973 the Fish and Game Commission became tasked with management decisions for the fishery. Due to the increases in active fishermen and landings, the Director's Sea Urchin Advisory Committee (DSUAC) was formed and took responsibility of regulating industry-funded research projects and fishery management strategies. In 2002, the Sea Urchin Fishery Advisory Committee (SUFAC) was formed from the previous DSUAC. The SUFAC is responsible for managing all remaining landing-fee funds and providing CDFG with management recommendations for the fishery.

Prior to 1985, there were few regulations governing commercial red sea urchin effort. At that time, regulations consisted of limiting specific equipment such as rakes, air lifts and other manual and mechanical gear. Starting in 1987, new regulations placed a moratorium on new red sea urchin permits and a restricted access program began in 1989. In 1988, a minimum legal size limit for red sea urchins was enacted, which increased in 1992 in Southern California. Current minimum legal size limit for red sea urchin is 3½-inch diameter south of the Monterey-San Luis Obispo County line and 3¼-inch diameter north of the Monterey-San Luis Obispo County line.

In 1992, fisheries managers enacted a commercial fishing season and restricted fishing to specific days of the week in Southern California. In Southern California, commercial fishing for red sea urchin was limited to 240 days per year. Red sea urchin regulations for the 2008 season state that red sea urchins may be taken only on Monday, Tuesday, Wednesday, and Thursday in April, May, September, and October and on Monday, Tuesday, and Wednesday in June and August. During the month of July, red sea urchins may be taken only on Mondays and Tuesdays. In order to reduce the number of fishermen targeting red sea urchin, a plan was developed in 1990 that required ten existing permits to be retired for each new permit issued. CDFG set a target of 300 permits. In 2005 sea urchin permit renewal totaled 331, down from 340 renewals received in 2004.

California Spiny Lobster

The commercial fishery for California spiny lobster dates back to the late 1800s. San Diego County has the highest landings of all the Southern California counties. The fishery was closed between 1909 and 1910, and annual spiny lobster landings have fluctuated widely since the fishery re-opened in 1911. Spiny lobster landings are influenced by fishing pressure, often driven by the export market. Spiny lobster population is, in turn, influenced by: weather; food availability; changes in habitat; hatching and survival rates; and ocean currents.

In 1961, the state began requiring a permit for the commercial take of spiny lobster, however there was no limit on the number of permits that could be issued. At that time, the state assigned CDFG to manage the spiny lobster fishery, and in 1986, CDFG limited the number of spiny lobster permits. A moratorium was placed on the issuance of new permits in 1994, and in 1997 CDFG began a restricted access lobster permit program. In 1994, there were approximately 450 lobster operator permits. Following implementation of the restricted access program in 1996, that number dropped to approximately 300 lobster operator permits. The CDFG program set a target to lower the number of lobster operator permits to no more than 225 by February 2003 and planned to use attrition to achieve this goal. In the 2001-2002 season, the number of permits issued was 246. In 2003, the Fish and Game Commission repealed the lobster permit capacity goal of 225. A new capacity goal will be established following CDFG's review of the restricted access program. In addition, evaluation of the restricted access program will

also include review of landing requirements, limits to fishing efforts, and transferability of lobster operator permits. This process is still underway. In San Diego County spiny lobster landings have been rising since 1998. In 2006 spiny lobster landings were at the highest since 1985.

Rock Crab

Nearly 90% of rock crab landings in the state are made in Southern California. Between 1928 and 1950 commercial landings of rock crabs were low, but in the early 1950s landings grew at a steady rate to a record of 1.9 million pounds in 1986. Since 1991, rock crab landings in California have averaged 1.2 million pounds per year.

Commercial fishing laws and regulations are generally focused on protecting rock crabs that have not reached reproductive size. To achieve this goal, commercial crab fishing regulations require that crabs have a carapace width of 4 ¼ inches and crab traps include an escape ring that measures 3 ¼ inches across. In addition, commercial crab traps must be raised and emptied every 96 hours.

In 2005, the Fish and Game Commission established northern and southern rock crab trap permit eligibility requirements and renewal process. The northern rock crab trap permit has remained a non-restrictive permit with no minimum landing requirements. For the southern region, fishermen must hold a current year's Commercial Fishing License, hold a current year's General Trap Permit and have possessed a valid prior year's southern rock crab trap permit in order to renew a crab permit. In addition, the Fish and Game Commission has considered establishing a future restricted access program and to limit future participation in the southern rock crab fishery based on permits and landing activity as of January 1, 2003.

No stock assessments have been conducted for rock crab and no information on the long-term viability of the current fishery for rock crabs has been developed.

Spot Prawn

The commercial fishery for spot prawns in California started during the early 1930s in Monterey when they were incidentally caught in octopus traps. Landings were low until 1974 when trawl vessels began catching and landing spot prawns. The trawl fishery for spot prawns increased rapidly and landings reached 375,500 pounds in 1981. In 1984, spot prawn landings plummeted, prompting fisheries biologist to enact large geographic and seasonal closures (November through January) within the Southern California Bight to protect spot prawns during their reproductive period. The advent of the trap fishery for spot prawns in the Southern California Bight allowed commercial fishermen to fish areas that trawl vessels could not, i.e. less than three miles from shore and extremely deep waters. In addition, the trap fishery allowed spot prawns to be landed alive, which allows them to be sold for a much greater price and increases the "shelf life." Spot prawn landings for the trap fishery grew from 8,800 pounds in 1985 to 247,000 pounds in 1991.

In 1994, the Fish and Game Commission, at the urging of fisheries biologists and the trawl and trap fishermen, expanded the seasonal closures for the spot prawn trawl fishery to include all of the Southern California Bight due to decreases in landings. The Fish and Game Commission also enacted the first regulations in the trap fishery for spot prawns by regulating trap mesh size, maximum number of traps per vessel and a fishing closure November through January, south of

Point Arguello (at the Santa Barbara Channel). From 1994 to 1998, the spot prawn fishery increased again with a historic peak in 1998 of 780,000 pounds. The increase was attributed to increased market demand, increased effort by California fishermen and displaced Washington fishermen, new trawl gear designs (rock-hopper trawl gear fishing un-fished areas), and increases in the spot prawn resource.

The value of the spot prawn fishery and the absence of a restricted access program attracted commercial fishermen displaced by other fisheries. However, declines in landings prompted the Fish and Game Commission in 2000 to institute a November through January statewide trawl closure, a May to August closure for the trap fishery north of Point Arguello, incorporation of trawl bycatch reduction devices, and a one year (human) observer program for the fishery. In 2001, CDFG, with the help of spot prawn commercial fishermen, developed a two-tier restricted access trap fishery that was implemented in April 2002. The tiered vessel permits were either a tier-1 vessel permit that were transferable and had no annual spot prawn landing cap. Tier 2 vessel permits were not transferable and had a cap on spot prawn landings and the maximum allowable number of traps that could be used. The one-year observer program for the spot prawn fishery showed a high amount of rockfish bycatch from trawl tows and thus prompted the Fish and Game Commission to prohibit the use of trawl gear to take spot prawns in 2003. Due to the displacement of the spot prawn trawl fishermen, a tier-3 permit was developed and only 11 of these permits were issued. In 2006, there were 30 tiered permits for spot prawns, but only 22 were actively fishing.

Spot prawn stock assessments have not been conducted and no population size estimates have been made. The number of spot prawn landings and success of different gear types in various habitats has shown that the species is more widespread than previously known. Currently, the California spot prawn fishery is healthy and viable due to the restricted access program and the targeted nature of a trap fishery.

This is another example of regulators enacting legislation that protects the resource, yielding inarguable benefits, something consumers can easily understand. There are 30 spot prawn permits on 1,000 miles of California coastline.

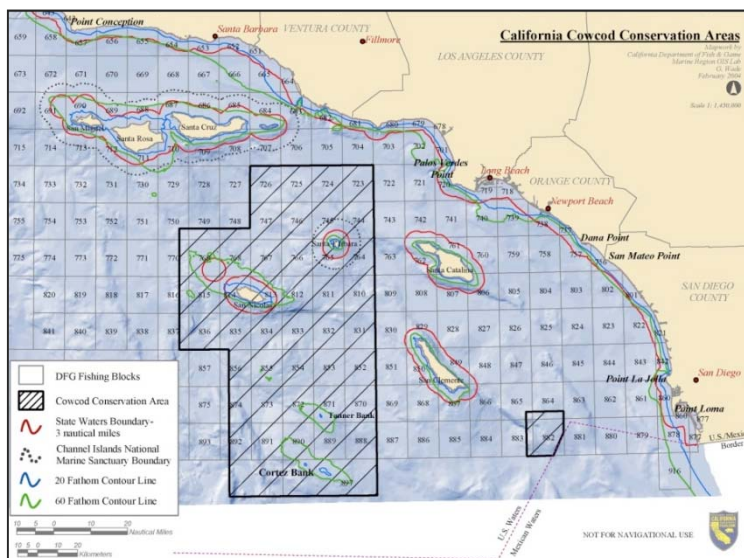
7.2 Additional Area Closures

Cow Cod Conservation Areas

Cowcod is a commercially valuable species of rockfish that is also currently caught as bycatch in other commercial fisheries. Cowcod catch peaked in 1976 with approximately 194 metric tons landed in Southern California ports. By 1998, cowcod landings had decreased to 19 metric tons and by 2000, fisheries managers estimated the species to be at approximately 4% to 7% of its unfished biomass. In 2000, cowcod were declared overfished by the National Marine Fisheries Service, which estimated that it would take 75 to more than 100 years for the cowcod to rebuild to a point of maximum sustainable yield. In January 2001 the Pacific Fisheries Management Council and CDFG established two cowcod conservation areas within the Southern California Bight.

The two cowcod conservation areas west of San Diego totaled approximately 5,696 square miles (see Figure 7-2). The two Cowcod Conservation Areas are closed to all commercial and recreational fishing for groundfish, except flatfish and minor nearshore rockfish, cabezon, greenlings, lingcod and scorpion fish shoreward of the 20 fathom contour. An additional restriction requires commercial fishing vessels traveling through the Western Cowcod Conservation Area with groundfish onboard to transit through a designated corridor with all their fishing gear stowed.

Figure 7-2 California Cowcod Conservation Areas



Source: California Department of Fish and Game

Rockfish Conservation Areas

During the 1980s rockfish were a top species landed in the San Diego area. From 1985 to 1999 rockfish landings steadily declined. From 2000 to 2006, rockfish landings at San Diego ports were a fraction of their landings from the 1980s.

In 2002, the Pacific States Marine Fisheries Council implemented Rockfish Conservation Areas along the entire length of the West Coast. Rockfish Conservation Areas are large-area depth-based closures that are delineated by specific depth contours and are designed to reduce incidental take of overfished rockfish species by closing fishing within a defined area when many of these species are present. Rockfish Conservation Area boundaries can be changed in-season by fisheries managers to reduce the take of overfished rockfish species. Rockfish Conservation Areas (RCAs) differ by gear types used by commercial fishermen, for example, trawl RCAs and non-trawl RCAs. National Marine Fisheries Service currently instituted a rockfish and non-groundfish trawl RCA offshore of San Diego that is delineated by the 100 fathom and 150 fathom contours.

Mexican Waters

In 1983 the Mexican government established a protected area along its Pacific Coast, which extended from the shoreline to 50 nautical miles offshore. The newly designated protected area restricted the San Diego based commercial fishing fleet from fishing in these waters. Additionally, only Mexican-flagged commercial vessels were allowed to fish up to 200 nautical miles offshore. In 1987, the Mexican government issued new regulations and restrictions regarding the inshore limits of long/line operations by existing permit holders. The new regulations and restrictions resulted in an extension of the former protected area to a considerable distance offshore. In addition, the new regulations established additional protected areas off the southwest coast of Baja California, the entrance of the Gulf of California, and the Tehuantepec Bight, which also reduced fishing areas for San Diego based commercial fishermen and lead to drops and landings and earnings.

7.3 Marine Protected Areas

Overview

The Marine Life Protection Act (MLPA) was signed into law in 1999 and was designed to establish a network of Marine Protected Areas along the California coast. Marine Protected Areas (MPA) are areas designated by the State of California Department of Fish and Game for the purposes of conserving, sustaining, protecting, and rebuilding marine resources, including marine life populations. Incorporated into this objective is the goal of protecting the economic value of marine resources and the marine natural heritage.

MPAs are defined as select ocean areas in which human activity, including commercial fishing and harvesting, is restricted. They are designated with as “non-consumptive zones” (no removal of wildlife) or zones in which “consumption” is restricted.

Much data is available that points to the benefits of marine reserves, such as larger organisms, greater biomass, higher species diversity, and larger populations. However, in the waters off the western U.S. coast and particularly California, where large-scale MPA networks are being proposed, several fisheries management systems are already in place. These include gear, effort, and often total allowable catch limitations. Thus, in practice, MPAs will not be established as alternatives to existing fisheries management, but as additions to them.

MPA implementation and these more traditional regulations may interact in unexpected ways. For example, the allowable harvest set by a regulatory agency on the basis of overall stock (inside and outside an MPA) may not be adjusted or reduced after the MPAs are implemented, leading to overfishing outside the MPA that is not compensated for by the export of individuals from inside the MPA. (Hillborn et. Al)

Economic Implications of MPAs

The economic value of the marine areas designated as or proposed to be an MPA inherently derive from traditional and non-traditional uses, including commercial and recreational fishing, recreation (surfing, diving, boating), tourism (site seeing, whale watching), aquaculture, education, science, and coastal housing. As noted by the Science Advisory Team of the California Initiative MLPA Blue Ribbon Task Force, negative impacts of the MPAs are most largely felt in consumptive areas, including commercial and sport fishing markets, in terms of losses in gross and net revenues. Spillover impacts are also indicated, in which uses of marine resources become more heavily concentrated in zones adjacent to MPAs. Conversely, positive impacts are generally seen in non-consumptive areas, including science, education, tourism, and recreation, including recreational fishing.

Phase Overview

Despite the fact that California already has 80 MPAs covering approximately 4% of state waters, they are believed to be insufficient in number and in area to adequately address concerns about marine life stock depletion and “overfishing.” The 1999 MLPA addresses the implementation of additional MPAs in a five-phase process.

The first phase encompasses 18% of state waters along the Central California coast from Point Conception north to Half Moon Bay in 29 MPAs. The MPAs went into effect September 15, 2007.

The impacts of these MPAs, both biological and socio-economic, are currently under investigation by the Department of Fish and Game, California Sea Grant, and the California Coastal Conservancy.

The second phase of the MLPA initiative took place in early 2008 and encompassed Northern California, from Half Moon Bay to Point Arena.

The South Coast Study Region (from Point Conception to the Mexican border, including offshore islands within state waters) is next in the statewide process of establishing MPAs. The South Coast Study Region planning process began with a series of public workshops in June and July 2008. The MLPA South Coast Study Region Members Stakeholder Group includes various individuals, organizations and MLPA groups that contribute to the process. During the establishment of MPAs in this area, the South Coast Study Region has been divided into seven subregions. These subregions are:

1. Point Conception (Government Point) to Rincon Point
2. Rincon Point to Point Dume
3. Point Dume to Newport Beach
4. Newport Beach to Agua Hedionda
5. Agua Hedionda to the California - Mexico border
6. Northern Channel Islands
7. Southern Channel Islands

Existing San Diego Area Marine Protected Areas

Within the South Coast Study Region, as of September 2008, there are 45 existing MPAs and special closures. Current efforts within the South Coast Study Region will create new MPAs, in addition to the MPAs that are currently in place. These existing MPAs and special closures restrict the recreational and/or commercial take of marine life from 2,355 square miles of state waters. Of the 45 existing MPAs and special closures, 10 are located in waters off of San Diego County. The majority of these are located in shallow, lagoon waters. These 10 include the following, listed from north to south:

- Buena Vista Lagoon State Marine Park
- Agua Hedionda Lagoon State Marine Reserve
- Batiquitos Lagoon State Marine Park
- Encinitas State Marine Conservation Area
- Cardiff and San Elijo State Marine Conservation Area
- San Elijo Lagoon State Marine Park
- San Dieguito Lagoon State Marine Park
- San Diego-Scripps State Marine Conservation Area
- La Jolla State Marine Conservation Area
- Mia J. Tegner State Marine Conservation Area

Buena Vista Lagoon State Marine Park is located in Oceanside. This area consists of waters below the mean high tide line within the Buena Vista Lagoon Ecological Reserve.

Agua Hedionda Lagoon State Marine Reserve consists of waters below the mean high tide line within the Agua Hedionda Lagoon Ecological Reserve.

Batiquitos Lagoon State Marine Park consists of waters below the mean high tide line within the Batiquitos Lagoon Ecological Reserve. It is a 600-acre park running 2.5 miles inland from the coast at the mouth of the San Marcos Creek, which includes the cities of Carlsbad, San Marcos, and Encinitas. Levees divide the lagoon into three basins. In 1995, it was identified as an impaired estuary.

Encinitas State Marine Conservation Area encompasses an area off of the coast adjacent to Encinitas City, and is popular with surfers and beachgoers (see Figure 7-3). It is bounded by the mean high tide line, a distance of 600 feet offshore, and the following points:

33° 02.74' N. lat. 117° 17.88' W. long.;
33° 02.70' N. lat. 117° 18.00' W. long.;
33° 01.98' N. lat. 117° 17.64' W. long.; and
33° 02.04' N. lat. 117° 17.54' W. long.

Fishermen are often spotted outside the 600-foot limit, indicating the region to be potentially a rich fishing area.

Cardiff and San Elijo State Marine Conservation Area is comprised of two adjoining conservation areas (see Figure 7-3). This area is bounded by the mean high tide line, a distance of 3000 feet offshore, and the following points:

33° 02.04' N. lat. 117° 17.54' W. long.;
33° 01.75' N. lat. 117° 18.03' W. long.;
33° 00.06' N. lat. 117° 17.27' W. long.; and
33° 00.29' N. lat. 117° 16.73' W. long.

The first Cardiff Marine Conservation Area, lies off the coast adjacent to the town of Cardiff-by-the Sea. It is a popular surf and kite-boarding area, with a campground along the coast. This Marine Conservation Area adjoins the San Elijo Lagoon State Marine Park, which consists of the San Elijo Lagoon and Estuary. This area consists of waters below the mean high tide line within the San Elijo Lagoon Ecological Reserve. Together, they comprise one unit, called the Cardiff and San Elijo State Marine Conservation Area. Several conservation groups actively work to assist CDFG in managing the area. Fishermen are often spotted outside the 3,000 feet limit, indicating the region to be potentially a rich fishing area.

San Dieguito Lagoon State Marine Park consists of waters below the mean high tide line within the San Dieguito Lagoon Ecological Reserve.

MARKET ANALYSIS

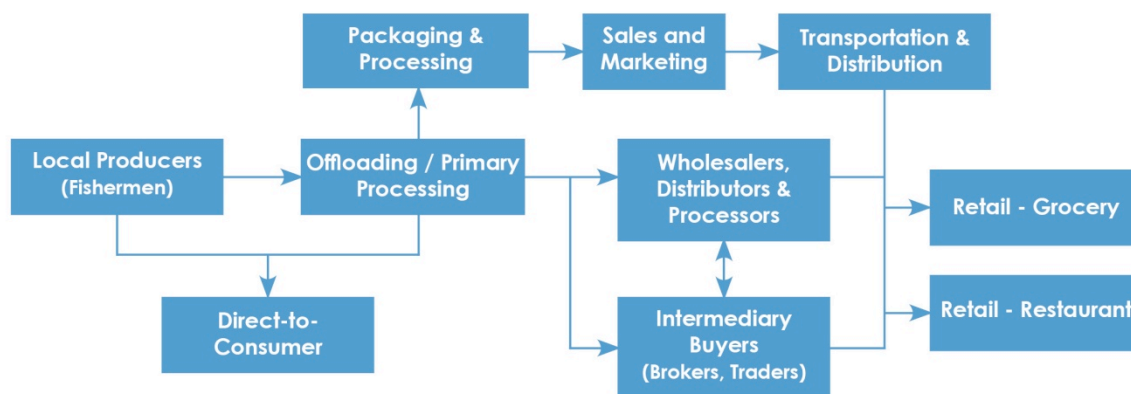
Section 8

The goal of the market analysis is to create a profile of the needs of existing and potential buyers, and estimate existing and potential demand for San Diego-caught seafood. This analysis provides guidance and feedback from the marketplace to calibrate the San Diego marketing message in order to appeal to buyers and obtain full value for a premium product. The market analysis aims to bring stability and value to the fishery by synchronizing market needs and the fleet capabilities. Findings herein will guide and inform all aspects of the revitalization work including management structure, future funding sources, potential infrastructure improvements and expansion, and strategies for increasing and maintaining political and community support.

This section explores existing and potential relationships amongst San Diego fishermen (and their catch) and fish buyers, processors, distributors, restaurants, and direct-to-consumer sales. Conclusions are based on responses to an extensive survey conducted with participants at each level of the distribution chain. The analysis provides a broad view of the distribution and consumption chain, examines alternatives to traditional practices, and focuses on maximizing value versus maximizing catch. It considers demand at the consumer, restaurant, and retail level and suggests a broader mix of buyers and distributors to create additional potential. The market analysis makes the connection between fishermen, landings, buyers, processors, distributors and the ultimate consumer, thus providing direction for the marketing and sales effort as well as potentially guiding the fishing effort (species, quantity, timing). This information will assist the local fishing community capitalize on supply, identify potential buyers, and maximize profits.

Targets in this analysis include: local restaurant/food service, retail/supermarket, producers/distributors, and direct-to-consumer operations. Each option requires a different focus and different set of skills and objectives. The following figure illustrates the key players and a traditional product flow (see Figure 8-1).

Figure 8-1 Local Seafood Value Chain – Key Players and Product Flow



Source: Lisa Wise Consulting, Inc.

In order to assess demand and identify key attributes and shortcomings of San Diego-landed product, a survey of prominent market participants was conducted. Targets of the survey were chosen based on recommendations from the Core Committee, Consultant Team, Port of San Diego, and published industry data as well as recommendations from respondents from the interview process. Interview respondents are representative of their market channel and included 22 local restaurants, eight retailers, seven distributor/processors and four ports where fishermen conduct direct-to-consumer sales. Interviews were conducted in person and by telephone, and included several site visits and follow up emails. Interviews were an average of 51 minutes each, for a total of more than 30 hours.

The results of the interviews for each key market channel (i.e. restaurant/food service, retail: grocery/supermarket, wholesale, and retail: direct-to-consumer) are summarized in Sections 8.1 to 8.4 by the following categories:

- Channel Description
- Demand Characteristics
- Level of Interest/Knowledge of Local Seafood
- Barriers to Buying/Selling Local Seafood
- Marketing Opportunities
- Additional Marketing Opportunities
- Relationship Requirements/Potential

Generally, respondents' knowledge about what locally-caught seafood is available and how to obtain it varied, but overall each market channel had a positive view of San Diego seafood. Demand exceeds current supply, and opportunities exist to increase demand through marketing efforts at the restaurant and retail level. Many of interviewees currently serve or sell some San Diego seafood, and a majority of those said they would carry more if it were available. Several restaurants that do not currently serve San Diego seafood expressed interest in learning more about locally-caught seafood. All but one of the retailers interviewed carry some San Diego-caught seafood.

All respondents cited intermittent and/or limited supply as the most obvious and immediate obstacle. A lack of consistent communication with skippers, dock operations and/or suppliers about what was available was also noted. Several interviewees noted that communication

could be improved by establishing a chart or website that carries information on when species are in season and thus, potentially available.

A majority of interview respondents agreed that advantages to San Diego-caught seafood include freshness due to less time spent in transport and reduced handling. Several also stated a preference for local-caught seafood due to its limited environmental impact from traveling shorter distances. Overwhelmingly, respondents cited their customers' growing interest in "local" and "sustainable" food and a growing demand on the part of consumers to know where their food is from and how it is harvested. They also cited a general support for and identification with local fishermen and the local fishing industry. Many respondents stated that supporting a local, artisanal industry was in keeping with the current direction of the market and they would be failing if they did not heed it.

8.1 Restaurants/Food Service

Channel Description

There are more than 1,300 food service businesses licensed to operate in the City of San Diego, including more than 360 full-service restaurants. In order to maximize the value of San Diego-landed seafood, this analysis focuses primarily on restaurants in the medium and higher price ranges. Special attention was paid to restaurants with a commitment to serving local food to discover their motivation as well as, how buyers find and build relationships with suppliers, and how to strengthen those relationships. In creating the list of target restaurants, data was gathered from local and state membership organizations, including the San Diego Visitor's Bureau, San Diego Regional Chamber of Commerce and the California Restaurant Association. Input was also considered from the Core Committee, Consultant Team, Port of San Diego, commercial fishermen and fishery-related participants.

The California Restaurant Association, the industry's largest trade organization in the state, lists 680 members in the San Diego region. Of those, 75 are categorized as seafood restaurants. Drawing from this list, as well as the restaurant information provided by local sources, including location, specialization and price point, a target list was created. Twenty-two restaurants participated. Each interview was an average of 50 minutes in length, for a total of more than 17 hours.

Fish dinner entrees at the target restaurants range from \$15-\$50, and monthly seafood purchases range from 600 pounds to 27,000 pounds. Many offer menu items, including salmon, shrimp and swordfish, year round, but most adjust their menu to reflect seasonal species variation or inconsistency in supply.

Demand Characteristics

Seafood acquisitions were typically made from between one and eight suppliers. Most purchase the bulk of their seafood from local processors/distributors, including Chesapeake Fish Company, Catalina Offshore Products, American Seafood, Pacific Shellfish and Leong Kuba. Few restaurants purchased seafood directly from fishermen, but a few expressed interest in exploring direct-purchase opportunities. Restaurants measured quality by appearance and sensory (odor) indicators and relied heavily on perceived handling procedures of their distributors. Locally

caught and wild caught versus farm raised were generally subordinate characteristics to freshness. Restaurants used a variety of techniques to deal with seasonality and inconsistency in supply. The majority of restaurants either relied on their suppliers to find similar products to serve as substitutes, left certain items off the menu, or, in some cases, changed their menus with frequency to reflect the seasons. Several cited using farm-raised fish as part of an effort to maintain a constant supply. A majority of chefs tested new species through specials, and based their decision on whether to add an item to menu on the customers' reaction and level of interest.

In buying local seafood, restaurants relied heavily on their distributors' sales staff. They were unanimously accustomed to frequent deliveries during the week and highly responsive customer service that would, for example, accept a phone order at 6:30 p.m. and make a delivery the next morning. Orders made early in the morning are often delivered by mid-day. Several restaurants preferred fish to be delivered whole for processing on site, while others preferred an intermediate form, including filets or loins.

Level of Interest/Knowledge of Local Seafood

The majority of respondents voiced strong support for the local fishing community, although their degree of knowledge about the fishing practices, and variety and availability of locally-caught seafood varied. A majority currently serve locally-caught seafood, and expressed an interest in serving more. Issues currently limiting the local seafood they serve are availability, consistency, price and quality. A few restaurants expressed concern about the environmental impact of local fishing practices, while others believed poor water quality near San Diego would result in lower quality seafood. A majority of respondents expressed interest in learning more about the local fishing industry. Most agreed that if they learned more about the local fishing industry they would likely carry more. They also indicated that educating waitstaff and customers about the benefits of local seafood would increase sales. While sales volume may increase, most respondents said San Diego consumers are very price-sensitive, and few said locally-caught fish could demand a higher price with increased marketing.

Barriers

Restaurants, in general, require a high-level of attention from their suppliers. They expect and require constant contact and communication, timely and frequent deliveries, consistent supply and variety and attention in collecting payment. Restaurants currently purchasing seafood directly from fishermen typically pay fishermen more than the processors and distributors, and agree that the seafood is of higher quality because it has been handled less. Lobster and crab fishermen cited the additional time and cost involved with directly delivering their catch deterred them from seeking and maintaining more long-term, direct-purchase relationships, while swordfish fishermen cited their unpredictable landing times as a barrier. Therefore, focusing on existing distributors relationships would perhaps provide the most efficient and successful tactic in increasing local seafood sales into this channel.

Marketing Opportunities

Chefs and restaurant owners were somewhat familiar with local species, harvest methods and efforts to maintain viable local fisheries and working waterfronts, but they felt that additional education would be beneficial. A majority of respondents agreed that they would like to learn

more. All respondents also relied on staple, non-local products. An education campaign, point-of-sale material, wait staff training, opportunities to participate in local food events, and public service announcements could convince restaurant owners to replace these items with local, wild caught, smarter choices that could be marketed as such, garnering higher prices and taking advantage of heightened consumer awareness.

Additional Marketing Opportunities

San Francisco, Los Angeles, and Las Vegas' upscale restaurants also represent attractive, regional potential markets for premium seafood.

Relationship Requirements/Potential

Fishermen who sell directly to restaurants typically manage all aspects of the sales functions, including developing relationships, storing, transport, collections, billing, communication, and often, processing. This reduces the attention that fisherman are able to pay to their primary tasks: fishing, maintaining boat and gear and managing permits, insurance and crew. A fisherman's ability to serve this market is limited by time and expenses incurred from these requirements and lost fishing hours.

Taking advantage of the direct-to-restaurant sales channel on a larger scale will require an organized management system that allows fishermen to pool their resources and costs, as well as relatively high investment in infrastructure; processing; cold storage; transportation; inventory management; accounts receivable; computer equipment; and well-managed, and well-trained staff. Universally, restaurants have expressed interest in locally-caught seafood, but many lack the ability to process a whole fish into manageable portions and store the product for future use. Accessing restaurants that lack the ability to process whole fish will require providers to gut, scale, behead, and cut fish into serving-size portions. While a processing facility will enable the fisheries to access the higher price of kitchen-ready fish, real estate and building costs, utilities, wages, workers' compensation, cost of money, resources necessary for collecting bills and insurance must be considered against potentially higher income. Deep-freeze capabilities can also expand the range of products that the local fishery can offer.

Restaurants currently buying seafood directly from fishermen have not reported that this practice interferes with their relationship with seafood distributors or wholesalers. However, restaurants are accustomed to receiving seafood shipments at their location as often as six days per week. This type of model will require the San Diego commercial fishery to own, lease, or contract management and operations of a refrigerated vehicle to make deliveries. Increased demand may very quickly warrant the need for more than one vehicle as restaurants often rely on multiple deliveries per week.

Direct selling will also require a dedicated sales function, management, and technology that records and can recall purchase history and preferences.

8.2 Retailers

Channel Description

Respondents in this channel were made up of regional and national chain supermarkets with regional buying protocol or small stores that are connected with a restaurant. Interviews were conducted with 8 retailers. With an average interview was 42 minutes in length, approximately 5.5 hours were spent in interviews, not including time spent arranging, preparing for and travelling to interviews, or creating, reviewing, revising and summarizing notes.

Like restaurants, retailers require intensive account management, frequent delivery, frequent contact, and assistance with point-of-purchase material and marketing efforts.

Demand Characteristics

Retailers agree that there is a growing focus on fresh, local, seasonal product but most establishments substitute frozen, farmed or imported product to smooth inconsistent supply. Retailers have been forced to display the country of origin on their fresh product and are increasingly aware that it can provide an advantage. This channel is generally marked by high volume and low profit.

Level of Interest/Knowledge of Local Seafood

While level of interest in locally caught seafood varies, all but one retailer interviewed carries locally caught seafood. Five of the eight respondents purchase at least a small percentage of their product directly from fishermen either whole or processed form.

The only respondent that does not carry any locally-caught seafood is a large national chain in which store managers have no input on purchasing decisions.

All respondents had a positive impression of San Diego-caught seafood, and there is a general desire to increase the percentage of offerings. Six of the eight retailers interviewed ranked their customers' interest in locally-caught seafood as medium to high. The one retailer that ranked customers' interest in locally-caught seafood as low stated that he purchases as much locally-caught seafood in order to provide his customers with the freshest product available. Higher-end retailers exhibited a more assertive demand and lower price sensitivity and may represent a good, initial focus of a sales effort (e.g. Whole Foods).

All store and chain managers with the ability to make the purchasing decisions (as well as some that do not) said that they would buy more San Diego-caught seafood if it were available.

Barriers

All respondents noted lack of quantity and consistency in supply in local seafood. Poor communication about what was available was also cited as a factor limiting the purchase of San Diego-caught seafood.

Marketing Opportunities

Working through existing distributor relationships may prove to be the most efficient path for the local fishery to capture more of this market. Like restaurants, retail establishments overwhelmingly believe they could increase sales and enjoy higher pricing with the help of point-of-sales information, displays, in-store tastings, fish counter staff and butcher education, and Internet and media advertising.

Additional Marketing Opportunities

Once supply increases and stabilizes, San Francisco, Los Angeles, and Las Vegas' (and beyond) upscale supermarkets also represent potential for sales expansion.

Relationship Requirements/Potential

Taking advantage of the direct-to-grocery store sales channel will require a relatively high investment for commercial fishermen in infrastructure, processing, refrigerated storage, freezing facilities, transportation, inventory management, accounts receivable, marketing, computer equipment, and well-managed, highly trained human resources. All the retail establishments contacted expressed interest in locally caught fish, but they lacked the ability or willingness to process a whole fish on a large scale.

To access the direct retail channel, the fisheries will be required to provide gutted, scaled, beheaded fish in a form appropriate for display in a fresh-fish counter. A processing facility would enable the local fishery to access the higher price paid for processed fish. However, real estate and building costs, utilities, wages, refrigerated transport, Workers' Compensation, and insurance must be considered against a potentially higher income over time.

Canning and vacuum sealing could allow the local fishery to gain direct access to the specialty retail and grocery market and reduce many of the uncertainties and seasonality of harvest and maximize pricing. American Tuna, a company formed by six albacore fishing families in San Diego, has successfully entered this market with smoked and brined steaks as well as canned products. American Tuna products are sold nationally at Whole Foods stores and in several small chains, independent stores and restaurants and through mail order catalogues.

All grocers interviewed have existing relationships and buying contracts with seafood distributors. Retailers purchasing directly from fishermen have indicated that, to date, this arrangement does not interfere with relationships with distributors. However, this may change if the volume of fish purchased directly from fishermen increases dramatically. In addition, retailers are accustomed to receiving seafood shipments at their location more than once per week. This type of model will also require the San Diego commercial fishery to own, manage and operate at least one refrigerated vehicle.

Direct selling will also require a dedicated sales function, management, account administration and information technology.

8.3 Wholesale: Producers, Distributors, and Processors

Channel Description

Interviews with a sample of six processors in Southern California showed a range of products and capacity for locally-landed seafood. Interviewees from this channel have local and regional focus, purchase fish directly from fishermen and fish buyers, and process whole and partially processed fish into salable products based on customer needs. Respondents are private companies that voluntarily participated in this survey. Only two interviewees sell their fish overseas, while almost all import fish from abroad. Sales ranged from \$2 million to approximately \$40 million per year. Respondents ranged in size and variety of product, with some specializing in certain species and others carrying a full breadth of product. Respondents process between 200,000 and 617,000 pounds of fresh seafood per month. All agreed that they could not run a viable business on locally-landed seafood alone. At the high end, locally-landed seafood made up 50 percent of sales, and local product typically represented a higher percentage of sales with smaller processors. Processors, distributors and wholesalers located on or near the docks carried the highest percentage of locally-landed seafood, followed by those that pick up product at the landing facilities.

Respondents processed seafood at their facility and delivered directly to retail and restaurant customers. Several sell directly to the public through retail stores either onsite or elsewhere. While each possessed extensive cold store and refrigeration facilities, they focused on moving product quickly from the processing floor to market. Respondents emphasized the importance of delivering consistently high-quality products, regardless of its origin.

This channel is marked by high barriers to entry. It requires large amounts of capital to procure product, build processing facilities with cold storage and deep-freeze capabilities, purchase and operate refrigerated transportation, and hire, train and maintain skilled cutters and filleters, as well as management and sales and support staff. Wholesalers and processors are also subject to USDA food regulations and inspections at each step of the processing and distribution function. They must be highly responsive to customer needs and continually focus on cost and cost reduction, as well as maintain relationships with multiple suppliers.

Demand Characteristics

Each of the distributors interviewed bought and sold a wide variety of fresh, frozen, wild, farmed and imported products at various price points. Each worked under extreme pressure to move product quickly, amplified by large (relative) volumes. Like their customers, they strive for consistency and sourced seafood from various suppliers to maintain a steady supply of target species at competitive prices.

Each agreed that they were able to pay and charge more for a premium product within certain confines. Each agreed that local caught seafood offers an added value for its freshness and less handling due to shorter transport. Some respondents pass this added value through to the fishermen, paying more for their catch than they spend on imported fish. Respondents said they informed their customers about the advantages of local caught fish. However, they indicated that they viewed the responsibility of the retail establishments and restaurants to educate consumers in order to build demand and capture the added value of locally-landed seafood.

Constraints

Universally, lack of consistent supply and commitment from the fishing community fueled by regulatory uncertainty undermines distributors' efforts to showcase locally caught seafood. Fishermen's propensity to switch buyers was cited as one of the causes. Competition from consistent, high volume, low price sources (largely) from overseas exacerbated supply difficulties.

Marketing Opportunities

Interviewees agreed that increased awareness (consumer, distributor's sales staff, meat and seafood counter staff, and waitstaff) through education and training would drive sales and increase demand. Wholesalers, processors and distributors represented in the survey had strong existing customer relationships and regular access to retail and restaurant decision-makers. They also exhibited a growing capacity and interest to develop and communicate the message about local seafood. Many opportunities exist in this channel for collaborative marketing, outreach and educational efforts. Distributors are in a position to take advantage of and promote branding and certification. This channel may also be more receptive to formal relationships with local and regional co-ops, and associations.

Additional Marketing Opportunities

Once supply is increased and stabilized, there is significant potential to expand existing relationships and develop previously untapped market(s). Southern California is home to dozens of individual seafood wholesalers and distributors. While San Diego fishermen have worked these markets extensively, Las Vegas, San Francisco, and Los Angeles also represent huge potential markets for premium, California-caught seafood as well. The concept of "local" has strong implications, given the state's population of 36 million and its historically high growth rate.

Relationship Requirements/Potential

Forming relationships with entities that can buy, process and distribute seafood requires the least amount of infrastructure and investment from the local fishing community. It will also most likely produce the lowest cost per pound for San Diego-landed fish. However, this type of relationship will maximize the amount of fish that can be moved across the docks and provide a more consistent, secure cash flow over other methods. Distributors/processors traditionally pay their bills in two weeks or less.

Careful and discerning selection of partners for this distribution protocol is critical. The most attractive candidates will exhibit a high priority for attaining, selling and promoting an economically sustainable product. Potential candidates will have systems in place to educate their retail buyers, restaurant servers, and seafood department personnel on programs that are providing solutions for the world's oceans and why U.S.-caught, particularly San Diego-caught seafood is superior. Attractive candidates will also participate in the promotion of viable working waterfronts, and family-owned fishing businesses, as well as the reduced environmental impacts of targeted fishing gear. Potential partners will accomplish these tasks through their websites, collaboration with media, point of purchase advertising material, and printed material for their sales team, as well as relationships with groups like FishWise and Seafood Choices Alliance (identifies and certifies restaurants moving towards serving seafood from well-regulated fisheries, and acts as a mouthpiece for the local seafood movement in the

restaurant industry) and the Slow Food movement. Under this protocol, the San Diego fisheries can seek and introduce potential customers to appropriate distributors.

8.4 Direct-to-Consumer

Channel description and Demand Characteristics

In direct-to-consumer sales, fishermen sell to the public from their boats or a market or storefront (e.g. Ventura, Santa Barbara, Pillar Point). Waterfront-based markets emphasize product origin, freshness, and, usually, lower-than-market price. Consumers not only look for seafood, but also the experience of being on the waterfront and interacting with fishermen. Other direct-to-consumer methods, the internet and phone sales stress convenience, variety, and very specific product information and rely on consumers' product knowledge.

There is no organized direct-to-consumer sales facility or market infrastructure in San Diego. Fewer than five fishermen operating out of Tuna Harbor and Driscoll's Wharf interviewed said they sell directly to the public, but do so on rare occasions. The few that indicated that they engage in this type of sale said they typically only sell to people they know, and only when they have a sales agreement before the seafood is caught. Several fishermen indicated that a direct-to-consumer market would benefit the industry by allowing them to keep more of the sale price of their seafood and creating broader demand for San Diego-caught seafood as consumers make stronger connections with the working waterfront.

Three direct-to-consumer business models can serve as possible alternatives to fishermen operating at Driscoll's Wharf and Tuna Harbor. These include: collaboration with a retailer/restaurant/processor (Ventura); unstructured cooperation from a port without direct funding or marketing support (Noyo Harbor, Fort Bragg); and direct support and marketing with the port (Pillar Point, Half Moon Bay).

Up to 20 fishermen participate in the City of Ventura Local Fisherman's Association Fish Market. The market was proposed by the Ventura County Commercial Fishermen's Association and is a collaborative arrangement between fishermen and Andria's Seafood Restaurant and Market. The market is held every Saturday morning. Fishermen sell their catch whole from tables and booths, and filleting services are available from Andria's. Andria's obtained and holds the permits for the market. This arrangement allows fishermen to avoid the costs and infrastructure investment required for obtaining health and safety permits for seafood processing while still providing customers with filleted fish.

Fishermen at Noyo Harbor in Fort Bragg have created a less formal structure for selling their catch directly to the public by developing their own client lists rather than a sales facility or market. The harbor district indirectly supports this effort by taking customers' phone calls when fishermen are at sea and helps connect fishermen and clients. Fishermen create and develop client lists by placing advertisements on local radio stations, keeping records of past clients and sending fliers by mail.

Pillar Point Harbor in Half Moon Bay facilitates fishermen's direct-to-consumer sales through what it calls the "Fishfone," an informational telephone line that advises callers of seafood

availability. The Fishfone is updated by the San Mateo County Harbor District staff and depends entirely on fishermen's participation and catch. The port obtained approval for direct-to-consumer sales from the county and the California Department of Health. Fishermen sell their catch whole, allowing them to avoid obtaining the health and safety permits required for processing seafood. Sales are conducted at a 120-foot concrete dock that is reserved for direct-to-consumer sales. The sales dock does not have electricity or water services, helping to keep overhead low for the port.

Fishermen operating out of Tuna Harbor and Driscoll's Wharf may choose to replicate one of these models or consider other options that include a higher level of involvement from the port or other fisheries-related businesses. More investigation of these direct-to-consumer sales methods may be warranted during the implementation phase of this project once consensus has been reached among the fishermen.

Level of interest/Knowledge of Local Seafood

While some incidental purchases occur, direct-to-consumer customers typically have some knowledge of species, quality, capture methods, and the advantages of locally caught seafood. Fishermen may be able to capitalize on the movement of consumers becoming more educated about the origin of their food and how it was harvested. There is also an appeal for consumers to seek out food that has a smaller "carbon footprint."

Barriers

All variations in this channel require some processing, packaging, and/or advertising. Internet sales require perhaps the lowest overhead of the direct-to-consumer options, but packing, shipping, processing, charge/debit card processing, and website maintenance are essential. Physical market sales require staff, processing, adherence to Food and Drug Administration regulations, cold storage and advertising.

Selling directly to the public requires fishermen to hold permits in addition to a commercial fisherman's license. At a minimum, fishermen who are selling directly to the ultimate consumer will need a Fisherman's Retail License from the California Department of Fish and Game (CDFG). In November 2008, fisherman's retail licenses cost approximately \$82 per year. This license does not allow fishermen to purchase or receive fish from other fishermen for commercial purposes nor does it allow fishermen to receive or sell fish that was landed outside of California. Licenses for those functions are sold individually by CDFG, or fishermen can purchase a Multifunction Fish Permit (\$1,626.75) to perform all functions (See Attachment J).

Additional permits may be needed from the Food and Drug Administration (FDA), city and county depending on what level of processing fishermen would like to provide and the type of location. Fish processing plants must be inspected and approved by the FDA. A permanent fish market where fishermen can process their catch before it is sold to the public would likely require permits and a Hazard Analysis and Critical Control Point plan, a Food Safety Plan required by the FDA for seafood processing plants. City and county regulations governing food safety and health may also be required.

Zoning and land use regulations as well as startup and maintenance costs must be considered when evaluating the potential for direct-to-consumer sales. This will require the cooperation and

support of the Port of San Diego, the city of San Diego, and other pertinent regulatory agencies. Establishing a brick-and-mortar facility for selling seafood directly to the public will require a large capital investment in addition to the land required for operations and additional parking considerations. Initially, the San Diego fisheries could avoid capital requirements by establishing farmer's markets that use temporary structures and bring together a variety of established vendors that have cold storage, processing capabilities, credit/debit card processing, and human resources. This could include restaurants, other types of food producers such as farmers, and/or local seafood processors, distributors or restaurants.

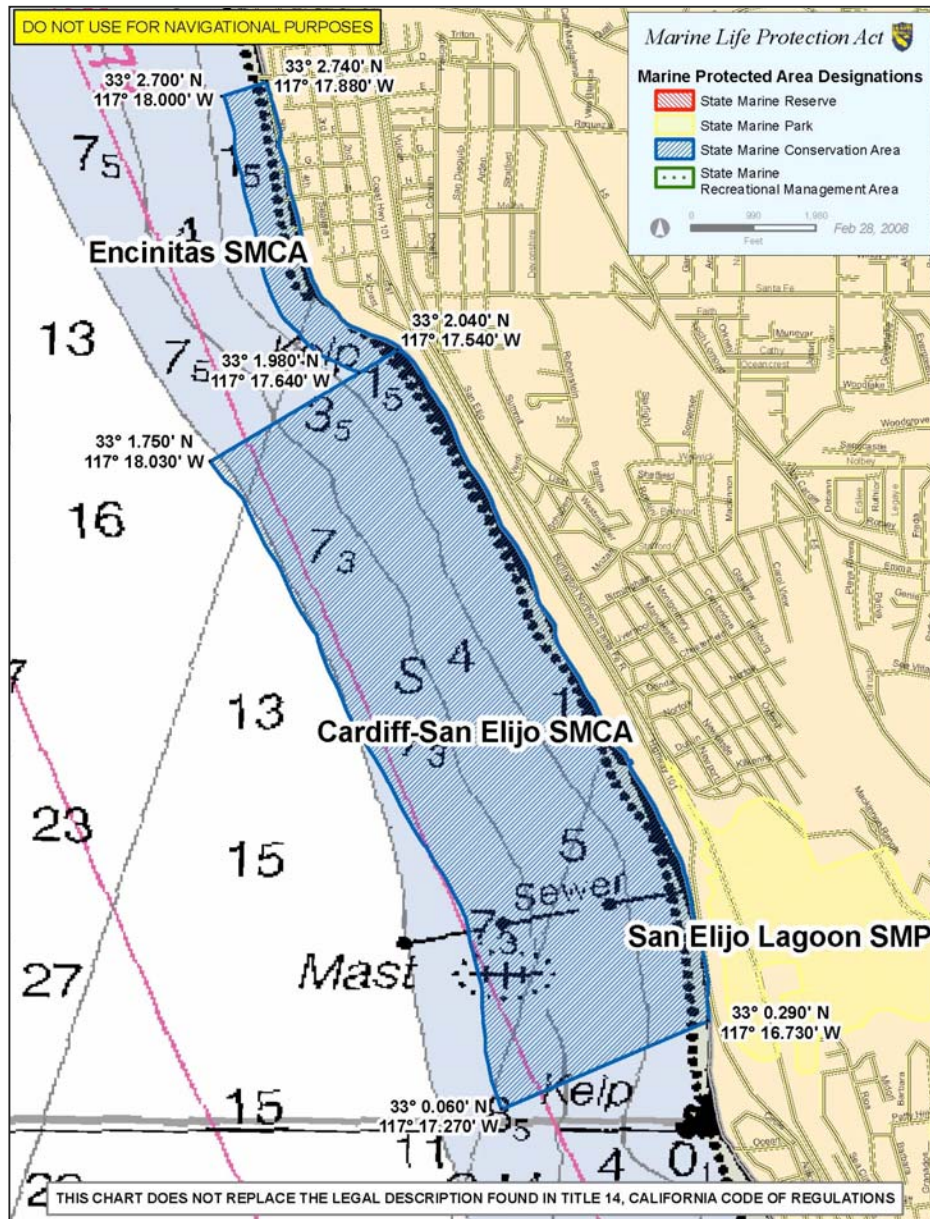
Relationship Requirements/Potential

Off the boat sales will require a strong marketing and advertising effort by the fishermen or management entity to inform customers of the logistics, availability, and advantages of buying directly from fishermen. These efforts would benefit from the help and cooperation of the Port of San Diego, local Chambers of Commerce and the Convention and Visitor's Bureau, as well as a joint effort between local (print, radio and television) media and the marketing function of the San Diego fisheries by reducing costs and reaching a larger audience. Direct-to-consumer sales could yield the highest price per pound to fishermen, but will limit quantity and may be unwieldy when fishermen are focused on being at sea or working on their vessels. A central, cooperative sales outlet may minimize the burden to fishermen and provide an easy-to-access retail point for consumers. However, it will also compete with existing fish sales on the waterfronts and in local grocery stores and may not be the most cost effective alternative. Rent or construction costs, utilities, adherence to USDA regulations, staff, communication with fishermen, advertising, accounting, and credit/debit card processing must be considered with such a sales outlet.

Marketing Opportunities

Potentially, the direct-to-consumer model eliminates intermediaries and takes advantage of vertical integration, keeping fish sales, processing, and distribution money in the immediate community. Dockside storefront sales creates a unique opportunity for increasing awareness and reinforcing the value of the working waterfront. Direct-to-consumer sales stress the local nature of the fishery and could also take advantage of incidental tourist sales. Shifting demographics have made the sale of whole fish a viable alternative. These scenarios also provide the opportunity to involve fishing families and retired fishermen.

Figure 7-3 Marine Protected Area Closures



Source: California Department of Fish and Game, 2008

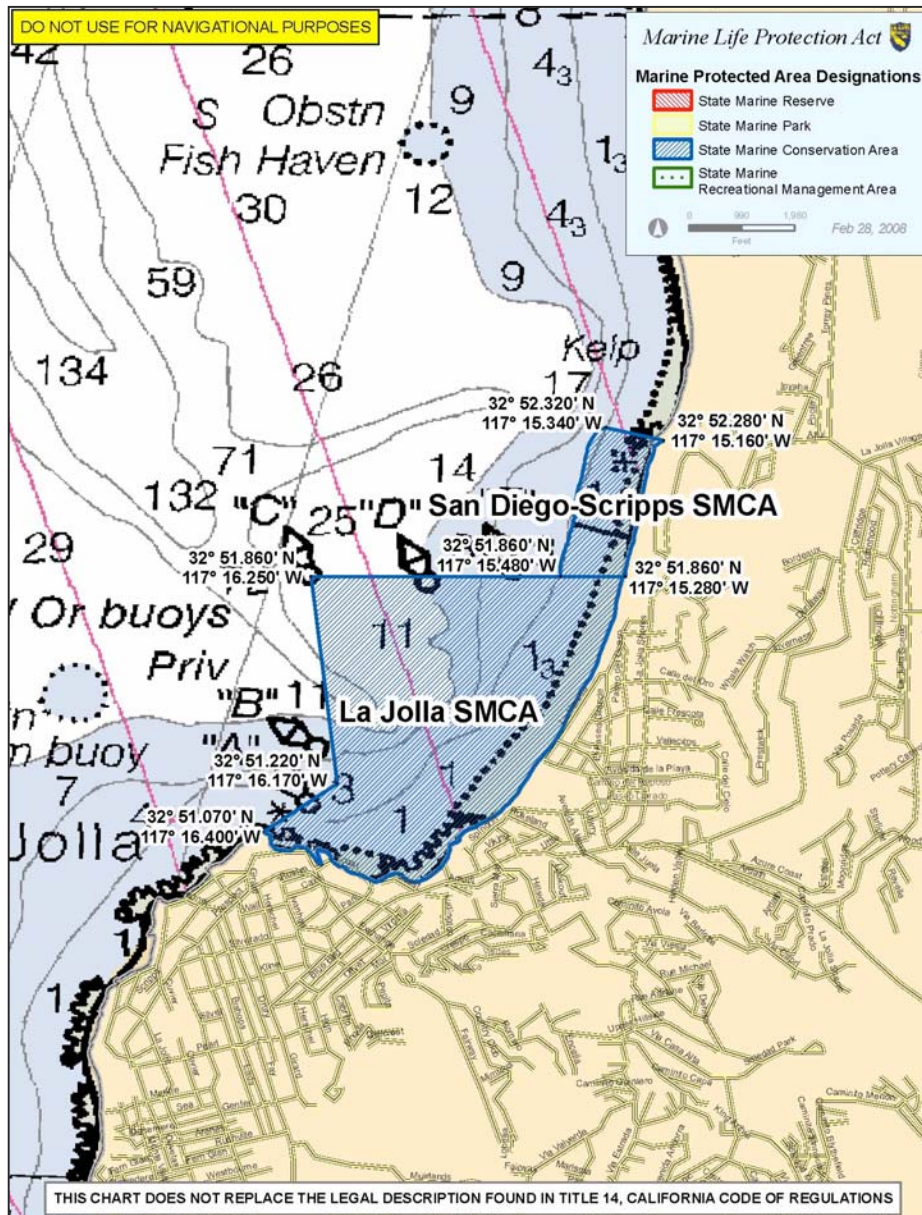
San Diego-Scripps State Marine Conservation Area is a large research area used by Scripps Research Institute of UCSD (see Figure 7-4). This area is bounded by the mean high tide line, a distance of 1000 feet offshore, and the following points:

- 32° 52.28' N. lat. 117° 15.16' W. long.;
- 32° 52.32' N. lat. 117° 15.34' W. long.;
- 32° 51.86' N. lat. 117° 15.48' W. long.; and
- 32° 51.86' N. lat. 117° 15.28' W. long.;

La Jolla State Marine Conservation Area is located adjacent to the community of La Jolla and is popular with divers, swimmers, kayakers, surfers, and beachgoers (see Figure 7-4). The area consists of a series of deep-water canyons that produce abundant wildlife. It is also home to a large group of harbor seals, which make their home at the “Children’s Pool.” This area is bounded by the mean high tide line and the following points:

- 32° 51.86' N. lat. 117° 15.28' W. long.;
- 32° 51.86' N. lat. 117° 16.25' W. long.;
- 32° 51.22' N. lat. 117° 16.17' W. long.; and
- 32° 51.07' N. lat. 117° 16.40' W. long.

Figure 7-4 Marine Protected Area Closures

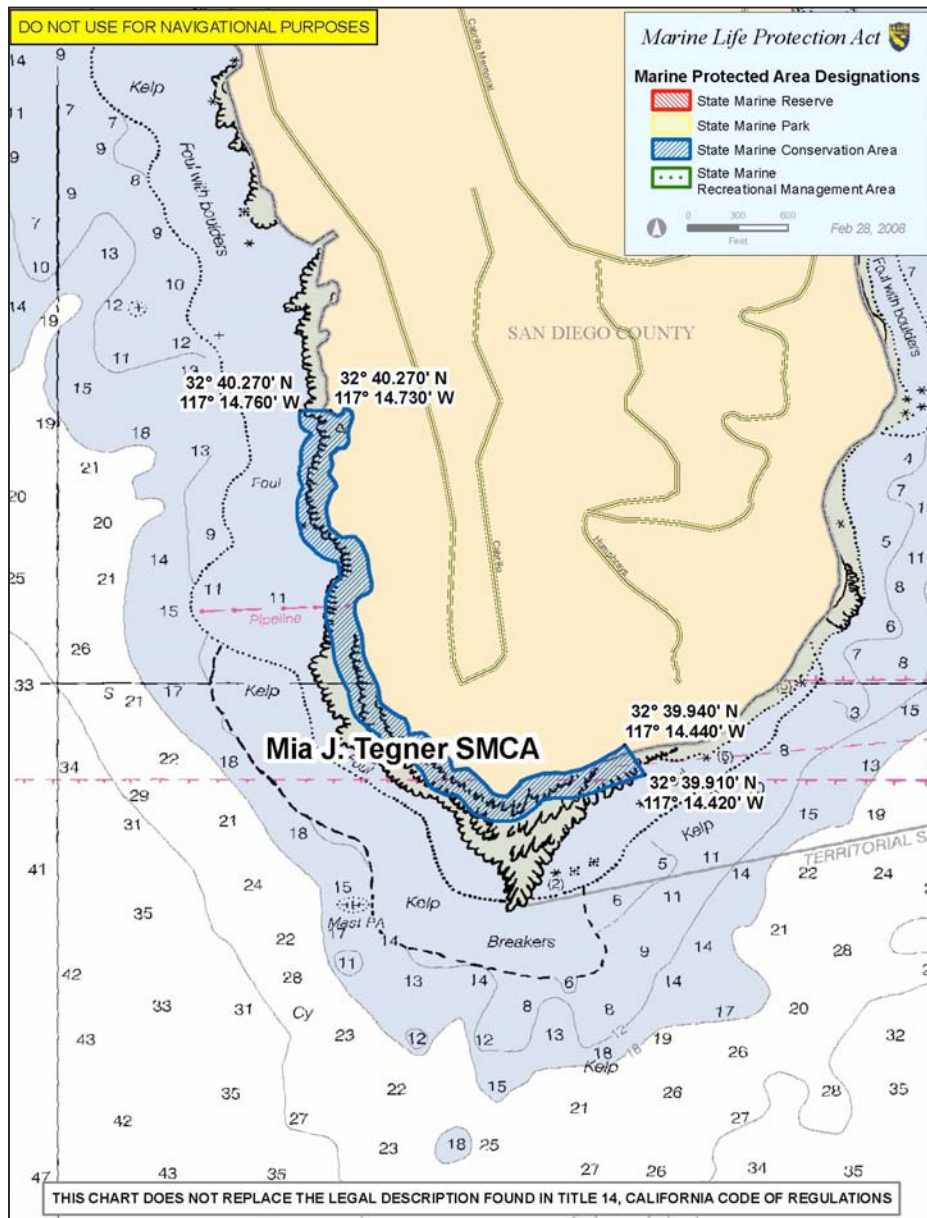


Source: California Department of Fish and Game, 2008

Mia J. Tegner State Marine Conservation Area, formerly the Point Loma Reserve, was designated for its extensive kelp beds and adjacent military activity (see Figure 7-5). It is bounded by the mean high tide line, a distance of 150 feet offshore, and the following points:

- 32° 40.27' N. lat. 117° 14.73' W. long.;
- 32° 40.27' N. lat. 117° 14.76' W. long.;
- 32° 39.91' N. lat. 117° 14.42' W. long.; and
- 32° 39.94' N. lat. 117° 14.44' W. long.

Figure 7-5 Marine Protected Area Closures



Source: California Department of Fish and Game, 2008

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FISHERIES MODELS

Section 9

9.1 Management Entities

Currently, there is no entity or organization that represents the interests of commercial fishermen in San Diego. However, it was indicated by a number of commercial fishermen, and corroborated by several commercial fishing stakeholders, that a management entity is necessary to implement needed change to the industry, in particular, to attract funding, create an effective marketing and communication program or make infrastructure improvements. The examination of various models, roles, responsibilities, and structure of a potential management entity for San Diego will be addressed in the Implementation Plan.

9.2 Certification of Fishery

As part of the Marketing Plan and Commercial Fishing Support Program, in its objective of differentiating San Diego seafood and assigning it greater value and visibility, three potential certification models were addressed. They are: UN Code of Conduct, Marine Stewardship Council and FishWise. The models were chosen based on input from the Core Committee, local commercial fishermen and fishery stakeholders.

Certification aims to assure that seafood is caught in a particular manner by a particular group of fishermen in a particular place. This approval allows consumers and seafood buyers to make purchasing decisions based on responsible catch methods, place and traceability.

Sustainability is seen by consumers as a valuable attribute and should exact a higher price, rewarding those that adhere to its precepts. In the commercial fishery, sustainability is a term that is much used and poorly defined. The term is in transition from an adjective to a standard, much the way the term "organic" was 10 years ago. As Gil Sylvia, Director of the Marine Resource Economics and Marketing program at Oregon State University stated, "[standardization of] sustainability" is a concept that the industry must address.

Sustainability

The concept must include: standards in (responsible) fishing methods that places value on fish stocks; science-based regional stock assessments; auditable review and reporting; traceability in the chain of custody and a method of communicating the standards. Additionally, the concept of sustainability must include, sufficient earnings for fishermen, adequate infrastructure, viable markets, appropriate transportation/distribution, communication amongst participants, appropriate management at the community level and the attraction of new participants.

The certification examples addressed here, UN Code of Conduct, Marine Stewardship Council and FishWise, are aimed at better defining and standardizing the term while providing practical knowledge to fishermen, fishery managers, and stakeholders throughout the distribution chain.

UN Code of Conduct

The United Nations Food and Agriculture Organization created a Code of Conduct for Responsible Fishing in 1995 as voluntary guideline for promoting universal principles of sustainable fishing and cooperation in conserving marine resources. Certain provisions of the code are based on international law that may have already been given binding authority. The code begins with a statement of general principles and then lists procedures and/or a wide range of fishery-related concerns, including fisheries management, fishing operations, aquaculture development, and post-harvest practices and trade. The Code serves as the basis for the Marine Stewardship Council standards.

The organization created a questionnaire that members submit every other year to monitor and assess compliance with the code. This questionnaire has been modified to meet the specific circumstances of fisheries at the national and, in some cases, the state or even fishery-specific level.

The UN Code of Conduct questionnaire was applied to the Hawaii Longline Fishery in 2006 by the Hawaii Seafood Project with the aim of assessing the fishery's performance (see Attachment M). The Hawaii Seafood Project, which is funded by the National Oceanic and Atmospheric Administration, evaluated the fishery using the provisions of the UN Code of Conduct, and determined that the fishery was 93% compliant. Although the Hawaii Seafood Project and the longline fishery leaders are still determining how best to capitalize on the assessment, it is recognized as one of the first times the code was applied in its entirety and as having marketing potential.

Marine Stewardship Council

The Marine Stewardship Council (MSC) is an independent, global, non-profit organization that promotes responsible fishing practices and aims to find a solution to the problem of overfishing.

MSC was established by Unilever, the world's largest buyer of seafood, and WWF, the international conservation organization, in 1997. MSC became fully independent from both organizations in 1999 and today is funded by a wide range of organizations including charitable foundations and corporate organizations around the world.

Beginning in 1997, MSC spent two years developing its environmental standard for sustainable and well-managed fisheries based on the UN's Food and Agriculture Organizations (FAO) Code

of Conduct for responsible fisheries as well as worldwide consultation with scientists, fisheries experts, environmental organizations and other people with a strong interest in preserving fish stocks for the future.

An independent assessor reviews a fishery based on its criteria, and if that fishery management and oversight practices meets MSC criteria, it is provided with a label that is used as a tool to differentiate the product.

Western Australian Rock Lobster became the first fishery in the world to be certified by MSC in 2000, and in 2001, the first restaurant in the world began to carry the MSC logo on its menu. By 2005, more than 300 seafood products and 14 fisheries around the world had been certified by the MSC.

The American Albacore Fishing Association (AAFA), a San Diego-based non-profit organization that represents commercial pole and troll vessels, sought and obtained MSC certification in September 2007. It is the first tuna fishery to be certified by MSC. AAFA members cited several advantages to MSC certification, including increased negotiating power with potential buyers and access to markets that only purchase MSC-certified seafood.

MSC Fisheries Certification Methodology is the formal document that guides the certification process. Certification usually takes 12-14 months or longer and can cost hundreds of thousands of dollars depending on the size and scope of the fishery.

FishWise

FishWise is a non-profit organization focused on promoting ocean resource conservation through partnerships with retailers, distributors, fishers, aquaculturists, and other stakeholders. Using a unique color-coded labeling system specifically designed for grocery stores, FishWise aims to create a better description of the chain of custody and to inform consumers on how and where seafood was caught/raised as well as the health of the fish population. There are 15 participating grocers in California with a combined 35 store locations. Participating grocery stores must agree to have every item in its seafood case evaluated and labeled:

Green represents fish that were caught or farmed using a low-impact fishing or farming method and the fish populations are healthy;

Yellow indicating that there are still some concerns about the fishery; or

Red showing that the fish populations are in trouble and the fishing method is not sustainable.

FishWise states that participating stores have reported significant increases in seafood sales overall and a large decrease in sales of yellow and red labeled seafood. Participants stressed that their customers appreciate being informed and the program has created significant goodwill and trust.

In addition to product labeling, FishWise provides member stores with point-of-purchase materials, employee training, strategic planning, publicity, scientific fishery analysis, and sourcing support. Associated costs are subsidized through grants and donations by organizations such as the David and Lucille Packard Foundation.

9.3 Other Commercial Fishing Areas

The Analysis of Other Commercial Fishing Areas examines 12 US commercial fishing ports as potentially beneficial examples of well designed and operated infrastructure, management, marketing and distribution and/or value added services. These ports were identified by the Core Committee, San Diego commercial fishermen and fishery related stakeholders and the Consultant Team. The objective is to provide the San Diego revitalization effort an advantage by imitating other models, where appropriate, to learn from past mistakes and employ systems that have proven to work well.

San Diego commercial fishermen nominated eight of the ports: Ventura; Santa Barbara; Monterey; Pillar Point; Noyo Harbor; Astoria; Westport; and Honolulu. The regional ports of San Pedro, Mission Bay, and Oceanside, were also included due to proximity. Cape Cod was selected due to its success in forming a management entity, the Cape Cod Commercial Hook Fisherman's Association and the formation of a fisheries trust, Cape Cod Fisheries Trust. (For a more detailed analysis of each port, see Attachment N)

In comparing San Diego to other ports, a number of issues surfaced. First, although the population in most other port areas is considerably smaller than in San Diego, seafood landings are higher. Secondly, a large amount of pelagic species are landed in Central and Southern California ports (San Pedro, Terminal Island, Monterey), with the notable exception of San Diego, Mission Bay, and Oceanside. San Pedro harbor has a strong history of landings in coastal pelagic species, notably sardines, squid and mackerel, as does Ensenada. Despite the prominence of a squid biomass in local waters every three to five years, there are little or no landings of these "wetfish" species in San Diego.

Participation in direct sales is a feature of contrast between the Port of San Diego and Mission Bay, Pillar Point, and Noyo Harbor. Mission Bay, Pillar Point, and Noyo Harbor fishermen all engage in direct sales, with marketing either exclusively handled by fishermen (Mission Bay) or with varying assistance of the harbor (Pillar Point and Noyo Harbor).

Community awareness of the local commercial fishing heritage and economy is also generally higher in other ports, compared to San Diego. Festivals and media promote this awareness. Alliances with city agencies, such as the chambers of commerce, and museums, as in the case of Monterey, have also effectively promoted awareness of responsible fishing methods and generated active support of local, family run fishing businesses. Examining the governance of other ports provides examples of successful models, usually in the form of a harbor master or dock master who is responsible for the oversight of the welfare of commercial fishermen.

Infrastructure improvements are seen as critical and ongoing in several ports, including Santa Barbara and Westport. Funding for projects such as gear storage and dock enhancements comes from grant sources, including the California Coastal Conservancy and the Ocean Protection Council, and private funding.

The recommendations that can be drawn from these ports will be addressed in the Implementation Plan.

APPENDICES

The following contains the attachments referenced in this report.

Attachments A-E refer to the five specialized reports completed by members of the Consultant Team, summarized in Section 2. Those reports are under a separate cover and are listed below:

- A** Land Based Existing Conditions and Environmental Constraints Analysis
Helix Environmental Planning
- B** Marine Based Existing Conditions and Environmental Constraints Analysis
Merkel & Associates
- C** Geotechnical Constraints Analysis
TerraCosta Consulting Group
- D** Marine Structural Constraints Analysis
Moffat & Nichol, Blaylock
- E** Traffic and Circulation Analysis
Linscott, Law and Greenspan

In addition, Attachment M, The San Diego Sea Urchin Project, is not a component of San Diego Commercial Fishing Revitalization Background and Existing Conditions Report, but was written simultaneously with and informed this report. Peter Halmay, a Core Group Committee member, San Diego sea urchin diver, and member of the San Diego Waterman's Association, was the key author of the Sea Urchin Project report, funded by the Ocean Protection Council. The report is also under a separate cover.

- K** The San Diego Sea Urchin Project
San Diego Waterman's Association, OPC

Standards and Recommendations For Accessway Location and Development

These standards provide guidelines for the location, size and type of accessways along the California coast. San Francisco Bay accessway standards are available from the San Francisco Bay Conservation and Development Commission. The California Coastal Commission and Conservancy adopted these standards to ensure a consistent approach is used for access construction. Since sites and circumstances vary along the coast the application of these standards is flexible. These standards apply to all new and existing developments.

Standard No. 1 *Protect the Public and Coastal Resources*

Coastal access facilities should be located where they safely accommodate public use. Their distribution should prevent crowding, parking congestion, and misuse of coastal resources. To fulfill this goal, accessway design and location should: a) minimize alteration of natural landforms and be subordinate to the setting's character; b) prevent unwarranted hazards to the land and public safety; c) ensure the privacy of adjoining residences; and d) protect environmentally sensitive habitats and agricultural areas.

Standard No. 2 *Correct Hazards*

The management and construction of accessways should correct or at least not increase the potential of any hazard, such as fire or erosion. At times when there is an increased hazard, for example during pesticide application in agricultural areas, the accessway should be closed.

Standard No. 3 *Access Easements: Construction and Location*

Accessways built on easements, such as offers-to-dedicate, should be no wider than necessary. Width of accessways can vary from a minimum of 30 inches for a trail to 10 feet or wider for ramps or paved walkways, depending on topography and the existing development. Wheelchair access should be provided wherever possible.

Standard No. 4 *Privacy*

The design and location of accessways should consider the privacy of adjoining residences. Vertical accessways may be fenced or screened with landscaping on the property line and be closed at night, depending on the needs of the adjoining residences.

Standard No. 5 ***Environmentally Sensitive Areas***

Access projects to areas such as wetlands, tidepools, or riparian areas should be evaluated on a case-by-case basis to ensure that the projects: a) are consistent with the policies of Chapter Three of the Coastal Act; b) avoid adverse effects on the resource and, if possible, enhance the resource; c) are reviewed by the Department of Fish and Game and the California Coastal Commission.

Standard No. 6 ***Lateral Accessways: Construction and Location***

A lateral accessway is an area of land that provides the public with access and recreational use along the water's edge.

Lateral accessways should include a minimum of 25 feet of dry sand at all times of the year or the entire sandy area if the beach is less than 25 feet. They should not extend further inland than any shoreline protective structures; nor should they come closer than 10 feet to an existing single-family home. Specifications for construction will vary depending on the Local Coastal Program (LCP) requirements or Commission permit conditions.

Due to the proximity of the ocean and winter storm waves, construction of support facilities on lateral accessways should be kept to a minimum. Retractable ramps or boardwalks, however, not only enable the handicapped to reach the water, but they also can be removed as the seasons dictate.

Standard No. 7 ***Vertical Accessways: Construction and Location***

A vertical is an area of land connecting the first landward public road, trail, or use area with a public beach or lateral accessway, used to get people to the shore. Vertical accessways should be a minimum 10 feet wide.

Urban areas: Vertical accessways in urban areas should be located where streets end at the shoreline, once every six parcels, or up to once every 500 feet. New multiple-family residential projects of five dwelling units or more should provide sufficient space for a vertical accessway and public parking and pay for their construction. Condominium conversions of the same type of units should provide a vertical accessway, either on-site or in the same general area. The existence of public beaches nearby could reduce the number of verticals needed.

Commercial development should incorporate or preserve views of the ocean and vertical access, as well as construct and maintain the accessway as part of the project. Industrial development should provide vertical access and parking improvements according to the extent to which the potential public use is displaced by the facility.

Rural areas: When beachfront parcels are subdivided in rural areas, owners should provide a vertical accessway either as a separate parcel or as an easement over the parcels to be created. More than one vertical accessway may be required if the parcels contain more than one beach area or the beach is ¼ mile or longer. Residential developments should use the standards suggested for urban development.

Vertical accessways in agricultural and timberlands should be wide enough to protect accessway users as well as the crops. At least one accessway should be provided or acquired on such lands if they contain a beach appropriate for safe public use.

Stairways, ramps, trails, over- or underpasses are some of the facilities that can be built on vertical accessways. Drainage systems to prevent erosion may also be necessary.

Standard No. 8 *Trails*

A trail provides continuous public access either along a coastal bluff or links inland recreational facilities to the shoreline. Specifications for construction will vary according to the LCP.

Trail easements should be a minimum of 25 feet in width. They should never be closer than 10 feet to an existing residence.

Trails should be established on ocean front parcels, depending on the topographic conditions. These trails should connect: a) the shore with inland units of the federal, state, or local park systems; b) access easements; or c) the road with a scenic overlook. Such trails must avoid geologically unstable and erosive soils. Prime agricultural soils should also be avoided except where the trail will not interfere with agricultural production.

Trails can feature steps, footbridges, appropriate paving materials, adequate trail drainage system, trash receptacles, benches, barriers, restrooms, and signs.

Standard No. 9 *Scenic Overlooks*

A scenic overlook provides the public a unique or unusual view of the coast.

Development of scenic overlooks can vary from a simple roadside turnout with only trashcans, parking, and fencing as appropriate, to a more elaborate roadside rest area. Overlooks that are not next to a road should be accessible by trail, ramps or stairs, and be accessible to those with physical disabilities.

Standard No. 10 ***Coastal Bikeways***

Coastal bikeways are paths specifically designated to provide access to and along the coast by nonmotorized bicycle travel as defined in Section 2373 of the Streets and Highway Code.

There are three classes of bikeways:

Class I Bikeway – Bike Path

A completely separated right-of-way designated for the exclusive use of bicycles and pedestrians.

Minimum surface width of 8 feet for a two-way path and 5 feet for a one-way path and provision for a 2 foot wide graded area adjacent to either edge of the paths.

Class II Bikeway – Bike Lane

A Class II bikeway is a right-of-way in the paved areas of highways that is restricted for the use of bicycles. Motor vehicle parking and cross-flows are permitted.

To be classified as a Class II bikeway, the bikeway should be four feet wide on roads in outlying areas where parking is prohibited, 5 feet wide when parallel parking is allowed, or 11 to 13 feet wide when parallel parking is allowed and designated by specific striping.

Class III Bikeway – Bike Route

A Class III bikeway is a surface street that is shared with pedestrians or motorists. These routes are used primarily to provide a continuous link between Class I and II bikeways.

All classes of bikeways must feature a graded and paved path, bike racks, vehicle barriers, fencing, and signs. On a Class II and III, signs and striping are required.

Standard No. 11 ***Hostels***

Hostels are low-cost public travel accommodations that provide sleeping, kitchen, and bath facilities for traveling families, groups, and individuals of all ages. Following the example of the hostels in Europe, which generally allow a maximum stay of three nights, California coastal hostels combine low-cost lodging with educational, social, and cultural opportunities.

Hostels should have sufficient space for a minimum of 24 people, and one parking space for every eight guests and each residential staff person. Existing buildings, such as lighthouse stations, preferably on public or parkland, should be used for hostel sites whenever renovation is economically feasible and the structures are appropriate to current surrounding land use.

Ideally, hostels should be located at intervals of 20 to 40 miles, on or near the coast, and within two miles of recreational trails. If more than five miles of normal bicycle travel is required to get from one campground or hostel to another then campgrounds should be used to provide lodging.

Hostels should feature beds, kitchens, and bathrooms mentioned above as well as public telephones, location signing along highways, and public transit stops.

Standard No. 12 ***Support Facilities***

Support facilities are structures that make it easier for people to use and maintain coastal accessways: signs, trash receptacles, public telephones, restrooms, showers, bike security racks, public transit loading and unloading areas, campgrounds, and parking areas fit into this category. The support facilities that each accessway will require should be decided on a case-by-case basis. Directional and resource interpretation signs are available from the Coastal Conservancy.

Standard No. 13 ***Barrier-Free Access***

All accessways must be made wheelchair-accessible unless this would present an unreasonable hardship. Grounds for an unreasonable hardship are to be determined by the enforcement agency for the region.

Accessways that accommodate or plan to accommodate those with mobility problems are the highest priority for State funding. The standards for these accessways and their support facilities should at least meet, if not exceed, the requirements of Title 24 of the California Administrative Code. The Office of the State Architect has written a guide to Title 24, the California State Accessibility Standards Interpretive Manual. This manual is available for \$8.00 from the Office of the State Architect, Access Compliance Unit, P.O. Box 1079, Sacramento, CA 95805.

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PacFIN Report

W-O-C

list_agency_ports_pcid

Pcid codes and corresponding agency ports

W-O-C: ports (PCID) ordered north to south w/agency descriptions

PCID	AGID	Agency Port Code	Agency Description
SD	C	880	SAN DIEGO
OCN	C	883	OCEANSIDE
OSD	C	852	POWAY
OSD	C	859	VALLEY CENTER
OSD	C	860	SANTEE
OSD	C	861	FALLBROOK
OSD	C	862	SAN MARCOS
OSD	C	863	NORTH SHORE
OSD	C	864	BONITA
OSD	C	865	SPRING VALLEY
OSD	C	867	LEUCADIA
OSD	C	868	IMPERIAL BEACH
OSD	C	869	MISSION BAY
OSD	C	870	SAN YSIDRO
OSD	C	877	LEMON GROVE
OSD	C	879	EL CAJON
OSD	C	881	POINT LOMA
OSD	C	882	NATIONAL CITY
OSD	C	884	CORONADO
OSD	C	885	OCEAN BEACH
OSD	C	888	LA JOLLA
OSD	C	889	CHULA VISTA
OSD	C	890	DEL MAR
OSD	C	891	CARLSBAD
OSD	C	893	CARDIFF
OSD	C	894	ENCINITAS
OSD	C	895	SOLANA BEACH
OSD	C	897	VISTA
OSD	C	898	LA MESA
OSD	C	899	ESCONDIDO
OSD	C	886	MISSION BEACH
OSD	C	734	SAN CLEMENTE ISLAND
OSD	C	800	SAN DIEGO AREA

Yellowfin Tuna Landings in the San Diego Area 1985-2006

	1985	1986	1987	1988	1989	1990	1991	1992
Pounds	47,859	281,726	2,591,073	554,757	5,516	6,531	585	580,195
EVV	\$37,388	\$37,511	\$13,995	\$23,908	\$13,335	\$4,894	\$1,093	\$5,217
	1993	1994	1995	1996	1997	1998	1999	2000
Pounds	2,832	649,994	47,741	24,265	280,274	1,978,590	1,128	8,144
EVV	\$1,203	\$216,917	\$17,124	\$6,786	\$13,684	\$816,847	\$2,011	\$9,326
	2001	2002	2003	2004	2005	2006		
Pounds	41,264	7,897	4,375	7,071	3,970	3,679		
EVV	\$26,544	\$7,670	\$6,908	\$7,967	\$5,346	\$6,428		

Source: California Department of Fish and Game

Appendix III (e): Summary of San Diego County fisheries, 1998-2007

Table III-9: Summary of San Diego County finfish fisheries, 1998-2007

Market Category Groupings ¹ FINFISH	Primary Species Targeted	Primary Gear	Number of Fishermen ⁴ 2007 ³	Number of Vessels ⁴ 2007 ³	Average Annual Landings (pounds)	Average Annual value (\$) ²
Tuna	Albacore, bluefin, yellowfin, bigeye, and skipjack tuna	Hook-and-line, and round haul nets	25	24	785,125	\$724,567
Swordfish	Swordfish	Harpoon, entangling nets	42	38	391,923	\$1,571,142
Pacific Sardine	Pacific sardine	Round haul nets	1	1	214,852	\$26,166
Sharks and Skate	Shortfin mako, Thresher, Soupfin, Spiny dogfish, Leopard, Shovelnose guitarfish, Skates	Hook-and-line, trawl, round haul nets	51	45	198,006	\$298,233
Dover sole	Dover sole, Longspine thornyhead, Shortspine thornyhead, Sablefish	Hook-and-line, and traps				
Thornyhead Sablefish			9	22	131,686	\$393,791
California sheephead	California sheephead	Traps, and hook-and-line	13	12	36,671	\$162,206
Mackerel-anchovy	Jack mackerel, Pacific mackerel, and Northern Anchovy	Round haul nets				
California halibut	California halibut	Hook-and-line	5	6	32,283	\$7,591
White seabass	White seabass	Hook-and-line	22	22	31,113	\$120,307
Slope rockfish	Slope rockfish	Hook-and-line	10	10	21,909	\$57,569
California yellowtail	California yellowtail	Hook-and-line, round haul nets	10	20	17,719	\$26,880
Shelf rockfish	Slope rockfish	Hook-and-line	27	25	16,274	\$24,162
Unidentified rockfish	Miscellaneous rockfish	Hook-and-line	20	19	9,401	\$17,279
Nearshore fishes	Nearshore rockfish, Cabezon	Hook-and-line, trap	8	7	6,426	\$9,716
Pacific bonito	Pacific bonito	Round haul nets, hook-and-line	15	15	4,299	\$15,393
			5	5	2,421	\$2,005

Ocean whitefish	Ocean whitefish	Hook-and-line	7	7	1,289	\$1,372
Other fish	Miscellaneous fish	Miscellaneous gear	47	44	1,148	\$939
Lingcod	Lingcod	Hook-and-line	12	13	773	\$2,177
Croaker	White, queenfish	Hook-and-line, and round haul nets	0	0	477	\$484
Sanddabs	Pacific sanddabs, Speckled sanddabs, Longfin, sanddabs	Hook-and-line	2	2	359	\$771
Surf perch	Barred, shiner, white, walleye	Hook-and-line, round haul nets	1	1	241	\$261
Sole	English, Petrale, Rex	Miscellaneous gear	1	1	127	\$158
Angel shark	Pacific angel shark	Miscellaneous gears	2	2	112	\$141
Smelt	Silversides, jack, and top smelt	Round haul nets	1	1	21	\$18
Other flatfish	Other flatfishes	Miscellaneous gear	1	1	4	\$8
White shark	White shark	N/A	0	0	0	\$0
Salmon	Chinook salmon	N/A	0	0	0	\$0

Source: Data compiled from the Commercial Fishery Information System data base (extract date: May 2, 2008).

¹ Market Category Groupings are listed in descending order by average annual landings within the county.

² Average values were calculated by applying an inflationary figure to each of the ten year (1998-2007)

³ Commercial license year from April 1 through March 31 the following calendar year.

⁴ Fishermen and vessels may fish more than one market category grouping.

Table III-10: Summary of San Diego County invertebrate fisheries, 1998-2007

Market Category Groupings ¹ INVERTEBRATES	Primary Species Targeted	Primary Gear	Number of Fishermen ⁴ 2007 ³	Number of Vessels ⁴ 2007 ³	Average Annual Landings (pounds)	Average Annual value (\$) ²
Sea urchin	Red, purple, and white sea urchins	Hand harvest	19	14	745,921	\$681,276
Spiny lobster rock crab	Spiny lobster Brown, red, and yellow rock crab	Traps Traps	55 15	57 15	237,866 140,069	\$1,993,702 \$181,832
Spot prawn	Spot prawn	Traps	6	6	47,112	\$443,302
Market squid	Market squid	Round haul nets	2	2	14,937	\$3,439
Kellet's whelk	Kellet's whelk	Hand harvest, and traps	10	11	12,720	\$10,597
Sea cucumber	Warty and giant red sea cucumbers	Hand harvest	5	5	9,625	\$9,091
Spider crab	Spider crab	Traps	12	13	9,164	\$8,478
Ridgeback prawns	Ridgeback prawns	Traps	0	0	18	\$97
Other inverts	All invertebrates with small amount of landings	Miscellaneous gear	13	14	1,703	\$2,433

Source: Data compiled from the Commercial Fishery Information System data base (extract date: May 2, 2008).

¹ Market Category Groupings are listed in descending order by average annual landings within the county.

² Average values were calculated by applying an inflationary figure to each of the ten year (1998-2007)

³ Commercial license year from April 1 through March 31 the following calendar year.

⁴ Fishermen and vessels may fish more than one market category grouping.

2008 Commercial Fish Business Licenses

Valid January 1, 2008 through December 31, 2008		
Annual C.F. Business Licenses	Fee	Description
Multifunction Fish Business	\$1,626.75	Any person to conduct the activities of a fish receiver, fish processor, fish wholesaler, and fish importer. If the licensee is also a commercial fisherman this license also authorizes a person to conduct the activities of a fisherman retailer.
Fish Importer's License	\$650.50	Any person who, for the purpose of resale to persons other than ultimate consumers, receives or purchases fish taken outside of this state which are not landed in this state by a licensed commercial fisherman must obtain a Fish Importer's License.
Fish Receiver's License	\$650.50	Any person who purchases or receives fish for commercial purposes from a commercial fisherman not licensed as a fish receiver must obtain a Fish Receiver's License.
Fisherman's Retail License	\$81.50	A commercial fisherman is required to have this license only if he/she sells all or a portion of his/her catch to ultimate consumers.
Fish Wholesaler's License	\$439.50	Any person who, for the purpose of resale to persons other than the ultimate consumer, purchases or obtains fish from a person licensed to engage in the activities of a fish receiver, fish processor, fish importer or fish wholesaler, is required to obtain a Fish Wholesaler's License.
Fish Processor's License	\$650.50	Any person who processes fish for profit and who sells to other than the ultimate consumer must obtain a Fish Processor's License.
Sport-Caught Fish Exchange Permit	\$59.25	Any person who, exchanges fresh fish taken under the authority of a sport fishing license for filleted, smoked or canned fish.
Importation Permit (Standard)	\$41.50	Any person receiving a shipment of live fish, including shellfish must apply for a Standard Importation Permit at least 10 working days prior to the arrival of the shipment. The application and information about this permit are available at www.dfg.ca.gov/fish/administration/permits/index.asp .
Importation Permit (Long Term)	\$50.00	A Long Term Importation Permit may be issued for each species or plant specified in Section 236, Title 14, of the California Code of Regulations. Permits may be valid for up to one year from the date of issuance and a fee will be charged for each permit. For additional information please call the Bodega Bay office at (707) 875-4261 (marine species) or Fisheries Branch at (916) 539-2028 (freshwater species). The application and information about this permit are available at www.dfg.ca.gov/fish/administration/permits/index.asp .
Anchovy Reduction Permit	\$35.50	Required for fish processors to process anchovies for reduction purposes.
Sturgeon Egg Processing Permit	\$214.00	Required to process sturgeon eggs for canning, curing, preserving, packing or otherwise processing, or dealing at wholesale, in the eggs of sturgeon for human consumption.
Commercial Surf Perch Tags	\$10.00 (Per Order)	Surf Perch of the family Embiotocidae may be taken, transported, possessed and sold for commercial purposes. All such fish shall be individually tagged with Commercial Surf Perch Tags.
Kelp Harvesting License	\$118.50	Required for each person or company harvesting kelp or other aquatic plants.
Marine Aquaria Receiver's Permit	\$1,626.75	Any person engaged in the business of receiving live marine species native to California waters for the purpose of wholesaling or retailing these species for pet industry or hobby purposes must obtain a Marine Aquaria Receiver's License.

Summary of Hawaii Longline Association

Analysis of the Hawaii Longline Association was included based on information provided by Core Committee member August Felando, who is familiar with the organization through his professional relationship with Frank Goto, owner of United Fishing Agency (UFA). UFA owns and operates the fish auction in Honolulu Harbor, which is a key market for Hawaiian longline fishermen, and has a long history of working with and supporting the industry. Additional reference to the organization was made by the Port of San Diego personnel and in documents describing adoption of the United Nations Food and Agriculture Organization Code of Conduct for Responsible Fishing as a measure and certification of seafood sustainability in Hawaii. A questionnaire developed from the Code of Conduct was applied to the fishery as part of the Hawaii Seafood Project.

The Hawaii Longline Association (HLA) is a non-profit organization that supports and gives voice to its members by, primarily, engaging in the legislative and legal process. HLA activities focus on ensuring that regulations are based in science and do not unnecessarily burden the fishermen. HLA's success in this arena is, in part, due to the ability to work collaboratively with disparate interests, including environmentalists and regulators, to reach equitable solutions.

The Hawaiian longline industry makes up a large percentage of landings in Hawaii, but is small in relation to the Pacific longline fleet. In 2005, longline Tuna and Swordfish represented nearly 70% of all Hawaiian landings, or approximately 16 million pounds. However, this represents only approximately 3% of the Pacific longline fishery.

Ethnically, the fishermen come from the Vietnamese, Korean and white communities and a strong language barrier exists within the fishery. The fishery is limited entry, with a maximum of 163 permits. Only permit holders are voting members of the HLA, although some fishermen hold more than one permit, so in terms of membership, the organization has approximately 125 voting members. Non-voting, associate membership is open to the public, and raising overall membership is a constant goal to enable the organization to carry more influence. Currently the organization has approximately 220 members.

The HLA was formed approximately 12 years ago on the recommendation of William Paty, then-chairman of the Western Pacific Regional Fishery Management Council (WPRFMC). Regulations had limited the fishing grounds to within 50 to 75 miles off the islands after an influx of fishermen from around the Pacific began fishing Hawaiian waters. A group of Hawaiian longline fishermen attended a WPRFMC meeting to learn more about how the regulations were created and protest their stringency. Paty suggested that forming an organization would give longline fishermen a more cohesive and powerful voice in the regulatory process.

Fishermen initially met informally, and the organization was incorporated as a non-profit organization five years later. HLA activities include organizing and leading protests and lawsuits against regulations limiting the fishery. One of its first major victories was its successful lawsuit against the National Marine Fisheries Service (NMFS). The HLA claimed NMFS used arbitrary data as the basis for a 2001 biological opinion report recommending that the fishery's interactions with sea turtles posed a large enough hazard to require a near closure of the swordfish fishery. This closure affected the entire longline industry as swordfish fishermen switching to tuna led to a large growth in supply and subsequent decrease in price. HLA filed a lawsuit against NMFS in April 2001, claiming that HLA was denied its procedural right as an "applicant" to participate in the preparation of the biological opinion by consulting with NMFS on formulation of regulations, and the right review and comment on draft biological opinions. HLA's lawsuit was ultimately successful in September 2002 on appeal, and led not only to repeal of the regulations but also granted the association access to and rights to review future NMFS biological opinions.

According to Scott Barrows, general manager of the association, “If it wasn’t for the HLA, there would be no longline fishery here.”

HLA has fought additional court cases and regulations, but focuses on working with regulators to develop well-founded, responsible regulations. The organization strives to create a model fishery that can be emulated by countries where a lack of regulation may be reducing the fish stock.

“We’re trying to take care of the resource and the fishermen and be a model fishery,” Barrows said.

The association’s success is in part attributable to the characteristics of its participants. The condition of limited entry, coupled with the geographic reality that as an island there is limited competition, results in a close-knit community of fishermen, supporting businesses and organizations.

HLA’s management and support structure is closely tied to United Fishing Agency, managers of the fish auction in Honolulu Harbor. Approximately 90 percent of association members offload their catch at UFA, and thus supporting the fishermen is in UFA’s best interest.

The association is financed by a 2-cent per pound fee from fishermen’s catch. This is matched by 1-cent per pound from UFA for all fish sold through its auction. These contributions are supplemented by small individual donations from non-fishermen to make up the organization’s annual operating budget of approximately \$500,000. In return for contributing almost one-third of the organization’s funding, the UFA has a permanent seat on the HLA’s 10-person board of directors. The fishermen elect the other board members.

Three seats on the board of directors come up for election each year, and voting members are given one vote per seat. Board membership is not limited to fishermen, and although board members are typically fishermen or boat owners, seats have been filled by owners of fishery-related businesses or others actively involved in the fishery. A person only needs to be nominated and elected by the voting members in order to sit on the board of directors.

HLA management prefers the board to represent the three communities in order to ensure that they have equal representation, and that any decisions are relayed to the communities in their native language.

Building community and political support is another tactic that has contributed to the HLA’s success. The organization hired a public relations firm to help Hawaiian consumers, who eat 68 pounds of seafood per year, three times the national average, make the connection between the fishermen, regulations, and the availability of seafood. The firm produced television and radio commercials for the fishery as well as organized a flier campaign where fishermen approached consumers directly. This short-term effort raised the public’s awareness about the fishery and gave the association additional community support.

These efforts have also built community support by donating to charitable organizations like the Boys and Girls Club, and by giving presentations at local schools.

The organization has recently begun discussing an increase in marketing efforts. However, HLA does not want to duplicate efforts from the newly-formed Hawaii Seafood Project, a non-profit organization focused on marketing Hawaii-caught seafood. The Hawaii Seafood Project managed and conducted a review of the longline fishery using the United Nation’s Food and Agriculture Organization’s Code of Conduct for Responsible Fisheries, which can potentially serve as a marketing tool. Thus the HLA is working with the project to explore collaborative opportunities and will develop fishery-specific tactics based on the project’s focus and success.

Hawaii Longline Fishery

The Hawaii Seafood Project, which is funded by a grant from National Oceanic and Atmospheric Administration, adopted and applied the Hawaii pelagic longline fisheries in 2006. The Hawaii longline fishery is highly regulated with limited entry. All permit holders are members of the Hawaii Longline Association, a non-profit industry organization.

The Hawaii Seafood Project is led by Dr. John Kaneko, a seafood consultant with the international consulting firm PacMar, Inc. It is a collaborative project with fishermen and stakeholders from the fishing-related community including Brooks Takenaka, assistant general manager for United Fishing Agency, the organization that owns and manages a fish auction in Honolulu Harbor. Dr. Kaneko adapted the questionnaire used by the UN and focused on the code's provisions for fishing management, fishing operations, integration of fisheries into coastal area management, post-harvest practices and trade and fisheries research to conduct a Responsible Fishery Assessment (RFA). The RFA did not include the aquaculture provision of the Code of Conduct because there is no farming of longline species in Hawaii.

PacMar consultants evaluated how well Hawaii longline fisheries complied with the code provisions based on the used their knowledge of the industry to answer the questions and evaluate its compliance. The company used the scoring method developed by the UN. The first RFA, which was completed in 2006, determined that the fishery is 93% compliant with the code.

This project is recognized by the UN as the first time the questionnaire was adopted and applied in its entirety to a state-level fishery. It has served as an example to other fisheries interested in testing their compliance, including the Alaska Seafood Marketing Institute. The UN is monitoring the project and has used the results in a case study review of the use of questionnaires.

The UN review of the project found that communicating the results to the public in a clear manner is a key concept that creates a challenge to organizations using it as a measure of sustainability and differentiation in the marketplace. It acknowledged that lack of public understanding about the code impedes its ability to help guide consumers in their purchasing decisions. Other lessons from the project include recognizing that the evaluation is an ongoing process that can serve as review of changes in the fishery, and also recognition that engaging regulatory agencies can build the evaluation's credibility both within those agencies and with the public.

Analysis of Other Commercial Fishing Areas

Ventura Harbor and Harbor District, Ventura, CA

Ventura lies on the southern coast of California 68 miles north of Los Angeles and is part of the Los Angeles metropolitan area. With approximately 101,000 residents in 2000, Ventura's economy is historically based on oil and citrus agriculture, with some commercial fishing.

The Ventura Port District was established in 1952 as an independent "Special District" of the state. The district is the owner/operator of the Ventura Harbor, which is a 274 acre multiple use recreational and commercial fishing small craft harbor. One marine manager oversees two dockmasters who are designated to take care of fishermen and facilitate their operations.

In 2000, 121 commercially registered vessels landed in Ventura. In 2000, coastal pelagic species constituted the majority of landings at 12,026 tons. Shrimp (139 tons), highly migratory species (127 tons), and other species (149 tons) also comprised a large share of total landings in this year. Groundfish and shellfish are also landed in this port.

The harbor presently provides 137 slips for both recreational and commercial fishing purposes. Of these, 63 slips are occupied by commercial fishermen year-round, six more slips are occupied by vessels or are used for "other" commercial fishing purposes (e.g. pump-out), bait, etc.; 16 slips are charter; and 52 are occupied by recreational fishermen.

Ventura Harbor houses one offloading pier with two hoists each with 500 pound capacity, one processing facility, a harbor run ice machine producing 70 tons per day, and one commercial fuel dock that provides both diesel and biodiesel (phone: 805-644-4046). There is also a gear storage facility located offsite near the harbor (805-642-3948). There is no cold storage.

The City of Ventura and the harbor cooperate with Channel Islands Harbor to host the Channel Islands Harbor Seafood Festival.

Clear and continuing communication between the dockmasters and the fishermen is recognized as one of the harbor's main strengths in managing the dock. Ventura's dockmaster has defined this attribute as the backbone to a successful commercial fishing harbor: "We have developed communication between the dockmasters and the fishermen. This enables us to coordinate offloading at our fish pier and facilitate the different fisheries such as crab, urchins, fin fish as well as wet fish. Working together we schedule the boats at the pier and the trucks that arrive to pick up the various fish product for maximum efficiency."

Santa Barbara Harbor, Santa Barbara, CA

Santa Barbara lies on the southern coast of California 95 miles north of Los Angeles in Santa Barbara County. With roughly 92,300 residents in 2000, Santa Barbara's economy has been historically based on educational services, tourism and retirement. Commercial fishing constitutes a small portion of the city's economy.

Santa Barbara harbor falls under the jurisdiction of the city's Department of Waterfront District. This entity provides a funding agency for commercial fishing infrastructure needs and a harbor master who works closely with the commercial fishermen in facilitating their efforts.

In 2000, 248 commercial vessels made landings in Santa Barbara. Coastal pelagic species comprise the largest share of landings for that year, with 1,722 tons. Shrimp is also a prominent fishery, with 515 tons being delivered, as well as crab (201 tons) and highly migratory species (115 tons). Other species constituted 1,115 tons.

Currently, Santa Barbara accommodates between 80 and 100 commercial vessels. Between 45 and 60 of those boats are locally owned and moored or are year-round leasees; another 30 to 40 are transient. There are 1,133 slips total in the harbor that accommodate yachts, sail boats, and private vessels the commercial fishing fleet. The "most active" fishery is sea urchin. Other fisheries include halibut, sea cucumber, ridgeback prawns, and sea bass. The harbor supports 18 to 19 trawlers, which target mostly halibut and other groundfish.

The port supports the commercial fishing industry through the design of support infrastructure. The main commercial fishermen's pier houses an ice facility, a fuel dock, and an offloading area all together in a row. This design greatly benefits commercial fishermen, who only have to travel to one dock to offload, re-fuel, and re-ice.

The offloading facility is equipped with three hoists, two 1,000 pound hoists and a one ton pedestal. The hoists are considered inexpensive to use, primarily because maintenance and repair are underwritten by grant money. The port operates these and the ice facility at a loss. The harbor master notes that this is done "to support the fleet." Repair and maintenance cost the port up to \$25,000 annually.

The fuel facility is privately owned, but the site is leased by the city. Fuel is not subsidized for commercial fishermen. The port does, however reduce rent prices for commercial fishermen to facilitate the economic viability of commercial fishing. This same price is available to transient fishermen. Forty-two slips are designated for transient vessels, defined by the port as boats that do not remain in harbor for more than 28 days.

The ice facility is the product of a Coastal Conservancy-funded project in the mid-1990s. The machine produces 10 tons per day and stores up to 12 tons. The ice machine was grant funded. The ice machine, like the hoists, is well maintained. The harbor master states that the port sees maintenance and repair of these facilities as an investment in the longterm viability of the working waterfront. It "puts the money in to keep it from going out," according to the harbor master.

The annual Harbor and Seafood Festival includes hands-on activities for visitors and demonstrations, tours, films at the city's Maritime Museum.

Monterey Harbor, Monterey, CA

Monterey is located on the Central California coast at the southern end of Monterey Bay 113 miles south of San Francisco. With a population of 29,674 in 2000, Monterey has a long history of multi-

ethnic-derived commercial fishing and canning industry.

The canning industry experienced serious expansions and contractions between WWI and the bust in the sardine fishery in the late 1950s. Although the commercial fishing industry in general survived as canneries transformed into boutique shops and restaurants, it has been declining steadily due to stricter state and federal regulations and closures, including establishment of the Monterey Bay National Marine Sanctuary in 1992.

As a municipal harbor, Monterey Harbor falls under the jurisdiction of the city. The City of Monterey recognizes the importance of maintaining the commercial fishing industry to support its heritage and also its vibrant tourism economy, and thus the harbor has had the benefit of working cooperatively with this entity.

In 1995, there were approximately 600 vessels mooring in Monterey. Roughly 154 of those were commercial fishermen. In 2000, the harbor maintained 138 commercially registered vessels. Today, there are 73 commercially licensed boats in the harbor, 25 of which operate full time.

Coastal pelagic species continue to dominate the port's offloaded product, with 3,550 tons of wetfish species offloaded in 2000. Groundfish and salmon both comprised a large share of offloaded product in 2000, with 429 tons and 118 tons, respectively. Nearly 46 tons of highly migratory species were also offloaded in 2000. Temporal and special closures have effected the primary fisheries offloading in 2008. These fisheries include: squid and crab; salmon and sardines; and rockfish.

One privately managed and individually leased fuel dock operates in the harbor. Royal Seafood, Ocean Fresh, and Guilliani's are major processors, offloaders, and wholesalers that also provide ice and cold storage. Commercial fishermen have access to two pump-out facilities, leased through the city of Monterey, at a discounted rate. Commercial fishing gear is stored in parking lots, with nets stored in parked trailers at the city's newly renovated train depot building. Although storage space may otherwise be utilized for other businesses and, in the end, represents a loss of revenue for the city, the city provides the space in order to maintain commercial fishing, which is a vital part of Monterey's due both directly and indirectly through the tourism industry that relies on the commercial fishing industry through Fisherman's Wharf.

The harbor district is considering a project to expand the working waterfront and/or explore ways to make the commercial fishing industry more economically viable. A number of projects are foreseen for the future, though nothing has been formally created to date.

The harbor master points out that each fishery or gear type is defined by a group of individuals who have their own language and business culture, their own knowledge base, their own connections, their own language, their own marketing. For example, the wet fish fishery has an international market base whereas the salmon fishery is a fresh, local fishery. The harbormaster believes that "staying out of the way of commercial fishermen" but at the same time having a "light touch" is critical.

Also critical for the harbor district, according to the Monterey harbor master, is to provide opportunities for growth and to think about what the harbor will look like in ten years. Strategies for expanding the commercial fishing sector will depend on what goals are identified.

Another factor contributing to the success of the commercial fishing industry in the Monterey harbor is the harbor district's efforts to keep local seafood buyers in business and not to lose their support. For example, the port is working with the City of Monterey to reduce rents of waterfront fish houses.

Community support is also strong. The Monterey Chamber of Commerce and City Business Council play important roles in maintaining the commercial fishing industry in the region, enhancing the link between tourism and fishing. This can enhance support given to the small, family run fisheries. Harbors must work with the city to explore options for keeping the commercial fishing industry in business.

City support is evident through the Monterey Seafood and Music Festival, which enhances community awareness of the local commercial fishing industry.

Pillar Point Harbor District, Half Moon Bay, CA

Half Moon Bay is located in San Mateo County 30 miles south of San Francisco and 40 miles northwest of San Jose. In 2000, it had a population of 11,842. Its economy is historically based on commercial fishing and agriculture.

Pillar Point Harbor is the only protected harbor between San Francisco and Santa Cruz. It was founded as a whaling station in the 1800s. The harbor's breakwaters were completed in 1961 to provide additional protection from the waves. The neighboring town of Princeton is a commercial fishing and boat building center.

Pillar Point Harbor is managed by the San Mateo County Harbor District, an autonomous special district that makes the laws governing both of San Mateo County's ports. The Harbor District's Board of Commissioners is elected by the county-wide electorate. Benefits of operating under a county harbor district include increased access to county agricultural and food programs.

The Harbor has 369 berths and an inner and outer breakwater, making it one of the safest harbors in the United States. Pillar Point Harbor is a boat harbor created by a riprap jetty. Of these berths, 228 are commercial fishing designated. There are 115 commercial vessels moored at Pillar Point year-round. The harbor mainly caters to transient boats, raising the number of commercial vessels located at Pillar Point to several hundred during certain times of the year. In port, there are 24 crabbers and 12 tuna boats.

In 2000, landings at Pillar Point were highest in groundfish (699 tons); salmon (350 tons); coastal pelagic (319 tons); crab (165 tons); and other species (52 tons). In recent years, with closures to salmon season, landings have been heavier in other fisheries.

The harbor consists of one concrete pier with five docks stemming from these docks. The pier stands on concrete-and-recycled-plastic pilings, others of which serve as tie-offs. These work well in conditions where there are high levels of creosote from older wooden pilings. There is also an offloading dock with one crane. The landing area is considered in good condition, although the buildings at the end of the pier are slated for renovation.

The harbor houses one ice plant, producing 24 tons of ice a day with a 40 ton storage capacity. Cold storage is provided through the dockside processors. Trailers holding fishing nets and up to 1,000 crab

pots are stored in the harbor's parking lots. Storage is coordinated by fishermen. Gear may also be stored at individual, privately-owned sites in town.

All renovation, reconstruction, and revitalization projects are managed by San Mateo County Harbor District. Funding is granted through the California Department of Boating and Waterways. Though this money is designated for developing recreational harbors, commercial harbors can benefit (e.g. docks and repairs).

Pillar Point has its own budget, and from this, commercial infrastructure (e.g. the sales dock) can be funded. There are a number of projects underway to improve the state of the harbor. These include: the Princeton Shoreline Erosion Control and Public Access program; the Fishing-Based Interpretive Sign Project; and improvements to the Pillar Point Harbor Commercial Leasees' Building.

Fish landings continue to be strong in Pillar Point. Yet, in the past, as elsewhere, fishermen have had to compete with the international market, resulting in lower ex-vessel prices. To combat these prices, fishermen and port officials established a direct-to-consumer sales system by installing a 120 foot fish sales dock and obtaining the appropriate permits from the county and the state Health Department. The sales dock has neither electricity nor water, keeping overhead low. Fishermen are required to buy sales permits from the California Department of Fish and Game, and to pay advertisement fees. Fishermen tend to sell their fish to tourists from San Francisco, San Jose, Reno, and Stockton. The port also sponsors the "fishfone," a call-in order service that distributes orders among the fishermen. Although fishermen do not make a large profit selling their catch directly to the public, it gives them more leverage to negotiate fish prices with local processors.

A County Farm Bureau based program, "Fresh as it Gets," promotes local, sustainable products and enhances awareness of local buying. This program not only helps fishermen with their own sales but also gives fishermen incentive to have greater care in handling their fish.

The San Mateo County Harbor District supports and works closely with the regional Alliance of Communities For Sustainable Fisheries. The Alliance, formed by fishermen from Pillar Point, Santa Cruz, Moss Landing, and Monterey in conjunction with harbor representatives provides an informed voice for commercial fishing-based concerns as they relate to the Monterey Bay Sanctuary Management Plan and state and federal marine reserves. It provides fishermen a channel for participating in State Department of Fish and Game hearings and meetings with staff of the National Oceanographic and Atmospheric Administration (NOAA).

Noyo Harbor, Fort Bragg, CA

Fort Bragg lies on the northern coast of California, 172 miles north of San Francisco in Mendocino County. With approximately 7,026 residents in 2000, Fort Bragg's economy has historically been based on lumber and commercial fishing. Commercial fishing continues to comprise a large portion of the city's economy but has, over the past several decades, become married to tourism. Noyo Harbor, an all-weather commercial fishing port and one of four major ports between San Francisco and the Oregon border, is located south of Fort Bragg.

Fort Bragg originated as a military and reservation outpost, serving the Mendocino Indian Reservation. When the post was decommissioned in the mid-1800s, the area opened up to a lumber-based

economy. Noyo Harbor was used to export timber until commercial fishing began to dominate the harbor in the early 1900s. In recent years, Fort Bragg has experienced the closure of several lumber mills and of the salmon fishery, pulling 500 jobs out in lumber and creating financial setbacks for the majority of fishermen. A salmon ban set in place by California Department of Fish and Game in 2008 has further impacted fishermen.

In 2000, 283 commercially registered vessels made landings in Noyo Harbor. Groundfish comprised the largest sector of species landed in the harbor, with 1,933 tons landed in 2000. Salmon is also an important fishery, with 181 tons landed. Other landings include crab (192 tons) and other species (992 tons). Despite lower landings of salmon than crab, groundfish, and other species in 2000, it is considered an important fishery out of Noyo Harbor, with more than 7% of all salmon permits in California issued to Fort Bragg residents in 2007. Before 1990, commercial fishing pumped as much as \$12 million into the local economy. The town now relies on tourism.

Commercial vessels moor along the numerous facilities lining the banks of the Noyo River, fish houses, the piers, and the mixed-used buildings. They also moor at the local marina, which provides 258 slips for commercial fishing use only. Approximately half of these, or 130, are occupied by commercial fishing vessels from Fort Bragg, and 26 of these, or roughly 20%, are used full time for fishing. In previous years, particularly when salmon landings have been significant, the marina and general river area has accommodated more than 400 vessels. During these times, the marina can become congested, particularly at the single fuel dock that can accommodate deeper draft vessels. It takes a deep understanding of the commercial fishing business and the community's reliance on that business for the community to come together and withstand the social pressure during these times.

In terms of infrastructure, the harbor has one, privately-owned fuel dock that accommodates deep draft vessels. Another fuel dock is located up the river, but only shallow-draft boats can access this. The marina also houses one ice plant and one main processing/distributing plant, Tidal Fisheries. Fort Bragg is also home to six or seven smaller buyers, including one urchin plant. As the result of a trawler buy-back program, the number of trawl boats moored in Noyo Harbor has decreased from 13 in 2000 to seven. The harbor operates with one main processor and one dock, representing a decline from the four or five large processors once in existence and the number of offloading facilities. The harbor also operates with a 10,000 pound hoist and an eight foot beam.

Fishermen very occasionally engage in informal direct sales with consumers. Fishermen generally have an established clientele to whom they sell before returning to port. They manage their own marketing and sales by placing an advertisement with the local radio station or mailing flyers. Although the port is not involved in either the marketing or sales, officials may take phone orders for fishermen and then contact them when out to sea.

In 2004, the Coastal Conservancy allocated \$50,000 to Trout Unlimited, a non-profit organization, for a project to enhance water quality and, by effect, the salmon fishery out of the Noyo River.

Festivals highlight community involvement and connection to the commercial fishing industry. The community-sponsored World's Largest Salmon Barbecue, held annually for 40 years, draws tourists nationwide and has raised as much as \$40,000. Money raised during the event goes toward salmon propagation and habitat restoration. Due to the plight of the salmon fishery along the California coast

in recent years, salmon for the barbecue has been purchased from Alaska for the past few years. The festival enhances civic pride, educates the public, and connects fishermen to the community.

Astoria Port District, OR

Astoria is a small town located on the northwestern tip of Oregon just south of the Columbia River near Portland. In 2000, the population of Astoria was 9,813. Fishing, particularly salmon and albacore, has long constituted the economic foundation of the town.

Astoria has traditionally been known as a small tuna town, catering to a small (in number and in boat size) tuna fleet. Bumblee Bee Tuna started in Astoria in 1899, first processing salmon, then, in 1920, albacore. Bumblee Bee continued to expand its domain and presence in the area until 1980s, when it closed.

The Port of Astoria is the first deep-draft port from the mouth of the Columbia River, going up the river. The port has nearly 7,250 feet of dock space on three piers. The port accommodates two marinas for both commercial and recreational vessels.

According to the National Marine Fisheries Service, 334 vessels participating in the West Coast Fisheries landed seafood Astoria in 2000, with the highest tonnage in groundfish (45,284 tons); the second highest was in coastal pelagic species (5,907 tons); shrimp (3,947); crab (1,399 ton); and highly migratory species (1,682 tons). Other species landed included salmon (52 ton) and other species (178 ton). Fifty-four vessels registered to Astoria residents made a number of north coast fisheries landings, including salmon (1,105 ton); herring (241 ton) and halibut (78 ton). The primary species landed in Astoria, according to the port's harbor master, are tuna, sardines, and ground fish.

Four seafood processors operated in Astoria in 2000. These included: Bornstein Seafoods, Inc.; Crystal Ocean Seafood; Fish Hawk Fisheries, Inc. and Josephson's Smokhouse and Dock. These plants combined employed a total of roughly 155 residents. In the spring of 2005, Bornstein Seafood began building a new \$6.8 million processing plant at the port.

Revitalization efforts in Astoria have transitioned the town into a cultural and heritage tourism center, drawing largely on the history of commercial fishing in the area. A number of former seafood processing buildings have been transformed into hotels and restaurants feature local catches. Through the proximity of boutique retail shops to the commercial fishing docks, Astoria combines "kitch" with the present/past of commercial fishing.

The ease of offloading and securing supplies in Astoria is considered a model for other ports. The town has long catered to the needs of fishermen, and still remains this way, despite the revitalization's focus on tourism. The taxi-cab system in Astoria works with the port to ensure a system whereby fishermen can very easily access a cab, run to the nearby grocery store, and pick up supplies. The local grocery stores stock for the particular needs of fishermen.

The community and the port strongly support the commercial fishing industry. In 2001, a Central Waterfront Master Plan was established to assist in revitalization projects throughout the port, including the commercial fishing marina. Festivals highlight community involvement and connection to the commercial fishing industry. These include: the Blessing of the Fleet held in May and Seaman's Day

and the Annual Crab Derby held in July. The Astoria-Warrenton Crab and Seafood Festival also occurs in April.

Westport Port District, Grays Harbor, Westport WA

Westport Marina is located in Grays Harbor County at the mouth of Grays Harbor along the southwest coast of Washington. It is approximately 70 miles west of Olympia. In 2000, the City of Westport, one of four municipalities in Grays Harbor County, had a population of 2,137.

In 2000, 298 commercial vessels and 75 tribal commercial vessels landed seafood to Westport. Groundfish were the highest-landed fishery in terms of tonnage (8,302 tons), with crab (2,446 tons), shrimp (1,370 tons), and highly migratory species (1,101 tons) following. Ten residents held Federally Managed Groundfish fishery permits in 2000. These residents participated in a federal trawler buy-back program.

The Westport Marina has 550 slips. The commercial fishing fleet accounts for approximately 60% of total revenue from slips.

In 2000, there were three major seafood processors in Westport, including Washington Crab Producers, Inc. Ocean Gold Seafoods Inc. and Westport Seafood Exchange. Combined, the processors employed approximately 155 residents. Presently, there are five seafood processors: Ocean Gold; Washington Crab; Westport Seafood, RPMM, and Merino's. Two of these facilities have cold storage while a third is building cold storage. The largest of these, Ocean Gold, has 25 million pounds of cold storage available. While this amount of cold storage is impressive, Westport differs from San Diego by landing massive tons of whiting, other groundfish, and crab landings.

Ice is supplied by the processors, rather than the Harbor District. Ocean Gold Seafood, as one example, produces 80 tons per day. These processors also provide offloading facilities, including hoists.

The Westport Marina is undergoing a series revitalization projects directed by the 2002 Marina District Master Plan. The Port is currently working on a Boat Basin Master Plan, established by the Port of Grays Harbor and the City of Westport. A primary objective of the Plan was to identify and create opportunities for new development as well as improving the current fishing infrastructure. Suggestions included establishing a stronger pedestrian/retail connection; locating a site for the permanent activity building; and creating a Marina District convenient to tourists through the creation of signage, circulation, and pedestrian connection. Four elements characterized the plan: Vision of the marina district; economic analysis of current and proposed development; target market opportunities for the Marina and uplands and: development recommendations, strategies and costs.

Westport's festivals highlighting the city's connection to the commercial fishing heritage and economy include: the Blessing of the Fleet; the World Class Crab Derby and Feed; the Annual Oyster Feed; and the Annual Seafood Festival and Craft Show. These celebrations, among others, generate funds that are returned to the community, to enhancing water quality, and to the commercial fishing industry.

Honolulu Harbor, Honolulu, HI

Honolulu Harbor is located in the city of Honolulu. In 2000, the population of Honolulu was 371,657.

The Hawaii Department of Transportation's Harbor Division manages Honolulu Harbor. It is also a funding mechanism for commercial fishing-related projects.

Honolulu Harbor's commercial fisheries revitalization, the Pier 38 Fishing Village Project, concentrated the Harbor's commercial fishing operations, supporting businesses and visitor attractions in one location. The project, adopted in 1995, is part of the harbor Division's Master Plan.

The project utilized a development model that incorporated private industry and spread costs among all users. The Harbor District built one 32,000 square-foot building on the site and built road and utility infrastructure to nine other lots on the property. The lots were leased to tenants that designed and built customized facilities based on the division's design guidelines. The Harbor District-built facility and two lots remain unoccupied, but the Harbor Administrator expects that they will be filled within two years.

This development model minimized the Harbor Division's costs but reduced its control over the project, constraining the Harbor Division's ability to fulfill its vision of creating a cohesive, village-style development as tenants were focused primarily on maximizing their utility of the lots. Additional constraints arose from unrelated redevelopment projects at the harbor, requiring the division to relocate the icehouse within the village area.

Tenants include a fish auction, chandlery, two restaurants, and a fish brokerage. Fuel trucks and bilge pump-out trucks service the commercial fishing fleet in dock.

The Honolulu Harbor hosts an annual Harbor Festival in November.

San Pedro Harbor, San Pedro, CA

An analysis of the Port of San Pedro was included based on input from the Core Group, San Diego commercial fisheries stakeholders, its proximity to San Diego and regional significance, and the city of San Pedro's efforts to increase public access and visibility of the working waterfront.

In addition to LWC Senior Associate, Pam Godde's telephone, email and internet research, on September 22, Henry Pontarelli participated in a boat and walking tour of Los Angeles facilities of San Pedro/Terminal Island Harbors with Michael Cham, Harbor Planning & Economic Analyst of the Planning & Research Division (T: 310.732.3771, mcham@portla.org).

The Port of San Pedro is part of the Port of Los Angeles (POLA), one of the world's busiest trade gateways and combined with the Port of Long Beach (POLB) ranks fifth globally in terms of annual container cargo throughput. The two ports handle nearly half of the containerized trade entering the US. The scale of the port, container ships and cargo cranes is para-human. The depth of channel and wharf and berth facilities is 53 feet.

San Pedro Harbor is located along the Southern California coast within the city limits of Los Angeles. In 2000, San Pedro had a population of 76,028. The community has a long history based on commerce,

commercial fishing, and long shore activity. Canneries dominated the shoreline until the 1970s, when they began closing and moving overseas. As fishermen confronted a reduced local market for their product, their numbers also began to decline.

In 2000, 234 commercially registered vessels landed to San Pedro. Coastal pelagic species comprised the largest share of landings, with 74,253 tons of wetfish landed. Highly migratory species (1,025 tons) and other species (955 tons) also comprised large shares of total landings. Groundfish (24 tons) and crab (20 tons) comprised a small portion of total landings.

The fishing facilities of San Pedro operate within a robust financial environment. It is estimated that San Pedro generated approximately \$16.5 million in EVV in 2006. EVV in 2006, of the top seven species included:

Squid:	\$13.9 million	
Sardine:	\$1.04 million	
Mackerel:	\$617,000	
Bonito:	\$490,000	
Spiny Lobster, Swordfish, Red Sea Urchin:		\$1.2 million

San Pedro Fish Market prepares and sells the lobsters at the Port of Los Angeles Lobster Festival. This festival creates awareness in the community of the local commercial fishing heritage and identity.

Most notable for the San Diego Commercial Fisheries Revitalization project is the city of San Pedro and the port's work in improving and expanding public access by connecting the working waterfront to the community. Creation of a paved walkway with fountains, benches, and historical signage is in process. In one section of the path, a large construction project is slated to bring "fingers" of the main channel closer to the footpath. A railway that separates homes and businesses from the enhanced walkway is being dismantled so visitors will only have to cross South Harbor Blvd. to access the walkway and visitor serving business such as Ports O'Call Village.

Ports O'Call Village is a cluster of restaurants at the western terminus of the new footpath. These facilities also include a retail fishmarket and fast food style, open restaurants that serve inexpensive seafood, including some locally caught species. One option is to purchase fish at the retailer, carry it in a plastic bag to one of the restaurants where it is cooked and served on a paper plate (many of the fish in the counter were from Mexico, yellowtail, white sea bass, shrimp, shark and even rockfish).

Mission Bay, San Diego, CA

Mission Bay is an informal harboring basin, located within the City of San Diego. Approximately 24 fishermen moor their boats here in a number of different places. Only one location provides formal harboring, mooring eight vessels.

No formal entity oversees commercial fishing activities in the harbor. Rather, individual fishermen work together and manage their own operations.

Predominant species presently landed in Mission Bay include: spiny lobster, albacore tuna; spot prawn; thornyheads; and sablefish. Rockfish (notably sheephead) and rock crab have also been landed in the recent past. Spiny lobster constitutes the largest of landing in Mission Bay.

There is no formal commercial fishing infrastructure in Mission Bay. Offloading takes place through the effort of individual fishermen, offloading traps or receivers individually.

Fishermen in the Mission Bay area operate according to a social contract of cooperation and in the interest of the "whole." Fishermen sell their catch individually to an established clientele created through time and personal effort. Holding a receivers' license, they sell their catch first to themselves and then to the public. The cost of the license (currently \$650.50) is minimized by the return on the product. Fishermen in Mission Bay elect to moor here, despite higher slip fees, because of the cleanliness, the lack of public exposure, safety, and proximity to fishing grounds (e.g. La Jolla reefs).

There are no community-sponsored festivals associated with commercial fishing out of Mission Bay.

Oceanside Harbor, Oceanside, CA

In addition to Pam Goode's (LWC, Senior Research Associate) research, Henry Pontarelli conducted a walking site visit of Oceanside Harbor with Scott Breidenthal (Core Committee member) on 07/21/2008 from approximately 1:30 to 2:30 p.m.

Oceanside Harbor is located in northern San Diego County. In 2000, Oceanside had a population of 161,000.

The city's Department of Harbor and Beaches oversees all harbor activities and projects.

Oceanside Harbor is 100 acres and has approximately 880 slips (floating docks) 24 are designated commercial fishing. There is no offloading facility/crane/hoist at the Oceanside facility. Fishermen must offload their catch at the dock, by hand and carry or "hand dolly" it to a waiting vehicle in a nearby parking lot. No live fish holding tanks are visible.

Oceanside Harbor is divided into two sections. The southern section has a small commercial fishing fleet, sportsfishing, and watersports rentals. The north section has a marina with slips for recreational boaters. The harbor has more than 900 permanent recreational and commercial slips with an average occupancy rate of 90%. Fifty of these slips are for transient vessels. The harbor also features a chandlery, maintenance, repair, a fuel dock, bait receiver, electricity, water and newly reconstructed service buildings containing restrooms, showers, laundry facilities and coin operated water dispensing machines.

The site (Harbor Village, North Harbor Basin, South Harbor Basin) is packed with restaurants, and bars, and offers kayak rental, retail, gift shops, a yacht club and recreational fishing serving establishments. Nearby are also Marina Towers Condos, Trend West Resorts, World Mark Resort, and Marina Del Mar condos.

Slip sizes are 26', 34', 43' and 51' in length, side ties and end ties are available up to 85 feet. Rental rates are \$9.60/\$10.80 per foot per month, based on hull or slip length, whichever is greater. There are a limited number of live aboard permits available at an additional charge of \$2.50 per foot per month.

The harbor offers a launch ramp and parking area for boat trailers, parking lot fees are \$15 per day. A boat wash rack and a boat/RV pump outstation are available free of charge. There is a fuel distribution facility at Oceanside Harbor

The harbor has, since 2005, focused efforts on improving the commercial fishing marina. It has added 300 feet of head walk, a gangway float, and eight finger piers to the commercial fishing marina. It is currently replacing 100 feet of dock, 15 finger piers, and the dinghy storage dock.

Although Oceanside Harbor hosts an annual Harbor Days festival, the celebration focuses more on sailing and general harbor life rather than commercial fishing.

Cape Cod, Massachusetts

The Cape Cod Commercial Hook Fishermen's Association (CCCHFA) and the Cape Cod Fishery Trust were chosen for analysis and inclusion the San Diego commercial fisheries revitalization project based on their prominence and visibility as one of the most successful and capable fishery cooperatives, uniting fishing interests from diverse sectors, affecting regulation and attracting investment. The Cape Cod Fishery Trust is one of the few working trusts in the US fisheries and has already raised \$2.3 million of their \$5 million goal.

The CCHFA is a non-profit organization (501c3) established in 1991 in response to crashing cod stocks by hook and line fishermen that felt that they were not the cause of the decline. Until 1997, the organization was run on a volunteer basis. Commitment and expertise during this period was intermittent and limited.

Paul Parker was hired as Executive Director in 1997 and used grant money to start the process of building value, particularly in the eyes of the fishermen. Paul stressed that if fishermen are not willing to invest in the organization, it has little chance for success.

The CCHFA drew on the following organizations and publications when establishing its structure, goals, roles and responsibilities; Alaska Marine Conservation Council, Steve Gainey and Dorothy Childers, Pew Charitable Trust and the PFM (Steve Klein), Ford Foundation Community Based Commercial Fishery Management, and Environmental Defense Fund's South Atlantic Individual Transferrable Quota (ITQ) proposal.

The CCCHFA is made up of 15 board members, 5 non-fishermen and employs a staff of 10 professionals and an annual budget of \$1.5 million to \$2 million. Constant oversight of the organization is key and they undergo a full strategic planning process every 3-4 years.

Paul intimated that many fishermen are convinced that the regulatory process is not accessible and fulfill the prophecy by not participating. One of the first goals of the CCCHFA under Paul's guidance was to get a representative (for their fishery) on the Northeastern Fishery Management Council (NEFMC).

The ability to generate and attract money, and the ability to diversify and provide tangible benefits to their members are key objectives for the CCHFA. The \$500 membership fee is meant to be seen as an investment by skippers ("crew" memberships are \$100). This level of membership gives:

- Representation on local, state and federal fisheries management and decision-making bodies
- Eligibility to participate in Cooperative Research
- Voting rights at the annual meeting
- Free or discounted professional development classes (CPR, offshore safety, etc)
- Invitations to CCCHFA fisheries workshops/lectures and other special events
- Most importantly, that members are cooperating and participating in a long-term, proactive solution for the fishery and creating value for themselves and future generations.

The organization began with a focus on cod and now includes 19 sectors including lobster, and scallops.

CCHFA have stayed out of the marketing arena and focus on the regulatory.

Long-term goals include continuing to provide members with formal representation and a voice in regulatory issues, they expect to own, manage and acquire quota and stay involved in water quality, estuary conservation and research and education.

CAPE COD FISHERIES TRUST

ITQ is viewed by many as having monetized the historic right to fish which has led to fishermen, particularly in small communities, to sell this valuable and expensive resource to those who can afford it, usually outside of the community and usually larger fishing concerns (processors). The Cape Cod Fisheries Trust was formed as a mechanism to keep quota in the community. The CCHFA and Trust managers expect to use leases and loans (to fishermen that wish to "fish" the community/trust's quota) to generate income and utilize and maintain the fund. The fund is particularly focused on the scallop, cod and lobster fisheries. The CCCHFA Board and partners, the Community Development Corporation will make eligibility decisions on allocation of resources (how the money is spent). The Lower Cape Community Development Corporation emerged as a reliable and appropriate partner.

To arrive at the \$5 million sum, the CCHFA assessed the scope & scale of the fishery and included retirement needs within the fleet.

Target donors were private funders, soft money and some debt.

The Trust is aimed at maintaining stability and value by keeping quota and quota management decision in the community.

The Trust effort has raised \$2.6 million and spent almost half of that promoting and creating a framework. The goal is to have \$3 million in the bank in 10 years.