

AN ANALYSIS OF COMMERCIAL FISHING IN THE SAN DIEGO AREA

WITH A PRIMARY FOCUS ON COMMERCIAL FISHING FACILITIES AND INFRASTRUCTURE WITHIN THE PORT OF SAN DIEGO AT TUNA HARBOR AND DRISCOLL'S WHARF



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Any opinions, advice, statements, or other information or content expressed in the report by third parties are those of the respective author(s) and do not necessarily state or reflect those of the San Diego Unified Port District.

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If you take away only one thing from this Report, please let it be that San Diego is blessed to have a dedicated group of commercial fishermen and women who are supported and embraced by the local community. These men and women are committed to providing you the freshest in locally harvested, locally landed, sustainable seafood. Show them your appreciation by buying local seafood!

EXECUTIVE SUMMARY

From the Native Americans who lived on the San Diego Bay to the Commercial Fishermen of today, fishing has always been an integral part of San Diego's fabric. For a large part of the 20th century, commercial fishing was a bedrock for this community and its economy. Point Loma and Little Italy were populated with prosperous and entrepreneurial Portuguese and Italian fishermen. Barrio Logan had cannery row which employed thousands of upland employees.

The fishermen of the 20th century have faced numerous significant challenges. The industry has an inherent cyclical nature, and there has been stiff competition from Japanese and Mexican fishermen. Repeatedly though, San Diego's fishermen beat back foreign competition, and overcame changing environmental conditions with perseverance and resiliency.

Today, San Diego's commercial fishermen face unyielding waves of challenges including: (1) changes in natural fish availability attributed to fluctuating abundance, species distribution, and environmental conditions, (2) an interrelated and complex combination of regulations (e.g. fishing area closures, precautionary management measures, environmental concerns), (3) changing market economics combined with increasing direct costs to participate in U.S./California fisheries and, most importantly (4) the limited availability, or loss and deterioration of fishery related water and land based infrastructure. These factors opened the door to less expensive, imported, seafood products which dominate the U.S. market today. Over 90% of seafood consumed in California (and the U.S.) is imported. Despite this, San Diego's commercial fishermen have persevered and survived; primarily due to the critical fact that demand, especially for locally sourced product, outpaces its supply. Like their predecessors, today's fishermen have adapted to their changing reality. The Tuna Harbor Dockside Market is a bright example of both the potential for the industry and the fisherman's ability to overcome challenges they may face.



Tuna Harbor Dockside Market Facebook page

There is significant future potential to revitalize the San Diego commercial fishing industry. Fish stocks that constrained opportunities are recovering; consumers are educating themselves on the value of sustainable fisheries and are willing to pay more for those products and more vessel's that are not local to

San Diego are coming to San Diego to offload due to the demand growth. In order to capitalize on this potential, upgrades to commercial fishing infrastructure is essential and necessary. The public-private partnership underway with Seaport San Diego brings the vision, energy and investment to accomplish this for Tuna Harbor. The concurrent Port's Master Plan update (PMPU) provides the planning framework to imprint the overarching vision contained in this Report into the longer-term buildout of the bay and its commercial fishing basins.

A nascent, and ever-growing, aquaculture industry will play a role in helping reduce the dependence on imported seafood. The Port of San Diego and local business leaders are at the forefront of this movement. The Port is actively creating pathways to grow and explore this sector, and wild-capture fisheries, as evidenced by the creation of a program designed to support and promote supply of local seafood. Efforts to increase domestic seafood supply via aquaculture must be complementary to the region's wild-capture fisheries, not a replacement. Careful and detailed analysis of potential locations of such facilities; both on the water and off, will be necessary. On the water, siting decisions must consider historic use and importance of any proposed area by the Port's commercial fisheries. Off the water, opportunities for economies of scale must be identified when considering infrastructure placement. This Report focuses on optimizing opportunities for San Diego's commercial fishermen in both an economic and environmentally sustainable sense. Aquaculture and commercial fishing can and should collaboratively work together provided aquaculture's needs don't displace the needs of, or come at the expense of, the Port's commercial fishermen.

The purpose of this Report is to identify infrastructure and planning options that can have an effective, positive and long-term impact, to promote the supply of sustainably sourced local seafood, seafood systems, and marketing efforts.

The long history of dedicated work and innovative thinking among the Port's fishermen can now be joined with the vision and resources of the developers of Seaport San Diego and the support of the Port Commission to once again make our fisheries and San Diego Bay a vital part of our economy, daily life, and culture.

Evidence of current initiatives aimed at revitalizing San Diego's commercial fisheries include a robust and growing local-food movement, the aforementioned Tuna Harbor Dockside Market, and a movement to develop a viable working waterfront which supports and promotes commercial fishing. All of these activities suggest the San Diego community strongly supports a vibrant commercial fishing presence in San Diego Bay.

The research and results of this Report indicate that San Diego's share of California's commercial fishing landings and associated revenues are artificially depressed because of a lack of suitable infrastructure. This trend has been developing for years due to neglect of infrastructure needs and a lack of coordination and partnership between the Fishermen, the Port and private enterprise. But because of this unique moment when the Seaport San Diego project brings renewed focus and resources to the Port, renewed cooperation between the stakeholders can help facilitate a revitalization. This revitalization necessarily requires consideration of both Tuna Harbor and Driscoll's Wharf (the Port of San Diego's two commercial fishing basins). While some redundancies are necessary and unavoidable, an opportunity exists to plan and develop a unified, mutually supporting system which offers synergistic possibilities. Properly planned, Tuna Harbor and Driscoll's Wharf can be designed to take advantage of new and expanding trends and opportunities – to the help fulfill the public's growing demand for local, fresh and sustainably harvested seafood.

The following are a summary of the conclusions and recommendations contained in this Report:

1. There is a lack of available, and properly maintained, infrastructure necessary to support and enhance the Port's commercial fishermen and fisheries.

Part III outlines these deficiencies and recommends improvements to existing infrastructure, and additional items of infrastructure, to support and expand pounds and revenues of seafood landing into the Port of San Diego.

2. A growing movement is fueling the public's demand for fresh, locally-sourced, and sustainable food products

San Diego stands at the forefront of this movement, especially in terms of seafood. Both the highly successful Tuna Harbor Dockside Market and local partnerships between San Diego's commercial fishermen and local restaurants is helping to increase awareness to San Diego's sea food consumers. Expansion of the Dockside Market, increased collaborations between commercial fishermen and the local food system, and creation of a San Diego Fish Auction will bring more locally landed sea food to San Diegan's dinner tables.

3. Cultivate a pipeline for a new generation of fishermen

The "graying of the fleet" is the phrase used to describe the problem of attracting new fishermen and women to commercial fisheries. California Sea Grant, in collaboration with San Diego commercial fishermen, recently held a workshop introducing young adults to commercial fishing. The Commercial Fishing Apprenticeship Program is currently being developed to fill the "need to recruit young, well-educated people into commercial fisheries to maintain this important California coastal heritage." The apprenticeship program is being developed to train the next generation of commercial fishermen/women in responsible practices, data collection, ethics, and business and marketing.

4. Reclaim San Diego as a leader and model for the industry

San Diego was once the hub of commercial fishing in the State of California. In 2017, 208,747,944 pounds of seafood, with ex-vessel revenues of \$ \$196,148,675 was landed into California's commercial fishing harbors. San Diego County accounted for 2,246,751 pounds, worth \$10,071,731. San Diego's share of pounds landed - 1.08%; and ex-vessel revenue – 5.13% is inadequate. This Report presents recommendations for how to increase both pounds landed and ex-vessel revenue generated. Additionally, San Diego's commercial fishermen have long been at the forefront of fishery innovations which have reduced bycatch, increased profitability, and improved the supply chain. Both ongoing and planned projects will continue this tradition of fishery innovations.

5. Create a sustainable resilient governance structure

The recently reformed San Diego Fishermen's Working Group ("SDFWG") should be utilized in a way which will give the fishermen a real say and interest in operations affecting their industry and how to best manage the fisheries. This will include representing the interests of the San Diego fishing community in terms of negotiations with the Port or other Master Leaseholders, infrastructure management, and to participate in management activities of State and Federal fisheries.

6. Create a viable funding strategy

The Port of San Diego, along with the commercial fishing industry, has been challenged to adequately fund maintenance and improvements of existing infrastructure. The Seaport San Diego Project, a large-scale destination development, encompassing Tuna Harbor, seeks to honor the water and San Diego's unique connection to those who ply their trades on the open ocean. One important element of the Project is the creation of a vibrant, working waterfront.

Implementation of this vision could offer unique opportunities for synergistic private-public partnerships in many aspects, including development of potential funding sources that could lead to a financially sustainable model for the commercial fishing industry.

7. Create a phasing strategy to plan for the potential future, but incorporate contingencies, to accommodate future uncertainties.

Commercial Fishing is an industry comprised from a multitude of small businesses. Any infrastructure improvements need to be phased in a way so that current fishing operations are not impeded, or at least coordinated with the respective off-seasons.

Part 1 will demonstrate how cyclical the commercial fishing industry can be. Examining one 5-year period will not be indicative of future trends. Some fisheries are more mobile than others and slip demand is responsive to this mobility. Slip demand will likely be impacted by the likely increases in opportunities due to regulatory actions (rebuilding of fish stocks, import restrictions, etc). Providing a strategy that incorporates flexibility for the industry to grow will be vital.

8. Use aquaculture and commercial fishing in a mutually supportive system to expand the fishing industry in the future and reduce the nation's dependence on imported seafood products.

The NOAA Fisheries Priorities and Annual Guidance for 2018 lists aquaculture as a priority. "Aquaculture is an important and growing U.S. industry with the potential to provide a significant sustainable supply of healthy seafood for the nation and global markets." San Diego's commercial fishermen are supportive of efforts to establish aquaculture in and around San Diego provided aquaculture's needs don't displace their needs or come at their expense.

BACKGROUND, PURPOSE AND GOALS OF THIS REPORT

San Diego has always been a city that depends and thrives on its interaction with the ocean and the bay. Fishing in and out of San Diego has been a vital source of food, jobs, and recreation to the region. During the past thirty years, however, there has been a decline in commercial fishing activities and resulting economic contributions due primarily to environmental, economic, and regulatory forces. The goals of this Report, entitled *An Analysis of Commercial Fishing in the San Diego Area: With a Primary Focus on Commercial Fishing Facilities and Infrastructure within the Port of San Diego at Tuna Harbor and Driscoll's* ("the Report") are, therefore, to provide information on the current status and future potential of the region's commercial fisheries. To inform a revitalization of these fisheries, the Report identifies critical but absent infrastructure required to adequately sustain, modernize, and grow the local commercial fishing industry.

The impetus for this Report is twofold: The proposed \$1.3 billion, 70-acre redevelopment of the Central Embarcadero known as Seaport San Diego¹, which includes the historic Tuna Harbor; and the imminent and overdue update of the bay wide Port Master Plan ("PMPU"). The concurrent timing of these two initiatives provides a unique and once in a lifetime opportunity to combine the resources available through a transformational mega-project with the overarching planning principles of a visionary master plan for San Diego Bay.

The Port has taken great strides in 2016, 2017, and the first half of 2018 to commence work on a comprehensive update to its Port Master Plan (last done in 1980). This is aimed, in part, at formalizing the Port of San Diego's ("Port") vision for the Bay in an approved, and more flexible, Master Plan. This will provide clarity and direction to tenants, interested stakeholders, prospective developers and the public. It is also intended to ease the regulatory burden of processing entitlements on Port Tidelands. With the proposed development of Seaport San Diego and the upcoming expiration of the lease at Driscoll's Wharf in 2023, a unique opportunity exists for the Port to examine and plan for the future of the Commercial Fishing industry in San Diego. An integrated vision would represent an extraordinary moment where leadership, collaboration, and new partnership can emerge to modernize both harbors into a well-coordinated and resilient unit to support the present and future potential needs of the commercial fishing industry.

The ultimate approval of both Seaport San Diego and the PMPU are within the jurisdiction of three governmental agencies: The Board of Port Commissioners, the State Lands Commission, and the California Coastal Commission. The timing and convergence of these two initiatives provide a unique point in time for effective collaboration between the public and private sectors to create a comprehensive plan to support the State mandate to preserve and protect our commercial fishing industry.

This Report examines the commercial fishing industry historically, as it presently exists, and how a two-harbor master plan could be implemented effectively to take advantage of a nascent opportunity that beckons. It represents an effort to present all of the interdependent factors that need to be considered to

¹ Seaport San Diego is a proposed waterfront project comprising over 1.5 million square feet of land- side development. It includes Seaport Village, Tuna Harbor, the G Street Mole, the Market Pier (which is currently used for the Tuna Harbor Dockside Market). Its major elements comprise an Aquarium, a marine focused learning center, high rise observation attraction, retail, hospitality with significant parks and outdoor recreational public spaces. One of its stated goals is to transform the site by honoring the water. As such the revisioning of the 30 acres of water are integral to the overall design concept and as such the revitalization of Tuna Harbor (one of the two designated commercial fishing basins in San Diego bay) as a part of San Diego's working waterfront is a fundamental element of the overall project vision.

create a pragmatic and flexible long-term vision for the recreation of a strong and sustainable uniquely San Diego fishing industry.

The three primary goals of this Report are:

1. Provide sound rationale, based on fisheries knowledge and experience, empirical data, recently enacted legislation, adopted regulations, and observed trends in oceanic conditions, to determine the current and potential future demand for facilities serving and supporting the commercial fishing operations utilizing Tuna Harbor and Driscoll's Wharf.
2. Recommend and provide justification for new and/or upgraded infrastructure needed to support the conclusions reached in (1) above.
3. Provide a framework for design and implementation of a bay wide solution for the San Diego commercial fishing industry. This will inform the Seaport San Diego project as well as assist the Port as it works through the Port Master Plan Update process.

With holistic planning, San Diego can attract new fisheries not currently utilizing the Port's facilities due to a lack of suitable infrastructure. The overarching goal of this Report is to consider ways to return San Diego Harbor to its historic role as both a local and national seafood producer, while also providing the public with the attraction of viewing a working waterfront.

Part I

Commercial Fishing in San Diego



Tunamen used long poles to catch tuna prior to the introduction of nets on purse seiners in late-1950s. (l – San Diego History Center)

I. Summary

The San Diego Fishing Community benefits from a combination of geographic and oceanic conditions which supports one of the most thriving marine ecosystems in the world. Beginning in the early 1900s, San Diego served as the focal point for commercial fisheries off the continental west coast of the United States. Due, in part, to governmental actions, the historic fisheries operating out of San Diego relocated to other areas of the Pacific Ocean. Those who remain are committed to ensuring a bright future for themselves and future generations of commercial fishermen who harvest from local waters and/or make San Diego a Port of Call for their operations.

II. The Southern California Bight

One of the critical factors in understanding commercial fishing in San Diego is identifying and understanding the oceanic conditions that shape the region's fisheries. San Diego is centrally located within the California Current Large Marine Ecosystem ("California Current LME"). This stretches from Southern Canada down the west coast of the continental United States and into Baja California, Mexico. A pictorial representation is presented below (see Fig 1.1):



Fig 1.1 – California Current Large Marine Ecosystem (from <http://www.cclme.org/>)

The California Current LME benefits from the California Current which predominantly runs from the North to the South. Current is to the ocean what wind is to the land, it is the force which directs the movement of ocean water. This allows colder, nutrient rich, waters from the North Pacific Gyre to move down the Coast. Prevailing westerly winds often result in seasonal upwellings of these cooler waters, and associated nutrients, which makes the California Current LME one of the most productive large marine ecosystems in the world.

Two other oceanic conditions play an important role in the California Current LME: El Niño and La Niña. El Niños result from a shift in the trade winds along the equator which causes warmer water to “pool” off the Pacific Coast of South America. As this water pools, it spreads out and results in localized conditions where waters are significantly warmer than in non-El Niño years. In

the summer of 2016, sea surface temperatures off Southern California were over 3° C higher than normal. La Niñas typically result from an increase in the prevailing trade winds which causes upwellings of colder waters off the South America Pacific Coast. During these periods, sea surface temperatures tend to be 3-5° C below normal. Fisheries such as tuna and yellowtail thrive during the warmer waters that occur during El Niños, while market squid is a fishery that flourishes during the colder La Niñas.

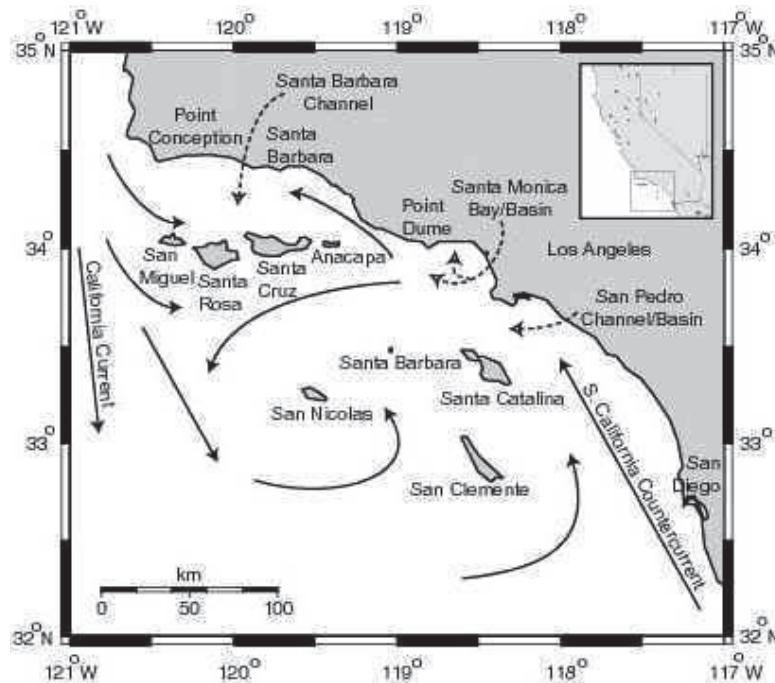
The Southern California Bight (“SCB”) is the name given to the coastal and offshore area “between Point Conception on the Santa Barbara County coast and a point just south of the United States - Mexico border.”¹ See Fig 1.2 below



Fig 1.2 – The Southern California Bight (source - NOAA – Montrose Settlements Restoration Program)

The Northern boundary line for the SCB is Point Conception. Above Point Conception the coastline generally follows a North-South configuration. Below Point Conception the coastline generally runs East-West. This results in a number of eddies and the Southern California Counter Current. See Fig 1.3 below.

¹ http://earthguide.ucsd.edu/eoc/teachers/t_basics/t_maps/p_socal_bight.html



After Hickey, B. M., 1992, *Progress in Oceanography*, V30: 37-115.
 Fig 1.3 – Eddies and Counter-Currents in the Southern California Bight

The result of this geographic anomaly, and resulting oceanography, is a very productive marine environment where San Diego's fishermen ply their trade.

III. History of Commercial Fishing in San Diego

Where tourist attractions, restaurants, and hotels, now stand along the San Diego waterfront, there were multiple fish canneries and countless fishing boats. In the early to mid-1960s, Commercial fishing (tuna in particular) was San Diego's third-largest industry, trailing only the Navy and aerospace. A majority of the large tuna canning companies were based in San Diego. If a consumer bought tuna in the 1960s, there was a high likelihood that it was canned in San Diego. The success of the fishing industry in San Diego is the cumulation of over 50 years of experience. As difficult as it was to build up, it would be equally difficult to maintain.

1900-1950

The first canning operation in San Diego was opened in October 1909 to serve the sardine fishery. In 1911 Pacific Tuna Canning Company set up an operation in San Diego focused on canning albacore tuna. Canneries provided the processors a distinct advantage: they weren't dependent on locally sourced product. Around the time of the Great Depression, tuna from Japan comprised a significant portion of the canneries' supply. In part due to the devaluation of the yen, canneries could import tuna from Japan for less than what it cost U.S. fishermen to produce. In 1930, the American Fishermen's Tunaboat Association was formed and to give U.S. fishermen a collective voice when negotiating with the canneries. The work started by the American Fishermen's Tunaboat Association is carried on today by the American Tunaboat Association ("ATA") which is headquartered in the G Street Mole, adjacent to Tuna Harbor.

World War II had a profound impact on San Diego's commercial fishermen and related businesses. Upon formal declaration of war (December 7, 1941), tuna boats were forbidden from fishing in

areas they had previously utilized; and a process began whereby tuna vessels larger than ninety feet were requisitioned by the U.S. Navy. Regulations adopted around this time also had the indirect effect of shutting down many of the fishing operations in San Diego because Italian non-citizens were effectively barred from participating in fisheries outside the territorial waters of the United States. These regulations were relaxed in the mid-1940s and industry construction (vessels, infrastructure, facilities) picked up. Crew members unionized in response to inflows of capital from non-fishermen which were necessary to build larger vessels. The American Fishermen's Tunaboat Association, on behalf of the vessel owners, negotiated with the Unions.

1950-1960

In the early to mid-50s the prospering San Diego based tuna fleet was negatively impacted by the reemergence of the Japanese tuna fleet as well as actions taken by Latin American countries.

The reemergence of the Japanese tuna fleet allowed for favorable product prices for processors and canneries and continued to further the divide between them and the U.S. fishermen. While the fishermen and vessel owners were negatively impacted by the flood of cheaper fish from Japan, the processors and canneries reaped the benefit. By having a steady supply of cheaper imports, the processors could use that leverage against the local fishermen who were seeking to cover their costs. At the time, the fishermen lacked organization and political clout when compared to the processors or canneries. This was long before any traceability was implemented into the seafood supply chain, thus, the consumer did not have the ability to make an informed purchase. At roughly the same time, management measures adopted by South American countries prevented San Diego based fishermen from obtaining a local bait source when fishing in those nation's waters.² Since a great majority of tuna coming into San Diego was being delivered by bait boats, without access to a reliable source of bait, San Diego's tuna fisheries were in dire straits.

1960-1970

Innovation led to a revitalization for the San Diego fleet during the 1960s. The introduction of purse seine nets made harvesting tuna much more efficient and allowed San Diego based vessels to reduce costs of production to such a degree they could compete against the less-costly imports. Because purse seine operations are not dependent on live bait, this also addressed obstacles created by the Latin American countries who cut off the bait boats supply of live bait.

1970-1980

A series of legislative and regulatory actions during the 1970s led to the gradual reduction in the historic San Diego tuna fleets. Two laws in particular, the Marine Mammal Protection Act ("MMPA") and the Magnuson-Stevens Fishery Conservation and Management Act ("MSA") had near-devastating effects on the industry. The growing environmental community focused their efforts on the practice of harvesting yellowfin tuna by deliberately setting purse seine gear on dolphins. This practice was commonplace in the Eastern Tropical Pacific Ocean as yellowfin tuna typically travelled with dolphins.

² Mexico implemented seasonal closures in some areas, with an outright ban on foreign fishing in others. Panama followed Mexico's lead; but also required that certain necessary provisions (fuel, oil, etc) had to be sourced from local (Panamanian) suppliers. Peru and Ecuador closed their waters, outright, to foreign vessels.

Attorney August Felando, General Manager of the ATA, had the unglamorous job of trying to save San Diego's tuna fleet from the surge of negative public opinion. To his credit, and those he was working with, mitigation measures were researched and adopted which greatly reduced the number of dolphins incidentally taken while targeting yellowfin tuna in the Eastern Tropical Pacific. In 1975, the U.S. tuna fleet harvested 263,053,000 pounds of yellowfin tuna³ while taking an estimated 166,600 dolphins. Of this, 34,101,664 pounds, approximately 13%, were landed into San Diego⁴. By 1980, an estimated 15,305 dolphins were taken to harvest 231,617,000 pounds of yellowfin tuna. This dramatic reduction in the number of dolphins incidentally taken in the fishery can be attributed to San Diego's innovative fishing culture. Harold Medina, a San Diego based tuna fishermen, is credited with developing the "Medina Panel," a net alteration which allowed dolphin to escape a purse seine net unharmed. Yet by the end of 1977, thirty San Diego based commercial fishing vessels had abandoned San Diego by transferring their registration to a foreign country to avoid the United States' evolving regulations.

Because of the increased public relations campaign against tuna caught with purse seine nets, and the departure of over 20% of the San Diego based tuna fleet, the local tuna canneries suffered as well. The impact wasn't limited to the local fishermen, the regional economy suffered as well. *The Journal of San Diego History, San Diego Historical Society Quarterly* reported in 1977, that "every dollar earned by San Diego's tuna fleet was estimated to generate eight dollars of business elsewhere in the local economy."⁵

1980-today

Despite these setbacks, the tuna fishery in San Diego proved resilient. In 1980, the fleet operating out of San Diego still numbered 132 purse seine vessels.⁶ By 1994, however, that number was down to 20⁷. Many factors played a role in this dramatic reduction:

- (1) One of the strongest El Niños recorded occurred in 1982-83. As a result, the normally prevalent yellowfin tuna and skipjack were not economically viable fisheries in the Eastern Pacific Ocean. The San Diego fleet followed the schools of fish to the Western Pacific Ocean and moved their operations.
- (2) Fish canneries, which had been the backbone of the San Diego tuna fishery, began to relocate to foreign nations where labor costs and tax incentives were more advantageous. "In June of 1982, Bumble Bee Seafoods closed its plant at the foot of Crosby Street, where San Diego women had canned tuna for 70 years. The Van Camp Seafood cannery – San Diego's last tuna cannery – followed two years later⁸." While there was still an active

³ The State of California, The Resources Agency Department of Fish and Game, *Fish Bulletin 168 - California Marine Fish Landings for 1975*. See -

http://www.oac.cdlib.org/view?docId=kt7199n8h5&brand=oac4&doc.view=entire_text (page 13)

⁴ *Id* @ 36

⁵ The Journal of San Diego History, San Diego Historical Society Quarterly - Winter 1999, Volume 45, Number 1

⁶ Inter-American Tropical Tuna Commission Data Report No. 8 - Statistics of the Eastern Pacific Ocean Tuna Fishery, 1979 to 1992, p 62 - , See https://www.iattc.org/PDFFiles/DataReports/_English/No-8-1994-HINTON,%20MICHAEL%20G.%20and%20GAYLE%20VER%20STEEG_Statistics%20of%20the%20eastern%20Pacific%20Ocean%20tuna%20fishery,%201979%20to%201992.pdf

⁷ *Id* @ 66

⁸ Crawford, Richard "San Diego once was 'Tuna Capital of World'" *The San Diego Union Tribune* 20 June 2009.

See - <http://www.sandiegouniontribune.com/sdut-1ez20history182544-san-diego-once-was-tuna-capital-2009jun20-story.html> (last visited 8/9/2018)

market for tuna landed in San Diego, some fishermen also opted to follow the canneries and moved their operations to those foreign nations.

- (3) The MSA formally established the United States Exclusive Economic Zone (“EEZ”) at 200 miles from the U.S. coastline, which resulted in retaliatory responses from other nations. Countries claim exclusive rights to fishing, drilling and other economic activities within their EEZs. There are exceptions; for example, the U.S. and Canada currently allow vessels participating in certain fisheries to fish in the other’s EEZ. Many foreign nations in whose waters the San Diego based tuna fleet operated retaliated, effectively closing their waters to San Diego fleet. Once the productive grounds off South and Central America became off limits, the fate of San Diego’s historic tuna fishery was sealed.
- (4) In April 1990 the three largest sellers of canned tuna in the U.S. (Star-Kist Seafood, Bumble Bee Seafood and Van Camp Seafood) decided to stop sourcing tuna caught by methods harmful to dolphins (shorthand for any yellowfin tuna or skipjack caught by purse seiners operating in the Eastern Pacific). In November of the same year, The Dolphin Protection Consumer Information Act⁹ was signed into law.

Though San Diego’s commercial fisheries and fishermen (especially for tuna) declined in this period, they did not disappear. Those who remained were resilient and started and/or expanded other fisheries which remain important to this day.

IV. Legislation, Regulations and Policies affecting Commercial Fishing

Over the last forty years legislation, regulations and other government/regional policies have dramatically impacted fishermen’s ability to ply their trade. This section offers a brief analysis of some governmental actions which have played an important role in shaping the industry in San Diego.¹⁰ Generally, States are responsible for managing marine resources and fisheries that occur within three nautical miles of their coastline. The Federal Government is responsible for managing marine resources and fisheries within the U.S. Exclusive Economic Zone, the 4.4-million-square-mile zone that extends from 3 to 200 nautical miles off the coast of the United States. There are some instances of co-management, Pacific salmon stocks for example and in some instances the Federal Government has delegated management of specific fisheries to individual states, the California market squid fishery is a prime example.

For further detail on international oversight and specific pieces of legislation and/or regulations, see Appendix A.

A. International Oversight

A Regional Fishery Management Organization (“RFMO”) is an international body made up of countries which share an interest in fish stocks in a particular geographic region. Two RFMOs impact San Diego based commercial fishermen: The Inter-American Tropical Tuna Commission (“IATTC”) and the Western and Central Pacific Fisheries Commission (“WCPFC”). Neither the IATTC nor the WCPFC have the ability to adopt regulations

⁹ Public Law 101-627. 16 USC §1385.

¹⁰ In 1975, San Diego Ports accounted for 84,984,548 pounds of fish with total ex-vessel revenues of \$22,512,785. State of California, The Resources Agency Department of Fish and Game, *Fish Bulletin 168 - California Marine Fish Landings for 1975*. See - http://www.oac.cdlib.org/view?docId=kt7199n8h5&brand=oac4&doc.view=entire_text (page 48)

impacting U.S. fisheries. As a member nation to both RFMOs, the U.S. is obligated to adopt domestic regulations implementing resource management agreements made by the RFMOs. IATTC Resolutions and/or WCPFC Conservation and Management Measures are implemented, as domestic regulations, by the U.S. Government.

B. Federal Oversight

1. Legislative

A number of Federal statutes impact San Diego fisheries, directly and indirectly. Those having the most direct impact include the MSA, the Endangered Species Act (“ESA”)¹¹, the MMPA¹², and the National Environmental Policy Act (“NEPA”)¹³.

The MSA has most directly impacted and affected the nation’s fisheries. Adopted in 1976, it was designed, in part, for “the conservation and management of the fishery resources of the United States is necessary to prevent overfishing, to rebuild overfished stocks, to insure conservation, to facilitate long-term protection of essential fish habitats, and to realize the full potential of the Nation’s fishery resources.”¹⁴ It also has a purpose of promoting domestic commercial and recreational fishing under sound management principles based on the best scientific information available, in order to sustainably harvest the optimum yield for each fishery.

2. Regulatory

Oversight of Federal laws related to U.S. marine fisheries falls under the Department of Commerce. This has been delegated to the National Marine Fisheries Service (“NMFS”), which is part of the National Oceanic and Atmospheric Administration (“NOAA”).

Under the MSA, the Pacific Fishery Management Council recommends management actions for federal fisheries off the Coasts of California, Oregon and Washington. NMFS and the Secretary of Commerce review the Council’s recommendations to determine if they comply with applicable laws and regulations.

C. State Oversight

1. Legislative

California’s Fish and Game Code governs fishing activities within the State’s waters. The two most important statutory actions impacting State fisheries are the Marine Life Management Act¹⁵ (“MLMA”) and the Marine Life Protection Act¹⁶ (“MLPA”).

- a. The MLMA:** The MLMA went into effect on January 1, 1999 and is the primary statute governing marine fisheries management in California’s waters. While not as detailed as the MSA, the MLMA carries forward many of the tenets and concepts found

¹¹ Public Law 93-205

¹² Public Law 92-522

¹³ Public Law. 91–190

¹⁴ 16 U.S.C. §1801(a)(6)

¹⁵ California Fish and Game Code §§7050 *et seq*

¹⁶ California Fish and Game Code §§2820 *et seq*

in the MSA. The MLMA prioritizes the sustainable management of the State's marine resources.

- b. **The MLPA:** served as the foundation for creation of the State's network of Marine Protected Areas ("MPAs"). The MLPA went into effect on January 1, 2001, requiring the California Department of Fish and Wildlife ("DFW") to review all existing MPAs and redesign them so as "to ensure that the state's MPAs are designed and managed, to the extent possible, as a network¹⁷."

One consequence of this, and other closures/restricted fishing areas, is gear compaction, forcing the same number of fishermen to fish the same amount of gear in a smaller geographic area. Anecdotal information, obtained through discussion with fishermen, validates that concern and on-the-water incidents are also reported to be growing. Fig 1.4 shows MPAs implemented in the Southern California Bight.

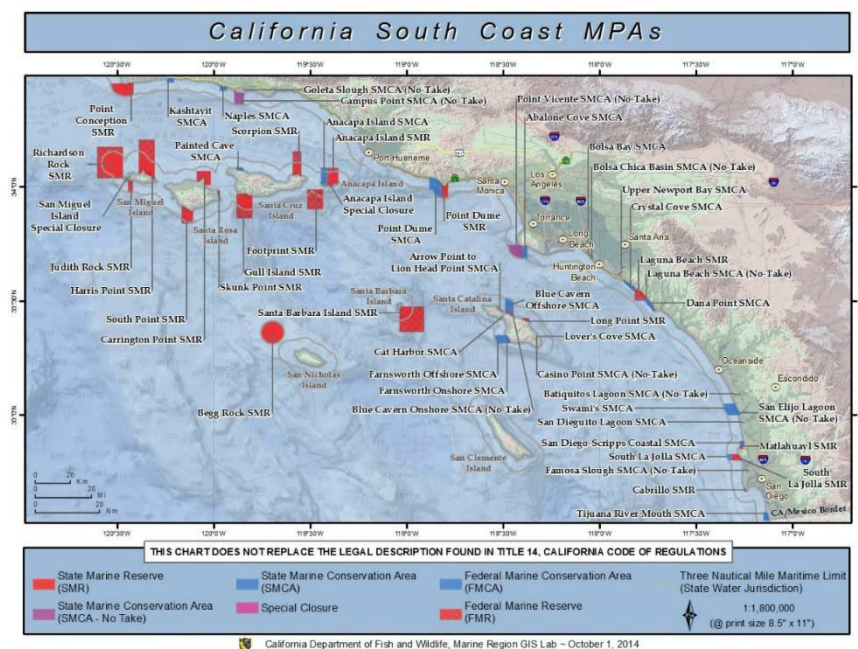


Fig 1.4 – Marine Protected Areas in Southern California resulting from the Marine Life Protection Act

2. Regulatory

The five-member California Fish and Game Commission ("Ca FGC") is an arm of the State's Executive Branch whose powers have been defined by the Legislature. The DFW¹⁸, is also an arm of the Executive Branch, and is charged with "implementing and enforcing the regulations set by Ca FGC, as well as providing biological data and expertise to inform the Ca FGC's decision-making process." The DFW sometimes engages in actions directed by the legislature directly – for example, the power to close/delay the Dungeness Crab fishery for health or quality concerns.

¹⁷ Fish and Game Code §2853(b)(6)

¹⁸ In layman's terms, the DFW, in addition to its enforcement and scientific responsibilities, is charged with converting the Ca FGC's policy desires into enforceable regulations.

As one example of how the State process has impacted San Diego based commercial fishermen, the Ca FGC has instituted regulations creating trap limits, requiring a trap loss affidavit, and instituting rules for trap deployment and retrieval for the State's Spiny Lobster commercial fishery. For more detail, see Appendix A.

Part II

Current State of Commercial Fishing under the Port of San Diego

I. Summary

Part II reviews the present condition of the commercial fishing industry in San Diego. It begins with a brief overview of the Port Master Plan and the 2009 Commercial Fisheries Revitalization Plan. An analysis of data on San Diego's top commercial fisheries, both in terms of pounds landed and ex-vessel revenues generated, is key to understanding future opportunities for San Diego's commercial fisheries. By comparing San Diego's landings to other Ports within the Southern California Bight, this Report will highlight opportunities to serve fisheries which are not currently landing into San Diego. Capitalizing on these opportunities will require additional infrastructure which will be included in infrastructure recommendations made in Part III.

Part II continues with discussions about organized efforts of local fishermen and interested stakeholders to address the issues facing the industry, current programs which could be expanded advantageously, and opportunities arising from the upcoming Seaport San Diego development. It will discuss various factors causing the reduced landings and revenues, theorize how current and proposed actions may impact future landings in San Diego, and establish a basis for Part III's recommendations for improving infrastructure.

II. Port Economics, Port Master Plan, and the 2009 Commercial Fisheries Revitalization Plan

Interest in maximizing the potential of the Port of San Diego ("Port"), as it relates to commercial fishing, and the facilities in both Tuna Harbor and Driscoll's Wharf, has been reflected by many groups, from the fishermen themselves to the Port Commission. Several reports have resulted from these concerns, though their proposals have not been implemented as widely as they could be.

A. Economic Impacts of the San Diego Unified Port District in 2015

Though the Port has been geographically restricted in its ability to expand its boundaries, it continues to grow as an economic hub of the region and serves as a primary point of entry for goods and products which serve the Nation's benefit.

In December 2016, the Port released a report entitled, *Economic Impacts of the San Diego Unified Port District in 2015*¹ which included the following findings:

- The Port "is an important economic driver in the region, directly supporting over 43,600 jobs and more than \$5.4 billion in economic output in 2015."²
- "Including multiplier effects the District supported more than 68,000 jobs and about \$8.3 billion in economic output in San Diego County during 2015."³
- The Port's total employment impact results in roughly \$3.3 billion in labor income.

¹ <https://pantheonstorage.blob.core.windows.net/administration/port-of-san-diego-economic-impact-report-2015-2016.pdf>

² Id @ 7

³ Id @ 8

- 1.8 million tons of cargo moved through the Port’s marine terminals.
- Seventy-seven cruise calls were made.

The Port’s Fiscal Year 2018 Budget⁴ estimates \$188 million in Total Revenues, Operating and Non-Operating, representing a 7.1% increase over FY 2017. After accounting for uses of Funds (expenditures), a surplus of a \$2,083,500 is projected. The importance of the Port to the broader San Diego Community is without question.

B. San Diego Unified Port District Port Master Plan

The San Diego Unified Port District’s Port Master Plan (“Port Master Plan”) “is intended to provide the official planning policies, consistent with a general statewide purpose, for the physical development of the tide and submerged lands conveyed and granted in trust to the San Diego Unified Port District.”⁵

The California Coastal Act⁶ identifies specific requirements of every Port Master Plan. While there are many required elements, two provisions deal directly with the importance and primacy of commercial fishing:

Section 30234⁷:

Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.

Section 30703⁸:

The California commercial fishing industry is important to the State of California; 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.

One of the goals of this Report is to show that demand for commercial fishing facilities still exists; and with updated infrastructure will likely grow.

Pages 17 - 18 of the August 2017 Print edition of the Port Master Plan states, “The Commercial Fishing area is intended to meet the needs of the bona fide 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

⁴ [Port of San Diego. *Fiscal Year 2018 Annual Budget Final*, dated June 20, 2018 - page 12](#)

⁵ San Diego Unified Port District’s Port Master Plan (August 2017 Print Edition), Page 1.

⁶ California Public Resources Code Sections 30000 – 30900

⁷ See - http://leginfo.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC§ionNum=30234.

⁸ http://leginfo.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC§ionNum=30703.

activities that are not associated with visual, odor and water pollution. Fish cannery and fish reduction activities are considered as marine oriented industrial uses and are excluded from this commercial classification, although it is recognized that the uses are functionally linked. Other uses associated with the commercial fishing developments include marine management and advisory services, marine custom brokerage, fueling docks, fishing consultants, and fishing organization offices.” Appendix B to this Report duplicates the current Port Master Plan interpretation of Commercial Fishing.

At the time of this writing, the Port is in the final, policy-development phase of the projected multi-year planning process to update the Port Master Plan. To date, the Port has conducted extensive public outreach and completed the Visioning phase. The current work entails drafting the policy document, along with additional public outreach at every step of the way. involved in a comprehensive update to its Port Master Plan. This is part of the Port’s Integrated Planning initiative that spans 6,000 acres of land and water with the goal of setting a blueprint for baywide development. Port staff has involved the commercial fishing industry since early in the process.

C. Commercial Fisheries Revitalization and Coastal Public Access Plan

In May 2007, the Port was awarded a grant to facilitate the preparation of a document which focused on how to best revitalize the Port’s commercial fishing harbors at Driscoll’s Wharf and Tuna Harbor. “The work was directed to address the economic, regulatory, market, environmental, and infrastructure opportunities and constraints facing the local commercial fishing industry, as well as public access and public awareness opportunities for the sites as part of a vibrant working waterfront in the city of San Diego.”⁹ The Commercial Fisheries Revitalization and Coastal Public Access Plan aimed at Driscoll’s Wharf and Tuna Harbor was prepared in two phases:

1. Commercial Fisheries Revitalization Plan – Background and Existing Conditions Report.

In October of 2009, the Background and Existing Conditions Report (“BEC”)¹⁰ was published. This document was designed to provide “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).”¹¹

2. Commercial Fisheries Revitalization Plan - Preferred Alternative Implementation Plan

In April of 2010, the Implementation Plan was published to prioritize “site design alternatives and non-infrastructure alternatives that would take advantage of the opportunities while addressing the needs at Driscoll’s Wharf and Tuna Harbor. Site alternatives include:

- Improvements to infrastructure and enhancements to increase public access,

⁹ <http://scc.ca.gov/2010/08/12/san-diego-port-district-commercial-fisheries-revitalization-plan/>

¹⁰ Unified Port of San Diego, Lisa Wise Consulting, Inc., Coastal Conservancy, Project Design Consultants, Moffatt & Nichol Blaylock Engineering Group, TerraCosta Consulting Group, Linscott Law & Greenspan, Helix Environmental Planning, Merkel and Associates, & KMA Architecture and Engineering. (2009, October), Page 1

¹¹ Id @ 3.

- Facilitation of activities surrounding the offloading and transport of commercial fishing landings,
- Improved docking opportunities and storage and repair of commercial fishing gear, and
- Strategies to increase awareness of the commercial fishing fleet while educating consumers on the benefits of locally-caught seafood.¹²

While the Commercial Fisheries Revitalization Plan had high aspirations, many of the recommendations contained within that report remain unfulfilled. A December 14, 2017 Memorandum sent to the Board of Port Commissioners from Daniel Valentine (Manager, Maritime Operations) and Joel Valenzuela (Director of Maritime) updated the status of the recommended improvements¹³:

“‘The Implementation Plan’ was completed and then approved by the Board in 2010. The plan provided alternative phased improvements at both facilities with a special emphasis on Driscoll’s Wharf. Examples of the three phases of improvements recommended for Driscoll’s included: dock and slip replacements; purchase of ice machines; installation of a live catch holding tank and a new offloading facility, at an estimated cost of \$20 million. Phase 1 at Driscoll’s was completed in 2013. It was comprised of the following: structural upgrading of the existing offloading pier and a new crane; purchase and installation of a small-scale ice machine; design, fabrication and placement of interpretive signage at a total cost of \$486,000. No other phases have been completed at Driscoll’s Wharf.

“The two phases recommended for G Street included a new hoist, expanded restroom/laundry facilities and piling repair/renovation, estimated at \$6 million. Due to funding constraints, no major improvements have been implemented at G Street.¹⁴”

III. Commercial Fish Landings and Fisheries

A. Commercial Fish Landings Data for San Diego’s Commercial Fisheries

The data referenced in this section is based on publicly available information obtained from the California Department of Fish and Wildlife’s (“Ca DFW”) Website¹⁵. Included therein are commercial fishing landings for the years, 2000 – 2017¹⁶. This Report provides a detailed analysis of the commercial fishing landings, in San Diego Ports and throughout the entire Southern California Bight (in terms of pounds and value) for the years 2000, 2010 and 2015. These years were chosen, after analysis, because they span enough time that trends in, and reliance upon, specific fisheries can be observed. The first part of this section will present the raw data. After presenting the raw data, explanations are offered and/or possible reasons for the changes. This section concludes with a look to the future and describes how certain actions already proposed and/or implemented may impact future landings into San Diego. While primarily focusing on

¹² Id @ 4.

¹³ Valentine, D & Valenzuela, J. *G Street Mole Commercial Fishing Facility*, San Diego Unified Port District Memorandum to Board of Port Commissioners. December 14, 2017. Handout given to attendees of 1st Commercial Fishermen’s Steering Group (Present concepts for discussion/Identify concerns) Thursday, December 14, 2017

¹⁴ Id @ 2

¹⁵ More detailed is available to fishery managers and governmental agencies; but due to confidentiality concerns – individual catch records, including harvest location and gear types, are not made publicly available.

¹⁶ See - <https://www.wildlife.ca.gov/Fishing/Commercial/Landings>

landings made in San Diego County¹⁷, a comparison is made looking at landings in other Ports within the Southern California Bight^{18,19}. This will be used in a future section focusing on potential lost opportunities due to inadequate infrastructure.

2000

In 2000, the top 10 species with commercial fishing landings in San Diego County in terms of pounds landed (Table 1.1) and ex-vessel value of landings (Table 1.2) were as follows:

TOP 10 COMMERCIAL FISHERIES IN SAN DIEGO COUNTY, IN POUNDS

Table 1.1 – Ranking of commercial fishing landings, in pounds, in San Diego County for 2000. Source – California Department of Fish and Game - *Table 21sdPUB - Poundage And Value Of Landings By Port, San Diego Area During 2000*²⁰.

Rank	Species	Pounds landed	Primary Gear Type(s)
1	Red Sea Urchin	644,464	Dive
2	Swordfish	500,290	Drift net, Harpoon, Longline
3	Albacore Tuna	405,539	Pole-and-line, Troll, Drift net
4	Rock Crab	271,734	Trap
5	California Spiny Lobster	270,810	Trap
6	Thresher Shark	138,297	Drift net, Longline
7	Market Squid	76,794	Purse Seine, Hand scoop
8	Sheephead	57,657	Trap, Rod and reel
9	California Halibut	55,572	Set net, Rod and reel
10	Pacific Sardine	42,258	Purse Seine

These top ten species, by landings in pounds, composed 85.3%, or 2,463,415 of the total of 2,887,716 pounds, of all landings into Ports in San Diego County during 2000.

TOP 10 COMMERCIAL FISHERIES IN SAN DIEGO COUNTY, BY VALUE

Table 1.2 – Ranking of commercial fishing landings, in ex-vessel revenues, in San Diego County for 2000. Source – California Department of Fish and Game - *Table 21sdPUB - Poundage And Value Of Landings By Port, San Diego Area During 2000*²¹.

¹⁷ Includes landings from Oceanside to Imperial Beach.

¹⁸ The Southern California Bight (SCB) is the name given to the coastal and offshore area "between Point Conception on the Santa Barbara County coast and a point just south of the United States - Mexico border." Point Conception marks the boundary between southern and central California. (See - http://earthguide.ucsd.edu/eoc/teachers/t_basics/t_maps/p_socal_bight.html)

¹⁹ Landings into the Southern California Bight includes amounts reported under Santa Barbara, Los Angeles and San Diego and includes all landing sites within this geographic area.

²⁰ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=31475&inline>

²¹ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=31475&inline>

Rank	Species	Ex-vessel Revenues	Primary Gear Type(s)
1	California Spiny Lobster	\$1,696,973	Trap
2	Swordfish	\$1,656,720	Drift net, Harpoon, Longline
3	Red Sea Urchin	\$669,705	Dive
4	Albacore Tuna	\$336,075	Pole-and-line, Troll, Drift net
5	Spot Prawn	\$328,965	Trap
6	Rock Crab	\$316,036	Trap
7	Sheephead	\$213,629	Trap, Rod and reel
8	Thresher Shark	\$206,749	Drift net, Longline
9	California Halibut	\$176,574	Set net, Rod and reel
10	Bigeye Tuna	\$80,252	Purse seine, Longline, drift net

The top ten species, by ex-vessel revenues, composed 92.6% or \$5,681,678 of the total of \$6,134,796 value of all commercial fishing landings into San Diego County during 2000.

When comparing the results for the fisheries throughout the entire Southern California Bight, it provides further perspective.

TOP 10 COMMERCIAL FISHERIES IN THE SOUTHERN CALIFORNIA BIGHT, IN POUNDS.

Table 1.3 – Ranking of commercial fishing landings, in pounds, in Ports within the Southern California Bight for 2000. Sources – *California Department of Fish and Game - Table 19PUB - Poundage And Value Of Landings By Port, Santa Barbara Area During 2000*²²; *Table 20PUB - Poundage And Value Of Landings By Port, Los Angeles Area During 2000*²³; and *Table 21sdPUB - Poundage And Value Of Landings By Port, San Diego Area During 2000*²⁴

Rank	Species	Pounds landed	Primary Gear Types(s)
1	Market Squid	246,230,645	Purse seine, hand scoop
2	Pacific Sardine	93,132,227	Purse seine
3	Pacific Mackerel	48,226,053	Purse seine
4	Northern Anchovy	10,654,167	Purse seine
5	Red Sea Urchin	10,374,145	Dive
6	Swordfish	3,654,872	Drift net, Harpoon, Longline
7	Jack Mackerel	2,687,118	Purse seine

²² <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=31468&inline>

²³ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=31469&inline>

²⁴ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=31475&inline>

8	Yellowfin Tuna	2,551,028	Purse seine, Longline, Drift net
9	Skipjack Tuna	1,709,371	Purse seine, Longline, Drift net
10	Albacore Tuna	1,583,318	Pole-and-line, Troll, Drift net

Commercial landings in San Diego County, in pounds, during 2000, composed 0.6735%, or 2,887,716 of 428,770,477 pounds which were landing into all Ports in the Southern California Bight.

TOP 10 COMMERCIAL FISHERIES IN THE SOUTHERN CALIFORNIA BIGHT, BY VALUE

Table 1.4 – Ranking of commercial fishing landings, in ex-vessel revenues, in Ports within the Southern California Bight for 2000. Sources – California Department of Fish and Game - *Table 19PUB - Poundage And Value Of Landings By Port, Santa Barbara Area During 2000*²⁵; *Table 20PUB - Poundage And Value Of Landings By Port, Los Angeles Area During 2000*²⁶; and *Table 21sdPUB - Poundage And Value Of Landings By Port, San Diego Area During 2000*²⁷.

Rank	Species	Ex-vessel revenues	Primary Gear Type(s)
1	Market Squid	\$25,223,489	Purse Seine, hand scoop
2	Red Sea Urchin	\$10,691,992	Dive
3	Swordfish	\$10,614,710	Drift net, Harpoon, Longline
4	California Spiny Lobster	\$4,680,047	Trap
5	Pacific Sardine	\$4,490,957	Purse Seine
6	Pacific Mackerel	\$2,917,397	Purse Seine
7	Spot Prawn	\$1,808,527	Trap
8	Ridgeback Prawn	\$1,776,889	Trawl
9	Albacore Tuna	\$1,465,438	Pole-and-line, Troll, Drift net
10	California Halibut	\$1,442,642	Set net, Rod and reel

Commercial landings in San Diego County during 2000 totaled \$6,134,796. In 2000, a total of \$74,537,916 in ex-vessel revenues were landed into all Ports in the Southern California Bight. Thus, San Diego commercial landings constituted 8.23% of all commercial landings (in ex-vessel revenues) into the Southern California Bight.

2010

²⁵ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=31468&inline>

²⁶ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=31469&inline>

²⁷ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=31475&inline>

In 2010, the top 10 species with commercial fishing landings in San Diego County in terms of pounds landed (Table 1.5) and ex-vessel value of landings (Table 1.6) were as follows:

TOP 10 COMMERCIAL FISHERIES IN SAN DIEGO COUNTY, IN POUNDS

Table 1.5 – Ranking of commercial fishing landings, in pounds, in San Diego County for 2010. Source – California Department of Fish and Game - *Table 21sdPUB - Poundage And Value Of Landings By Port, San Diego Area During 2010*²⁸.

Rank	Species	Pounds landed	Primary Gear Type(s)
1	Red Sea Urchin	672,750	Dive
2	Northern Anchovy	251,218	Purse Seine
3	California Spiny Lobster	224,382	Trap
4	Thornyhead Rockfish	143,154	Fixed gear, hook and line
5	Rock Crab	111,013	Trap
6	Swordfish	58,292	Longline, Drift net, Harpoon
7	Sablefish	54,347	Fixed gear, hook and line
8	Opah	44,933	Longline, Drift net
9	Spot Prawn	44,707	Trap
10	Pacific Sardine	43,650	Purse Seine

The top ten species, by landings in pounds, composed 83.4%, or 1,648,446 of the total of 1,974,995 pounds, of all landings into Ports in San Diego County during 2010.

TOP 10 COMMERCIAL FISHERIES IN SAN DIEGO COUNTY, BY VALUE

Table 1.6 – Ranking of commercial fishing landings, in ex-vessel revenues, in San Diego County for 2010. Source – California Department of Fish and Game - *Table 21sdPUB - Poundage And Value Of Landings By Port, San Diego Area During 2010*²⁹.

Rank	Species	Ex-vessel Revenues	Primary Gear Type(s)
1	California Spiny Lobster	\$3,569,793	Trap
2	Red Sea Urchin	\$654,816	Dive
3	Thornyhead Rockfish	\$574,678	Fixed gear, hook and line
4	Spot Prawn	\$415,893	Trap
5	Swordfish	\$282,440	Longline, Drift net, Harpoon
6	Sheephead	\$148,168	Trap, rod-and-reel

²⁸ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=38119&inline>

²⁹ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=38119&inline>

7	Sablefish	\$148,168	Fixed gear, hook and line
8	White Sea Bass	\$123,157	Set net, rod-and-reel
9	Rock Crab	\$121,817	Trap
10	Sea Cucumber	\$77,126	Dive, Trawl

The top ten species, by ex-vessel revenues, composed 93.6% or \$6,116,056 of the total of \$6,535,090 value of all commercial fishing landings into San Diego County during 2010.

When comparing the results for the fisheries throughout the entire Southern California Bight, it provides further perspective.

TOP 10 COMMERCIAL FISHERIES IN THE SOUTHERN CALIFORNIA BIGHT, IN POUNDS

Table 1.7 – Ranking of commercial fishing landings, in pounds, in Ports within the Southern California Bight for 2010. Sources – California Department of Fish and Game - *Table 19PUB - Poundage And Value Of Landings By Port, Santa Barbara Area During 2010*³⁰; *Table 20PUB - Poundage And Value Of Landings By Port, Los Angeles Area During 2010*³¹; and *Table 21sdPUB - Poundage And Value Of Landings By Port, San Diego Area During 2010*³².

Rank	Species	Pounds landed	Primary Gear Type(s)
1	Market Squid	244,092,402	Purse Seine, hand scoop
2	Pacific Sardine	64,711,019	Purse Seine
3	Red Sea Urchin	7,895,330	Dive
4	Pacific Mackerel	4,532,901	Purse Seine
5	Rock Crab	1,195,519	Trap
6	California Spiny Lobster	715,706	Trap
7	Jack Mackerel	682,639	Purse Seine
8	Northern Anchovy	678,971	Purse Seine
9	Sea Cucumber	593,499	Dive, Trawl
10	Sablefish	553,977	Fixed gear, hook and line

Commercial landings in San Diego County, in pounds, during 2010, composed 0.601%, or 1,974,995 of 328,628,167 pounds which were landing into all Ports in the Southern California Bight.

TOP 10 COMMERCIAL FISHERIES IN THE SOUTHERN CALIFORNIA BIGHT, BY VALUE

³⁰ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=38117&inline>

³¹ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=38118&inline>

³² <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=38119&inline>

Table 1.8 – Ranking of commercial fishing landings, in ex-vessel revenues, in Ports within the Southern California Bight for 2010. Sources – California Department of Fish and Game - *Table 19PUB - Poundage And Value Of Landings By Port, Santa Barbara Area During 2010*³³; *Table 20PUB - Poundage And Value Of Landings By Port, Los Angeles Area During 2010*³⁴; and *Table 21sdPUB - Poundage And Value Of Landings By Port, San Diego Area During 2010*³⁵.

Rank	Species	Ex-vessel revenues	Primary Gear Type(s)
1	Market Squid	\$63,192,101	Purse Seine, hand scoop
2	California Spiny Lobster	\$11,337,600	Trap
3	Red Sea Urchin	\$5,246,603	Dive
4	Pacific Sardine	\$3,729,438	Purse Seine
5	Spot Prawn	\$2,081,577	Trap
6	Rock Crab	\$1,561,343	Trap
7	Sea Cucumber	\$1,261,195	Dive, Trawl
8	Sablefish	\$1,187,633	Fixed gear, hook and line
9	White Sea Bass	\$1,141,663	Set net, rod-and-reel
10	California Halibut	\$1,091,712	Set net, rod-and-reel

Commercial landings in San Diego County during 2010 totaled \$6,535,090. In 2010, a total of \$97,136,083 in ex-vessel revenues were landed into all Ports in the Southern California Bight. Thus, San Diego commercial landings made up 6.73% of all commercial landings (in ex-vessel revenues) into the Southern California Bight.

2015

In 2015, the top 10 species with commercial fishing landings in San Diego County in terms of pounds landed (Table 1.9) and ex-vessel value of landings (Table 1.10) were as follows:

TOP 10 COMMERCIAL FISHERIES IN SAN DIEGO COUNTY, IN POUNDS (2010)

Table 1.9 – Ranking of commercial fishing landings, in pounds, in San Diego County for 2015. Source – California Department of Fish and Game - *Table 21sdPUB - Poundage And Value Of Landings By Port, San Diego Area During 2015*³⁶.

Rank	Species	Pounds landed	Primary Gear Type(s)
1	Bigeye Tuna	554,905	Longline

³³ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=38117&inline>

³⁴ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=38118&inline>

³⁵ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=38119&inline>

³⁶ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=129433&inline>

2	Red Sea Urchin	457,751	Dive
3	Opah	360,994	Longline, drift net, DSBG
4	California Spiny Lobster	185,161	Trap
5	Sablefish	167,898	Fixed gear, hook and line
6	Rock Crab	130,028	Trap
7	Hagfish	88,160	Trap
8	Spot Prawn	75,790	Trap
9	Swordfish	75,790	Longline, drift net, DSBG
10	Yellowtail	47,308	Set net, rod and reel

The top ten species, by landings in pounds, composed 84.2%, or 2,143,785 of the total of 2,545,098 pounds, of all landings into Ports in San Diego County during 2010.

TOP 10 COMMERCIAL FISHERIES IN SAN DIEGO COUNTY, BY VALUE

Table 1.10 – Ranking of commercial fishing landings, in ex-vessel revenues, in San Diego County for 2015. Source – California Department of Fish and Game - *Table 21sdPUB - Poundage And Value Of Landings By Port, San Diego Area During 2015*³⁷.

Rank	Species	Ex-vessel Revenues	Primary Gear Type(s)
1	California Spiny Lobster	\$3,651,420	Trap
2	Bigeye Tuna	\$1,715,853	Longline
3	Spot Prawn	\$836,114	Trap
4	Red Sea Urchin	\$562,086	Dive
5	Sablefish	\$495,250	Fixed gear, hook and line
6	Opah	\$385,228	Longline, drift net, DSBG
7	Swordfish	\$331,994	Longline, drift net, DSBG
8	Sheephead	\$159,382	Trap, rod-and-reel
9	Rock Crab	\$143,885	Trap
10	Thornyhead Rockfish	\$137,324	Fixed gear, hook and line

The top ten species, by ex-vessel revenues, composed 90.7% or \$8,418,536 of the total of \$9,280,838 value of all commercial fishing landings into San Diego County during 2010.

³⁷ *id*

When comparing the results for the fisheries throughout the entire Southern California Bight, it provides further perspective.

TOP 10 COMMERCIAL FISHERIES IN THE SOUTHERN CALIFORNIA BIGHT, IN POUNDS

Table 1.11 – Ranking of commercial fishing landings, in pounds, in Ports within the Southern California Bight for 2015. Sources – California Department of Fish and Game - *Table 19PUB - Poundage And Value Of Landings By Port, Santa Barbara Area During 2015*³⁸; *Table 20PUB - Poundage And Value Of Landings By Port, Los Angeles Area During 2015*³⁹; and *Table 21sdPUB - Poundage And Value Of Landings By Port, San Diego Area During 2015*⁴⁰.

Rank	Species	Pounds landed	Primary Gear Type(s)
1	Market Squid	36,206,493	Purse Seine, hand scoop
2	Pacific Mackerel	11,159,884	Purse Seine
3	Red Sea Urchin	6,689,973	Dive
4	Pacific Sardine	2,129,392	Purse Seine
5	Rock Crab	2,060,535	Crab
6	Yellowfin Tuna	1,299,523	Longline, seine, drift net
7	Jack Mackerel	853,851	Purse seine
8	Bigeye Tuna	818,523	Longline
9	California Spiny Lobster	767,577	Trap
10	Ridgeback Prawn	766,522	Trawl

Commercial landings in San Diego County, in pounds, during 2015, composed 3.768%, or 2,545,098 of 67,539,960 pounds which were landing into all Ports in the Southern California Bight.

TOP 10 COMMERCIAL FISHERIES IN THE SOUTHERN CALIFORNIA BIGHT, BY VALUE

Table 1.12 – Ranking of commercial fishing landings, in ex-vessel revenues, in Ports within the Southern California Bight for 2015. Sources – California Department of Fish and Game - *Table 19PUB - Poundage And Value Of Landings By Port, Santa Barbara Area During 2015*⁴¹; *Table 20PUB - Poundage And Value Of Landings By Port, Los Angeles Area During 2015*⁴²; and *Table 21sdPUB - Poundage And Value Of Landings By Port, San Diego Area During 2015*⁴³.

Rank	Species	Ex-vessel revenues	Primary Gear Type(s)
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³⁸ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=129431&inline>

³⁹ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=129432&inline>

⁴⁰ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=129433&inline>

⁴¹ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=129431&inline>

⁴² <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=129432&inline>

⁴³ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=129433&inline>

1	California Spiny Lobster	\$15,808,180	Trap
2	Market Squid	\$10,794,933	Purse seine, hand scoop
3	Red Sea Urchin	\$5,741,150	Dive
4	Spot Prawn	\$3,914,043	Trap
5	Rock Crab	\$2,991,520	Trap
6	Bigeye Tuna	\$2,638,925	Longline
7	Sablefish	\$1,945,027	Fixed gear, hook and line
8	Ridgeback Prawn	\$1,909,823	Trawl
9	Sea Cucumber	\$1,162,909	Dive, trawl
10	Pacific Mackerel	\$1,098,784	Purse seine

Commercial landings in San Diego County during 2015 totaled \$9,280,838. In 2015, a total of \$55,706,882 in ex-vessel revenues were landed into all Ports in the Southern California Bight. Thus, San Diego commercial landings made-up 16.66% of all commercial landings (in ex-vessel revenues) into the Southern California Bight.

B. What the Data shows:

- In recent years, commercial fisheries operating into San Diego are trending towards low volume, high value fisheries.
- The following fisheries were represented in the San Diego Top 10 each of three years analyzed:
 - California Spiny Lobster (both pounds and ex-vessel revenues)
 - Red Sea Urchin (both pounds and ex-vessel revenues)
 - Swordfish (both pounds and ex-vessel revenues)
 - Rock Crab (both pounds and ex-vessel revenues)
 - Spot Prawns (in ex-vessel revenues)
 - Sheepshead (in ex-vessel revenues)
- 2015 shows a noticeable increase in fish which normally are associated with longline vessels (Opah, Swordfish⁴⁴ and Bigeye Tuna).
- San Diego is far too dependent on a limited number of fisheries:

Table 1.13 shows the percentages of the total number of pounds/revenues contributed by the Top 10 fisheries into San Diego for the time frames covered.

⁴⁴ In 2015, driftnet vessels landed roughly 145,000 pounds of swordfish. Most of those were likely landed in Ports outside of San Diego. Landings of swordfish by vessels using the experimental Deep Set Buoy Gear also accounted for a small portion of swordfish landings (between 2015 and 2016 there were a total of 611 swordfish landed by the four vessels participating in the trials for DSBG – and not all of these were offloaded in San Diego.) See - http://www.pcouncil.org/wp-content/uploads/2017/02/J2_Att2_PIER_2015-16_DSBG_EFP_SummaryRpt_Mar2017BB.pdf).

Table 1.13 – San Diego commercial fisheries dependence on Top 10 fisheries

	Pounds	Ex-vessel Revenues
2000	85.3%	92.6%
2010	83.4%	93.6%
2015	84.2%	90.7%

It is likely that in 2015 the impact of the Tuna Harbor Dockside Market is being observed which resulted in higher price per pound being paid for fish outside the Top 10.

Data collected and analyzed for 2017 shows this trend continuing. In 2017 the Top 10 fisheries into San Diego accounted for 83.03% of the total number of pounds and 89.9% of the total ex-vessel revenue for all fish landed into SD Ports.

- San Diego's relative share of landings into the Southern California Bight is lackluster.

Table 1.14 shows the percentage of San Diego's landings when compared to total landings into Ports within the Southern California Bight.

Table 1.14 – San Diego's percentage of total landings within the Southern California Bight

	Pounds	Ex-vessel Revenues
2000	0.6735%	8.23%
2010	0.601%	6.73%
2015	3.768%	16.66%

Two factors may explain the higher-than-average values for 2015. One is the closure of the directed fishery for Pacific Sardine, which continues until July 1, 2019 at the earliest; the other is the negative impact to the Market Squid fishery resulting from an abnormal patch of warm water that parked itself off the U.S. West Coast (The Blob⁴⁵), as well as the onset of El Niño in late 2015. Market squid is much more available to the commercial fishery when waters are cooler than normal – for example during La Niña events. In 2000, Market Squid landings into the Southern California Bight were 246,230,645 pounds worth \$25,223,489. In 2010, 244,092,402 and \$63,192,101 respectively. In contrast, the 2015 numbers were 36,206,493 and \$10,794,933, respectively. In 2017, the numbers began to rebound as 116,466,663 pounds worth \$58,183,052 were landed in Ports located within the Bight⁴⁶.

Data collected and analyzed for 2017 shows San Diego's share of overall landings and revenues within the Southern California Bight to still be lackluster. San Diego Ports accounted for 1.60% of all landings, in pounds, and 9.59% of commercial fishing revenues

⁴⁵ <http://www.nationalgeographic.com/magazine/2016/09/warm-water-pacific-coast-algae-nino/>

⁴⁶ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=159560&inline> – Page 17

in the Southern California Bight. This is likely attributable to the continued closure of the directed fishery for Pacific Sardine and the increased utilization of San Diego Ports by longline vessels offloading their catch.

- Total number of pounds landed into San Diego for 2000 was 2,887,716. In 2010, that number was 1,974,995 pounds. In 2015, it rebounded to 2,545,098 pounds. 2017 held relatively close to the 2015 number at 2,246,751 pounds⁴⁷. Though one may think that San Diego is doing relatively well compared to 2010; but information suggests that much of the increase is likely due to longline vessels landing into San Diego.
- With proper planning, support and suitable infrastructure, San Diego can attract and serve as a port of landing for underrepresented fisheries.

o Coastal Pelagic Species (“CPS”) – Pacific Sardine, Pacific Mackerel, Jack Mackerel, Northern Anchovy and Market Squid require specific infrastructure to support the landing and offloading of product from the vessels which target them. Given that the nearest facilities which support the CPS fishery are in San Pedro, an opportunity exists for the Port of San Diego to participate in, and benefit from, the landing of CPS stocks. As will be explained in much more detail under Part III, the Port’s supporting CPS landings could have the unintended benefit of attracting more purse seine tuna landings as well.

o Highly Migratory Species – Tunas, Swordfish, Opah. Vessels targeting these species are typically larger vessels (longline and purse seine) which require suitable cranes as well as water deep enough at the offloading facility where the vessels will not run aground during the offloading process. While San Diego is benefitting from increased offloading of vessels targeting these species, there is room for growth. Table 1.15 shows landings of Bigeye Tuna, Swordfish and Opah (catches typically linked to longline vessels) in California for 2015. Note - Other species landed in the Ports listed below are typically encountered by longline vessels include: Pomfret, Dolphin fish, Escolar, Oilfish, Sharks, Tunas (skipjack, yellowfin) and Wahoo.

Table 1.15 – Landings of select Highly Migratory Species in California Ports during 2015 which also had landings of other species typically caught incidentally to longline operations.

Port	Bigeye Tuna		Swordfish		Opah	
	Lbs	Ex-vessel revenue	Lbs	Ex-vessel revenue	Lbs	Ex-vessel revenue
San Francisco ⁴⁸	131,429	\$488,983	579,340	\$2,343,364	189,835	\$196,848
Santa Barbara ⁴⁹	133,606	\$546,862	40,662	\$154,903	36,530	\$75,029
Los Angeles ⁵⁰	130,012	\$376,210	197,828	\$595,169	93,875	\$72,395

C. San Diego’s Key Commercial Fisheries

Red Sea Urchin:

⁴⁷ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=159591&inline>

⁴⁸ See - <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=129339&inline>.

⁴⁹ See - <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=129431&inline>. Most of these were landed in Ventura Harbor and Port Hueneme.

⁵⁰ See - <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=129342&inline>.

Brief history: The Red Sea Urchin fishery expanded greatly in the early 1970s

Managed by: State of California

Primary method of harvest: Dive

Annual Landings/Ex-vessel Revenues Statewide 2015: 8,090,138 lbs/\$6,865,747

Annual Landings/Ex-vessel Revenues Statewide 2017: 4,178,160 lbs/\$6,391,470

Key regulations⁵¹:

- Restricted access system; permits not freely transferrable;
- Size limits: 3.25 inches in South; 3.5 inches in North
- Fishery open: June – October, 4 days a week; otherwise 7 days a week.
- Closures: In addition to Marine Protected Areas, one closure in Sonoma County and another in Mendocino County.
- Special rules for designating a licensed commercial fisherman as an approved dive assistant.

Issues facing fishery:

- **Aging of permit holders⁵²:** Of 236 issued permits in 2011: 8 were held by fishermen in their 20s; 10 in their 30s; 62 in their 40s; 110 in their 50s; 44 in their 60s; and 2 in their 70s.
- **High concentration of landings made by a few fishermen:** In 2012, 50% of catch was made by 40 divers; the top 85 divers took 80% of catch.
- **Fishery disaster declaration sought:** In July of 2017, the California Legislature asked Governor Brown to seek a “Federal fishery resource disaster and fishery failure” from the U.S. Secretary of Commerce for the Red Sea Urchin fishery. On September 5, 2017 the formal request to the Secretary of Commerce was made by the Lieutenant Governor⁵³; this request was still pending as of August 12, 2018.

Industry representation: in 2004 the California Sea Urchin Commission was established under State law⁵⁴ for “for the efficient creation and management of a research program to develop improved harvesting and processing practices, an integrated approach to fishery management, and more efficient resource assessment, monitoring and protection tools.”⁵⁵ Originally buyers and processors were members, but they voted to leave the Commission in 2009.

Swordfish

Brief history: Consistently a top 10 fishery for San Diego in terms of landings and revenues.

A low volume, high value fishery. Although landings have shown a downward trend in recent years, this is likely attributable to fishermen leaving the fishery.

Managed by: The State of California (permitting) and National Marine Fisheries Service (“NMFS”) under the Pacific Fishery Management Council’s (“PFMC”) Highly Migratory Species Fishery Management Plan (“HMS FMP”).

Primary method of harvest: Drift Gill Net, Long-line, Harpoon, and Deep-Set and Linked Buoy Gear (“DSBG/LBG”). See Section VI, Item B for a description of DSBG/LBG and the prominent role played by San Diego commercial fishermen in developing that gear.

Annual Landings/Ex-vessel Revenues Statewide 2015: 943,447 lbs/\$3,620,883

⁵¹ 14 CCR §120.7; Fish and Game Code §9054

⁵² See <http://www.fgc.ca.gov/meetings/committees/061813mrcurchin.pdf> p- 18

⁵³ <http://fisheries.legislature.ca.gov/sites/fisheries.legislature.ca.gov/files/u8/2017-9-5%20CA%20Sea%20Urchin%20Disaster%20Request%20from%20Lt.%20Gov.pdf>

⁵⁴ California Food and Agriculture Code §79000 - 79145

⁵⁵ California Food and Agriculture Code §79003

Annual Landings/Ex-vessel Revenues Statewide 2017: 1,037,106 lbs/\$3,901,739

Key regulations:

- Restricted access system:
 - Less than 20 Driftnet vessels are currently active out of about 70 permittees.
 - Longline is not an authorized gear type in the EEZ off the West Coast of the Continental U.S., therefore all local longline activity takes place on the high seas. San Diego fishermen David Haworth and John Gibbs) submitted an Exempted Fishing Permit (“EFP”) application in January 2015 to “test the success of pelagic longline fishing within the U.S. West Coast Exclusive Economic Zone (EEZ) and its potential to be an economically viable gear.” This application is still pending.
 - DSBG/LBG are currently experimental fisheries, operating under an EFP, which have shown great promise to supplement harpoon and/or drift net operations. It is on the fast-track for authorization as an allowable gear type under the PFMC’s HMS FMP.
- Gear limitations:
 - Driftnets: 14-inch mesh, with acoustic pingers to reduce interactions with marine mammals, and net extenders (which lower the top of the panel to at least 36 feet below the surface to minimize interactions with marine mammals and sea turtles.)
 - Longline: Circle hooks to increase survivability of non-marketable species; streamers attached to mainline to keep sea birds from eating baited hooks when gear is deployed.
 - DSBG/LBG: Current EFPs and preferred alternatives associated with authorization of the gear type limit fishermen to 10 pieces of gear with 3 hooks per piece of gear.
- Time and area closures: The Pacific Leatherback Conservation Area and Loggerhead closure during El Ninos for the driftnet fishery – See Appendix A for additional information. As previously mentioned, longlines are not currently allowed in the U.S. EEZ off California, Oregon and Washington.
- Because the fishery is Category II fishery under the MMPA a permitted Drift Gillnet fishery participant must be registered as authorized to incidentally take marine mammals; must carry observers if requested to do so; and must display a decal or other physical evidence of such authorization.

Issues facing fishery:

- **There has been substantial pressure on government agencies to end the driftnet fishery.** This is due to interactions with protected species and bycatch concerns. NMFS recently rejected a proposed rule which would have implemented hard caps on the fishery, in part because “hard caps would create significant economic hardship for DGN fishery participants, which could lead to significant declines in landings and revenues of U.S. West Coast-caught swordfish, during fishery closure periods when minor beneficial conservation effects of the proposed hard caps regulations were expect to accrue for protected species⁵⁶.” See Appendix A for a more thorough discussion.
- **Authorization of DSBG/LBG.** The Magnuson-Stevens Fishery Conservation and Management Act (“MSA”) provides specific guidance on when a federal fishery can be subject to a Limited Access System⁵⁷.
- **Likely reduction in imports per the MMPA import provisions.** It is possible that some nations which currently import swordfish into the United States will not be able

⁵⁶ See - http://www.pcouncil.org/wp-content/uploads/2017/06/H1a_Sup_NMFS_Rpt3_DGN_Neg_Jun2017BB.pdf

⁵⁷ See 16 U.S.C. §1853(b); 50 CFR §660.330(c)

to do so after January 1, 2022. Recently adopted regulations implement the import restrictions contained in the MMPA, which state, in part, “The Secretary of the Treasury shall ban the importation of commercial fish or products from fish which have been caught with commercial fishing technology which results in the incidental kill or incidental serious injury of ocean mammals in excess of United States standards⁵⁸.” See Section VII, Item A1 below for more on this.

Industry representation: There no formal entity representing the driftnet, harpoon, or DSBG/LBG fisheries. The longline fishery is represented by the California Pelagic Fisheries Association.

California Spiny Lobster

Brief history: Consistently a top 10 fishery in San Diego in terms of landings and revenues. A low volume, high value fishery, that operates entirely in the Southern California Bight.

Managed by: State of California

Primary method of harvest: Trap gear

Annual Landings/Ex-vessel Revenues Statewide 2015: 767,577 lbs/\$15,808,180

Annual Landings/Ex-vessel Revenues Statewide 2017: 706,378 lbs/\$13,354,319

Key regulations:

- Limited-entry fishery with 157 permits (of 192 issued) active in the 2013-14 season.⁵⁹
- The California Spiny Lobster Fishery Management Plan (“CSL FMP”), adopted in 2016, went into effect for the 2017/18 season:
 - Trap limits set at 300 traps per permit. A commercial fisherman can own two permits for a total of 600 traps.
 - Catastrophic loss provisions allow replacement tags only if a permitted fisherman loses at least 75 tags.
- Areas closed to the commercial lobster fishery:
 - Marine Protected Areas, which cover 16% of fishable habitat in the Southern California Bight.
 - Within 750 feet of any publicly-owned pier, wharf, jetty or breakwater; however, such traps may be used to within 75 feet of any privately-owned pier, wharf, jetty or breakwater.⁶⁰
 - Within 250 feet of the following navigation channels: Newport Bay Harbor entrance, Dana Point Harbor entrance, and Oceanside Harbor entrance.
 - Frontside of Catalina Island and Santa Monica Bay.
- Strict gear requirements: mesh size, escape ports, etc.
- Seasonal fishery: opens first Wednesday in October, closes first Wednesday after March 15.

Issues facing fishery:

- The recent date of the regulations implementing the FMP will likely cause confusion.
- Because the fishery was elevated to a Category II fishery under the MMPA⁶¹ (due to a reported entanglement of one bottlenose dolphin in 2008) a permitted lobster fisherman must be registered as authorized to incidentally take marine mammals; must carry

⁵⁸ See 16 U.S.C. §1371(a)(2)

⁵⁹ During the 2013-14 fishing season, 141 transferable permits and 51 non-transferable permits were renewed. See – California Spiny Lobster Fishery Management Plan, page 13.

⁶⁰ 14 CCR 120(d)

⁶¹ 16 U.S.C. §1387(c)(1)(A)(ii)

observers if requested to do so; and must display a decal or other physical evidence of such authorization.

- Domoic acid: If results from tests measuring the amount of domoic acid in California Spiny Lobster exceed the Federal Action Level (20 parts per million in the viscera) the commercial fishery will be impacted. In October of 2017, lobster harvested off Santa Cruz Island exceeded the Federal Action Level. This resulted in the temporary closure of the commercial fishery in those areas⁶². As a result, the industry has begun exploring evisceration orders in anticipation of future closures. An evisceration order would allow only the lobster tails to the consuming public. However, because the market for California Spiny Lobster is primarily for export and is dependent on the ability to ship live product, requiring evisceration would effectively destroy the market.
- Different perspectives on how the fishery should operate: The northern fleet (Santa Barbara and Ventura) tend to have different views in terms of trap limits, regional management and other management strategies, and face different issues than the southern fleet.

Industry representation: The California Trap and Lobster Fishermen's Association (CLTFA) was once a strong voice for the fishery. Overtime it has become less influential and today is ineffective. On October 6, 2017 AB-944⁶³ was approved by Governor Brown; it allowed the Secretary of Food and Agriculture to hold a referendum vote of the fishery participants to determine if there is a need and/or desire to formally create a California Spiny Lobster Commission. The results of the vote were recently published; and it failed to get the requisite number of votes; a second vote is likely in 2019.

Spot Prawn

Brief history: Consistently a top 10 fishery for San Diego in terms of landings and revenues.

A low volume, high value fishery.

Managed by: State of California

Primary method of harvest: trap.

Annual Landings/Ex-vessel Revenues Statewide 2015: 492,722 lbs/\$6,335,185

Annual Landings/Ex-vessel Revenues Statewide 2017: 464,950 lbs/\$6,718,819

Key regulations:

- Three-tiered limited-access fishery with a capacity goal as follows: Tier 1 and Tier 3 permits combined shall be 17; Tier 2 will be 0. Only Tier 1 permits are transferrable.
- Two management zones: (1) Point Arguello, Santa Barbara County and the United States-Mexico boundary; and (2) Point Arguello, Santa Barbara County, and the California-Oregon boundary.
- Season for each zone:
 - Point Arguello to the U.S./Mexico boundary: February 1–October 31
 - Point Arguello to the Ca/Oregon boundary: August 1–April 30.
- Strict gear restrictions
- Trap limits

Issues facing fishery:

⁶² See - <https://cdfgnews.wordpress.com/2017/10/24/commercial-spiny-lobster-fishery-closed-at-anacapa-island-and-the-east-end-of-santa-cruz-island-due-to-public-health-hazard/>

⁶³ https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB944

- Serious barriers to entry for a new fishery participant due to expense: a permit is available on Dockstreetbrokers.com for \$950,000⁶⁴ on August 12, 2018.

Industry representation: None.

Groundfish⁶⁵

Brief history: Individual species in the Groundfish complex rarely appear in the top 10 landings for San Diego. However, this complex is likely to see increased opportunities for commercial fisheries as regulatory restrictions are lessened as more groundfish species are declared rebuilt. It bears noting that Groundfish played an important role in San Diego even when Tuna was the primary focus. Unfortunately, publicly available data showing Groundfish landings into San Diego prior to 2000 is not available on the Ca DFW's website.

Managed by: NMFS through the PFMC's Groundfish FMP and the State of California through its Nearshore FMP. There is significant overlap between the two; but some stocks in the State's Nearshore FMP are not in the Federal Groundfish FMP, including California Sheephead, Rock Greenling and Monkeyface Prickleback. State regulations have also been adopted which created a Deeper Nearshore Permit^{66,67}.

Primary method of harvest: fixed gear (longline, set line and trap), hook and line, trawl

Annual Landings/Ex-vessel Revenues Statewide 2015 (for specific species)⁶⁸:

Thornyhead Rockfish

Shortspine: 764,164 lbs/\$2,092,284

Longspine: 1,108,693 lbs/\$560,199

Unclassified⁶⁹: 7,009 lbs/\$37,664

Sablefish: 3,710,895 lbs/\$8,900,190

California Sheephead: 76,735 lbs/\$359,425

Annual Landings/Ex-vessel Revenues Statewide 2017 (for specific species)⁷⁰:

Thornyhead Rockfish

Shortspine: 746,622 lbs/\$3,396,277

Longspine: 919,166 lbs/\$628,361

Unclassified⁷¹: 2,691 lbs/\$16,183

Sablefish: 3,611,126 lbs/\$9,032,259

California Sheephead: 51,025 lbs/\$245,968

Key regulations:

- The trawl and fixed gear fisheries are restricted access.
 - The Groundfish trawl fishery is rationalized under a system of individual fishing quotas and harvest cooperatives.
 - There is a Sablefish endorsement for the fixed gear fishery with associated tier limits.
- There is an open access component with strict limits on what can be taken over a specified period.

⁶⁴ See - <http://www.dockstreetbrokers.com/permits.php?category=West%20Coast> last accessed August 12, 2018

⁶⁵ Groundfish is a complex comprised of roughly ninety species. Because some limited numbers of groundfish species (thornyhead rockfish and sablefish) have appeared on the top 10 lists, the author decided to create a grouping here.

⁶⁶ 14 CCR §150.02

⁶⁷ Deeper Nearshore Rockfish include: Black rockfish, Blue rockfish, Brown rockfish, Calico rockfish, Copper rockfish, Olive rockfish, Quillback rockfish and Treefish

⁶⁸ See - <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=129426&inline>

⁶⁹ This merely indicates that "thornyhead" appeared on the fish ticket/landing receipt

⁷⁰ See - <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=159560&inline>

⁷¹ This merely indicates that "thornyhead" appeared on the fish ticket/landing receipt

- The California Nearshore fishery is restricted access and valid only in the regional management areas identified on the permit. The four regions (with associated capacity goals – number of permits) are as follows:
 - North Coast Region (14)
 - North-Central Coast Region (9)
 - South-Central Coast Region (20)
 - South Coast Region (18)
- Total Allowable Catches under the California Nearshore FMP exist for California Sheephead, Cabezon and Rock Greenlings. These are further allocated between the commercial and recreational sectors.

Issues facing fishery:

- Cumbersome management
- Taking advantage of increased opportunities as more Groundfish stocks are declared rebuilt. In 2017, three species of Groundfish were declared rebuilt by NMFS: Bocaccio and Darkblotched Rockfish over the summer, and Pacific Ocean Perch in the fall⁷². By 2020 Cowcod will likely be declared rebuilt as well. That will leave only Yelloweye Rockfish as the remaining species in the Groundfish FMP in an overfished status. It will be necessary to address the question of what happens to Cowcod Conservation Areas when the Cowcod is declared rebuilt?

Industry representation: The trawl fishery has formal representation and other Groundfish fisheries are typically represented by Port-affiliated Associations.

Tunas⁷³

Brief history: As highlighted above, Tunas have played an important role in San Diego's commercial fisheries. That role continues to this day, albeit in a different fashion. Long gone are the days when hundreds of vessels lined up along the Embarcadero waiting to offload their catch to canneries. Today Tuna is harvested and/or landed locally by a variety of different vessels using a variety of different gear types. Additionally, Tuna Harbor is home port to many pole-and-line vessels which participate in the North Pacific Albacore fishery in the summer and early fall, sometimes traveling as far as the U.S.-Canada border to ply their trade.

Managed by: Management of Tuna stocks is complex and well beyond the scope of this document. Generally, NMFS is required by law to implement actions agreed upon by two international Regional Fishery Management Organizations ("RFMO"): The Inter-American Tropical Tuna Commission ("IATTC") and the Western and Central Pacific Fisheries Commission ("WCPFC"). Specific management roles and the interaction between the RFMOs, the PFMC, NMFS and the Ca DFW are discussed in more in Appendix A.

Primary method of harvest: Purse seine, longline, pole-and-line, and drift gillnet.

Annual Landings/Ex-vessel Revenues Statewide 2015 for these species:

Pacific Bluefin Tuna: 215,982 lbs/\$138,178
 Yellowfin Tuna: 1,309,971 lbs/ \$663,942
 North Pacific Albacore: 126,931 lbs/\$214,666
 Bigeye Tuna: 949,952 lbs/\$3,127,909

Annual Landings/Ex-vessel Revenues Statewide 2017 for these species:

Pacific Bluefin Tuna: 1,069,589 lbs/ \$721,457

⁷² See - <https://www.thedailyworld.com/news/ocean-perch-stock-rebuilt-could-lead-to-more-commercial-fishing-opportunities-in-2019/>

⁷³ Tunas, as used here includes those most impactful for the San Diego commercial fishing community - Pacific Bluefin Tuna, Yellowfin Tuna, North Pacific Albacore, and Bigeye Tuna.

Yellowfin Tuna: 3,851,683 lbs/ \$2,414,884

North Pacific Albacore: 274,881 lbs/\$828,006

Bigeye Tuna: 1,144,708 lbs/\$3,465,316

Key regulations:

- Biennial quota for the Pacific Bluefin Tuna fishery. U.S. vessels can harvest a combined 600 mt for 2017 and 2018. With this low quota, trip limits were imposed. For 2017, the trip limit was 25 mt; for 2018 NMFS implemented a 1 mt trip limit, except for drift gillnet fishermen, who will be subjected to a 2 mt trip limit,⁷⁴ to ensure U.S. catch does not exceed the 600 mt catch limit. While the U.S. will pursue continuation of current quotas, there is an expected push from Japan to request a 15% increase in quota for the 2019 – 2020 management cycle. Domestically, there may be a push for allocations amongst the different gear types used to harvest Pacific Bluefin tuna.
- There is no quota on Yellowfin Tuna for the small coastal purse seiners which home port in the Southern California Bight. If catches dramatically increase, the RFMOs may address situation.
- North Pacific Albacore also has no current catch limits. A Management Strategy Evaluation (“MSE”) process is underway which may lead to some predetermined harvest control rules in the event the stock’s biomass falls below a level deemed acceptable by scientists and fishery managers.
- Bigeye Tuna has differing management aspects depending on the gear type used, the length of the vessel and the location where fishing activity is occurring. Management recommendations for 2018 resulted in a modest increase in Bigeye tuna quotas available to vessels berthed in or landing fish into the Port of San Diego.

Issues facing fishery:

- Cumbersome and complex management.
- While tuna stocks are showing increases in recent years, some are still well below a level with which many scientists and fishery managers believe to be sustainable.

Industry representation: Larger purse seine vessels are represented by the American Tunaboat Association. Most of the pole-and-line albacore vessels are represented by either the American Albacore Fishing Association or the Western Fishboat Owners Association. California Pelagic Fisheries Association is a newly formed association of fishermen and processors which represents San Diego-based longline vessels in addition to other operations providing American-caught, wild pelagic fish from the waters offshore of California.

Live Bait Fishery

Brief History: Since the middle of the last century, when Buck and his two sons, Charles and Roy, purchased the bait receiver owned by Lyman McDonald, Everingham Bros. Bait Company (“EBBCO”) has provided live bait for the world’s largest sportfishing fleet and an armada of privately owned recreational vessels. The primary species EBBCO provides its clientele are Pacific Sardine, Pacific Mackerel, and Northern Anchovy.

Managed by: NMFS through the CPS FMP and the State of California via legislation and regulation.

Primary method of harvest: purse seine

Annual Landings/Ex-vessel revenues: Landing and revenue figures are confidential. Unlike other commercial fisheries operating in San Diego, EBBCO’s business model is based not on pounds physically landed, but on compensation, via contract, with the Commercial

⁷⁴ See - <https://www.gpo.gov/fdsys/pkg/FR-2018-03-28/pdf/2018-06148.pdf>

Passenger Fishing Vessel (“CPFV”) fleets and direct sales to private recreational vessels. Though revenue is confidential, they undoubtedly provide an extremely valuable service to Sportfishing operations and the owners of recreational fishing vessels in the Port of San Diego and elsewhere⁷⁵.

Key regulations:

- Regarding the Pacific Sardine fishery, the CPS FMP currently includes a harvest control rule whereby all take will be disallowed if the estimated Biomass is less than 50,000 metric tons. The PFMC, in April, tasked its management entities to consider a live bait fishery allowance in the event biomass falls below 50,000 mt. Further analysis and possible action is being considered for later this year or in early 2019.
- The directed commercial fishery for Pacific Sardine is not allowed unless Biomass is estimated to exceed 150,000 metric tons. Since 2015, the Stock Assessment reported Biomass between 50,000 and 150,000 mt. This resulted in the Lieutenant Governor submitting a Fishery Disaster Declaration to the Secretary of Commerce in September of 2017⁷⁶. Like the similar request made on behalf of the red sea urchin fishery, this request was still pending as of August 12, 2018.
- When Biomass falls between 50,000 and 150,000 mt, allowances for tribal take, incidental take in other fisheries, and live bait are used in determining appropriate harvest guidelines.

Issues facing fishery:

- Stock Assessment methodologies do not account for the nearshore (less than 25 fathom) waters, where sardines tend to aggregate. In 2018, NMFS approved an industry-led EFP designed to fill this data gap. NMFS and industry will also use this EFP as an opportunity to test the potential for using saildrones in future stock assessments⁷⁷.
- There are two stocks of Pacific Sardine (northern and southern) which are currently managed as one unit. There is increasing discussion to determine if what is caught off the Southern California coast in the summer and fall months may belong to the Southern Stock.
- The commercial fishery for CPS is limited entry south of 39° Latitude (Point Arena, Ca). At the time the FMP was adopted, the fishery for CPS in Oregon and/or Washington was extremely limited; it has now grown, and the California limited entry fleet is losing access to the resource by Oregon and Washington-based purse seine vessels.

Industry representation: The California Wetfish Producer’s Association (“CWPA”) represents harvesters and processors of CPS. The Sportfishing Association of California is a vocal supporter of bait operations serving the Southern California Sportfishing fleets.

IV. Seaport San Diego Development and San Diego’s Commercial Fisheries

Seaport San Diego is a redevelopment project in the heart of the San Diego Harbor and brings a new opportunity with the potential of implementing many of the infrastructure improvements proposed by the Commercial Fisheries Revitalization Plan and this Report. The San Diego Unified Port District has been pursuing the redevelopment of the Central Embarcadero since 2015 when it released an Request For Proposals to redevelop the area “between downtown San Diego and San Diego Bay, the Central

⁷⁵ EBBCO also provides live bait to Mission Bay and Dana Point.

⁷⁶ <http://fisheries.legislature.ca.gov/sites/fisheries.legislature.ca.gov/files/u8/2017-9-5%20CA%20Sardine%20Disaster%20Request%20from%20Lt.%20Gov.pdf>

⁷⁷ <https://www.nwfsc.noaa.gov/news/features/saildrone/index.cfm>

Embarcadero area (which includes Seaport Village, Chesapeake Fish, and surrounding areas between the Grand Hyatt Hotel and the USS Midway) presents an opportunity for a signature waterfront development to attract and benefit both locals and visitors to San Diego Bay.⁷⁸ On November 8, 2016, the Port selected the proposal submitted by Protea Waterfront Development (“PWD”) led by Yehudi Gaffen, Jeff Jacobs and Jeff Essakow. As part of a large integrated multi-use project known as Seaport, it will include tourist, restaurant, market, lodging, educational, commercial, and public facilities, as well as an aquarium and the commercial fishing facility of Tuna Harbor. The area covered by this redevelopment project is depicted below (see Fig 2.1)



Fig 2.1 – Aerial overview of proposed redevelopment project area. Source – Port of San Diego website

San Diego Bay’s historic commercial fishing community is located in Tuna Harbor⁷⁹, which is included within the area to be developed. The current Port Master Plan for the Port of San Diego⁸⁰, print version August 2017, allocates a total of 8.3 acres to Commercial Fishing land uses and 18.8 acres on water for Commercial Fishing Berthing⁸¹.

Of the total acreage mentioned above, Commercial Fishing in Planning District 3 has been allocated 5.4 acres on land and 13.1 for Commercial Berthing on the water⁸². A recent GIS survey, undertaken by the Port, identifies that within Planning District 3 only 3.5 to 4 acres of land have been made available for Commercial Fishing Land Use. The discrepancy between the 5.4 acres of land space contained in the Port Master Plan and the recent GIS survey needs to be explained and better understood

⁷⁸ See - <https://www.portofsandiego.org/projects/central-embarcadero>.

⁷⁹ Which resides in Port District 3

⁸⁰ See - San Diego Unified Port District’s Port Master Plan (August 2017 Print Edition), Page 1.

⁸¹ *Id @ 12* See Table 4 – Port Master Plan Land and Water Use Allocation Summary

⁸² *Id @ 59* See Table 10, Precise Land and Water Use Allocation CENTRE CITY EMBARCADERO: PLANNING DISTRICT 3.

by the commercial fishermen and the Developer. Pictorially, the layout for Tuna Harbor in the current Port Master Plan is as follows⁸³ (See Figs 2.2 and 2.3):

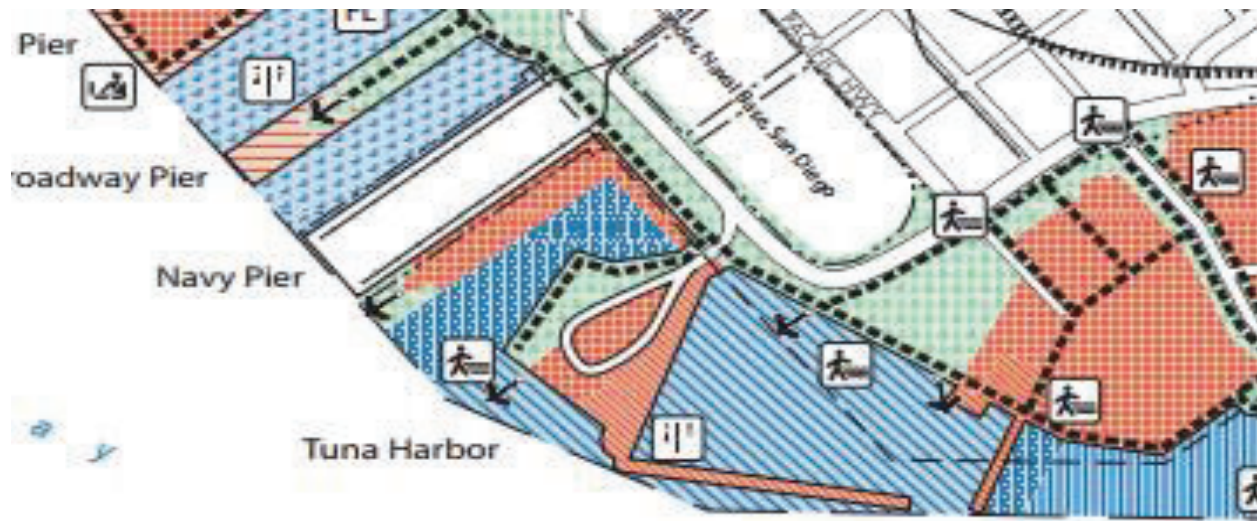


Fig 2.2 – Tuna Harbor portion of Planning District 3 from Aug 2017 Print edition of the Port Master Plan

Legend:

Land	COMMERCIAL	Water
Commercial Recreation	Recreational Boat Berthing	
Commercial Fishing	Commercial Fishing Berthing	
	Fueling Dock	
	INDUSTRIAL	

Fig 2.3 – Legend for (and from) above

V. Formation of the Commercial Fishing Steering Group

Representatives from PWD reached out in June 2016 to a group of commercial fishermen and processors to start a conversation about Tuna Harbor, commercial fishing in the Port of San Diego, the Seaport redevelopment project, and how each could benefit from the other. On August 24, 2016 a Steering Committee of fishery representatives and other stakeholders was formally established. The initial makeup of the Commercial Fishing Steering Committee included the following individuals:

Group	Primary	Alternate
Aquaculture	Norm Abell	Don Kent
Blue Tech	Greg Murphy	Michael Jones

⁸³ *Id* @ 61. Edited to scale to make it easier for the reader.

Buyer, processor	Shevis Shima	Dave Rudie
Tuna Harbor Fishermen- Bait	Matt Everingham	Marcus/Jason Dunn
Tuna Harbor Fishermen- Trap	Dan Major	
Tuna Harbor Fishermen- Dive	Peter Halmay	
Tuna Harbor Fishermen- Net	Dave Haworth	
Tuna Harbor Dockside Market	Peter Flournoy	Pete Halmay
Driscoll's Wharf Fishermen- Net	Donald Krebs	
Driscoll's Wharf Fishermen- Trap	Phil Harris	Eric Krebs
Driscoll's Wharf Fishermen- Dive	Mitch Hobron	
Driscoll's Wharf Fishermen-Line/Longline	Dave Stephens	Peter Grillo
American Albacore Association	Mike Conroy*	Natalie Webster
Developer's Team		
Gafcon	Yehudi "Gaf" Gaffen	William Morrison
ABBA Project Management	Alex Buggy	
Allegis Development Services	Kip Howard	
California Sea Grant	Dr. Theresa Talley	
Local food systems	Cynthia Quinonez	Sarah Shoffler
*Committee Chair		

Since then, the Steering Group has met over fifty times with Port personnel attending most of those as valuable participants. A wide range of opinions have been expressed. Progress, in addressing the complex issues, has been made and trust has been building within the group. Everyone agrees that a vibrant working waterfront will work to everyone's benefit. Before the October 2016 Board of Port Commissioner's Meeting, the Steering Group drafted and distributed an Op-Ed summarizing its consensus. Though not published by the *San Diego Union-Tribune*, the statement received favorable feedback from the Commissioners. The content of the Op-Ed is just as applicable today. It read, as follows:

*COMMERCIAL FISHERY STAKEHOLDERS ORGANIZE AROUND FUTURE OF FISHING
IN SAN DIEGO*

At the heart of downtown San Diego's iconic waterfront skyline sits one of the most important pieces of critical infrastructure for the future of our local, sustainable fisheries. Tuna Harbor, near Seaport Village, is one of the last two commercial fishing marinas in San Diego Bay and doubles as a public theatre for San Diego's Blue Economy.

Tuna Harbor, a once thriving and bustling port, is where commercial fishermen have offloaded their catch, mended their nets and moored their boats for decades. And for the last two years, it is also where hundreds gather every Saturday morning to buy fresh, responsibly-sourced seafood directly from our local fishermen, at the Tuna Harbor Dockside Market.

The success of the Fishermen's Market shows the public wants to connect and engage directly with their commercial fishermen through authentic experiences along the working waterfront.

The proposal by Gafcon, part of the Protea Waterfront Development team, to redevelop the Central Embarcadero, hopes to build on the success of the market and the tradition and culture of commercial fishing in San Diego Bay. We hope "Gaf," the principal of Gafcon, delivers on the shared vision of an improved Tuna Harbor that remains a viable harbor dedicated to commercial fishing and commercial maritime use.

This is why over the last six months, our steering committee – made up of local fishermen of all gear types, food system advocates, scientists and BlueTech advocates, – has met with Gaf to define our needs and help guide the development proposal. Gaf has listened intently and has contributed to a promising working relationship with the fishermen to optimize the redevelopment project. We hope these efforts continue to lead to positive outcomes for fisheries, consumers, and for a stronger, bluer San Diego.

As fishermen we are independent by nature, spend most of our days at sea and are generally skeptical of anyone in a suit-and-tie. It is difficult for us to organize and convene in one place at one time. However, when livelihoods are on the line and our city's future as a sustainable seafood hub hangs in the balance, it is remarkable how much we can accomplish by working together.

And that is the real benefit of having started this stakeholder process. We are organized and working together, even if tie-less, and we hope the Port of San Diego recognizes value in our collaboration and agrees to formalize a Forum for supporting San Diego's fishing economy when Commissioners vote on October 13th.

VI. San Diego's Commercial Fishing Community

Before describing San Diego's commercial fishing community, the reader needs to have a better understanding of what a fishing community is. A good starting point is looking at what that term means under applicable Federal and State laws and policies

Federal Law

The MSA defines a **fishing community** as "a community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community."⁸⁴

Included with the MSA are ten National Standards for fishery conservation and management. National Standard 8 takes into account the needs of fishing communities (16 U.S.C. 1851(a)(8)) and reads as follows:

⁸⁴ 16 U.S.C 1802(17)

“Conservation and management measures shall, consistent with the conservation requirements of this chapter (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities by utilizing economic and social data that meet the requirements of paragraph (2), in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.”

State Law

Unlike the Federal arena, the State’s Fish and Game Code and Title 14 of the California Code of Regulations do not provide depth or detail on the State’s Fishing Communities. An exception exists in Section 8280 of the Fish and Game Code which speaks to the importance of the Dungeness Crab fishery to “coastal communities of the state⁸⁵”.

In July of 2016, the Fish and Game Commission hosted the first of eight meetings focused on the needs and challenges of the State’s coastal fishing communities. In July of 2018, the Commission released its Coastal Fishing Communities Project Report⁸⁶.

In an email, Valerie Termini, Executive Director of the Ca FGC, offered the following thoughts on the importance of fishing communities to the State:

“Commercial fishing is an important part of California’s history, economy and culture; however, overall commercial fishing in California has declined significantly over the last 30 years, making it difficult for many fishermen to make a living and discourages new investment and new business initiatives. Ensuring the resilience of California’s Coastal fishing communities is a priority of the Fish and Game Commission and of the State. Given the many threats to California’s marine ecosystems and these communities, we need lasting partnerships with fishermen and local officials to make sure we are planning efficiently for the future to ensure that we are meeting these challenges head on.”

San Diego’s Commercial Fishing Community

There is one portion of Ms. Termini’s statement that bears repeating. “* * *we need lasting partnerships with fishermen and local officials to make sure we are planning efficiently for the future to ensure that we are meeting these challenges head on.”

A. Contributions of the San Diego Commercial Fishing Community

San Diego’s commercial fishing community has contributed tremendously to the identity, economic vitality, and future progress of the city. The leaders of the San Diego Fishing Community have worked closely with County Officials, State Legislators (Pacific-to-Plate Bill); Port leadership and staff; local business leaders; local seafood consumers, chefs and fish buyers; local education facilities; local scientists and local food movements to build a responsible, local seafood system in order to provide the community with fresh, healthy seafood while making fishing in southern California a viable, respected career again.

The success of the Tuna Harbor Dockside Market and its status as a model for other fishermen’s markets throughout the state, the positive public response to local commercial

⁸⁵ Ca Fish and Game Code §8280(a)

⁸⁶ <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=160453&inline>

fishermen and their products, the clout carried by the fishermen, etc. reflect the public value and demand for local fisheries and a local seafood system. These efforts have laid the foundation from which a revitalization of the local fishing industry can build. Still needed are:

- Adequate and additional infrastructure is needed to make San Diego competitive with other Ports located in the Southern California Bight.
- New ways to attract the next generation of San Diego's commercial fisherman/woman need to be explored and/or supported. For example, a state commercial fisheries apprenticeship program is being developed to train the next generation of fishermen and women in responsible practices, data collection, ethics, and business and marketing.
- Revisions to management and/or regulations that allow new entrants while maintaining protections to existing permittees, portfolio fishing instead of reliance on few fisheries, streamlined incorporation of fishermen-collected data into fisheries management decisions, co-management, incentives for participation in training programs and data collections.
- The recently reformed San Diego Fishermen's Working Group ("SDFWG") should be utilized in a way which will give the fishermen a real say and interest in operations for those areas where there is a commercial fishing presence. This will necessarily include representing the interests of the San Diego fishing community in terms of negotiations with the Port or other Master Leaseholder(s), infrastructure management, potential quota ownership if/when Individual Transferrable Quota (or other Catch Share) Systems are adopted for fisheries utilizing San Diego, and to participate in management activities of State and Federal fisheries.

B. Innovations by San Diego Commercial Fishermen

San Diego fishermen have always demonstrated initiative in addressing concerns associated with their fisheries. For example, as noted under Part I, local fisherman Harold Medina developed the "Medina Panel" to protect dolphins from becoming entangled in purse seine nets deployed while targeting Yellowfin Tuna.

Another example is the testing and development of DSBG/LBG. In an effort to develop and design a more-selective gear type for swordfish and other highly migratory species, San Diego-based fishermen (along with Dr. Chukey Sepulveda from the Pflieger Institute of Environmental Research) have been at the forefront. As a result of the hard work of Chukey, Kelly Fukushima, Donald Krebs and others, the PFMC is fast-tracking the authorization of these gear-types to offer harpoon and drift net fishermen another tool in their arsenal.

Deep Set Buoy Gear (see Fig 2.4 below)

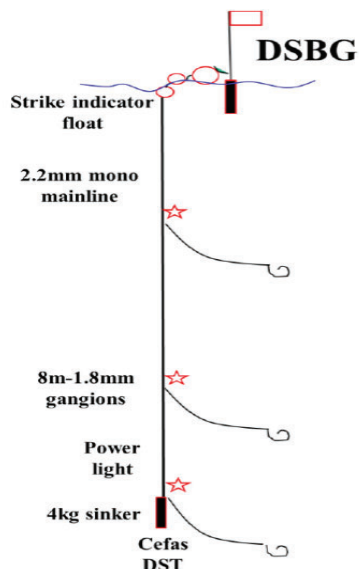


Fig 2.4 – Standard Deep Set Buoy Gear configuration. From Pacific Fishery Management Council - EFP Application Template Attachment⁸⁷

Standard DSBG involves a mainline, with up to three hooks, attached to a float/flag. One distinct advantage of this gear type is that the hooks are fishing below the thermocline which minimizes opportunities for interactions with sharks, sea turtles and most marine mammals. When a fish takes a baited hook, the strike indicator buoy notifies the fisherman. This allows the fisherman to quickly bring the fish to the surface while still alive. The fish can then be processed much more quickly, which often commands a higher price. If a non-marketable species takes a baited hook, the probability of a live release is high.

Linked Buoy Gear (see Fig 2.5 below)

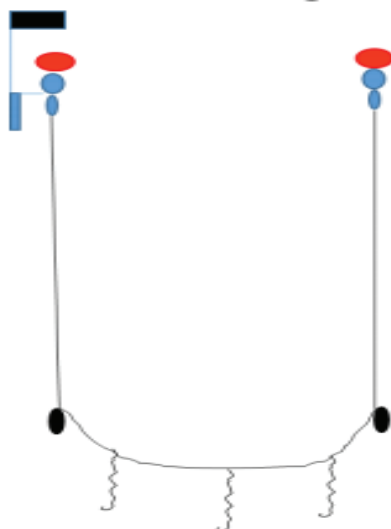


Fig 2.5 – Standard Linked Buoy Gear configuration. From March 2017 Pacific Fishery Management Council Briefing Book⁸⁸

⁸⁷ See Page 2 - http://www.pcouncil.org/wp-content/uploads/2017/07/DSBG_EFP_Application_Template_Attachments_170707.pdf

⁸⁸ http://www.pcouncil.org/wp-content/uploads/2017/02/J3_Att1_PIER_LBG_EFP_App_Resubmission_Mar2017BB.pdf

With LBG the baited hooks are not on the mainline, but rather are linked with a second buoy. All the advantages associated with DSBG are equally applicable here. An additional advantage over DSBG is that all the hooks are capable of being fished at roughly the same depth. At present, a maximum of 30 hooks are allowed.

C. Personal Stories of San Diego Fishermen

Peter Halmay

Since he arrived to help start the San Diego sea urchin fishery in 1975, Pete Halmay has been a fixture in the San Diego commercial fishing scene. Within ten years of his arrival, the sea urchin fishery became California's number one fishery by value and volume. An urchin diver by trade, Pete is probably better known for his tireless efforts advocating for commercial fisheries and commercial fishermen. On August 21, 2017, Pete was presented with an award from the Pacific States Marine Fisheries Commission, based in part on these efforts. In addition, Pete has co-authored papers on sea urchin fishery management that were published in peer reviewed scientific publications. He has been quoted in *Yale Environment 360*, published at the Yale School of Forestry & Environmental Studies.⁸⁹

Pete is a founding member of the Tuna Harbor Dockside Market and is there every Saturday morning selling his urchins and telling his stories. Pete is also a founding member, and current President, of the SDFWG.

Pete is influential with other local fishermen, helping to establish a higher degree of unity and cohesiveness among the various fisheries than is usually seen in fishing communities. An example of Pete's foresight is his current work with California Sea Grant/Scripps and local educational institutions to establish a Commercial Fishing Apprenticeship Program. It is intended to build the next generation of commercial fishermen and women and give program participants a competitive advantage over others who haven't been through the program.

Pete has also been instrumental in ensuring that San Diego's commercial fishermen are kept up to date on developments related to the proposed Central Embarcadero development project.

Dan Major

Dan Major has been a valuable member of the San Diego commercial fishing community for over twenty years. Owner and operator of F/V Plan B, Dan is a mainstay at the Tuna Harbor Dockside Market. Dan has a footprint in quite a few fisheries. In addition to California Spiny Lobster, Dan also harvests Spot Prawns, Kellet's Whelk, Rock Crab, local Groundfish stocks⁹⁰ such as Thornyhead, Blackgill and Black Cod, highly migratory species (when available), Bonito, California Yellowtail, etc. This allows Dan the flexibility to opportunistically harvest from a diverse suite of fisheries depending on which fishery is open, what is available, and

⁸⁹ http://e360.yale.edu/features/in_novel_approach_to_fisheries_fishermen_manage_the_catch

⁹⁰ The PFMC's Groundfish Fishery Management Plan (FMP) contains more than 90 species organized into several sub-fisheries, including 1) the Dover sole, thornyheads, and sablefish (DTS) complex; 2) nearshore rockfishes, lingcod, and cabezon; 3) shelf and slope rockfishes; 4) flatfishes; and 5) Pacific hake (whiting).

what is economically more viable at the time. Dan is also at the forefront of potential emerging fisheries such as Octopus and Box Crab.

Dan and his wife Kelli are the owners of Plan B Sustainable Fisheries, LLC, a fitting name given the sustainable nature of the fisheries in which Dan participates. Dan and Kelli have taken an active leadership role within the commercial fishing community as it works to ensure the proposed Central Embarcadero redevelopment project will provide benefits to the fishermen and fisheries.

Kelly Fukushima

Kelly has been an active member of the San Diego commercial fishing community for over twenty years. Kelly currently owns the multi-purpose F/V Three Boys which is based in Tuna Harbor. Kelly has participated in the Market Squid fishery as light boat, the swordfish fishery using all allowable gear types, and fisheries targeting other highly migratory species

Like many of his fellow fishermen, Kelly participates in the Tuna Harbor Dockside Market. Kelly's participation in the Market stretches beyond making his catch available to San Diego's seafood shoppers; he and his wife Jolene (with the help of their three children) set up Loaf and Fish, a portable eatery that offers fresh fish sandwiches and tacos to Market patrons. Kelly has also been at the forefront of bypassing the middleman and directly marketing his catch to San Diego chefs.

When the Pflieger Institute of Environmental Research wanted to test a new gear type targeting swordfish, Kelly jumped at the opportunity. Kelly and another San Diego Commercial Fisherman, Donald Krebs, have been instrumental in testing Deep Set Buoy Gear and Linked Buoy Gear which has shown promise in reducing interactions with protected species.

Kelly's commitment to innovation and improvements, both on the water and when marketing his catch, make him a valuable asset to the local San Diego fishing community.

David Haworth

David is a second-generation fisherman, following in his father's footsteps. Though he has operated in most fisheries off the U.S. West Coast, he currently focuses on:

- California Spiny Lobster and Swordfish with the F/V Elizabeth H;
- North Pacific Albacore, Swordfish and Shark with the F/V Sea Haven; and
- Highly Migratory Species (Tunas and Swordfish), Opah and Louvar with the longline vessels F/V Pacific Horizon and F/V Kaylee H.

Each of these vessels utilizes different aspects of the Port of San Diego. All of David's vessels are berthed in Tuna Harbor when not out gathering fresh, locally sourced, sustainable seafood. The Elizabeth H is berthed in Tuna Harbor and sells its catch to local seafood buyers. The Sea Haven is also berthed in Tuna Harbor and sells most of its catch locally. However, because adequate facilities do not now exist in San Diego Harbor to support the Albacore fishery, it unloads Albacore in ports such as Los Angeles or Ventura when the Sea Haven is fishing in local waters. Both the Pacific Horizon and Kaylee H offload a portion of their catch at Driscoll's Landing and Tuna Harbor; timing this operation must be carefully planned, however, as both vessels run the risk of getting stuck on the bottom while offloading at Driscoll's at low

tide. Waiting for the next high tide can cost them a day of fishing. David's vessels sell their product to several buyers, including San Diego-based Santa Monica Seafoods and Catalina Offshore.

David is also active as an advocate for these fisheries; he serves as the California Commercial Representative on the PFMC's CPS Advisory Subpanel, and he is also Vice President of the California Wetfish Producers Association⁹¹ and Vice President of the California Pelagic Fisheries Association.

David is also a manager of the Tuna Harbor Dockside Market, where visitors will often see Tuna, Opah and other fish available from his vessels at his booth.

David is upbeat about the future of commercial fishing in the Port of San Diego. With increased opportunities and suitable infrastructure, much better days lie ahead for the fishermen. David is helping to create that future; he currently has Exempted Fishing Permits under consideration for Deep Set Buoy Gear and Linked Buoy Gear as he hopes to help determine if these gear types offer an economically viable supplement to traditional gear used for harvesting swordfish off the West Coast. David also has an EFP under consideration to test whether improvements to longline fishing practices will result in bycatch levels considered acceptable. Longlines have been prohibited off the U.S. West Coast since 2002⁹².

Jack Webster

Long before Jack Webster and his wife Natalie started the American Albacore Fishing Association ("AAFA") and then American Tuna, Inc., Jack was a well-respected captain of sportfishing vessels operating out of San Diego. Jack left the sportfishing world and focused, full-time, on pole-and-line albacore and how best to catch and market the product.

Capitalizing on his sportfishing experience, Jack was soon a highliner in the competitive albacore fishery. His travels took him everywhere from the South Pacific to Alaska. These days the North Pacific Albacore fishery off the U.S. West Coast takes place, primarily, between Northern California and the U.S./Canada border. There are exceptions however; in the early to mid-2000s a large biomass of Albacore took a more southerly migratory route, and seamounts close to San Diego were productive areas.

In 2007, AAFA was the first tuna fishery in the world to achieve Marine Stewardship Council ("MSC") certification – which it continues to hold to this day. In June of 2018, the AAFA/WFOA North Pacific Albacore fishery was issued its third certificate⁹³. This offered AAFA-harvested Albacore a competitive advantage over similar Tuna products which weren't similarly certified.

VII. Commercial Fishing in San Diego – Tomorrow and Into the Future

The U.S. is a net-importer of seafood. "The United States is the leading global importer of fish and fishery products, with about 90 percent of the seafood we eat (by value) originating abroad – half of

⁹¹ The California Wetfish Producers Association's mission is to protect fishery resources and access, enhance communications and education, and sponsor cooperative research.

⁹² <http://www.pcouncil.org/wp-content/uploads/1102decisions.pdf>

⁹³ <https://fisheries.msc.org/en/fisheries/aafa-and-wfoa-north-pacific-albacore-tuna/>

which is from aquaculture. Driven by imports, the U.S. seafood trade deficit grew to over \$14 billion annually.⁹⁴

San Diego's seafood industry stands ready to address this deficit. In addition to additional opportunities for capture fisheries discussed in this Report, the Port and local aquaculturists are working to reduce barriers to entry and obtain necessary approvals provide products to the domestic marketplace. In terms of developing aquaculture, the U.S. is far behind less-developed nations; primarily because red tape associated with such facilities and operations; and the lack of coherent governmental policies supporting and promoting aquaculture in State and Federal waters. Conversations are taking place as is evidenced by the recent Workshop entitled, Pathways Toward Responsible Aquaculture in California⁹⁵. Fishermen in the State need to be viewed as important Stakeholders in the future. Careful collaboration between hopeful aquaculturists and the State's fishing interests is necessary to plan and site potential locations that minimize, to the greatest extent possible, potential conflicts that result in a net loss of important fishing grounds.

A. Opportunities for Growth: *Effects of Regulations*

The cost of producing seafood is higher for U.S. domestic vessels, in part, because legislation and regulations which result in increased management and monitoring costs for domestic fishermen. Foreign fishing operations, typically, do not have these burdensome costs, giving those nation's fisheries a competitive advantage.

The U.S. Government has taken a number of actions designed to level the playing field for domestic harvesters San Diego's commercial fishermen can significantly take advantage of opportunities likely to result from these two important actions.

1. Regulations implementing the import provisions of the Marine Mammal Protection Act.

Section 101 of the MMPA⁹⁶ forbids the import of certain fish and fish products "which have been caught with commercial fishing technology which results in the incidental kill or incidental serious injury of ocean mammals in excess of United States standards." In August 2016, NMFS published a final rule implementing the fish and fish product import provisions of the Act⁹⁷. This rule was effective on January 1, 2017 and gives harvesting nations five years to comply with the rule's requirements.

Under this rule, fish or fish products can only be imported into the United States if the harvesting nation has applied for and received a comparability finding from NMFS. Each of the harvesting nation's export fisheries are analyzed based upon (1) the number of vessels in the fishery, (2) target species of the fishery, (3) if there is a defined fishing season and/or fishing area, and (4) the gear-type used in prosecuting that fishery. How this determination is made is beyond the scope of this document; but can found at 50 CFR 216.24(h)⁹⁸. If a harvesting nation

⁹⁴ <https://www.commerce.gov/news/blog/2015/11/innovation-and-entrepreneurship-fisheries-conservation-and-management>

⁹⁵ <https://caseagrant.ucsd.edu/events/pathways-toward-responsible-aquaculture-in-california>

⁹⁶ 16 USC 1371

⁹⁷ 81 FR 54390; August 15, 2016 – see <https://www.gpo.gov/fdsys/pkg/FR-2016-08-15/pdf/2016-19158.pdf>

⁹⁸ See - https://www.ecfr.gov/cgi-bin/text-idx?SID=59942341c788c9bea30cd102128628a4&mc=true&node=se50.10.216_124&rgn=div8

does not receive a comparability finding for a specific fishery by Jan 1, 2022, the fish and fish products from that fishery will not be allowed entry into the United States.

U.S. fishermen have had to endure several significant restrictions based upon interactions with Marine Mammals and other protected species⁹⁹. This has placed U.S. fishermen at a competitive disadvantage over their foreign counterparts in terms of access to fisheries and the costs of providing seafood to the consuming public. In August 2017, NMFS published its first draft List of Foreign Fisheries¹⁰⁰. One important point in that document is that many fish and fish products which are currently imported into the U.S. will no longer be allowed entry after Jan 1, 2022, thereby creating opportunities and public demand for approved seafood caught domestically and, in particular, in the San Diego region. As the data above has shown, San Diego is becoming a destination port for longline vessels unloading their catch in California. With recommended improvements in infrastructure (see Part III), there is a very real possibility that more vessels could take advantage of San Diego for their land-based operations (unloading, provisioning, fueling, maintenance, etc.)

On March of 2018, a collection of environmental groups filed a lawsuit in the United States Court of International Trade to ban the import of fish or fish products from any Mexican commercial fishery that uses gillnets within the vaquita's range.¹⁰¹ Only July 26, 2018 the Court agreed with Plaintiffs and granted, "plaintiffs' motion for a preliminary injunction requiring the Government, pending final adjudication of the merits, to ban the importation of all fish and fish products from Mexican commercial fisheries that use gillnets within the vaquita's range¹⁰².

With proper planning, San Diego can reap the benefits from the banning of imports of specific fish and fish products and the likely increase in the costs of allowable imports as foreign fisheries adopt management measures which are comparable in effectiveness to U.S.-based fisheries.

2. Regulations implementing the Seafood Import Monitoring Program ("SIMP")

Illegal, Unreported and Unregulated (IUU) fishing is a major problem worldwide. In 2015, the Illegal, Unreported, and Unregulated Fishing Enforcement Act of 2015 was signed into law¹⁰³. This legislation¹⁰⁴ adopted the definition of "IUU Fishing" created by the United Nations' Food and Agriculture Organization (FAO). The 2001 FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing defines IUU fishing as follows¹⁰⁵:

3.1 Illegal fishing refers to activities:

- 3.1.1 Conducted by national or foreign vessels in waters under the jurisdiction of a State, without the permission of that State, or in contravention of its laws and regulations;

⁹⁹ Time and area closures, gear modifications, requirement to carry observers, etc

¹⁰⁰ See - <https://www.gpo.gov/fdsys/pkg/FR-2017-08-22/pdf/2017-17671.pdf>

¹⁰¹ <https://www.biologicaldiversity.org/species/mammals/vaquita/pdfs/Vaquita-Complaint.pdf>

¹⁰² See - https://www.cit.uscourts.gov/SlipOpinions/Slip_op18/18-92.pdf

¹⁰³ Public Law No: 114-81

¹⁰⁴ 16 USC §7402(2)

¹⁰⁵ FAO. *International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing*. Rome, FAO. 2001. 24p. See <http://www.fao.org/docrep/003/y1224e/y1224e00.htm>

- 3.1.2 conducted by vessels flying the flag of States that are parties to a relevant regional fisheries management organization but operate in contravention of the conservation and management measures adopted by that organization and by which the States are bound, or relevant provisions of the applicable international law; or
- 3.1.3 in violation of national laws or international obligations, including those undertaken by cooperating States to a relevant regional fisheries management organization.

3.2 Unreported fishing refers to fishing activities:

- 3.2.1 which have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations; or
- 3.2.2 undertaken in the area of competence of a relevant regional fisheries management organization which have not been reported or have been misreported, in contravention of the reporting procedures of that organization.

3.3 Unregulated fishing refers to fishing activities:

- 3.3.1 in the area of application of a relevant regional fisheries management organization that are conducted by vessels without nationality, or by those flying the flag of a State not party to that organization, or by a fishing entity, in a manner that is not consistent with or contravenes the conservation and management measures of that organization; or
- 3.3.2 in areas or for fish stocks in relation to which there are no applicable conservation or management measures and where such fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources under international law.

NMFS issued a final Rule implementing the Seafood Import Monitoring Program (“SIMP”)¹⁰⁶ in December 2016. The final rule “establishes permitting, reporting and recordkeeping procedures relating to the importation of certain fish and fish products, identified as being at particular risk of illegal, unreported, and unregulated (IUU) fishing or seafood fraud, in order to implement the MSA’s prohibition on the import and trade, in interstate or foreign commerce, of fish taken, possessed, transported or sold in violation of any foreign law or regulation or in contravention of a treaty or a binding conservation measure of a regional fishery organization to which the United States is a party.”¹⁰⁷

The Rule will initially be applicable to certain species believed to be at particular risk of IUU fishing or other seafood fraud (for example, mislabeling). These are: Abalone, Atlantic Cod, Blue Crab (Atlantic), Dolphinfin (Mahi Mahi), Grouper, King Crab (red), Pacific Cod, Red Snapper, Sea Cucumber, Sharks, Shrimp, Swordfish and Tunas (Albacore, Bigeye, Skipjack, Yellowfin, and Bluefin).

¹⁰⁶ <https://www.gpo.gov/fdsys/pkg/FR-2016-12-09/pdf/2016-29324.pdf>

¹⁰⁷ 81 Fed Red 88975

Under the SIMP, the full supply chain will be traceable from harvest to Point of Entry into the U.S. In August 2017, a Federal Court judge threw out a challenge to the SIMP brought by several U.S.-based seafood importers, processors, and harvesters¹⁰⁸. As a result, the SIMP went into effect January 1, 2018.

B. Opportunities for Growth: *Changing Consumer Behavior*

Consumer trends in buying seafood are changing. The success of San Diego's Tuna Harbor Dockside Market ("THDM") as well as the support and involvement of the local San Diego Community (Slow Food Urban San Diego, etc.) is indicative of this movement. Other local fishing communities are following San Diego's lead, and establishing fishermen's markets. For example, there are now fishermen's markets in Santa Barbara, Ventura and Newport Beach.

Throughout California more and more Community Supported Fishery organizations are being created. The group LocalCatch.org "is a community-of-practice that is made up of fisherman, organizers, researchers, and consumers from across North America that are committed to providing local, healthful, low-impact, and economy sustainable seafood via community supported fisheries (CSFs) and other direct marketing arrangements."¹⁰⁹ Its website lists 195 Community Support Fishery organizations within California alone. Examples include:

Community Seafood, in Santa Barbara (<http://www.communityseafood.com/>)

Real Good Fish, in the Monterey and San Francisco Area (<https://www.realgoodfish.com/>)

Dock-to-dish, with locations across the U.S. and internationally (<https://docktodish.com/who-we-are/>)

C. Opportunities for Growth: *Existing Fisheries*

Fish harvested by San Diego's commercial fishermen are those that buyers and processors can typically move. There is a healthy mix of Artisanal fisheries, Industrial fisheries and Middle Ground fisheries making landings in San Diego.

Artisanal Fisheries

The FAO defines "Artisanal Fisheries" as "a simple, individual (self-employed) or family type of enterprise (as opposed to an industrial company), most often operated by the owner (even though the vessels may sometimes belong to the fishmonger or some external investor), with the support of the household. The term has no obvious reference to size but tends to have a connotation of relatively low levels of technology; but this may not always be the case. The definition varies between countries, for example from gleaning or a one-man canoe in poor developing countries to more than 20m trawlers, seiners or long-liners in developed ones (e.g. in Europe)."¹¹⁰

Examples include many of the fisheries pursued by San Diego-based commercial fishermen: California Spiny Lobster, Spot Prawn, Red Sea Urchin, Swordfish harvested by DSBG/LBG or Harpoon, etc.

¹⁰⁸ ALFA Seafood International Seafood et al v Wilbur L. Ross, Jr., et al (2017) Memorandum Opinion August 28, 2017. See https://ecf.dcd.uscourts.gov/cgi-bin/show_public_doc?2017cv0031-87.

¹⁰⁹ See - <https://localcatch.org/about/>

¹¹⁰ Garcia, S.M. (Comp.). 2009. Glossary. In Cochrane, K. and S.M. Garcia. (Eds). A fishery managers' handbook. FAO and Wiley-Blackwell:473-505.

Industrial Fisheries

While not formally defined by the FAO, Industrial Fisheries are typically thought to be large scale operations with high levels of technology, investment and relative impact. They typically travel greater distances, stay out for longer periods of time and land high levels of product. Historically, these types of fisheries also primarily provided fish for reduction purposes (making of fish meal and/or oils).

Examples include longline vessels landing into San Diego and the purse seine component of the CPS fishery occurring in the Southern California Bight.

Middle-Ground Fisheries

Middle-Ground Fisheries are a new concept. They cover the area that falls between artisanal and industrial. In a recent presentation Dale Squires, Socio-economics Staff Leader with the Southwest Fisheries Science Center, described them as providing, “High quality, high value products that are also caught in an environmentally sustainable manner and bring high social benefits to the fishers and their communities.”

Often cited as the primary example of a middle-ground fishery is the pole-and-line albacore fishery which operates off the U.S. West Coast. It is likely, the driftnet Swordfish fishery would fall under this label as well.

D. Opportunities for Growth: *Aquaculture*

The Journal *Nature Ecology and Evolution* published a study on August 14, 2017 authored by marine scientists from the University of California, Santa Barbara, along with researchers from The Nature Conservancy, NOAA, and the University of California, Los Angeles, which highlighted the potential for aquaculture around the world.¹¹¹

While the focus of the study appears to be centered on “the biological production potential for marine aquaculture across the globe,” it contains some generalized statements on the need for, viability of, and benefits associated with aquaculture, including:

- Fish farming is the fastest-growing food sector in the world. Possible supply (15 billion metric tons [mt] of Finfish) would exceed current consumption by almost 100 times.
- Marine aquaculture is more environmentally friendly than land-based meat production and the human health benefits of diets rich in fish make it even more pressing that we consider aquaculture’s potential.
- There are two primary forms of aquaculture:
 - Fed aquaculture, where an external food source is needed to bring product to market (for example, the Tuna pens off the coast of Baja California and Salmon farming activities in the Pacific Northwest); and
 - Unfed aquaculture, where nutrients needed for growth come from the ocean itself (for example, shellfish farms off the U.S. West coast).

¹¹¹ <https://www.nature.com/articles/s41559-017-0257-9>

- Current marine finfish aquaculture production is concentrated in Norway, Chile and China.
- In analyzing locations for their aquaculture potential, “there are important additional environmental and socioeconomic factors that would rule out seemingly suitable space. For example, a more refined assessment may exclude environmentally sensitive or high biodiversity areas, such as coral reefs. Other areas might be avoided due to economic considerations, such as the distance to ports, access to markets, shoreside infrastructure, and intellectual or business capital. The social interactions with wild fisheries, jobs, prices and cultural heritage should also be taken into consideration. Other uses of these areas, such as by the military or for energy production, may also limit the available space.”
- Other limitations which impact potential siting of aquaculture facilities include:
 - Marine Spatial Planning and conflicts with existing users (Marine Protected Areas, shipping lanes/channels)
 - Manmade structures (oil rigs, pipelines, offshore wind farms, etc);
 - Ocean conditions (hypoxic areas, ocean acidification, harmful algal blooms, etc);
 - Water depth, clarity, temperature, plankton productivity for unfed aquaculture.
- When specifically addressing issues limiting aquaculture expansion in the United States, the study’s authors noted, “regulatory inefficiency and uncertainty has contributed to limited marine aquaculture development in the United States, a country with high growth potential and large seafood markets mostly served by imports. While recent strides have been made to improve the permitting process in federal waters (notably the 2016 implementation of the Gulf of Mexico Fishery Management Plan for Offshore Aquaculture), significant social, economic and governance hurdles remain.” Recent events, including the release of more than 160,000 Atlantic Salmon into waters in Washington State, may also exacerbate the adoption of aquaculture in North America (see Fig 2.6.)

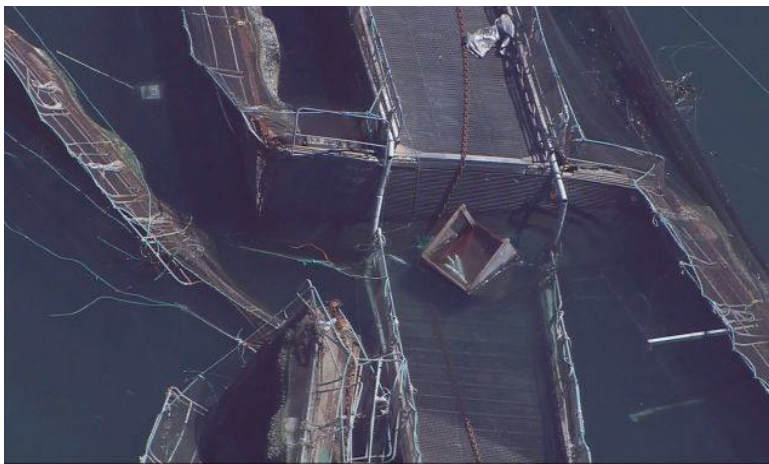


Fig 2.6 - Photo of damage to the net pen from KIRO7 website.

A net pen located off Cypress Island, Washington was severely damaged on or about August 19, 2017. At the time, the pen was holding an estimated 305,000 Atlantic Salmon, a species not indigenous to the Pacific Coast. At first, the operators of the facility blamed the event on super-high tides due to the Solar Eclipse. They later backed off this when numerous reports came out about the state of disrepair of the facility, and an oceanographer with the University of Washington

stated, “there were large tidal ranges around the day of the eclipse, but not out of the ordinary, and in fact they were smaller than during some recent months.”¹¹²

State and Tribal officials were quick to urge the public to catch as many of the fish as possible noting that no size limit or bag limits were in place for the invasive species.

On August 26, 2017 Washington Governor Jay Inslee and State Commissioner of Public Lands Hilary Franz issued a moratorium on any new or pending permits for fish farming in Washington while the State investigates why the net pen facility failed¹¹³. On March 22, 2018 Governor Inslee signed into law HR 2957 which phases out net-pen aquaculture for non-native species in Washington State waters¹¹⁴.

Opponents of fish farm facilities will surely capitalize on this disaster in future efforts to stop similar facilities elsewhere.

Aquaculture in California

Fish and Game Code Section 17 defines Aquaculture as “that form of agriculture devoted to the propagation, cultivation, maintenance, and harvesting of aquatic plants and animals in marine, brackish, and fresh water. ‘Aquaculture’ does not include species of ornamental marine or freshwater plants and animals not utilized for human consumption or bait purposes that are maintained in closed systems for personal, pet industry, or hobby purposes, however, these species continue to be regulated under Chapter 2 (commencing with Section 2116) of Division 3.”¹¹⁵

Fish and Game Code Section 54.5 defines Marine Finfish Aquaculture as “the propagation, cultivation, or maintenance of finfish species in the waters of the Pacific Ocean that are regulated by this state.”¹¹⁶

Division 12 of the Fish and Game Code (Sections 15000 – 15703) is dedicated to Aquaculture. In addition, Chapter 9 of Title 14 of the California Code of Regulations is also dedicated to Aquaculture. The California Aquaculture Development Act is found in Sections 825 – 830 of the Public Resources Code.

In 2012, there were 158 Registered Aquaculturists in the State. By 2016, this number had dropped to 139¹¹⁷, only 60 of which had gross sales exceeding \$25,000¹¹⁸. This may well be due largely to the State’s legislative and regulatory environment, which is overwhelming,

¹¹² See - <https://www.seattletimes.com/seattle-news/environment/fish-spill-bigger-than-initial-estimates-farm-destroyed/>

¹¹³ <https://www.governor.wa.gov/news-media/state-agencies-initiate-incident-command-address-atlantic-salmon-net-pen-escape>

¹¹⁴ <https://www.undercurrentnews.com/2018/03/22/cooke-activists-wrap-up-lobbying-as-washington-governor-mulls-fish-farm-ban-bill/>

¹¹⁵ https://leginfo.ca.gov/faces/codes_displaySection.xhtml?lawCode=FGC§ionNum=17.

¹¹⁶ https://leginfo.ca.gov/faces/codes_displaySection.xhtml?lawCode=FGC§ionNum=54.5.

¹¹⁷ Figure 1, CDFW Aquaculture Registrations (calendar years 2012 – 2016) from The Report to the Legislature from the CDFW Aquaculture Program (March 2017). See - <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=141404&inline>

¹¹⁸ The State adds a surcharge to registrations for “registered aquaculture facility whose total gross sales were at least \$25,000 during the previous registration year.”

burdensome and confusing. As a result, some aquaculturists are setting up operations outside of State waters¹¹⁹; for example, Catalina Sea Ranch is “the first federally permitted and operational aquaculture facility located 6 miles offshore in U.S. Federal waters¹²⁰.”

In the fall of 2017, roughly thirteen shellfish facilities are currently operating in State waters, in Tomales Bay, Humboldt Bay, Morro Bay, Santa Barbara, and Carlsbad Lagoon. One such facility is Santa Barbara Mariculture in Santa Barbara, CA. Operated by Bernard Friedman, Santa Barbara Mariculture has been successful in its mission “to provide sound environmentally grown shellfish as fresh and local as possible.¹²¹” In a recent conversation, Bernard expressed his opinion that we need to do what we can to support and promote, rather than hinder, similar aquaculture facilities within the State. Bernard offered the following thoughts, insights and suggestions:

- The absence of a centralized Agency for permitting, approvals, etc. is burdensome. All of the following Agencies currently play important roles in the process:
 - California Coastal Commission is the gatekeeper for proposed aquaculture facilities;
 - The California Fish and Game Commission negotiates and offers final approval on leases of state water bottoms for Aquaculture;
 - The Army Corp of Engineers;
 - Regional water quality control boards; and
 - Local governments.
- Economies of scale and advantages can be realized by having facilities spread out along the coast. For example, with only one aquaculturist in a specific area, it can be hard to track and respond to environmental conditions which may negatively impact harvest. These include early spawns for shellfish (which tends to reduce quality of the product), trends regarding Domoic Acid, and any changes in the water’s acidity (pH levels) which negatively impact shell formation of seedling product.
- Diversification of products offered is key. Bernard equates aquaculture to land-based farming activities where farmers have flexibility in planting crops which the current environment will best support and best allow to grow to harvest. The successful aquaculturist must be similarly flexible with product and proactively plan for predicted ocean conditions, like El Niño and La Niña events.

A new model for shellfish production is still in the planning process. Ventura Shellfish Enterprise (“VSE”) is seeking approval of a proposal which would create twenty 100-acre plots in a location to be determined between Ventura Harbor and Santa Barbara, California. Originally proposed to be located in State waters, VSE is now considering citing the location in Federal Waters. Fig 2.7 shows the locations originally proposed for this shellfish farm.

¹¹⁹ State jurisdiction extends out three nautical miles

¹²⁰ <https://www.catalinasearanch.com/company>

¹²¹ See - <http://www.sbmariculture.com/>

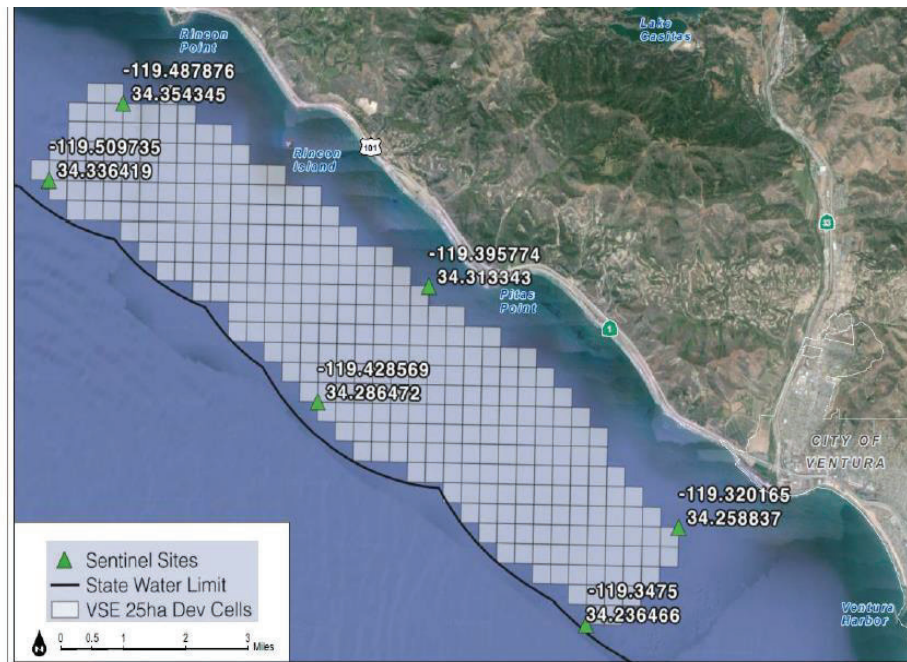


Fig 2.7 – Originally proposed location for Ventura Shellfish Enterprise aquaculture facility

In its Strategic Permitting Plan, the operators¹²² of the proposed VSE project describe a significant benefit: “The proposal to permit a group of twenty 100-acre growing plots allows for participation in the project by potential growers who might otherwise be precluded because of the significant regulatory burden of obtaining the required government approvals. The scale of the project also allows the individual grower/producers to benefit from centralized environmental monitoring, product safety testing, and product marketing. This project as it is scaled is also intended to bolster the working waterfront in Ventura Harbor, providing economic benefits to [Ventura Port District] VPD, its tenants, and the community.¹²³” As an example of how a Port can support such new efforts, the Ventura Port District’s involvement shows its commitment to diversification of seafood products which enter commerce through Ventura Harbor. Presently, the Port is highly dependent on landings of CPS, in particular, market Squid. When the commercial fishery for Pacific Sardine first closed in July 2015, the Port realized its dependence on CPS. By cooperating with the Ventura Shellfish Enterprise, the Port will be the primary landing destination for shellfish harvested in the plots.

After many Stakeholder workshops, the facility may be considering relocating the proposed location from that shown in Figure 2.7 to an area outside State waters in the same general area.

Proposed Finfish Aquaculture Facility in Federal Waters off San Diego.

In 2015, a finfish aquaculture facility was proposed in waters off the San Diego coastline. Notifications of the Permit Application were distributed to the public by the Army Corps

¹²² VSE partners include the Ventura Port District, Coastal Marine Biolabs, The Cultured Abalone Farm, and Ashworth Leininger Group.

¹²³ Ventura Shellfish Enterprise: Strategic Permitting Initiative to Substantially Increase Shellfish Farming in Southern California. 2015 NOAA Sea Grant Aquaculture Extension and Technology Transfer Task 1 Deliverable: Strategic Permitting Plan – May 26, 2017. See - <http://venturashellfishenterprise.com/pdf/VSE%20-%20Task%201%20Strategic%20Permitting%20Plan.pdf>

of Engineers and the U.S. Environmental Protection Agency in early 2015. The proposed Permittee was Rose Canyon Fisheries, Inc., whose partners were Hubbs-SeaWorld Research Institute and Cuna del Mar.

Because of delays in delineating the permitting process and a change in the business priorities of Cuna del Mar, Rose Canyon Fisheries was dissolved in late 2017. The project has since been reorganized and the project proponent is now Pacific Ocean AquaFarms, LLC. New permit applications will be submitted within 2018.

When operational, the farm will begin production at 1,000 metric tons annually and scale up to a maximum of 5,000 tons of California Yellowtail, if all projections of no significant environmental impacts are proven out.

This will be the first open-ocean fish farm in the federal waters of the U.S. It will utilize state-of-the-art fish cages designed to withstand the rigors of the open ocean, maximizing fish health, and minimizing impacts to other user groups and wildlife.

Infrastructure in San Diego Bay will have to be improved to support the offloading of fish produced by Pacific Ocean AquaFarms, which will complement the needs of the existing commercial fishermen. Based on a 2015 study performed by the San Diego Economic Development Corporation for the proposed Rose Canyon Fisheries project, it is estimated that the proposed farm will create about 75 direct jobs, plus 2.5 times as many jobs indirectly¹²⁴.

Additionally, this could, and should, open the door for collaboration and partnerships with the Port's commercial fishermen who have skills, vessels and equipment which could assist Pacific Ocean AquaFarms by harvesting and transporting product from the cages to the dock.

Aquaculture at the Port of San Diego

The Port of San Diego began a new Aquaculture and Blue Technology Program in 2015 to explore new environmental and economic opportunities in the aquaculture and blue technology space. Since then, the Port has been conducting studies, planning, and completing pre-development work to support and inform aquaculture opportunities in and around San Diego Bay. The Port is now taking an active leadership role in expanding the domestic aquaculture industry by facilitating early development of regional marine aquaculture projects.

In 2016, the Port established a Blue Economy Incubator and strategic investment fund to assist in the creation, development, and scaling of new business ventures in and around San Diego Bay, focusing on aquaculture and blue technology. The Incubator represents a launching pad for innovative projects by providing aquaculture and blue tech entrepreneurs with key assets and services such as pilot project facilitation, permit-ready infrastructure, entitlements, market access, and strategic funding. The Blue Economy Incubator is leveraging the commitment from a strategic investment fund of \$1M per year over 5 years to build a sustainable portfolio of new businesses and partners who can deliver multiple benefits to the whole Port community. These could include fisheries enhancement,

¹²⁴ <http://www.sandiegouniontribune.com/sdut-aquaculture-port-2016aug19-story.html>

ecosystem restoration, water quality improvement, environmental monitoring, education and outreach, and economic development.

Aquaculture is a growing opportunity for new business development in Southern California. This opportunity is driven by the need to support development of sustainable domestic marine aquaculture industry. The U.S. currently imports over 90 percent of the seafood it consumes. In economic terms, these imports consistently contribute to a nearly \$14 billion domestic seafood trade deficit each year. Globally, 50 percent of seafood produced comes from aquaculture. Domestically only three percent of seafood produced is from aquaculture. While there is a clear food production component to this demand, aquaculture potentially offers multiple co-benefits, such as fisheries enhancement, ecosystem restoration, mitigation banking, bio-fuel/medical purposes, bioremediation, and education and outreach.

Ports are increasingly playing a critical role in the development of aquaculture, given their expertise, as well as the availability of land and water at ports. As the state-legislated trustee of tidelands and submerged waters of San Diego Bay, developing sustainable domestic aquaculture helps fulfill the Port's public trust responsibility to promote fisheries and commerce, as well as aligning with its mission to enhance and protect the environment.

The Port of San Diego plays a role in developing these ideas. Through the Blue Economy Incubator, the Port partnered with San Diego Bay Aquaculture in June 2017 to demonstrate an accelerated, year-round shellfish nursery operation in San Diego Bay, using Floating Upweller System (FLUPSY) technology. FLUPSYs are floating barges that fit well into marina slips, docks, and other Port-related infrastructure. The FLUPSY barge includes a paddlewheel which circulates water through compartments, or bins holding juvenile shellfish. Surrounding water is moved up through the bins, enabling the seed to grow much more quickly and more uniformly because the young oysters receive a constant supply of food and oxygen in San Diego Bay's warmer waters. An experimental production run of oysters were stocked into the FLUPSY in April, 2018 to test baseline operations. While the oysters are thriving, the paddlewheel movement has been periodically interrupted due to incoming wakes and waves creating a resistance against the paddlewheel that causes it to stop periodically. The project team is implementing new electrical and structural upgrades to prevent this problem for future production runs.

The FLUPSY barge was installed in Tuna Harbor in late November 2017 and began operations in early 2018. The operation will be importing oyster seed (about 3 weeks old), rearing them until they reach approximately $\frac{3}{4}$ " (about 3-4 months old), and then exporting them to final grow-out locations in California or along the Pacific Northwest as far north as Alaska. San Diego Bay's competitive advantage over other northern shellfish nursery sites is the Bay's warm, nutrient-rich water which could reduce seed-to-harvest time by up to one year as compared to northern growers. Shellfish nursery operations present a promising shellfish aquaculture business opportunity as FLUPSY production is fast, efficient, and easily expandable.

To date, the Port's Blue Economy Incubator and strategic investment fund has launched six pilot projects ranging from the FLUPSY, to copper remediation technology, a drive-in boat wash, a smart marina app, a marine debris removal system, and seaweed aquaculture.

E. Opportunities for Growth: *Buyers/Processors/ Local Markets*

In addition to direct sales to chefs, restaurants and the public, there are a number of buyers/processors serving commercial fishermen landing product in San Diego. Two of these are:

Santa Monica Seafoods/Chesapeake - <https://www.santamonicafood.com/>

Santa Monica Seafood is a full-service fresh and frozen seafood processor and distributor based in Southern California. Its mission is to provide the highest quality and selection of seafood products at fair and reasonable prices while recognizing the importance of conservation and maintenance of a healthy environment.

It is the largest seafood-only distributor in the southwestern United States. It was also the first seafood distributor to enter into a formal partnership with the Monterey Bay Aquarium. Additionally, they are the first and, as of late 2017, the only seafood company in the United States to achieve the internationally recognized FSSC 22000 certification on their food safety systems.

Santa Monica Seafoods purchased Chesapeake Fish Co from Prospect Enterprises¹²⁵ in 2015. Santa Monica Seafood, founded in 1939, is headquartered in Rancho Dominguez, CA with additional facilities in Atascadero and San Diego, CA, as well as Las Vegas, NV and Phoenix AZ.

Catalina Offshore Products - <http://catalinaop.com/>

Catalina Offshore Products started more than 40 years ago with one fisherman, Dave Rudie, selling his catch of sea urchins and seaweed directly off his boat. As demand for his products grew, Dave opened a small processing facility in San Diego.

Catalina Offshore Products has since grown steadily into one of the region's premier seafood purveyors. Today, it is the largest buyer of local and sustainable seafood in San Diego. It supplies wholesalers and restaurants across the U.S. and operates a popular fish market and online store¹²⁶. It has also been at the forefront of innovation by developing uses for byproducts of processing and finding uses for all parts of a fish.

Catalina Offshore Products is committed to ensuring that wild fish populations stay in good condition for generations to come, and to working with well-managed fisheries around the world that adhere to strict catch regulations.

As chairman of the PFMC's Highly Migratory Species Advisory Subpanel, Dave is active in the management of the fisheries from which he supplies his clients.

Tuna Harbor Dockside Market

San Diegans were introduced to the future of buying locally harvested, locally landed, fresh seafood when the Tuna Harbor Dockside Market ("THDM") first opened for business on August 2, 2014. Since then THDM has been a mainstay on Saturday mornings when San Diego-based commercial fishermen sell their catch directly to the public. The owners of

¹²⁵ <http://www.fis.com/fis/techno/newtechno.asp?l=e&id=77766&ndb=1>

¹²⁶ <https://store.catalinaop.com/>

THDM, the fishermen who manage it, and the fishermen who sell their product there all agree that THDM is not a Fish Market but a Fishermen's Market. As one individual affiliated with THDM explained, "A fish market sells fish; where and/or who it comes from is of secondary importance. A fishermen's market sells the buyer on the story of the fisherman and the fish he/she provides. Where and who it comes from is of primary importance."

THDM's goals are as follows¹²⁷:

- Provide a framework to reconnect the fishing and aquaculture communities to the public;
- Raise awareness and understanding of a locally caught seafood source;
- Inspire a sense of pride in San Diego's history and culture of commercial fishing;
- Create an awareness of San Diego's working fishing harbor;
- Educate about the environmental benefits of eating underutilized local seafood species;
- Offer a steady and dynamic supply of a wide variety of locally caught seafood; and
- Provide seafood choices that affirm regional cultural traditions, support local communities, and contribute to the health and productivity of natural marine resources

The consumer wins because they are getting a locally-sourced, locally landed seafood product directly from the individual who caught it, often resulting in paying prices lower than they would have paid through typical retail channels. The fisherman/woman wins because they are paid a premium for their hard work, often times a two to three-fold increase over what a wholesaler would have paid. The harvester also wins because it gives them an opportunity to tell their story to the public and to network with chefs, restaurateurs and others to help further their direct marketing efforts. Though it may seem counterintuitive, wholesalers and local fish markets also win because as more San Diegans are exposed to how good fresh seafood is, they have been demanding more local fresh product from their local fish-mongers.

Local restaurants are also promoting and highlighting San Diego commercial fishermen in their menus and elsewhere. Jason McLeod, Chef/Partner at Ironside Fish and Oyster, offered public testimony at the June 2017 PFMC meeting in Spokane, Washington on authorization of Deep Set Buoy Gear' Ironside's menu shows its deep commitment to locally sourced, sustainable seafood from local fishermen and women. See Fig 2.8. Jason's commitment to local seafood was highlighted in an article published by Life & Thyme¹²⁸. "San Diego-caught is standard operating procedure" for Ironside Fish and Oyster.

¹²⁷ See - <http://thdocksidemarket.com/new/> - last visited 12/26/17

¹²⁸ <https://lifeandthyme.com/profiles/jason-mcleod-san-diego-seafood/>



		<i>The Catch</i>	
MARTIN & JORDYN KASTLUNGER F/V RENEE MARIE	CA WHITE BASS	SHELLING BEANS, BACON, LITTLE GEM, BEARNAISE	\$28
ANDY SARASPE F/V SARAH RENEE	CA BLACK COD	CAULIFLOWER FROTH, SPINACH, BUDDHA'S HAND	\$29
KELLY FUKISHIMA F/V 3-BOYS	CA YELLOWTAIL	SCALLION-GINGER VINAIGRETTE, BOK CHOY, CARROT PURÉE, SHITAKE MUSHROOMS	\$29
JOHN LAW F/V WILD WILD WEST			
DAVID & NICK HAWORTH F/V ELIZABETH TL			
LUKE HALMAY SD UNI DIVER			
PETER HALLWAY & NORM ABELL TUNA HARBOR FISH MARKET			
KELLI AND DAN MAJOR F/V PLAN B			
		<i>Veggies</i>	
	CHARRED BROCOLINI	DRIED CHILIS, GARLIC, PARMESAN	\$8.50
	CAULIFLOWER	ANCHOVY BUTTER, PISTACHIO-MINT PESTO	\$8.50
	ROASTED BABY CARROTS	SUMAC YOGURT	\$8.50
	SNOW PEAS	HORSE RADISH BUTTER	\$8.50
	HAND CUT FRIES		\$4.50

Figure 2.8. San Diego Fishermen acknowledged on Ironside Fish and Oyster menu. From https://ironsidefishandoyster.com/wp-content/uploads/2018/05/ironside_menus.pdf (last visited Aug 10, 2018).

Launching THDM was not an easy task. As the owners researched the necessary permits, they realized there were no permits for this type of market; a fishermen's market is not a legally recognized food facility in California. The eventual owners of THDM, The County of San Diego invited food system representatives and scientists and ultimately Assembly Speaker Toni Atkins, worked to draft and help pass AB-226 (The Pacific to Plate Bill) which was signed into law by Governor Brown on October 8, 2015. The Bill, similar to farmers' market permitting, makes it easier to permit, open and operate fishermen's markets¹²⁹ and includes provisions for a cutting booth at the market to increase accessibility to seafood for a wider range of consumers.

THDM still operates one day each week, on Saturdays. There have been ongoing discussions about expanding it to more than one day a week, but due to inadequate infrastructure, the lack of a centralized location for storage of THDM's booths, tanks, etc., and the lack of cold-storage for seafood to be sold at THDM, expansion is not likely in the foreseeable future.

In its first months of operations, 350 customers on average purchased a total of 1.1 tons of seafood worth about \$15,000 each Saturday¹³⁰. THDM operators report that the number of customers, the volumes, and the revenues have increased by roughly 10% each year the THDM has operated. Sales are constrained by a lack of product, not a lack of demand. Other fishing communities which realize the benefits of fishermen's markets are starting to take advantage of the Pacific to Plate Bill. Since the Dockside Market opened, other similar venues have been

¹²⁹ Defined in the Bill as "a location that is operated by a commercial fisherman licensed by the Department of Fish and Wildlife or an entity representing two or more California-licensed commercial fishermen or California-licensed commercial fishermen and California-registered aquaculturists, that sells only raw edible aquatic plants, raw fresh fish, or fresh frozen fish, caught by California-licensed commercial fishermen or harvested by California-registered aquaculturists, directly to consumers. Codified in The Health and Safety Code §113780

¹³⁰ <https://www.kcet.org/food-living/as-fresh-as-it-gets-a-fish-market-run-by-local-fishermen>

started in Santa Barbara (The Saturday Fishermen's Market) and Ventura (Ventura Harbor Dockside Market). They join the Newport Beach Dory Fleet Market in offering seafood consumers an alternative supply chain for their seafood needs.

The THDM has not only been a successful market venture but has contributed greatly to strengthening the local food system by building relationships between seafood producers and consumers. For example, the market has improved public access to fresh, responsibly sourced seafood. The waterfront setting, and presence of fishermen and their families have raised the public's awareness of San Diego's commercial fishing community, industry, fishermen, and the diversity of local, non-mainstream fisheries. It has created relationships between fishermen and local restaurants and institutional chefs who volunteer time at the market and at public events to prepare local seafood for a curious and excited public so that they may become more familiar with the novel palette of seafood.

F. Opportunities for Growth: *Fisheries not currently utilizing the Port of San Diego*

There are important Bight-wide fisheries which do not appear in the San Diego landings in the years analyzed above. One represents an opportunity for increasing the portfolio of fisheries that utilize San Diego for landings. Another is a heritage fishery that helped build San Diego's commercial fishing industry but has been absent because of ocean conditions. Another

The Market Squid fishery (and other CPS fisheries)

Market squid and other CPS fisheries are referred to as "wetfish" fisheries, so called because historically the fish were canned 'wet from the sea', with minimal preprocessing. As the data presented earlier in this Report shows, the Market Squid fishery is usually one of the top fisheries for Ports located in the Southern California Bight. It was eclipsed by the Spiny Lobster fishery as top fishery in 2015, in terms of ex-vessel revenues. In that year the effects of the impending El Niño were beginning to impact waters in the Southern California Bight. Typically, El Niño events negatively impact the market squid fishery, especially in Southern California. This is the likely reason for the drop in Market Squid landings experienced in 2015.

We must keep in mind that a purse seine vessel will likely go to the closest available Port to offload (with exceptions). Currently this is San Pedro. The halfway point between San Diego and San Pedro, in terms of nautical miles, is the San Onofre area. There are several historically productive market squid areas between San Onofre and San Diego: Encinitas, Carlsbad, Del Mar, Blacks Beach, La Jolla, and Crystal Pier. Additionally, roughly five years ago there was a large volume of squid below Point Loma. Other things being equal, most fishermen would opt to unload in San Diego as opposed to the longer journey to San Pedro if San Diego were closer to the night's fishing grounds.

Market squid is primarily harvested at night, in two vastly different ways. Most commercial landings are made by purse seine vessels. Brail vessels use a less productive method, utilizing a small hand-held scoop to harvest squid.

Purse seine harvest:

Purse seine vessels use a large net to encircle squid that have been aggregated by a partner vessel – a light boat. Light boats are equipped with up to 30,000 watts of light¹³¹ used to

¹³¹ Regulations limit the amount of wattage a vessel can use at any one time. 14 CCR §149(g)

attract a harvestable quantity. Once such an amount is around the light boat, the purse seine vessel will encircle the light boat to capture the squid.

Brail vessel harvest:

Brail vessels have to wait until the squid comes to the surface in order to catch them. Once the squid is at the surface, brail vessels will use a hand scoop to harvest the product. The primary function of most brail vessels is as a light boat; but they will opportunistically make landings on their own behalf.

Wetfish are typically held in a vessel's fish hold in refrigerated sea water. Wetfish are offloaded via a wetfish pump, which sucks product out of the fish hold via a shoreside pump, to weighing bins. Presently, there are no fixed wetfish pumps which would allow squid to be landed/offloaded in San Diego. This may be because squid haven't been abundant in recent years (because of El Niño and the Blob.) Also, the Port of San Diego Harbor currently lacks sufficient road access to the areas designated commercial fishing to support semi-trucks that are required to transport product from San Diego to the Los Angeles area where the squid are prepared for processing.

In recent years, many of the markets/processors have invested in portable pumps which can be trailered to certain locations to assist in offloading squid. While portable pumps have been used extensively in Morro Bay, Half Moon Bay, San Francisco, and Eureka, they have not been used in San Diego. A portable pump has been installed at Driscoll's Wharf, but there appear to be limitations to its use. There are very few locations within the Port where a portable pump can be placed that can handle both semi-truck traffic as well as has deep enough water to keep these vessels from grounding.

The squid fishery, by regulation, is closed noon Friday to noon Sunday. If harvestable quantities of squid were found in and around San Diego, there would be commercial fishing operations which temporarily base their operations out of San Diego. As such, adequate transient slips/dockage would be beneficial. Local grocery stores, hotels, restaurants, fuel docks, mechanics, etc., would all stand to benefit.

To determine how much squid could be offloaded in San Diego, it must be determined what is a reasonable distance from an unloading facility one would be willing to travel. Most, if not all, purse seine vessels have refrigerated fish holds which extends the amount of time (and hence distance from Port) that product can be left on the vessel before being unloaded. The 2016-17 squid season saw several deliveries into San Pedro from Tanner Bank (which is roughly 90 miles from the Angel's Gate lighthouse that marks the entrance into LA harbor). Therefore, we can assume that 90 miles is a reasonable distance for a purse seine vessel with a refrigerated fish hold. However, as noted above, distance to the nearest offloading facility will be the primary factor.

Another factor impacting this calculation is the price of squid. For the current 2018-19 season, the ex-vessel value for market squid is \$1,000/ton, the highest ever. Many factors which have led to this price increase: (a) the 2016 El Niño which reduced supply; (b) the South American (Peru and Argentina) squid fishery in recent years has faltered, impacting global supply¹³²; and (c) closure of the Pacific Sardine fishery and lack of availability of other CPS.

¹³² While the South American squid fisheries target a different species (*Illex*), supply of that product will impact the market for Market Squid (*Loligo opalescens*)

A broad overview of where squid is harvested can be found at <https://www.wildlife.ca.gov/Conservation/Marine/CPS-HMS/Market-Squid/Market-Squid-Landing>. Note that from 2010 to 2014 significant catches came from areas which could have been served by the Port of San Diego. Harvest locations within California for 2012 are shown in Fig 2.9 below:

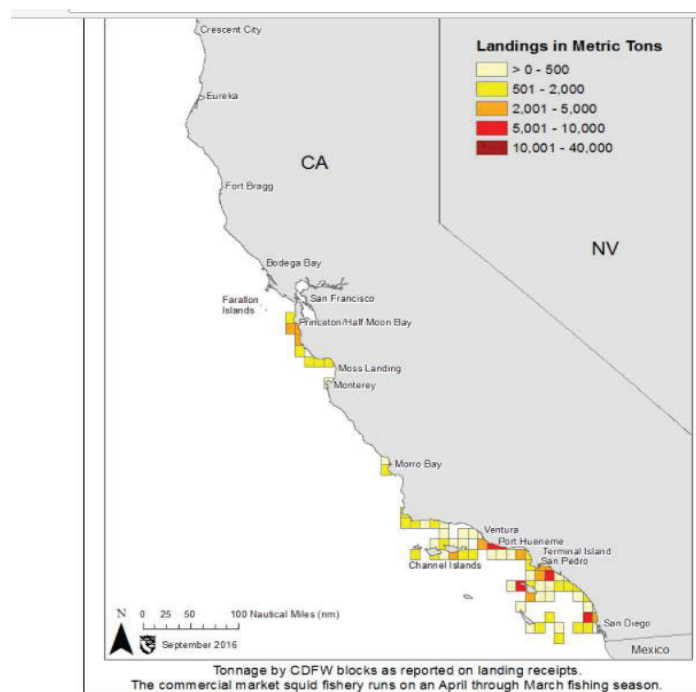


Fig 2.9 – Market Squid harvest locations from 2012. From <https://www.wildlife.ca.gov/Conservation/Marine/Pelagic/Market-Squid-Landing>

These numbers likely under-report what could have been harvested in and around the San Diego area. A vessel harvesting off Del Mar, but having to offload in San Pedro, will inevitably lose fishing time due to increased transit time. For example, Black's Beach is roughly 67 nautical miles from Angel's Gate (entrance to Los Angeles Harbor, which is the most direct route to unloading facilities in San Pedro). If we assume the average purse seine vessel travels at 8 nautical miles/hour, that is an 8.5-hour trip, one way. Assume Vessel A leaves Black's Beach with 75 tons at 2 AM on Monday morning. The vessel will arrive at Angel's Gate at around 10:30 AM. Add in another 15 to 30 minutes to get to the dock where the pump is located. Assuming no line at the pump (most markets/processors have pumps that serve multiple vessels) it would take about 2 hours to unload Vessel A. By the time Vessel A is unloaded and all paperwork signed, it would leave the dock at around 1 PM, clearing the harbor by 1:30 PM and returning to Black's Beach around 10 PM. With this scenario, it is easy to see how vessels can be delayed in returning to areas which are far from the dock and that reported landings may not accurately record what could have been caught in those areas if closer offloading facilities were available.

The above applies equally to other CPS species such as Pacific and Jack Mackerel, Anchovy, and Pacific Sardine. One other potential benefit is that most of the purse seine vessels off the Southern California coast that target Tunas (Albacore excepted) also fish squid and other CPS stocks. They could also see the advantage of offloading their Tuna along with their CPS in San

Diego. Once again, a significant amount of Tuna harvested by California-based purse seine vessels is harvested in areas closer to San Diego; but offloaded in San Pedro. While the methods used to offload Tuna differs from those used to offload Squid and other CPS stocks, it is likely that if fishermen have a positive experience offloading CPS in San Diego, they will be more likely to use San Diego ports for offloading Tuna as well.

An example of this arose in late August of 2017. San Pedro-based purse seine vessels were targeting Pacific Bonito within eyesight of Point Loma. Those vessels nonetheless had to make the long journey to San Pedro to offload due to a lack of suitable infrastructure. Some of those vessels tied up for a few hours in G Street; which indicates a willingness and desire to utilize the Port opportunistically.

The Pole-and-line albacore fishery

Tuna vessels come in all shapes and sizes and use a variety of gear types. Tuna is harvested using purse seine, longline, gill nets, trolling, and by use of bait. Until the late 1950s, bait boats were the predominant method for catching Tuna. Today, bait boats still play an important role in Tuna fisheries, in particular the North Pacific albacore fishery operating off the U.S. West Coast. A recent study conducted by Poseidon Aquatic Resource Management, LTD, indicates roughly 10% of worldwide Tuna harvest in 2012 was from bait boats¹³³.

Between the months of November and May, visitors to Tuna Harbor will notice the San Diego-based albacore fleet in Port. These are all larger vessels (in excess of 50 feet) and provide product for the first Tuna fishery to be awarded MSC Certification¹³⁴. AAFA is headquartered in San Diego, as is American Tuna, Inc., which distributes canned products harvested by AAFA vessels. MSC Certification and American Tuna, Inc., are further examples of the forward-thinking attitude of San Diego's commercial fishermen and associated businesses. Currently, the AAFA/WFOA pole-and-line North Pacific albacore fishery is one of few U.S. West Coast fisheries to have achieved the MSC recognition¹³⁵.

As the name implies, bait boats/pole-and-line vessels use live bait to harvest Tuna. Once the school is located (either by use of troll gear or the boat's electronics, or both) it is aggregated around the boat by use of the bait (chumming) and/or water spraying. Once the school is aggregated, the fishermen go to work using poles designed for the target species. Fig 2.10 below is a picture of a U.S.-based fishermen harvesting albacore from a bait boat/pole-and-line vessel.

¹³³ Macfadyen G., Huntington T., Caillart B. and Defaux V. (2016). Estimate of global sales values from Tuna fisheries – Phase I Report. Poseidon Aquatic Resource Management Ltd, Windrush, Warborne Lane, Portmore, Lymington, Hampshire SO41 5RJ, UK. <http://www.pewtrusts.org/~media/assets/2016/05/estimate-of-global-sales-values-from-tuna-fisheries--phase-1.pdf> (p6)

¹³⁴ The AAFA and WFOA North Pacific Albacore Fishery was first certified in 2007. See - <https://fisheries.msc.org/en/fisheries/aafa-and-wfoa-north-pacific-albacore-tuna/@/@view>

¹³⁵ Others include the U.S. West Coast limited entry groundfish trawl fishery, Oregon and Washington Pink Shrimp fishery,



Fig 2.10 – Pole-and-line albacore fisherman plying his trade. Courtesy AAFA

These operations have very little, if any, bycatch and with advances in refrigeration technology (blast freezing) a sushi-quality product can be provided.

The North Pacific albacore fishery has historically been cyclical. Over the last ten or so years, harvestable schools have taken a more northerly migratory pattern and most harvest has occurred off Northern California, Oregon, and Washington. Using history as a guide, Albacore will once again congregate in harvestable quantities within the Southern California Bight. With adequate infrastructure that can support significant landings of albacore and other tuna species, the Port of San Diego can support its fishermen unloading in their home ports. As with the Market Squid fishery, other local San Diego businesses stand to benefit as well.

AAFA and American Tuna

AAFA was formed in 2003 to represent “commercial pole & line vessels. AAFA seeks to ensure responsible fishery management practices and the participation of vital fishing communities. It supports education regarding responsible fishing methods and promotes the health benefits of tuna consumption along with environmental benefits of sustainable fishery practices. AAFA strives to ensure the economic viability of pole & line fisheries now and into the future.¹³⁶” American Tuna, Inc. was formed “by six American Pole & Line fishing families in San Diego, California in 2005. The Mission of American Tuna is to provide a high quality, sustainable, canned albacore tuna customers can buy directly from the source. Using a traditional harvest and packing method, we offer the highest quality, all-natural, tuna pack on the market.¹³⁷”

This allowed San Diego-based Albacore vessels to work together on the harvest, processing, and marketing of their product. This provided AAFA members a price premium for their product when compared to traditional commercial fishing supply chains.

¹³⁶ See - http://americanalbacore.com/about-us#American_Albacore_Fishing_Association_Inc

¹³⁷ See - <https://americantuna.com/about/>

As of February 13, 2018, American Tuna had nine different product offerings for sale on its website¹³⁸. Fig 1.15 shows the product packaging.



Fig 1.15 – American Tuna Product Packaging

Other San Diego-based tuna operations (fishermen and processors) are following suit and offering canned products as well. David Haworth and Artur Lorton's F/V Sea Haven as well as Dave Rudie's Catalina Offshore Products now offer canned albacore and canned bigeye and yellowfin tuna respectively.

¹³⁸ See - <https://americantuna.com/products/>

Part III

Recommendations for the Commercial Fishing Infrastructure in the Port of San Diego

I. Summary

Part I of this Report outlined the background of San Diego's historic commercial fishing industry. Part II discussed the current state of the fishing industry along with identifying existing opportunities for growth. Part III will recommend specific items of infrastructure which, if provided, will likely allow San Diego's commercial fishermen to take advantage of these opportunities for growth. It also includes suggestions for organizational means to follow through on them, and funding sources from private and public grant organizations.

II. Infrastructure Needs within the Port of San Diego to support and grow San Diego's Commercial Fisheries

Infrastructure items considered in this Report will (1) support current commercial fishing operations in the Port; (2) provide an opportunity for growth in terms of (a) the number of unique vessels which utilize the Port for offloading, (b) revenues to both the fishermen and the managing entities; and (c) access to locally harvested and landed seafood; and (3) promote the importance of San Diego's commercial fisheries and fishermen by educating San Diegans and visitors to the Port. This growth will not happen overnight; but without improvements to the Port's commercial fishing infrastructure, growth is unlikely. Some of these items are intended to induce vessels currently offloading in other California ports to utilize the Port of San Diego for their offloading and sales; one such item, for example, is the creation of a fish auction similar to the Tsukiji Fish Market in Tokyo, but on a smaller scale. It is important to note, items required by law are assumed to be adequately provided for in both Tuna Harbor and Driscoll's Wharf.

As used in this section of the Report, infrastructure is defined to include buildings, services, and businesses which support and serve the Port's commercial fishing community. Often lost in discussions about commercial fishing infrastructure is the human element: fishermen, buyers, processors, etc. While most of the items listed below are tangible items, the intangible human element will play an integral role in ensuring the success of the Port's commercial fisheries and fishermen. Additionally, there are certain activities which include and/or incorporate buyer-provided elements. For example, buyers of Coastal Pelagic Species typically provide ice for offloads.

The following Infrastructure items are deemed necessary and desired by the Port's current commercial fishermen and associated business. The items are presented as High Priority, Medium Priority and Low Priority after discussions with a representative group of the Port's commercial fishermen. This list is not meant to be considered exhaustive as there are many other items, not listed below, which are integral to a successful working waterfront. The items under each classification are not ranked in any order.

A. High Priority Items

1. Wave attenuation or speed enforcement
2. Amenities:
 - a. Security
 - b. Shore Power and Electricity
 - c. Fresh Water
 - d. Restrooms and Showers

- e. Waste Disposal
 - f. Parking
 - g. Office Space and Meeting Rooms
- 3. Floating Slips for Vessels
- 4. Net Storage Area
- 5. Freezer space and refrigerated areas
- 6. Offloading infrastructure:
 - a. Cranes
 - b. Wetfish pump
- 7. Pier with truck access for offloading fish
- 8. Ice machine near the offloading areas
- 9. THDM space
- 10. Live tanks
- 11. Gear Storage
 - a. Net Storage
 - b. Trap Storage
- 12. Parking areas
- 13. Garbage/recycling facility
- 14. Fish Auction

B. Medium Priority Items

- 1. Staging area and storage of traps
- 2. Wet floor for processing of fish and other seafood
- 3. Signage

C. Low Priority Items

- 1. Fisheries museum (Japanese, Chinese, and Portuguese, Italian historical societies)
- 2. Dry storage availability adjacent to vessels (dock boxes)
- 3. Secured bathrooms/showers and meeting rooms

While the fishermen viewed each of these as important, there were specific reasons why they were deemed a low priority. Those are highlighted below.

D. Items originally thought to be included; but removed

- 1. Waste Oil discharge pump
- 2. Waste Oil collection points

While each of these would be useful additions, there is an awareness that adequate facilities currently exist at fuel docks in the Port which serve the commercial fishing industry. Specific requirements related to permitting, reporting, and environmental risk may outweigh the potential benefits.

III. Tuna Harbor and Driscoll's Wharf: A Two Harbor Solution

Though the two primary commercial fishing harbors within the Port of San Diego (Tuna Harbor in Planning District 3 and Driscoll's Wharf in Planning District 1)¹ are five miles apart by land, they need to be considered together as a unit when addressing the needs of San Diego's commercial fishing community. Both face similar challenges. Infrastructure is aging and in need of repairs or replacement. Currently available infrastructure does not, nor will it be able to, support anticipated increases in commercial fishing activities. The Port of San Diego has failed to provide critical maintenance and infrastructure needs of the industry for the past 20 years. Commercial fishermen, faced with increased regulatory oversight and deteriorating berthing conditions, have survived in spite of available infrastructure, not because of it.

As the Port of San Diego updates its Port Master Plan, an ideal opportunity is provided to consider Tuna Harbor and Driscoll's Wharf in a holistic fashion. While some redundancies between both locations are necessary and inevitable, the majority of infrastructure recommendations address needs and improvements specific to each site.

To paint a clear picture, this Report analyzes the current state of each site individually, with recommendations given after that analysis. Recommendations which are not site specific will be provided separately.

Note that exact locations for specific infrastructure items are not provided. It is recommended that 1HWY1, the Port, and the commercial fishing community (including fishermen and buyers) work to define mutually agreeable locations which serve the needs of all involved. It may make sense to have the larger industrial activities, such as offloading of purse seine or longline vessels take place at Driscoll's Wharf, with smaller scale activities, such as offloading of sea urchin, lobster, etc) taking place within Tuna Harbor. Regardless, it will be imperative that redundancies be built in so if one location is not usable, operations can continue.

Addressing infrastructure needs cannot be separated from an analysis of the current state of infrastructure available to commercial fishermen at Tuna Harbor and Driscoll's Wharf. In a general sense, the infrastructure needs at both sites can be broken down into the following broad issues:

1. Berthing, Dockage and Slip Availability;
2. Amenities including security, water, electricity, rest rooms/showers, waste disposal, parking, office space and meeting rooms etc.;
3. Gear Storage;
4. Offloading Facilities;
5. Post-Offload Product Handling; and
6. Public Education and Outreach

IV. Tuna Harbor Current State and Recommendations

¹ In the August 2017 Print Edition of the Port Master Plan, "commercial fishing activity is provided for in the Master Plan, with an allocation of about 61 acres of water and 14 acres of land (page 19)." District 1 (Shelter Island Planning District where Driscoll's Wharf is located) has 5.7 acres of water and 2.9 acres of land designated for commercial fishing. District 3 (Central Embarcadero where Tuna Harbor is located) has 13.1 acres of water and 5.4 acres of land designated for commercial fishing (See Table 10 on Page 59).

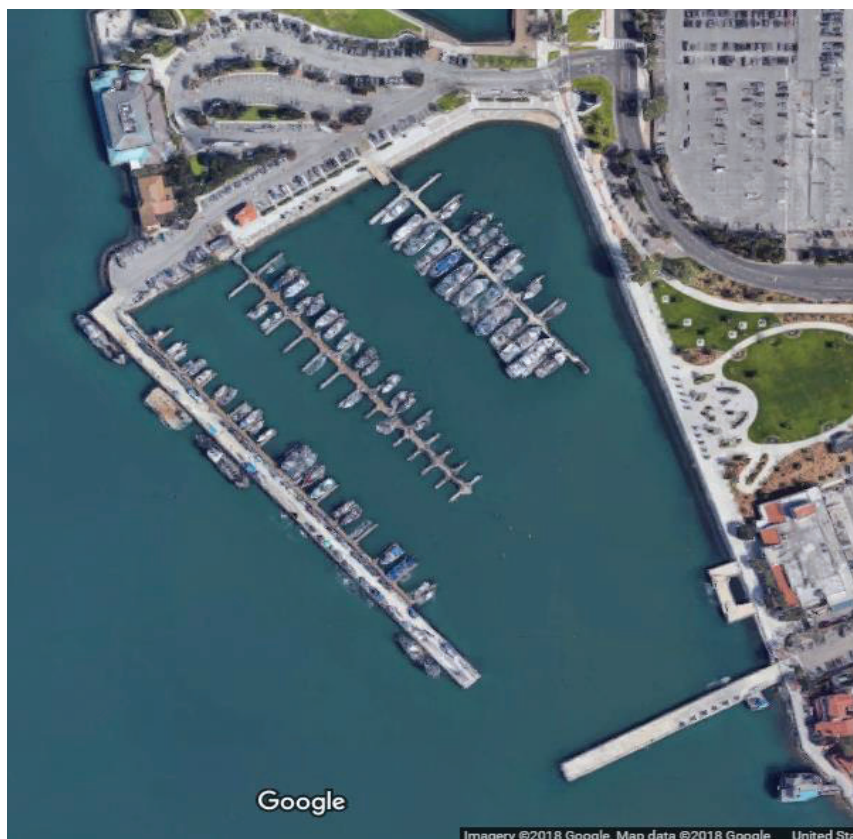


Fig. 3.1. Tuna Harbor, one of two remaining working commercial fishing harbors in San Diego Bay, San Diego, California. Photo: Google Maps – Aug 10, 2018.

A. Berthing, Dockage, Slip Availability

NOAA Chart 18773 covers San Diego Bay.² Fig 3.2 shows the complete Chart 18773. Fig 3.3 zooms in on Tuna Harbor (reported depths in feet at Mean Lower Low Water).

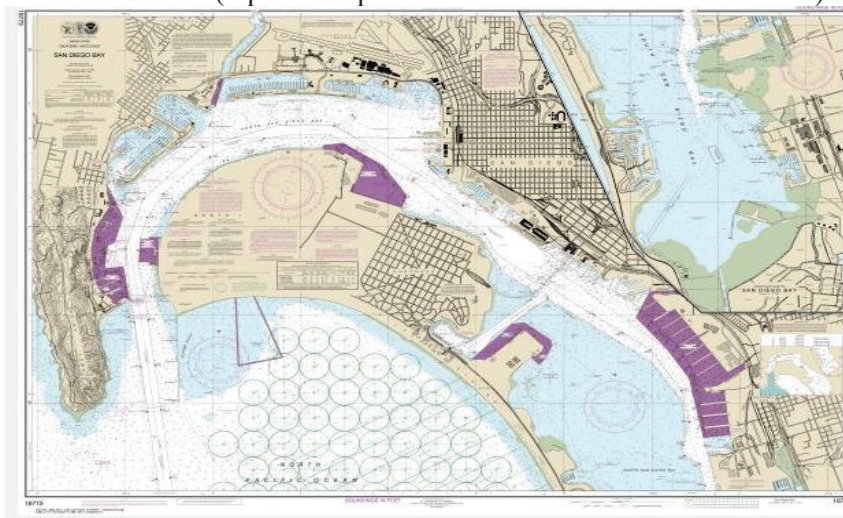


Fig 3.2 – Complete NOAA Chart 18773. NOAA Chart 18773 covers San Diego Bay.

² <http://www.charts.noaa.gov/OnLineViewer/18773.shtml>

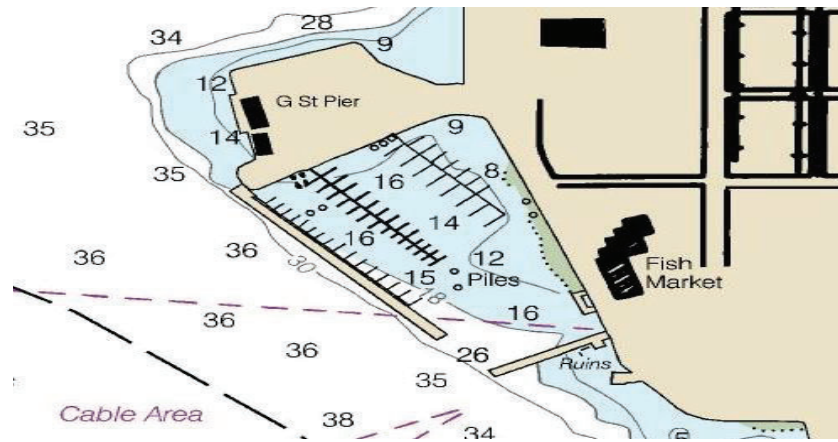


Fig 3.3 – NOAA Chart 18773 – zoomed in on Tuna Harbor (reported depths in feet at Mean Lower Low Water.)

The primary wave attenuation protecting the docks and vessels within Tuna Harbor is G Street Pier³. It is an approximately 1000 ft long fixed pier, and currently berths five purse seine vessels on the channel side, ranging in size from 80 ft to 122 ft. The vessels occupying these spaces are part of the EBBCO live-bait fleet. It is imperative that these vessels retain these berths as the vessels lack mobility to fit into tight slips and there are concerns about depth within Tuna Harbor. When constructed, Tuna Harbor had roughly 130 slips for vessels of various size⁴. A number are currently unusable because the docks are unsafe or have been destroyed: 18 slips were deemed “out of service” and an estimated 42 others were not filled by tenants as of March 1, 2017. Some of these unfilled slips are considered unsafe, but not deemed “out of service”.

Wave attenuation remains a serious concern notwithstanding the presence of G Street Pier. Repeated exposure to large wakes presents a safety concern to the fishermen (there have been several resulting injuries) and a cause of damage to the docks and vessels while tied to the docks. This carries with it the possibility of injury and could expose the owner or managers of the facility to liability. It also raises a safety issue for people walking on the docks as it is foreseeable that an individual will be knocked off balance and fall into the water or fall on the docks and be seriously injured.

1. Wave attenuation or speed enforcement:

The 2009 Commercial Fisheries Revitalization Plan (“CFRP”) provided two suggestions regarding possible wave attenuation measures: (1) Wave Attenuation Panels and/or (2) Installation of a “vertical sheet pile wall breakwater.”⁵

Tuna Harbor’s fishermen acknowledge the need to reduce impacts of wake and wave energy on Tuna Harbor’s docks and vessels, but question what is causing the problem. The Floating Upweller System (FLUPSY) barge which is currently berthed in Tuna Harbor has been

³ Fig 3.3 incorrectly identifies the G Street Mole as G St Pier. The G Street Pier is the fixed pier coming off the end of the G St Mole and is adjacent to the 30-foot depth line visible in Fig 3.3.

⁴ <http://www.fishermensnews.com/story/2017/06/01/features/south-coast-fishing-ports/468.html>

⁵ Unified Port of San Diego, Lisa Wise Consulting, Inc., Coastal Conservancy, Project Design Consultants, Moffatt & Nichol Blaylock Engineering Group, TerraCosta Consulting Group, Linscott Law & Greenspan, Helix Environmental Planning, Merkel and Associates, & KMA Architecture and Engineering. (2010, April). Commercial fisheries revitalization: Preferred alternative implementation plan. Page 61

impacted as well. As mentioned in Part II – Section VII, D - the FLUPSY’s paddlewheel movement, which creates the necessary upwelling, has been periodically interrupted due to incoming wakes and waves creating a resistance that causes the paddlewheel to stop periodically. As such, this Report recommends the following (note – “waves” as used below includes waves and wakes):

Recommendations:

1. A study be conducted to determine if enforcement of any existing speed or wake rules reduces impacts from waves. California Harbors and Navigation Code Section 655.2(a)(2)(C)⁶ states the general rule that a vessel’s speed limit must be 5 mph within 200 feet of a dock where a boat is tied. Many fishermen have reported witnessing countless vessels within 200 feet of G Street Pier traveling at speeds well in excess of 5 mph. If vessels begin to be issued citations for these violations, it may change the behavior of vessel operators.
2. If there are no such rules in place, study the feasibility of the Port enacting a no-wake zone in the channel outside of the Tuna Harbor area.
3. If the above are inapplicable or deemed infeasible, then contemplate implementing the recommendations from the 2009 CFRP.
4. Consider commissioning a study which measures the frequency and severity of waves entering Tuna Harbor. This will help inform potential solutions to the wave issue.
5. Study and analyze the sea floor soil conditions to determine the appropriate and cost-effective wave attenuation system and viable alternatives.

It is beyond dispute that the wave issue has to be addressed in order to provide a safe working environment.

Benefits:

- ***To Tuna Harbor Commercial Fishermen.*** The fishermen will be less concerned about returning to their slip only to find it unusable or missing. Additionally, damaged docks represent a safety hazard for the fishermen and their boats. They are an eyesore and highlight the fact that Tuna Harbor is not being well maintained. Until this issue is resolved, it will be difficult to attract new long-term tenants.
- ***To the Port.*** The Port will be less concerned about having to replace damaged docks or having to answer claims resulting from damage to property or persons caused by waves in Tuna Harbor.

⁶ 655.2 (a) Every owner, operator, or person in command of any vessel propelled by machinery is guilty of an infraction who uses it, or permits it to be used, at a speed in excess of five miles per hour in any portion of the following areas not otherwise regulated by local rules and regulations:

(1) Within 100 feet of any person who is engaged in the act of bathing. A person engaged in the sport of water skiing shall not be considered as engaged in the act of bathing for the purposes of this section.

(2) Within 200 feet of any of the following:

(A) A beach frequented by bathers.

(B) A swimming float, diving platform, or lifeline.

(C) A way or landing float to which boats are made fast or which is being used for the embarkation or discharge of passengers.

(b) This section does not apply to vessels engaged in direct law enforcement activities that are displaying the lights prescribed by Section 652.5. Those vessels are also exempt from any locally imposed speed regulation adopted pursuant to Section 660.

(Amended by Stats. 2014, Ch. 67, Sec. 2. Effective January 1, 2015.)

- ***To the Port and the Developer.*** The Port and Developer can more accurately forecast potential revenues as there will be more confidence that any docks which are added to Tuna Harbor will not be placed “Out-of-service” due to a lack of measures to reduce impacts of waves.

2. Floating slips for vessels:

Tuna Harbor has suffered significant loss of slips due to damage and destruction. The following picture (Fig 3.4), taken on October 10, 2017 shows potential for additional loss of slips.



Fig 3.4. Tuna Harbor dock damage. Taken - October 10, 2017

The picture below (Fig 3.5) was taken on December 19, 2017 and is in a different location within Tuna Harbor than the preceding photograph (Fig 3.4).



Fig 3.5 – Tuna Harbor dock damage. Taken - December 19, 2017

Example: In addition to the earlier noted disruptions to the FLUPSY's paddlewheel caused by waves, shortly after it was installed in Tuna Harbor, a mounted bracket sheered off because of insufficient and ineffective wave attenuation.

Recommendations:

Return Tuna Harbor to 120 to 130 slips. Additionally, the fishermen recommend that at least ten of those new slips be designed to accommodate vessels of up to eighty feet in length. The fishermen are cognizant that this may require some reconfiguration of the current layout and would support such a configuration, provided the end result is functional, and disruptions are minimized⁷. This, along with other items recommended herein, could increase the number of vessels which utilize the Port of San Diego for offloading or transient purposes. These larger slips could be primarily dedicated to transient vessels (vessels based in other ports, but who need a place to dock for the short-term for provisions, maintenance, other reasons).

B. Amenities

Included under this category are items such as security, fresh water, electricity, restrooms, showers, waste disposal, parking, office space and meeting rooms, etc.

1. **Security.** Lighting throughout the Tuna Harbor area is deemed insufficient, and as a result, the fishermen believe security is a growing concern that requires additional considerations. Security gates placed at the entrance to each dock are functioning as designed, have keyless entry, and the fishermen have the combinations for those gates (see Fig 3.6 - Combination lock on security gates atop the docks at Tuna Harbor). The Port recently installed a chain-linked fence gate at the head of G Street Pier with a combination padlock securing the gate (see Fig 3.7 - Newly installed gate at head of G Street Pier). If a fishermen needs access to the Pier and doesn't have the padlock's combination, they must rely on Port personnel to gain that access. The fishermen also believe that installation of the chain-linked gate at the head of G Street Pier has led to a decrease in patrols by Port Security.

⁷ For example, scheduling around the albacore fleet's departure (typically on or about July 1) would allow temporary berthing in those slips should the other docks be made temporarily unusable due to repairs and or reconfiguration.



Fig 3.6 - Combination lock on security gates atop the docks at Tuna Harbor. Taken - October 9, 2017



Fig 3.7 - Newly installed chain-linked gate at head of G Street Pier. Taken October 9, 2017

Recommendations:

1. Install street lights on the harbor side rails of G Street Pier. This serves safety and property protection functions. Illumination of the Pier, and storage areas on the Pier, discourages attacks on vessel crew and/or Port personnel by reducing ambush points and places for would-be attackers to hide. Lighting will also discourage people from vandalizing vessels and fishing gear. While the new chain-linked gate may thwart people accessing G Street Pier from G Street Mole, it will not stop those with waterside access.
2. Install security cameras in strategic locations throughout Tuna Harbor. Areas covered should include the security gates atop each dock; the chain-linked fence gate crossing the entrance to G Street Pier; the G-Street Mole parking lot; and the offloading facility across from the Chesapeake Fish Co., a division of Santa Monica Seafoods ("Santa Monica Seafood/Chesapeake") facility.

Benefits:

- ***To Tuna Harbor Commercial Fishermen.*** Personal safety and greater confidence in the safety of gear stored on G Street Pier. Installation of lights will eliminate the need for fishermen berthed on the Pier to run their vessel's generators just for lighting purposes, thus saving fuel, engine wear and tear, and reducing emissions in the Port.
 - ***To the Port.*** During routine patrols at night, Port personnel will be safer. Additionally, less pollutants will be released because vessels will not have to run their generators simply to provide lighting.
- 2. Fresh Water.** For vessels within Tuna Harbor, access to fresh water is considered sufficient to meet the needs of the fishermen. Vessels berthed on the channel side of G Street Pier report not having access to fresh water.

Recommendation:

Provide access to fresh water to vessels berthed on the channel side of G Street Pier.

- 3. Shore Power and Electricity.** Two types of shore power connections are available at Tuna Harbor (see Figs 3.8 and 3.9).



Fig 3.8 - Shore power box at Tuna Harbor. Taken October 9, 2017



Fig 3.9 – Alternate Shore Power box at Tuna Harbor. Taken October 9, 2017

Some of the slips have access to 110-volt power. Currently, there is no 220-volt power available to fishermen, and some slips have no access to necessary power or shore power plugs. Smaller vessels can typically get by with 110-volt power as they typically don't have refrigerators or other appliances which require 220-volt power. Larger vessels (longline, purse seine, and pole-and-line), on the other hand, have several appliances, systems and power needs which require 220-volt service. Current available power is considered insufficient by the fishermen.

Recommendations:

1. In the short term:

- Provide temporary electrical fixtures for the vessels tying up on the channel-side of G Street Pier. It is believed that power is available for these vessels, but there is no access to that power.
- Conduct a tenant needs assessment for the vessels at Tuna Harbor. Note, there is a similar recommendation for Driscoll's Wharf power needs. An analysis on the current power supply system has deemed them insufficient presently. The following questions should be part of the assessment:
 - Which vessels require 220-volt power and which do not? It is assumed the larger vessels will benefit from 220-volt power.
 - Have there been any issues with available amperage (30 amp v 50 amp)?
 - When was the last time the breakers were serviced and are they conveniently located and accessible?
 - Is power supply to Tuna Harbor being properly utilized?
 - Is the power supply to Tuna Harbor capable of providing power to an increased number of vessels?

2. In the long term:

- Based on results of the assessment suggested above, upgrades are likely to be necessary. Note consideration of potential allowable and preferred secondary uses within the Project area should be contemplated too.
- Slips built to serve transient vessels (purse seine and longline vessels) should be equipped with no less than 220-volt, 50-amp, three-phase shore power hook-ups.

Benefits:

- ***To Tuna Harbor Commercial Fishermen.*** Adequate shore power will allow fishermen to run pumps, machinery, etc., without having to run their generators. It also allows them to leave a deck light on when the vessel is at dock, reducing the opportunity for theft or break-ins.
 - ***To the Port.*** Currently, some fishermen elect to run their generators while at the dock to keep pumps and other equipment running. This results in unnecessary emissions and other pollutants being discharged. Eliminating unnecessary pollutants furthers the Port's Green Port Program⁸.
 - ***To residents adjacent to Port property.*** Less pollutants reduces opportunities for unhealthy air quality.
4. **Restrooms/Showers.** A public restroom is located between the docks and the G-Street Mole parking areas (see Fig 3.10). Fishermen complain that this area is frequented by transients/homeless and is often in an unsanitary condition. There are no shower facilities onsite or otherwise available to the fishermen. This situation is considered insufficient by the fishermen. The original plans for this building called for showers which could be accessed by the commercial fishermen; however, when it was built, the area intended for showers was turned into a storage facility and meeting place for Port gardening personnel

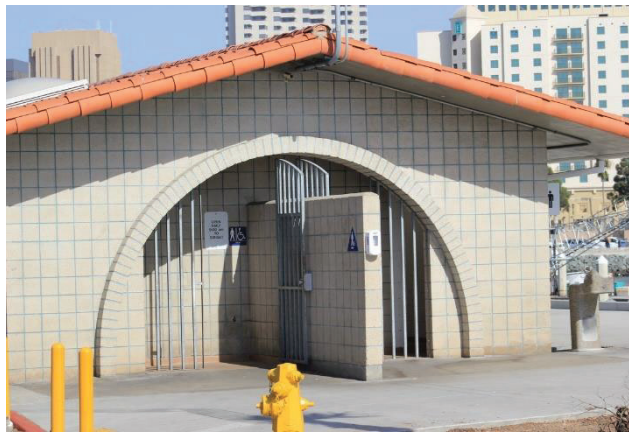


Fig 3.10 - Public restroom at Tuna Harbor. Taken October 9, 2017

Recommendation:

Convert the area now used by the gardeners to a “Boaters-only” restroom/shower, controlled by keys and/or keycards. These are very common in marinas that share space with the public. This could also be incorporated into a future building designed to serve the needs of Tuna Harbor’s commercial fishermen/tenants.

5. **Waste disposal.** There are fenced-in dumpsters at Tuna Harbor and two dumpsters at the foot of G Street Pier (see Figs 3.11 and 3.12). The dumpsters at the top of the docks at Tuna Harbor are supposed to be for tenant use only. For many years this facility was accessed by tenants with a key lock and then a combination lock. Alleged abuse (people leaving couches, stoves, etc. there) led to access being limited to individuals with keys, though none of the

⁸ See - <https://www.portofsandiego.org/environment/green-port.html>

tenants have reported having the keys. There is a small space above the locked entrance through which garbage could be inserted, but it is not wide enough to fit a trash bag through.



Fig 3.11 - Fenced in dumpsters at Tuna Harbor. Taken October 9, 2017



Fig 3.12 - Trash receptacles at foot of G Street Pier. Taken October 10, 2017

Recommendation:

Fishermen and the Port need to agree on rules regarding use of the common trash areas. Ensure the dumpsters atop the docks at Tuna Harbor are usable by the tenants. Perhaps installing a combination lock, such as that used on the security gates securing the floating docks, would allow Tuna Harbor's tenants to take advantage of the trash and recycling facilities.

Benefits:

- ***To the Port's commercial fishermen.*** Allows the orderly disposal of trash generated by their operations and gives them access to a facility they should already have access to.
 - ***To the Port.*** Promotes a clean and trash-free environment.
6. **Parking.** Parking remains a challenge at Tuna Harbor, especially during summer and fall. Each lessee of a commercial vessel slip can purchase two parking permit stickers with an ability to purchase more. Fees for these additional parking permits are believed to be unreasonably

high and not supported by the current Port Tariff⁹. Actions taken by the Port in early 2018 returned additional parking spots to commercial fishing in those areas designated as “commercial fishing” under the current Port Master Plan. Before this action, public parking was allowed via metered parking and several parking spaces were given to The Fish Market Restaurant under a Temporary Use and Occupancy Permit. The amount of available parking is still a concern, as is the limit on the number of parking permits per commercial fishing vessel. The Port has indicated it will consider increasing the number of available permits to four per vessel which will greatly benefit the larger vessels berthed in Tuna Harbor which carry a larger crew. Anecdotal reports from the fishermen indicate that permit-only spots are being used by non-commercial fishermen. Tickets are not issued, nor are those vehicles towed. The fishermen express appreciation that Port staff is listening to their concerns regarding parking and is acting to help alleviate some of these concerns¹⁰.

Recommendations:

1. In the short-term:

- a. The Port and the fishermen continue discussions to arrive at workable resolutions to the remaining parking issues: (a) total number of parking permits available for each vessel; and (b) fees for additional parking permits. The Port needs to step up enforcement on non-commercial fishermen parking in designated commercial fishing parking spots.

2. In the long-term:

- a. The Developer, Port, and fishermen continue discussions about parking concerns. Certain long-term parking needs could be accommodated in the underground structure that is proposed as part of the redevelopment project, provided it is on the ground level and has nearby access points which are not an inconvenience for fishermen with supplies, groceries, etc. This will require a negotiation between the Developer and the SDFWG. Additionally, access to the G Street Mole from North Harbor Drive is a serious problem. There are two crosswalks side-by-side and pedestrians seem not to be conscious of the need for vehicles to enter the Mole. As such, there should be consideration of (a) building a pedestrian overpass, (b) installing a pedestrian traffic light to allow for more efficient vehicle access in and out of the Mole, and/or (c) widening the entrance to the G-Street Mole.

- 7. Office space and meeting rooms.** Currently two small conference rooms are available for commercial fishing use in Tuna Harbor: one at Santa Monica Seafood/Chesapeake and one

⁹ See – Port of San Diego – Tariff No. 1-G, Item No. 525.

<https://www.portofsandiego.org/document/maritime/4736-port-of-san-diego-tariff-no-1-g/file.html>. Last accessed 2/12/18

¹⁰ In November, the Port issued a notice terminating the Temporary Use and Occupant Permit issued in favor of The Fish Market Restaurant which supported a Valet Parking service. The Fish Market was granted an extension while discussions took place between The Fish Market, Tuna Harbor Commercial Fishermen and The Port to see if a mutually agreeable solution could be attained. As of February 2018 – an agreement has been reached regarding some of the at-issue parking spots and the Port was preparing a Temporary Use and Occupancy Permit to effectuate this Agreement.

in the American Tunaboat Association building. Both are owned and controlled by other entities and availability is contingent on the absence of any conflicting use.

Recommendation:

Ensure sufficient office space and meeting rooms are provided in any future buildings planned to be supportive of commercial fishing operations in Tuna Harbor.

Benefits:

- ***To the Port's commercial fishermen.*** Dedicated space controlled by and managed by the commercial fishermen allows meetings to be scheduled when convenient for them, and not dependent on scheduling conflicts with other groups. Depending on the operational governance, this space could be a source of revenue for the commercial fishing entity if this space could be rented out to other groups/entities seeking meeting sites.

C. Gear storage

Gear storage at Tuna Harbor is insufficient for the fisheries operating there. Presently, there are roughly sixty 12.5 x 9-foot numbered sections on G Street Pier where fishermen can store their gear (see Fig 3.13). These sections are unlit and this raises safety concerns when night time activities are required. These sections are available at a cost of \$16/month. Lack of adequate storage has led to fishermen utilizing dock space adjacent to their vessels as makeshift storage areas. In addition to additional clutter on the docks, this has caused safety issues, created stress on the dock structures, and lowered the aesthetic value of the docks and waterfront. When addressing potential problems with gear storage, consideration should be given to pre-season staging areas¹¹ compared to long-term, out-of-season storage needs.

¹¹ For example, lobster fishermen can actively fish up to 300 traps for each permit they own. An individual fisherman can hold no more than two permits. Vessels in the lobster fishery are typically small (less than 40 feet), making it difficult to deploy all their traps given Regulations governing pre-season trap deployment. As such, many fishermen would like to stage most, if not all, of their traps in a location near their vessel prior to deploying them. This places a premium on space in the weeks leading up to the opening of the Commercial Lobster fishery (the first Wednesday in October – See 14 CCR §121(a))



Fig 3.13 – Gear storage on G Street Pier – looking towards G Street Mole. Taken October 9, 2017

1. **Net storage.** Purse seine and gillnet vessels berthed at Tuna Harbor have inadequate storage for the nets they use. For example, the F/V Barbara H, a purse seine vessel which used to be home based in San Diego, needed storage for, at minimum, five different nets: a tuna net, a squid net, a mackerel net, an anchovy net, and a rock net¹². This is not a problem specific to Tuna Harbor. Purse seine fishermen in other ports will typically try to store one or two frequently used nets adjacent to their vessel, and the other less frequently used nets on portable trailers in an off-site location. Currently, there is limited space for nets on G Street Pier (see Fig 3.14). This small space is shared with gillnets used by other Tuna Harbor tenants as well as other types of gear. In 2017, a Tuna Harbor tenant had a purse seine net suffer significant damage when it caught fire on G Street Pier. Such damage to a purse seine operation takes the net out of service and requires expenditures, which may be considerable, to repair or replace. Homeless and transients frequently loiter on G Street Pier and it is thought the fire may have been started by persons with no connection to Tuna Harbor's commercial fishing operations.

¹² Each of these nets differ in terms of length, depth fished, mesh size and materials used to construct the net. The rock net will be shallower and designed to fish in shallow (120 feet) waters with rock/reef bottom. Some of these are interchangeable – for example a squid net and mackerel net; but others (tuna net and a rock net) are designed for a particular application.



Fig 3.14 - Net stored on G Street Pier. Taken October 9, 2017

2. **Trap storage.** Tuna Harbor's trap fishermen (lobster, crab, spot prawn, and groundfish) also have limited space to store their traps on G Street Pier. As mentioned in Footnote 13, lobster fishermen are limited to 300 traps per permit, with an ability to fish up to 600 traps if he/she owns two permits. Implementation of the trap limit has not lessened demand for trap storage for Tuna Harbor's lobster fishermen. The Port has allowed the lobster fishermen to store traps on Grape Street Pier at similar rates. Trap fishermen will have different storage needs depending on the status of their fishery. For example, lobster fishermen will likely need additional, short-term, storage closer to their vessels in the weeks immediately preceding the opening, or right after the closure, of the commercial fishery.
3. **Miscellaneous Gear.** Tuna Harbor's pole-and-line albacore vessels and longline vessels have minimal need for gear storage, but also lack secure locations for such. For pole-and-line vessels which participate in other fisheries, there is no location to safely store gear needed for those other fisheries while they are out at sea, for upwards of five months, fishing albacore. For example, the F/V Sea Haven participates in the drift gillnet swordfish and shark fishery when it returns from its albacore season. Secure onsite storage for the net and drum/spool is necessary.

Possible Solutions:

- Net sheds for storage of nets/gear.

As mentioned above, there is insufficient storage for nets and gear at Tuna Harbor. This is also a problem at Driscoll's, but each needs to be addressed separately because the layout of Tuna Harbor is significantly different. To serve fisheries which are dependent on using nets, additional storage is required. This recommendation includes a provision for facilities which will keep the nets out of the elements. Sun can wreak havoc on nets and lessen their useful service time. Either sheds or old shipping containers could be viable solutions.

Sheds vary in size and volume (see Figs 3.15 and 3.16). More detailed discussions with the net fishermen could determine their exact needs. The following examples give a rough cost estimation by size and model:

- o Oakbrook 10'x14' Storage Shed is currently being advertised for \$599.99



Fig 3.15 - Oakbrook 10'x14' Storage Shed

- o DuraMax Sheds Vinyl Garage 10.5'x20.5' with Foundation kit for \$2,199.99



Fig 3.16 – DuraMax 10.5'x20.5' Vinyl Garage

Sheds would be the preferred structure if they could be placed in an area with direct access from the dock or water. For example, a shed on a barge fixed to a dock could work for non-purse seine net fishermen (gillnet, etc). Sheds can be locked, adding to an additional security element for storage.

- Container Storage for nets/gear

Like sheds, containers come in various dimensions. Typically, these come in 10-foot, 20-foot, and 40-foot lengths (Fig 3.17 represents a 40-foot container). Because they are designed to fit on trailers, they typically have a standardized width of less than 10 feet. This would allow a container to sit on G Street Pier and not extend into the fire lane. Containers can also be locked for security purposes. Prices of containers vary depending on size and condition. Some sellers of used Containers are modifying them

by adding a door on the back side, so that access can be gained from either end. For fishermen with more than one net, this would be highly advantageous in that they could store two nets in the same container without having to worry about potential access problems. Modifications allowing top-loading would better serve the purse seine operations in Tuna Harbor.

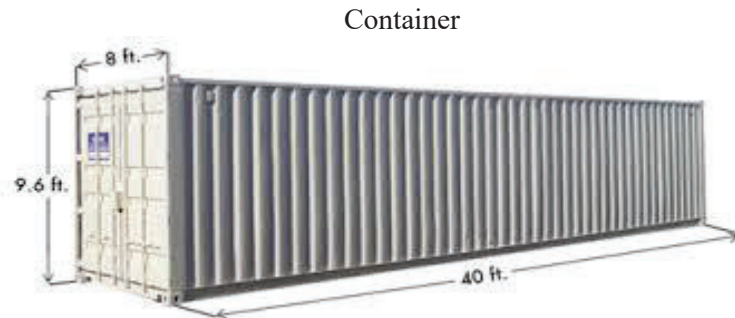


Fig 3.17 - From shippingcontainers24.com

Recommendations:

1. Allow commercial fishermen to continue to use the Grape Street Piers for gear and trap storage. It is understood that this use is not in compliance with the Port Master Plan, which designated this area Park/Plaza. It is further understood that a change in designation to Commercial Fishing is not likely. It is recommended that Commercial Fishing be defined as a priority non-conforming for the area encompassing the Grape Street Piers. It is further recommended these Piers be surveyed for their safety and structural ability to serve this purpose. If they are not, necessary repairs should be made. To provide commercial fishermen with adequate assurances that they will have ample time to relocate gear stored on Grape Street Pier, a one-year notice condition be incorporated into any proposed Park/Plaza development of the Grape Street Pier area.
2. Explore the possibility of placing a shed structure on a barge for use by vessels participating in the gillnet fisheries. If this is possible, determine with fishery participants if one shed, or more, would be necessary, and how best to configure the structure to minimize difficulties in storing and/or retrieving nets. Given that one drift gillnet can be up to one-mile in length, careful consideration must be given as to whether a shed or a container on G Street Pier would be preferable.
3. Explore purchasing used Containers that could be placed on G Street Pier for use as net storage and other gear storage. Determine the requirements of the net fishermen to ascertain if a 20-foot, 30-foot or 40-foot container will satisfy their needs. It is likely a gillnet fisherman would be satisfied with a 20-foot container; while a purse seine vessel's nets may require a larger container. An ability to partition or subdivide a larger container may also attract non-net fishermen to utilize it for storage of gear they may currently store at home or off-site because of security concerns. An ability to stack containers atop one another could create more space for storage. Perhaps placing a 30-foot container atop a 40-foot container would alleviate any safety concerns.
4. The Port, Developer, and fishermen should formalize a gear storage policy which addresses derelict or abandoned gear

Benefits:

- ***To the Port's Commercial net fishermen.*** A safe, secure, sheltered and dry place to store their nets will greatly benefit their operations. As mentioned above, nets are currently stored under tarps on G Street Pier. Use of sheds or containers would also guard against these nets catching fire. Sheds/containers do not lessen the need for adequate security and other amenities (shore power, secured gates, adequate lighting, etc.)
- ***To the Port's non-net Commercial fishermen.*** An ability to store their gear (traps, drums, tools, etc) in a secure, dry location adjacent to their vessels could increase productivity of their operations. Removing exposure to the elements and minimizing the chance of theft would allow them to centralize their operations, especially for those who currently store much of their gear/equipment off-site.
- ***To the Port.*** Containers lined up neatly on G Street Pier certainly offers an aesthetic improvement over current gear storage on the Pier. Potential for fire on the Pier is minimized because there would no longer be piles of dry net sitting out in the open.
- ***To the Developer.*** Assuming a relative low cost (ie under \$2,500 for a usable shed and under \$5,000 per container) it shouldn't take long to recoup that cost even at the current rate charged for gear storage on G Street Pier (\$16/month for roughly 100 square feet).
- ***To the Community.*** A net just taken off the boat and left to dry in the sun can create odors that aren't pleasing to the senses. Use of a container/shed can help minimize that problem. Additionally, a creative and artistic person, or group of persons, could likely come up with an interesting way to utilize the side of the containers facing land. Artistic expression, advertisement, etc. could bring recognition of the fishing industry and serve as a draw.

D. Offloading facilities

Santa Monica Seafood/Chesapeake, manages the cranes at the offloading facility in Tuna Harbor. It is located across the boardwalk from the offices of Santa Monica Seafood/Chesapeake., to the west of Fish Harbor Pier. It is the rectangular area, outlined in yellow, in Fig 3.18..



Fig 3.18 – Location of offloading cranes in Tuna Harbor

There are two cranes located within this facility that are typically used to offload swordfish, shark, other Highly Migratory Species, white sea bass, halibut, yellowtail and other finfish species – See Fig 3.19.



Fig 3.19 - Offloading cranes located in Tuna Harbor. Taken October 9, 2017

Santa Monica Seafood/Chesapeake charges a fee for the use of the cranes. Many fishermen have expressed concern that unless you sell the catch to Santa Monica Seafood/Chesapeake, there may be difficulties in scheduling offloads. Disputes can arise regarding getting ice, access to bait, and other issues.

Other fisheries operating within Tuna Harbor (typically those selling live product) don't regularly require use of this heavy-duty crane for offloading purposes. They do have needs for a crane to assist with engine work or other maintenance activities.

- Commercial lobster fishermen will either deliver their product to an offsite buyer, such as Catalina Offshore, or the buyer will come to the dock to pick up product. Lobster is sold alive and offloading typically requires a small tote, trash can and a dolly.
- Crab, spot prawns, snails, certain groundfish, and nearshore species are typically sold live and are handled in the same manner as lobster.
- Sea urchin may use the services of a crane, depending on the fisherman or the amount of catch to be offloaded, but the need to keep the urchin alive could be a factor in choosing whether or not to do so. While it may be easier to offload urchin using the crane, inadequate adjacent facilities exist to keep the product alive pending sale.

Many fishermen (particularly in the lobster and urchin fisheries) hold product in underwater receivers at the dock, pending sale. Water within the harbor is typically warmer than where the seafood was sourced, which can increase the incidence of dead loss prior to reaching market. See Post-Offload Product Handling under Section IV, F below.

The Port's commercial fishermen believe that independently owned and operated offloading facilities, or facilities controlled or managed by the fishermen themselves, would be beneficial. Pressures felt by the fishermen using the Santa Monica Seafood/Chesapeake crane, to sell to them create unpleasant experiences. They cite the self-operated crane at Santa Barbara Harbor as an example of a preferable system (see Fig 3.20). Fishermen there use the crane to offload their

catch directly into a waiting truck or van. There is a fee to utilize the crane at Santa Barbara, but the fee is time-based, rather than based on pounds offloaded.



Fig 3.20 – Offloading crane in Santa Barbara (from jettyfishjournal.com)

Recommendations:

1. Cranes to support offloading:

I. In the short term:

- Work with Santa Monica Seafood/Chesapeake and the SDFWG to facilitate an arrangement where control over the current offloading cranes is shared.

II. In the long-term

Replace the cranes currently at Santa Monica Seafood/Chesapeake with two cranes, location to be determined, but ideally in two distinct areas to maximize their utility. These cranes would be independently owned and operated; or controlled by the SDFWG. To increase efficiencies, each of these cranes should have the ability to rotate 270 degrees.

- A standard crane, like those currently employed in Tuna Harbor and Driscoll's, capable of lifting up of 3 tons at a distance of 20 feet from the crane's structure. It would make sense for this crane to be located at the same location as the current Santa Monica Seafood/Chesapeake cranes.
- A knuckleboom crane capable of lifting up to 5–7 tons at a distance of 30 feet from the crane's structure. A knuckleboom crane differs from a standard crane because the boom articulates at the 'knuckle' near the middle, letting it fold back like a finger. This provides a compact size for storage and maneuvering, while also allowing it to reach farther away from the crane's structure. Inclusion of this larger crane will serve a number of purposes, including (1) offering an alternative location for offloading if there is a queue for the other cranes at Tuna Harbor and/or Driscoll's due to the presence of other vessels (longline, tuna seine, pole-and-line or wetfish); (2) providing infrastructure to support removal of an engine or other heavy equipment from commercial

fishing or other vessels; and (3) providing an alternative offloading location for commercial fishing vessels which currently offload in Los Angeles, Ventura, or San Francisco.

A knuckleboom crane can either be fixed or placed on the back of a large truck for mobility purposes. The mobile crane option is not preferred as it may require a driver with a commercial license and/or a Teamster or private company on call and unlikely to be readily available 24/7, which the boats need. If a fixed location is preferred, placing it on G Street Pier or Market Pier would make the most sense. Exact location on either Pier to be determined; but closer to appropriate roads would be preferable given the need for truck access to the crane. If the mobile option is preferred, having a safe and secure location for storage/parking will be necessary.

The Occupational Safety and Health Administration (OSHA) recently issued a regulatory package that requires certain crane operators to be certified¹³. This goes into effect in November of 2018.

Benefits:

- ***To the Port's commercial fishermen.*** New, higher capacity cranes, separate from those owned, operated or managed by a processor or other non-fishermen, would offer more flexibility and could lessen the chance for potential conflicts. Fishermen are inherently aware of potential scheduling conflicts and have a better understanding of why a later-arriving vessel may be offloaded before the vessel which preceded it. Redundancies between Driscoll's and Tuna Harbor will lessen the chances of disruption to the supply chain if one of the facilities becomes unusable. This also benefits the local buyers and processors which are dependent on longline harvested product. Additionally, the addition of a knuckleboom crane will minimize potential downtime resulting from mechanical issues with the vessel's machinery by making it easier to schedule necessary maintenance or repairs of engines or other pieces of heavy machinery. Currently neither commercial fishing harbor has a crane available to the fishermen to assist with heavy duty maintenance projects, such as engine removal.
- ***To the Port and Developer.*** The recommendation above has built-in redundancies to ensure vessels that want to offload in San Diego have an ability to do so, even if one of the locations is taken offline.
- ***To local seafood businesses.*** The uninterrupted ability to offload vessels with Highly Migratory species will supply local restaurants, fish markets, and retail outlets with in-demand Highly Migratory Species, such as albacore, swordfish, yellowfin tuna, bigeye tuna, opah, etc.
- ***To other local maritime-based businesses.*** Convenient location of a knuckleboom crane could benefit the sportfishing fleet, tug boats, and other maritime-based business in the same way as the commercial fishermen benefit by reducing the potential downtime resulting from mechanical issues.

E. Post-Offload Product Handling

¹³ See - <https://www.gpo.gov/fdsys/pkg/FR-2017-11-09/pdf/2017-24349.pdf>

This is a catch-all category for product storage post-offload. It includes ice, live tanks, cold storage, freezer space, processing needs, etc. The THDM and a possible future Fish Auction are included here and discussed separately.

1. Tuna Harbor Dockside Market (“THDM”)

To further capitalize on the successes of the THDM, the fishermen believe securing a permanent location for the THDM is of paramount importance. As the Developer has already entered into discussions with the THDM owners and managers, there is confidence this need will be met.

Recommendation:

Owners and managers of the THDM continue to engage in discussions with the Developer and its architect to finalize plans for the layout, design and location of the THDM space.

Benefits:

- ***To the Port’s commercial fishermen.*** Continuity of the great successes of THDM is necessary. Interim activation of a more permanent facility, along with provision for some of the other infrastructure recommendations included in this Report, would support expansion of THDM to additional weekdays.
- ***To the Port, Developer, and local seafood businesses.*** The THDM has proven to be a success story for the fishermen, the Port, local seafood consumers, local restaurants, local food groups, etc. Placemaking a specific location for THDM could allow for a design that showcases more of what the Port has to offer to visitors.
- ***To the Consumers.*** THDM continues to provide fresh, locally landed seafood and access to species consumers may not encounter elsewhere (Pomfret, Opah, etc – see Figs 3.21 and 3.22). It allows them to experience, and learn from, their local fishermen, and provides understanding of the differences between a Fishermen’s Market and a Fish Market.



Figure 3.21 – Pomfret on display at the Tuna Harbor Docks Market. Courtesy THDM Facebook page.



Fig 3.22 – Opah (Moonfish) being offloaded at the Tuna Harbor Docks Market. Courtesy THDM Facebook page.

2. San Diego Fish Auction

Presently, there are two fresh fish auctions in the United States: the Honolulu Fish Auction¹⁴, in Honolulu, Hawaii, and the Portland Fish Exchange¹⁵ in Portland, Maine. One of the goals of the improvements and upgrades to the commercial fishing infrastructure should be attracting vessels to the Port which currently offload their catch in Los Angeles or San Francisco. If this goal is attained, there will be an opportunity to establish a Fish Auction in San Diego. Many San Diego based commercial fishermen have also expressed an interest in expanding this auction concept to the internet.

The Honolulu Fish Auction is based on the famous Tsukiji fish auction which takes place in Japan. The Honolulu Auction currently takes place six days a week¹⁶. Both Honolulu and Tsukiji have travel tours. Honolulu conducts tours by reservation only, on select Saturday mornings from 6:00am – 7:30am. Tours cost \$25 for adults and \$20 for children 8–12 years old¹⁷.

¹⁴ The Honolulu Fish Auction, which opened in 1952, bills itself as the only fresh tuna auction in the United States. See - <https://www.hawaii-seafood.org/auctiontour/>

¹⁵ The Portland Fish Exchange, which opened in 1986, holds auctions Sundays through Thursdays. <http://www.pfex.org/auction/>.

¹⁶ See - <https://www.hawaii-seafood.org/honolulu-fish-auction/>

¹⁷ <https://www.hawaii-seafood.org/auctiontour/>

The Portland Fish Exchange is America's first all-display fresh fish auction. In addition to auction services, the Exchange provides information and advocacy for Maine's seafood industry in multiple venues. Auctions taken place five-days a week and has an online presence via The Exchange's Electronic Internet Auction. Buyers and sellers can access the auction either on premise or remotely using a properly configured personal computer. A tool on the Exchange's website allows the user to generate price reports for a specific period of time¹⁸.

Recommendation:

Conduct a market demand study on the potential for a Fish Auction in San Diego. Though an Auction is not a near-term goal, the study should, at a minimum, develop the following information:

- A demand and feasibility study to determine if sufficient demand exists, or could exist, for varying levels of supply. While Highly Migratory Species (tunas and swordfish) will likely be the primary attraction, other locally harvested seafood products could be available as well.
- Permitting, FDA requirements, and other necessary governmental approvals or licenses.
- Potential cross-industry collaborations as part of tour packages, including hotels and/or the aquarium. There could be many opportunities available.
- Applicability of an online component for a San Diego Fish Auction.

Benefits:

- ***To the Port's commercial fishermen.*** As with the THDM, this would give the fishermen an opportunity to interact with a different set of potential buyers of their product. It also provides additional promotional and educational opportunities.
- ***To the Port, Developer, and local seafood businesses.*** An auction represents a theatrical opportunity which would draw consumers and tourists. This would be the first such venue on the U.S. West Coast.
- ***To Auction Customers.*** A whole new way for West Coast buyers to purchase their fish and seafood products. Allows them to experience, and learn from, the fishermen who harvested the product.
- ***To local Tourism.*** Properly planned, marketed and promoted, this would be a new destination for tourism to San Diego.

3. Ice

Ice needed by Tuna Harbor fishermen is typically sourced from Santa Monica Seafood/Chesapeake. The ease and simplicity of sourcing from Santa Monica Seafood/Chesapeake enables a fisherman to get ice after offloading, provided there is not high demand on the offloading facilities. Santa Monica Seafood/Chesapeake can produce roughly five to seven tons of ice a day; but getting that ice from their building to the vessel has proven

¹⁸ See the Exchange's Price and Landing Tool - <http://www.pfex.org/price-landing-tool/>

challenging at times. Ice is loaded into a tote and then wheeled out to the vessel. From there, it is shoveled into the vessel's hold. Foot traffic, the time it takes to move ice from the building to the vessel's fish hold, and the lack of a system to blow ice into a vessel's fish hold all make the process of loading ice time consuming, cumbersome and inefficient.

Recommendation:

Locate an ice machine in close proximity to the offloading pier.

San Diego commercial fishermen estimate that roughly 50 vessels out of Tuna Harbor and Driscoll's Wharf would take ice with them on their trips, if it was readily available and easy to load. These vessels primarily participate in the swordfish, groundfish and halibut fisheries. Currently, the ability to produce five–seven tons of ice/day is deemed sufficient, but there should be some flexibility so that when conditions change, the need for ice will still be met. For example, when albacore eventually return to Southern California waters, the need for ice will likely double; the daily ice requirement could approach 20 tons/day.

As with access to freezer space and refrigerated areas (described in greater detail under Item E5 of this Section IV below), fishermen are aware that an ice machine will have to be temporary and its location subject to change until a more permanent structure is built. It is imperative, however, that it be located near where offloading activities take place. Thus, it may make sense to consider the Santa Monica Seafood/Chesapeake location as a temporary location.

Further conversations with fishermen to ascertain their requirements regarding an ice machine are necessary. Flake or cracked ice is preferred for fishing applications. There are several manufacturers which produce machines providing this type of ice. Morro Bay commercial fishermen are now using the North Star Model 60 flake ice maker¹⁹ which can make 18 tons of ice a day and can store up to 32 tons at a constant 20 deg F. Ice can be delivered to totes or directly to fishing boats, via a hose, at the rate of a quarter ton an hour. Holiday Ice, in Florida, recommended two 5-ton machines, as the energy usage will result in significant cost savings. Each machine costs approximately \$31,000. Another option is to produce large blocks of ice, and then process the blocks through an ice crusher to produce flaked or crushed ice or ice shavings.

In addition, consideration needs to be given to mechanisms which ease the process of moving ice from the machine to the vessel's fish hold. Other ports have systems that allow ice to be blown directly ice into the boat. Fig 3.23 shows a system whereby ice is deposited into a vessel's fish hold via a hose.

¹⁹ See - <https://www.northstarice.com/blog/success-stories/post/morro-bay>



Fig 3.23 - Blowing ice into a vessel's hold – photo from <https://www.northstarice.com/catalog/product-applications/seafood>

Pole-and-line, longline, drift gillnet and purse seine vessels typically won't require ice as they are equipped with blast freezers, spray brine systems, ice makers, or chillers which circulate chilled sea water through their fish holds.

Implementing this Recommendation:

1. Assuming either flaked or cracked ice is preferred and that block ice (which can be crushed or shaved into flaked or cracked) is acceptable, determine if there is a current location in Tuna Harbor where such a machine can be located which is both secure and near offloading facilities. As the redevelopment project moves forward and more clarity is provided regarding where future offloading facilities may be located, ensure there is adequate space for the preferred ice machine in any building which will be constructed adjacent to such offloading facilities.
2. If a satisfactory location can be easily determined, consider a system that would blow ice into a vessel's hold, like the one in use at Morro Bay. If a satisfactory location cannot be easily determined, consider temporary solutions to address the concerns of getting ice from a bin into the vessel's hold. For example, a "door" could be cut into the bin that would allow gravity to feed the ice down a chute into the vessel's hold.
3. Consider locating the ice machine separately from the offloading facility. This would allow the offloading facility to unload another boat instead of sitting idle while the ice is being blown into the hold (at the rate of a quarter ton an hour; see footnote 21).
4. How will costs be recovered and who would be responsible for maintenance of the ice machine?
5. It may be impractical to install ice machines at both Tuna Harbor and Driscoll's. If so, the Driscoll's facility may be preferable. As is further discussed below, the potential inconvenience to Driscoll's commercial fishermen would be much greater and the opportunities for revenue generation resulting from sales to non-

commercial fishermen both support prioritization of Driscoll's in the event only one ice facility is deemed necessary and/or appropriate.

Benefits:

- ***To the Port's commercial fishermen.*** A steady supply of high quality ice will enable the fishermen to maximize the value of their catch. If the ice machine is managed by the fishermen, it may lessen their ice costs. If a system which accommodates the blowing of ice directly into a vessel's fish hold is chosen, this will lessen waste of ice. Currently, a shovel is used to get ice from the bin into the vessel's fish hold. This is inefficient and results in wasted ice.
 - ***To the Port, Developer, and local seafood businesses.*** Such a machine will ensure a high-quality product is delivered to San Diego's seafood consumers. Waste of fresh water would be reduced by automating the process of getting ice into the vessel's fish hold. The Developer desires to capitalize on the "theatrical" aspect of commercial fishing operations, including offloading, to draw visitors at Tuna Harbor
- 4. Holding facilities for live seafood.** San Diego's commercial fishermen rate this a high priority. While there is some access to holding facilities for live seafood products, it is thought to be insufficient given improvements in markets for live product. To serve and expand these higher-value markets, there is a need for holding facilities for a steady supply of quality product. Depending on the species being held, product could be kept in holding facilities significant periods of time. This would also allow fishermen to take advantage of price swings by holding on to their catch until price increases.

Tuna Harbor's commercial fishermen are currently utilizing the following to keep their product alive pending sale:

- Large receivers in deep water in San Diego Bay (for example, the Everingham Brothers bait boxes);
- Small receivers tied to the dock inside Tuna Harbor;
- Plumbed live tanks aboard fishing vessels;
- Tanks on land or located on the dock.

As the fishermen develop more specialty markets, the ability to offer customers live product will benefit:

- The fishermen - in terms of higher price;
- The buyer/processor - confidence they are purchasing a fresher product for their clientele; and
- The consumer - in terms of freshness and quality of the catch.

Holding live seafood can be accomplished by designing a series of tanks/well systems which circulate or recirculate refrigerated sea-water. Buyers such as Catalina Offshore, which currently have large holding tanks in their facilities, should be consulted when designing such systems as there are many nuanced details to be incorporated to ensure these systems function as planned. For example, tools to measure ammonia levels and/or other waste products; alarms which indicate low oxygen levels and/or pump failure, etc. This becomes more complex

because different species have different water temperature, circulation and water quality needs. Fig 3.24 shows one of the live tanks at Catalina Offshore.



Fig 3.24. Holding tank at Catalina Offshore. Courtesy Catalina Offshore.

The following fisheries would likely benefit from accessible holding facilities:

- Coastal Pelagic Species: Sardine, Anchovy, Pacific Mackerel and Jack Mackerel;
- Finfish: Sheephead, Halibut and Sand Dab;
- Crustaceans: Rock crab and Spiny Lobster;
- Snails: Kellet's Whelk and Top Snails; and
- Other: Red Sea Urchin and Spot Prawns.

Tuna Harbor's commercial fishermen highlight the following infrastructure requirements to address this need:

- Hookup to a salt water source which can draw in fresh sea water.
- A large holding tank (approximately 2,000-gallon capacity) with appropriate pumps for circulation, thermostat to control water temperature, and a full alarm system.
- A modular design of fifteen to twenty individual 150–500-gallon tanks. Some of these should be located within the area serving the THDM to facilitate sales of live product on Market days.
- Hook up to sewer or other means of discharging water from the tanks

Recommendation;

After consulting with the local buyers, collaborate with the Tuna Harbor fishermen to design viable and workable, land-based, live seafood holding facilities. If there is a land-based aquaculture presence in the development area, it may make sense to see if economies of scale exist where both user groups could inform the design phase to minimize duplicative costs, efforts and facilities.

Benefits:

- ***To the Port's commercial fishermen.*** An ability to capitalize on the growing demand for live product which typically carries a much higher price per pound.

- ***To the Port, Developer, and local seafood businesses.*** Designed and located properly, these could draw visitors on their own accord. Collaboration with local aquaculturists could result in sharing of costs and technology.
- ***To visitors to the Tuna Harbor area.*** While the intent is to keep seafood alive until it goes to market, a secondary benefit would be the ability of these facilities to draw visitors to the Project area. Kiosks or signage could articulate information on what is currently in the tank(s), and that species' role in San Diego's commercial fisheries, San Diego's local economy and the local ecosystem.

Potential problems:

- I. ***Management and fees for use.*** With limited tanks, how will they be made available to the fishermen and what will be the fee for these? This will have to be addressed by the SDFWG.
- II. ***Maintenance.*** In addition to keeping the tanks clean, proper and timely maintenance of the pumps, thermostats, etc. will be very important to minimize occurrences of waste.
- III. ***Waste.*** If a circulating or recirculating pump fails in the middle of the night and the product in that tank dies, who will be responsible for that dead loss? Causing or permitting "waste of a fish taken in the waters of this state, or brought into this state" is unlawful under California law²⁰.

5. **Freezer Space and Cold Storage Availability.** Both are considered inadequate for Tuna Harbor fishermen. This has impacted how fishermen prepare for and harvest in advance of Saturday's THDM and limits expansion of the market and other alternative marketing arrangements. For product which isn't sold live, fishermen must currently store it in ice chests or arrange for off-site storage. Recently, Santa Monica Seafood/Chesapeake Fish Co. has allowed some storing of product for the THDM. Freezer space can allow the fishermen to take advantage of changes in price due to reductions in supply or when selling product out of season.

While this has been deemed a high priority, there is an awareness that reality may dictate for temporary provision at existing locations within Tuna Harbor. A permanent solution may have to wait for construction of a building designed to house meeting rooms, offices, etc.

Recommendation:

1. In the short-term:
Secure adequate freezer and refrigerator space at the Santa Monica Seafood/Chesapeake facility.
2. In the long-term:
Work with the SDFWG to design and locate permanent freezer and refrigeration space in a building and/or office space serving the commercial fisheries and fishermen on or near the docks.

Benefits:

²⁰ Fish and Game Code Section 7704(a)

- ***To the Port's commercial fishermen.*** This provides the ability to have more control over the price they are able to get for their product. If multiple vessels are bringing in swordfish on the same day, the price paid on that day may be lower than if these fishermen were able to store the fish and each sell on a different day. It would also increase the feasibility of operating THDM more than one day a week.
 - ***To the Port.*** THDM has been a great success for the fishermen, the Port and San Diego seafood consumers. The ability to operate the THDM more than one day a week will continue to expand upon that success.
 - ***To the Developer.*** An active, vibrant, working waterfront is an attraction. More and more people are coming to Tuna Harbor for the express purpose of buying locally landed and sustainably sourced seafood. Providing necessary freezer and refrigeration may increase the number of days the THDM is able to operate.
- 6. Wet floor for fish processing.** A wet floor is a separate area within a larger building which has a drainage system and a floor which is capable of repeated exposure to water. The commercial fishermen believe a facility which supports processing their fish before selling it would increase their revenues and profitability. While not identified as a high priority item, this would be an important improvement nonetheless. Fish Processing has been an important service provided to customers of the THDM. There is currently no location for pre-sale processing, or for sales not associated with the THDM. An indoor processing facility would require a drain and other safety measures. There is a general understanding that the Santa Monica Seafood/Chesapeake facility could fill this need in the short-term. In the long-term it would likely have to be added to any building constructed to serve the commercial fishermen.

Recommendations:

1. Short-term:

Have discussions with Santa Monica Seafood/Chesapeake about possibly subleasing a portion of their facility for this purpose. Investigate if the fishermen are able to utilize Santa Monica Seafood's/Chesapeake's HACCP²¹ plan and any other permits which may be required by the City, County, State or Federal Governments.

2. Long-term:

The fishermen need to study the legal requirements for operating such a facility. In addition to permits, there will be insurance and other requirements which may make this a less desirable option than originally thought.

Benefits:

- ***To the Port's commercial fishermen.*** Possible increase in revenues realized with an ability to offer a processed product for sale. The ability to offer a processed product, gives more control of the supply side to the fishermen.

²¹ HACCP stands for "Hazard analysis and critical control points". "HACCP is a management system in which food safety is addressed through the analysis and control of biological, chemical, and physical hazards from raw material production, procurement and handling, to manufacturing, distribution and consumption of the finished product." See <https://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006801.htm>.

- ***To local seafood consumers.*** Allows consumers to source directly from fishermen without having to concern themselves with processing the product and having to dispose of the carcass and other unused parts.

Potential problems:

- I. **Fish processing facilities require a HACCP Plan.** Who would be responsible for submitting the Plan and ensuring all requirements are met?

F. Public Education and Outreach

Efforts to educate the public about the fishermen and fisheries operating out of Tuna Harbor have largely been created and developed by the fishermen in partnership with various community groups²². One of the primary goals of the THDM is to educate consumers, and the public, about local fisheries by having the fishermen interact with them on Saturdays from 8am to 1pm. While successful, it is limited to 5 hours per week.

Signage and other materials for pedestrian and other visitors to Tuna Harbor for education about, and promotion of, San Diego's commercial fisheries is currently limited; there is no indication this is a working fishing harbor. Figure 3.25 is the only signage currently promoting San Diego's commercial fisheries in Tuna Harbor; and it informs the reader how the San Diego based tuna fleet served in World War.

As highlighted in Part 1, San Diego's commercial fishermen have been pioneers in developing more sustainable harvest methods. From the Medina Panel (to address concerns with bycatch of dolphins in the yellowfin tuna purse seine fishery) to participation in trials testing the viability and selectivity of Deep Set Buoy Gear and Linked Buoy Gear, San Diego's commercial fishermen stand at the forefront of environmentally responsible advancements. The Port's commercial fishermen believe placement of signage educating the visiting public on the fisheries operating in and out of the Port will help tell the story of commercial fishing in San Diego. These signs can be fishery-specific or inform the public as to the operations of the vessels they are seeing. It has been suggested that the Port consider mirroring what was developed for the signage around the USS Midway.



Fig 3.25 - Signage at Tuna Harbor. Taken October 10, 2017.

²² Examples include the social media footprint of the Tuna Harbor Dockside Market and some individual vessels operating in Tuna Harbor, Slow Food Urban San Diego, San Diego Food System Alliance, California Sea Grant, etc.

Recommendation:

The Developer, the Port, and the fishermen work together to determine an appropriate number of signs and their content. It may be more feasible to utilize a kiosk signage display stand where the visitor can pick and choose the content in which they are most interested. If so, the fishermen should be integral partners in developing the messages they wish to convey for their specific fishery and operations.

Benefits:

- ***To the Port's commercial fishermen.*** Provides an additional platform to educate the public about what they do and how they do it. The sustainable nature of the fisheries operating out of the Port should be highlighted as well. If used properly, this could be an effective means of promotion for their products and lifestyle.
- ***To the Port and Developer.*** In addition to the benefits the Port receives from promoting locally landed seafood, this could be a mechanism whereby the Port is able to convey messages about upcoming meetings or events. The Developer could sell advertising space and convey messages about upcoming events within the project space.

G. Fisheries museum (Japanese, Chinese, Portuguese, Italian historical societies). This ranked as the lowest priority item to the Port's commercial fishermen. While a historical look at the cultures and peoples integral to the development of today's San Diego commercial fisheries is appropriate, there is a concern that this could be deemed a commercial fishing use and could take acreage away from activities and other uses that more directly benefit the fishermen and fisheries. Also, it was felt that this was separate from the redevelopment project and its inclusion on this list may be misplaced.

V. Driscoll's Wharf Current State and Recommendations

The bulk of the research which informs the Driscoll's Wharf portion of this Report was conducted during the summer and fall of 2017. Many of the fishermen contacted about conditions at Driscolls are unavailable at this time. Some minor discrepancies between what is reported below and what may be the case today are expected.

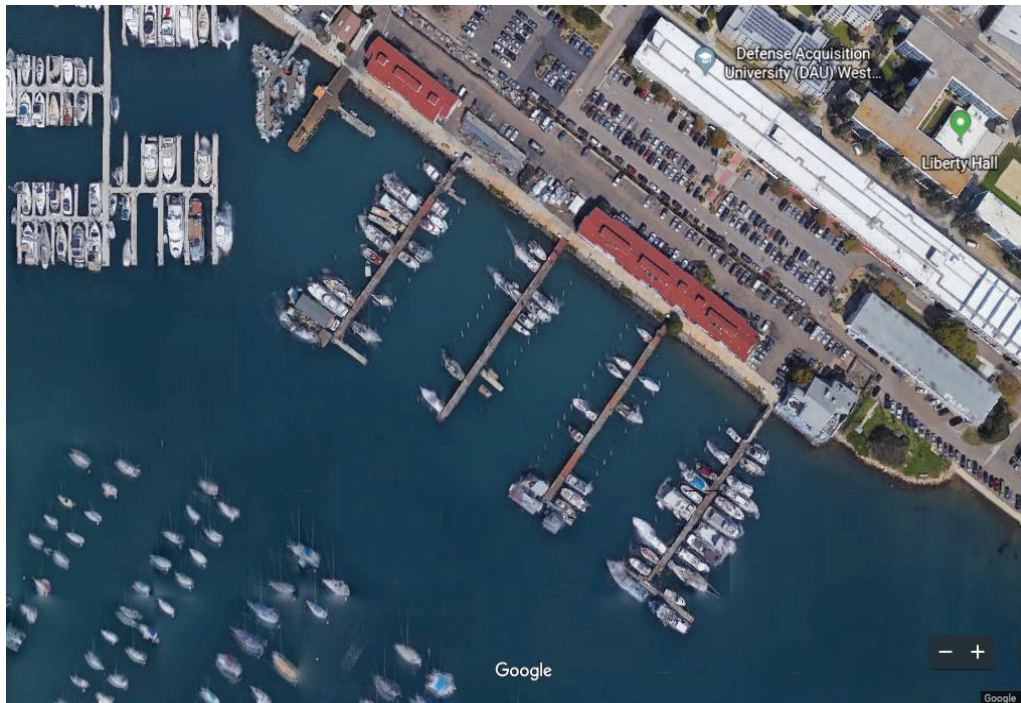


Fig. 3.26. Driscoll's Wharf one of two remaining working harbors in San Diego Bay, San Diego, California. Photo: Google Earth – 2/13/18. The picture is somewhat dated as evidenced by the lack of the newly installed wetfish pump on the offloading pier.

A. Berthing, Dockage, Slip Availability

NOAA Chart 18773 (see - Fig 3.2 above) covers San Diego Bay²³. Fig 3.27 zooms in on the Driscoll's Wharf area (reported depths in feet at Mean Lower Low Water).

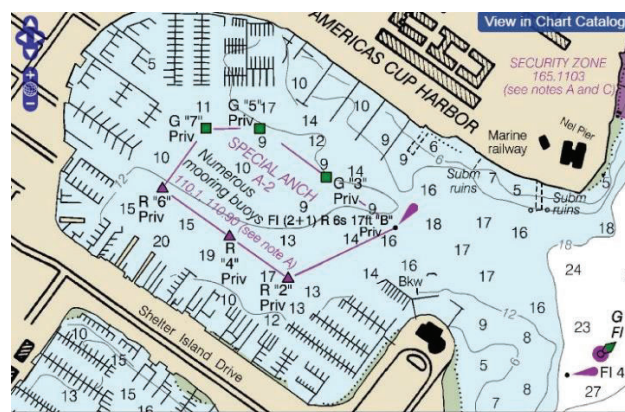


Fig 3.27 – NOAA Chart 18773 – zoomed in in Driscoll's Wharf

Driscoll's Wharf has 128 slips²⁴ of various size ranging from about 20 feet to a little over 60 feet. Unlike Tuna Harbor, where a vessel is fixed to a floating dock, vessels at Driscoll's tie off to pilings and back up to a common fixed pier. See Fig 3.28 below.

²³ <http://www.charts.noaa.gov/OnLineViewer/18773.shtml>

²⁴ See - <http://www.sandiegouniontribune.com/sdut-driscolls-wharf-fishermen-disagreement-2013jun21-story.html>



Fig 3.28 – Vessels tied to a Pier in Driscoll's Wharf. Taken September 25, 2017.

This raises safety concerns for fishermen disembarking their vessels. Other foreseeable issues include potential damage to vessels when docking in inclement weather, liability exposure for the owners, managers, and others. As you can see below (Fig 3.29), climbing from the boat to the common pier can pose a safety concern. A visual inspection of the piers raises questions about their useful life, ongoing maintenance and structural integrity.



Fig 3.29 – Ladders utilized to get on and off a vessel berthed at Driscoll's Wharf. Taken September 25, 2017.

Recommendations:

Study feasibility of a complete renovation of the water-side at Driscoll's. This should consider at least the following: (a) Redesigning commercial fishing berthing so that floating docks are utilized; (b) Expansion of the facility to include additional berthing for vessels in excess of 60 feet; (c) The need for wave attenuation devices if docks are extended to the South (towards North San Diego Bay); and (d) Reconfiguration of the offloading Pier to accommodate multiple vessels at any given time.

Benefits

- ***To the Port's Commercial Fishermen.*** The feasibility study could validate the belief that the Driscoll's piers could be redesigned and/or reconfigured in ways that would make them safer and more efficient.
- ***To the Developer/Port.*** Floating docks are more aesthetically pleasing. Their incorporation at the Driscoll's facility will promote consistency with the other

docks located within Americas Cup Harbor. They would lessen the likelihood of claims for injury to person or property resulting from unsafe piers.

B. Amenities

Included under this category are items such as on-site buildings, security, water, electricity, rest rooms/showers, waste disposal, parking, etc.

1. **On-site Buildings.** Three on-site buildings currently stand at Driscoll's. Though one has been freshly painted it shows signs of wear and tear like the other buildings (see Figs 3.30 – 3.33 below). These buildings likely need to be renovated and redesigned, so they can be used for marina meeting rooms, fish processing, lockers/personal effects storage, etc. A visual inspection of the unpainted buildings showed underutilized space and a need for aesthetic improvements. The Commercial Fishing Revitalization Plan ("CFRP"), prepared in 2009, recommended demolition and new construction for all these buildings using a phased approach²⁵.



Fig 3.30 - All buildings at Driscoll's Wharf. Taken September 25, 2017.

²⁵ Unified Port of San Diego, Lisa Wise Consulting, Inc., Coastal Conservancy, Project Design Consultants, Moffatt & Nichol Blaylock Engineering Group, TerraCosta Consulting Group, Linscott Law & Greenspan, Helix Environmental Planning, Merkel and Associates, & KMA Architecture and Engineering. (2010, April). Commercial fisheries revitalization: Preferred alternative implementation plan. Page 14.



Fig 3.31 - Freshly painted building at Driscoll's Wharf. Taken September 25, 2017



Fig 3.32 – Face of unpainted building at Driscoll's Wharf. Taken October 9, 2017.



Fig 3.33 – Closer look at wear and tear on unpainted building at Driscoll's Wharf. Taken October 9, 2017.

Recommendation:

Implement a phased demolition and reconstruction or a restoration of the on-site buildings. Consult the fishermen at Driscoll's to ensure their needs are considered when designing and planning any such project. Sufficient space dedicated to serving the Driscoll's commercial fishing industry should be the top priority, followed by opportunities for revenue generating activities to help offset construction and/or maintenance costs.

Benefits:

- ***To the Port's Commercial Fishermen.*** Besides being more visually appealing, new buildings could offer benefits to commercial fishing tenants.
- ***To the Developer/Port.*** Much of the office space in the existing buildings is unused or appears unusable. Renovating these buildings could attract new tenants and/or draw attention to the area.
- ***To local Seafood Consumers.*** Carefully planned reconstruction or renovation could support a fisherman's market at Driscoll's to serve the Point Loma/Ocean Beach communities.

2. **Security.** As at Tuna Harbor, security gates stand at the top of each pier and the offloading pier (See Fig 3.34 for the gate atop Pier 8, which is representative of gates atop the other piers at Driscoll's). The common areas used for gear storage are located inland of the pedestrian walkway and are not secured. Driscoll's provides a private security guard who patrols the grounds during weeknights and who will notify local authorities of any perceived illegal or disruptive actions taking place. This guard performs roving patrols between Driscoll's Wharf and other boatyard and marina properties leased by the operators of Driscoll's Wharf. Effective August 1, 2017, a keycard is required for access to the marina restrooms and piers. A \$100 deposit is charged for each keycard issued to a tenant. The fishermen who berth at Driscoll's feel this is satisfactory, therefore no additional security is required.



Fig 3.34 - Security gate atop Pier 8 at Driscoll's Wharf. Taken October 9, 2017.

3. **Fresh Water.** Access to fresh water is considered sufficient to meet the needs of the fishermen.
4. **Shore Power and Electricity.** Shore power connections are available at Driscoll's (see Fig 3.35); but questions remain as to whether the 110-volt connections are delivering 110 volts. The limited number of spaces with 220-volt power available is considered insufficient by the

fishermen. The shore power connections at Driscoll's are "hot," meaning that current is leaked into the water resulting in quicker than normal disintegration of the "zincs" on the vessels²⁶.



Fig 3.35 - Shore power connections at Driscoll's Wharf. Taken October 9, 2017.

Recommendations:

1. In the short-term:

- Conduct an analysis on the current power supply systems to the vessels berthed at Driscoll's Wharf. Note, there is a similar recommendation for Tuna Harbor's power needs. This will necessarily require a needs assessment for the tenants to determine, at least, the following:
 - Which vessels require 220-volt shore power and which do not. It is assumed the larger vessels will benefit from 220-volt power.
 - Are there signs of stray current and, if so, is that a problem throughout the Driscoll's Wharf area?
 - Have there been any issues with available amperage (30 amp v 50 amp)?
 - When was the last time the breakers were serviced and are they conveniently located?
 - Is power supply to Driscoll's being properly utilized?
 - Is the power supply to Driscoll's capable of providing power to a larger number of vessels?

2. In the long term:

- Based on results of the study/analysis above; upgrades will likely be necessary.
- Slips built to serve transient vessels (purse seine and longline vessels) should be equipped with no less than 220-volt, 50-amp, three-phase shore power hook-ups.

Benefits:

²⁶ Zincs are used to absorb electrical currents which would otherwise target propellers or other metallic object below the water line. Stray current entering the water from shore power connections can impact the zincs which can lead to electrolysis.

- ***To Driscoll's Commercial Fishermen.*** Adequate shore power will allow fishermen to run pumps, machinery, etc., without having to run their generators. It also allows them to leave a deck light on when the vessel is at dock, reducing the opportunity for theft or break-ins. If stray current is a problem, correcting that will add longevity to the useful life of propellers and other items of machinery affected by electrolysis.
 - ***To the Port.*** Currently, some fishermen elect to run their generators while at the dock to keep pumps and other equipment running. This results in unnecessary exhaust and other pollutants being discharged. Eliminating unnecessary pollutants furthers the Port's Green Port Program²⁷.
 - ***To residents adjacent to Port property.*** Fewer pollutants from generators will reduce opportunities for unhealthy air quality.
5. **Restrooms/showers.** There is a tenant-only restroom located on the Driscoll's property (see Fig 3.36) as well as a public restroom near the property entrance (see Fig 3.37). The restroom on the property requires a key card for access. The on-site showers are in sub-standard condition with broken fixtures, flooring, and presence of mildew. With some minor repairs and cleaning, they would be considered adequate.



Fig 3.36 - On-property restrooms at Driscoll's Wharf. Taken October 9, 2017.

²⁷ See - <https://www.portofsandiego.org/environment/green-port.html>

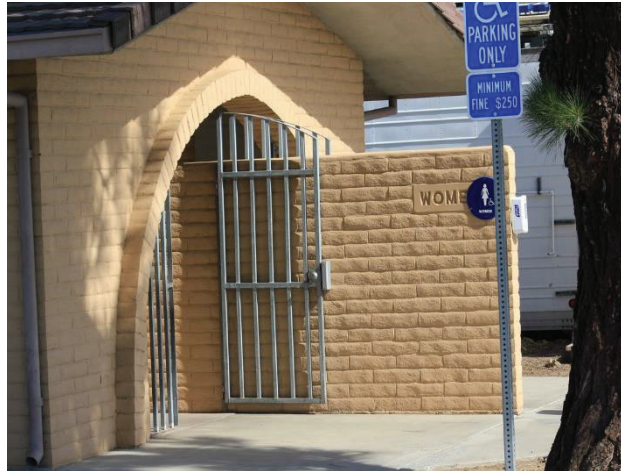


Fig 3.37 - Public restroom adjacent to Driscoll's Wharf. Taken October 9, 2017.

6. **Waste disposal.** There is one main trash dumpster and one recycle dumpster located atop Pier 6, near the on-property restrooms on the parking lot side. There are also two covered trash cans at the head of each pier and just outside the restrooms. Each business day, custodial staff consolidates the trash at head of each pier and places it in the main dumpster. By the end of the week, and through the weekend, the dumpster is usually full and overflowing, resulting in trash being spread around by seagulls and varmints.

Recommendation:

Increase the number of trash pick-ups during busy seasons.

7. **Parking.** Parking is considered adequate for the current activities at Driscoll's. Because parking is shared with other tenants at Driscoll's, there is a concern that parking will become an issue if the buildings and docks are made more usable, drawing more tenants to Driscoll's in the future.
8. **Office space and meeting rooms.** Presently there are no meeting rooms available to the fishermen at Driscoll's. In the past, meetings were conducted outside by the net mending area or aboard vessels.

Recommendation:

Ensure sufficient office space and meeting rooms are provided in any future buildings planned in support of commercial fishing operations in Driscoll's Wharf.

Benefits:

- ***To the Port's commercial fishermen.*** Space controlled by and managed by the commercial fishermen allow meetings to be scheduled when convenient for them, rather than being dependent on availability at alternate locations. This space could be a source of revenue for the commercial fishing entity if this space could be rented out to other groups seeking meeting sites.

C. Gear storage

Gear storage needs at Driscoll's differ from those at Tuna Harbor. There are no purse seine vessels currently berthed at Driscoll's, therefore there is no current need for purse seine net storage. Gear storage at Driscoll's Wharf, however, is considered insufficient. Between two of the existing buildings there is a lengthy area (estimated at no longer than 500 feet) which serves for gear storage. A portion of this (roughly 100 feet) is an open structure designated for net mending, with additional storage available on the roof of that structure. Access to the roof is via a staircase. Additionally, portable sheds serve as storage for nets and other gear. See Figs 3.38 – 3.40 below.

In addition to issues related to storage, getting gear on and off a vessel is challenging and time consuming. Dollies, provided by wharf management, are limited in what they can carry. The pier used for offloading is often locked and is not immediately adjacent to gear storage.

Monthly Storage fees at Driscoll's are as follows:

- Gear stored on the ground or net storage: \$.50 x square footage
- Gear stored in Driscoll's owned totes: \$25
- Freezer storage (one per vessel): \$25
- Gear stored overhead of the net mending area
 - Swatters/rollers: \$15
 - Swordfish planks: \$25

Equipment fees, which are waived for use with Swatters and Rollers, Swordfish planks and Driscoll's owed totes.

- Forklift: \$50/hr (0.5 hour minimum)
- Crane: \$100/hr (0.5 hour minimum)



Fig 3.38 – Driscoll's Wharf gear storage area facing south. Taken October 9, 2017.



Fig 3.39 - Driscoll's Wharf gear storage area facing north, from behind the dolly included in the above picture. Taken October 9, 2017.



Fig 3.40 - Roof of open structure (stairway leading to rooftop clearly seen in above photo) with swordfish planks. Taken October 9, 2017.

Recommendations:

The discussion above regarding gear storage at Tuna Harbor is equally applicable here.

1. As previously mentioned, the CFRP recommended all of Driscoll's land-side buildings be demolished and rebuilt. If it also found that the Piers and docks should also be replaced, gear storage can be addressed in the reconstruction using a combination of portable sheds on the end of the docks and containers (like those described above for Tuna Harbor).
 - *Portable sheds could be placed on the end of any newly redesigned floating docks.* Security of these sheds would need to be considered, but these would offer a significant improvement over the current storage shed in terms of ease of access and efficiencies in changing gear and/or putting gear away for storage.
 - *Containers could be stacked and shared.* As at Tuna Harbor, containers are flexible in their various configurations.
2. Redesign the layout of the area currently used for gear storage. Incorporate sheds and/or containers in a way that inefficiencies and safety concerns are addressed, while also maximizing the amount of allowable square footage available for such use.

3. Formalize a gear storage policy with input from the Port, Wharf Manager, and fishermen to address derelict or abandoned gear.

Benefits:

- ***To the Driscoll's Wharf Commercial fishermen.*** A safe, secure, sheltered, and dry place to store their gear will greatly benefit their operations.
- ***To the Port.*** Clean, organized, and well-planned gear storage minimizes the chances for injuries or worse.
- ***To the Wharf Manager.*** Assuming a relative low cost for sheds (\$2,500) and containers (\$5,000), these could be sources for revenue for the owner or manager.

D. Offloading facilities

Driscoll's has one offloading pier that includes a crane, a smaller hoist, and a newly installed wetfish pump.

1. The Offloading Pier

The offloading Pier at Driscoll's Wharf is small compared to similar operations in other ports. Its ability to support only 9,500 lbs of weight limits its utility as a primary offloading site. The Pier can accommodate up to two vessels at a time, but with the newly installed wetfish pump access may be restricted and limited when there are vessels offloading. This is described in greater detail under Item 5. See Fig 3.42. Larger vessels may have problems tying up to the wetfish pump side of the Pier given the dinghy dock located close to the offloading Pier.

There are also concerns about water depths at the offloading Pier at low tide. Longline vessels report resting on the bottom while offloading during low tides. A fully loaded purse seine vessel will likely encounter similar problems; in addition, pumps running to support their operations run the risk of sucking mud through their pump intakes and damaging these systems.

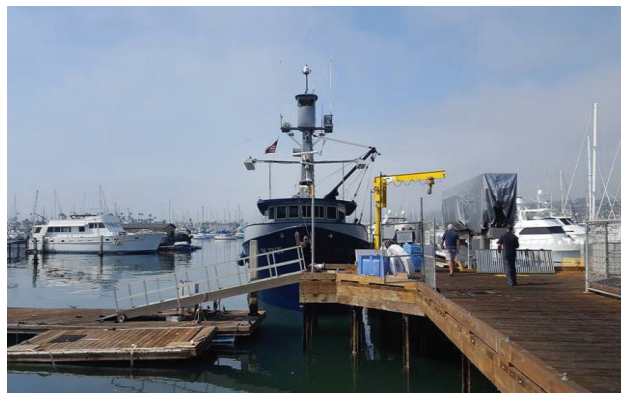


Fig 3.41 - California market squid vessel visiting Driscoll's Offloading Pier. From Driscoll's Wharf Facebook page

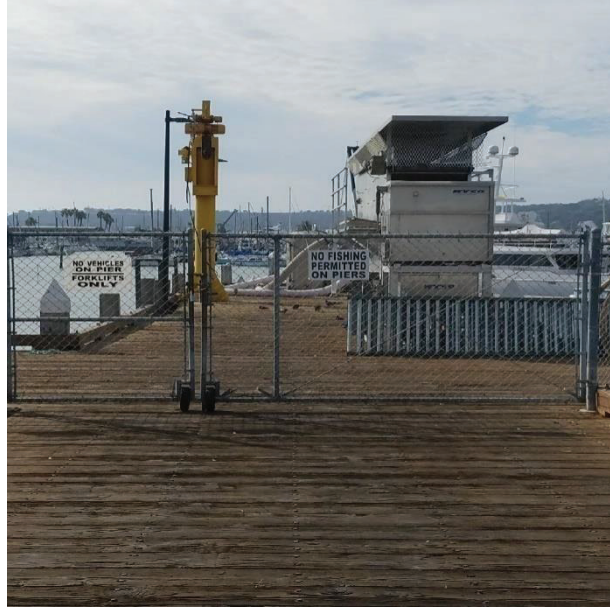


Fig 3.42 – Looking down the Offloading Pier at Driscoll's Wharf. Taken September 25, 2017.

Recommendations:

1. A site survey or Facilities Condition Assessment needs to analyze the following items: (a) Structural integrity of Pier; (b) State of the materials above and below water line to determine their useful life (for example would strengthening the caps and stringers increase load bearing); and (c) To address the potential of vessels grounding during offloads, determine the need for dredging the area surrounding the offloading pier. If dredging is deemed necessary, will presence of Eel Grass be a limiting factor? Additionally, what permitting, mitigation and/or disposal methods are required?
2. Based on the results of the site survey or Facilities Condition Assessment, determine if renovation or restoration are viable long-term options. If so, schedule renovations so as not to overlap with construction activities which may take place in or at Tuna Harbor. If renovation/restoration is not viable, replace the existing Pier structure with a larger, stronger Pier which can support the needs of the vessels which may offload there.

Benefits:

- ***To the commercial fishermen offloading at Driscoll's.*** A Pier which is designed to support offloading of longline and purse seine vessels would be more efficient for all concerned. By making it possible for more than one vessel to offload at the same time Driscoll's would become more appealing to vessels which currently offload elsewhere.
- ***To seafood buyers in San Diego.*** More efficient offloads means buyers would spend less time offloading. This, in theory, would allow more time for processing and selling of product.
- ***To the Port.*** Having both Tuna Harbor and Driscoll's available to offload multiple vessels could attract more fishermen to utilize San Diego for offloading purposes.

- ***To the Wharf Manager.*** More efficient offloads and the ability to offload more than one large vessel (more than 50 feet) at the same time should result in higher revenues in offloading fees.

Possible Issues:

- Commercial fishermen see the need for a full-service onsite processor at Driscoll's. In contemplating a holistic solution for the Commercial Fishing industry within the Port of San Diego, the early collaboration between the Developer, the Commercial fishermen, and the Commercial Fishing Steering Group identified Driscoll's Wharf as the logical location for a larger industrial processor. Early plans have been designed with the developer's architect and marine engineer.
- ***Truck access.*** The lack of convenient access for semi-trucks or other large vehicles could be problematic and reduce efficiencies gained from replacement, restoration or renovation of the offloading pier. Driscoll's is currently not capable of providing larger trucks ingress, egress, and turnaround points. One possible solution: Driscoll's property line is adjacent to Naval Base Point Loma, and presently that adjacent area is being used for overflow parking by military personnel. If the Navy moved its fence line back 30 to 40 feet, there would be adequate space for trucks to access an industrial processor. The Navy would lose 10 to 12 parking stalls total.

2. The Floating Dock adjacent to the Offloading Dock

The Floating Dock at Driscoll's is used by commercial fishermen to offload product via the smaller hoist. The hoist is primarily dedicated to those activities which don't require use of the larger crane. In recent times, Driscoll's management has limited access to the crane to longline vessels. This has resulted in sea urchin, crab, lobster, fin fish and other fisheries being offloaded via the hoist. The floating dock is clearly visible on the lower left side of Fig 3.41 above.

In the past, this floating dock was utilized for maintenance and other temporary work projects. Currently, access to this dock is limited to offloading activities.

Recommendation:

Allow small boat commercial fishermen based out of Driscoll's to use the floating dock for non-offload activities, including maintenance, loading of supplies, etc.

Benefits:

- ***To the Driscoll's Wharf Commercial fishermen.*** Given how vessels tie up to the fixed docks at Driscoll's, allowing the fishermen access to the floating dock would be helpful in terms of safety and time efficiencies. This would allow fishermen tenants the ability to load groceries or gear and perform other activities which aren't directly related to offloading product.
- ***To the Wharf Manager.*** Assuming there is no legal reason why access cannot be given, this would make commercial fishing tenants at Driscoll's Wharf much happier.

3. Crane

The crane at Driscoll's is primarily used for offloading longline vessels and could be used for offloading tuna or bonito from California based purse seine vessels. Fig 3.43 shows the Driscoll's crane. Driscoll's charges a per pound fee to use the crane.

The crane appears to be attached to the Offloading Pier with lag bolts; but doesn't appear to be supported in any other way. If this is the case, this situation poses a serious safety concern and the fastening of the crane should be inspected by an engineer immediately.

Fishermen report the crane is sufficient in terms of its capacity for current operations; but express concern about its capacity if more vessels offload at Driscoll's. Because the Pier is not capable of supporting the weight of trucks, the process is slowed by having to forklift product from Pier to waiting trucks.



Fig 3.43 - Driscoll's Wharf Offloading Crane – the yellow crane towards the end of the Pier. Taken September 25, 2017.

Recommendations:

1. As soon as practical, have an engineer inspect the crane to ensure proper installation and whether it can be safely operated as intended. If the support is not sufficient, or if there are signs of fatigue, remedy that immediately.
2. Based on engineer's recommendations, restore or rebuild the Offloading Pier
3. Install a standard crane, like those currently employed in Tuna Harbor, capable of lifting up 3 to 5 tons at a distance of 20 feet from the crane's structure.
4. A knuckleboom crane would be the preferred option; but may be an unnecessary redundancy if one is put in at Tuna Harbor. One potential benefit of having such a crane at the Driscoll's facility is its proximity to the local Sport Fishing landings. It is foreseeable that sport fishing vessels would utilize the crane (and renovated Pier structure) for maintenance needs.

Benefits:

The benefits described for adding similar infrastructure immediately adjacent to Tuna Harbor are equally applicable here and are incorporated by reference. The benefits below are specific to this location.

- ***To the Port's commercial fishermen.*** Pier renovations should be contemplated so that both sides of the Driscoll's Pier are accessible for operations simultaneously. If dredging is necessary and allowable, this would ensure deeper draft vessels can safely offload catch, the larger commercial fishing vessels berthed in the Port won't have to offload in San Pedro or other Ports.
- ***To the Port and Developer.*** Ability to serve vessels which do not currently utilize the Port for offloading or major maintenance projects. Coupled with the availability of larger transient slips (up to 80 feet), this makes the Port of San Diego more attractive for those vessels.
- ***To local businesses.*** Benefits are likely to be realized by local seafood businesses as well as mechanics, restaurants, hotels, etc. as the crews of non-Port vessels work on the projects.

4. Hoist

A small hoist is located on the inland side of the small finger jutting out from the Offloading Pier (see Fig 3.44). (In Fig 3.43 it is in the foreground at left.) Fishermen at Driscoll's do not know what the hoist is rated to lift, but seldom will attempt to lift more than 700 pounds at a time.

Fishermen report this location as highly inconvenient as it requires the fishermen to offload the catch from the boat, walk it around or under the pedestrian ramp leading to the floating dock adjacent to the offloading pier, and then hoist it up to the offloading Pier.

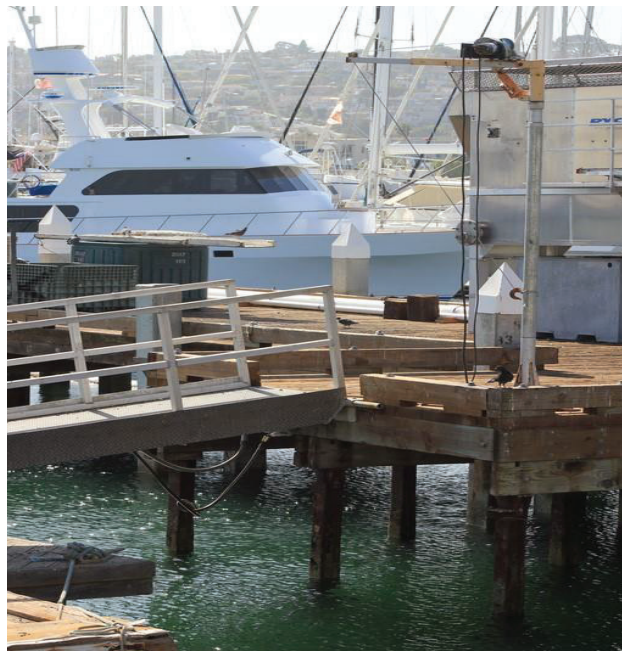


Fig 3.44 - Hoist at Driscoll's Wharf. Taken September 25, 2017.

Recommendation:

Relocate the smaller hoist. The final location needs to be confirmed by the fishermen at Driscoll's who use the hoist.

5. Wetfish pump

The wetfish pump is a new addition at Driscoll's (see Figs 3.45 – 3.47). No fishermen involved with the Commercial Fishing Steering Group or interviewed by the Report's authors has been able to verify that the pump has been used for offloading purposes. Many have questioned its effectiveness given the location. Questions remain to be answered regarding:

- Depth of water at the Pier;
- The ability to offload both port and starboard tying vessels. Most, if not all, purse seine vessels in the wetfish fleet have to offload from one side of the vessel. This because of cleat placement or machinery on one side of the vessel which makes offloading impossible. They are not free to flip the boat around in order to adjust for ebbing conditions. If the pump's nozzle cannot be moved, it could mean that starboard-tying vessels will be too close to the rocks and that a port-tying vessel could stick out too far into the channel;
- Ability to quickly and efficiently offload a vessel given the inability of the Dock to support more than 9,500 lbs? This requires a forklift to get product from the pump to the waiting trucks.

Improvements to the Pier, increasing the water depth immediately adjacent to the Pier, and better road access for trucks will make Driscoll's a viable offloading location for the Southern California wetfish fleet. A general discussion on the value of an active presence of wetfish vessels is discussed in more detail below.

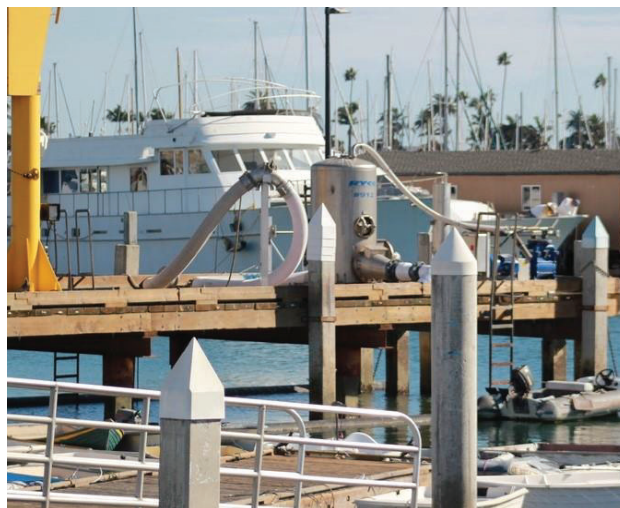


Fig 3.45 - Wetfish pump nozzle – Driscoll's Wharf. Taken September 25, 2017.



Fig 3.46 – Driscoll's Wharf Wetfish pump – view from South. Taken September 25, 2017.



Fig 3.47 - Driscoll's Wharf Wetfish pump – view from North. Taken September 25, 2017.

E. Post-Offload Product Handling

This is an all-encompassing category for product storage post-offload and before sale. It includes ice, live tanks, cold storage, freezer space, processing needs, etc.

1. Ice.

Ice can be sourced and stored at Driscoll's Wharf, but the ice maker is slow, often not turned on, and the freezer container is often locked. The rationale and requirements for an ice machine at Tuna Harbor are duplicated here. Loading ice is done via a trash bin and a dolly, or a pallet jack and a tote. Regardless of method chosen, it can take upwards of an hour, inevitably allowing some of the ice to melt.

Is there a need for full-blown ice making systems at both Tuna Harbor and Driscoll's? The short answer is yes, but if one location had to be prioritized over another, Driscoll's would make the most sense provided it could be designed in such a way that loading ice would not delay other vessels from using the Offloading Pier. While vessels from Tuna Harbor would be

inconvenienced by having to get their ice at Driscoll's, it would be more of an inconvenience to require vessels from Driscoll's to ice up at Tuna Harbor. Vessels berthed in Tuna Harbor drive by Driscoll's on their way to sea. If vessels at Driscoll's had to go farther into San Diego Bay (and thus away from the open ocean) to Tuna Harbor for ice, it would add time and costs to their operations.

Recommendation:

After determining necessary modifications to the current Driscoll's offloading Pier structure, determine if adequate space exists on the Pier to safely house an ice machine like that employed in Morro Bay (see page 3-27 above). If adequate space does not exist, consider the floating dock located immediately adjacent to the Pier. If neither of those options work, providing an ice machine may have to wait until the water-side infrastructure is renovated or replaced, at which point study the feasibility of placing the ice machine at the end of one of the docks.

Benefits:

The benefits associated with an ice machine in Tuna Harbor are incorporated by reference (see page 3-29). Benefits applicable to Driscoll's are noted below.

- ***To the operators of Driscoll's.*** Unlike Tuna Harbor, Driscoll's Wharf is in a basin with recreational and sport fishing vessels. An ice machine available to those vessels, could result in significant sales which could help subsidize the cost of the machine and be a source of revenue for the operator.

2. **Holding facilities for live seafood.** There are no holding facilities currently available at Driscoll's.

Recommendation:

It is assumed that discussions regarding holding facilities for Tuna Harbor will necessarily include provision of such at Driscoll's as well. As such, the analysis of this topic under the Tuna Harbor heading is incorporated by reference (see page 3-29).

Benefits:

The benefits and potential issues associated with holding facilities for live seafood in Tuna Harbor are incorporated by reference (see page 3-30). Benefits applicable to Driscoll's are noted here:

- ***To the Driscoll's commercial fishermen.*** Such facilities would be essential if a fishermen's market similar to the THDM were to be conducted at Driscoll's.
- ***To seafood consumers in Point Loma, Ocean Beach and other areas.*** Driscoll's would be a more convenient location for a fishermen's market for residents of those communities.

3. **Freezer space and refrigerated areas.** Similar to challenges facing fishermen at Tuna Harbor, there is minimal freezer space or refrigerated areas available to Driscoll's Wharf

commercial fishermen. Cold storage and freezer space may become available as Chula Seafood becomes more established. As previously mentioned, Driscoll's does provide tenants the space to store one freezer for \$25/month, with a maximum of one per vessel. Outside of this, there is little opportunity for utilizing existing space at Driscoll's to fill this need. A more permanent solution may have to wait for reconstruction or renovation of the current buildings at Driscoll's.

Recommendation:

Determine if Chula Seafood has adequate freezer and refrigerator space in its facility as a possible temporary solution and work with the fishermen (or the SDFWG) to design permanent freezer and refrigeration space in a building or office space serving the commercial fisheries and fishermen built on or near the docks.

Benefits:

- ***To the Driscoll's commercial fishermen.*** These would be the same as those identified for Tuna Harbor's fishermen: (1) More control over the price they are able to get for their product; and (2) Supports any desire of Driscoll's commercial fishing tenants to operate a fishermen's market similar to that at Tuna Harbor.
- ***To the Port.*** The THDM has been a great success for the fishermen and the Port. The model which has made the Dockside Market so successful could provide a blueprint for the fishermen at Driscoll's to do something similar while serving different communities.
- ***To the Wharf managers.*** An active, vibrant, working waterfront is an attraction; a fisherman's market at Driscoll's would likely draw people who otherwise would not visit that location.

F. Public Outreach

Public outreach at Driscoll's Wharf is extremely limited. There is one small informative commercial fishing sign (see Fig 3.48) located adjacent to public restrooms at the entrance to Driscoll's property on the promenade walkway.



Fig 3.48 – Commercial Fishing signage at Driscoll's Wharf (Photo Courtesy William Morrison)

Recommendation:

The Wharf Manager, the Port, and the fishermen should work together to determine an appropriate number of signs and the content on each. It may be more feasible to utilize a kiosk signage display stand where the user can pick and choose which content they are interested in. The fishermen should be integral partners in developing the message they wish to convey for their specific fishery and/or operations.

Benefits:

- ***To the Port's commercial fishermen.*** Provides an additional platform from which to educate the general public about what they do and how they do it. If used properly, could be an effective means of promotion of their products and lifestyle.
- ***To the Port and Wharf Manager.*** In addition to the benefits from promoting locally landed seafood, the Port could also convey information about upcoming meetings and events. The Wharf Manager could sell advertising space within the Driscoll's space.

VI. Infrastructure Recommendations Not Included Above

The following Infrastructure items are deemed necessary or desired by the Port's current commercial fishermen and associated business. The items included here would be beneficial in both locations and are not site specific.

A. Net mending and trap service area

Net mending facilities are needed to keep both Commercial and Sportfishing industries in operation. Drift nets can be a mile in length; purse seine nets for California-based coastal seiners can reach lengths of one-half mile and an eighth-of-a-mile deep. When these nets are damaged, significant space may be required for their repair. San Diego's sportfishing community depends on Everingham Brothers Bait Company vessels, which also use nets, to provide live bait for the world's largest sportfishing operation. As such, it is imperative that access to a place for net mending be available. Most repairs will not require the net to be laid out in full, but there will be rare occasions where a panel is replaced, and this can only be accomplished by laying the entire length of a net out on a dock or other area. Net mending must be done next to the vessel as it typically requires use of the vessel's boom and power block. There may arise the need to work on multiple nets at the same time. G Street Pier and Market Pier have been used simultaneously during the summer without issues from the Port. Also, the Port and Developer need to be cognizant that the addition of a wetfish pump will likely increase the need for suitable net mending areas. Coordination is key between the Port and involved operations.

In addition, trap service areas need space where fishermen can service, clean, dry and repair their traps, though they do not require nearly as much space as net repair.

Recommendation.

The Port and net fishermen should discuss the availability of potential off-site locations, such as the Grape Street Piers, that can be made temporarily available for net mending and/or trap service activities. Some of these repairs can typically be scheduled in advance, if a net is being extended or if a panel is being added to or replaced on a net. However, when emergency repairs are necessary, fishermen need to have immediate access to an on-site location for repairs.

Benefits:

- ***To the Port's commercial fishermen.*** Net fishermen are assured that when nets require repairs or maintenance, an area exists for that work to be done. For trap fishermen: a known location for servicing and repairing their traps provides the same assurance.
- ***To the Port.*** This would allow the Port to limit these activities to specific locations and minimize opportunities for disruption of other businesses based in the Port.

Potential problem:

- If space is set aside for net mending and/or trap service only, it is likely that it would claim a substantial portion of the acreage in either Tuna Harbor or Driscoll's designated for Commercial Fishing primary uses. Access to temporary off-site locations, would guard against this.

B. Pier with truck access for offloading fish

Both Driscoll's and Tuna Harbor have piers available for commercial fishing purposes; but each comes with its own distinct challenges. Although truck access was deemed a high priority item by the Port's commercial fishermen, there is an awareness this may be costly and subject to permitting issues and other considerations.

As mentioned above, the offloading pier at Driscoll's cannot support large trucks necessary for offloading higher volume fisheries. Unless and until that Pier is restored, this need will not be satisfied.

At Tuna Harbor, there are more possibilities. For example, if one of the cranes or wetfish pumps were located on Market Pier or the base of G Street Pier, truck access is possible. Additional information needs to be gained on the Developer's vision for the Tuna Harbor area as it relates to Market Pier/Seaport Village and/or G Street Pier/G-Street Mole. This will help inform potential traffic patterns as truck access could be impacted.

Truck access to G Street Pier and/or Market Pier needs to be maintained and improved.

Recommendation:

Developer to further refine, define, develop and communicate its vision for Market Pier/Seaport Village and G Street Pier/G-Street Mole. This will enable the Developer, fishermen, and Port to consider potential locations of offloading facilities with sufficient truck access. To help the Developer recoup the likely substantial costs, the fishermen must be open to ideas that may at first seem unappealing.

Benefits:

- ***To the Port's commercial fishermen.*** Truck access to a Pier where offloading is taking place increases efficiency, reduces the time to offload product, and minimizes the amount of time product may be sitting in the sun.

- ***To the Port, Developer and local seafood businesses.*** Visually, it adds integrity to the offloading process. There is an intangible benefit in seeing seafood treated as a valuable commodity and seeing the seafood going from the boat to a bin and into a refrigerated truck. This gives consumers confidence that San Diego-landed seafood is to be sought out.

C. Issue: Additional slips/berthing for transient commercial fishing vessels:

Many of the items listed above are designed to draw fleets to the Port which are otherwise not berthed in San Diego. For example:

- Establishment of a fresh fish auction, provision of new and accessible cranes, and renovated offloading facilities will draw vessels targeting tunas or other highly migratory species (longline and/or purse seine) which currently must offload in either San Pedro or San Francisco. These same items could also serve the pole-and-line albacore fleet when the albacore take a more southerly migratory pattern. In years past, these vessels (many of which are berthed in San Diego) have had to offload in San Pedro, Port Hueneme or Ventura.
- The addition of a wetfish pump will likely draw the wetfish fleet, some of come from as far away as Alaska to target market squid.

Each of these user groups would likely have a need for temporary berthing in support of their operations. In recent years, the market squid fishery has become quite mobile. No longer are the fleets limited to a specific mileage from an existing offloading site. With the advent of portable wetfish pumps, operations have more easily moved to areas not previously important to the fishery: Morro Bay, Eureka, and Newport, Oregon. When the fleet moves to these areas, vessels need a place to tie up for the weekend because the fishery is closed noon Friday to noon Sunday.

Transient commercial fishing vessel berthing rates at Commercial Ports throughout the State:

- Port of Los Angeles: \$0.43 per meter or fraction thereof, per day (or \$4.24 per meter/month).²⁸
- Channel Islands Harbor: Daily rate: \$1.30 per foot (minimum fee \$30.00)
 - Greater than 10 days rate: \$1.50 per foot (Harbormaster's approval with insurance)
 - A keycard will be issued to all guest dock occupants. A \$25 fee is required.²⁹
- Ventura Harbor: have to call for rates as it varies based on demand.
- Santa Barbara Harbor: \$0.75/linear foot/day with landing requirements³⁰
- Morro Bay: \$1.00/foot/day All vessel fees based on the length of the vessel or the length of the slip whichever is greater, with a 36-foot minimum. There is also a monthly sublease available when the vessel whose slip you are occupying will be gone for an extended period of time. The fee for this is \$10.00/foot/month³¹
- Monterey Harbor: has a "Comprehensive Fee Schedule" for transient vessels³²

²⁸ See - <https://www.portoflosangeles.org/Tariff/SEC19.pdf>

²⁹ See - http://www.channelislandsharbor.org/boating/guest_slips.htm

³⁰ See - <https://www.santabarbaraca.gov/gov/depts/waterfront/visitor/slips.asp>

³¹ See - <http://www.morro-bay.ca.us/DocumentCenter/Home/View/1502>

³² See Pages 19 and 20 of linked document - <https://monterey.org/Portals/0/Schedules/Master-Fee-Schedule.pdf>

- Moss Landing: \$1.25/day³³
- Pier 39 in San Francisco: varies depending on size of vessel. Roughly \$1.00/foot/day³⁴.

Vessel Size	Per night charge
36' or less	\$45
37' to 45'	\$50
46' to 60'	\$60

- Spud Point Marina/Bodega Bay: varies depending on size of vessel³⁵

Vessel Size	Per night charge
Under 30'	\$20
30' to 40'	\$25
41' to 50'	\$30
51' to 60'	\$36
61' to 90'	\$42
Over 90'	\$54

- Woodley Island Marine, Eureka: \$0.61/foot/day³⁶

Recommendation.

Ensure twenty to thirty 80-foot slips are available in San Diego Harbor for transient vessels. While these may not be filled most of the time, some consideration of alternate uses (aquaculture, tug boats, water taxis, etc.) should be contemplated, with provisions that the highest priority for these slips is transient commercial fishing vessels. Some process/procedures for gaining access to these slips needs to be considered; for example, these slips could be subject to a 48 or 72 hour vacate notice requirement.

Benefits:

- ***To the Port's Commercial fishermen.*** Revenues from transient vessels for berthing and offloading fees can help alleviate pressures to increase fees on Commercial fishermen.
- ***To the Port.*** Available transient slips could draw commercial vessels to the Port which wouldn't otherwise consider temporarily basing their operations in and around San Diego. This could result in additional fees to the Port in terms of berthing and fish

³³ See - <http://www.mosslandingharbor.dst.ca.us/documents/District%20Fee%20Schedule%20eff.July%201%202016%20-%202016MAY31.pdf>

³⁴ See - <https://www.pier39marina.com/slips/guest-docking/>

³⁵ See - <http://parks.sonomacounty.ca.gov/Visit/Spud-Point-Marina/Rates/>

³⁶ See - <http://humboldt-bay.org/woodley-island-marina-0>

offloading fees. (In May of 2017, the County of Sonoma unanimously approved³⁷ a Resolution of the Board of Supervisors authorizing a differential Fish Offloading Fee for transient vessels versus vessels berthed at Spud Point and Masons Marina.³⁸)

- **To local businesses.** Transient vessels will purchase fuel, groceries, and other necessities from local businesses. They may also utilize the services of local marine mechanics and other professionals. Local restaurants, hotels, and other forms of entertainment may also benefit.
- **To customers.** Transient vessels landing seafood into San Diego would result in additional supply to consumers of locally-sourced/locally-landed fresh seafood as a result of the added capacity.

D. Addition of a functional Wetfish Pump in a viable location for high volume landings

“Wetfish” operations are distinguished from other commercial fishing operations in that catch is held in chilled sea water, in the vessel’s fish hold. This keeps the product in a fresh condition. Heavy duty pumps are required to offload wetfish from a commercial fishing vessel. In California, this typically refers to fisheries for Coastal Pelagic Species (“CPS”) (Mackerel – Jack and Pacific, Pacific Sardine, Northern Anchovy and Market Squid). As highlighted in each of the years analyzed in Part II, market squid was the Bight-wide leader in terms of pounds landed and, except for 2015, ex-vessel value.

Table 3.1 – Market squid landings in the Southern California Bight (Lb and \$) 2000, 2010 and 2015.

Year	Pounds Landed	Ex-Vessel Value
2000	246,230,645	\$25,223,489
2010	244,092,402	\$63,192,101
2015	36,206,493	\$10,794,933

In recent years, most processors have invested funds in constructing portable pumps that are placed on a trailer and moved to those ports without fixed pumps. This has allowed the squid fleet to expand operations to areas previously not utilized by the fishery. For example, Morro Bay Harbor did not have facilities to support the squid fishery until 2011 when “Tomich Brothers, a Southern California seafood buyer and processor, established a fish pump on the Morro Bay Fish Company dock.³⁹” Table 3.2 shows pounds of squid landed into Morro Bay and the associated ex-vessel value generated.

Table 3.2 – Market squid landings in Morro Bay 2010 - 2016.

Year	Pounds Landed	Ex-Vessel Value
2010	15	\$0
2011	276,444	\$66,687

³⁷ http://sonoma-county.granicus.com/MinutesViewer.php?view_id=2&clip_id=706&doc_id=15804393-3f29-11e7-b9a7-00219ba2f017

³⁸ http://sonoma-county.granicus.com/MetaViewer.php?view_id=2&clip_id=706&meta_id=219460

³⁹ Morro Bay 2012 Commercial Fisheries Economic Impact Report – July 2012. Page 4. See - http://www.mbcfo.com/uploads/1/4/4/8/14484252/lwc_mb_econ_impact_report_2012_8.8.12.pdf

2012	2,125,135	\$637,235
2013	4,174,766	\$1,356,477
2014	4,265,770	\$1,385,231
2015	1,260,312	\$377,539
2016	1,412,659	\$701,118

Morro Bay has benefitted from the presence of a wetfish pump. Enough similarities exist between San Diego and Morro Bay to suggest that San Diego could experience similar benefits.

- Morro Bay is a little over 100 miles from the nearest alternate offload facility (Ventura Harbor). While San Diego is a little under 100 miles from the nearest alternate offload facility (San Pedro), it is still far enough that it is logical to assume fishermen would prefer to offload in San Diego if they were fishing closer to San Diego than to San Pedro.
- Trucking product from the offload site to the processing facility: Morro Bay is 134 miles from Ventura; San Diego is 119 miles from San Pedro. There are processing plants located in Fullerton and other locations which are closer to San Diego than San Pedro.

As noted above, a wetfish pump was recently installed on the offloading pier at Driscoll's Wharf. TriMarine supplied the pump. A visual inspection of the pump and the surrounding area leaves serious questions of the utility of the pump in serving the needs of vessels which could offload at the Driscoll's facility.

- An ability to support and serve large trucks is integral to a wetfish operation as a truckload of product is typically 15 metric tons (mt). The inability of the offloading pier at Driscoll's to accommodate this would require the use of a heavy-duty forklift as deliveries more than 100 mt are not uncommon in the wetfish fisheries.
- Squid, and other fisheries which would utilize the pump, are high volume fisheries. It is not uncommon to land more than 500 tons on any given day. Given the layout and location of the Driscoll's facility, it is unlikely this facility will be able to meet that demand.

Longline vessels have difficulties offloading at Driscoll's Wharf due to running aground at low tide. A similar fate may impact purse seine vessels attempting to offload their catch at Driscoll's. Additionally, transporting squid and other CPS stocks requires use of semi-trucks. A captain of one of TriMarine's purse seine vessels expressed concerns about the ability of the Driscoll's facility to support significant offloads (in excess of 200 tons in a given day). In his words, if there was another facility in the Port capable of meeting his requirements, he would likely utilize that other facility.

Even if the wetfish pump at Driscoll's is functional and represents a viable option for offloading CPS in San Diego, it likely will not be able to offload more than 200 tons a day. A need exists to have additional facilities available.

Recommendation:

Infrastructure to support the wetfish fleet should be integrated into the Commercial Fishing infrastructure for the IHWY1 Redevelopment project. For the short-term (3-5 years), consider contracting with one of the wetfish processors (TriMarine, Neptune Foods, Lunds Fisheries, Del Mar Seafoods, Monterey Fish Company, etc.) to allow them to locate a portable wetfish pump in the Tuna Harbor Area. Placing another pump on the pier at Driscoll's Wharf does not seem feasible given the shallow water, lack of truck access, and concerns about the state of the offloading pier. This will also allow the Developers and fishermen to make an informed decision about whether to install a permanent wetfish pump once the redevelopment project has begun.

A nominal fee can be collected from the pump owner/operator for the privilege of placing the pump in the Tuna Harbor area. This could be based on what Morro Bay Harbor charges and what Eureka Harbor charged Monterey Fish Company when Monterey deployed their portable pump in 2014.

Benefits:

- ***To the Port's commercial fishermen.*** Wetfish are high volume, low value fisheries. Fees charged for offloading, while seemingly insignificant, can add up and benefit the fishermen and fisheries based out of the Port of San Diego. For fiscal year 2018, Monterey has a wharfage fee of \$6.37/ton for high volume seafood (Trawl-caught ground fish, squid, mackerels, sardines) except anchovies which has a wharfage fee of \$3.19/ton⁴⁰. Accommodating these fisheries could also help counter future arguments that demand for commercial fishing facilities and infrastructure has dropped to such an extent that acreage can be redesignated to non-commercial fishing uses.
- ***To the Port and Developer.*** This would provide some much-needed diversification and open the door to landing other stocks by wetfish vessels. Some of the wetfish fleet also is permitted to harvest tuna using purse seine gear. If those fishermen, and their buyers, become comfortable with offloading in San Diego, there is no reason to believe they would not offload tuna in San Diego, especially if doing so would enable more trips per week by those vessels compared to running product back to San Pedro.

VII. Potential Infrastructure Funding Sources

Outside funding sources for the recommendations above need to be considered because the costs are substantial. For purposes of this section, it is assumed that maintenance costs of the items above will be subject to negotiations between the Developer and the SDFWG.

There are a number of government grants and other programs available for commercial fishing-related projects. A few of the more noteworthy ones are:

A. TIGER Discretionary Grants

Transportation Investment Generating Economic Recovery Grants “provides a unique opportunity for the Department of Transportation to invest in road, rail, transit and port projects that promise to achieve national objectives.”

⁴⁰ See Page 22 - <https://monterey.org/Portals/0/Schedules/Master-Fee-Schedule.pdf>. Last accessed 2/13/18.

Recently, the Port of New Bedford applied for \$15 Million “to add 800 feet of bulkhead at the Port of New Bedford, located in the southeastern tip of the state, and dredge areas to make it more accessible to boats.”⁴¹

B. INFRA Grants

The Department of Transportation’s Infrastructure for Rebuilding America Grants “make approximately \$1.5 billion available to projects that are in line with the Administration’s principles to help rebuild America’s crumbling infrastructure.”⁴²

C. SK Grants

The National Marine Fisheries Service’s Saltonstall-Kennedy Grant Program has as its goal “to fund projects that address the needs of fishing communities, optimize economic benefits by building and maintaining sustainable fisheries, and increase other opportunities to keep working waterfronts viable.”⁴³

D. BIG Grants

The U.S. Fish and Wildlife Service’s Boating Infrastructure Grant Program “provides grant funds to the states, the District of Columbia and insular areas to construct, renovate, and maintain tie-up facilities with features for transient boaters in vessels 26 feet or more in length, and to produce and distribute information and educational materials about the program.”⁴⁴ This will likely require some creativity as the grants appear to be limited to recreation vessels for day use or staying at a single facility for up to 15 days.

E. EDA Grants

The Department of Commerce’s Economic Development Administration’s EDA Grant Program “is designed to establish a foundation for sustainable job growth and the building of durable regional economies throughout the United States.”⁴⁵ Recent EDA Grants supporting commercial fishing and aquaculture include the following:

- In August of 2017, \$1.5 million to make infrastructure improvements and increase business incubator space at the Darling Marine Center. The Center provides critical research in support of Maine’s commercial fishing and aquaculture economy⁴⁶.
- In April of 2017, \$1.6 million to rebuild and expand a major salmon processing plant in Alaska. The project is expected to create 30 new jobs, retain 60 permanent summer jobs, and attract \$2 million in private investment⁴⁷.

⁴¹ <https://www.seafoodsource.com/news/supply-trade/port-of-new-bedford-seeks-federal-funds-for-expansion-project>

⁴² <https://www.transportation.gov/buildamerica/infragrants>

⁴³ http://www.nmfs.noaa.gov/mb/financial_services/skhome.htm

⁴⁴ <https://wsfrprograms.fws.gov/subpages/grantprograms/big/big.htm>

⁴⁵ <https://www.eda.gov/about/>

⁴⁶ <https://www.eda.gov/news/press-releases/2017/08/31/me.htm>

⁴⁷ <https://www.eda.gov/news/press-releases/2017/04/07/ak.htm>

- In September of 2016, \$3 million grant to AltaSea at the Port of Los Angeles to make critical infrastructure improvements to help the business hub and entrepreneurs develop new ocean-related technologies (aquaculture included).
- In May of 2012, \$1 million to help design a new commercial fishing dock and building in Washington State. Project was estimated to retain 420 jobs⁴⁸.

F. NFWF Fisheries Innovation Fund

The National Fish and Wildlife Fund, via the Fisheries Innovation Fund, awards grants to foster innovation and support effective participation of fishermen and fishing communities in the implementation of sustainable fisheries in the U.S.⁴⁹.

For 2017, proposals that “develop and implement market, research, training or strategic planning measures to build capacity and improve sustainability of U.S. fishing businesses and communities” were among the priorities.

G. Coastal Conservancy Grants

The Coastal Conservancy will fund projects that help it achieve the goals and objectives of its Strategic Plan (2013-2018). Two of these are applicable:

- Goal 3 - Revitalize coastal and inland waterfronts that provide significant public benefits and promote sustainable economic development;
- Goal 9 - Expand environmental education efforts to improve public understanding, use, and stewardship of coastal resources.

The above list is not exhaustive.

VIII. Potential Governance Structure and Roles

Commercial fishermen are typically individual business people. There may be partnerships in ownership and fishing activities where catches are split, but at its core fishing is about a captain and crew working quickly and efficiently to make their catch. Of primary importance is maximizing profits while operating within the confines of the law and incurring minimum expenses. Most fishermen are paid a percentage share of the vessel’s gross receipts or profits. Fishery associations, Fishery organizations, Fishery-based marketing associations, etc. have been created to assist fishermen in dealing with issues specific to their

⁴⁸ https://www.eda.gov/archives/2016/news/press-releases/2012/05/29/neh_bay_wa.htm

⁴⁹ <http://www.nfwf.org/fisheriesfund/Pages/fisheries2017rfp.aspx>

fisheries. Examples include the American Albacore Fishing Association⁵⁰, California Wetfish Producer's Association⁵¹, California Pelagic Fisheries Association⁵², and the California Sea Urchin Commission⁵³.

Recently, community-based organizations are being formed for a specific purpose or for specific purposes. For example, the Monterey Bay Fisheries Trust was incorporated in 2014 for the purpose of advancing “the social, economic and environmental stability of Monterey Bay fisheries for the public benefit by securing, administering and managing fishery quota for the long term benefit of the Monterey Bay community; promoting long-term stability in the fisheries in the Monterey Bay community, providing opportunities for new entrants; fostering resource stewardship for current and future generations; and improving public and scientific knowledge of the fisheries of the Monterey Bay community.”⁵⁴ One of the reasons it was formed was to ensure that federal groundfish trawl quota did not leave the Monterey Bay area. Trawl quota, which covers the entire U.S. West Coast, is assigned to a fisherman or community. When the holder of that quota wishes to exit the fishery, they are free to sell it to whomever they like. Monterey feared the very real possibility of having non-Monterey fishermen or communities purchase quota from a Monterey fisherman and having those landings go elsewhere. The City of Monterey has been an active partner with the Fisheries Trust by helping with funding. This has allowed the Trust to purchase quota shares which are then leased to local fishermen and landed in Monterey.

Currently, an organization modeled after the Monterey Bay Fisheries Trust would not be appropriate for San Diego's commercial fisheries. There are no San Diego based fisheries which operate under a catch-share system of management; and there are no hints from either the State or Federal regulators that any are being considered. There are, however, ongoing discussions at the State level about the State's restricted access⁵⁵ policy for its commercial fisheries. Some ideas being considered include the leasing of permits (California currently doesn't allow the leasing of commercial fishing permits) and allowing community groups to purchase permits for use by community members (following the Monterey Bay Fisheries Trust model).

⁵⁰ The American Albacore Fishing Association is a non-profit organization representing commercial pole & line vessels. AAFA seeks to ensure responsible fishery management practices and the participation of vital fishing communities. It supports education regarding responsible fishing methods and promotes the health benefits of tuna consumption along with environmental benefits of sustainable fishery practices

⁵¹ The California Wetfish Producer's Association is a non-profit corporation “open to all fishermen and processors who harvest and market Coastal Pelagic Species (wetfish) in CA.” Its mission is to “protect fishery resources and access, enhance communications and education, and sponsor cooperative research.” See - <http://www.californiawetfish.org/mission.html>

⁵² The California Pelagic Fisheries Association is a non-profit corporation made up of “fishermen and seafood processors providing American-caught, wild pelagic fish from the waters offshore of California.”

⁵³ The California Sea Urchin Commission was formed in 2004 following a referendum vote of fishermen and handlers. Today, it “represents the interests of California's nearly 300 license divers.” The Sea Urchin Commission was created by under the State's Food and Agriculture Code and is codified in Chapter 25 of Division 22 at Sections 79000 – 79145. See - https://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=FAC&division=22.&title=&part=2.&chapter=25.&article=

⁵⁴ Certificate of Amendment of Articles of Incorporation of the Monterey Bay Fisheries Trust, a California Corporation. Available online thru <https://businesssearch.sos.ca.gov/CBS/SearchResults?SearchType=CORP&SearchCriteria=monterey+fisheries+trust&SearchSubType=Keyword>. Last accessed October 31, 2017

⁵⁵ Most, if not all, State managed commercial fisheries operate under a limited-entry model. A pre-defined number of permits are issued depending on the fishery. This has resulted in the value of some permits on the open market sky rocketing to levels where it is virtually impossible for younger commercial fishermen to buy into a fishery.

As mentioned in the first part of this Report, commercial fishermen operating out of Tuna Harbor and Driscoll's Wharf participate in a number of different fisheries, utilizing a number of different gear types. Each of these fisheries and each of these gear types has different needs and should have a voice in the decision-making process in discussions with the Port, and with the developer.

Fishery participants have several legal instruments available for an organizational structure, such as a loose association, or legal entity like a 501(c)3 or 501(c)(6) corporation or LLC⁵⁶. An entity was formed in the aftermath of the 2009 Commercial Fisheries Revitalization Plan. This entity, the San Diego Fishermen's Working Group ("SDFWG"), is still in existence and could fill these needs. "The San Diego Fishermen's Working Group (SDFWG) was established in 2010 as a 501(c)(3) corporation. The organization was formed out of necessity to protect the commercial fishing interests and opportunities in San Diego.⁵⁷" The organization is comprised of fishermen from the ports in San Diego (Port of San Diego and Mission Bay) and fishermen who trailer their vessels. Due to the encouragement and continued support of the Developer, the Board of Directors of the SDFWG amended the bylaws and formed a new Board of Directors with nine Board Members in December 2017. The SDFWG's Mission Statement was updated: "The MISSION of the non-profit San Diego Fishermen's Working Group is, through a well-represented Board of Directors, to express a singular voice for the economic, infrastructure, social, and cultural needs of the commercial fishing men and women of the greater San Diego region to the public, to federal, state, and local agencies, and to business interests." The SDFWG will fill the governance role and represent the commercial fishermen, commercial fisheries and various gear types operating in and out of Tuna Harbor, Driscoll's Wharf and other harbors in San Diego County.

Participants in commercial fisheries centered in Tuna Harbor and Driscoll's Wharf will want to participate in the management and future planning of those areas. The three major entities which will have a "governance" role over fisheries issues at Tuna Harbor and Driscoll's Wharf are the Port, the Developer, and the SDFWG.

Both the Port and the Developer will be enabled and constrained by their own policies as well as state and local laws (such as the Coastal Act). The Port is the only entity that creates and enforces local ordinances (such as parking) and will likely have a landlord-type of relationship with the Developer. The Port also has a highly public process wherein management and policy decisions are made.

The Developer, willingly and necessarily, provides for fisheries infrastructure. Fishery participants (fishermen, buyers, processors) must have a mechanism to provide meaningful management recommendations to the Developer, or the Port if needed, for such things as berthing priorities, berthing rates, parking issues, selection of concessionaires, and physical infrastructure needs. The relationship between the Developer and fisheries participants is necessarily one of landlord/tenant, or licensor/licensee. This said, a partnership of shared goals is needed between the two. The advice and recommendations provided should be in the context of a mutually respectful dialog.

On December 18, 2017 over 30 commercial fishermen from Tuna Harbor, Driscoll's Wharf and Mission Bay and trailer vessels met to discuss many issues impacting their operations. One of the outcomes of this meeting was Amendments to the Bylaws of San Diego Fishermen's Working Group. The Bylaws now

⁵⁶ While California law specifically provides for non-profit LLCs, the IRS will only give a nonprofit LLC tax-exempt status if all its members are themselves tax-exempt organizations.

⁵⁷ Taken from the San Diego Fishermen's Working Group Facebook Page. See - <https://www.facebook.com/pg/San-Diego-Fishermens-Working-Group-100773763351039/about/> last accessed 10/31/2017.

provide for a range in the number of Directors, as well as establishing a staggered board⁵⁸. Shortly after adopting the Amended and Restated Bylaws a new Board was approved.

Recommendations:

Note – these recommendations are designed to empower the SDFWG to begin representing the interests of the local fishing community as soon as possible. Recommendations as to potential issues which may face the SDFWG are beyond the scope of what is contemplated here. Many of those are discussed in greater detail above.

1. After election of the reformed Board, the Board has met; and needs to continue to meet to discuss, among other things:
 - a. The Port Master Plan Update;
 - b. The infrastructure items referenced above and potential layout/design of the Project Area; and
 - c. Funding, revenue generation, etc.

⁵⁸ A “staggered board” is a governance practice in which only a fraction (typically a third) of the members of the board of directors is elected each year, rather than all at once.

APPENDIX A

INTERNATIONAL OVERSIGHT:

The Inter-American Tropical Tuna Commission (IATTC)

The IATTC was established in 1949 under The Convention for the establishment of an Inter-American Tropical Tuna Commission. The Antigua Convention, signed by the United States in 2003 to strengthen and replace the 1949 Convention, entered into force in 2010. The objective of the Antigua Convention “is to ensure the long-term conservation and sustainable use of the fish stocks covered by this Convention, in accordance with the relevant rules of international law.” The Antigua Convention covers waters in the Pacific Ocean depicted in Figure A.1 below. The IATTC is responsible for the conservation and management of tuna and other marine resources in the eastern Pacific Ocean (Convention Area).

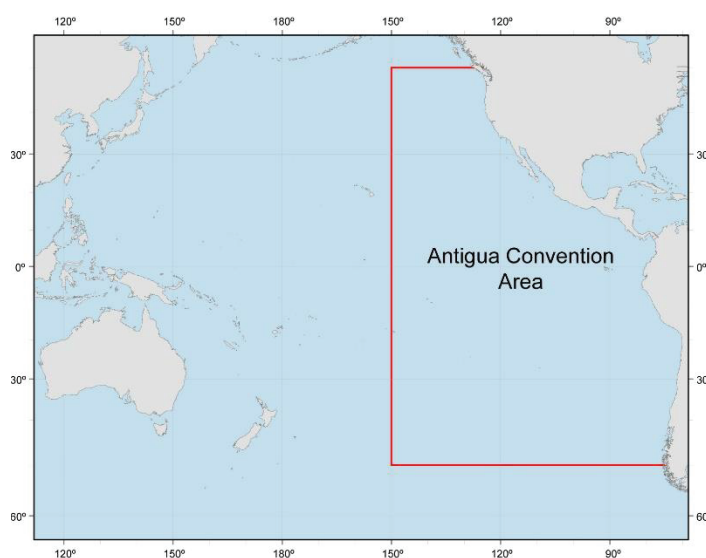


Fig A.1 – IATTC/Antigua Convention Area

The IATTC does not establish regulations on its own. IATTC members¹ vote on Resolutions which, if passed, require member-nations to adopt domestic management measures implementing the agreed upon Resolutions.

The Western and Central Pacific Fisheries Commission (WCPFC)

The WCPFC was established in 2004 under The Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. The WCPFC’s objective is “is to ensure, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks in the western and central Pacific Ocean in accordance with the 1982 United Nations Convention on the Law of the Sea and the 1995 UN Fish Stocks Agreement.”² The WCPFC covers waters of the Western and Central Pacific Ocean

¹ IATTC Members – Belize, Canada, China, Chinese Taipei, Colombia, Costa Rica, Ecuador, El Salvador, European Union, France, Guatemala, Japan, Kiribati, Korea, Mexico, Nicaragua, Panama, Peru, United States, Vanuatu, Venezuela. Cooperating Non-Members - Bolivia, Chile, Honduras, Indonesia and Liberia. See <https://www.iattc.org/HomeENG.htm> (last accessed February 13, 2018)

² http://www.fpir.noaa.gov/IFD/ifd_wcpfc.html

(WCPO) “including areas around Hawaii, American Samoa, Guam, Commonwealth of the Northern Mariana Islands and U.S. Pacific remote island areas (Wake, Palmyra, Kingman, Jarvis, Howland and Baker), and encompasses the operational area of significant U.S. purse seine, longline, albacore troll, and local HMS fisheries.” A pictorial representation is below (see Fig A.2):

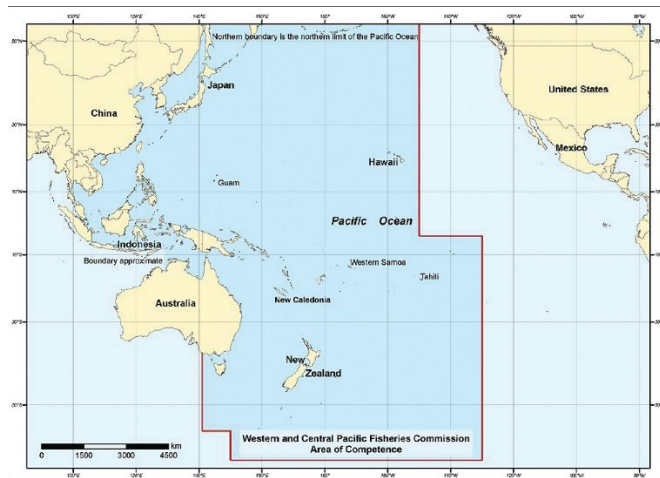


Fig A.2 – Western and Central Pacific Fisheries Convention Area

Like the IATTC, the WCPFC does not establish regulations on its own. WCPFC members³ vote on Conservation and Management Measures, which if passed, require member-nations to adopt domestic management measures implementing the agreed upon Conservation and Management Measures.

The WCPFC established its Northern Committee which “makes recommendations to the Commission on species that are mostly found in the Convention Area north of 20 degrees north.”⁴ This includes North Pacific Albacore and Pacific Bluefin tuna.

Tunas and other species (Opah, Swordfish, Wahoo, etc) caught in waters covered by the aforementioned RFMOs are being landed into California Ports. Management activities which occur at both the IATTC and WCPFC can impact markets and businesses in California. In recent years San Francisco, Ventura, Los Angeles and San Diego are all seeing increases in landings from fish harvested in these areas. Current longline fishermen who offload in California have expressed confidence that if suitable infrastructure existed in the Port of San Diego, vessels which currently offload in other California Ports could be drawn to San Diego.

FEDERAL OVERSIGHT:

Legislative

³ WCPFC Members – Australia, China, Canada, Cook Islands, European Union, Federated States of Micronesia, Fiji, France, Japan, Kiribati, Republic of Korea, Republic of Marshall Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Philippines, Samoa, Solomon Islands, Chinese Taipei, Tonga, Tuvalu, United States of America, and Vanuatu. Participating Territories - American Samoa, Commonwealth of the Northern Mariana Islands, French Polynesia, Guam, New Caledonia, Tokelau, Wallis and Futuna. Cooperating Non-Members - Ecuador, El Salvador, Mexico, Panama, Liberia, Thailand, Vietnam. See http://www.fpir.noaa.gov/IFD/ifd_wcpfc.html (last accessed February 13, 2018)

⁴ See - <https://www.wcpfc.int/frequently-asked-questions-and-brochures>

Note, the following list of Statutes are those which have the most impact on San Diego based commercial fishermen. It is by no means meant to be exhaustive, nor should it be meant to imply that Statutes not listed are unimportant. A thorough review of the Statutes listed below is beyond the scope of this Report.

Magnuson-Stevens Fishery Conservation and Management Act (“MSA”)

In 1976 the MSA⁵ became law. One of the primary reasons for this action was the encroachment of foreign fishing fleets off the US Coast. Prior to passage of the MSA, the US claimed only a 12-mile exclusionary fishery zone. In part because of a failure of negotiations on the Law of the Sea Treaty, the US (supported by US fishermen) took unilateral action and extended its fishery conservation zone to 200-miles⁶. When enacted, the MSA listed the following six purposes:

1. “To take immediate action to conserve and manage the fishery resources found off the coasts of the United States, and the anadromous species⁷ and Continental Shelf fishery resources of the United States, by establishing (A) a fishery conservation zone within which the United States will assume exclusive fishery management authority over all fish, except highly migratory species, and (B) exclusive fishery management authority beyond such zone over such anadromous species and Continental Shelf fishery resources;
2. To support and encourage the implementation and enforcement of international fishery agreements for the conservation and management of highly migratory species, and to encourage the negotiation and implementation of additional such agreements as necessary;
3. To promote domestic commercial and recreational fishing under sound conservation and management principles;
4. To provide for the preparation and implementation, in accordance with national standards, of fishery management plans which will achieve and maintain, on a continuing basis, the optimum yield from each fishery;
5. To establish Regional Fishery Management Councils to prepare, monitor, and revise such plans under circumstances (A) which will enable the States, the fishing industry, consumer and environmental organizations, and other interested persons to participate in, and advise on, the establishment and administration of such plans, and (B) which take into account the social and economic needs of the States; and
6. To encourage the development of fisheries which are currently underutilized or not utilized by United States fishermen, including bottom fish off Alaska.”⁸

⁵ Public Law 94-265; 16 USC §1801 *et seq*

⁶ President Reagan, in 1983, via Proclamation replaced the “Fishery Conservation Zone” with the current “Exclusive Economic Zone”. Proclamation No. 5030, Exclusive Economic Zone of the United States of America, 3 C.F.R. Comp. (1983). See - <https://www.archives.gov/federal-register/codification/proclamations/05030.html>

⁷ 16 USC 1802(1) defines Anadromous species as those “species of fish which spawn in fresh or estuarine waters of the United States and which migrate to ocean waters.”

⁸ Section 2(b)

To date, there have been two significant revisions to the MSA:

1. Passage of the Sustainable Fisheries Act in 1996⁹
Primary goals: Preventing overfishing and rebuild overfished stocks in as short a time period as possible – not exceeding 10 years (with exceptions), strengthen provisions related to essential fish habitat and minimizing bycatch.
2. Passage of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act in 2007¹⁰

Primary goals: Preventing overfishing to minimize changes of a stock become overfished, promote catch shares or other “limited access privilege programs”, prioritize science used in management decision making, addressing bycatch and illegal, unregulated and unreported fishing in international fisheries.

On July 11, 2018 The House of Representative passed HR-200, the *Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act*¹¹. At this time, HR-200 is in the Senate.

Endangered Species Act (“ESA”)

The ESA¹² became law in 1973 and is designed to protect the Nation’s native plants and animals which otherwise were at risk of extinction. At present, two Federal agencies are charged with the protection, conservation, and recovery of endangered and threatened species under the ESA: NOAA/NMFS is responsible for marine and anadromous organisms; The US Fish and Wildlife Service is responsible for land and freshwater organisms. In fulfilling their responsibilities under the ESA, the Agencies are also empowered to identify and protect critical habitat for endangered or threatened species.

A number of Sea Turtle species which appear off the California Coast as listed under the ESA. Two of the species have had profound impacts on San Diego commercial fishermen. The Pacific Leatherback Sea Turtle and the Loggerhead Turtle.

Pacific Leatherback Sea Turtle:

In 2015, NMFS identified the Pacific Leatherback as a species most-at-risk of extinction¹³. The Pacific Leatherback is present off the U.S. west coast between August and November, typically between central California and Oregon. In 2001 NMFS created the Pacific Leatherback Conservation Area which bans the use of large-mesh drift gillnets between August 15 and November 15¹⁴ in an effort to protect Pacific Leatherbacks when they are present. See figure A-3 below. Many San Diego based commercial shark and swordfish fishermen are permitted in shark and swordfish large mesh drift gillnet (DGN) fishery off the U.S. West. The area encompassed by the PLCA was a historically

⁹ Public Law 104-297

¹⁰ Public Law 109-479

¹¹ See - <https://www.congress.gov/115/bills/hr200/BILLS-115hr200rfs.pdf>

¹² Public Law 93-205; 16 USC §1351 *et seq*

¹³ *Species in the Spotlight: Priority Actions 2016-2020, Pacific Leatherback Turtle* – see <https://repository.library.noaa.gov/view/noaa/11874>

¹⁴ 50 CFR 660.713(c)(1)

important area for the DGN fishery. “Since the leatherback closure was enacted the number of active participants in the drift gillnet fishery declined by nearly half, from 78 vessels in 2000 to 40 in 2004, and has remained under 50 vessels since then.”¹⁵

Loggerhead Sea Turtle:

Loggerhead Sea Turtles will appear off Southern California during oceanic conditions associated with El Niños. To reduce potential interactions with Loggerhead Sea Turtles, the Pacific Loggerhead Conservation Area was created in 2003. This action will ban the use of DGN gear between June 1 and August 31 of any year that NMFS publishes a notice that El Niño conditions are forecasted, or present, off southern California¹⁶. While this closure is smaller and only applicable under certain conditions, it more directly impacts San Diego based DGN fishermen based on its close proximity to San Diego.



Figure A-3 – Pacific Leatherback and Pacific Loggerhead Sea Turtle Conservation Areas. NMFS

Marine Mammal Protection Act (“MMPA”)

The MMPA¹⁷ was signed into law in 1972 and protects all marine mammals from harassment, being fed, being hunted, capture, collection, or killing or attempting any of those actions. In many ways the MMPA is transformative legislation in the sense that it created a policy that focused on an ecosystem-based approach as opposed to management of individual species. This ecosystem approach is designed to ensure marine mammal stocks reach

¹⁵ Pacific Fishery Management Council, Highly Migratory Species Stock Assessment and Fishery Evaluation (SAFE) Documents. See - <https://www.pcouncil.org/highly-migratory-species/stock-assessment-and-fishery-evaluation-safe-documents/current-hms-safe-document/commercial-fisheries-descriptions/#dgn>

¹⁶ 50 CFR 660.713(c)(2)

¹⁷ Pub. L. 92–522; 16 USC §1361 et seq

“optimum sustainable populations¹⁸”. The MMPA does not ban the take of marine mammals; but does require those proposing to take marine mammals to show that proposed taking would not adversely affect the resource or the ecosystem.

At present, three Federal entities are charged with implementing the MMPA: NOAA/NMFS is responsible for the protection of whales, dolphins, porpoises, seals, and sea lions; The US Fish and Wildlife Service is responsible for the protection of walrus, manatees, sea otters, and polar bears; The Marine Mammal Commission whose duties include science-based oversight of domestic and international policies and actions in order to determine if human activities are in compliance with the law.

Many commercial fishing activities interact with marine mammals. NMFS/NOAA, annually, classifies each commercial fishery under one of three categories based upon the level of mortality and/or serious injury of marine mammals that occurs incidental to each fishery. Fisheries with a higher occurrence of such interactions are subjected to certain additional requirements – ranging from requiring fishery observers to obtaining necessary permits. The 2018 Final List of Fisheries¹⁹ categorizes San Diego’s commercial fisheries as follows:

Category I Fisheries – one with frequent interactions resulting in mortality and serious injury of marine mammals. None

Category II Fisheries – one with occasional interactions resulting in mortality and serious injury of marine mammals. None

CA halibut/ white seabass and other species set gillnet (>3.5 in mesh)
 CA thresher shark/ swordfish drift gillnet (≥ 14 in mesh)
 CA yellowtail, barracuda, and white seabass drift gillnet (mesh size ≥ 3.5 in and < 14 in)
 CA Spiny Lobster Trap Fishery
 CA Spot Prawn Trap Fishery
 WA/OR/CA sablefish pot

Any fishery not listed above is a Category III Fishery which are those with a remote likelihood of interactions or no known interactions with marine mammals.

The CA thresher shark/ swordfish drift gillnet (>14 in mesh) fishery had been a Category I Fishery until 2018. As a result of being a Category I Fishery, participants in that fishery are required to use (1) acoustic pingers to alert marine mammals to the presence of drift gillnets, and (2) net extenders that lower the nets at least 36 feet beneath the surface where many marine mammals and turtles spend much of their time.²⁰ In part due to these strategies, interactions with marine mammals have declined precipitously, which resulted in the fishery being reclassified as a Category II fishery.

The MMPA also forbids the import of certain commercial fish and fish products “which have been caught with commercial fishing technology which results in the incidental kill or

¹⁸ 16 USC §1362(9) - The term “optimum sustainable population” means, with respect to any population stock, the number of animals which will result in the maximum productivity of the population or the species, keeping in mind the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element.

¹⁹ See - <https://www.fisheries.noaa.gov/national/marine-mammal-protection/list-fisheries-summary-tables#table-1-commercial-fisheries-in-the-pacific-ocean>

²⁰ See - http://www.westcoast.fisheries.noaa.gov/publications/fishery_management/hms_program/6.8.2017_driftgillnet_fisheries_fa.pdf

incidental serious injury of ocean mammals in excess of United States standards.²¹” The body of this Report discusses how the recently enacted Rules implementing this provision could have a profound impact on seafood imported into the US.

National Environmental Policy Act (“NEPA”)

Enacted in 1969, NEPA²² requires Federal agencies to consider the environmental impacts of their proposed actions. Not all proposed actions have to be analyzed under NEPA, only those deemed to be “Major” – or one that “significantly affect[s] the quality of the human environment.”²³ When a federal action impacting the nation’s marine resources is proposed NOAA/NMFS must determine if the action is subject to NEPA review. Typically, a new Fishery Management Plan (“FMP”) or an amendment to an existing FMP will require NEPA analysis. The form of that analysis and required output is beyond the scope of this document.

In 2015, a San Diego based commercial fisherman submitted an application for an Exempted Fishing Permit (“EFP”) for the use of longline gear in the United States Exclusive Economic Zone (EEZ) off California and Oregon. NOAA/NMFS prepared an Environmental Assessment²⁴ (“EA”) which provided an analysis of alternatives regarding a Proposed Action to issue the EFP. The EA “includes the essential components of environmental impact analyses in accordance with the National Environmental Policy Act (NEPA) necessary to assess the potential environmental impacts on the human environment that could result from the Proposed Action as well as similar actions in future years.”²⁵

Regulatory

Oversight of Federal law(s) related to US marine fisheries falls under the Department of Commerce. This has been delegated to the NOAA/NMFS.

Under the MSA, eight Regional Fishery Management Councils were established. The Pacific Fishery Management Council “shall consist of the States of California, Oregon, Washington, and Idaho and shall have authority over the fisheries in the Pacific Ocean seaward of such States.”²⁶ In general, the Councils are charged with management of those fisheries that occur in the waters described in the MSA. Council members are representatives from the governments of impacted States as well as members of the public who are knowledgeable in fishery conservation and management, or the commercial or recreational harvest of fishery resources through occupational experience, scientific expertise, or related training. Fisheries are required to be managed under Fishery Management Plans (“FMP”) using the “best scientific information available”²⁷. The Pacific Fishery Management Council currently has Fishery Management Plans for the following

²¹ 16 USC §1371(a)(2)

²² 42 USC §4321 *et seq*

²³ 42 USC §4332(C)

²⁴ See - http://www.westcoast.fisheries.noaa.gov/publications/nepa/HMS/longline_efp_draft-ea_hms_sept16.pdf

²⁵ Id @ 15

²⁶ 16 USC §1852(a)(1)(F)

²⁷ 16 USC §1851(a)(2)

complex of species: Groundfish²⁸, Salmon²⁹, Highly Migratory Species³⁰, and Coastal Pelagic Species³¹. The Council also manages the US Pacific Halibut fishery in conjunction with the International Pacific Halibut Commission³². In 2013, the PFMC adopted its Fishery Ecosystem Plan with a purpose to “enhance the Council’s species-specific management programs with more ecosystem science, broader ecosystem considerations and management policies that coordinate Council management across its Fishery Management Plans and the California Current Ecosystem.”

The PFMC meets five times a year and management actions approved/adopted by the Council are then forwarded to NMFS for approval. The Council relies on its Scientific and Statistical Committee³³, appropriate Management/Technical Team³⁴, Advisory Subpanel³⁵, and other Advisory Bodies³⁶ for advice, guidance and counsel. If the proposed action complies with applicable law, NMFS will publish the proposed action in the Federal Register where the public will have an opportunity to comment. Once the public comment period closes, NMFS will take those into consideration and publish the final rule in the Federal Register in which it will address comments submitted by the public.

Examples showing how the process works and how it has impacted San Diego based commercial fishermen

Highly Migratory Species:

Pacific Bluefin Tuna (International stock)

²⁸ “The groundfish covered by the Council’s groundfish fishery management plan (or FMP) include over 90 different species that, with a few exceptions, live on or near the bottom of the ocean.” See - <http://www.pcouncil.org/groundfish/background/>

²⁹ “Chinook and coho salmon are the main salmon species managed by the Council. In odd-numbered years, the Council may manage special fisheries near the Canadian border for pink salmon. Sockeye, chum and steelhead are rarely caught in the Council’s ocean fisheries.” See - <http://www.pcouncil.org/salmon/background/>

³⁰ Tunas: north Pacific albacore, yellowfin, bigeye, skipjack, and pacific bluefin; Sharks: common thresher, pelagic thresher, bigeye thresher, shortfin mako, blue; Billfish/swordfish: striped marlin, Pacific swordfish; Other: dorado (also known as dolphinfish and mahi-mahi). See <http://www.pcouncil.org/highly-migratory-species/background/>.

³¹ Northern anchovy, market squid, Pacific sardine, Pacific mackerel, and jack mackerel. See - <https://www.pcouncil.org/coastal-pelagic-species/background-information/>

³² <http://www.pcouncil.org/pacific-halibut/background-information/>

³³ “A group of scientists from state and federal agencies, academic institutions, and other sources. The SSC reviews fishery management plans (FMPs), stock assessments, rebuilding plans, and other documents to ensure the Council is basing their decisions on the best available science.” See - <http://www.pcouncil.org/council-operations/council-and-committees/scientific-and-statistical-committee/>

³⁴ Made up of subject matter experts from NMFS, Treaty Tribes and the applicable states. For the PFMC the following are the current Management/Technical Teams: Salmon Technical Team, Groundfish Management Team, Coastal Pelagic Species Management Team, Salmon Model Evaluation Workgroup, Highly Migratory Species Management Team, and Groundfish Endangered Species Work Group.

³⁵ “Consist of people representing groups or interests concerned with management of their respective fishery, and who have expertise related to the fishery. The general purpose of the advisory subpanels is to advise the Council on fishery management problems, planning efforts, and the content and effects of fishery management plans, amendments, and regulations.” There are Advisory Subpanels for the following: Groundfish, Coastal Pelagic Species, Highly Migratory Species, Salmon and Ecosystem.

³⁶ Enforcement Consultants, Habitat Committee, Groundfish Allocation Committee, Standing Committees and Ad-Hoc Committees.

Recall, resolutions adopted by the IATTC are required to be adopted, domestically, by member nations. In 2014, the IATTC adopted Resolution C-14-06 – Measures for the Conservation and Management of Pacific Bluefin Tuna in the Eastern Pacific Ocean, 2015 – 16³⁷. Included within C-14-06 were resolutions impacting US based commercial and recreational fishermen.

1. US based commercial fleets fishing in the Eastern Pacific Ocean would be allowed to catch up to 600 metric tons of Pacific bluefin in 2015 and 2016 combined, provided that (1) the catch in either year shall not exceed 425 metric tons and (2) if catch in 2015 exceeds 300 metric tons, the catch in 2016 shall not exceed 200 metric tons.
2. US based sportfishing vessels were required to reduce their catch of Pacific bluefin tuna “to levels comparable to the levels of reduction applied under this resolution to the EPO commercial fisheries.” In this case a “a reduction of 20% to 45% in catches”.

During its November of 2014 meeting, the PFMC considered management actions related to Pacific bluefin tuna and approved recommendations to NMFS as follows:

1. For the commercial fishery:
 - A trip limit of 20 mt until 250 mt is caught. After 250 mt is caught, the trip limit is reduced to 2 mt for the remainder of the year. In the event of any landing exceeding the trip limit, the overage amount would be forfeited to the State of California.

On March 9, 2015 NMFS published a proposed rule³⁸ in the Federal Register seeking public comments on the recommendations from the PFMC. On July 8, 2015 NMFS published a final rule³⁹ in the Federal Register which differed, slightly from the proposed rule. The 20 mt trip limit from the proposed rule was increased to 25 mt based on public comments received.

2. For the recreational fishery:
 - A two-fish daily bag limit caught in recreational fisheries while fishing in U.S. waters off California and up to a six-fish possession limit for anglers operating out of California ports. Additionally, special filleting-at-sea requirements were recommended to better enable law enforcement to determine the type of filet they were looking at.

On April 21, 2015 NMFS published a proposed rule⁴⁰ in the Federal Register seeking public comments on the recommendations from the PFMC. On July

³⁷ <https://www.iattc.org/PDFFiles2/Resolutions/C-14-06-Conservation-of-bluefin-2015-2016.pdf>

³⁸ <https://www.federalregister.gov/documents/2015/03/09/2015-05385/international-fisheries-pacific-tuna-fisheries-2015-and-2016-commercial-fishing-restrictions-for>

³⁹ <https://www.federalregister.gov/documents/2015/07/08/2015-16720/international-fisheries-pacific-tuna-fisheries-2015-and-2016-commercial-fishing-restrictions-for>

⁴⁰ <https://www.federalregister.gov/documents/2015/04/21/2015-09093/fisheries-off-west-coast-states-highly-migratory-species-fisheries>

28, 2015 NMFS published a final rule⁴¹ in the Federal Register which mirrored the proposed rule.

North Pacific Swordfish (hybrid of State and Federal Management)

The management of North Pacific swordfish is a combination of Federal and State laws and regulations. This fishery has been under the spotlight over the last 5 or so years as many Non-Governmental Organizations have gone to great measures in an effort to shut-down this fishery.

At the State-level, several pieces of legislation have been proposed which would have resulting in outlawing or phasing out the use of drift nets for the harvest of swordfish and sharks. To date, none of these efforts have passed. There remains an open question whether or not the State will have the ability to legislate against the use of the gear type or ban the landing of fish caught using drift nets, now that the Federal Government takes over the permitting of the fishery⁴².

At the Federal level, there has been substantial pressure placed on PFMC to recommend management actions that will greatly curtail, or end, the driftnet fishery. In September 2015, the PFMC “took final action in adopting final preferred alternatives for management of the California large mesh drift gillnet fishery including hard caps for high priority protected species, performance objectives for non-ESA listed marine mammals and finfish, and fishery monitoring objectives.”⁴³ The hard cap measure would result in the closure of the fishery if the following number of interactions⁴⁴ with “high priority protected species” were observed (See Table 1.16).

Table A.1 – Hard caps proposed by the Pacific Fishery Management Council, subsequently rejected by NMFS

High Priority Protected Species	Two-year hard caps based on interactions
Fin Whale	2
Humpback Whale	2
Sperm Whale	2
Leatherback Sea Turtle	2
Loggerhead Sea Turtle	2
Olive Ridley Sea Turtle	2
Green Turtle	2
Short-fin pilot whale C/O/W ⁴⁵	4

⁴¹ <https://www.federalregister.gov/documents/2015/07/28/2015-18380/fisheries-off-west-coast-states-highly-migratory-species-fisheries-recreational-fishing-restrictions>

⁴² In 1998, the City of Charleston, through a resolution which, in effect, closed off access to the Charleston Maritime Center (and its facilities) to vessels utilizing pelagic longline gear. The Resolution also barred commercial businesses from “purchasing, processing or unloading any fish from or caught by pelagic longline vessels.” It also contained a provision barring the sale, purchase, processing or unloading of any billfish or swordfish at its facilities. The Appellate Court found the Resolution Preempted by Federal Law (an FMP that allowed the take for fish using that specific gear-type). The U.S. Supreme Court declined to take up the City’s appeal. See *City of Charleston v A Fisherman’s Best* 310 F.3d 155 (2002) cert. denied, 123 S.Ct. 2573 (2003)

⁴³ <http://www.pcouncil.org/wp-content/uploads/2015/09/0915decisions.pdf> (see p3)

⁴⁴ Interactions here are observed mortality or injury.

⁴⁵ C/O/W – California/Oregon/Washington Stock

Common bottlenose dolphin C/O/W ⁴⁶	4
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In September of 2016, the PFMC transmitted its proposed regulations for implementing hard caps to NMFS. The Proposed Rule was published in the Federal Register on October 13, 2016⁴⁷. The public comment period was subsequently extended until December 28, 2016⁴⁸.

On June 12, 2017, NMFS withdrew the proposed rule, partly, in response to Public Comments received⁴⁹.

Groundfish

As alluded to above, groundfish management is complex and complicated. For our purposes, a closer examination of the impacts to San Diego fishermen when Cowcod was declared overfished will be instructive. In 1999, NMFS completed its first stock assessment of Cowcod. The population was estimated to be low enough that the stock was declared “overfished” in 2000. Overfished is a term of art defined in the MSA as follows: “The terms “overfishing” and “overfished” mean a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the maximum sustainable yield on a continuing basis.⁵⁰” A fishery can be subject to overfishing without being overfished – such fisheries are referred to as “subject to overfishing” and unless action is taken to curtail catch, the fishery will be deemed overfished. There are many nuanced rules which are applicable when a fishery is declared subject to overfishing or overfished. The general rule is that such stocks are to be rebuilt in as short a time period as is possible “taking into account the status and biology of any overfished stocks of fish, the needs of fishing communities, recommendations by international organizations in which the United States participates, and the interaction of the overfished stock of fish within the marine ecosystem.”⁵¹

During its November 2000 meeting, the PFMC “approved a Cowcod rebuilding plan limiting fishery impacts to 1% per year (about 2.4 metric tons for 2001), as a 95-year rebuilding period, and the use of area closures south of Pt. Conception to reduce bycatch mortality.⁵²” The area closures south of Pt Conception took the form of two Cowcod Conservation Areas.⁵³ (See Fig A.4). Combined, the CCAs cover roughly 4,300 square miles and are closed to all commercial and recreational fishing for groundfish except:

- commercial and recreational fishing for certain types of “flatfish⁵⁴” is permitted for vessels using specific types of hook and line gear;
- recreational fishing is permitted in waters shallower than 20 fathoms; and

⁴⁶ *ibid*

⁴⁷ <https://www.gpo.gov/fdsys/pkg/FR-2016-10-13/pdf/2016-24780.pdf>

⁴⁸ <https://www.gpo.gov/fdsys/pkg/FR-2016-11-23/pdf/2016-28179.pdf>

⁴⁹ <https://www.gpo.gov/fdsys/pkg/FR-2017-06-12/pdf/2017-12070.pdf>

⁵⁰ 16 U.S.C §1802(34)

⁵¹ 16 U.S.C. §1854(e)(4)(A)(i)

⁵² <http://www.pcouncil.org/wp-content/uploads/1100decisions.pdf>

⁵³ 50 CFR §660.70(n) & (o); 14 CCR §27.50

⁵⁴ Butter sole, curlfin sole, flathead sole, Pacific sanddab, rex sole, rock sole, and sand sole

- commercial fishing for rockfish and lingcod with limited entry fixed gear and open access non-trawl gear is permitted in waters shallowed than 20 fathoms.

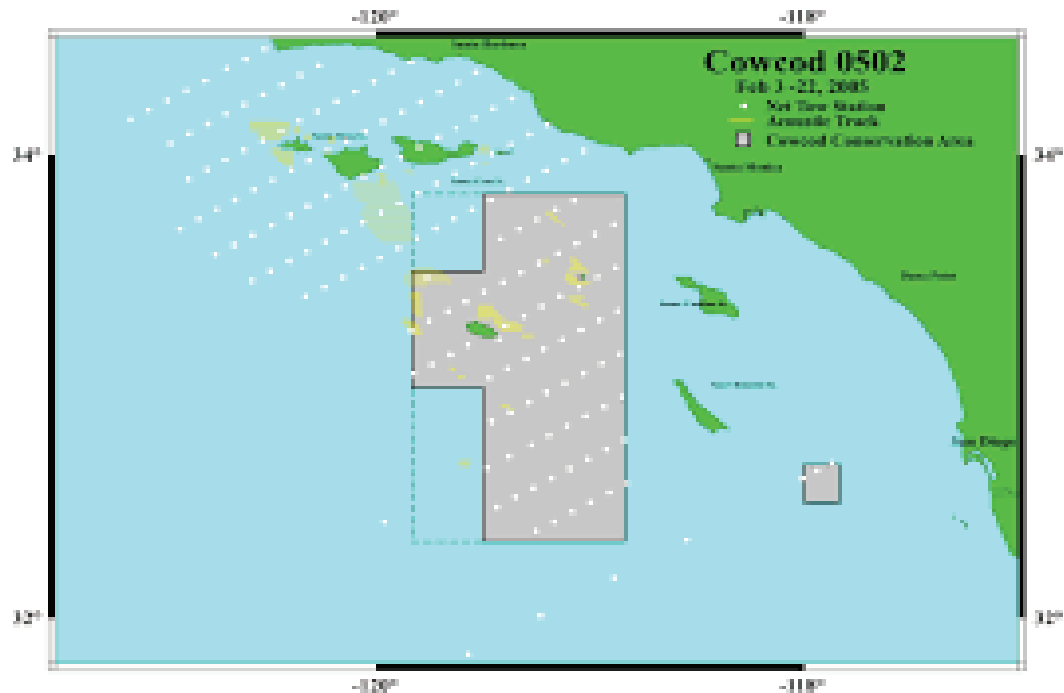


Figure A.4 – Cowcod Conservation Areas in the Southern California Bight. From swfsc.noaa.gov

The Cowcod rebuilding plan was adopted in 2004 and found “The stock’s low productivity and declined spawning biomass also necessitates an extended rebuilding period, estimated at 62 years with no fishing-related mortality, to achieve a 1,350 mt [biomass too ensure sustainability].⁵⁵” In May of 2014, a Cowcod rebuilding analysis predicted the stock will be rebuilt in 2020⁵⁶. Why the initial estimation was off is not important, it is likely a combination of factors all of which involve better science in terms of population estimation methodologies, fecundity and reproductive capabilities, etc.

What is important is with the likelihood of the stock being declared rebuilt in a few years, how do fishermen ensure they are no long constrained by restrictions designed to rebuild the stock. For example, what will come of the CCAs? Will they be converted to Rockfish Conservation Areas (another form of closure which allow for access to increased depths; but still close off depths productive for some species)?

Coastal Pelagic Species

The directed commercial fishery for Pacific Sardine has been closed between July 1, 2015 – June 30, 2016; July 1, 2016 – June 30, 2017; July 1, 2017 until June 30, 2018; and July 1, 2018 – June 30, 2019. This is a direct result of the Harvest Control Rule adopted by NMFS in the current Coastal Pelagics Species FMP.

⁵⁵ http://www.pcouncil.org/wp-content/uploads/gfa16-3_apdxf.pdf (see F-5)

⁵⁶ http://www.pcouncil.org/wp-content/uploads/Cowcod_Rebuilding_Analysis_140523.pdf (see p2)

The sardine fishery operates on an annual basis with the fishing year starting on July 1. The process for setting a harvest guideline (quota) for Pacific Sardine is relatively straightforward. Early in the year, typically during the April PFMC meeting, the current year's stock assessment is published by the NMFS Science Centers and adopted (or not) by the Council. Once the stock assessment's Biomass figure is adopted, determining if the fishery will be allowed to open; and if so, what level of take will be allowed, is simply a mathematical calculation. In the last three Stock Assessment, the estimated Biomass was below that which would allow a directed fishery.

In April of 2017, the PFMC adopted an Amendment to the CPS FMP which will authorize "small-scale directed fishing on CPS finfish stocks that are otherwise closed to directed fishing. The amendment will allow for landings up to one metric ton per day, with a limit of one trip per day.⁵⁷" This proposed rule was in the Federal Register on November 6, 2017⁵⁸ and was made final on February 14, 2018⁵⁹. This provides an opportunity for small, artisanal vessels based in San Diego to target a resource they previously were unable to harvest. In low quantities, Pacific Sardine could be economically viable as a small-scale fishery.

STATE OVERSIGHT:

Legislative

Marine Life Management Act⁶⁰ ("MLMA")

In California, the Fish and Game Code governs fishing and fishing activities within the State. The MLMA, which went into effect in January of 1999, is the primary statute governing marine fisheries management in California's waters. The California Department of Fish and Wildlife ("DFW") describes some of the attributes of the MLMA as follows⁶¹:

The MLMA includes a number of innovative features:

- The MLMA applies not only to fish and shellfish taken by commercial and recreational fishermen, but to all marine wildlife.
- Rather than assuming that exploitation should continue until damage has become clear, the MLMA shifts the burden of proof toward demonstrating that fisheries and other activities are sustainable.
- Through the MLMA, the Legislature delegates greater management authority to the Fish and Game Commission and the California Department of Fish and Wildlife.
- Rather than focusing on single fisheries management, the MLMA requires an ecosystem perspective including the whole environment.
- The MLMA strongly emphasizes science-based management developed with the help of all those interested in California's marine resources.

⁵⁷ See - <http://www.pcouncil.org/wp-content/uploads/2017/04/April2017DecisionSummaryDocumentFINAL.pdf> (page 5)

⁵⁸ See - <https://www.gpo.gov/fdsys/pkg/FR-2017-11-06/pdf/2017-24097.pdf>

⁵⁹ <https://www.gpo.gov/fdsys/pkg/FR-2018-02-14/pdf/2018-03040.pdf>

⁶⁰ Fish and Game Code §7050 *et seq*

⁶¹ See - <https://www.wildlife.ca.gov/Conservation/Marine/MLMA>

As in the Federal arena, the MLMA requires the State create Fishery Management Plans for its fisheries. To date, there are FMPs for the following State fisheries: California Spiny Lobster⁶², Market Squid⁶³, and White Sea Bass⁶⁴. There is also a Nearshore FMP⁶⁵ which covers certain groundfish stocks. FMPs are currently under development for Herring and Red Abalone⁶⁶. There are a few important State fisheries which do not currently have FMPs. Examples include – California Halibut, California Yellowtail and Rock Crab. The California Department of Fish and Wildlife (“DFW”) is currently working on two tools – Ecological Risk Assessments and Productivity and Susceptibility Analyses – which will assist in ranking fisheries in terms of the need for FMPs.

Marine Life Protection Act⁶⁷ (“MLPA”)

The MLPA⁶⁸, which went into effect on January 1, 2001, required the DFW review all existing Marine Protected Areas (“MPAs”) and redesign them in a way to “to ensure that the state’s MPAs are designed and managed, to the extent possible, as a network⁶⁹.” Under the MLPA, there are three main types of MPAs:

1. **State Marine Reserve** – where “it is unlawful to injure, damage, take, or possess any living geological, or cultural marine resource, except under a permit or specific authorization from the managing agency for research, restoration, or monitoring purposes.⁷⁰” Take is prohibited.
2. **State Marine Park** – where “it is unlawful to injure, damage, take, or possess any living or nonliving marine resource for commercial exploitation purposes.⁷¹”
3. **State Marine Conservation Area** – where “it is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource for commercial or recreational purposes, or a combination of commercial and recreational purposes, that the designating entity or managing agency determines would compromise protection of the species of interest, natural community, habitat, or geological features.⁷²” There are two types of State Marine Conservation Areas:
 - a. *State Marine Conservation Area (SMCA)* – where some take **may** be allowed. Each SMCA which allows take will clearly spell out allowable species and/or gear types; and
 - b. *State Marine Conservation Area (No-Take)* – take generally prohibited, except for specific permitted activities (dredging, maintenance, etc).

Regulatory

⁶² 14 CCR §54.00 *et seq*

⁶³ 14 CCR §53.00 *et seq*

⁶⁴ 14 C.C.R. §51.00 *et seq*

⁶⁵ 14 CCR §52.00 *et seq*

⁶⁶ In 2005, the FGC formally adopted The Abalone Recovery and Management Plan

⁶⁷ Fish and Game Code §§2850 *et seq*

⁶⁸ Fish and Game Code §§2850 *et seq*

⁶⁹ Fish and Game Code §2853(b)(6)

⁷⁰ Public Resources Code §36710(a)

⁷¹ Public Resources Code §36710(b)

⁷² Public Resources Code §36710(c)

The Ca FGC has three standing Committees: (1) The Marine Resources Committee⁷³ (“MRC”); (2) The Wildlife Resources Committee⁷⁴ and (3) The Tribal Committee⁷⁵. The Committees are designed to allow presentations and more detailed discussions on management/regulatory proposals that allow greater time and detail than possible at full Commission meetings. Committees are not independent decision-making bodies; their role is to analyze proposals to determine whether they are consistent with the Ca FGC’s mission and within their power(s). In addition, the Ca FGC has a number of workgroups which are tasked with addressing specific areas of concern. Examples include the Bycatch Workgroup, Predator Policy Workgroup, Fishing Communities, Shellfish Aquaculture Best Management Practices, etc.

When considering potential management actions, the Ca FGC will rely on the expertise of the DFW as well as Commission Staff. Public comments and input are welcome throughout the process. Typically, regulatory actions via the Ca FGC involve a three-meeting process.

- The first meeting, the Notice Hearing, is designed to notify the Public of a proposed action.
- The second meeting, the Discussion Hearing, is designed to allow for further evaluation of the merits of the proposed action. This is usually accomplished by presentations from DFW subject matter experts and public comments by interested persons.
- The third meeting, the Adoption Hearing, is where the FGC takes a final vote on the Action. Once again, there is opportunity for public comments.

Examples showing how the State process works and how it has directly impacted San Diego based fishermen

California Spiny Lobster – impacts to commercial fishermen

In August of 2012, the Spiny Lobster Advisory Committee (“LAC”)⁷⁶ was created to assist in the development of the California Spiny Lobster FMP. This was under the auspices of the DFW; but Ca FGC Staff attended most, if not all, meetings. Consensus management recommendations from the LAC were considered by the DFW for inclusion into the FMP.

Those which most impacted the commercial fishery include:

- Implementation of a Trap Limit of 300 traps per permit, with an individual permit-holder able to stack one additional permit (thus acquiring an ability to fish up to 600 traps).
- Implementation of a trap-tag program with a catastrophic trap tag loss requirement for receiving replacement tags.
- Use of SCUBA gear to locate and secure traps in order to retrieve them.
- Requires an end of the season trap loss affidavit to estimate gear loss in the fishery.
- Change in pre/post season trap deployment/retrieval

⁷³ Fish and Game Code §105

⁷⁴ Fish and Game Code §106

⁷⁵ Fish and Game Code §106.5

⁷⁶ <https://www.wildlife.ca.gov/Conservation/Marine/Lobster-FMP/Committee#27830661-2012>

Although it was contentious, the Ca FGC adopted the Spiny Lobster FMP on April 13, 2016.

Recreational Bluefin tuna – impacts to recreational fishermen

As with many fisheries primarily managed by NMFS, the State can adopt rules and regulations which are more restrictive allowed by NMFS. An example of this came to light when NMFS adopted a two-fish daily limit and six-fish multi-day trip limit for the recreational take of Pacific Bluefin tuna.

The Ca FGC seriously considered adopting a recreational limit lesser than that allowed by NMFS. While the commercial fishery for Pacific Bluefin tuna is managed by NMFS, the recreational fishery off California is co-managed with the State. At its April 2015 meeting, the Ca FGC adopted Regulations regarding sportfishing bag and possession limits for Pacific Bluefin tuna for consistency with Federal Rules. During the hearing, at least one Commissioner lobbied for a one-fish limit; but this Commissioner's views were not shared by a majority of the Commission.

In 2017, the Ca FGC approved a proposed regulation which automatically conforms State recreational regulations to federal regulations in the salmon and Pacific Halibut fisheries.

APPENDIX B

CURRENT PORT MASTER PLAN INTERPRETATION OF COMMERCIAL FISHING

Content repeated verbatim from August 2017 Print Edition of the San Diego Unified Port District Port Master Plan – pages 17 – 19.

The Commercial Fishing area is intended to meet the needs of the bona fide 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 that are not associated with visual, odor and water pollution. Fish cannery and fish reduction activities are considered as marine oriented industrial uses and are excluded from this commercial classification, although it is recognized that the uses are functionally linked. Other uses associated with the commercial fishing developments include marine management and advisory services, marine custom brokerage, fueling docks, fishing consultants, and fishing organization offices.

In the San Diego region, there are approximately 40 species of fish, crustaceans and mollusks in the California waters market fishery. The most significant proportion of San Diego landings taken from California waters is currently centered around Pacific bonito, albacore, sea urchin, rockfish, white sea bass, shark, yellowtail and swordfish. Abalone and spiny lobster are also significant fisheries but have been declining in annual catch. Some fishermen suggest a growth potential in San Diego for wet fish processing involving hake, squid, anchovy and mackerel. Fish landings from waters south of the state have shown significant irregularities but steady decline year-to-year in both species of fish and total catch. The long-range tuna seiners, many of which use San Diego as homeport, follow the worldwide migration of the fish and the fish landings are also widely scattered. None of the tuna catch is shipped to San Diego for processing.

The number of commercially licensed fishermen in California went through a marked decline in the 1950's; a slow, small increase in the 1960's; and an increase in the 1970's so that by 1976, the statewide total had returned to the levels of the early 1950's. Despite this turnaround, there are fewer commercial fishermen per capita than in 1950. The licensed commercial fishing population in San Diego County, which numbered 2044 in 1978, represents less than 15 percent of the statewide commercial fishing population and is growing at half the rate of the statewide total. Unlike the statewide figure, the San Diego total has not returned to the level of the early 1950's.

The composition of the California commercial fishing fleet shows several changes since the 1950's. Statewide, commercial fishing vessels under 25 feet in length have made the most dramatic increase and comprised about 40 percent of the statewide fleet in 1975. These smaller vessels fall into a trailerable classification and, locally, the most sizable portion of the lobster and crab fleet vessels are about 18 to 22 feet in length. Many are launched at public launching ramps during the fishing season, and in off-season are dry stored. Statewide, over one-third of the total licensed commercial fishing fleet ranges in length from 26 to 40 feet, and about one-fifth are 41 to 65 feet in length. That portion of the statewide fleet over 66 feet in length has decreased from nine percent in 1950 to just over four percent in 1975. Unlike the statewide fleet, the portion of the San Diego fishing fleet that is in the over 66 feet length range, since 1950, made up approximately 25 percent of the local total. This unusual grouping in the longer length category is primarily due to the purse seiner fleet.

Locally, vessels licensed for commercial fishing include charter sportfishing and recreational craft without commercial fishing equipment, as well as commercial fishing vessels. Approximately one-third of the vessels licensed locally for commercial fishing and used exclusively in commercial fishing are granted a

preferential property tax assessment rate, although this number still includes some sportfishing and research vessels. It is noted that during a four year period prior to 1978, an annual total of under 230 locally licensed commercial fishing vessels, exclusive of research, party sportfishing and tuna seiners, have been found to be exclusively used in commercial fishing and granted a preferential tax assessment rate.

Berthing areas exclusively set aside for the market fishing boats, including baitboats, need to be: protected from wave and wake action, be accessible over low rise piers or floats; located within convenient proximity to fuel and ice supply; provided with dockside fresh water, electricity, trash containers, gear working areas, unloading areas, and hoist; supported with shoreside facilities for marina management, restrooms, equipment storage facilities, pumpout and disposal facilities for waste oil, and automobile parking; and gated and lighted for security. Transshipment areas provide space for fish bucket storage, weighing facilities, inspection area and loading of motor transport for distant canneries. Berthing and offloading areas for transshipment purposes that go beyond that currently provided can be adequately accommodated at the marine terminals. Berthing needs for the tuna seiners include 25-foot-deep water and pier structures strong enough to support fire trucks and salt delivery trucks. Net tending areas with a minimum-size smooth surface of 50 to 175 feet located parallel to the seiner berths are considered desirable.

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.

The commercial fishing areas delineated on the Master Plan's Land and Water Use Map, and given more precise location and explanation in the Precise Plans, encourage the efficient use of coastal waterfront space by identifying sites best suited to meet the needs of the short-range market fishing boats, the deep draft vessels of the long-range tuna seiners, the preservability of fish products, and the high cost of preserving and transporting unprocessed fresh fish.

The commercial fishing activity is provided for in the Master Plan, with an allocation of about 61 acres of water and 14 acres of land. Sites provided include, in Planning District 1, the Shelter Island Commercial Basin; in Planning District 3, berthing along the seawall in the crescent area adjacent to Harbor Drive and around the "G" Street Mole where breakwater piers provide a protected fishing boat basin for 98 slips.

GLOSSARY

Acoustic pingers – devices attached to fishing gear designed to transmit a sound underwater to deter marine mammals from approaching the gear. Required of the swordfish large mesh drift gillnet (DGN) fishery off the U.S. West Coast.

America's Cup Harbor – Driscoll's Wharf is located within this area and is one of two areas servicing commercial fishing within the Port of San Diego.

American Fishermen's Tunaboat Association – Formed in 1930 to better enable San Diego fishermen to present a united front when dealing with canneries. It was the precursor to the American Tunaboat Association.

American Tunaboat Association ("ATA") – Organization of owners of U.S. flag vessels that use purse seine nets to fish commercially for tuna. ATA has a long history of advocating for and supporting sustainable fisheries for highly migratory species such as tuna, which can only be achieved through effective international action. In order to maintain these stocks at sustainable levels, it is essential that all nations with vessels involved in the fisheries cooperate to reach agreement on science-based conservation and management measures. The ATA also believes it is important to maintain a strong U.S. flag tuna fleet and is therefore committed to doing what it can to ensure that American vessels can participate in the international fisheries for tuna on a fair and equitable basis.

California Coastal Act – Since being enacted in 1976, it has been the primary California State law regarding land and coastal uses and access activities. It also governs decisions of the California Coastal Commission. It can be found in Division 20 of the California Public Resources Code, Sections 30000 – 30900.

California Current Large Marine Ecosystem ("California Current LME") - A dynamic, diverse environment in the eastern North Pacific Ocean spanning nearly 3,000 km from southern British Columbia, Canada to Baja California, Mexico, and includes the United State Exclusive Economic Zone, the coastal land-sea interface, and adjacent terrestrial watersheds.

Category II fishery – The Marine Mammal Protection Act requires that each US commercial fishery be classified, in one of three categories, according to the level of incidental mortality or serious injury of marine mammals. A category II fishery is one which has occasional incidental mortality or serious injury of marine mammals.

Central Embarcadero – Geographically distinct area within the Port of San Diego which includes Seaport Village, Chesapeake Fish and surrounding areas between the Grand Hyatt Hotel and the USS Midway.

Coastal Pelagic Species – The six species composing the Pacific Fishery Management Council's Coastal Pelagic Species Fishery Management Plan (CPS FMP). These are northern anchovy, market squid, pacific sardine, pacific (chub) mackerel, jack mackerel, and krill. They are "Pelagic" species because they live in the water column as opposed to living near the sea floor.

Commercial Fisheries Revitalization Plan – Report prepared by Lisa Wise Consulting, Inc. for the Port of San Diego "to address the economic, regulatory, market, environmental, and infrastructure opportunities and constraints facing the local commercial fishing industry, as well as public access and public awareness opportunities for the sites as part of a vibrant working waterfront in the city of San Diego. The Commercial Fisheries Revitalization Plan was conducted in two phases:

Background and Existing Conditions Report – Phase one of the Commercial Fisheries Revitalization Plan which focused on the present in terms of analysis.

Preferred Alternative and Implementation Plan – Phase two of the Commercial Fisheries Revitalization Plan which provided specific recommendations.

Commercial Fishing Steering Group – A group of diverse stakeholders initially formed to address issues related to the proposed redevelopment project. It has since expanded to cover the Port Master Plan Update and other issues which, while related to the redevelopment project, are separate and distinct.

Commercial Passenger Fishing Vessel – More commonly known as sportfishing vessels or charter vessels which carry passengers for hire.

Cowcod Conservation Areas – Created by National Marine Fisheries Service in response to the finding that cowcod (*Sebastes levis*) were overfished. No fishing is allowed in depths in excess of 20 fathoms (~37 meters), to help rebuild cowcod populations.

Deep Set Buoy Gear – Currently an experimental gear type used to target swordfish and other highly migratory species off the West Coast of the United States. It consists of a floating buoy supporting a single vertical line to which one to three baited hooks are attached.

Domoic Acid - a naturally occurring neurotoxic amino acid that can cause illness in humans. It is produced by algae and accumulates in shellfish, sardines, and anchovies. When sea lions, otters, cetaceans, humans, and other predators eat contaminated animals, poisoning may result.

Driscoll's Wharf – One of two locations within the Port of San Diego serving the commercial fishing industry. It is located within America's Cup Harbor.

El Niño - An irregularly occurring and complex series of climatic changes affecting the equatorial Pacific region and beyond every few years, characterized by the appearance of unusually warm, nutrient-poor water. Impacts felt in Southern California are exhibited by warmer water, which negatively impacts some fisheries (market squid) and positively impacts others (tropical tunas – bigeye, skipjack and yellowfin).

Exclusive Economic Zone – The U.S. Exclusive Economic Zone extends no more than 200 nautical miles from the territorial sea baseline and is adjacent to the 12 nautical mile territorial sea of the U.S., including the Commonwealth of Puerto Rico, Guam, American Samoa, the U.S. Virgin Islands, the Commonwealth of the Northern Mariana Islands, and any other territory or possession over which the United States exercises sovereignty.

Exempted Fishing Permit – A permit issued by a governing agency to allow fishing activities which otherwise be prohibited. May be approved to authorize, for limited testing, public display, data collection, exploratory fishing, compensation fishing, conservation engineering, health and safety surveys, environmental cleanup, and/or hazard removal purposes, the target or incidental harvest of species managed under an FMP or fishery regulations that would otherwise be prohibited.

Ex-vessel revenue - A measure of the monetary worth of commercial landings, usually calculated as the price per pound for the first sale of landed fish multiplied by the total pounds landed.

Fish and Game Commission – Agency under the Executive Branch of the State of California charged with promulgating regulations to manage the State's fish and wildlife resources.

Fish and Game Commission - Marine Resources Committee – a Committee of the California Fish and Game Commission that considers marine related topics before they are considered by the full Commission.

Fishery Management Plan - A document prepared under supervision of the appropriate Agency for management of stocks of fish judged to be in need of management. The plan must generally be formally approved. An FMP includes data, analyses, and management measures. A plan containing conservation and management measures for fishery resources, and other provisions required by law (Magnuson-Stevens Act – Federal; Marine Life Management Act – State of California).

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

Floating docks - A dock that is held in place laterally, as by pilings, but rests on floats and is free to rise and fall with changes in the water level.

Gear compaction – Higher densities of fishing gear resulting from closures or other actions which reduce available fishing areas.

Groundfish complex – A collection of over 90 different species that, with a few exceptions, live on or near the bottom of the ocean. These are considered one management unit under the Pacific Fishery Management Council's Groundfish Fishery Management Plan. These are made up of the following species:

Rockfish. The plan covers over 64 different species of rockfish, including widow, yellowtail, canary, and vermilion rockfish; bocaccio, chilipepper, cowcod, yelloweye, thornyheads, and Pacific ocean perch.

Flatfish. The plan covers 12 species of flatfish, including petrale sole, Dover sole, starry flounder, arrowtooth flounder, and Pacific sanddab.

Roundfish. The six species of roundfish included in the fishery management plan are lingcod, cabezon, kelp greenling, Pacific cod, Pacific whiting (hake), and sablefish.

Sharks and skates. The six species of sharks and skates are leopard shark, soupfin shark, spiny dogfish, big skate, California skate, and longnose skate.

Other species. These include ratfish, finescale codling, and Pacific rattail grenadier.

G Street Mole – Area within the Port of San Diego which is adjacent to Tuna Harbor. Currently houses the Fish Market Restaurant, offices of the American Tunaboat Association and a mix of public parking and parking designated for commercial fishing uses.

Harvest control rule – A set of defined responses which describes how harvest is intended to be controlled by management in relation to the state of some indicator of stock status. For example, a harvest control rule can describe the various values of fishing mortality that will be aimed at for various values of the stock abundance. It formalizes and summarizes a management strategy.

Hazard Analysis and Critical Control Points Plan - a written plan that defines the procedures for maintaining control of potentially hazardous food at the critical control points of food preparation or processing.

Highly Migratory Species – Species that are grouped together, for management purposes, which are migratory in nature and capable of travelling great distances throughout the ocean. The Pacific Fishery Management Council's Highly Migratory Species Fishery Management Plan covers the following species: Pacific tunas (North Pacific albacore, Pacific bluefin tuna, bigeye tuna, skipjack tuna and yellowfin tuna), swordfish, sharks, and billfish.

Illegal, Unreported and Unregulated (IUU) fishing - Generally refers to fishing conducted in violation of national laws or internationally agreed conservation and management measures in effect in oceans around the world.

Individual Transferrable Quota (or other Catch Share) Systems - A fishery management system that allocates a secure privilege to harvest a specific area or percentage of a fishery's total catch to individuals, communities, or associations.

Inter-American Tropical Tuna Commission – The International Regional Fishery Management Organization responsible for the conservation and management of tuna and other marine resources in the eastern Pacific Ocean.

La Niña - a cooling of the water in the equatorial Pacific that occurs at irregular intervals and is associated with widespread changes in weather patterns complementary to those of El Niño, but less extensive and damaging in their effects. Impacts felt in Southern California are exhibited by cooler water, which negatively impacts some fisheries (tropical tunas) and positively impacts others (market squid).

Linked Buoy Gear - Currently an experimental gear type used to target swordfish and other highly migratory species off the West Coast of the United States. It consists of a floating buoy which is then linked with a second buoy and the baited hooks are attached to the buoy lines by a mainline which allows all thirty hooks to be fishing at a preferred depth. It is designed to increase gear retrieval efficiency, augment catch rates and provide an opportunity for deployment under conditions that may not be conducive to the use of free-floating buoys.

List of Fisheries – Requirement of the Marine Mammal Protection Act which classifies U.S. commercial fisheries into Categories according to the level of interactions that result in incidental mortality or serious injury of marine mammals. This is published annually and impacts regulatory requirement for domestic fisheries.

List of Foreign Fisheries – Based on the import provisions of the Marine Mammal Protection Act, this lists foreign commercial fisheries that export fish and fish products to the United States and that have been classified as either “export” or “exempt” based on the frequency and likelihood of incidental mortality and serious injury of marine mammals. The entire list of these export and exempt fisheries, organized by nation (or subsidiary jurisdiction), constitutes the List of Foreign Fisheries.

Magnuson Stevens Fishery Conservation and Management Act – The Primary Federal law governing marine fisheries management in U.S. federal waters. It can be found in Chapter 38 of Title 16 of the United States Code, Sections 1801 – 1891d.

Management Strategy Evaluation - A tool that scientists and managers can use to simulate the workings of a fisheries system and allow them to test whether potential harvest strategies—or management procedures— can achieve pre-agreed management objectives.

Marine Life Management Act – The primary State law which governs the management and conservation of California's marine living resources. It can be found in Division 6 of the California Fish and Game Code, Sections 7050 – 7090.

Marine Life Protection Act – Enacted in 1999, the Marine Life Protection Act directs the state to redesign California's system of marine protected areas (MPAs) to function as a network in order to: increase coherence and effectiveness in protecting the state's marine life and habitats, marine ecosystems, and marine natural heritage, as well as to improve recreational, educational and study opportunities provided by marine ecosystems subject to minimal human disturbance. It can be found in Division 3 of the California Fish and Game Code, Sections 2850 – 2863.

Marine Protected Areas – Areas within state waters, similar to national parks and forests on land, which have been designated to protect and restore ocean habitats and increase the health, productivity, and resilience of ocean ecosystems. Three types are of specific interest:

State Marine Reserve – no commercial and recreational activities are allowed, keeping the area as free from human impact as possible.

State Marine Park - allow opportunities for education, research, and recreation, while preventing commercial extractive activities.

State Marine Conservation Area - areas that have specific goals for conservation and activities are restricted to meet the conservation goals.

Mean Lower Low Water - The arithmetic mean of the lower low water heights of each tidal day observed over a specific 19-year Metonic cycle.

Medina Panel – Sections of smaller mesh in a purse seine net which are sewn into the upper part of the net to protect dolphins from becoming tangled during certain fishing operations.

Monterey Bay Fisheries Trust - A nonprofit corporation, based in Monterey, California, working to ensure that our coastal communities benefit from active, working waterfronts and local, sustainable seafood for years to come.

National Standards - Principles that must be followed in any federal fishery management plan (FMP) to ensure sustainable and responsible fishery management. There are ten national standards and they are codified in the Magnuson Stevens Fishery Conservation and Management Act at 16 U.S.C §1851.

Pacific Leatherback Conservation Area – A roughly 213,000 square miles within the exclusive economic zone (EEZ) which prohibits drift gillnet fishing from August 15 to November 15 to protect foraging leatherback sea turtles.

Planning District 3 – A discrete planning area within in the Port of San Diego. It covered the Centre City Embarcadero and covers all of the Port District waterfront from the U.S. Coast Guard Air Station to the Tenth Avenue Marine Terminal. From Laurel Street to Market, Port land boundaries follow parallel to the shoreline and extend easterly to Pacific Highway, except for two major land blocks; the five block-long

property of the County of San Diego's Administrative Center and the four-block-long property of the U.S. Navy's Commander, Naval Base San Diego and Naval Supply Center.

Planning Subarea 34 – The discrete planning area within Planning District 3 covering Tuna Harbor.

Port Master Plan - a document intended to provide the official planning policies, consistent with a general statewide purpose, for the physical development of the tide and submerged lands conveyed and granted in trust to the San Diego Unified Port District.

Protea Waterfront Development (“PWD”) - is the Managing Member of 1HWY1 LLC. PWD was recently granted an Exclusive Negotiating Agreement with the Port of San Diego for the Central Embarcadero redevelopment project.

Regional Fishery Management Organization – An international organization that is dedicated to the sustainable management of fishery resources in a particular region of international waters, or of highly migratory species. For vessels operating out of, or landing into, San Diego two are important: Inter-American Tropical Tuna Commission and the Western and Central Pacific Fisheries Commission

Report – Unless the context dictates otherwise, refers to this document entitled *An Analysis of Commercial Fishing in the San Diego Area: With a Primary Focus on Commercial Fishing Facilities and Infrastructure within the Port of San Diego at Tuna Harbor and Driscoll's*.

San Diego Fishermen's Working Group - A nonprofit corporation representing commercial fishermen based in, and operating out of, commercial fishing harbors in the San Diego area. It includes fishermen from Tuna Harbor, Driscoll's Wharf, Mission Bay and trailer-boat fishermen.

Southern California Bight - The coastal and offshore area between Point Conception on the Santa Barbara County coast and a point just south of the United States - Mexico border.

Thermocline - a steep temperature gradient in a body of water such as the ocean, marked by a layer above and below which the water is at different temperatures.

Tuna Harbor - One of two locations within the Port of San Diego serving the commercial fishing industry. It is located within the Central Embarcadero.

Tuna Harbor Dockside Market – An open-air fisherman's market offering locally landed seafood.

West Coast Commercial Fishing Facilities Benchmark Study – A study initiated by the Port of San Diego's Maritime Division to evaluate the competitive position of the Port's Tuna Harbor/G Street Slips commercial fishing facility in comparison to other West Coast ports and harbors.

Western and Central Pacific Fisheries Commission - The International Regional Fishery Management Organization responsible for the conservation and management of tuna and other marine resources in the western Pacific Ocean.

Wetfish pump - A shore-based pump that is used to transfer the fish from the hold of a vessel to a weighing bin with a scale.

LIST OF ACRONYMS

AAFA	American Albacore Fishing Association
ATA	American Tunaboat Association
BPC	Board of Port Commissioners
Ca DFW	California Department of Fish and Wildlife
Ca FGC	California Fish and Game Commission
CCE	California Current Ecosystem
CFSG	Commercial Fishing Steering Group
CPS	Coastal Pelagic Species
CPFV	Commercial Passenger Fishing Vessel
CSL FMP	California Spiny Lobster Fishery Management Plan
DSBG	Deep Set Buoy Gear
EBBCO	Everingham Brothers Bait Company
EEZ	Exclusive Economic Zone
EFP	Exempted Fishing Permit
ESA	Endangered Species Act
FAO`	Food and Agriculture Organization of the United Nations
FEP	Fishery Ecosystem Plan
FMP	Fishery Management Plan
HACCP	Hazard Analysis & Critical Points
HMS FMP	Highly Migratory Species Fishery Management Plan
IATTC	Inter-American Tropical Tuna Commission
LAC	Spiny Lobster Advisory Committee
LBG	Linked Buoy Gear
MLMA	Marine Life Management Act
MLPA	Marine Life Protection Act
MMPA	Marine Mammal Protection Act
MRC	Marine Resources Committee of the California Fish and Game Commission
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSC	Marine Stewardship Council
MSE	Management Strategy Evaluation
MT	Metric Ton
NEPA	National Environmental Policy Act
NGO	Non-Governmental Organization
NM (or nm)	Nautical Mile
NMFS	National Marine Fisheries Service
NOAA	National Oceanic & Atmospheric Administration
PFMC	Pacific Fishery Management Council
PWD	Protea Waterfront Development
RFMO	Regional Fishery Management Organization
SCB	Southern California Bight
SDFWG	San Diego Fishermen's Working Group
SIMP	Seafood Import Monitoring Program
THDM	Tuna Harbor Dockside Market
WCPFC	Western and Central Pacific Fisheries Commission