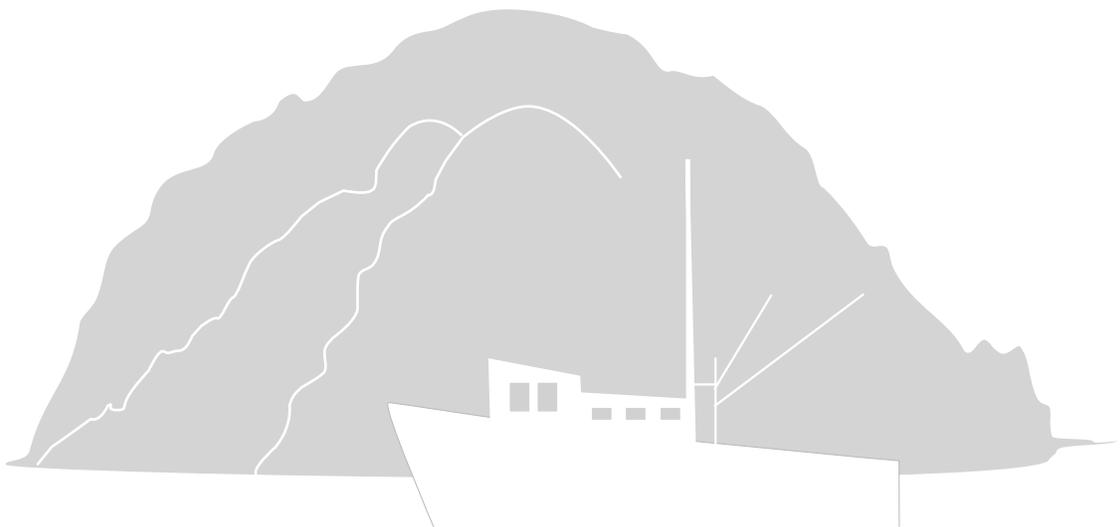


MORRO BAY COMMERCIAL FISHERIES
2017 ECONOMIC IMPACT REPORT
December 2017

Prepared by Lisa Wise Consulting, Inc.



MORRO BAY

2017 COMMERCIAL FISHERIES ECONOMIC IMPACT REPORT

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ACKNOWLEDGEMENTS

2017 marks the sixth year that the Morro Bay Commercial Fishermen's Organization (MBCFO) has partnered with the Central California Joint Cable/Fisheries Liaison Committee (CCJCFCLC) to initiate, manage, and fund an assessment of the Morro Bay commercial fishing industry's economic performance and contributions to the community.



As in past efforts, research for the 2017 Commercial Fisheries Economic Impact Report relied heavily on input from commercial fishermen, related industry stakeholders, waterfront business owners and operators, Harbor Advisory Board Members, and City of Morro Bay Staff. It is, in a true sense, a community effort. As such, we would like to thank the following individuals and organizations not only for their guidance on this project but for their patience, honesty, and the friendships that have formed as a result of our 12 years working in this community. Without the assistance of the following people, the report would not have been possible:



Tom Hafer, current President, Jeremiah O'Brien, past President, Captain Bill Blue, the entire membership of the MBCFO, and the on-going and generous support of the CCJCFCLC. We would also like to thank Eric Endersby of the Morro Bay Harbor Department, Paul Gillen of Associated Pacific Constructors, Inc., Dwayne Oberhoff of the Morro Bay Community Quota Fund, and Dana McLish of the Morro Bay Yacht Club. Ultimately, we would like to thank the entire Morro Bay commercial fishing fleet, past and present, for their contributions to the economy and the social fabric of Morro Bay. We would also like to thank local seafood processors and retailers, commercial passenger fishing vessel operators, dockworkers, local chandleries, the local aquaculture industry, Morro Bay Yacht Club, marine constructors, and everyone who works on and supports Morro Bay's working waterfront.

On behalf of the entire community, we would also like to extend a very special thanks to the Marine Fisheries Statistical Unit at the California Department of Fish and Wildlife (CDFW) for their support and attention over the last seven years. Much of the foundational economic data in these reports was provided by the CDFW and Pacific Fisheries Information Network (PacFin).



MORRO BAY
COMMERCIAL FISHERMEN'S ORGANIZATION
EST. 1972

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INTRODUCTION

Vibrant Industry: The 2017 Morro Bay Commercial Fisheries Economic Impact Report marks the sixth year that the Morro Bay Commercial Fishermen’s Organization (MBCFO) has produced an assessment of the commercial fishing industry’s economic contributions. The project was funded by a generous grant from the Central Coast Joint Cable Fisheries Liaison Committee (CCJCFCLC) and the City of Morro Bay. The report provides an overview of Morro Bay’s marine-based economy and highlights the economic performance of the commercial fishing industry.

• Economic Impact Reports are intended to inform elected officials, civic leaders, and the general public about contributions of the local commercial fishing industry as well as to provide a comprehensive and consistent source of important data form commercial fishermen and industry-related stakeholders.

The report addresses the vibrancy of Morro Bay’s working waterfront, which is made up of commercial fishing, aquaculture, seafood processing, chandlery, commercial passenger fishing activity, and marine construction. Together, these industries represent a marine-dependent economy empowered by a ready workforce, healthy and productive marine environment, well-dredged harbor, slips and piers, hoists, scales, forklifts, public ice facility, fuel, and access to buyers and distribution routes.

The Morro Bay commercial fishing community and City of Morro Bay are proactively involved in measuring the industry’s impact as well as planning for its continued success. The following are some of the studies that have be conducted over the last 10 years: the Business Plan for MBCFO Wharf (2007); the Morro Bay and Port San Luis Commercial Fisheries Business Plan (2008); Economic Impact Reports (2011, 2012, 2013, 2014, and 2015); Boatyard and Haulout Facility Market Demand Analysis (2015); and the Morro Bay Fishing Community Sustainability Plan (2014), which was cited for the national level American Planning Association award for Outstanding Small Town Project Plan.

• “The fleet as a whole is rebounding from economic downturn and regulations. It’s showing signs of healthy recovery. Lower volume, higher value model seems to be working. The Industry is doing a good job of selling/advertising the local-caught, sustainably-caught model!” - Fisherman, personal communication, 2017

Synergies with Tourism: Morro Bay’s working waterfront is also a source of tourism and demand for locally caught and locally raised seafood, recreational fishing, kayaking, whale watching, diving, and sailing trips. Visitors are drawn to Morro Bay as a working port as well as for its natural beauty, clean beaches, and visitor-serving amenities. The diversity and history of the marine-dependent economy characterizes a resilient system in which participants complement each other and buffer volatility in any individual business or industry.

Challenges: Landings and earnings in 2015 and 2016 show a continued rise from lows in 2007 but were below the record highs seen in 2014. Fishermen attribute this decline to the ongoing challenges posed by ocean conditions outside of their control, including domoic acid, which severely limited the Dungeness crab

seasons in 2015 and 2016, and increasing regulations that limit access for fish stocks. The Morro Bay commercial fishing fleet invests a great amount of effort participating in the regulatory process, often at the expense of time spent on the water, repairing gear, and maintaining their boats. A timely example of the Morro Bay commercial fishing community's ability to self organize and collaborate in the ongoing opposition of a new National Marine Sanctuary in Morro Bay, as well as the commercial fishing community's efforts at successfully halting potentially destructive seismic testing in nearshore waters in 2012.

Physical infrastructure continues to be a challenge for the working waterfront in Morro Bay. Several waterfront property owners who participated in interviews for this report expressed interest in improving their facilities, but reported that their efforts have been delayed by an unclear and lengthy permitting and regulatory process.

Despite these challenges, the commercial fishing community and working waterfront businesses characterize the industry as vibrant, with a diverse and strong economic base.

Data Sources: Data for the 2017 Economic Impact Report draws heavily from the California Department of Fish and Wildlife (CDFW), Pacific Fisheries Information Network (PacFIN), Pacific States Marine Fisheries Commission (PSMFC) as well as the National Ocean Economic Program (NOEP) and other sources. However, this report's most valuable resource is the more than 18 hours of personal interviews with commercial fishermen, related industry stakeholders, City staff, Harbor Advisory Board Members, and various marine dependent users including recreational boaters and the marine construction industry. The Morro Bay working waterfront community's ability and willingness to share information and work toward common goals is one of its defining and most valuable characteristics, making it a consistent economic performer in the California commercial fishing industry and a continued driving force of the local economy.

This report addresses changes on the waterfront during calendar years 2015 and 2016.

The Morro Bay Commercial Fisheries Organization produced Economic Impact reports in 2011, 2012, 2013, 2014, and 2015. They are available on the MBCFO website at: <http://www.mbcfo.com/what-we-do.html>

KEY FINDINGS

CONTINUED HIGH EARNINGS

In 2015 and 2016, commercial fishermen in Morro Bay generated nearly \$15 million at the dock (Ex Vessel Value or EVV) to continue a strong and consistent rise from a decades-low in 2007. Commercial fishermen were able to maintain this consistent growth, a nearly 400% increase since 2007, despite external factors like the closure of Dungeness crab, and shifts in market demand.

EW, or ex-vessel value, is the amount earned by commercial fishermen at the dock. All dollar amounts have been adjusted to 2016 levels.

Between 1990 and 2016, the Morro Bay fleet generated more than \$155 million in EVV. Every dollar represents earnings for skippers, deckhands and dockworkers, and investments in gear and vessel maintenance and repairs as well as purchases of ice, fuel, supplies, bait and baiting services at locally-owned, locally-operated businesses. Earnings at the dock also help support the community's participation in the regulatory process, as well as participation in non-profit and trade events which help increase the industry's visibility, create and strengthen partnerships, and promote the powerful contributions of commercial fishing to the local economy.

CONTINUED HIGH LANDINGS

In 2015 and 2016, commercial fishermen in Morro Bay landed nearly 7.5 million tons of seafood; 4 million tons in 2016 and 3.4 million tons in 2015. Through hard work, ingenuity, and persistence, the Morro Bay commercial fleet grew landings by 500% in 2016 from an industry low in 2007. In the 26 year period between 1990 and 2016, commercial fishermen landed more than 111 million pounds at the dock in Morro Bay. Commercial fish landings in Morro Bay support jobs on the vessel, on the docks, in the local processing and smoking facilities, and in local restaurants and retail establishments.

"Fisheries are doing well and landings reflect a steady fishery in Morro Bay."
-Fisherman, personal communication, 2017

AQUACULTURE

Morro Bay is one of the top oyster producers in California. Grassy Bar and Morro Bay Oyster Company are locally-owned, locally-operated businesses which produce approximately two million oysters annually, generate over a dozen of jobs and drive investment in waterfront infrastructure to process, test and stage oysters. Local oysters have become prominent in the local culinary experience, served in several Morro Bay restaurants, and available at seafood retailers.

CHARTER PASSENGER VESSELS

The number of participants in charter trips in San Luis Obispo County has risen every year since 2012. Depending on the extent of the trips, revenue from charter passenger fishing activity is as high as \$3.7 million in 2015 and \$ million in 2016.

SLO County saw 24,705 passengers pay for commercial fishing trips (on licensed vessels) in 2015 and almost 27,000 in 2016 - CDFW

MORRO BAY COMMUNITY QUOTA FUND

The Morro Bay Community Quota Fund (MBCQF) was the first of its kind on the West Coast of the U.S., established in 2014 to help maintain access to groundfish in the local community that might otherwise be purchased by larger fishing businesses with more access to capital. Based on the Morro Bay model, quota funds were established in Monterey Bay, Half Moon Bay, and Fort Bragg. The MBCQF currently manages more than 8 million pounds of quota leased to 17 fishermen in 2016 and 12 in 2015. The two Morro Bay skippers who have leased quota from the MBCQF have landed more than 1.1 million pounds of seafood in 2015 and 2016.

LOCAL CATCH, LOCAL MARKETS

The local seafood market and marketing of local fish continue to be strong in Morro Bay. Tognazzini's Dockside Restaurant, Giovanni's Fish Market, Dorn's, and Dutchman's Seafood House among others maintain the sale and promotion of local seafood and strengthen the connection between the community and local commercial fishermen.

EMPLOYMENT

In 2015 and 2016, approximately 200 people were directly employed in commercial fishing-related jobs: skippers, deckhands, on CPFVs, dockworkers, marine services, and suppliers. Commercial fishing and waterfront activities support hundreds more jobs in Morro Bay by drawing locals and tourists to the waterfront. The commercial fishing industry in Morro Bay produces more earnings and generates more employment than other local industries such as: Vehicle and Parts Dealers, Furniture and Home Furnishing, Real Estate Establishments, and Professional, Scientific and Technical Services Firms (from U.S. Census data).



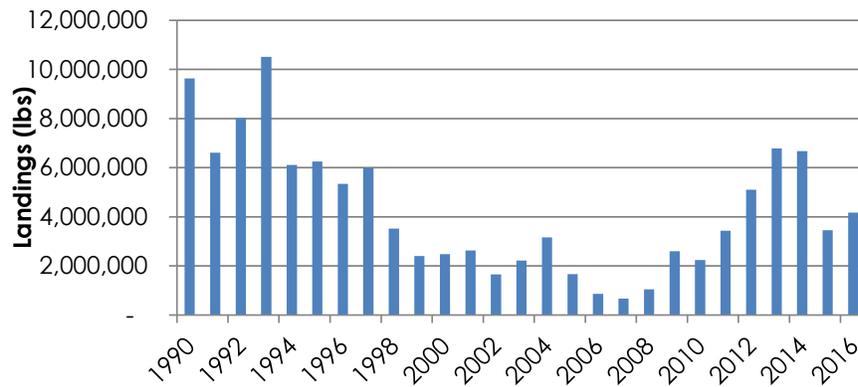
Morro Bay offloading crane

ECONOMIC PERFORMANCE

Since 1990, Morro Bay commercial fishermen have landed more than 111 million pounds of seafood, at an average of 4.2 million pounds per year. Landings by weight were 3.4 million pounds in 2015, and 4.1 million pounds in 2016. Dips in landings in 2015 and 2016 were driven primarily by a state-wide closure in the Dungeness crab fishery and resulting market shifts, but commercial fishermen continued a strong and steady increase from a 26 year low in 2007 of 668,866 pounds.

- “The fishing industry is continuing to expand and improve in all aspects.”
- -Fisherman, personal communication, 2017

Morro Bay, All Species, Landings, 1990 – 2016



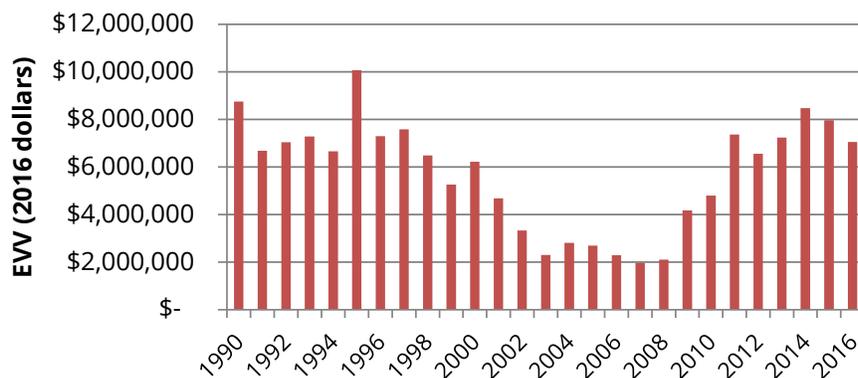
Source: CDFW

OVERALL EARNINGS

Commercial fishing has generated more than \$155 million in earnings at the dock since 1990. Fishermen generated \$7.9 million in EVV in 2015, and \$7 million in EVV in 2016. Earnings in 2015 and 2016 continued at a steady and powerful increase, at almost 500% higher than 2007 levels.

- “Everybody’s catching, everybody’s making money.”
- -Fisherman, personal communication, 2017

Morro Bay, All Species, EVV, 1990 – 2016



Source: CDFW

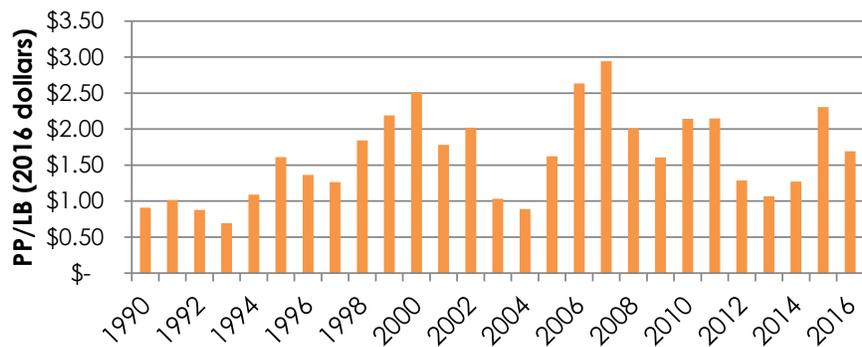


Dungeness crab being offloaded at the Municipal Dock, Morro Bay

PRICE PER POUND

In 2015, the price per pound for all species landed in Morro Bay was \$2.31, an increase of 81% over 2014. This reflects a decline in landings of market squid, a high volume, low value fishery. Price per pound in 2016 declined by 27% to an average of \$1.69/lb. Price per pound is one of the key performance measures of the commercial fishing fleet's ability to take advantage of shifts in the market, adapt to changes in regulation, and capitalize on opportunities at sea. Price per pound also depends on the fisheries in which the local fleet engages. Participation in high volume, lower value fisheries lowers overall price per pound, while low volume, higher value fisheries increase average price per pound.

Morro Bay, All Species, Price Per Pound, 1990 – 2016



Source: CDFW

FISH TICKETS, TRIPS, AND VESSEL IDS

Fish tickets, vessel IDs, and trips are all on a steady rise in San Luis Obispo County.

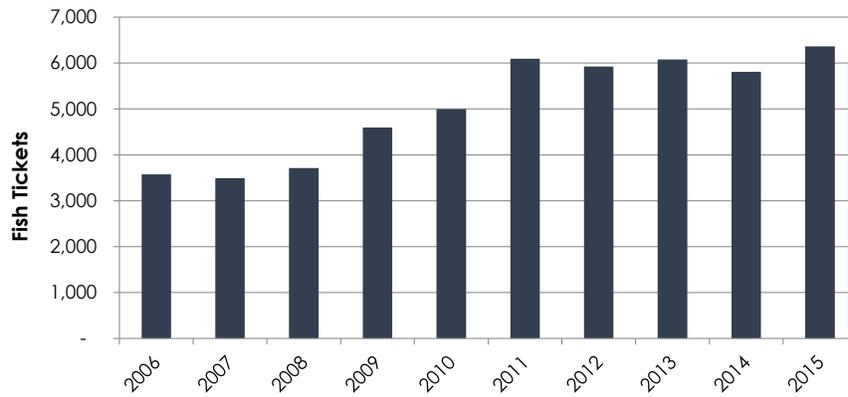
Trips increased from 3,010 in 2006 to 4,966 in 2015, a 65% increase.

Fish Tickets, which can be considered as a proxy for sales transactions at the dock and economic vibrancy, climbed from 3,578 in 2006 to 6,364 in 2015, a 78% increase.

Vessel IDs, or the number of vessels operating out of the harbor, has risen 27% since 2006, from 175 to 223.

These figures point to greater fishing activity, more confidence, more money changing hands, and more locally and sustainably caught fish for seafood consumers. Note, this data is only available at the County level.

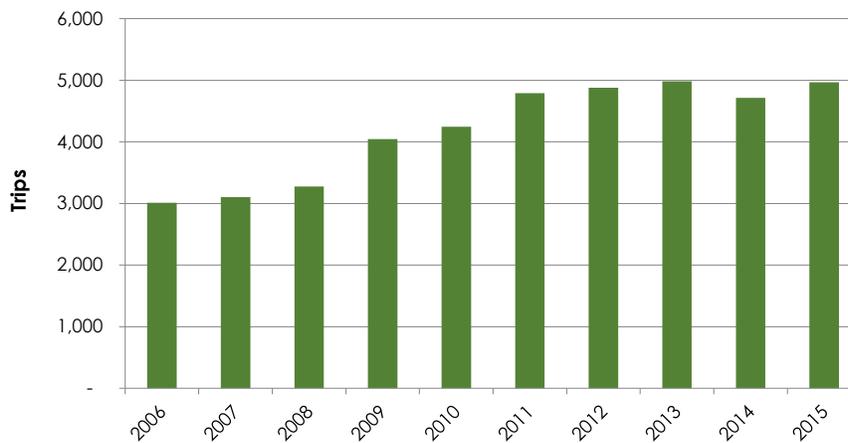
Number of Fish Tickets, San Luis Obispo County, 2006-2015



Source: PacFIN

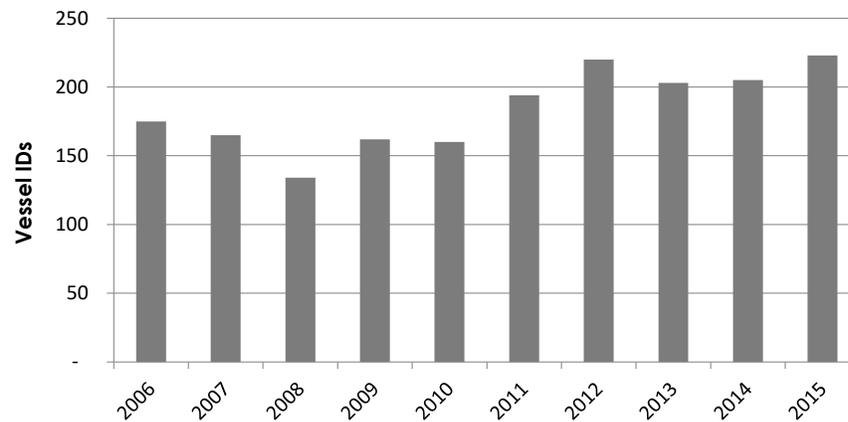
• Morro Bay “continues to be an active
 • port visited by local and out of town
 • fishermen.” -Fisherman, personal
 • communication, 2017

Number of Trips, San Luis Obispo County, 2006-2015



Source: PacFIN

Number of Vessel Identifiers, San Luis Obispo County, 2006-2015



Source: PacFIN

IMPORTANT FISHERIES

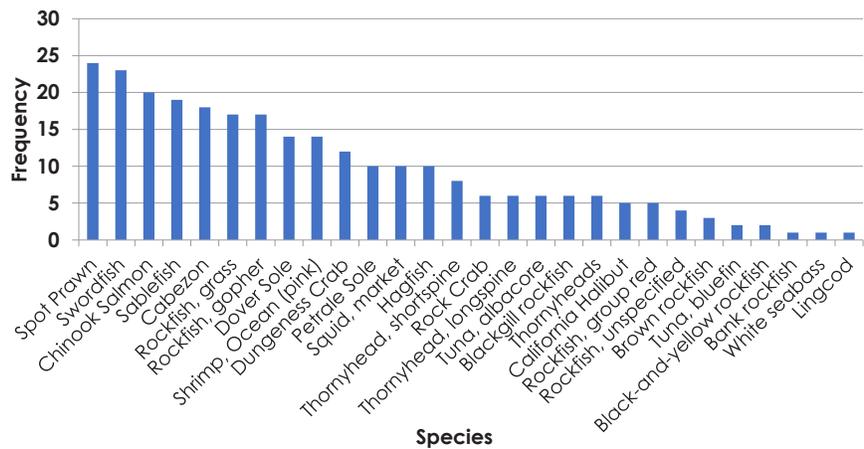
“To be successful in this business you need to be versatile, you need to be adaptive. You need to move when things move and change when things change.”
 -Fisherman, personal communication, 2017

Morro Bay is characterized by a robust diversity of species and a fleet of fishermen who demonstrate the ability to adapt to constantly changing ocean, market, and regulatory conditions.

SPECIES DIVERSITY

Species diversity, defined by the number and distribution of species contributing to Morro Bay’s overall earnings, remains strong as indicated in the frequency graph. Commercial fishermen employ a range of gear types, including trap, troll, benthic long line, trawl, and drift gill net, and target a variety of habitats to maximize their opportunities and mitigate risks. Since 1990, 28 species have appeared in the top ten by EVV in Morro Bay.

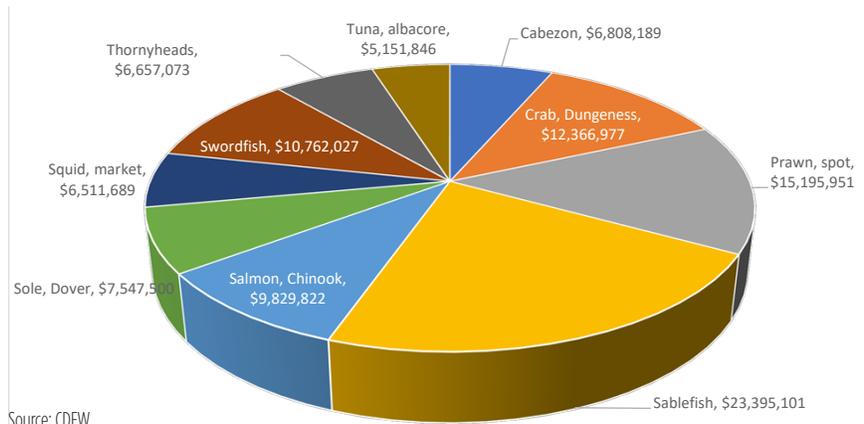
Frequency of ranking in Top 10 by EVV, 1990 – 2016



Source: CDFW

The top ten earning species since 1990, have been sablefish, spot prawn, Dungeness crab, swordfish, Chinook salmon, Dover sole, cabezon, thornyheads, market squid, and albacore tuna.

Top Species Overall by EVV, 1990 – 2016

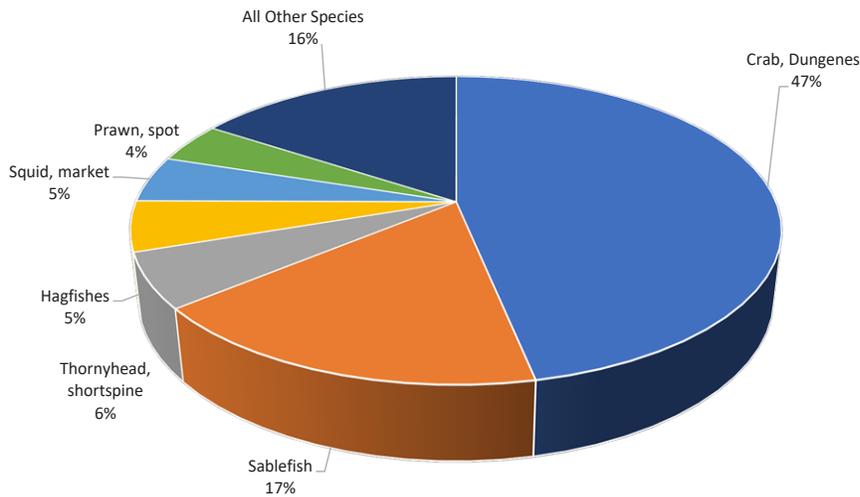


Source: CDFW

TOP SPECIES in 2015 and 2016

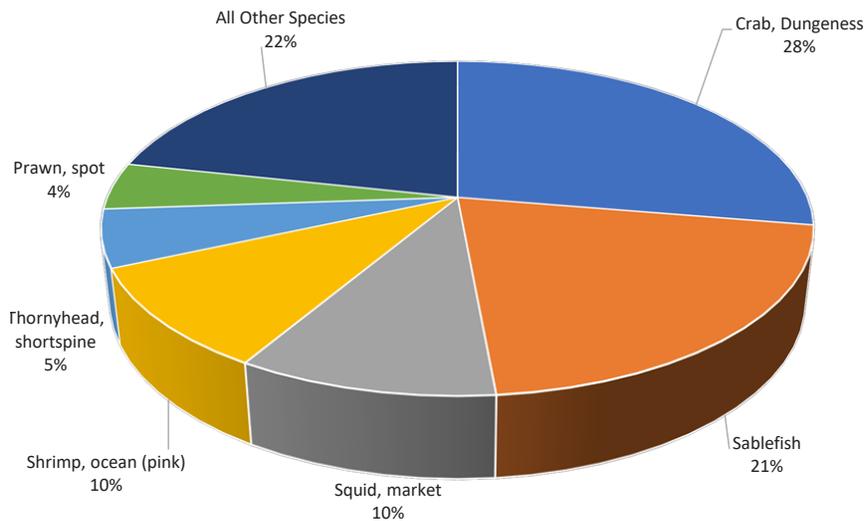
The top species in 2015 and 2016 by EVV were Dungeness crab, at 47% of earnings in 2015 and 28% of earnings in 2016, and sablefish at 17% of earnings in 2015 and 21% in 2016.

Top 10 Species by EVV in 2015

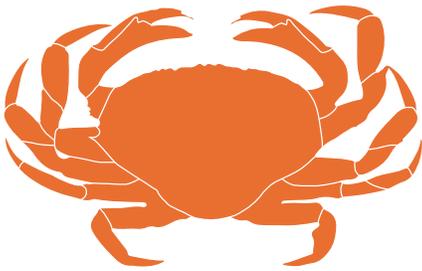


Source: CDFW

Top 10 Species by EVV in 2016



Source: CDFW



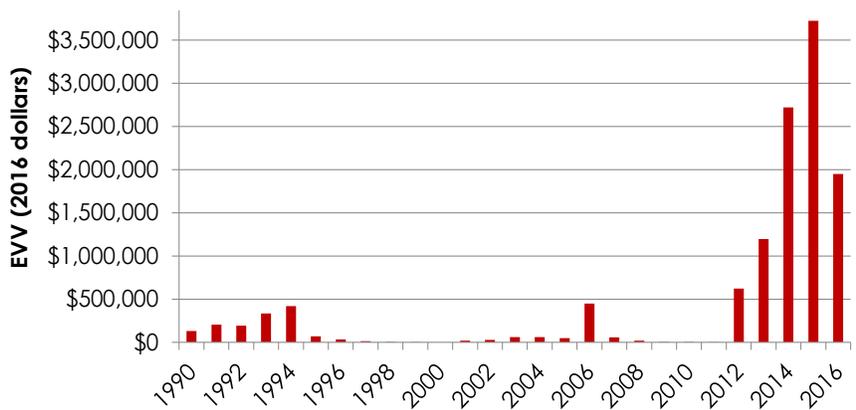
Dungeness Crab

Morro Bay was the highest earning port in the state for Dungeness crab in 2015. Since 1990, commercial fishermen have driven more than \$12.3 million in earnings at the dock from Dungeness crab. Dungeness crab remains the highest earning species in Morro Bay in 2015 and 2016, with an EVV of \$3.7 million and \$1.9 million respectively, despite seasons cut short by regulatory closures.

Price per pound for Dungeness crab in Morro Bay has been 14% - 53% higher than the statewide average from 2014 to 2016.

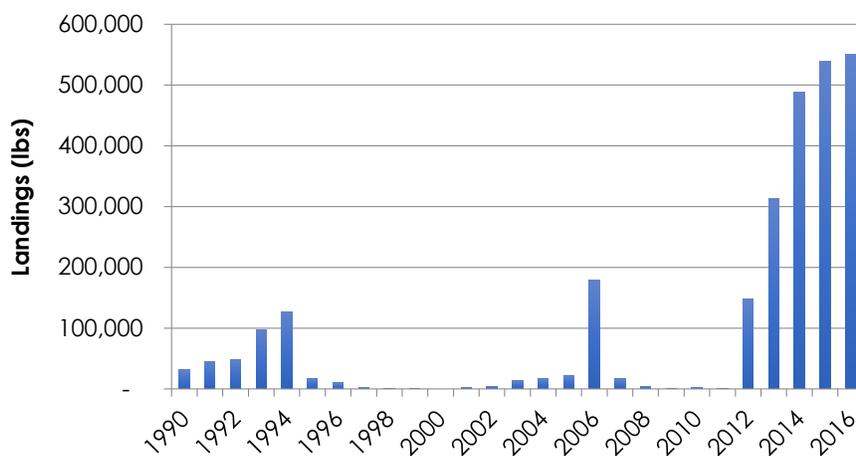
Statewide, average price per pound for Dungeness crab was \$3.64 in 2014, rising to \$5.49 in 2015, and \$3.12 in 2016. Earnings per pound for Dungeness crab in Morro Bay rose from \$5.57 in 2014 to \$6.90, and declined to \$3.54 in 2016.

Morro Bay, Dungeness Crab, EVV, 1990 – 2016



Source: CDFW

Morro Bay, Dungeness Crab, Landings, 1990 – 2016



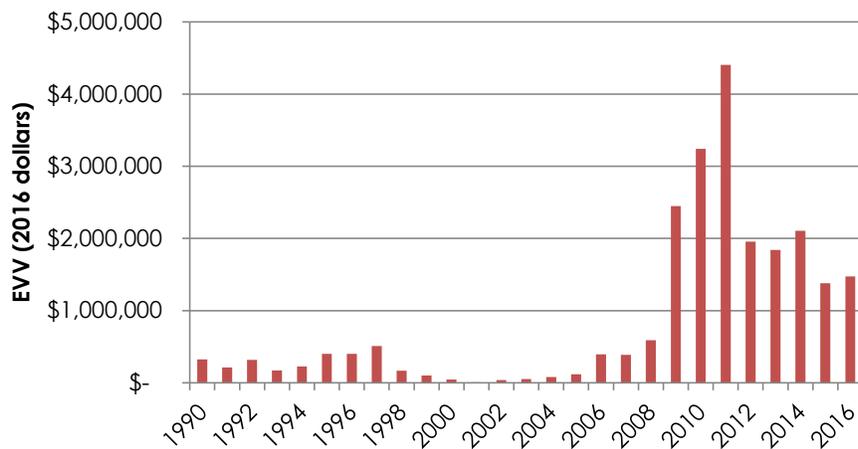
Source: CDFW

Sablefish

Sablefish has been in the top ten species in Morro Bay 19 times since 1990. During that time, commercial fishermen in Morro Bay have landed nearly 12.5 million pounds, worth more than \$23 million.

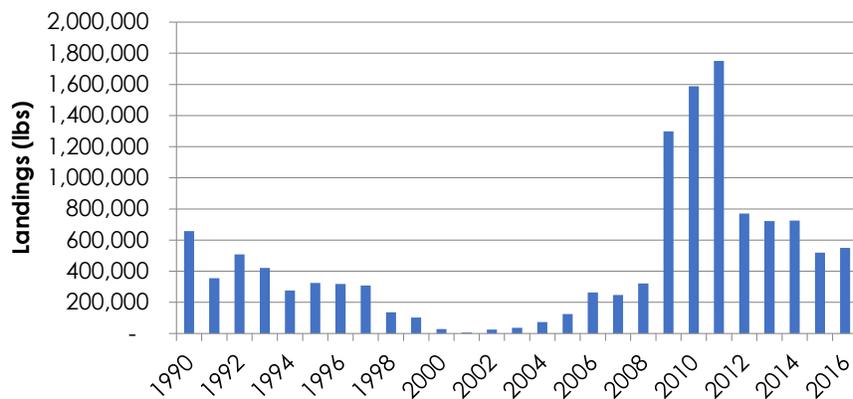
Commercial fishermen in Morro Bay generated \$1.3 million in EVV from sablefish in 2015 and \$1.47 million in 2016. In 2015, commercial fishermen in Morro Bay landed 519,068 pounds of sablefish and 550,690 pounds in 2016. With spikes in landings and earnings between 2010 and 2012, sablefish have shown a steady increase in landings and earnings from lows in the early 2000s.

Morro Bay, Sablefish, EVV, 1990 – 2016



Source: CDFW

Morro Bay, Sablefish, Landings, 1990 – 2016



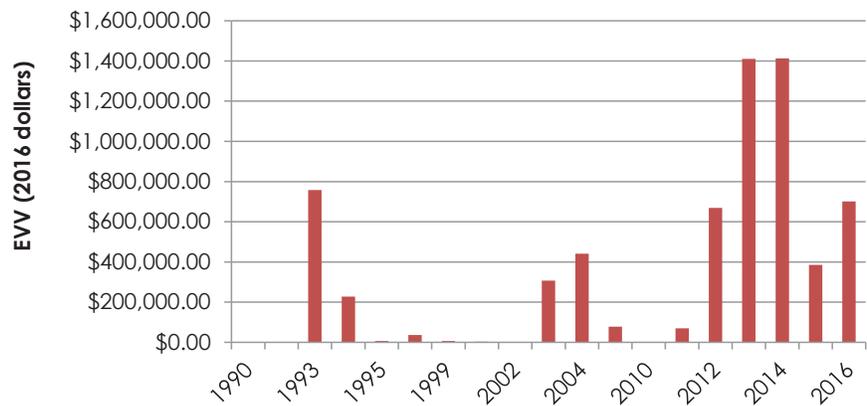
Source: CDFW



Market Squid

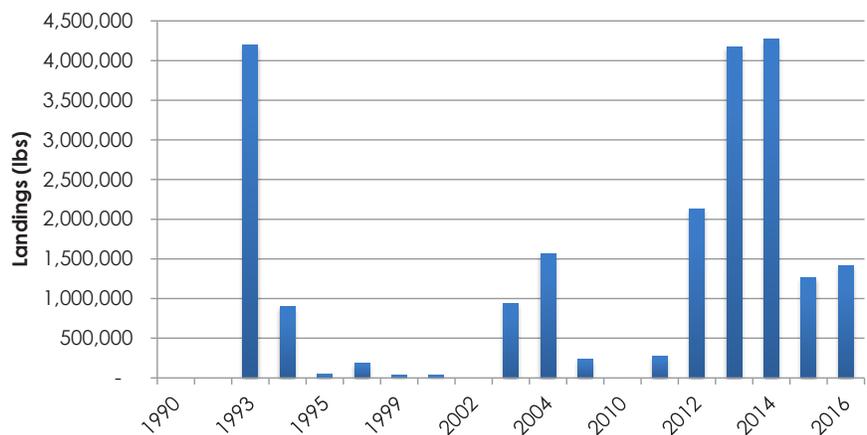
More than 13 million pounds of market squid, at \$4.7 million in EVV, have been landed in Morro Bay since the installation of the offloading pumps in 2009. Market squid continues to be an important fishery, making up an average of 35% of total landings by pound in 2015 and 2016. Despite the volatility of this fishery based on the movement of stocks, population dynamics, and competing ports, commercial fishermen in Morro Bay have leveraged relationships and investment in equipment to generate more than \$1.1 million in earnings in 2015 and 2016.

Morro Bay, Market Squid, EVV, 1990 – 2016



Source: CDFW

Morro Bay, Market Squid, Landings, 1990 – 2016



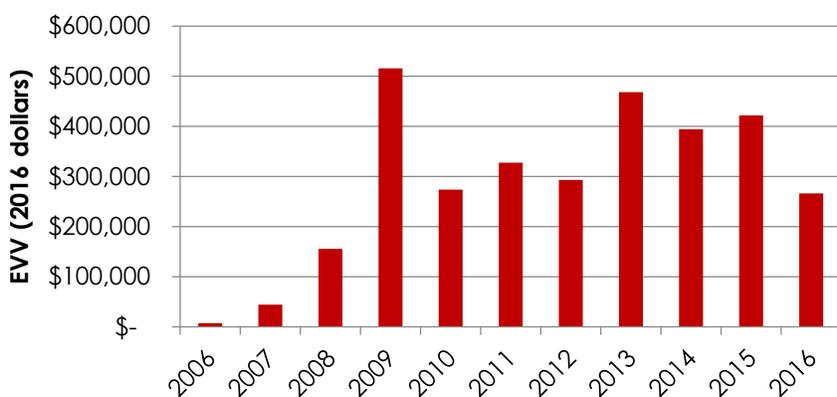
Source: CDFW

Pacific Hagfish

Since 1990, commercial fishermen in Morro Bay have landed 3.3 million pounds of Pacific hagfish with an EVV of almost \$3.2 million. Morro Bay was the highest earning port in the State for hagfish in 2015, with 414,395 pounds worth \$422,191. Despite fluctuations in landings and earnings, this fishery has grown significantly since 2006. The Pacific hagfish fishery has provided opportunities to several Morro Bay fishermen with its low barriers to entry marked by relatively inexpensive gear and minimal permit requirements.

- Pacific hagfish, also known as slime eels, are an open-season, live fish fishery.
-
-

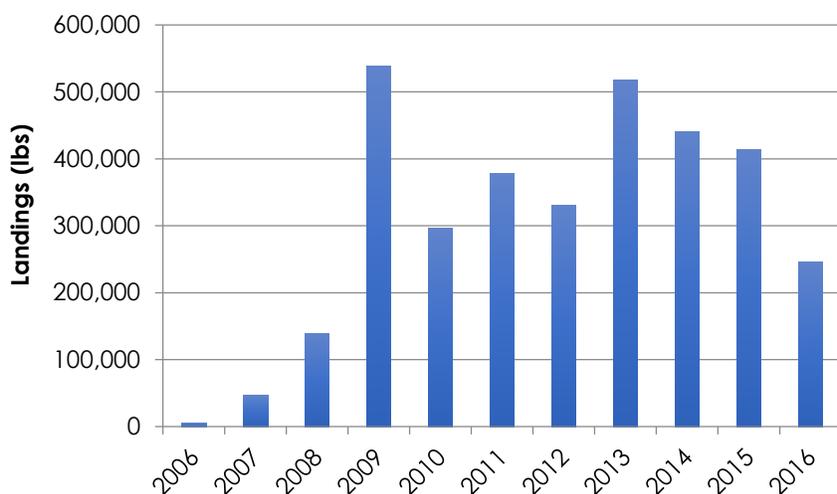
Morro Bay, Pacific Hagfish, EVV, 1990 – 2016



Source: CDFW



Morro Bay, Pacific Hagfish, Landings, 1990 – 2016



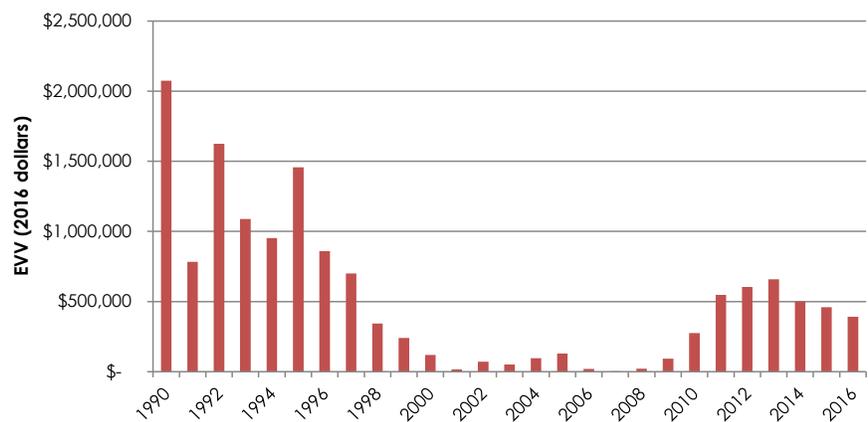
Source: CDFW

Shortspine Thornyhead

Shortspine thornyhead have an important history in Morro Bay and have returned to the docks as a top earning species every year since 2009. In 2015 and 2016, commercial fishermen landed 213,000 pounds and generated over than \$850,000 in EVV from the species. Commercial fishermen landed 123,028 pounds of shortspine thornyhead in 2015, and 90,502 pounds in 2016. EVV was \$459,048 in 2015 and \$391,205 in 2016.

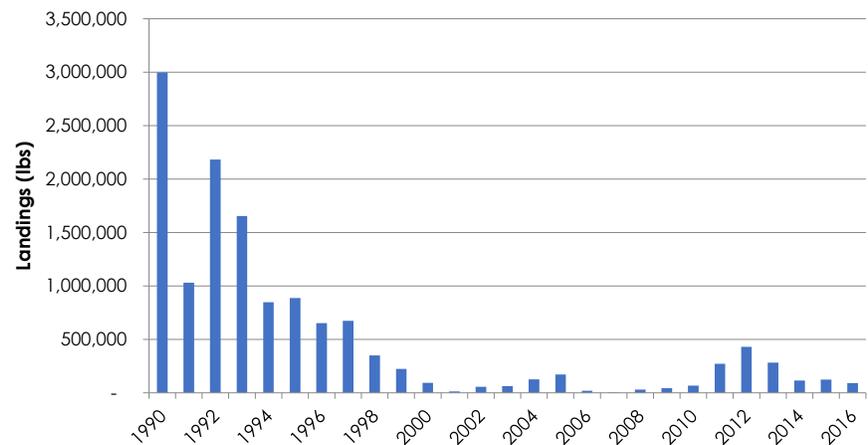
Note that in the graphs below, the data for years 1990-1994 includes longspine and shortspine thornyhead species as CDFW did not separate the two prior to 1995.

Morro Bay, Thornyhead, EVV, 1990 – 2016 (Shortspine 1995 -2016)



Source: CDFW

Morro Bay, Thornyhead, Landings, 1990 – 2016 (Shortspine 1995 -2016)



Source: CDFW

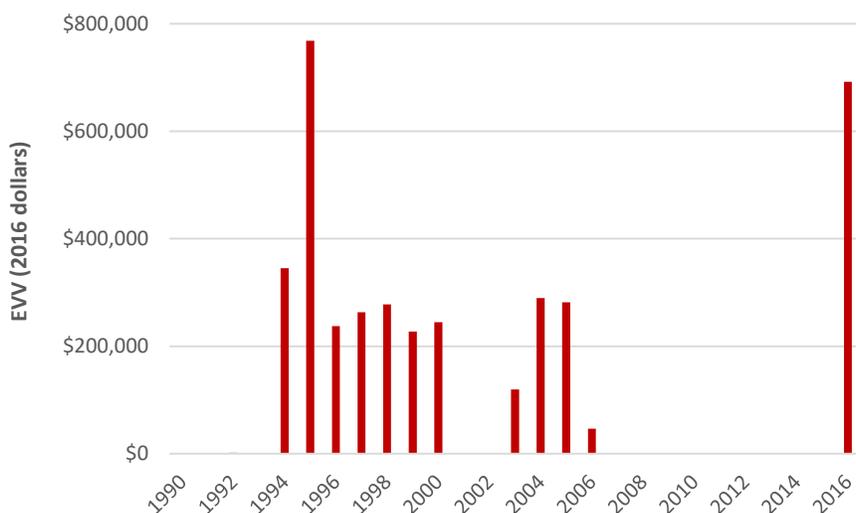
RE-EMERGING SPECIES

Pink Ocean Shrimp

Commercial fishermen in Morro Bay landed 718,000 pounds of pink ocean shrimp in 2016 with earnings of \$692,000, the first landings in Morro Bay since 2006, and highest landings since 1995. Since 1990, commercial fishermen have landed more than \$4.4 million pounds of pink ocean shrimp with EVV of nearly \$3.8 million.

- The pink ocean shrimp trawl fishery
- began in California in 1952 off Morro
- Bay and is highly cyclical.

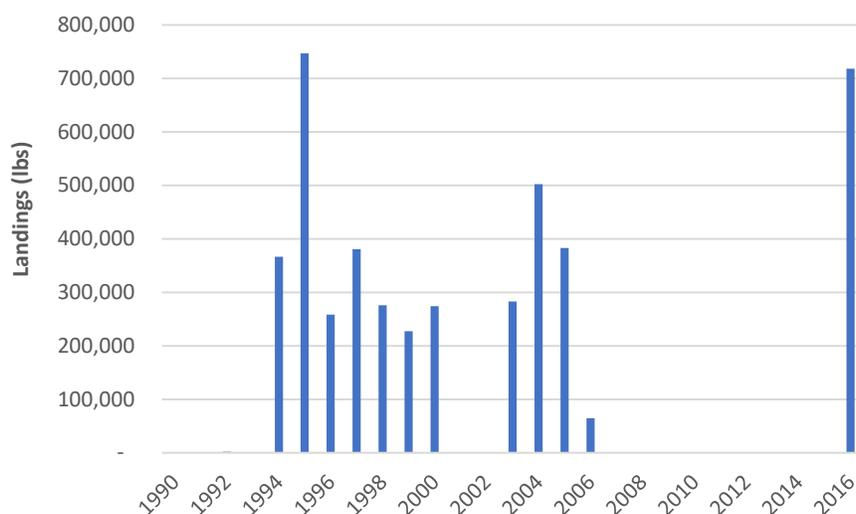
Morro Bay, Pink Ocean Shrimp, EVV, 1990 – 2016



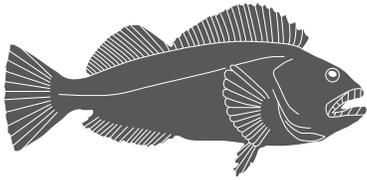
Source: CDFW



Morro Bay, Pink Ocean Shrimp, Landings, 1990 – 2016



Source: CDFW

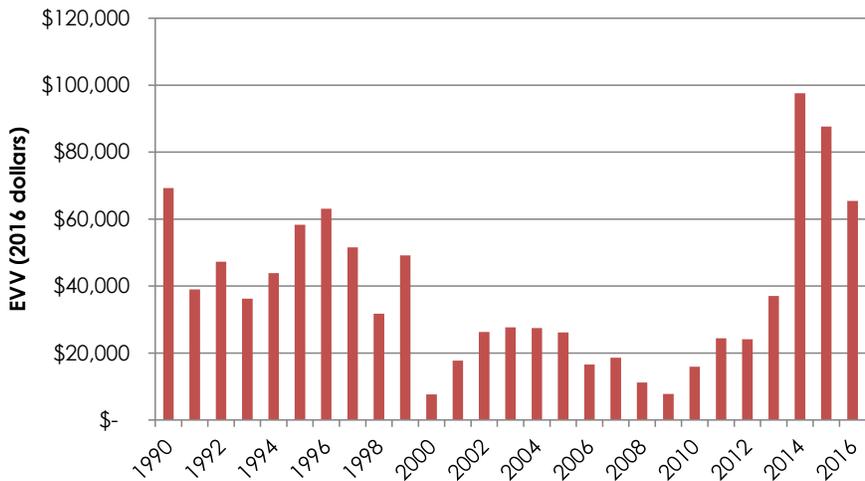


Lingcod

Since 2007 and 2008, commercial lingcod landings and earnings in Morro Bay have been on a consistent rise, peaking in 2014 and remaining well above 1990s levels in 2015 and 2016. Earnings in 2016 were 26% higher than earnings in 1990, when adjusted for inflation. Earnings at the dock for lingcod topped \$95,000 in 2015 and \$65,000 in 2016, nearly the same numbers in 1990 and 1996.

Lingcod are the primary species recreational anglers target in Morro Bay, and since 2014 the lingcod catch for commercial production has increased significantly.

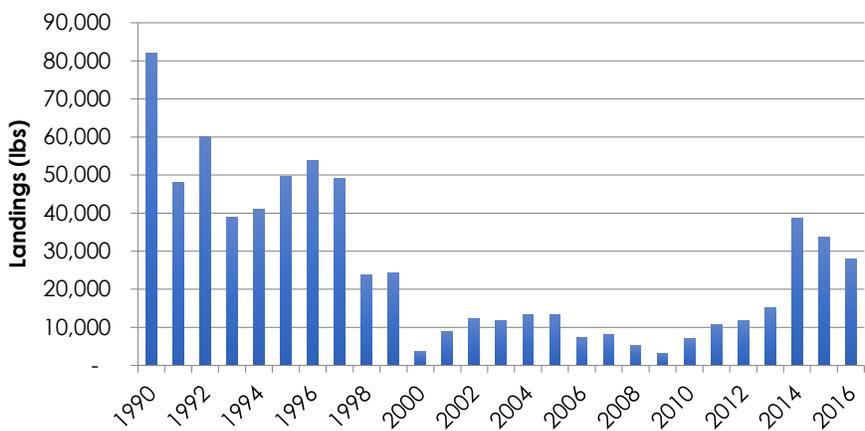
Morro Bay, Lingcod, EVV, 1990 – 2016



Source: CDFW

While commercial fishing activity in Morro Bay for lingcod has grown consistently since 2007 and 2008, landings have grown at a slower rate, suggesting that commercial fishermen are generating more money per pound.

Morro Bay, Lingcod, Landings, 1990 – 2016



Source: CDFW

OTHER IMPORTANT SPECIES

In addition to Top Species and Re-emerging Species in 2015 and 2016, halibut, white seabass, spot prawn, nearshore, and highly migratory species, and several other species of the groundfish fisheries, have played important historical roles for the Morro Bay commercial fleet and in the economic vitality of the Morro Bay waterfront.

California Halibut

Since 1990, commercial fishermen in Morro Bay have generated more than \$1.8 million in EVV from California halibut, earning an average of \$4.69 per pound. In 2016, commercial fishermen landed more than 10,000 pounds, with an EVV of \$62,043. Price per pound for California halibut remained above \$6 per pound in 2016, making it one of the highest earning species at the Port.

The California halibut fishery is accessible to small fishing operations that use small, trailerable boats, does not require expensive permits or relatively expensive gear, and provides a low barrier-to-entry opportunity for new participants in the commercial fishing industry.

White Seabass

Morro Bay commercial fishermen have landed more than 83,000 pounds of white seabass since 1990, earning more than \$352,000 in EVV. Like California halibut, white seabass is an Open Access fishery, and is typically targeted by small operations (trailerable boats, no crew) and relatively less extensive gear, which presents lower barriers to entry for fishermen responding to changes in their target fishery as well as to attract new entrants. The opportunities in the California halibut and white seabass fisheries enable the Morro Bay fleet to be more resilient and better adapt to changes with lower losses of fishing time or income.

Spot Prawn

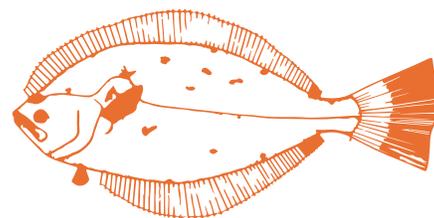
Spot prawn has played an important role in Morro Bay, ranking in the top ten species by earnings for 24 out of the past 27 years and generating one of the highest prices per pound. Since 1990, commercial fishermen have earned more than \$15 million from spot prawn at an average of \$12.10 per pound. In 2015, price per pound was \$14.83 and \$15.10 in 2016. Spot prawn earnings at the dock in Morro Bay represent about 10% of all earnings in the last 26 years.

Nearshore

Morro Bay commercial nearshore fishermen have generated more than \$16.4 million in earnings and nearly 3 million pounds in landings since 1990. In 2015, nearshore fishermen earned \$448,680

Nearshore species include: Cabezon, California Sheephead, California Scorpionfish, Black-and-Yellow rockfish, Black rockfish, Blue Rockfish, Brown rockfish, China rockfish, Coper rockfish, Gopher rockfish, Kelp Greenling, Kelp Rockfish, Monkeyface prickleback eel, Olive rockfish, Tree rockfish

“Nature’s a challenge. To go out with nothing other than some gear and some bait and to come back in with a boat load full of product is a challenging situation – that’s the part of it I love.”
-Fisherman, personal communication, 2017



“The nearshore (fishery) is phenomenal. The spot prawn is doing really well. Slime eel guys are doing good. The ocean’s healthier than it’s ever been.” Fisherman, personal communication, 2017

Highly migratory species include: swordfish, thresher shark, mako shark, bluefin tuna, louvar, opah, albacore, and pomfret

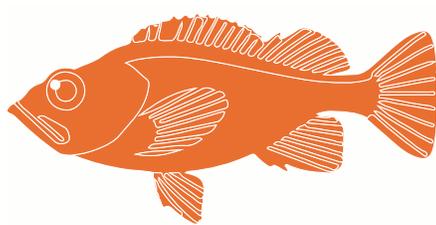
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at the dock, at approximately \$5.27 per pound. In 2016, EVV from the nearshore fisheries was \$390,796, and \$5.34 per pound.

Highly Migratory Species

Morro Bay commercial fishermen landed 63,000 pounds of Highly Migratory Species in 2016, generating more than \$202,000 in EVV, a 76% increase over 2014.

Since 1990, commercial fisherman in Morro Bay have landed 8.5 million pounds of highly migratory species, worth nearly \$18 million, almost 12% of the total earnings.



Groundfish

The value of groundfish lies not only in its economic value to the community, but also to its historical role in creating and supporting the vibrant working waterfront that defines Morro Bay. The groundfish fishery is made up of more than 90 species, approximately 50 with market value.

Groundfish are targeted by the limited entry fixed gear fleet, limited entry groundfish trawl, and the Open Access fixed gear fleet. Since 1990, commercial fishermen have landed 54 million pounds of groundfish that have generated more than \$56.7 million.

“Groundfish fishery have been the star of Morro Bay. We don’t want to lose that, it’s a precious value.” -Fisherman, personal communication, 2017

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Morro Bay commercial fishermen landed more than 1 million pounds of groundfish species per year in 2015 and 2016, generating more than \$2.3 million in earnings per year.

RESOURCE STEWARDSHIP AND FISH STOCK RECOVERY

Albacore. As of 2015, the majority of the albacore boats – a primary fishery for several Morro Bay fishermen – were certified as sustainable by the Marine Stewardship Council.

Rockfish. NOAA has declared ten rockfish species overfished since 1999. Rebuilding plans developed by the agency impose severe catch limits, gear restrictions, strict reporting requirements, observer coverage and spatial closures to prevent catching overfished species and to avoid unintentional bycatch of overfished species. Several species have recovered sufficiently to be considered rebuilt, or are anticipated to be rebuilt in the next 2-year stock assessment cycle.

- Bocaccio (anticipated recovery)
- Canary Rockfish (recovered)
- Cowcod
- Darkblotched Rockfish (anticipated recovery)
- Lingcod (recovered)
- Pacific Ocean Perch
- Pacific Whiting (recovered)
- Petrale Sole (recovered)
- Widow Rockfish (recovered)
- Yelloweye Rockfish

MARINE-DEPENDENT INDUSTRIES

Commercial fishing and the working waterfront are central to Morro Bay's identity and vitality. The waterfront generates jobs, provides recreational opportunities, and draws tourists from around the world. The working waterfront is comprised not only of the commercial fishing fleet but of support industries that make seafood production and sales possible as well as a host of businesses that connect people with the water.

Key sectors of the marine economy include:

- Commercial fleet of primarily small-scale family owned operations that target a wide diversity of species with diversity of gear in a broad range of habitats.
- Two aquaculture businesses that make Morro Bay one of the top oyster producing ports in California
- Charter Passenger Fishing Vessels that conduct thousands of recreational fishing, wildlife viewing, and scuba diving trips every year
- Marine chandlery/marine supply establishments that keep jobs and dollars in the community
- The only marine construction operator between Santa Cruz and Los Angeles

The Morro Bay working waterfront also includes innovative and collaborative approaches to adapting to fishery regulation in the formation of the Morro Bay Community Quota Fund, the first of its kind in California.

All waterfront activities are supported and facilitated by the Morro Bay Harbor Department, which maintains critical infrastructure, and together with the Coast Guard provides necessary safety services. Together, these businesses and services generate local jobs, spur investment and spending in the community, and attract and support tourism.

Morro Bay is characterized by a uniquely strong sense of community within the commercial fishing and across the marine-dependent industries. This contributes to Morro Bay's ongoing economic strength.

AQUACULTURE

Morro Bay is one of the top oyster producers in California, with a history dating back to the 1940s. Morro Bay's two oyster operations,

“People are really attracted to Morro Bay, there's the whole length and breadth of the waterfront to explore. Tourists get to interact with the working waterfront, there are water sports, sport fishing is making a big comeback. Morro Bay is a cool place to come and hang out now.” Restaurant owner, personal communication, 2017

“The waterfront is the economic engine that drives the town.” -Restaurant owner, personal communication, 2017

The Morro Bay aquaculture industry works with the National Estuary Program to monitor and track water quality



Grassy Bar Oyster Company and Morro Bay Oyster Company, produce more than two million oysters annually on approximately 15 acres of tidal flats. Both operations offload at the Municipal Launch Ramp and Municipal Wharf where the oysters are packed on ice and shipped all over the country. Morro Bay Oyster Company oysters can also be purchased directly from the company’s website. Grassy Bay Oysters are also available for purchase online.

Aquaculture provides more than half of all seafood consumed by humans around the world. Farmed seafood is increasingly considered an integral factor in the global demand for protein. Worldwide, aquaculture produced 167.2 million tons of seafood in 2014, according to the United Nation’s Food and Agriculture Organization. The United States ranked 15th in aquaculture, producing 425.9 thousand tons. The U.S. aquaculture industry was valued at \$1.33 billion in 2014. This is expected to grow as demand for seafood rises.

Morro Bay restaurants recognize and value the quality of the growing local aquaculture industry – one, The Dutchman’s Seafood House, serves 500-600 Grassy Bar oysters in a half shell each week. Window on the Water and Tognazzini’s Dockside Restaurants also serve local oysters.



Both Grassy Bar and Morro Bay Oyster have plans for expanding their oyster beds, work force, and production as well as to other sustainable species such as algae, clams and seaweed. Much potential exists in this industry in which prices are rising and current production is unable to keep up with demand.

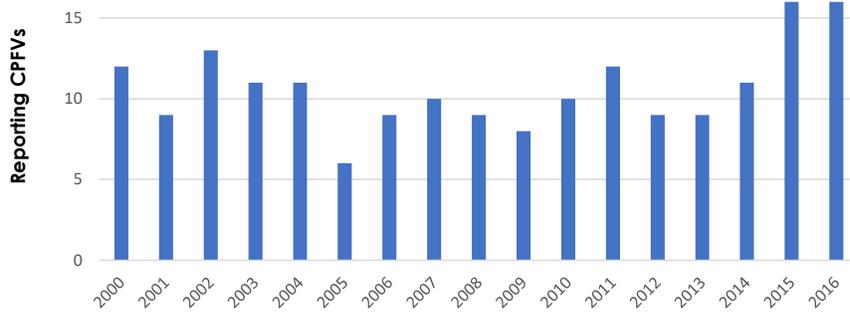
The oyster farms in Morro Bay are subject to strict oversight from the California Department of Public Health and the FDA/USDA Hazard Analysis and Critical Control Points Program. They must also meet water quality standards established by the Interstate Shellfish Sanitation Conference and the National Shellfish Sanitation Program.

Landings of kelp for the Cayucos Abalone Company are made in Morro Bay by the motor vessel *Ocean Rose*. Able to grow as many as 18 inches per day, Giant Kelp (*Macrocystis pyrifera*) is ideal for sustainable aquaculture. The City collects a landing fee on this renewable resource, which is another source of income and employment on the Morro Bay waterfront.

COMMERCIAL PASSENGER FISHING VESSELS AND DIVE CHARTER

Commercial Passenger Fishing Vessels (CPFV), or charter fishing vessels, have played a significant role for visitors and locals since Morro Bay’s early days by providing those who do not own a boat with access to the water, and making a connection between people and the marine ecosystem. Morro Bay is one of the top charter ports in the State. The number of charter fishing vessels in San Luis Obispo County grew 45%, from 11 in 2014 to 16 in 2015 and 2016.

San Luis Obispo County, Reporting CPFVs, 2000 – 2016

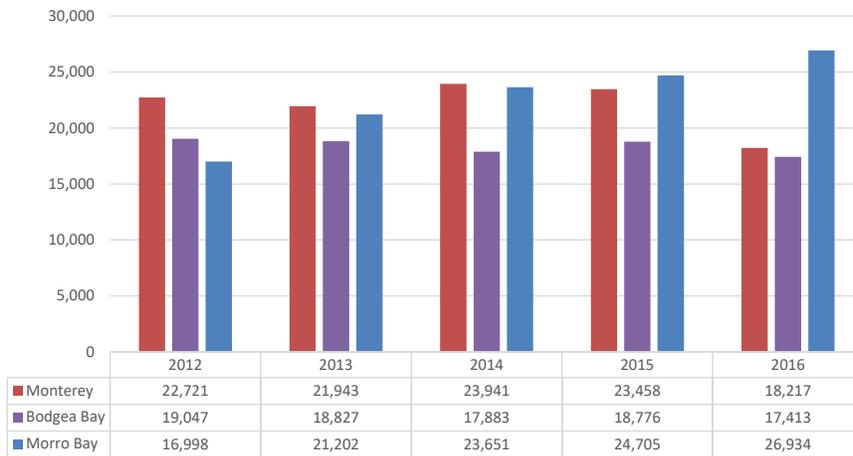


Source: CDFW

The number of people participating in charter trips in San Luis Obispo County has risen every year since 2012, with 24,705 passengers in 2015, and 26,934 passengers in 2016. Charter fishing trips generated up to \$3.7 million in 2015 and \$4 million in 2016. Charter activity in San Luis Obispo County outpaced Monterey/Moss Landing/Santa Cruz and Princeton/Bodega Bay, in 2015 and 2016.

San Luis Obispo County drew the second highest number of CPFV passengers in Northern California in 2015 and 2016, according to CDFW, outpacing Monterey/Moss Landing/Santa Cruz, and Princeton/Bodega Bay. Only San Francisco saw a higher number of passengers.

CPFV Anglers, 2000 – 2016



Source: CDFW

CHANDLERY/SHIP'S SUPPLY

Jerry's Marine and Tackle in Morro Bay continues to operate and provide critical tools, gear, parts, safety equipment and supplies for recreational and commercial fishermen. The lack of a boatyard is still seen as a foundational need, as expressed in the 2014 Community Sustainability Plan. The City collaborated with the MBCFO in June of 2015 to fund and manage a Boatyard and Haulout Facility Market Demand Analysis and posted a RFQ in March of 2017 for Design/Build of a Boatyard and Marine Facility.

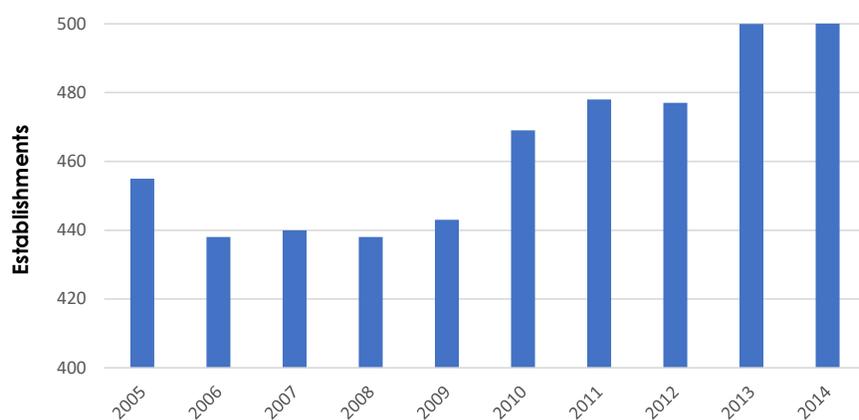
scientific, and technical services firms with 62 employees and \$6.5 million in revenue.

In addition to jobs directly related to fishing and maritime activities, the working waterfront indirectly supports hundreds of businesses and jobs, contributing millions of dollars to the economy.

According to the National Ocean Economics Program (NOEP), the number of commercial fishing and ocean-related businesses in San Luis Obispo County has risen every year from 2012 to 2014 (the most recent data available).

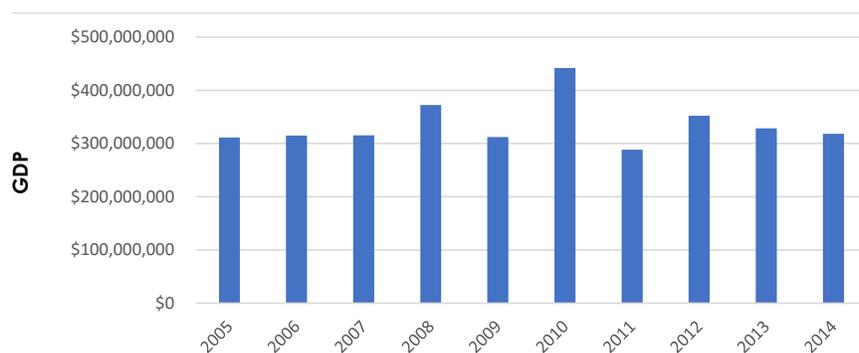
“People come to see that (working waterfront). If we lose that, it’s nearly impossible to get it back. It is very important to maintain the value of the commercial fishing.” -Fisherman, personal communication, 2017

Ocean-Related Establishments, 2005 – 2014



Source: NOEP

Ocean-Related GDP, 2005 – 2014



Source: NOEP

Commercial fishing and ocean-related activities have contributed more than \$1.7 billion in wages and \$3.7 billion in GDP to the County between 2005 and 2014 (NOEP).

"The public continues to increase their awareness of what they are consuming for food. As this awareness grows, the respect for and the need for the commercial fishing industry becomes more evident." -Fisherman, personal communication, 2017

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LOCAL FISH, LOCAL MARKETS

The connection between local markets and local catch is a defining feature of Morro Bay, and plays a key role in the continue sustainability of the commercial fishing and the City. Restaurant owners note that customers increasingly want to know where the seafood comes from and exhibit a preference for locally-caught fish. Establishments such as Tognazzini's Dockside Restaurants promote local seafood and capitalize on that awareness by creating a story of where the fish was caught, the vessel, and name of the fisherman. This approach attracts customers and increases awareness of the importance of the commercial fishing industry.

"We have a lot of people asking us about fishing all the time. I get inquiries when I unload." -Fisherman, personal communication, 2017

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Increased media, including a recently aired Travel Channel show with host chef Andrew Zimmerman in Morro Bay, helps increase awareness in local markets and local catch. Other awareness-raising and crowd-drawing efforts include Giovanni's Fishmarket Restaurant cooking locally caught seafood outside in front of the restaurant.

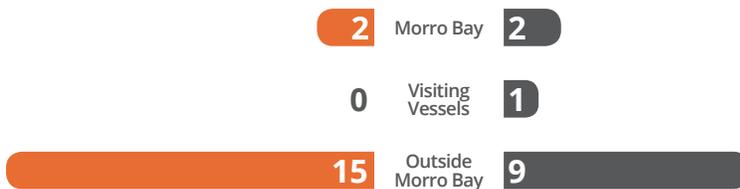
MORRO BAY COMMUNITY QUOTA FUND

The Morro Bay Community Quota Fund (MBCQF) was established in 2014 in order to retain quota and permits in Morro Bay that might otherwise be acquired by fishermen and entities outside of Morro Bay. The Fund is a broad community effort aimed at keeping traditional groundfish fishing privileges in Morro Bay and mitigate unintended consequences of the establishment of the Individual Transferable Quota regulation in the West Coast groundfish fishery. One of those unintended consequences would be the migration of quota and fishing opportunities away from small fishing ports or entities with more access to capital. The MBQF is a legal entity that acquires quota shares and permits and leases them to individual fishermen who can meet requirements that accentuate environmental stewardship and local landings. Two of the fund's leasees are based in Morro Bay, who generated 517,000 pounds of quota landings in 2015, and 600,000 pounds in 2016, representing a 16% increase.

Implemented in 2011, the West Coast Limited Entry Groundfish Trawl Program, is based on an Individual Fishing Quota (IFQ) framework for the limited entry groundfish trawl fleet.



- Morro Bay Community Quota
- Fund at a glance.



In addition to leasing quota, MBCQF provides grants to support projects that advance knowledge of economically and environmentally sustainable fishing practices and marine health. The grant program funded two projects in 2015, awarding \$15,000 to fund a study the effectiveness of the 2007 designated Marine Protected Areas (MPAs), and \$1,000 to help fund a facilitator for the 2016 National Summit on Community Supported Fisheries.

MORRO BAY HARBOR DEPARTMENT

The Morro Bay Harbor Department works closely with waterfront users to maintain physical facilities and services including 50 slips and 125 moorings, two T-Piers, and the public boat launch, as well as provide boater assistance, emergency response, dredging by the U.S. Army Corps of Engineers, and code enforcement.

Commercial and charter fishermen continue to benefit from the Harbor Department-owned ice machine, which is operated under a cost-sharing agreement with Santa Monica Seafood. Access to ice is central to fishing activity in Morro Bay. To keep the machine operating,

CONCLUSION

The commercial fishing industry in Morro Bay is alive and well and generated more than \$15 million in earnings in 2015 and 2016 combined. Commercial fishing is a significant economic driver in Morro Bay that has generated over \$155 million at the dock between 1990 and 2016. Commercial fishing is directly responsible for approximately 200 jobs for skippers, deckhands, dock workers, and local seafood processors, and represents a success story in attracting and retaining businesses and supporting local business ownership and employment. The commercial fishing industry and all the activity driven by the working waterfront makes up the backbone of a robust and diverse economy in Morro Bay.

The 2017 version of the Morro Bay Commercial Fisheries Economic Impact Report marks the 6th year of a collaboration between the Morro Bay Commercial Fishermen's Organization and the Central Coast Joint Cable Fisheries Liaison Committee to highlight the accomplishments of the commercial fishing fleet in Morro Bay. This report focuses on the unique and interconnected marine-dependent businesses that make up Morro Bay as a working port.

Commercial fishermen in Morro Bay have exhibited incredible resilience and foresight, adapting to constant changes to state, federal, and local regulation, massive shifts in the market due to competition from foreign imports and consumer preferences and have borne all of the costs associated with these paradigm-level shifts, year after year. The Morro Bay fleet is made up of small operations, family-owned businesses, husbands and wives, sons and daughters; committed to hard work, environmental stewardship and leadership in the community.



Morro Bay sunset

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