SEMS-RM DOCID # 100042662

EPA

Palos Verdes Shelf Site

COMMUNITY INVOLVEMENT PLAN

SUMMER 2025

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Cover: Angler fishing from a pier at the Palos Verdes Shelf site.

Anglers fishing from Seal Beach Pier in Seal Beach, California.

ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Contaminant of Concern
DDT	Dichlorodiphenyltrichloroethane
EPA	United States Environmental Protection Agency
FCEC	Fish Contamination Education Collaborative
FS	Feasibility Study
NPL	National Priorities List
OU	Operable Unit
PCB	Polychlorinated Biphenyl
RI	Remedial Investigation
RMP	Risk Management Plan
ROD	Record of Decision

Venice Pier in Marina Del Ray, California.

INTRODUCTION

The goal of this Community Involvement Plan is to encourage and facilitate community engagement throughout the cleanup of the Palos Verdes Shelf Superfund site. The plan describes how the U.S. Environmental Protection Agency (EPA) will involve the community and address local needs during the Superfund process. The EPA and the community will work together by using the tools described in this plan. Active public involvement is crucial to the success of any project. The EPA's community involvement activities at the site are designed to inform the public of all cleanup activities and include the community in the decision-making process.

The EPA defines the "community" as those people and entities who have an interest in or are affected by the site. The EPA also recognizes that other site partners, including local, state and federal agencies, may have an interest in the site. This plan is based on a series of community interviews conducted in September 2024 with the affected community and site partners in accordance with the EPA's Superfund community involvement and cleanup guidance. The Community Involvement Plan is a "living document," meaning that it can be updated or revised over the course of site cleanup to reflect long-term changes in the community.

This plan provides links and contact information for people and resources so that you can learn more about the site and identify ways to get involved.

Community Involvement at the Palos Verdes Shelf Site

Active and participatory community involvement is an important part of the cleanup process. It is also regulated under the Comprehensive Environmental Response, Compensation, and Liability Act, also known as "Superfund." This Community Involvement Plan follows community involvement requirements in the Superfund Amendment and Reauthorization Act of 1986 §117 and the National Oil and Hazardous Substances Pollution Contingency Plan §300.430. The EPA's Community Involvement Program is designed to facilitate participation of community members throughout the cleanup process, including the investigation and remedy selection phases. The EPA works closely with state and local agencies to provide community involvement throughout the Superfund process.

PALOS VERDES SHELF SITE OVERVIEW

Site Background

The EPA is working with federal, state and community organizations to study, track and address contamination in ocean floor sediment and fish on the Palos Verdes Shelf off the coast of Los Angeles, California. The site is one of several areas, or operable units (OUs), at the larger Montrose Chemical Corporation Superfund site. The EPA added the Montrose Superfund Site to the National Priorities List in 1989 and divided the site into seven OUs to focus on cleanup options for each affected area. The Palos Verdes Shelf is OU 5 of the Montrose Superfund Site and addresses legacy contamination in ocean sediment. The Palos Verdes Shelf became contaminated with dichlorodiphenyltrichloroethane (DDT) from the Montrose Chemical plant and polychlorinated biphenyls (PCBs) from other industrial activities that discharged their waste into the ocean through the Los Angeles County sanitation sewer outfall pipes from 1953 to 1971. Today, about 34 square miles of ocean sediment on the Palos Verdes Shelf are contaminated with these legacy pollutants. Although the contaminated sediment is too deep for human contact, DDT and PCBs can build up in fish that live or feed at the site and make them unsafe for people to eat.

Redondo Beach Pier in Redondo Beach, California.

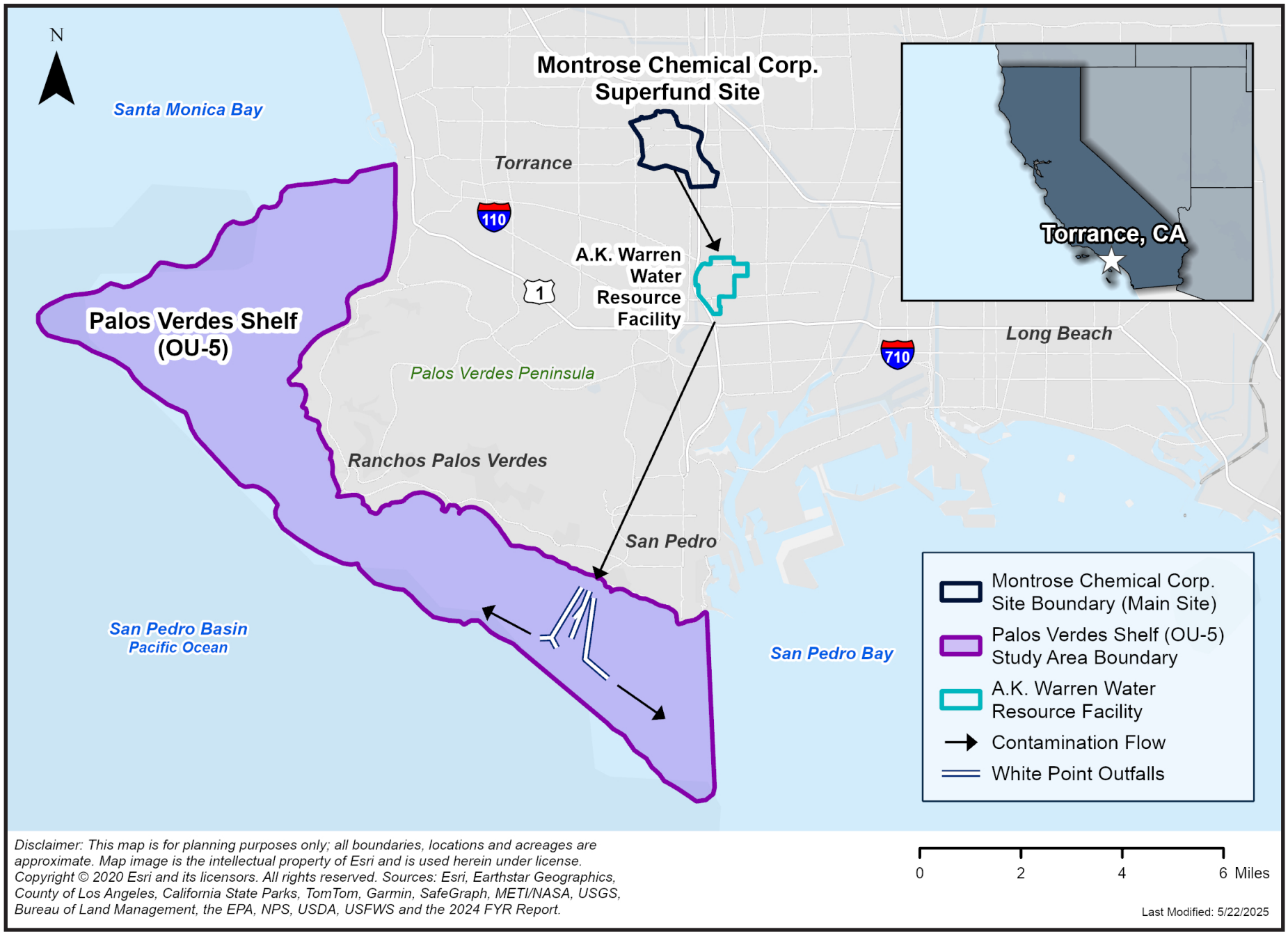


Figure 1. A map showing the historical movement of contamination from the Montrose Chemical Corporation plant to the Palos Verdes Shelf.

Contamination

The Palos Verdes Shelf is in the Pacific Ocean along the coast of Los Angeles County. Many communities and neighborhoods are located near the coastal area along the Palos Verdes Shelf, often referred to as the Palos Verdes Peninsula. However, communities far away from the site can still be affected if they eat fish caught near the Palos Verdes Shelf.

The ocean floor of the Palos Verdes Shelf is contaminated with DDT and PCBs from historic dumping of chemical waste from the Montrose Chemical Corporation and other industries in the area that operated from the 1940s to 1980s. DDT and PCBs are synthetic chemicals known to harm human health and the environment. People that are exposed to DDT and PCBs may have a higher risk of developing serious health problems, including cancer. Although the contaminated sediment on the Palos Verdes Shelf is too deep for human contact (about 200 ft. below the surface), these chemicals can accumulate in aquatic animals that people eat, including fish. People who eat certain fish caught near the Palos Verdes Shelf site may be exposed to harmful levels of DDT and PCBs.

The state of California has determined that five fish species are unsafe to eat because of high levels of contamination: white croaker, barred sand bass, black croaker, topsmelt and Pacific barracuda.

Pier sign showing the five contaminated fish species, including white croaker, barred sand bass, black croaker, topsmelt and Pacific barracuda.

The Conceptual Site Model for the Palos Verdes Shelf Site: Page 7

The Conceptual Site Model provides a visual representation for people to learn about how contaminants move from the source through the environment to human exposure. A key provides more details about each step in the contamination flow process, including contamination source, sediment and surface waters, invertebrate organisms, fish, piscivorous organisms and human exposure.

Institutional Controls Infographic for the Palos Verdes Shelf Site: Page 8

The Institutional Controls Infographic provides a detailed description of the EPA's Institutional Controls Program for the site.

The Superfund Timeline for the Palos Verdes Shelf Site: Pages 9-12

The Superfund timeline can take many years. This infographic highlights major steps in the Superfund process and the site's status.

Cabrillo Beach Pier in San Pedro, California.

THE CONCEPTUAL SITE MODEL FOR THE PALOS VERDES SHELF SITE

1 CONTAMINANT SOURCE:
DDT came from the Montrose Chemical Corporation plant and PCBs came from other industries in the Los Angeles County area. These contaminants were released into the sewer system and discharged into the ocean via the White Point outfalls between 1950 and 1970.

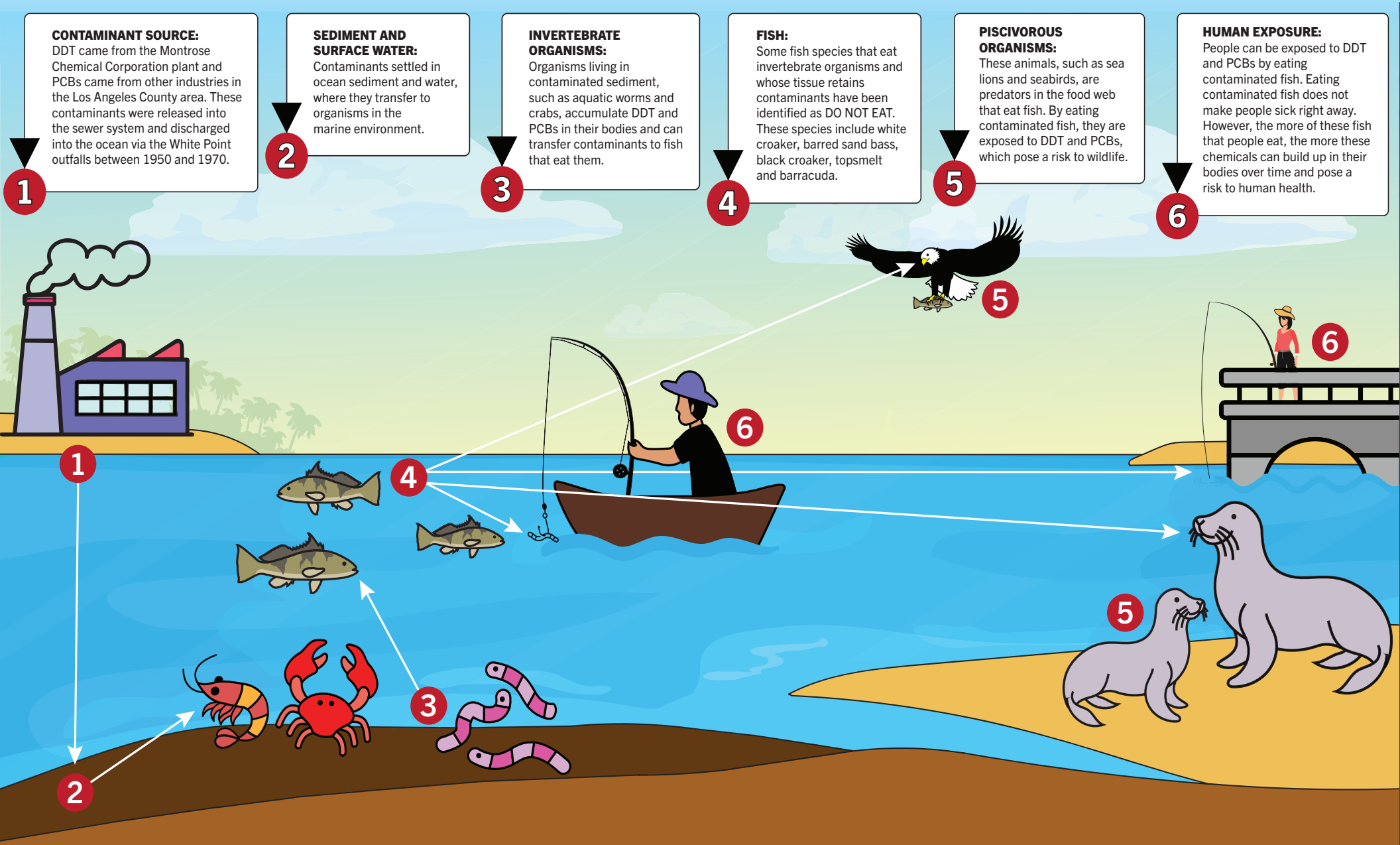
2 SEDIMENT AND SURFACE WATER:
Contaminants settled in ocean sediment and water, where they transfer to organisms in the marine environment.

3 INVERTEBRATE ORGANISMS:
Organisms living in contaminated sediment, such as aquatic worms and crabs, accumulate DDT and PCBs in their bodies and can transfer contaminants to fish that eat them.

4 FISH:
Some fish species that eat invertebrate organisms and whose tissue retains contaminants have been identified as DO NOT EAT. These species include white croaker, barred sand bass, black croaker, topsmelt and barracuda.

5 PISCIVOROUS ORGANISMS:
These animals, such as sea lions and seabirds, are predators in the food web that eat fish. By eating contaminated fish, they are exposed to DDT and PCBs, which pose a risk to wildlife.

6 HUMAN EXPOSURE:
People can be exposed to DDT and PCBs by eating contaminated fish. Eating contaminated fish does not make people sick right away. However, the more of these fish that people eat, the more these chemicals can build up in their bodies over time and pose a risk to human health.



WHAT ARE INSTITUTIONAL CONTROLS?

The EPA sometimes uses non-engineering instruments to control the types of activities that can occur at a site as part of the overall cleanup strategy. These instruments are called institutional controls and help to reduce the potential for exposure to site contamination and protect human health and the environment.

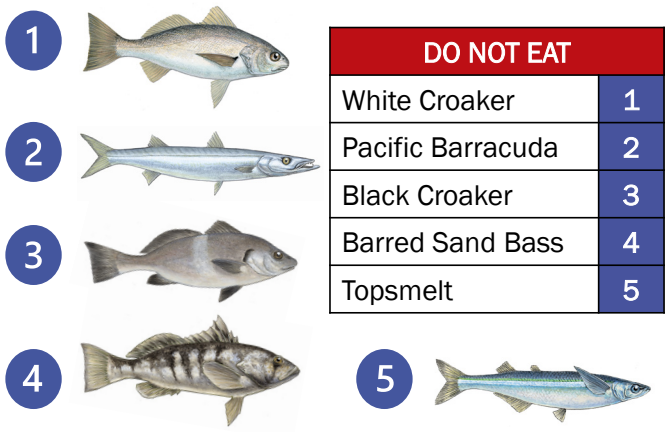
INSTITUTIONAL CONTROLS FOR THE PALOS VERDES SHELF SITE

The EPA has selected institutional controls as part of the site's overall cleanup strategy to reduce exposure to site contamination from eating fish. With the assistance of local government agencies, universities, non-profit community groups and the California Department of Fish and Wildlife, the EPA continues to:

1. EDUCATE

Education and public outreach includes sharing information on site updates, fish contamination and opportunities for community involvement. Examples of the EPA's education and public outreach activities include:

- Educating anglers about contaminated fish in partnership with the Fish Contamination Education Collaborative.
- Passing out tip cards.
- Stocking bait shops with outreach materials.
- Installing and maintaining pier signage listing the five contaminated fish species.
- Providing translated tip cards and other resources as needed to accommodate community needs.
- Interviewing community members to improve education efforts.
- Posting site updates on the FCEC and EPA websites: www.pvsfish.org and https://www.epa.gov/superfund/montrose.



DO NOT EAT	
White Croaker	1
Pacific Barracuda	2
Black Croaker	3
Barred Sand Bass	4
Topsmelt	5

2. EVALUATE

Evaluation includes regularly monitoring fish, sediment and water for contamination. The EPA established the following protective levels for dichlorodiphenyltrichloroethane (DDT) and polychlorinated biphenyls (PCBs) in white croaker at the Palos Verdes Shelf site to reduce risks to human health from eating contaminated fish:

- Cleanup level goal for DDT = 400 µg/kg
- Cleanup level goal for PCBs = 70 µg/kg

In 1991, the California Office of Environmental Health Hazard Assessment established 100 µg/kg wet weight as the maximum concentration of DDT and PCBs allowed in fish tissues for unrestricted consumption.

The Second Monitored Natural Recovery Report for the Palos Verdes Shelf

Species	Outfall Area (Zone 1)	
White Croaker	Total DDT	1,730 µg/kg
	Total PCBs	317 µg/kg

µg/kg = microgram(s) per kilogram
Total DDT and total PCBs = average values

White croaker evaluated at the Palos Verdes Shelf site still exceed both cleanup-level goals and unrestricted consumption levels.

3. ENFORCE

Enforcement includes inspection for and potential seizure of contaminated fish found in various settings throughout Los Angeles County and the City of Long Beach. Enforcement helps prevent the commercial catch, sale and consumption of contaminated fish based on restrictions established by the California Department of Fish and Wildlife.

Inspections can occur at:

- Commercial fish markets
- Wholesalers and distributors
- Boats and piers – enforcing white croaker sport fishing bag limits for anglers

The California Department of Fish and Wildlife Commercial and Recreational Inspection Summaries from 2015 to 2022 show the amount of white croaker observed during inspections has decreased significantly.

Percent of inspections where white croaker was observed:

- (2015-2016 Inspections) = 58%
- (2016-2020 Inspections) = 30%
- (2021-2022 Inspections) = 14%

THE SUPERFUND TIMELINE FOR THE PALOS VERDES SHELF SITE

BACKGROUND
Montrose Chemical Corp. makes DDT at a plant in Los Angeles.

1947-1982

DDT BAN
The EPA issues an order making the use of DDT illegal in the United States.

1972

NPL SITE LISTING
The EPA adds Montrose's 13-acre site, including OU-5 Palos Verdes Shelf, to the Superfund program's National Priorities List.

1989

FINAL FISH ADVISORY
The state of California issues a final seafood consumption advisory for white croaker in the Palos Verdes Shelf area, that is still in place today.

1991

1953-1971
CONTAMINATION
Plant operations send about 1,100 tons of DDT to the Palos Verdes Shelf area through sewer systems. Several other sources across Los Angeles release PCBs in the area at the same time.

1985
INTERIM FISH ADVISORY
High levels of DDT and PCBs are found in white croaker in the Palos Verdes Shelf area. The state of California issues a short-term "do not eat" consumption advisory for white croaker and recommends limited consumption of several other fish species caught in the area.

1990
WHITE CROAKER COMMERCIAL CATCH BAN
The California Department of Fish and Wildlife puts a commercial catch ban in place for white croaker at the Palos Verdes Shelf site and surrounding areas.

1994
SITE INVESTIGATION
The U.S. Geological Survey finds that 17 square miles of the Palos Verdes Shelf had high levels of DDT and PCBs in ocean floor sediments.

COMPLETED

SITE INVESTIGATION
The EPA leads a non-time critical investigation at the Palos Verdes Shelf site to evaluate risks posed by DDT and PCB contaminated ocean floor sediments and determines potential response actions that could reduce exposure to humans and the environment.

1996

HUMAN HEALTH RISK ASSESSMENT
The EPA issues a Human Health Risk assessment and determines that eating fish caught from the Palos Verdes Shelf poses a health risk due to high levels of DDT and PCBs.

1999

ACTION MEMORANDUM
The EPA issues the Action Memorandum that begins implementation of the Institutional Controls Program to address health risks associated with consumption of contaminated fish from the Palos Verdes Shelf site.

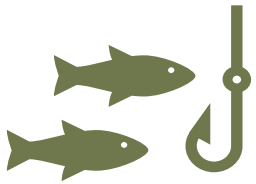
2001

FISH CONTAMINATION EDUCATION COLLABORATIVE
The EPA starts extensive public outreach and education efforts as part of the Fish Contamination Education Collaborative.

2003 (ongoing)

1998

WHITE CROAKER BAG LIMIT
The California Department of Fish and Wildlife sets a daily bag limit of 10 white croaker for recreational anglers in the Palos Verdes Shelf area.

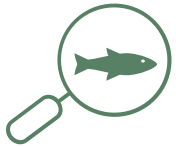


2000

PILOT CAPPING STUDY
The EPA conducts a pilot capping study project on a small portion of the Palos Verdes Shelf to evaluate capping methods and long-term impact of cap placement.

2002 (ongoing)

MONITORING PROGRAM
The EPA and the Montrose Settlements Restoration Program start a monitoring program for fish in the coastal area of southern California. It finds that DDT and PCB levels are higher in fish caught in the Palos Verdes Shelf and San Pedro Bay areas.



COMPLETED **ONGOING**

REMEDIAL INVESTIGATION

The EPA reports information on the nature and extent of DDT and PCBs in contaminated sediment and assesses the risks to human health and the environment.

2008

FEASIBILITY STUDY

The EPA produces a Feasibility Study that describes the development, evaluation and comparison of cleanup action alternatives to manage the contaminated sediment.

2009

FIRST MONITORED NATURAL RECOVERY REPORT

The EPA analyzes data from the site's first Monitored Natural Recovery Report (2013-2016). The study finds that concentrations of DDT and PCBs have decreased to post-capping objectives and the interim remedy may no longer be effective for the site. The EPA suspends the capping part of the site's interim cleanup plan.

2018

MOST RECENT FIVE-YEAR REVIEW REPORT

The EPA conducts the third Five-Year Review for the site to determine if the interim remedy is and will continue to be protective of human health and the environment.

2024

2004

INSTITUTIONAL CONTROLS

The EPA and its key stakeholders carry out strategic planning and implementation of the Palos Verdes Shelf Institutional Controls Program, including public outreach and education efforts, fish monitoring in markets and ocean, and enforcement of white croaker commercial fishing ban and catch limit. The program is still active today.

2009

INTERIM RECORD OF DECISION

The EPA selects an interim cleanup remedy for the Palos Verdes Shelf site. It includes capping, monitored natural recovery and institutional controls.

2024

SECOND MONITORED NATURAL RECOVERY REPORT

The EPA samples fish tissue, sediment and water in the Palos Verdes Shelf area. Results in the site's second Monitored Natural Recovery Report show that DDT and PCB levels have generally decreased over time. DDT and PCB levels in fish tissue have not yet reached cleanup level goals for white croaker.

ONGOING

COMMUNITY INVOLVEMENT PLAN

The EPA seeks input from the community on how to best re-engage those affected by the site.

2025

FINAL RECORD OF DECISION

Documentation and description of the selected remedy.

FUTURE

REMEDIAL ACTION

This step involves the actual construction or implementation of the cleanup.

FUTURE

NPL DELETION

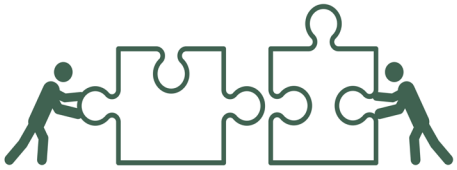
The final stage of the Superfund process. The EPA may delete a site from the NPL if the Agency determines no further response is required to protect human health or the environment.

FUTURE

FUTURE

REMEDIAL INVESTIGATION/ FEASIBILITY STUDY AND PROPOSED PLAN

This will include an updated human health risk assessment and will reevaluate cleanup alternatives for the site. Once this is complete, the EPA will select the preferred cleanup and include it in the proposed plan for public comment.



FUTURE

REMEDIAL DESIGN

The EPA works with the state and local stakeholders on technical specifications for cleanup remedies and technologies.

FUTURE

OPERATIONS AND MAINTENANCE

This ensures that the cleanup actions will protect human health and the environment over the long term. Activities may include routine maintenance at a site, such as making sure signs are intact, or soil treatment systems are running smoothly.

FUTURE

THE COMMUNITY

Angler Communities

Los Angeles County is home to several angler communities. This Community Involvement Plan highlights three areas: San Pedro, Hawthorne and Monterey Park, because many anglers fishing from piers near the Palos Verdes Shelf are from these neighborhoods. Research indicates that many people in these communities are subsistence fishers and consume fish caught near the site. The full Palos Verdes Shelf Site Community Profile is provided in Appendix C.

Community Profile Development Process for the Palos Verdes Shelf

Site Research

- Summarizes the history of the site, natural resource contamination and how these factors have impacted the community's way of life.
- References any local industries that have contributed to site contamination and their role in the cleanup process.
- Identifies commercial operations and economic factors that have been influenced by site contamination.

Interviews

- Presents opportunities for the discussion of questions, concerns and comments the community may have pertaining to the site.
- Allows the community to share cultures, values and ways of life that are important to those who are impacted by the site.
- Communicates issues affecting the community that are not necessarily site related.
- Provides feedback on EPA communication methods and ways community involvement measures can be improved.

Community Research

- Informs EPA of site-specific, high-risk populations for analysis to protect human health.
- Encapsulates specific community details such as languages spoken, demographic identities, economic thresholds and age group statistics.
- Suggests stakeholder groups in the community.
- Uses U.S. Census Bureau and EPA software to combine data from economic and environmental indicators within a given area.

Anglers fishing from a Pier.

A CLOSER LOOK AT THREE ANGLER COMMUNITIES

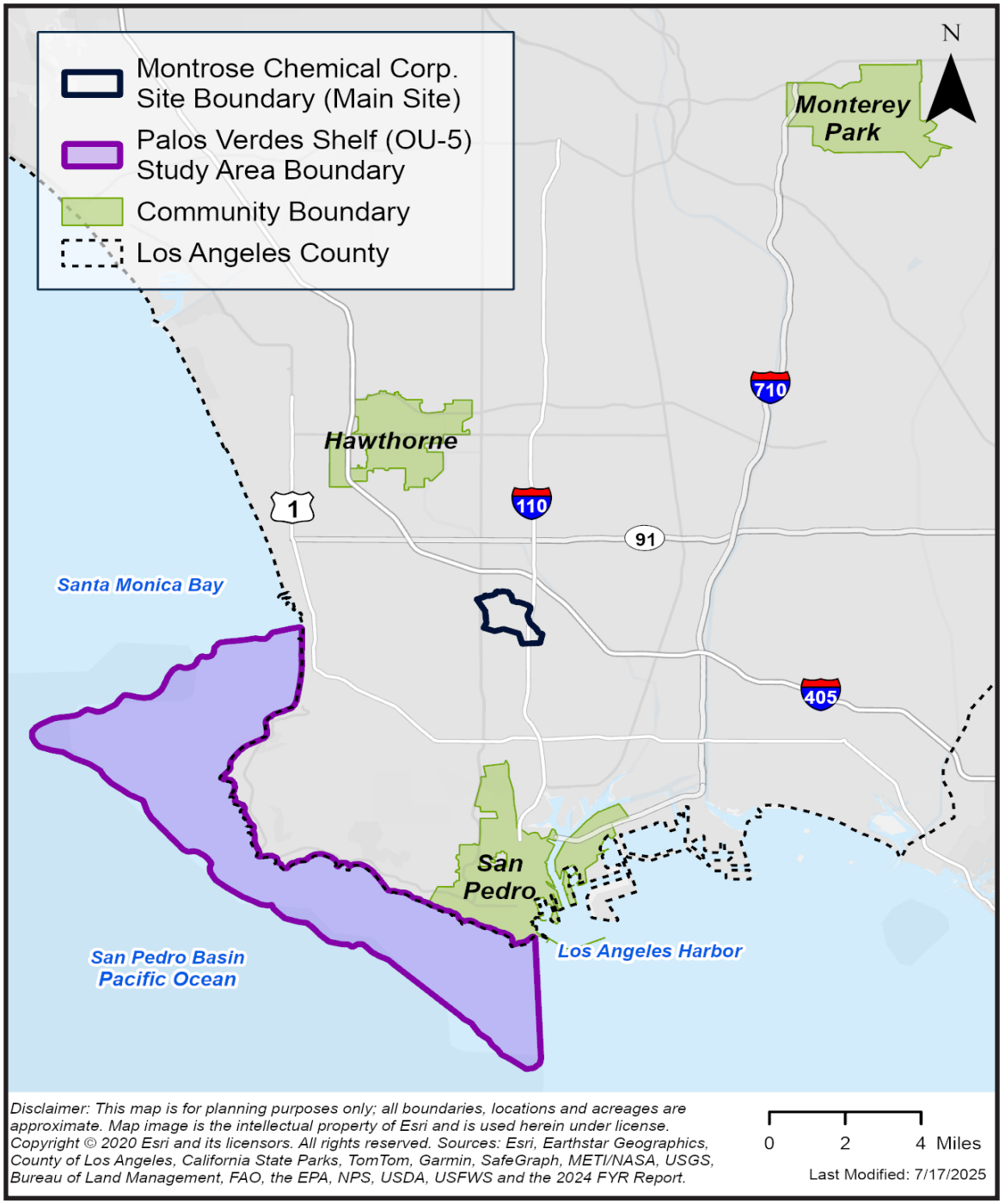


Figure 2. This map shows the three angler communities of San Pedro, Hawthorne and Monterey Park in relation to the Montrose Chemical Corporation Superfund site and the Palos Verdes Shelf site.

The San Pedro Area

San Pedro is about 20 miles south of downtown Los Angeles, on the southern tip of the Palos Verdes Peninsula. Some of the earliest people to inhabit the area were the Gabrielino-Tongva people, some of whom still live there today. The harbor was a trading post for the Spanish that developed into a port with shipyards, dry docks, canneries and oil refineries. The city of Los Angeles officially annexed San Pedro in 1909. As the port grew, San Pedro's population grew. Today, it is home to the largest Italian American community in southern California and is known for maritime sites such as the Battleship USS Iowa, the Korean Bell and the Point Fermin Lighthouse. Today, the people of San Pedro use the area's piers to fish near the Palos Verdes Shelf. Anglers have access to prominent piers such as the Cabrillo Pier.

About 50,000 people live in about 17,000 homes within a 1-mile radius from the center of San Pedro. The neighborhood has a higher percentage of low-income people (39% of the population) than county and state averages (32% and 28%, respectively). Twenty-six percent of community members own their homes, compared to a county average of 46% and a state average of 56%. The affected community is predominantly Hispanic (62%), with 5% of people identifying as Asian, 23% as White and 5% as Black.

The San Pedro community faces several challenges. About 12% of the population lacks health insurance, compared to the state average of 7%. The unemployment rate for the area is 7%, which is the same as Los Angeles County and slightly higher than the state average of 6%.

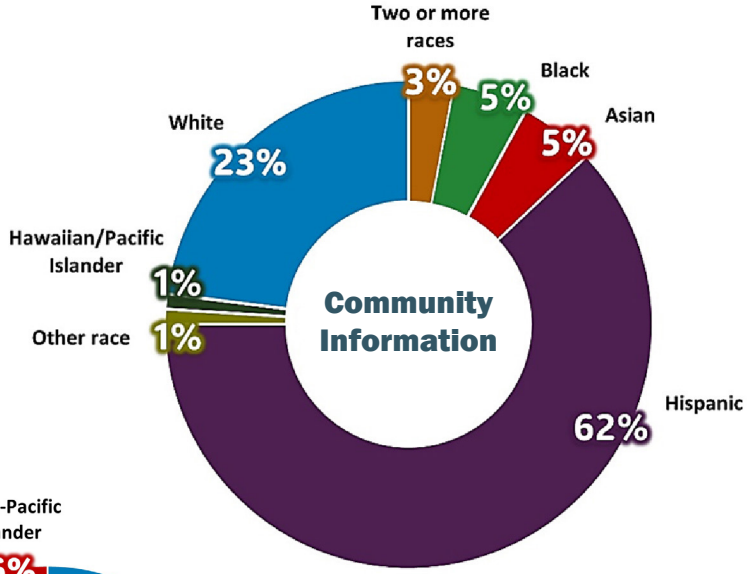
Limited English Households are households in which all members 14 years old and over have some difficulty with English.

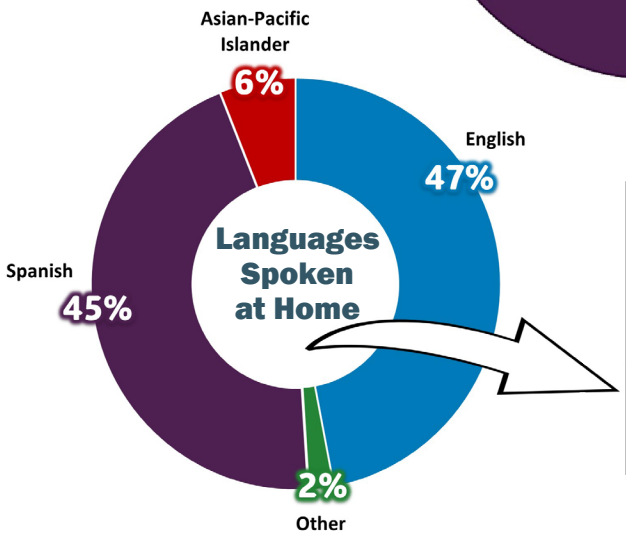
Total non-English accounts for all households where English is not the primary language spoken at home.

Point Fermin Lighthouse in the San Pedro neighborhood. Source: Google Earth

San Pedro
1-Mile Radius

46,549
Area Population





While 53% of households do not use English as their primary language at home, 12% of all households are considered by the U.S. Census to be a "limited English speaking household", in which all members 14 years old and over have some difficulty with English.

The Hawthorne Area

The city of Hawthorne is 11 miles southwest of Los Angeles, near Los Angeles International Airport. The area was originally inhabited by the Shoshone Indian Tribe, who still live in Southern California today. The area was part of the Sausal Redondo, a land concession established by the Mexican government. It also was home to extensive farming and ranching operations. The community began growing in 1905 and was incorporated into Los Angeles County in 1922. It was named after the novelist Nathaniel Hawthorne. Today it is known as the "City of Good Neighbors." Anglers use local bait and tackle shops such as Best Fishing Tackle.

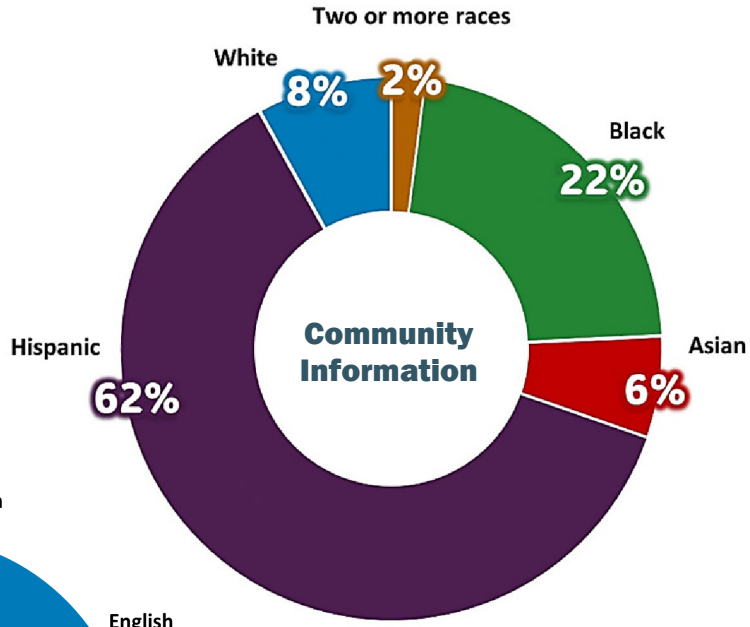
About 56,000 people live in about 18,000 homes within a 1-mile radius from the center of Hawthorne. Thirty-seven percent of the population is low-income, which is higher than county (32%) and state (28%) averages. Homeownership in Hawthorne is at 22%, well below the county average of 46% and the state average of 56%. The affected community is predominantly Hispanic (62%), with 6% identifying as Asian, 8% as White and 22% as Black.

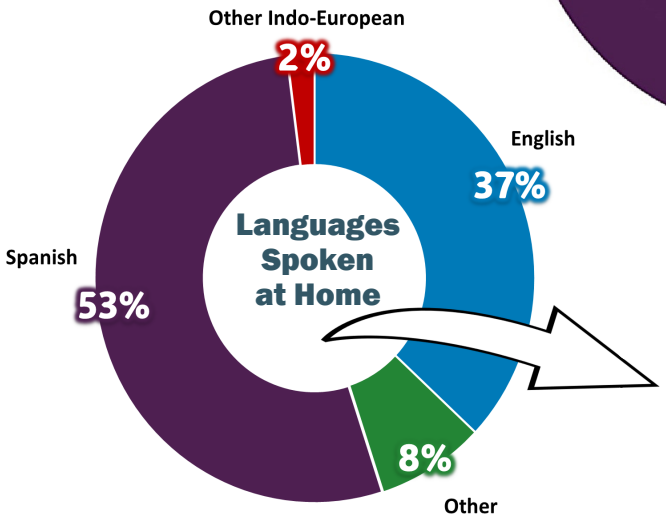
The Hawthorne community faces several challenges. About 12% percent of the community lacks health insurance, compared to the state average of 7%. The unemployment rate for the area is 8%, higher than the county and state averages of 7% and 6%, respectively.

Fish bait and tackle shop in Hawthorne, California. Source: Google Earth

Hawthorne
1-Mile Radius

55,936
Area Population





While 63% of households do not use English as their primary language at home, 11% of all households are considered by the U.S. Census to be a "limited English speaking household", in which all members 14 years old and over have some difficulty with English.

The Monterey Park Area

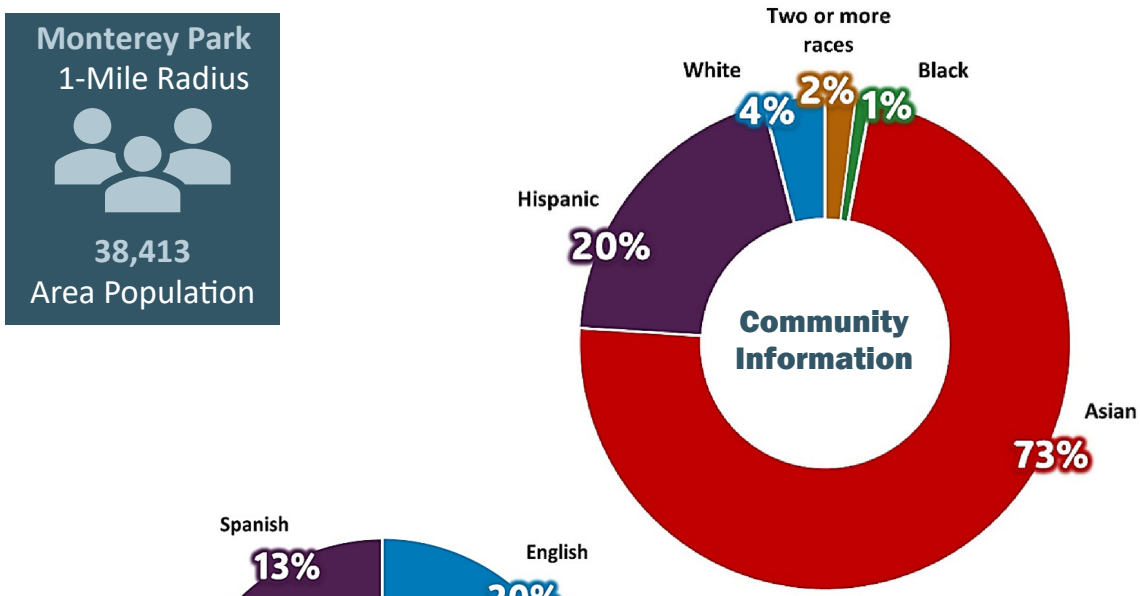
Monterey Park is 7 miles east of Los Angeles. This area was first inhabited by the Shoshone Indian Tribe, who still live in Southern California today. They were later called the Gabrielino Indians by the Spanish. In the early 1800s, it was part of the Mission San Gabriel Arcángel and later was known as Rancho San Antonio. The area developed throughout the 1800s and early 1900s. Monterey Park and three neighboring cities received a sewage system in 1916 and the city officially incorporated that same year. By 1920, the city's population grew as Asian immigrants arrived to farm potatoes and flowers to sell and ship to Los Angeles. In 2017, Money magazine selected Monterey Park as one of America's best places to live and raise a family. Local anglers have access to bait and tackle shops such as EZ Sporting Goods.

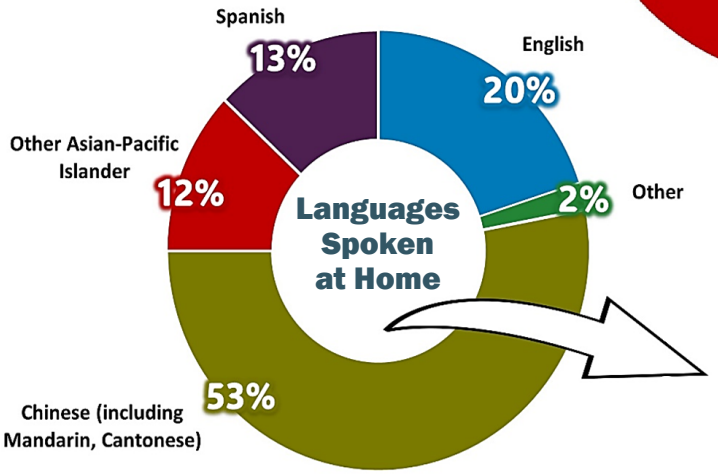
Over 38,000 people live in about 12,500 homes within a 1-mile radius from the center of Monterey Park. Forty-two percent of community members are low-income, which is higher than the county (32%) and state (28%) averages. Homeownership in Monterey Park is at 40%, which is below the county and state averages of 46% and 56%, respectively. The affected community is predominantly Asian (73%), with 20% of people identifying as Hispanic, 4% as White and 1% as Black. Six percent of the population lacks health insurance, which is lower than the state average of 7%.

Fishing gear shop in Monterey Park, California. Source: Google Earth

Monterey Park
1-Mile Radius

38,413
Area Population





While 80% of households do not use English as their primary language at home, 36% of all households are considered by the U.S. Census to be a "limited English speaking household", in which all members 14 years old and over have some difficulty with English.

COMMUNITY ISSUES AND CONCERNS

In September 2024, the EPA held in-person interviews with people interested in the site. Sixteen people were interviewed from a range of area groups, organizations and communities, including local anglers and staff from the California Department of Fish and Wildlife, the Los Angeles Regional Water Quality Control Board, the Cabrillo Marine Aquarium, and the Santa Monica Bay Restoration Commission. The interview questions (The Community Involvement Plan Interview Questionnaire) are in Appendix D. The Community Involvement Plan combines the feedback of every person interviewed to identify community issues and concerns. There will be more opportunities for community comments during the Proposed Plan process. The EPA gathered the following community feedback during the interviews.

HUMAN HEALTH

Several people expressed concerns about human health. One angler said it was difficult to tell the difference between contaminated fish and uncontaminated fish. A staff member from the Cabrillo Marine Aquarium was concerned about the public's consumption of large amounts of contaminated fish. A member of the Santa Monica Bay Restoration Commission also expressed concern that people may not know about the contamination.

ENVIRONMENTAL HEALTH

Interviewees were generally aware of site contamination, especially regarding contaminated fish. Over half of the people interviewed said they were aware that fish are contaminated by the Palos Verdes Shelf area. One person said, "yes, [I'm] aware of DDT and PCBs and contaminated fish. Another person shared that, "yes, white croakers are contaminated." People also noted sick pelicans and trash in the area.

FINANCIAL IMPACTS

One interviewee mentioned the financial impact of site contamination, explaining that there is less of an incentive to spend money on fishing licenses and equipment when the fish are contaminated. Another person said that some anglers "sell a lot of the fish caught." One interviewee indicated that fishing from the Palos Verdes Shelf was his livelihood.

PUBLIC EDUCATION

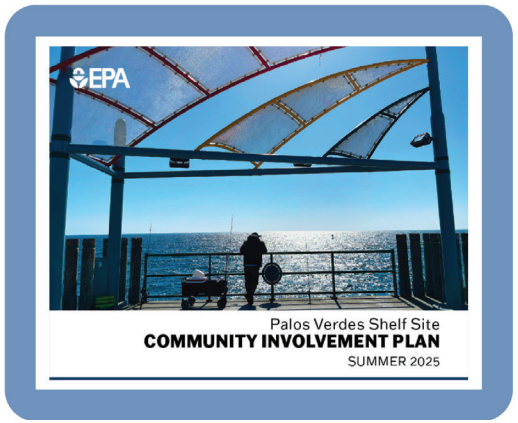
Some interviewees recommended outreach to kids and schools. Several people noted a need for more education about chemicals of concern at the Palos Verdes Shelf site. Two people did not find public meetings or open houses helpful. In addition to English, interviewees said that educational materials and updates should be in Spanish, Vietnamese, Korean, Chinese, Tagalog, Mandarin, Arabic, Cambodian, Russian and Croatian.

METHOD OF COMMUNICATION

Interviewees suggested that the EPA provide site-related information via social media, as well as noting the need for more face-to-face, in-person outreach. Some people said that, while the signs are helpful, they should be updated to include QR codes and should be placed in more locations.

Steps of the Interview Process for Community Involvement Plans

1. Formulate Interview Questions Based on Community Research
2. Identify Interviewees and Schedule Interviews
3. Conduct Interviews
   - In-person
   - Phone
   - Virtual (Email)
4. Capture Interview Comments, Concerns and Questions
5. Incorporate Summary of Community Comments into the Plan

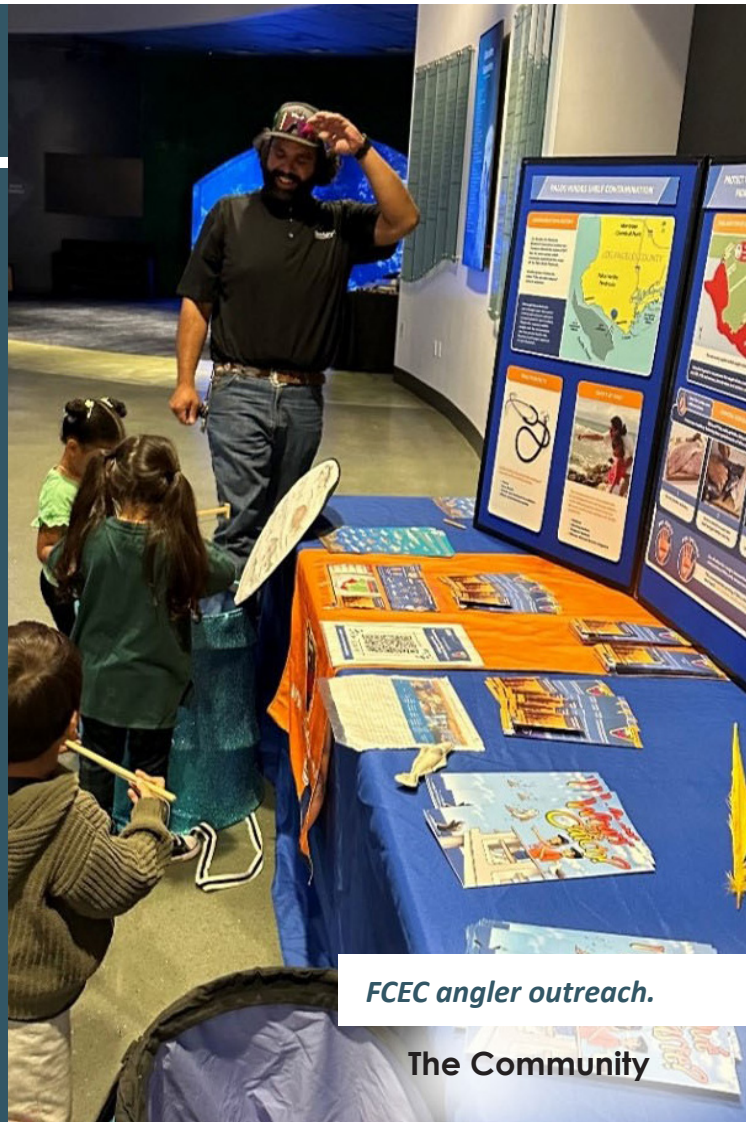


EPA COMMUNITY INVOLVEMENT EFFORTS FOR THE PALOS VERDES SHELF SITE

The EPA worked closely with local communities to establish an Interim Record of Decision in 2009. A component of the selected remedy included institutional controls. Institutional controls are non-engineered instruments that help minimize the human exposure to site contamination. The institutional controls program at the Palos Verdes Shelf site includes three components: public outreach and education, contaminant monitoring, and enforcement. The EPA is currently working on a feasibility study to support the selection of a final remedy. The EPA interviewed community members in September 2024 to support the site's 2025 Community Involvement Plan.

The Fish Contamination Education Collaborative

In 2003, the EPA and its partners established the Fish Contamination Education Collaborative (FCEC) to implement the public outreach and enforcement components of the institutional controls program. The goal of the FCEC is to minimize exposure to site contamination by educating impacted communities about safe fish consumption practices and the health risks associated with eating contaminated fish. Educating commercial and subsistence anglers about contaminated fish and continues to play an important role in keeping the community safe. The FCEC performs weekly angler outreach at nine fishing piers along the coast of Los Angeles from Santa Monica, CA to Seal Beach, CA and provides anglers with information about fish that are safe to eat and cooking methods to reduce their risk. The FCEC also conducts regular outreach to local bait shops, health professionals, markets and restaurants, and impacted communities. Local organizations, including Boat People SOS, Chinese Christian Herald Crusades and Cabrillo Marine Aquarium, conduct public outreach as part of the program. Additionally, the FCEC designs and distributes educational materials, including multilingual tip cards, pier signs, childrens comic books, and brochures to educate the community about which fish are unsafe to eat and how to reduce their risk. The FCEC participates in community events to raise fish contamination awareness and shares state fishing advisories with anglers through regular public outreach activities and its website (www.pvsfish.org). EPA partners with the California Department of Fish and Wildlife to enforce commercial and recreational fishing bans and restrictions of white croaker.



FCEC angler outreach.

Five-Year Reviews

The EPA conducted the site's third Five-Year Review in 2024. The EPA issued a press release and published a public notice in the Torrance *Daily Breeze* newspaper announcing the Five-Year Review and inviting the public to submit any comments. The EPA issued the site's first Five-Year Review Report in 2014. The EPA will issue the site's next Five-Year Review Report in 2029.

Newsletters

The EPA and FCEC distribute a semi-annual electronic newsletter that includes updates about outreach and site activities. To sign up for the newsletter, please visit https://www.pvsfish.org/resources/newsletters.

Fact Sheets

The EPA issued several site fact sheets from 1997 to 2023:

- October 1997 – Update on EPA's Investigation of Contaminated Sediments
- March 2000 – EPA Announces Proposed Plan
- October 2002 – EPA Issues Report on Pilot Capping Project
- May 2005 – Site Update
- June 2009 – EPA Announces Proposed Plan
- April 2010 – EPA Signs Interim Record of Decision
- July 2023 – Palos Verdes Shelf Site

Fish Contamination Education Collaborative (FCEC)

Since 2003

The FCEC works to protect the public from the health risks of consuming local contaminated fish from the Palos Verdes Shelf Superfund Site

The FCEC continues to support educational and outreach efforts to limit the health risk to the public from con-sumption of contaminated fish. Over the past few months, FCEC partners have conversed with anglers at local piers and attended local events to educate the public about these risks. **Check out what we've been up to!**

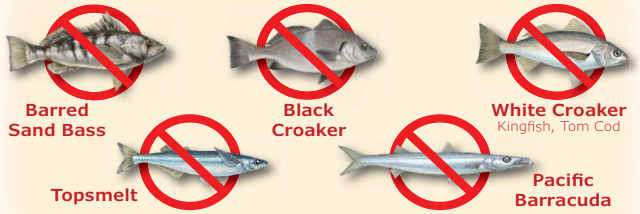
pvsfish.org

ANGLER OUTREACH

Pier Angler Outreach **October 2023 – February 2024**

- Approximately 3,108 anglers reached
- 1,394 anglers were new contacts (45%)
- 2,002 anglers were aware of contamination (64%)

Watch for "Do Not Eat Contaminated Fish" Sign Updates in 2024!



These fish are contaminated with harmful chemicals.

COMMUNITY OUTREACH/RECENT EVENTS

San Gabriel Lunar New Year, February 17-18, 2024 — The annual San Gabriel Lunar Lantern Festival is held to celebrate the Chinese New Year. The event was organized by the City of San Gabriel in partnership with Sino TV and radios stations KAZN and KMRB. The festival offers a wide variety of entertainment, traditional activities, and delightful cuisines for all ages. This year's event attracted roughly 20,000 participants, of which the majority were a part of the Asian community living in the San Gabriel Valley area. Cultural activities and food booths were the highlights of the event, including carnival rides, games, a petting zoo, and bounce houses. Roughly 1,500 attendees visited the FCEC booth during the two-day event. Most attendees were Chinese-speaking adults. Throughout the event, 150 English tip cards and brochures, 850 Chinese tip cards and brochures, and 1,000 English Fish ID cards were distributed to event attendees.

Palos Verdes Shelf Newsletter June 2024

June 2024 FCEC newsletter.

FCEC booth at a community outreach event.

THE COMMUNITY INVOLVEMENT ACTION PLAN

Introduction to the Action Plan

The EPA believes that an engaged public benefits and strengthens the cleanup process. The EPA is committed to encouraging and providing opportunities for public participation so that the people impacted by the site have a say in how it is cleaned up. EPA will strive to maintain a consistent community presence and continue to work with city and state staff, elected officials, community organizations, neighborhood councils and other community members to ensure that important site updates and information are shared with the community. The EPA will use a range of activities and tools to share information and speak with community members. These activities and tools are described below.

The EPA plans to inform the community about the site, especially community members who live near, fish in or otherwise access the site. The EPA will continue collaborating with the Fish Contamination Education Collaborative and conduct regular outreach to anglers and impacted communities. As the EPA continues investigating the nature and extent of the remaining contamination, the agency will seek community feedback when designing, selecting, and implementing a cleanup plan. The EPA plans to share cleanup options with the community during the Proposed Plan process and subsequent public comment period. Community feedback and comments will inform the decision-making process. Opportunities for public participation in the Superfund process are outlined on page 30.

Community Involvement Goals

- **Protect human health by minimizing exposure to contaminated fish through public outreach and educational efforts and enforcement of white croaker catch bans.**
- **Provide accurate and readily available information about site contamination and activities on a consistent basis.**
- **Establish and maintain relationships with highly interested community members, stakeholders, government agencies, and other partners.**
- **Provide opportunities for feedback and input and address public concerns.**

COMMUNITY INVOLVEMENT TOOLS AND ACTIVITIES

Fish Advisories and Angler Outreach

When contaminant levels in seafood are unsafe, advisories help people make informed decisions about which fish to eat and where to fish. Advisories recommend that people limit or avoid eating certain species of fish caught in certain areas. They may be issued for the general public or for site-specific, high-risk communities.

The EPA follows the health advisories issued by the California Office of Environmental Health Hazard Assessment (OEHHA). OEHHA has issued specific fish advisories for the area around the Palos Verdes Shelf, from Santa Monica to Seal Beach, CA. The fish advisories highlight women and children as sensitive groups, and recommends they eat less fish than other groups. The EPA will continue to work with partner agencies to conduct community outreach at popular fishing piers along the coast of Los Angeles to increase awareness of local fish advisories.

Fishing areas in the red zone include Santa Monica Pier, Venice Pier, Hermosa Beach Pier, Redondo Beach Pier, Cabrillo Pier, Pier J, Rainbow Harbor, Belmont Pier, and Seal Beach Pier. Learn more at oehha.ca.gov/fish/advisories/ventura-harbor-santa-monica-pier and www.pvsfish.org/fishing/what-fish-are-safe-eat.

Pier sign showing the five contaminated fish species, including white croaker, barred sand bass, black croaker, topsmelt and pacific barracuda.

EPA-hosted Events

The EPA may host meetings, workshops and/or open houses to share information with the community. Meetings will be held at a central location. Some interviewees mentioned beach areas and fishing piers, such as Redondo Pier, as preferred meeting locations.

Periodic Updates

The EPA will develop and distribute information about the site on an as-needed basis. These materials will:

- Provide regular updates about the Superfund process.
- Notify the public about public meetings and availability sessions and public comment periods.
- Provide links to publicly available documents and other resources.

Translations and Interpretations

The EPA will work with community members to translate outreach materials provided to the public. Potential translation needs for people in the area noted by interviewees include Spanish, Vietnamese, Korean, Chinese, Tagalog, Arabic, Cambodian, Russian and Croatian.

Outreach Materials

Effective notification and educational materials are needed to ensure broad outreach, both now and over the long term. The EPA will continue to distribute materials to the public that contain information about local fish advisories, the health risks of eating DDT- and PCB-contaminated fish, and ways to reduce risks. The EPA will also create other materials, such as flyers and fact sheets, as needed that contain site contact information, basic site background, brief site status updates, and relevant updates.

Noteable Information Resources

The EPA may provide updates and information to websites, an electronic newsletter and pier signs on site-related issues to reach a broader audience. The EPA's staff will be available for interviews and will respond to media inquiries in a timely fashion. Inquiries from the news media should be directed to Renee Jordan Ward via email or call (928) 419-6273.

The EPA may use the Montrose Chemical Corp. Superfund Site and the FCEC websites to share periodic site updates.

Sign up to receive the semi-annual FCEC electronic newsletters. View past newsletters by clicking here.

The EPA installs and maintains pier signage to increase awareness of local fish advisories. Visit the FCEC What Fish are Safe to Eat webpage.

Mailing List and Newsletter

The EPA will continue to maintain and update the site mailing list. The list has been developed based on meeting sign-in sheets, community interviews, and email and telephone inquiries. If you would like to be on the EPA's mailing list to receive site updates via regular mail or electronically, please contact Renee Jordan Ward, the EPA's Remedial Project Manager for the site, at **jordanward.renee@epa.gov**. Updates will also be available at the two site information repositories, Carson Public Library and Katy Geissert Library. To sign up for the FCEC's newsletter, please visit www.pvsfish.org/resources/newsletters.

Webpage

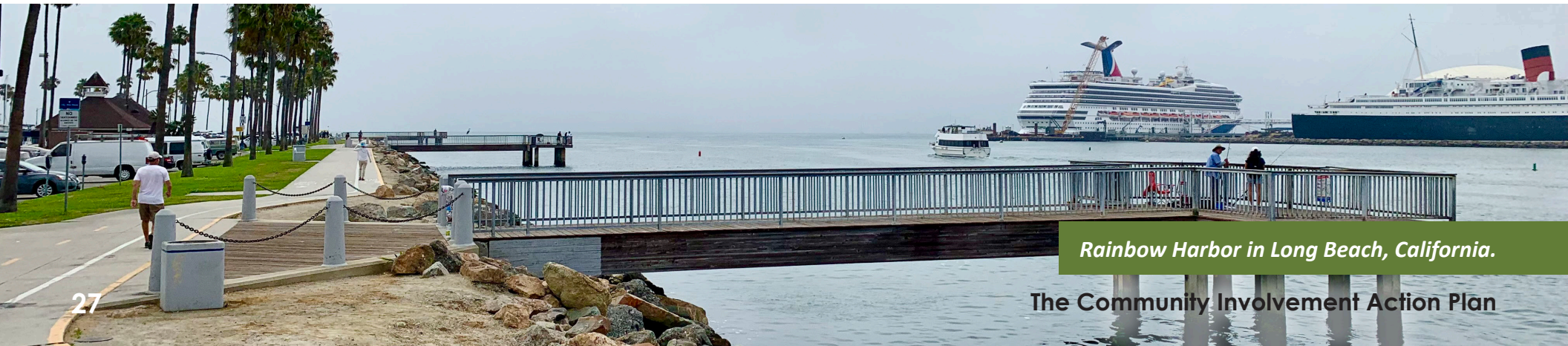
The EPA will continue to maintain a webpage for the Palos Verdes Shelf site. For past, current and future updates, please visit www.epa.gov/superfund/montrose.

The webpage will:

- Provide an overview and history of the site and the EPA's involvement under Cleanup Activities.
- Post updated information about the Superfund cleanup process to the public. New information will be featured under Stay Updated, Get Involved (Announcements and Key Topics section).
- Share site-related reports and documents with the public as they become available. A link to the document section is located under Site Documents and Data.
- Provide links to additional site-related resources.

The EPA also has other webpages available for information about the Superfund program and Region 9:

- National Superfund program: www.epa.gov/superfund.
- The EPA's Region 9: www.epa.gov/aboutepa/epa-region-9-pacific-southwest.
- Superfund Community Involvement: www.epa.gov/superfund/superfund-community-involvement.



Rainbow Harbor in Long Beach, California.

Hermosa Beach Pier in Hermosa Beach, California.

Social Media and Other Websites

The EPA may communicate via local social media pages such as the EPA Pacific Southwest pages on Facebook, Instagram and X (formerly Twitter).

The EPA may use local media pages such as Daily Breeze Facebook Page and Fish Contamination Education Collaborative Website to share site updates with the community.

Information Repository

The EPA keeps site project information and reference materials for the public to read at local information repositories. Copies of cleanup documents for Palos Verdes Shelf site are available at the locations below.

Katy Geissert Civic Center Library
3301 Torrance Blvd
Torrance, CA 90503
T: (310) 618-5959

Carson Public Library
151 East Carson Street
Carson, CA 90745
T: (310) 830-0901

Information is primarily provided electronically, but hard copies are available from the repository upon request. Some of the materials available at the repository include:

- Remedial Action Documents
- Proposed Plans
- Five-Year Review Reports
- Site Fact Sheets

These documents are also available through the site webpage: www.epa.gov/superfund/montrose.

White Point Park in San Pedro, California.

Click or Scan the QR Codes Below to:

Stay Updated and Get Involved with the Site

Visit piers to view informational signage and bait shops to obtain free tip cards, all located on the FCEC Map.

Sign up for the EPA's mailing list and provide comments or concerns through the site's Stay Updated, Get Involved webpage.

Contact the EPA with questions about the site.

Attend community events and open houses posted to the FCEC webpage.

Contact the FCEC for more information about community outreach, events and contamination information.

Visit the FCEC webpage.

TOOLS FOR THE EPA TO LEARN FROM THE COMMUNITY

The EPA has identified and developed a variety of tools and activities to better engage with and involve the community.

Community Meetings

Based on availability, the EPA's staff may attend meetings held by community groups, the local government and other organizations upon request to share information about the site and to address community questions, concerns, ideas and comments. To identify appropriate opportunities and venues to deliver information about the site, the EPA will work with the community to coordinate the meetings.

Formal Public Comment Periods

During the Superfund process, the EPA announces and opens public comment periods and encourages people to submit information. The EPA accepts formal comments on several types of documents, including Proposed Plans, as well as when the EPA proposes a site for listing on or deletion from the NPL. The EPA considers all public comments in the Superfund decision-making process.

Santa Monica Pier in Santa Monica, California.

Public Comment Tips

Commenting is an important way to make your voice heard. Public comments can strengthen an environmental decision by providing the authoring agency with facts or perspectives lacking in the original draft. Commenting helps the EPA create an accurate and comprehensive document to support appropriate and informed decision-making.

- Prepare for commenting by familiarizing yourself with the scope of the issue and relevant laws.
- Identify your key issues and concerns.
- Identify allies who can help with the document review and understanding of the report and coordinate your comments with them to strengthen your message.

Be specific with your comments, including what you think could improve the document, what you think is missing from the document, what you like about the document, and what parts you want to remain in the document.

Key Contacts

EPA Contacts

Renee Jordan Ward
Remedial Project Manager
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
T: (928) 419-6273
jordanward.renee@epa.gov

Hiruni Jayasekera
Community Involvement Coordinator
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
T: (415) 947-4307
jayasekera.hiruni@epa.gov

Site Partner Contacts

Chinh Sheow
Department of Toxic Substances Control
9211 Oakdale Ave.
Chatsworth, CA 91311
T: (818) 717-6571
chinh.sheow@dtsc.ca.gov

Jennifer Boyce
NOAA Restoration Center
501 West Ocean Blvd., Suite 4470
Long Beach, CA 90802
T: (562) 980-4086
jennifer.boyce@noaa.gov

Zoe Collins
Heal the Bay
1444 9th Street
Santa Monica, CA 90401
T: (310) 451-1500
zcollins@healthebay.org

Alberto Rivadeneyra Jr.
Los Angeles County Department of Public Health
5050 Commerce Drive
Baldwin Park, CA 91706
T: (323) 314-7047
arivadeneyrajr@ph.lacounty.gov

Wesley Smith
Office of Environmental Health Hazard Assessment
1001 I St., MS 12B, PO Box 4010
Sacramento, California 95814
T: (916) 323-2153
wesley.smith@oehha.ca.gov

Elected Officials

For more information on elected officials, please visit elections.mytimetovote.com.

- U.S. House of Representatives. Visit www.house.gov/representatives/find-your-representative for contact information for your congressional representative. The Palos Verdes Shelf site is in the 36th, 37th and 43rd congressional districts.
- U.S. Senate. Visit www.senate.gov/senators for contact information for the U.S. senators for California.
- State Assembly. Visit www.assembly.ca.gov/ for contact information for your state assembly representative. The Palos Verdes Shelf site is in the 51st, 65th and 66th districts.
- State Senate. Visit www.senate.ca.gov for contact information for your state senator. The Palos Verdes Shelf site is in the 24th and 35th districts.

Anglers fishing from a pier.

APPENDICES

APPENDIX A: GLOSSARY

For the full Superfund glossary, please visit www.epa.gov/superfund/superfund-glossary.

Cleanup

The term used for actions taken to deal with a release or threat of release of a hazardous substance that could affect human health and/or the environment. The term is sometimes used interchangeably with the terms remedial action, removal action, response action or corrective action.

Community Involvement Plan

A document that identifies techniques used by the EPA to communicate effectively with the public during the Superfund cleanup process at a specific site. A Community Involvement Plan typically describes the site's history, the nature and history of community involvement, and concerns expressed during community interviews. In addition, the plan outlines methodologies and timing for continued interaction between the agencies and the public at the site.

Contaminants of Concern

Identified during in-depth site studies (remedial investigations and feasibility studies) that need to be addressed by a cleanup action because they pose a potential threat to human health or the environment.

Contamination

Introduction into water, air and soil of microorganisms, chemicals, toxic substances, waste or wastewater in a concentration that makes the medium unfit for its next intended use.

Feasibility Study

A process followed at most Superfund sites to evaluate potential cleanup alternatives.

Five-Year Review

A periodic review of a Superfund site that is generally required when hazardous substances remain on site above levels that permit unrestricted use and unlimited exposure. The purpose of a Five-Year Review is to evaluate the implementation and performance of a remedy and whether a remedy remains protective of public health and the environment.

Information Repository

A collection of technical reports and other documents regarding a Superfund site. The information repository is usually located in a public building that is convenient for community members, such as a public school, city hall or library.

Institutional Controls

Non-engineered instruments such as administrative and legal controls that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy.

National Priorities List

The EPA's list of uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Operable Unit

A portion of a Superfund site at which site actions are separately planned, executed and monitored.

Piscivorous

An animal that eats fish.

Record of Decision

A public document that explains which cleanup alternative will be used at a Superfund site.

Remedial Action

The construction or implementation phase of a Superfund site cleanup.

Remedial Investigation

An in-depth study designed to gather the data necessary to determine the nature and extent of contamination at a Superfund site and assess risks to human health and the environment.

Remedy

The method selected to clean up a Superfund site.

Removal Action

Short-term actions that address releases of hazardous substances that require expedited responses.

Sediment

Materials found at the bottom of a water body. Sediments may include clay, silt, sand, gravel, decaying organic matter and shells.

Superfund

The common name used for the Comprehensive Environmental Response, Compensation, and Liability Act. Superfund activities include conducting and/or supervising hazardous waste site cleanups and other remedial actions.

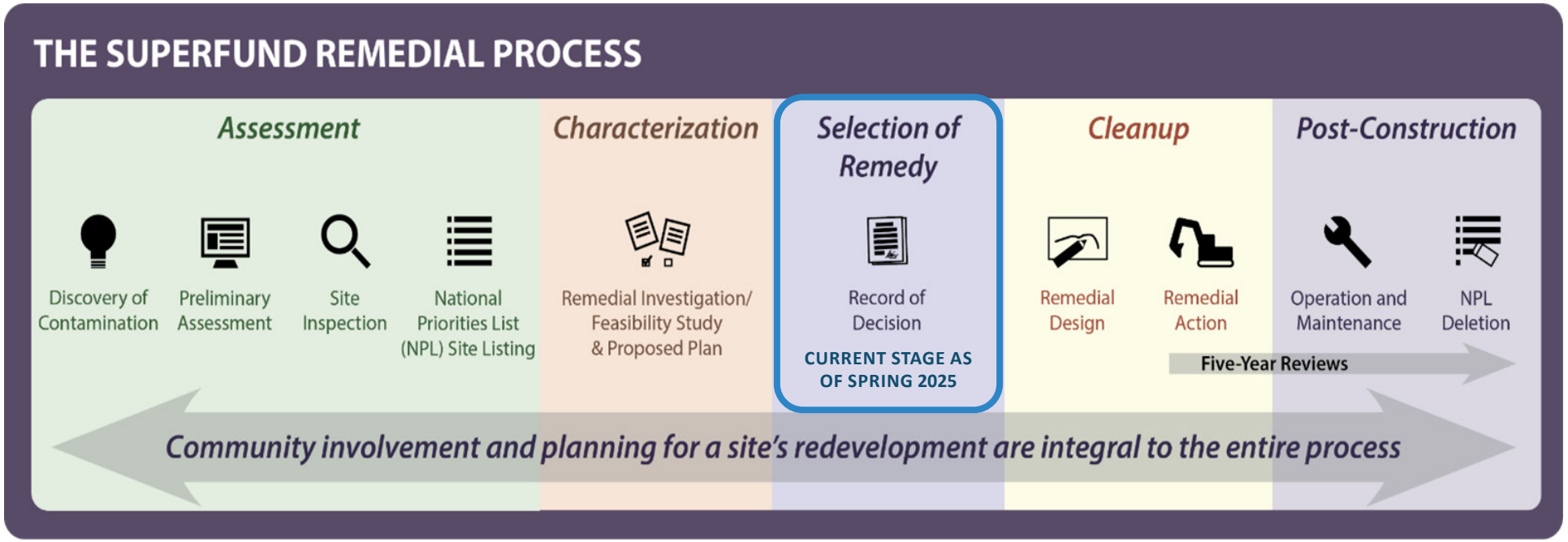
Surface Water

Any water that collects on the surface of the Earth, including oceans, lakes, rivers, wetlands, reservoirs and creeks.

Pier J in Long Beach, California.

APPENDIX B: THE SUPERFUND REMEDIAL PROCESS

After Superfund sites are discovered or identified, the EPA uses two basic types of responses to manage polluted sites: removal actions and remedial actions. Removal actions handle emergency oil spills, chemical releases and short-term responses. Emergency actions eliminate immediate risks and ensure public safety. Remedial actions handle complex sites needing long-term responses. Remedial actions manage releases that do not pose an urgent threat to public health or the environment and do not require immediate action. Remedial actions involve complex and highly contaminated sites that often require several years to study the problem, develop a permanent solution and clean up the hazardous waste. These are the sites that most people think of when they hear about the Superfund program. The section below describes the general steps in the EPA's Superfund remedial process.



Assessment

The EPA determines if a site poses a threat to people and the environment and whether hazards need to be addressed immediately or if more site information will be collected. The EPA uses the information collected during the assessment phase of the Superfund process to score sites according to the danger they may pose to human health and the environment. If a site has a high enough score on the Hazard Ranking System and meets all other criteria, the EPA may propose it for listing on the National Priorities List.

Characterization

Once a site is on the NPL, further investigation into the problems at the site and the best way to address them is required. This is called the remedial investigation and feasibility study. After the development of cleanup alternatives, the EPA recommends the option it considers best for the site and offers it to the community for evaluation and comment in a Proposed Plan.

Selection of Remedy

The cleanup method ultimately chosen for the site, and the reasons for the selection, are set forth in the Record of Decision. The ROD discusses all activities before the selection of a cleanup method and describes how the cleanup method will be protective of human health and the environment.

Cleanup

The cleanup phase includes two parts. During the remedial design phase, plans for the cleanup method are carefully designed. The remedial action starts the actual cleanup at a site.

Post-Construction

After the EPA determines that the physical construction at a site is complete, post-construction activities ensure that the cleanup actions will protect human health and the environment over the long term. These activities may include routine maintenance at a site, such as making sure signs and fences are intact, or soil treatment systems are running smoothly. The EPA may delete a site or portion of a site (sometimes called an operable unit) from the NPL if all cleanup goals have been met and no further cleanup action is required to protect human health and the environment.

APPENDIX C: THE PALOS VERDES SHELF SITE COMMUNITY PROFILE

Community Profile for the Palos Verdes Shelf Site at the Montrose Chemical Corporation Superfund Site

Introduction

The contaminated sediment bed at Palos Verdes Shelf is too deep for direct human contact, but people can be exposed to site contamination by eating contaminated fish. To minimize the risks to human health, the U.S. Environmental Protection Agency is partnering with agencies and community organizations to increase public awareness and understanding of existing fish contamination and consumption advisories. This Community Profile examines local communities that fish frequently in this area (i.e., angler communities) and will be used to evaluate the current outreach program for potential gaps (e.g., language translation needs and community event locations). This section includes overviews of the area and area resource use, commercial and subsistence fishing, and highlights three communities with high angler activity.

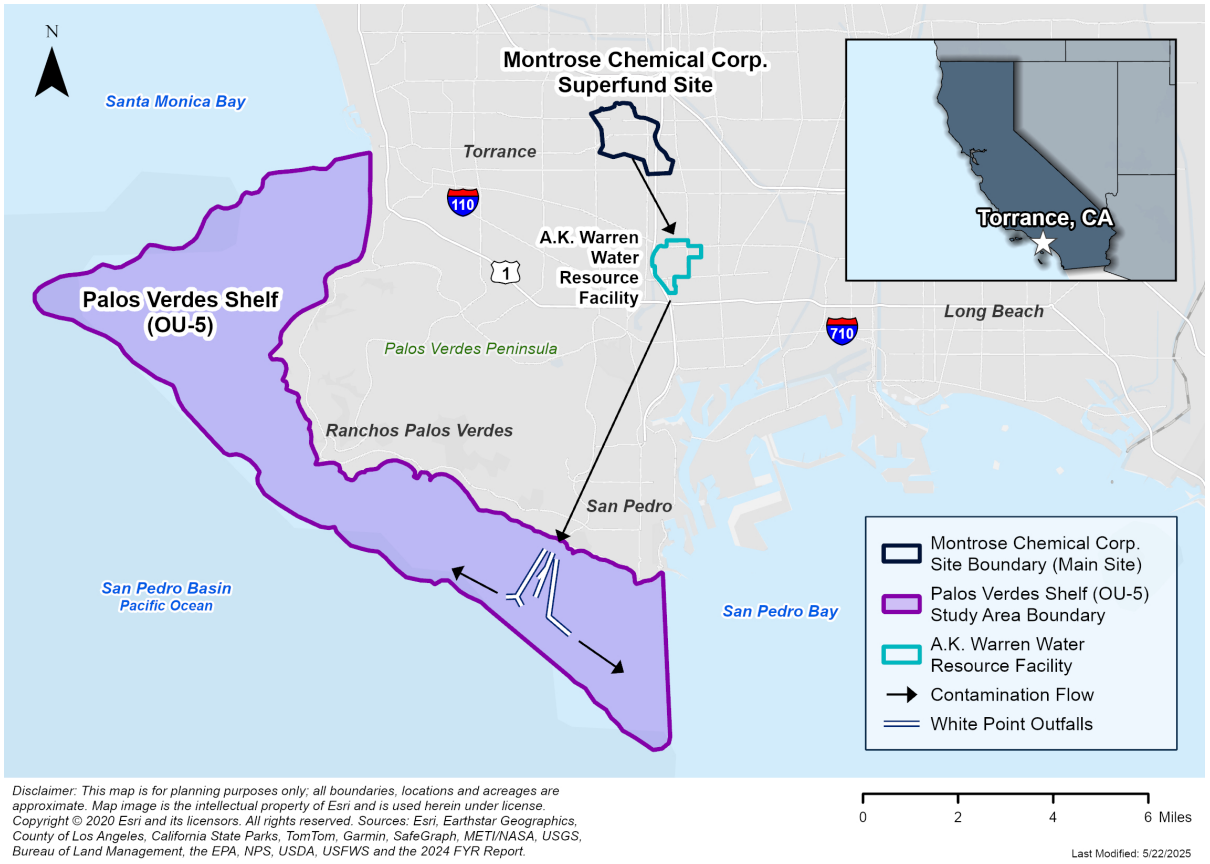


Figure C-1. Map showing the flow of contamination from the Montrose Chemical Corporation Superfund site to the Palos Verdes Shelf site.

Overview of the Palos Verdes Shelf Site

The EPA is working with federal, state and community organizations to study, track and address contamination in ocean floor sediment and fish at the Palos Verdes Shelf site. The Palos Verdes Shelf site is one of several operable units at the Montrose Chemical Corporation Superfund site in Los Angeles County, California. Montrose Chemical Corporation produced the pesticide dichlorodiphenyltrichloroethane on-site from 1947 to 1982. The chemical waste entered the environment through various pathways during plant operations. The EPA added the site to the Superfund Program's National Priorities List in 1989 and divided the site into seven OUs to focus on cleanup options for each affected area. These areas of focus include soil, stormwater pathways, groundwater and ocean sediment. The Palos Verdes Shelf site is OU-5 of the Montrose Chemical Corp. Superfund Site and addresses 34 square miles of ocean sediment on the Palos Verdes Peninsula that was contaminated by discharged wastewater containing DDT and polychlorinated biphenyls. Since the site was added to the National Priorities List, the EPA has overseen cleanup measures across the site through federal and potentially responsible party actions. Remedial actions have taken place at OU-3 and OU-5, and the EPA has conducted various removal actions of soils near the former corporation's property, soils in nearby neighborhoods and sediment in nearby sanitary sewer systems.

The Palos Verdes Shelf site is located in the Pacific Ocean along the coast of Los Angeles County. Many communities and neighborhoods are located near the coastal area along the Palos Verdes Shelf site, often referred to as the Palos Verdes Peninsula. Some nearby communities are incorporated cities while others are neighborhoods in the city of Los Angeles.

Figure C-2. The Redondo Beach Pier near the Palos Verdes Shelf site in Redondo Beach, California. The pier is a fishing hub for anglers.

The ocean floor of the Palos Verdes Shelf site is contaminated with DDT from Montrose Chemical Corporation's 35 years of operations. In addition, several other Los Angeles County industries released PCBs into the environment that made their way to the Palos Verdes Shelf site. PCBs are synthetic chemicals known to harm human and environmental health. Both DDT and PCBs were discharged into sanitary sewers and wastewater containing these chemicals was released into the environment through ocean outfalls off White Point on the Palos Verdes Peninsula. The effected sediment is a source of contamination in the local food web. Invertebrate organisms accumulate PCBs and DDT in their bodies from ingesting contaminated sediment and surface water. These invertebrates are then eaten by other animals, including fish and crabs, that become exposed to PCBs and DDT. People who eat certain fish caught near the Palos Verdes Shelf site may be exposed to PCBs and DDT by eating contaminated fish. The State of California has determined that five fish species are unsafe to eat because of high levels of contamination: White Croaker, Black Croaker, Barred Sand Bass, Pacific Barracuda and Topsmelt.

In the 1990s, the California Department of Fish and Wildlife banned commercial fishing of White Croaker at the Palos Verdes Shelf site and surrounding areas to protect the public from consuming contaminated fish. In 1998, the California Department of Fish and Wildlife also put in place a sport fishing bag limit on White Croaker in the area to deter anglers from illegally selling the species to markets. In the early 2000s, the EPA led several cleanup actions across the Palos Verdes Shelf site and established administrative informational and legal tools, known as institutional controls, to protect human and environmental health.

In 2003, the EPA and its partners established the institutional controls program to prevent the consumption of contaminated fish caught near the Palos Verdes Shelf site. The key components of the program include public outreach and education, contaminant monitoring, and enforcement of commercial and recreational fishing bans and restrictions. The program led to the formation of the Fish Contamination Education Collaborative, which strives to educate the communities of Los Angeles County about safe fish consumption practices to minimize exposure to contamination. In addition to educational outreach, the program also monitors and enforces catch and sale bans for contaminated fish species such as the White Croaker.

In 2009, the EPA selected an interim cleanup remedy for the Palos Verdes Shelf site that included covering a portion of the contaminated ocean floor with clean soil, also known as capping, to prevent contamination from entering the food web. However, studies in 2009 and 2016 found that concentrations of DDT and PCBs have decreased to post-capping objectives. Despite decreases in sediment contaminant levels, concentrations in fish remain above acceptable risk levels. The EPA is working on a feasibility study to support the selection of a final remedy that is protective of human health and the environment. In the meantime, the EPA's institutional controls program continues to play a key role in protecting the community from contaminant exposure.

DDT Information: In 1972, the United States banned the use of DDT because of its potential risks to human and environmental health. People that are exposed to DDT may have a higher risk of developing serious health problems, including cancer. Additionally, exposure to high levels of DDT can negatively impact the nervous and reproductive systems, liver function and child development. DDT can be especially harmful to children and developing babies even before they are born (during pregnancy).

Area Resource Use

Areas around the Palos Verdes Shelf site are mostly urban. The Palos Verdes Peninsula and areas further inland in Los Angeles County support a variety of land uses, including residential, commercial, industrial, public, ecological and recreational areas. According to Los Angeles County's Economic Development website, the county is the largest manufacturing center in the United States. The Port of Los Angeles and Long Beach handle over 40% of all inbound containers nationwide. The area is also a hub for entertainment and tourism, hosting major studios such as Walt Disney, 20th Century Fox and Paramount Pictures.

Rapid population growth in the county is putting a strain on housing, with the U.S. Census Bureau reporting that the county has the nation's highest rate of overcrowded homes. The education network in the county is the largest in the nation, with the Los Angeles County Office of Education supporting over 465 community schools. Recreation plays a key part in the county's economy and quality of life, with over 8.5 million people reporting in 2023-2024 that they participated in the County of Los Angeles Department of Parks and Recreation's family, youth and senior programs, cultural and community events, natural areas, trails, event venues and aquatics programs and facilities. The county and the Palos Verdes Shelf site are also a hub for commercial and subsistence fishing, as described further below.

Subsistence and Commercial Fishing

The fishing scene in Los Angeles County ranges from subsistence fishing to commercial catch-and-sale operations. Public beaches and piers that support this range of fishing stretch across 25 miles of California's coast. The county operates and manages 20 beaches, many of which border the Palos Verdes Shelf site and provide pier access for local anglers. Notable piers along the Palos Verdes Shelf site that host angler fishing include the Belmont, Pier J (Figure C-4), Cabrillo and Redondo piers.

Figure C-3. The Palos Verdes Coastline Trail. Source: Google Earth

The Palos Verdes Peninsula and surrounding areas in Los Angeles County are home to communities of subsistence anglers. These anglers use fishing to financially support and feed their families. Subsistence anglers often fish from local piers because this method of fishing does not require a permit. Many anglers report catching and eating healthy fish species including Chub Mackerel, Perch, Corbina, Kelp Bass, Rockfish, Halibut, Bonito and Sardines.

Subsistence anglers using the piers and bait shops on the Palos Verdes Peninsula come in regular contact with signage and educational resources that provide information about fish species to avoid eating due to contamination from the site. These resources follow state health advisories for fish that are listed as unsafe to eat: White Croaker, Black Croaker, Barred Sand Bass, Barracuda and Topsmelt. Subsistence anglers in the area come from various demographic backgrounds, including Spanish, Chinese and Vietnamese populations.

While many subsistence anglers are aware of site contamination, more education is needed, according to the Community Involvement Plan interviews conducted by the EPA for the site in October 2024. Language barriers present a challenge to subsistence angler education. The EPA began addressing this need in 2003, in partnership with members of the Fish Contamination and Education Collective. All FCEC outreach materials are translated into English, Spanish, Vietnamese, and Chinese. In the 2024 FCEC Pier Angler Outreach Summary, 45% of the 3,108 anglers interviewed were unaware of fish contamination. Tip cards were offered to these anglers in their native languages when possible. As the area's population continues to grow, so does the percentage of anglers who are unaware of contamination. Contamination awareness among subsistence anglers decreased from 80% in the 2023 FCEC summary to 69% in the 2024 FCEC summary.

Figure C-4. Anglers at Pier J along the Palos Verdes Shelf site in Long Beach, California.

Many businesses near the Palos Verdes Shelf site are part of the commercial fishing industry, including bait shops, wholesale companies and sport fishing charters. Sport fishing charters along the Palos Verdes Shelf site are an integral part of the county's commercial fishing economy, attracting community members and visitors who pay to fish. Commercial fishing businesses such as Gail Force – Triton Sportfishing and Redondo Beach Sportfishing take people on chartered excursions. Many bait-and-tackle shops sell to commercial anglers. Other businesses focus solely on the wholesale fish industry. For example, the seafood wholesaler J DeLuca Fish Company Inc. in San Pedro markets sardines, squid, mackerel, anchovies and tuna from daily catches. Commercial fishing businesses sell to restaurants in the area such as the Blue Water Grill in Redondo Beach.

Commercial fishing is regulated by the California Department of Fish and Wildlife and includes a catch ban area at the Palos Verdes Shelf site. Additionally, the California Department of Fish and Wildlife inspects commercial fishing businesses and restaurants that sell fish to prevent the catch and sale of contaminated fish.

Educating commercial and subsistence anglers about contaminated fish continues to play an important role in keeping the community safe. The FCEC provides commercial and subsistence anglers with information on native fish that are safe to eat, and the species impacted by site contamination via multilingual tip cards and weekly angler outreach at nine fishing piers along the coast of Los Angeles from Santa Monica, California to Seal Beach, California. The FCEC also shares state fishing laws, bans and regulations with anglers through regular public outreach activities and its website, www.pvsfish.org. The FCEC also participates in local community events to raise fish contamination awareness.

Figure C-5. FCEC angler outreach activities.

Overview of Surrounding Los Angeles County Angler Communities

This section of the Community Profile focuses on three communities with high angler activity – San Pedro, Hawthorne and Monterey Park – near the Palos Verdes Shelf site. These communities were prioritized for in-depth analysis because many anglers fishing from local piers travel from these areas. The EPA chose them based on research indicating that many people in these communities fish or consume fish caught near the site. The community of San Pedro is less than 2 miles from the coast. Hawthorne is 4 miles from the coast. Monterey Park is further inland, 20 miles from the coast. All three communities are within 25 miles of each other, with Monterey Park located furthest north.

On average, the three communities with high angler activity speak limited English, have higher percentages of low-income wages and have lower rates of health insurance coverage. Table 1 lists key community information alongside county and state data. The following subsections share more detailed information about each of the communities.

Table 1: Key Community Information Compared with County and State Data.[1]

Community Information	San Pedro Area	Hawthorne Area	Monterey Park Area	Los Angeles County	State of California[2]
Population	46,549	55,936	38,413	9,936,690	39,356,104
Households	17,144	18,220	12,664	3,363,093	14,424,442
Owner Occupied	26%	22%	40%	46%	56%
Identifying as Hispanic	62%	61%	20%	49%	40%
Identifying as White	23%	8%	4%	25%	48%
Identifying as Black	5%	22%	1%	8%	6%
Identifying as Asian	5%	6%	73%	15%	15%
Limited English Proficiency Households	12%	11%	36%	12%	8%
Per Capita Income	$36,260	$30,839	$33,715	$41,847	$45,591
Low Income	39%	37%	42%	32%	28%
Unemployment	7%	8%	6%	7%	6%
Lack of Health Insurance	12%	12%	6%	9%	7%
Less than High School Education	21%	24%	26%	20%	16%
Ages 1-18	22%	25%	16%	21%	22%
Ages 18 and up	78%	75%	84%	79%	78%
Ages 65 and up	13%	9%	21%	14%	15%

1 Data in Table 1 are from the U.S. Census Bureau and EPA software. Data for the three communities reflect populations that are at high-risk from site related contamination. The Sources section provides more information.

2 State demographics data for Hispanic, White, Black and Asian populations together total to 109% of the areas' population; this is likely due to people identifying with more than one demographic category.

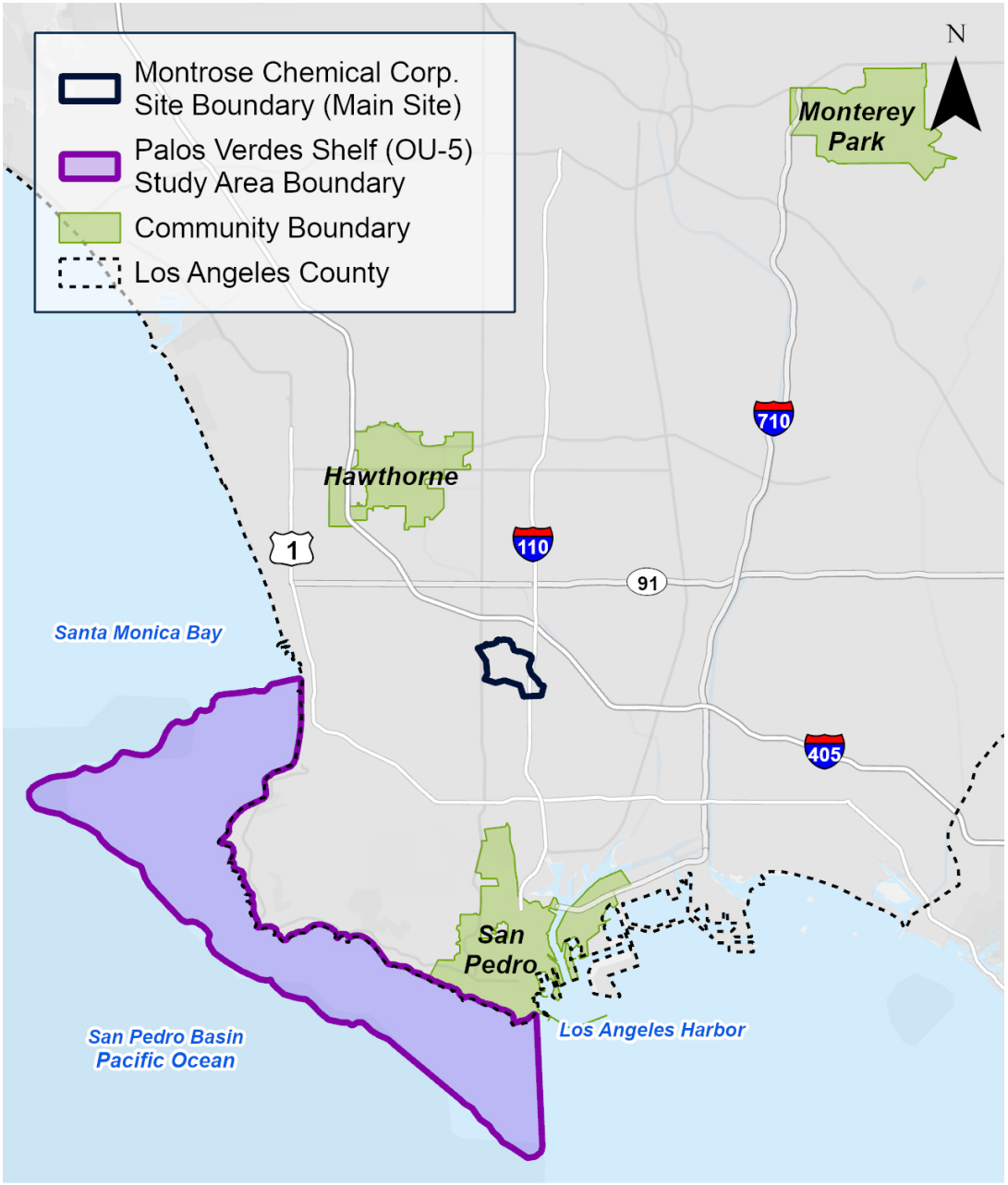


Figure C-6. Map showing angler communities in relation to the Palos Verdes Shelf site and the Montrose Chemical Corp. Superfund site.

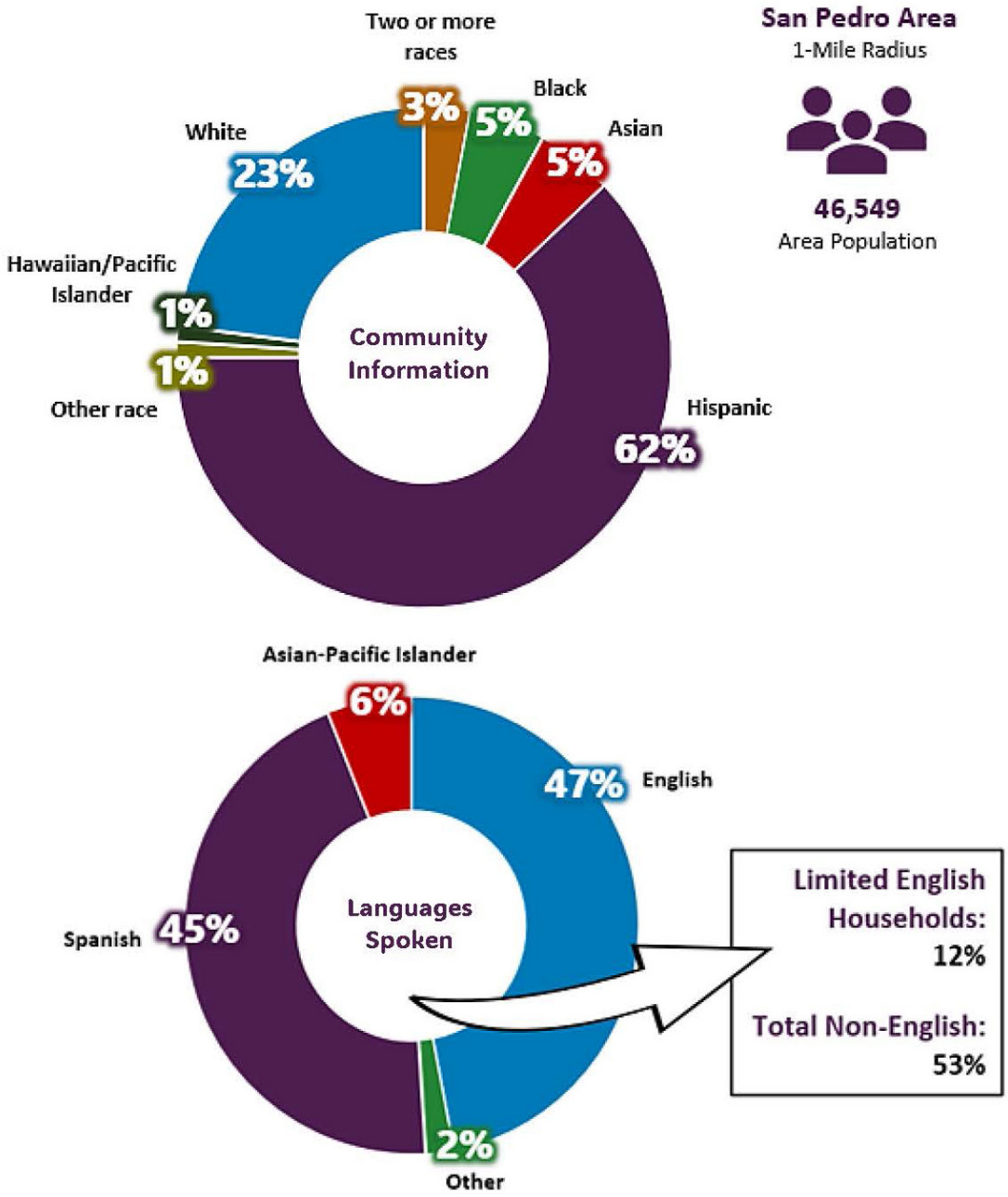
The San Pedro Area

San Pedro is a neighborhood at the southern end of the Palos Verdes Peninsula, about 20 miles south of downtown Los Angeles. The peninsula was home to the Gabrielino-Tongva people for thousands of years, some of whom continue to reside in the area. The Spanish were active in the area starting in the 1540s, with the harbor eventually becoming a trading post used by Spanish monks from Mission San Gabriel Arcángel. Over time, the waterfront developed into a port with shipyards, dry docks, fish canneries and oil refineries. Recognizing the growth opportunities associated with San Pedro's port, the City of Los Angeles officially annexed San Pedro in 1909.

As San Pedro became a prominent port, the area's population grew. Today, it is home to the largest Italian American community in southern California and is also known for its maritime sites such as the Battleship USS Iowa, the Korean Bell and the Point Fermin Lighthouse. Anglers have access to prominent piers such as the Cabrillo Pier for fishing (Figure C-7).

Within a 1-mile radius of San Pedro, about 50,000 people live in about 17,00 homes. The neighborhood has a higher percentage of low-income people at 39% of the population, higher than the county and state averages of 32% and 28%, respectively. Homeownership, reported at 26%, is below the county and state averages of 46% and 56%, respectively. The affected community is predominantly Hispanic (62% of the population), with 5% of people identifying as Asian, 23% as White and 5% as Black. In addition, 12% of the community lacks health insurance, compared to the state average of 7%. The unemployment rate in the San Pedro area is 7%, matching the county average and higher than the state average (6%).

Figure C-7. Cabrillo Pier, located along the Palos Verdes Shelf site in the San Pedro neighborhood.


San Pedro Area
1-Mile Radius
46,549
Area Population
Community Information
Two or more races
3%
Black
5%
Asian
5%
White
23%
Hawaiian/Pacific Islander
1%
1%
Other race
Hispanic
62%
Languages Spoken
Asian-Pacific Islander
6%
47%
English
Spanish
45%
2%
Other
Limited English Households:
12%
Total Non-English:
53%

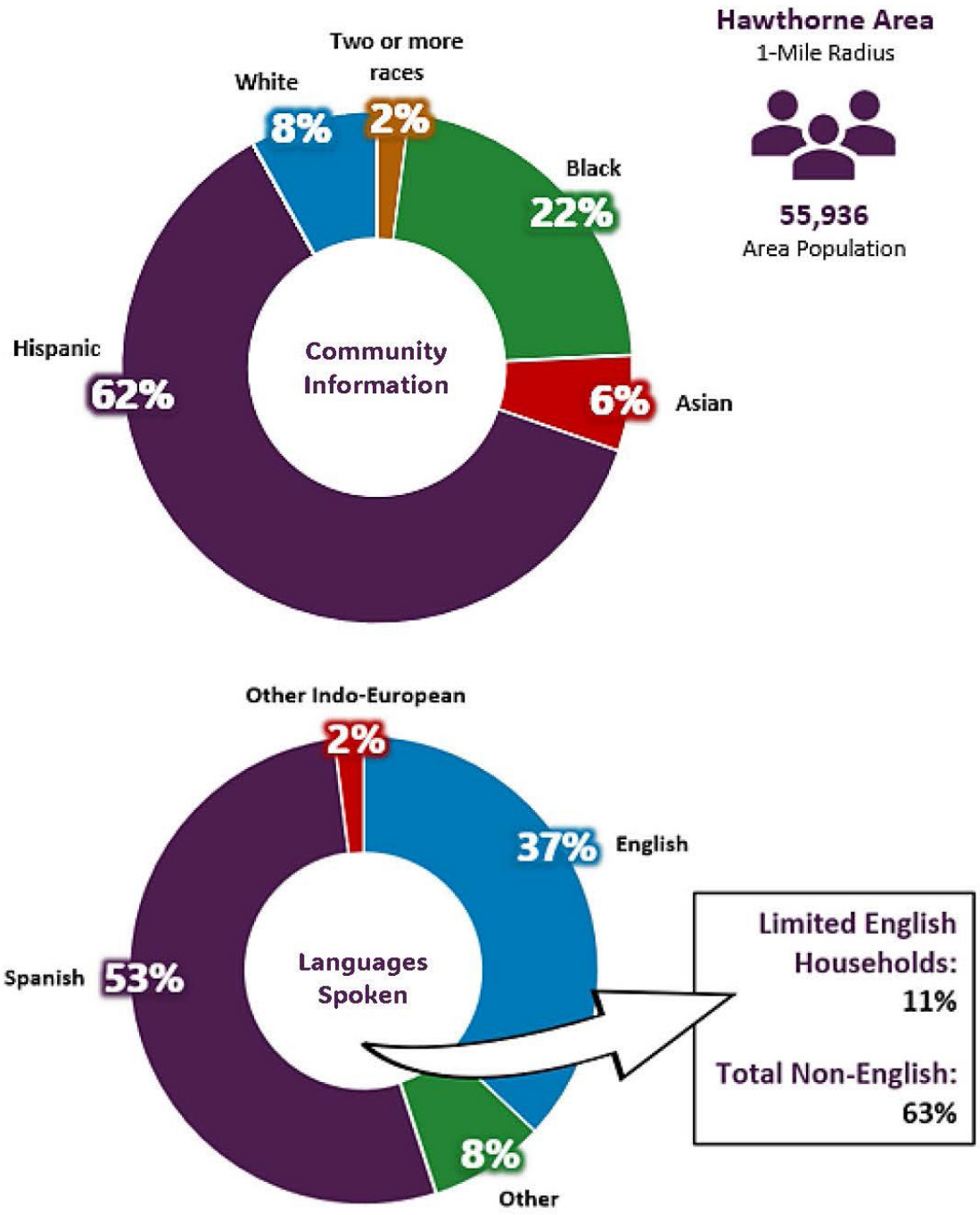
The Hawthorne Area

The city of Hawthorne is about 11 miles southwest of Los Angeles. Record of the area dates back to the mid-1500s, when the first native peoples to inhabit the land belonged to the Shoshone Indian Tribe. Present-day Hawthorne was once a part of the Sausal Redondo, a land concession established by the Mexican government. The area hosted extensive farming and ranching operations. Development of the city began in 1905. B.L. Harding and H.D. Lombard created the Hawthorne Improvement Company and named the city after the novelist Nathaniel Hawthorne. The city officially incorporated in 1922 and continued to grow steadily over time.

Today, Hawthorne is known as the "City of Good Neighbors." It is near Los Angeles International Airport and connected by rail to the Port of Los Angeles and downtown Los Angeles. Community members have access to 12 public schools, from pre-kindergarten through high school, in the Hawthorne School District. The city supports a range of energy initiatives by providing community members access to opt into various forms of energy. Local anglers have access to bait and tackle shops such as Best Fishing Tackle.

Within a 1-mile radius of Hawthorne, about 56,000 people live in about 18,000 homes. The community has a higher percentage of low-income people at 37% of the population, higher than the county and state averages of 32% and 28%, respectively. Home ownership, reported at 22%, is below the county and state averages of 46% and 56%, respectively. The affected community is predominantly Hispanic (62% of the population), with 6% of people identifying as Asian, 8% as White and 22% as Black. In addition, 12% of the community lacks health insurance, compared to the state average of 7%. The unemployment rate for the Hawthorne area is 8%, higher than the county and state averages of 7% and 6%, respectively.

Figure C-8. Hawthorne City Hall. Source: Google Earth

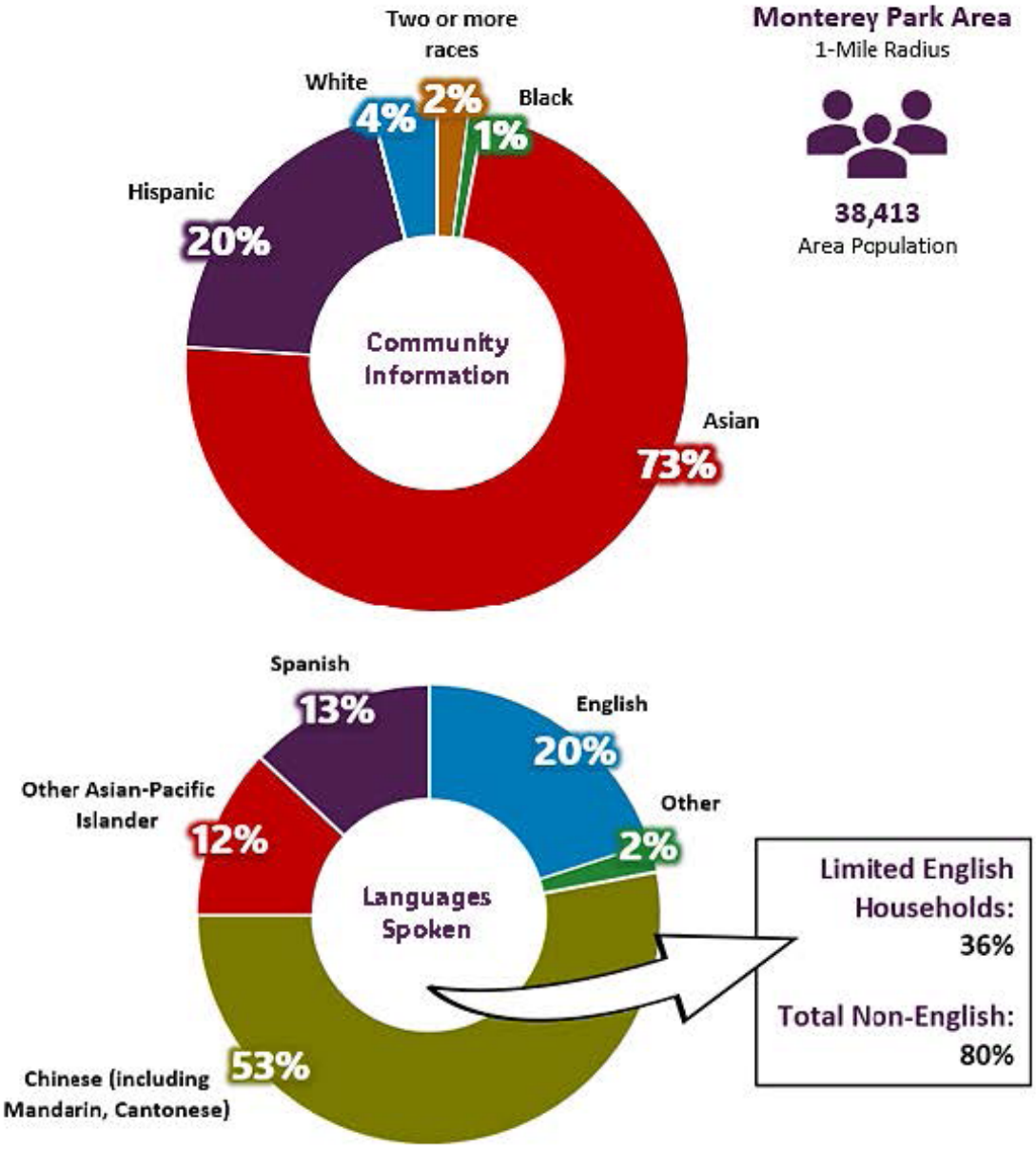

Hawthorne Area
1-Mile Radius
55,936
Area Population
Community Information
White
8%
Two or more races
2%
Black
22%
Asian
6%
Hispanic
62%
Languages Spoken
Other Indo-European
2%
English
37%
Spanish
53%
Other
8%
Limited English Households:
11%
Total Non-English:
63%

The Monterey Park Area

The city of Monterey Park is 7 miles east of Los Angeles. Like Hawthorne, the first peoples documented to have lived in Monterey Park were part of the Shoshone Indian Tribe, later called the Gabrielino Indians by the Spanish Army. In the early 1800s, the area was part of the Mission San Gabriel Arcángel and later known as Rancho San Antonio. An American mail rider named Richard Garvey helped develop the area. Garvey brought in spring water from the nearby Hondo River and constructed a dam to form Garvey Lake (present-day Garvey Ranch Park). In 1916, as more people began settling in the area, a sewage treatment facility was built between the area that would become Monterey Park and three neighboring cities. Monterey Park was officially incorporated as a city that same year. In 1920, the city's population continued to grow, as Asian immigrants arrived to farm potatoes and flowers. These early farmers made a living by selling and shipping their products to Los Angeles.

Today, Monterey Park is a vibrant and growing city. In 2017, Money Magazine selected it as one of America's best places to live and raise a family. Local restaurants include eateries, such as the NBC Seafood Restaurant, that feature local seafood. Local anglers have access to bait and tackle shops such as EZ Sporting Goods.

Within a 1-mile radius of Monterey Park, over 38,000 people live in about 12,500 homes. The community has a higher percentage of low-income people at 42% of the population, higher than the county and state averages of 32% and 28%, respectively. Homeownership, reported at 40%, is below the county and state averages of 46% and 56%, respectively. The affected community is predominantly Asian (73% of the population), with 20% of people identifying as Hispanic, 4% as White and 1% as Black. In addition, 6% of the community lacks health insurance, compared to the state average of 7%. The unemployment rate for the Monterey Park area is 6%, less than the county average of 7% and matching the state average.



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APPENDIX D: THE COMMUNITY INVOLVEMENT PLAN INTERVIEW QUESTIONNAIRE

HISTORY

1. Do you live/work in this area?
    a. If yes, how long have you lived/worked in this area?
    b. If not, what city do you live/work in?
2. Do you or your family eat fish caught from this area?
    If yes…
    a. What kinds of fish?
    b. For how long?
3. Are you aware of contamination related to the Palos Verdes Shelf? If yes, please talk about what you know about the contamination?
4. Are you familiar with the Palos Verdes Shelf Superfund Site?
    If yes…
    a. Are you aware of the U.S. EPA's work on the Palos Verdes Shelf and surrounding area?
    b. How and when did you first become aware of contamination associated with the Site?

CONCERNS

5. Do you have concerns about fishing in this area because of the contamination? If so, what are your concerns?
    If yes…
    a. What is your biggest concern?
    b. Do you know if anything has been done to address these concerns?

LEVEL OF CONFIDENCE

6. What has your experience been working with the U.S. EPA and any other government agencies or officials?
7. Have you had any experience with government agencies regarding this Palos Verdes Shelf Superfund Site?
a. If so, which agencies and what has your experience been like?
8. Do you feel you have been kept adequately informed or know where to find information on the Palos Verdes Shelf Superfund Site?
9. What do you think has worked to keep people informed about the Site and what hasn't worked?

COMMUNITY COMMUNICATION AND INVOLVEMENT

10. Are you familiar with the Fish Contamination Education Collaborative?
    a. If so, when and how did you hear about them?
11. Are you familiar with the Fish Contamination Education Collaborative outreach materials (e.g., pier signs, tip cards, community booths, etc.)?
    If yes…
    a. Are these materials helpful to you?
    b. Is the information clear and easy to understand?
    c. Do you have any recommendations on how to improve these materials?
12. How do you feel about the level of community involvement and outreach from the Collaborative to the residences and businesses affected by the Palos Verdes Superfund Site?
13. How are you currently receiving information about the Palos Verdes Superfund Site?
    a. Whom do you contact with questions about the Site? How responsive are they to your questions?
    b. Are you on the Site's email or mailing list? Would you like to be?
14. What is the best way for the U.S. EPA to provide you with information about the Palos Verdes Shelf Site clean-up? Check all that apply.
    A) Fact sheets____
    B) Public meeting/open house____
    C) Through community groups____
    D) Website____
    E) Hard-copy mailer____
    F) Emails____
    G) Social media____
    H) Other____
15. How do you typically access information about local issues?
    A) Newspaper? If so, which ones? Do you typically access the paper via on-line, hard copy or both?
    B) Radio? If so, which stations?
    C) Social media? If so, which sites/pages/platform?
    D) TV, If so, which stations or channels?
    E) Newsletter or other method? If so, please describe.
16. How can the U.S. EPA improve its communication program with the people that fish in this area?
17. What days and location would be best for public meetings? What days/times should we avoid?
18. Are you aware of any language translation or interpretation needs for people that fish in this area? If yes, which language(s)?
19. Have you ever tried accessing U.S. EPA's webpage or Palos Verdes Shelf website for any site information?
    a. If yes, please explain.
20. Are there other individuals or groups you recommend we contact about the Site?
    a. If yes, please explain.
21. Is there anything else you would like to share related to this topic?

SUMMER 2025

www.epa.gov/superfund/montrose

Palos Verdes Shelf Site
COMMUNITY INVOLVEMENT PLAN

Anglers fishing from Belmont Veterans Memorial Pier in Long Beach, California.