



Mariners Guide 2013



THE PORT 
OF LOS ANGELES

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The data contained herein is provided only for general informational purposes and no reliance should be placed upon it for determining the course of conduct by any user of the Port of Los Angeles. The accuracy of statistical data is not assured by this Port, as it has been furnished by outside agencies and sources.

Acceptance of Port of Los Angeles Pilot Service is pursuant to all the terms, conditions and restrictions of the Port of Los Angeles Tariff and any amendments thereto.

WELCOME TO THE PORT OF LOS ANGELES!

The Port of Los Angeles, America's Port® and the premier gateway for international commerce, is located in San Pedro Bay, 20 miles south of downtown Los Angeles. This thriving seaport not only sustains its competitive edge with record-setting cargo operations, but is also known for its groundbreaking environmental initiatives, progressive security measures, diverse recreational and educational facilities, and LA's emerging waterfront destination.

The Port of Los Angeles encompasses 7,500 acres of land and water along 43 miles of waterfront. It features 24 passenger and cargo terminals, including automobile, breakbulk, container, dry and liquid bulk, and warehouse facilities that handle billions of dollars' worth of cargo each year.

Against the backdrop of international trade and shipping, the Port of Los Angeles also boasts the World Cruise Center, quaint Ports O' Call Village, welcoming Vincent Thomas Bridge, signature Fanfare Fountains and Water Features, historic Angels Gate Lighthouse, vintage Waterfront Red Car Line, and new green space at 22nd Street and Wilmington Waterfront parks. The Port is now home to two historic U.S. Naval ships open for public tours, the SS Lane Victory and USS Iowa. Also new to the LA Waterfront are WWII-era warehouses that have been transformed into CRAFTED at the Port of Los Angeles, a permanent craft marketplace, featuring local artists and designers.

Coming in 2103, the Downtown Harbor project will cut into approximately 1.2 acres of existing waterfront land along Harbor Boulevard between Fire Station 112 to the north and the L.A. Maritime Museum to the south. It will create a new harbor inlet for vessels to dock and approximately 700 linear feet of promenade. Surrounding the inlet will be a modern town square, featuring landscaping, lighting and expansive promenades, which is expected to be completed in 2014.

Complementing its busy terminal operations with green alternatives, the Port of Los Angeles remains committed to managing resources and conducting developments and operations in both an environmentally and fiscally responsible manner. With an exceptional credit record, the Port maintains an AA bond rating, the highest rating attainable for self-funded ports. The Port also wields tremendous economic impact, generating employment for more than 3 million Americans nationwide. In California alone, nearly 1 million jobs are related to trade through the Port of Los Angeles.

Final Phase of Main Channel Deepening Project

The Port of Los Angeles is in the final phase of its 13-year, \$370 million Main Channel Deepening Project (MCDP). After a five-year break in the project to identify and environmentally assess additional disposal sites for the soil dredged up by deepening the Port's main waterways, a designated outer harbor location directly west of Angel's Gate, was identified as a containment area to hold clean dredge material and expand the Port's thriving outer harbor shallow water habitat by an additional 50 acres.

Completing the final phase of the Main Channel Deepening Project by 2013 is critical to future trade growth and job creation at the Port of Los Angeles, especially in light of the completion of the Panama Canal expansion in 2014. The widening of the Panama Canal will enable it to accommodate the larger ships that routinely call at L.A. and other major west coast ports, providing an all-water route to Gulf and East Coast destinations.

The Port of Los Angeles has \$350 million in terminal expansion projects currently underway at its China Shipping and TraPac container facilities. Resumption of the Main Channel Deepening Project has been a key element to delivering those projects on schedule. Channel deepening will also be completed in waterways leading to the Yusen/NYK, Evergreen and Yang Ming container terminals, as well as the presently vacant terminal at Berths 206-209.



For more information about the Port of Los Angeles, please visit www.portoflosangeles.org.

LOS ANGELES PILOT SERVICE

The Los Angeles Pilot Service dates back to 1907, when the Port of Los Angeles was founded. Today, the Pilot Service employs 29 dedicated professionals, combining the skills of pilots, dispatchers and boat crew to provide expert pilotage services to Port of Los Angeles customers.

The mission of the Los Angeles Pilot Service is to provide safe, reliable and efficient pilotage and marine services. Over the last decade, the Los Angeles Pilots have safely completed more than 55,000 vessel movements. They are among the best-trained pilots in the maritime industry. After a rigorous two-year training program, each pilot attends manned-model shiphandling courses in Grenoble, France, once every four years. Each pilot also attends ship simulator training every two years.

LOS ANGELES PILOT SERVICE

Bent Christiansen, Chief Port Pilot

Michael Rubino, Chief Port Pilot

Pilots

John Arndt
William Baumann
John Betz
Richard Crowley
Kerry DeMatos
John Dwyer
Craig Flinn
Jeffrey Lee
Joe Manlove
Brett McDaniel
Michael Owens
Richard Rauhut
Ed Royles

Management Assistant

Don McLaurin

Dispatchers

Beth Adamik
Kathleen Bautista
James Dixon
Pauline Hospe
Cherie Ivers

Boat Operators

John Cameron
Danny Domingo
Raymond Maese
Alex Suarez

Deckhands

Debora Biron
Kirk Bosco
Robin Craigen
Garrick Gilham
Ryan Ruppert

PORT OF LOS ANGELES PILOT SERVICE

Berth 68 • San Pedro
(310) 732-3805
dispatcher@portla.org
VHF Radio Channel 73 (156.675 MHz)
Call: KEB260 Los Angeles Pilots

The Los Angeles Pilot Station is manned 24 hours a day.

Pilots board arriving vessels from the pilot boat in the vicinity of Los Angeles Channel RACON Buoy #3. Tank vessels will be boarded at least two nautical miles from the Los Angeles entrance. Deep-draft vessels (draft more than 55 feet) will be boarded in the vicinity of Los Angeles Channel Buoy #1.

Under normal weather conditions, the pilot ladder should be rigged on the starboard side one meter above water.

A minimum of two hours' advance notice is required for Port Pilot service.

Masters or agents are requested to advise the Pilot Station when there is a change in the arrival or sailing time.

COMMUNICATIONS

Operational communications in the Los Angeles/Long Beach harbor area are conducted by marine VHF radio and commercial telephone from five principal nodes: VTS, Los Angeles Port Pilot Service, Long Beach Pilots, Port of Long Beach Security and the U.S. Coast Guard Long Beach. All users are encouraged to minimize voice traffic on all channels, maintain circuit discipline and broadcast on "low power" whenever possible.

FIRE ALARM SIGNAL

All Vessels Except Those Underway

Five prolonged blasts on whistle or siren.

Repeat at intervals to attract attention.

**TELEPHONE LOS ANGELES FIRE DEPARTMENT
DISPATCH CENTER (non-emergencies) – (213) 485-6185**

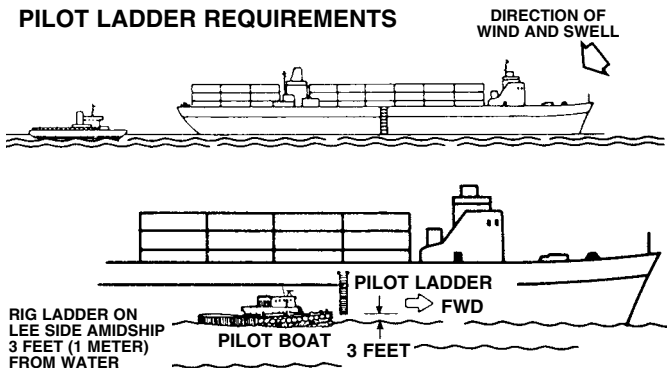
EMERGENCIES–911

PILOT LADDER REQUIREMENTS

Pilot Ladder Requirements for Los Angeles Pilots in Addition to SOLAS Regulation 17, Chapter 5.

- a) Please contact Los Angeles Pilots KEB260 by VHF Radio Channel 73 a minimum of two hours prior to arrival to confirm estimated time of arrival and for information regarding desired lee.
- b) Rigging of the pilot ladder, as well as the embarking or disembarking of the pilot, should be under supervision of a responsible officer.
- c) The ladder should be made in one length and fitted with spreaders approximately 10 feet apart to comply with SOLAS, Chapter V, Regulation 23.
- d) The area of the deck where the pilot boards should be clear of obstacles to ensure a safe passage for the pilot.
- e) Trailing lines or retrieving lines should not be attached to the lower end of the ladder.
- f) Ladders should be rigged well clear of discharge and water outlets and at a place near midship clear of the finer lines of the vessel. At no time should the ladder be rigged near the stern of the ship.
- g) The ladder should be in good condition and rigged so that the steps remain horizontal when used.
- h) Accommodation ladders must not be used for pilot boarding or disembarking.

PILOT LADDER REQUIREMENTS



RIGGING FOR FREEBOARDS OF 9 METERS OR LESS

HANDHOLD STANCHIONS

Min. diam. 32mm
120cm above bulwark
min. 70cm max. 80cm apart

NO MAN-ROPES

SPREADER

Min. 180 cm long

STEPS

Must rest against ship side. Always on flat side of ship.

Steps must be min. 40 cm wide and 30 cm to 38 cm apart.

5th step must be a spreader.

Max. 8 steps between spreaders

HEIGHT

1 meter above water

PILOT

RADIO COMMUNICATIONS

Los Angeles/Long Beach Area VHF Radio

PRINCIPAL OPERATING CHANNELS

Station	Channel	Frequency
Bridge to Bridge.....	13.....	156.650 MHz
Noncommercial Calling.....	9.....	156.450 MHz
Distress Safety and Calling.....	16.....	156.800 MHz
Vessel Traffic Information Service....	14.....	156.700 MHz
Los Angeles Port Pilots	73.....	156.675 MHz
.....	63A.....	156.175 MHz
Long Beach Port Pilots.....	74.....	156.725 MHz
.....	12.....	156.600 MHz
U.S. Coast Guard	16.....	156.800 MHz
.....	12 (Secondary)	156.600 MHz
U.S. Navy	12 (Primary)	156.600 MHz
.....	65A (Secondary)...	156.275 MHz
Harbor Tugs	77 (Primary LA).....	156.875 MHz
.....	5A (Primary LB)	156.250 MHz
.....	65A (Secondary)...	156.275 MHz
Intership Safety	6.....	156.300 MHz
LA Port Police.....	16.....	156.800 MHz

INFORMATION SOURCES - WEBSITES

L.A. Pilot

<http://www.lapilots.org>

Port of Los Angeles

<http://www.portoflosangeles.org>

Port of Los Angeles Tariff

http://www.portoflosangeles.org/finance/tariff_4.asp

Marine Exchange of Southern California

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

VTS Users Manual

<http://www.mxsocal.org/vessel-traffic-service/vts-user-manual.aspx>

Meteorological information for Los Angeles and Long Beach Harbors

<http://www.co-ops.nos.noaa.gov/IIAIIIMET.html>

United States Coast Guard Los Angeles

<http://homeport.uscg.mil/lalb>

LAND LINE TELEPHONE NUMBERS

American Marine Corp.....	(310) 832-3321/(310) 547-0919
AMNAV Marine Services.....	(310) 901-3383
Badger Avenue Bridge.....	(310) 830-0660
Cal. Dept. of Fish & Game Marine Region 5.....	(858) 467-4201
Commodore Heim Bridge.....	(562) 436-0714
Crowley Marine Services.....	(206) 332-8201
Curtin Maritime Corp.....	(562) 343-3170
Foss Maritime Co.....	(562) 435-0171
Immigration & Customs Enforcement.....	(562) 624-3800
.....	(310) 547-3365
Jankovich Company.....	(800) 836-5355
Long Beach Pilots.....	(562) 432-0664
Los Angeles Pilots.....	(310) 732-3805
Marine Exchange.....	(310) 832-6411
Millennium Maritime Inc.....	(310) 549-1700
Muldoon Marine Services, Inc.....	(562) 432-5670
National Lines Bureau.....	(310) 832-8387
Pacific Tugboat Service.....	(562) 590-8188
Port Meteorological Officer.....	(562) 980-4090
Public Service Marine Inc.....	(310) 445-1700
Sause Bros. Ocean Towing.....	(562) 901-0365/(800) 662-0365
Seaway Co. of Catalina.....	(310) 518-7099
So. Cal. Ship Services.....	(310) 519-8411
U.S. Coast Guard	
Captain of the Port.....	(310) 521-3600
Waterways Management.....	(310) 521-3860
Vessel Inspections (Domestic).....	(310) 521-3725
Vessel Inspections (International).....	(310) 521-3705
Regional Exam Center.....	(562) 495-1480
24-Hour Emergency.....	(800) 221-USCG
Environmental Response.....	(310) 521-3780
Facilities/Container Inspections.....	(310) 521-3745
Investigations.....	(310) 521-3770
USDA-Agriculture	
Long Beach.....	(562) 628-8900
Hawthorne.....	(310) 725-1900
U.S. Customs-Marine Section.....	(562) 980-3220
U.S. Water Taxi.....	(310) 519-8230
Westoil Marine Services Inc.....	(310) 445-1700

LOS ANGELES HARBOR DEPARTMENT

General Information.....	(310) 732-7678/TDD
Executive Offices.....	(310) 732-3456
Chief Wharfinger.....	(310) 732-3810
Port Police.....	(310) 732-3500
Port Pilots.....	(310) 732-3805

POLICE AND FIRE EMERGENCY NUMBERS 911

TUGS, WATER TAXIS AND SALVAGE

AMERICAN MARINE CORP. (310) 832-3321
Berths 270-271, 1500 S. Barracuda St., Terminal Island

AMNAV MARINE SERVICES (310) 901-3383
100 Pine Ave., Ste. 804, Long Beach

CROWLEY MARINE SERVICES (206) 332-8201
Berth 86, 300 S. Harbor Blvd., San Pedro

CURTIN MARITIME CORP. (562) 343-3170
Berth 57, 1500 Pier C, Long Beach

FOSS MARITIME CO. (562) 435-0171
Berth 35, Pier D St., Long Beach

MILLENNIUM MARITIME INC. (310) 549-1700
Berth 301, 1610 Barracuda, San Pedro

MULDOON MARINE SERVICES, INC. (562) 432-5670
716 West 14th St., Long Beach

PACIFIC TUGBOAT SERVICE, INC. (562) 590-8188
Berth C-58, 1512 W. Pier C St., Long Beach

PUBLIC SERVICE MARINE INC. (310) 445-1700
Berth 301, 1610 Barracuda, San Pedro

SAUSE BROS. OCEAN TOWING. (562) 901-0365
1607 W. Pier D St., Long Beach

SEAWAY CO. OF CATALINA. (310) 518-7099
Berth 184, 100 W. Water St., Wilmington

SO. CAL. SHIP SERVICES (310) 519-8411
Berth 240X, 971 S. Seaside Ave., Terminal Island

U.S. WATER TAXI. (310) 519-8230
Berth 60, San Pedro

WESTOIL MARINE SERVICES INC. (310) 445-1700
Berth 301, 1610 Barracuda, San Pedro

ENVIRONMENTAL NOTICE TO SHIPS EXCESSIVE SMOKE/BOILER TUBE BLOWING

If boiler tube blowing results in soot being deposited in such quantities as to create a nuisance, Section 41700 of the California Health and Safety Code will be enforced. Section 41700 provides that no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Furthermore, as provided in Section 41701 of the California Health and Safety Code, it shall be unlawful for any person from any source whatsoever to discharge into the atmosphere any contaminant, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated as No. 2 on the Ringelmann Chart, as published by the United States Bureau of Mines.

VESSEL SPEED REDUCTION PROGRAM

LeadingFirst established in 2001, the Vessel Speed Reduction Program is a voluntary program designed to reduce smog-forming emissions from ocean-going vessels that slow their speeds as they approach or depart the Port, generally at 20 nautical miles from Point Fermin. Some participants have extended this voluntary speed limit to 40 nautical miles. Vessel speeds are monitored by the Marine Exchange of Southern California. For more information, call (310) 832-6411.

ENVIRONMENTAL SHIP INDEX PROGRAM

The Port of Los Angeles' (Port) Voluntary Environmental Ship Index Program has been developed to reward vessel operators for reducing Diesel Particulate Matter (DPM) and nitrogen oxide (NOx) emissions from their ocean-going vessels (OGVs). This program rewards operators for going beyond compliance by bringing their newest and cleanest vessels to the Port and demonstrating technologies onboard their vessels. It also encourages use of cleaner technology and practices in advance of regulations.

OGVs are the single largest source of Southern California goods movement air emissions and they make up approximately half of all port-related air emissions. Since 2005, voluntary emission reduction programs have yielded substantial reductions. However, based on current forecasts, the Port needs additional emission reductions to meet goals established in the Clean Air Action Plan. By 2023, this plan calls for 77 percent DPM reductions and 59 percent NOx reductions.

There are three incentive opportunities within this ESI program. To be eligible for these incentives, operators must register with the international ESI. To receive the incentive payment, operators also must register with the Los Angeles Harbor Department (LAHD). Registration is free, and the incentive grant is paid on a quarterly basis. For registration information, visit www.portoflosangeles.org.

POLLUTION REGULATIONS

Los Angeles Harbor is one of the cleanest in the world due to extensive efforts to combat water pollution. Anti-pollution regulations at the Port of Los Angeles are strictly enforced. It is unlawful to discharge oil into the water in any quantity sufficient to cause a sheen. All discharges of oil must be reported immediately to the National Response Center (NRC) at (800) 424-8802. If unable to reach NRC, you can contact the local Coast Guard unit at (562) 521-3780 or on VHF/FM Channel 16. Also notify the California Office of Emergency Services at (800) 852-7550.

BALLAST WATER

The unintentional introduction of non-native organisms can create serious ecological problems and cause economic harm. California state law requires open ocean exchange of ballast water for ships that will be discharging ballast water into California waters after operating outside the EEZ (Exclusive Economic Zone) unless safety considerations do not permit such exchange. Ballast water reporting forms must be filed for a ship making its first call at a California port after operating outside the EEZ. Reports are due to the California State Lands Commission after ballasting operations are completed and before the ship leaves port. The California State Board of Equalization, Environmental Fees Division, collects a \$200 fee for each qualifying voyage. Contact the California State Lands Commission at (562) 499-6312 for further information on state requirements.

In addition, a ballast water reporting form must be filed with the U. S. Coast Guard at the first U.S. port of call. Other federal requirements may apply. Contact the U. S. Coast Guard at (310) 521-3600 for more information.

VESSEL OPERATING PROCEDURES

The LA/LB Harbor Safety Plan (HSP) contains operating procedures for vessels. An electronic copy of the HSP can be seen on the Marine Exchange website at www.mxsocial.org. All of the procedures are considered Good Marine Practice, but some are regulations (either local, state or federal) while others are non-regulatory “Standards of Care.” These Vessel Operating Procedures have been extracted from the main text of the HSP in order to create a helpful “Quick Reference Guide” containing the most important information necessary for safe, reliable and environmentally sound vessel movements in and around the port area. These Vessel Operating Procedures list only the basics. Additional and more detailed information can be found in HSP chapters addressing each topic. Port tariffs also contain requirements for vessels operating in and around the port. Familiarization and compliance with the Harbor Safety Plan and the port tariff(s) are a must!

Nothing in these procedures precludes a master and/or pilot from taking necessary and prudent actions to avoid or mitigate unsafe conditions.

Important General Information

Pilot Requirements: Local port tariffs require vessels of greater than 300 gross tons to use a federally-licensed pilot whenever navigating inside the Federal Breakwater. In most circumstances, vessels employ the services of a federally-licensed local pilot from the Los Angeles Pilot Service (for the Port of Los Angeles) or Jacobsen Pilot Service (for the Port of Long Beach). In instances where a local pilot is not used, Masters must have a local federal pilot license and receive approval from the Coast Guard Captain of the Port (COTP) prior to entering or departing port. Vessels are required (outbound vessels: 15 minutes prior to getting underway; inbound vessels: 15 minutes prior to entering the Federal Breakwater) to establish communications and coordinate movements with the appropriate local pilot organization and Vessel Traffic Service (VTS).

Equipment Failures

Vessels are required by law to report navigational equipment, propulsion, steering or other vital system failures as soon as possible to the Coast Guard via the COTP office or the Captain of the Port representative at VTS on Channel 14. The COTP will

require appropriate “equivalent levels of safety” provided by such things as:

1. Directing vessels to outside anchorage pending verification of repairs.
2. Proceed into port at safest slow speed with suitable tug escort/assist.
3. Second licensed navigation officer on the bridge for radar plotting, etc.
4. Sea trials performed to the satisfaction of the Master, pilot and COTP.

VESSEL TRAFFIC MANAGEMENT SYSTEM

Vessel traffic in the ports of and approaches to Los Angeles and Long Beach is managed by three entities:

1. Vessel Traffic Service – for the port approaches (25 nautical miles from Point Fermin to the Federal Breakwater).
2. Los Angeles Pilot Service – for the Port of Los Angeles.
3. Jacobsen Pilot Service – for the Port of Long Beach.

Vessel Traffic Service (VTS)

A VTS is in operation on the approaches to Los Angeles and Long Beach harbors. Operated jointly by the U.S. Coast Guard and the Marine Exchange, the VTS provides information about commercial, other vessel traffic and navigation safety. Covered vessels are required to participate in the VTS. The following are considered “Covered Mandatory Full Participant” vessels:

1. Every power-driven vessel of 40 meters (131 feet) or more in length, while navigating.
2. Commercial vessels 8 meters (26 feet) or more in length that are towing alongside, astern or by pushing ahead.
3. Every vessel certificated to carry 50 or more passengers for hire, while engaged in trade, under sail or power.

The following are considered “Mandatory Passive Participants”:

Every power-driven vessel 20 meters (65 feet) or more in length, every vessel 100 gross tons or more carrying one or more passengers for hire and every dredge or floating plant are required to monitor Channel 14 VHF/FM when operating in the VTS area.

Notes of Interest

1. The outer limit of the VTS AOR is defined by a 25-nm arc from Point Fermin (LAT 33 42.3'N, 118 17.6'W).
2. A minimum vessel separation of 1/4 nm is required in the Precautionary Area.
3. Code of Federal Regulations, CFR 33, Part 165, Subsection 165.1109, identifies portions of the Precautionary Area as a Regulated Navigation Area.

Arriving Vessels Upon Entering the 25-Mile Outer Limit

Call "San Pedro Traffic" on VHF/FM Channel 14 and provide the following information:

1. Vessel name/call sign
2. Position, course and speed
3. Vessel destination
4. State whether or not taking a pilot
5. Estimated time of arrival to the breakwater/anchorage
6. Tank vessels report their displacement

Contact Los Angeles Pilots on Channel 73 or Long Beach Pilots on Channel 12 to arrange pilot service.

Limit speed to 12 knots or less upon entry to the Precautionary Area.

Upon Entering the Precautionary Area

Call "San Pedro Traffic" and provide the following information:

1. Confirm vessel speed is 12 knots or less.
2. Confirm master is on the bridge.
3. Confirm vessel is in hand steering.
4. Confirm main propulsion has been successfully tested ahead and astern.
5. Maintain a minimum vessel separation of 1/4 nm.

Departing Vessels from Inside the Breakwater

15 minutes prior to getting underway, contact Los Angeles Pilots on Channel 73 or Long Beach Pilots on Channel 12 (depending on which harbor the vessel is in) to check into the traffic system. Provide vessel name, type, departure point, destination and intended route.

15 minutes prior to the breakwater entrance, call "San Pedro Traffic" on VHF/FM Channel 14. Breakwater entrances include Los Angeles Gate (LA), Long Beach Gate (LB) and Anaheim Bay (Naval Weapons Support Facility, Seal Beach). Provide the following:

1. Vessel name/call sign
2. Destination
3. Acknowledge VTS traffic report
4. Report departure from Precautionary Area to VTS
5. If outbound, ETA to 25 nm from Point Fermin
6. Report departure from VTS at 25 nm limit

Maintain speed at 12 knots or less through Precautionary Area.

Sea Approaches – CAUTION

The Master's attention is directed to NOAA Chart nos. 18746 & 18749 or BA 1063 & 1082 regarding regulations for:

1. Passage of Los Angeles and Long Beach sea buoys
2. Transit of Los Angeles and Long Beach pilot boarding areas
3. Anchorage G, outside the Breakwater

VESSEL SPEED LIMITS

These speed restrictions do not preclude the master or pilot from adjusting speeds to avoid or mitigate unsafe conditions. Weather, vessel-maneuvering characteristics, traffic density, construction/dredging and other possible items should also be taken into account.

Tank Vessels

Precautionary area (approach to port) 12.0 kts

Between the seaward limits of the tank vessel escort zones and anywhere inside the Federal Breakwater (except where lower speed limits apply):

Less than 60,000 metric tonnes displacement..... 8.0 kts

60,000 metric tonnes displacement, or more 6.0 kts

Other Than Tank Vessels

Precautionary area (approach to port): 12.0 kts

Los Angeles (Port of Los Angeles Tariff):

Outer Harbor (between the breakwater and Reservation Point) if draft is greater than 1.5 meters: 10.0 kts

Everywhere else in the harbor..... 6.0 kts

See Port Tariff for speed limits for vessels that have drafts of 5 feet or 1.5 meters or less.

Port of Los Angeles Tariff No.4 is available online at: www.portoflosangeles.org

Long Beach (Port of Long Beach Tariff):

Within the Main Channel between the breakwater entrance and Long Beach Channel Lights 10.0 kts

Everywhere else in the harbor:..... 6.0 kts

INCLEMENT WEATHER STANDARDS OF CARE FOR VESSEL MOVEMENTS

Inclement weather requires heightened awareness and vigilance. This section is intended to provide clear guidance to mariners as to what is expected of them when navigating in inclement weather in the area covered by the LALB Harbor Safety Plan. Nothing in this section shall be construed to require the master of a vessel to commence a transit during inclement weather, nor does this section replace compliance with the COLREGS. It is recognized; however, *under certain circumstances, vessels may safely transit during inclement weather provided that equivalent safety levels are applied.*

This section defines inclement weather (both reduced visibility and high winds), provides guidance for determining whether or not to commence a vessel transit, and outlines minimum equivalent safety levels to be applied when transiting during inclement weather.

Standards of Care for Vessel Movements During Reduced Visibility

Reduced visibility requires that all mariners apply extra vigilant attention. This section is intended to provide clear guidance to mariners as to what is expected of them when navigating in reduced visibility in the area covered by the HSP. Nothing in this section shall be construed to require the Master of a vessel to commence a transit in reduced visibility, nor does this section replace compliance with COLREGS. It is recognized, however, that under certain circumstances, vessels may safely transit in reduced visibility provided that equivalent safety levels are employed. This section defines reduced visibility, provides guidance for use in determining whether or not to commence a vessel transit and outlines minimum equivalent levels of safety to be used when transiting in reduced visibility.

Background

It is important to understand the dynamics of the ports of Los Angeles and Long Beach, and their vessel traffic systems in order to anticipate what is expected from all levels of port users. Under a memorandum of agreement, vessel traffic management in the LA-LB area is divided into 3 zones handled by separate vessel traffic centers (VTC). The jointly operated Southern California Marine Exchange / Coast Guard Vessel Traffic Service functions as the VTC for traffic outside the federal breakwater, and out to 25 nautical miles from Point Fermin. Each respective pilot station (LA and LB) function as the VTC's for traffic inside the breakwater.

Definition of Inclement Weather

High Winds: Whenever the National Weather Service issues a “small craft advisory” for sustained winds of 21 to 33 knots potentially in combination with wave heights exceeding 10 feet (or wave steepness values exceeding local thresholds).

Restricted Visibility: Whenever conditions of visibility fall below the following:

- a. Tankers 150,000 DWT or greater: 1 nautical mile
- b. Tankers greater than 60,000 DWT, but less than 150,000 DWT: .75 nautical mile
- c. All other vessels 45' draft or more: .75 nautical mile
- d. All other tankers and petroleum barges: .5 nautical mile
- e. All other vessels: 3 times vessel's LOA
- f. All other vessels: 3 times vessel's LOA

Guidelines for Commencing a Transit During Inclement Weather

Vessel characteristics, navigational equipment and the availability of shoreside support must be considered when a movement is undertaken during inclement weather. Conditions of visibility and wind can vary considerably throughout the port complex at any given time and may impact the decision to proceed. While specific movement parameters are difficult, if not impossible, to define, it is recommended that mariners carefully consider commencing vessel movements inside the federal breakwater when conditions reach the defined thresholds listed above.

Piloted Vessel Guidelines

General: When inclement weather exists along a vessel's intended route:

- a. The respective pilot station management will be notified, and
- b. Prior to commencing a transit, the operating pilot will conduct a risk analysis that includes consultation with a second pilot. This expanded participation is a key risk reduction measure.

Reduced Visibility:

- a. When visibility inside the federal breakwater is less than 0.5 mile, the respective vessel traffic center (VTC) will impose one-way traffic restrictions when and where appropriate.
- b. When commencing a vessel movement in reduced visibility, as defined above, shoreside radar assistance and carry-on

enhanced navigational tools such as a Portable Pilot Unit (PPU) shall be readily available for use.

- c. When reduced visibility is encountered after commencing a transit, the operating pilot should take appropriate precautions to minimize the risk of collision. Precautions may include but are not limited to continuing the transit or anchoring, reducing speed, enlisting shore-based radar support and securing additional tug assistance.

High Winds: Vessel movements will proceed on a case by case basis. Depending on direction and force of wind, type and characteristics of the vessel, movements requiring more than 50 tons of force to hold the vessel against a wind on the beam shall be carefully considered. Below are examples of wind velocities acting on corresponding sail areas that would require 50 tons of counter force exerted by tugs and/or thrusters [formula: $(\text{total area}/1000) \times (V^2/18) = \text{wind effect in tons}$ where "V" is the wind speed in meters/second]:

- a. 1000 square meters – 60 knot
- b. 5000 square meters - 28 knots, and
- c. 10000 square meters - 18 knots

Non-Piloted Vessel Guidelines

It is recommended that all vessels develop, and follow, their own internal operating guidelines for inclement weather transits, including a provision for second opinion consultation.

Application of Equivalent Safety Levels

When a vessel master intends to commence a transit during inclement weather, at a minimum, the following equivalent safety levels should be adhered to:

- a. Vessels 1600 GT or greater:
 - i. When operating inside the federal breakwater be under the control of a USCG licensed pilot with the appropriate endorsement for the vessel and area of operation, and
 - ii. Have shore-based radar immediately available to assist the vessel.
- b. All vessel masters and pilots (if employed) should make a positive evaluation of the following:
 - i. The number of vessels transiting within the harbor and expected traffic concentrations,
 - ii. Planned transit speeds appropriate for the prevailing conditions,
 - iii. The maneuvering characteristics of the vessel,

- iv. The quality of the vessel's radar and navigation systems
- v. The vessel's size and draft in relation to the area to be transited,
- vi. Number, type and power of assist tugs,
- vii. Number and power of bow/stern thrusters available,
- viii. Maneuvering room at various stages of the transit,
- ix. Quality of the vessel's bridge team
- x. Special circumstances to be encountered (e.g. dredging projects, obstructions).
- xi. Wind direction in relation to planned maneuvers.

“Captain of the Port” (COTP) Notification of Intention to Move in Inclement Weather Without Applying Equivalent Safety Levels

Vessels 1600 GT or greater, that intend to commence a vessel transit during inclement weather without complying with the “Application of Equivalent Safety Levels” section above (including shore based radar support) shall make the following broadcast to the VTC on VHF Channel 14 at least 15 minutes prior to getting underway:

“Vessel name/call sign, making our inclement weather Captain of the Port notification, as per guidance within the Harbor Safety Plan, that we intend to transit from vessel location to intended destination.” In addition a safety broadcast will be made on Channel 13 and the vessel will coordinate its movement with the appropriate vessel traffic center.

Summary of Other Existing Measures

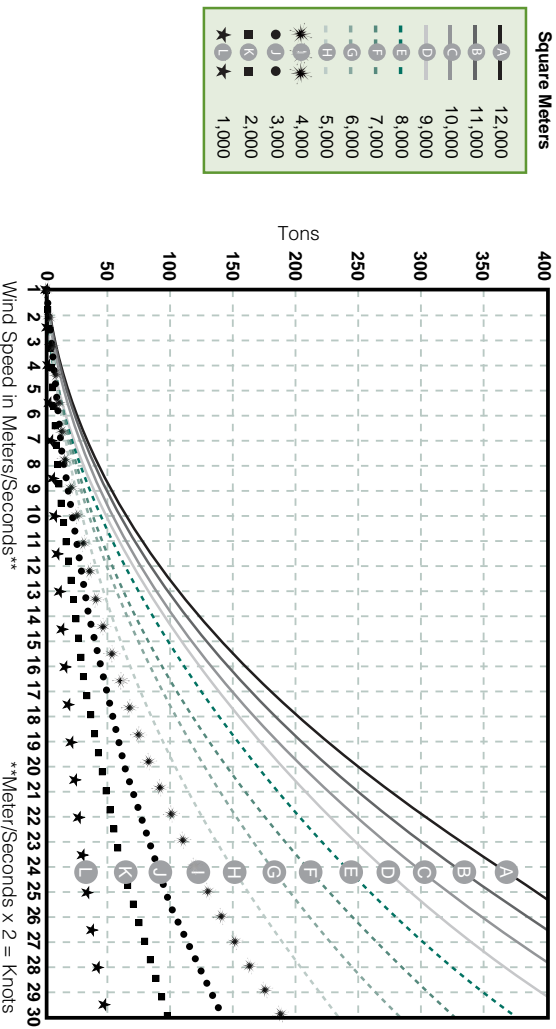
The following are non-encompassing examples of regulations or internal standards of care already followed by entities within the port during inclement weather:

- a. Federal Anchorage Regulations under 33 CFR 110.210, require all vessels greater than 1600 gross tons to have a licensed deck officer on watch at all times and to maintain a continuous radio listening watch. When wind conditions exceed 40 knots, these vessels shall ensure their propulsion plant is placed in immediate standby and a second anchor is made ready to let go. Vessels unable to comply are required to notify the COTP and may be required to have stand-by tugs.

- b. When winds exceed 40 knots, the VTC will maintain a heightened awareness for dragging anchors in the federal anchorages.
- c. The VTC will notify users of low visibility conditions (<1 nautical mile) along their intended track(s) outside the breakwater and advise them of targets they may encounter.
- d. The following organizations have their own internal guidelines for inclement weather:
 - i. Pilots: Pilot Operations Manuals prescribe a variety of criteria specific to vessel size and berth / port area.
 - ii. Ferry operators: High Speed Craft Operations Manuals contain guidance on wave heights.
 - iii. Small passenger vessels: some of these vessels have internal guidelines to curtail operations in heavy winds.
 - iv. Facilities regulated under 33 CFR Part 154 have wind criteria in their individual operations manuals for ceasing cargo operations and disconnecting cargo transfer equipment. In addition, the state of California has specific Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) which include inclement weather guidelines.

WIND FORCE CHART

"Force necessary to counter lateral wind pressure"
Wind Force in Tons



**Meter/Seconds x 2 = Knots

TUG ESCORT/ASSISTANCE FOR TANK VESSELS

Overview

“Tug Escort” refers to stationing tugs in proximity to a vessel during port transits to provide immediate assistance should a steering or propulsion failure occur. “Tug Assist” refers to positioning tugs alongside a vessel and applying force to assist making turns, reducing speed, providing propulsion and docking.

Tug Escort Applicability

State regulations require escort tug(s) to meet inbound, laden tank vessels (carrying 5,000 or more metric tons of oil in bulk as cargo) at the seaward limit of the applicable Tank Vessel Escort Zone. Also, all tank vessels shifting within the harbor(s) (including dock to anchor, anchor to anchor and dock to dock) must comply with the escort requirements. Assist tugs, in addition to the prescribed escort tugs, may be required during port transits. Outbound laden tank vessels are not required to use escort tugs once they have safely cleared the breakwater. Arrangements should be made via the vessel agent, tug company or appropriate pilot service to ensure compliance with these regulations

Three Tank Vessel Escort Zones are established as follows:

Zone 1: upon all waters within 2.0 nautical miles to seaward of the Federal Breakwater, escort tugs required for all laden tank vessels.

Zone 2: upon all waters in the approaches to the Port of Long Beach within 3.5 nautical miles to seaward of the Federal Breakwater, escort tugs required for all laden tank vessels with static deep draft greater than 16.5 meters.

Zone 3: upon all waters in the approaches to the Port of Los Angeles within 4.0 nautical miles to seaward of the Federal Breakwater, escort tugs required for all laden tank vessels with static deep draft greater than 14.0 meters.

Except for tank barge/primary towing units that have total displacements of 20,000 metric tons or less, escort tugs must be tethered.

Inbound, laden Oil and Chemical Tank Vessels shall not proceed closer than the seaward limit of the applicable Tank Vessel Escort Zone, as described in 851.22(c), unless the prescribed escort tug(s) are in position at the seaward limit of the applicable Tank Vessel Escort Zone. Masters shall also ensure that anchors are ready for letting go prior to entering the applicable Tank Vessel Escort Zone.

Prior to commencing an escorted transit, the tank vessel master/pilot shall hold a “pre-escort conference” that should at a minimum include:

1. contacting the escort tug operator to confirm the number and position of the escort tug(s); and
2. establishing the radio frequency to be used; and
3. establishing the destination of the tank vessel; and
4. discussing any other pertinent information that the master/pilot and escort tug operator deem necessary.

TANKER FORCE SELECTION MATRIX

Tanker Displacement	Forces For Tug(s) Tethered at the Stern (See Notes Below)
Metric Tons	Short Tons
0 to < 60,000	10
60,000 to < 100,000	20
100,000 to < 140,000	30
140,000 to < 180,000	40
180,000 to < 220,000	50
220,000 to < 260,000	62
260,000 to < 300,000	75
300,000 to < 340,000	87
340,000 to < 380,000	105
380,000 to < 420,000	128

Note 1: Ahead forces for tugs using stern lines (e.g., Voith-Schneider propeller - VSP tugs). Astern forces for tugs using headlines (e.g., azimuth stern drive – ASD tugs)

Note 2: The “Forces For Tugs” described in the Tanker Force Selection Matrix were evaluated in a water depth equal to 1.2 times the tanker’s deep draft for tankers with a displacement of less than 260,000 metric tons, and in a water depth equal to 1.1 times the tanker’s deep draft for tankers with a displacement equal to or greater than 260,000 metric tons.

All the escort tugs required to satisfy the Tanker Force Selection Matrix shall be tethered on the tanker’s stern.

The force requirements contained in this subchapter reflect favorable circumstances and conditions. The tanker master/pilot shall arrange for additional escort tug(s) should adverse weather conditions, unusual port congestion, the contemplated movement of the vessel or other conditions or circumstances so require.

TUGS EMPLOYED IN LA/LB

NAME	TOTAL	AHEAD BOLLARD PULL	ASTERN BOLLARD PULL
	HP (ADV)	(Short Tons)	(Short Tons)

CROWLEY MARINE SERVICES INC.

Admiral	4,800	50.84	44.72
Leader	4,730	58.94	45.44
Master.....	4,800	51.22	43.83
Scout	4,800	50.61	45.81

FOSS MARITIME

Alta June	5,000	67.10	64.0
Campbell Foss	5,000	62.65	61.35
Carolyn Dorothy	3,600	63.65	62.70
Arthur Foss	4,000		54.65
Morgan Foss	5,000	63.95	60.90
Pacific Explorer	4,300	58.0	58.0

MILLENNIUM MARITIME INC.

Millennium Dawn	4,400	64.25	54.50
Millennium Maverick.....	4,300	58.06	53.29
Millennium Star	4,400	64.60	59.40
Tim Quigg.....	3,698	49.64	45.18
John Quigg.....	3,600	49.30	45.52
Z Three	3,700	53.63	50.74

SAUSE BROTHERS

Arapaho.....	1,610	16.01	10.47
Laguna	1,610	20.07	12.83
Redondo.....	1,610	16.07	11.17
Solana.....	1,700	24.29	10.75

UNDERKEEL CLEARANCE

A. UNDERKEEL CLEARANCE: Under-keel clearance (UKC) means the minimum clearance available between the deepest point on the vessel and the bottom in still water.

UKC = (Charted Depth of Water + Height of Tide) – (Static Deep Draft)

Masters and pilots should use their vessel's deepest draft in still water when calculating UKC. Masters and pilots should apply a plus or minus allowance for the tide when calculating depth of water, and consider the following factors:

1. Vessel's trim and list characteristics;
2. Depth of the transit area;
4. Depth at the facility or anchorage;
5. Tide and current conditions; and
6. Weather impact on water depth.

In the Ports of Los Angeles and Long Beach, actual tide heights do not normally vary significantly from predicted tide heights. Nonetheless, real-time wind and tidal height information is available on the Internet at NOAA's P.O.R.T.S. website:

<http://tidesandcurrents.noaa.gov/ports/index.shtml?port=ll>

The master should discuss the vessel's anticipated UKC with the pilot.

B. MINIMUM UNDERKEEL CLEARANCE GUIDELINES FOR ALL VESSELS:

These guidelines for minimum UKC apply during normal weather for the ports of Los Angeles and Long Beach (POLA/POLB). Severe weather or other abnormal conditions may demand case-by-case evaluation. Masters and pilots shall use prudent seamanship at all times when piloting vessels in the POLA/POLB harbors and approaches.

1. Port of Los Angeles:

- a. Between the Los Angeles seabuoy and the Los Angeles Main Channel Buoy #11, minimum underkeel clearance before correction for roll and pitch is 10% of the vessel's draft.
- b. In the channel between the Los Angeles Main Channel Buoy #11 and a position off the designated berth, minimum underkeel clearance is:
 - i. 1.5' (.46m) for vessels 120,000 DWT and under;
 - ii. 3' (.91m) for vessels over 120,000 DWT.
- c. In the final approach to the berth, and while at berth, the vessel must always remain afloat.



- d. At anchorages inside the breakwater, minimum underkeel clearance is 1.5' (.46m).
 - e. Shifts via the anchorages between Los Angeles and Long Beach, minimum underkeel clearance is 3' (.91m).
2. Port of Long Beach:
- a. Between the Long Beach seabuoy and the Long Beach Channel Buoy #3, minimum underkeel clearance before correction for roll and pitch is 10% of the vessel's draft.
 - b. In the channel between the Long Beach Channel Buoy #3 and a position off the designated berth, minimum underkeel clearance is:
 - iii. 1.5' (.46m) for vessels 120,000 DWT and under;
 - iv. 3' (.91m) for vessels over 120,000 DWT.
 - c. In the final approach to the berth, and while at berth, the vessel must always remain afloat.
 - d. At anchorages inside the breakwater, minimum underkeel clearance is:
 - i. 4' (1.22m) for anchorages B-7 and B-11 when vessels draft is 50' (15.24m) or more; and
 - ii. 1.5' (.46m) for all other anchorages.
 - e. For shifts via outer harbor between Long Beach and Los Angeles, minimum underkeel clearance is 3' (.91m).

3. Tank Vessels:

- a. In complying with the above guidelines, tank vessels shall always maintain at least two feet of underkeel clearance until making their final approach to the dock.
- b. If a tank vessel operator has a company policy that allows for less than two feet of underkeel clearance during transit, they must submit the company policy to the USCG Captain of the Port for approval prior to vessel entry.
- c. Coast Guard underkeel clearance regulations for tank vessels without double hulls can be found in 33 CFR 157.455.

The above guidelines are intended to include safety margins for sinkage due to squat and for an increase in draft due to pitch and roll during the weather and sea state conditions normally encountered in the Los Angeles and Long Beach harbors and approaches.

The pilot organization management, the vessel's master/operator, and the USCG Captain of the Port (COTP) should concur with any deviation below the above guidelines.

Terminal or vessel operators may require minimum underkeel clearances that are more restrictive than the above guidelines. Vessel masters should be aware of this and should consider terminal policy, fleet operating requirements, and the guidelines contained in the Los Angeles Long Beach Harbor Safety Plan when deciding upon their minimum allowable underkeel clearances.

C. EVALUATING UNDERKEEL CLEARANCE:

While the above guidelines should ensure adequate UKC under normally encountered circumstances of weather, sea state and vessel configuration, the LALB Harbor Safety Committee recommends that all vessel masters should estimate the anticipated UKC that they expect their vessel will encounter during the various phases of the transit, particularly during severe weather or other abnormal conditions. In complying with the above guidelines, the master should consider sea state conditions that might cause an increase in draft due to pitch and roll and plan/adjust transit speeds with regard to vessel squat characteristics.

Studies indicate that swell crests and troughs affect vessel immersion (heave) when a vessel is rising and falling with swells off the beam. However, the studies also indicate that vessels will normally experience significant and measurable roll before increased draft due to heave becomes a problem. Therefore, the sound practice of measuring roll and calculating the corresponding increase to vessel draft before entering port helps the master evaluate safe underkeel clearance.

CAPTAIN OF THE PORT OF LOS ANGELES - LONG BEACH PUBLIC NOTICE NO. 02-001

LOS ANGELES CHANNEL DEEPENING PROJECT



The purpose of the COTP Public Notice is to:

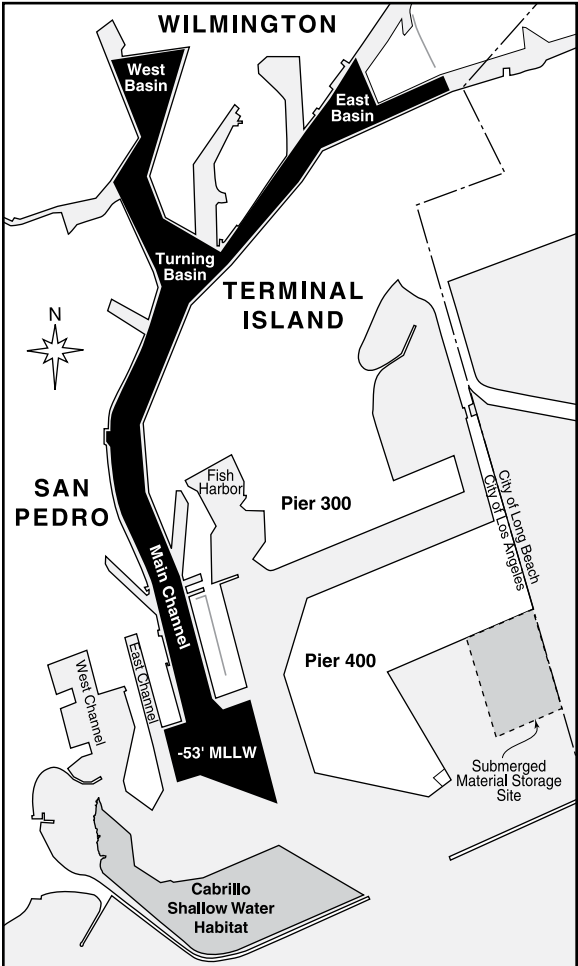
- Increase awareness by all harbor waterway users of the potential for increased risk of vessel collisions, or groundings associated with dredging operations in the Los Angeles Main Channel.
- Emphasize the importance of timely and accurate communication between the dredge, vessel traffic managers and other waterway users in order to minimize that risk.
- Ensure vessel masters and pilots have the information needed to perform safe transits and avoid surprises.
- Establish uniform procedures for vessel operators, dredging contractors, vessel traffic managers and other involved parties to facilitate the safe movement of vessels operating in the vicinity of the Los Angeles Channel Deepening Project.

The Captain of the Port LA-LB in conjunction with the U.S. Army Corps of Engineers, LA Deepening Constructors Joint Venture, Port of Los Angeles, Los Angeles Pilot Service, Jacobsen Pilot Service, and other representatives of the maritime industry, have developed uniform procedures to facilitate safe movement of vessels during this dredging project. This project involves dredging in Los Angeles main, east and west channels. The disposal of dredge spoils will be at Southwest Slip, Cabrillo Shallow Water Habitat Expansion, Pier 300 expansion, and Pier 400 submerged material storage site. See map on page 25. This dredging and derrick barge activity will be 7 days a week, 24 hours per day, and has the potential to increase the risk of a navigation mishap. This notice summarizes procedures to be followed by LA Deepening Constructors Joint Venture, dredge and vessel operators and shoreside vessel traffic managers for the duration of the dredging project. Nothing contained herein shall preclude the master, operator, or person in charge of a vessel to exercise good seamanship in deviating from these rules when it is necessary to avoid risk of collision, grounding or other vessel mishaps.

LOS ANGELES CHANNEL DEEPENING PROJECT

LEGEND

-  Dredge Footprint (-53' MLLW)
-  Proposed Submerged Disposal Site (-53' MLLW)



APPLICABILITY

These procedures apply to dredge operators, vessel traffic managers and all VTS active users covered vessels, i.e., power driven vessels of 40 meters (approximately 131 feet) or more in length, towing vessels 8 meters (approximately 26 feet) or more in length, engaged in towing.

VESSEL TRAFFIC PROCEDURES

- A. PASSING ARRANGEMENTS WITH ALL DREDGES AND DERRICK BARGES: Mariners must contact the dredge or derrick barge operators to make appropriate passing arrangements at least 15 minutes prior to passing, using communication procedures listed on page 28. This advance notice is critical, as the dredge or derrick barge must take the necessary measures to allow for safe passage of vessels.
- B. VESSEL TRAFFIC MANAGEMENT SYSTEM (VTMS): **It is critical that all covered vessels report into the appropriate traffic system 15 minutes prior to entering the system or 15 minutes before getting underway.** The Vessel Traffic Service (VTS), Los Angeles Pilots, and Jacobsen Pilot Service (Long Beach) will provide information about vessel traffic within their respective areas and help ensure mariners are informed of any waterway restrictions resulting from the dredge's location or operations. Formal procedures for vessels to participate in the VTS are published in the VTS user's manual available at www.marineexchange.org.

Covered vessels not complying with vessel traffic management procedures should be immediately referred to the Coast Guard LA-LB for appropriate enforcement action.

NAVIGATIONAL PROCEDURES

The following are the procedures that were agreed upon by interested parties during a special navigational meeting held on September 4, 2002. All parties/mariners need to pay close attention to the Los Angeles Main Channel Deepening Project **“Daily Navigational Faxes”** to verify location of dredges, derrick barges and pipeline so that agreed upon procedures are implemented at the appropriate times during these dredging elements. To be included on the fax distribution list, contact the Channel Deepening construction office at (310) 521-1300.

Due to the restrictive nature of this dredging operation: One-way traffic should be utilized, slowest safe speeds should be exercised in the vicinity of work, strict adherence to limited visibility guidelines, and when in doubt or when visibility and/or wind conditions are questionable, transits should be postponed until conditions improve for safe navigation.

COMMUNICATION PROCEDURES

A. Vessels:

Dredge Florida
Dredge H.R. Morris
D/B Los Angeles
D/B Long Beach
D/B CP-28
M/V Elmer M
M/V Durango

All vessels will monitor VHF/FM Channels 16,13 and working on 79A and 67.

B. Los Angeles Channel Deepening Project/Office: (310) 521-1300

C. VTS San Pedro:

Working Frequency: VHF/FM Channel 14
Office: (310) 832-6411
Fax: (310) 832-7238

D. LA Pilots:

Working Frequency: VHF/FM Channel 73
Office: (310) 732-3805

E. Jacobsen Pilot Service:

Working Frequency: VHF/FM Channel 74
Office: (562) 432-0664
Fax: (562) 432-3597

F. Captain of the Port LA-LB:

EMERGENCIES: VHF/FM CHANNEL 16

Working Frequency: Channel 22A
Office: (310) 521-3815
Fax: (310) 521-3813
24 HR: (310) 521-3801

COORDINATION PROCEDURES

Dredging and other construction activities will continue in Los Angeles Harbor for the the duration of the project. Specific restrictions and procedures may vary from time to time depending on the location and nature of the activity. Therefore, the following procedures will be used to exchange information with all concerned parties.

- A. SECURITE CALLS: The dredge or derrick barge operator will issue a securite call on Channel 13 prior to the initial or subsequent commencement of dredge operations and immediately before retracting gear in preparation to transit to disposal site. During periods of less than one-half mile visibility, the frequency of the securite calls will be increased to every hour.
- B. FASTFAX: The Captain of the Port will utilize faxes to communicate waterway management or additional safety information to vessel operators, vessel traffic managers, and pilots. Normally, this system will be used for communicating one-way traffic or other operational procedures and restrictions, which require COTP LA-LB authorization.
- C. NOTICE TO MARINERS: The Coast Guard will continue to use local Notice to Mariners and broadcast notice to mariners to provide pertinent information to mariners.
- D. SUBMERGED/FLOATING PIPELINE: The use of submerged and floating pipeline will be used throughout the project duration.
- E. AIDS TO NAVIGATION/ANCHOR MARKERS. Due to the nature of the dredging operations, there may be times where aids to navigation will have to be temporarily removed. Mariners are advised and encouraged to review Notice to Mariners for the latest information. Mariners are also advised and encouraged to verify aids to navigation by contacting Vessel Traffic Service (VTS) or the local pilots.
- F. MEETINGS: Navigational Safety meetings will provide an appropriate forum for addressing navigational safety issues. These meetings will be held at 1300 hours, at the Contractor's office every third Thursday of each month. Contact the Coast Guard at (310) 521-3861 for further information and to obtain a meeting schedule.

FACILITIES FOR VISITING SEAFARERS

International Seafarers Center

120 South Pico Ave.
Long Beach, CA 90802
Phone: (562) 432-7560
Fax: (562) 432-6610
iscpolb.la@verizon.net

Norwegian and Swedish Seamen's Church

1035 South Beacon St.
San Pedro, CA 90731
Phone: (310) 832-6800

FOREIGN QUARANTINE

**U.S. Public Health Service
CDC, NCID, Division of Quarantine
Los Angeles Quarantine Station
380 World Way, Box N-19
Los Angeles, California 90045
Telephone: (310) 215-2365 (24 hours)
Fax: (310) 215-2285**

STANDARD PROCEDURES

Radio Free Pratique clears a vessel to enter the harbor without inspection.

Inspection officer will board a vessel based on the following criteria:

- A. 15 days prior to entering a U.S. port, if any crew member or passenger exhibits these symptoms:
 - 1. Temperature of 100 degrees or higher for two days or is accompanied by any of the following:
 - a. rash
 - b. jaundice
 - c. glandular swelling
 - 2. Diarrhea severe enough to prevent performing normal duties.
 - 3. Death aboard ship.
- B. Any ship visiting a plague-infested country within 60 days prior to entering a U.S. port.
- C. Any ship that has requested a de-ratting inspection/exemption certificate.

If subject to inspection, vessel boarding hours are 0600 to 1800, Monday-Saturday regular time. 1800-0600 is overtime, including Sundays and holidays.

Reporting or request for boarding must be relayed and received by the office 24 hours prior to a ship's arrival. Under conditions A and B above, the quarantine flag may be ordered flown.

HIGHEST ELEVATION OF WHARF DECKS

(In Feet, Above Mean Lower Low Water)

DEPTH OF WATER ALONGSIDE BERTHS

(In Feet)

Mean Lower Low Water = 0.0 Feet

Berth	Elevation	Depth	Berth	Elevation	Depth
45/47.....	16.0.....	48.9	164.....	14.2.....	37.5
49/50.....	14.6.....	50.8	165.....		36.4
51/52.....	14.0.....	37.0	167/168.....	13.0.....	39.3
53.....	14.0.....	35.7	169.....		38.8
54.....	14.0.....	37.2	171/172.....	13.7.....	31.1
55.....		35.3	173.....		31.2
70/71.....	14.8.....	35.2	174.....		43.2
74.....	14.1.....	27.3	175/176.....	15.0.....	42.9
87/89.....	15.0.....	38.4	177.....		35.0
90.....	15.0.....	37.3	178.....		35.1
91.....	14.0.....	37.8	179.....		35.5
92.....		37.8	180.....		35.6
93.....		37.2	181.....		34.4
100.....	15.0.....	52.6	187.....	15.0.....	34.9
118/119.....	13.0.....	32.2	189/190.....	15.0.....	44.6
120.....	13.0.....	32.9	191.....	15.0.....	32.7
121/124.....	15.0.....	45.8	195/197.....	18.5.....	32.7
125/126.....	15.0.....	40.1	198.....		32.7
127/128.....		42.2	199.....	18.5.....	33.5
129/130.....		42.2	200A.....	16.3.....	32.7
131.....		41.8	200G.....	14.0.....	20.0
136/137.....	12.0.....	42.3	206.....	15.6.....	44.7
138/139.....	15.0.....	42.4	207.....	15.5.....	43.6
142.....	15.7.....	30.3	208.....		41.6
143.....		33.5	209.....		39.2
144.....	15.0.....	50.2	210/211.....	13.7.....	33.2
145.....	15.5.....	39.8	212/213.....	15.0.....	42.8
146.....		42.8	214.....		45.1
147.....	14.7.....	26.9	216.....	15.0.....	42.2
148/149.....	16.0.....	34.9	217.....		42.4
150/151.....	14.8.....	34.7	218/219.....	15.0.....	42.1
153.....	13.8.....	37.1	220.....		42.1
154.....		37.3	221.....		33.4
155.....		36.6	222/223.....	15.0.....	31.1
163.....	13.7.....	33.3	224/225.....		30.9

Berth	Elevation	Depth	Berth	Elevation	Depth
227.....	13.8.....	44.4	SW # 3 No.....		21.1
230.....	13.9.....	41.3	301.....	16.1.....	68.4
231.....	15.0.....	42.8	302.....		48.3
233/234		34.8	303/305.....		45.3
235/236	15.0.....	36.8	401.....	15.2.....	54.7
238.....	14.0.....	34.9	402.....		53.8
239.....		36.2	403.....		52.6
240B	14.0.....	37.0	404.....		52.5
240C		27.4	405.....		47.9
240Z face		26.1	406.....		52.6
SW # 1 So.....		21.9	Fish Harbor.....		17.2
SW # 2		34.3			

The information provided here is based upon sources deemed to be reliable and is believed to be correct as of October 2012, but the accuracy is not guaranteed.

Whenever a vessel is scheduled which would approach the depth of a particular berth, the Pilot Station management should be contacted so that an individual judgment can be made.

NATIONAL WEATHER SERVICE

VHF Radio

Frequency 162.55 MHz; Station KW037. This is a continuous tape broadcast that is updated hourly. Broadcast consists of public and marine forecasts and observations.

Telephone Reports

Local forecast (recorded): (805) 988-6610

Marine forecast (recorded): (805) 278-0760

www.weather.gov/losangeles

Port Meteorological Officer

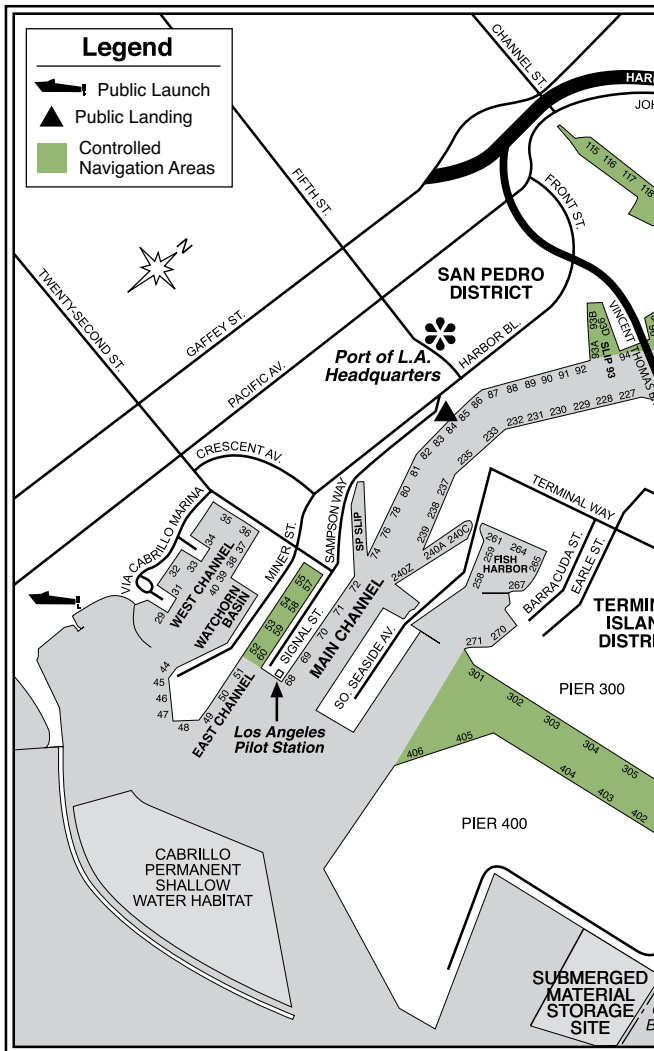
United States Voluntary Observing Ship Program: (562) 980-4090

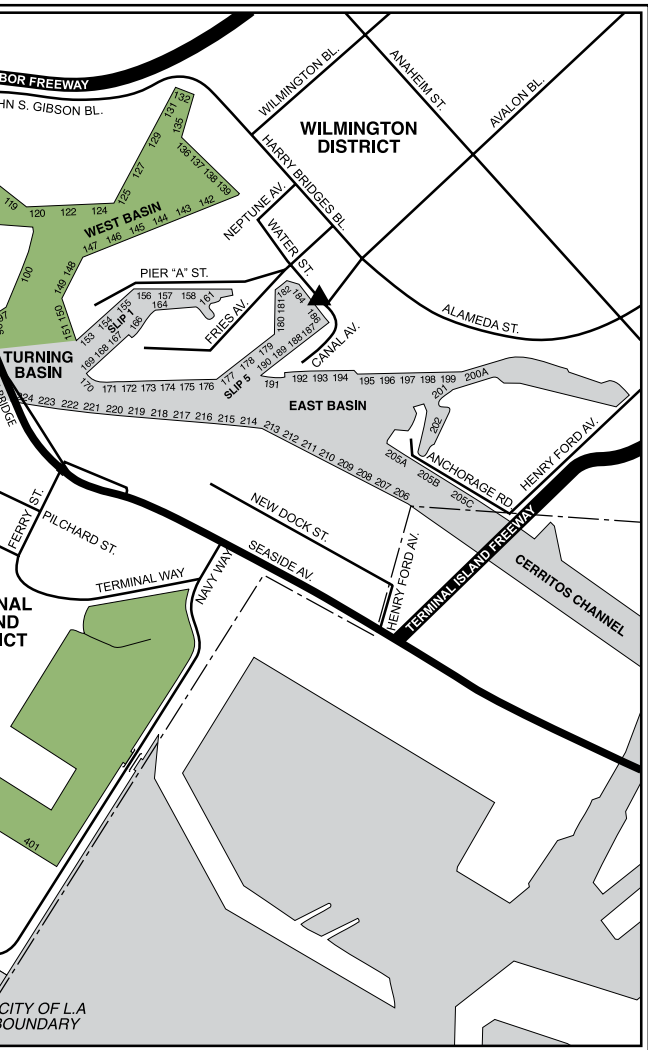
The Weather Channel Website

<http://www.weather.com>

NOAA Weather, Warnings, Notices to Mariners

<http://www.weather.gov>





HORIZONTAL AND VERTICAL CLEARANCES

Vertical clearances are given above Mean High Water (4.7 feet)

VINCENT THOMAS BRIDGE

- Horizontal usable width (of channel): 1150 feet
- Vertical clearance: 165 feet
- Middle 500 ft. width: Vertical clearance 185 feet

BADGER AVENUE (HENRY FORD) BRIDGE

- Horizontal clearance: 180 feet
- Vertical clearance: 6.7 feet (bridge down); 165 feet (bridge up)

COMMODORE HEIM BRIDGE

- Horizontal clearance: 180 feet
- Vertical clearance: 38 feet (bridge down); 163 feet (bridge up)

The Schuyler Heim Bridge Replacement and SR-47 Expressway Project is being advanced through a joint partnership between Caltrans and the Alameda Corridor Transportation Authority (ACTA). The project will replace the Schuyler Heim Bridge, which does not meet current earthquake standards, with a fixed-span bridge over Cerritos Channel. It will also construct a new, four-lane elevated expressway that will allow cars and trucks to move from Terminal Island directly onto Alameda Street, bypassing three stop lights and five railroad crossings. Estimated completion of the replacement is by 2016.

CERRITOS CHANNEL DRAWBRIDGES: CONSOLIDATED REQUIREMENTS

(The U.S. Coast Guard has consolidated the requirements for drawbridge operations, including Cerritos Channel, as contained in Code 33 of Federal Regulations, Part 117.)

- (a) The draw of the Commodore Schuyler F. Heim Highway Bridge, mile 4.5 at Long Beach, shall open on signal, except that from 6:30 a.m. to 8 a.m. and 3:30 p.m. to 6 p.m., Monday through Friday except federal holidays, the draws need not open for the passage of vessels.
- (b) The draw of the Henry Ford Avenue Railroad Bridge shall be maintained in the open to navigation position except when a train is crossing or when maintenance work is being performed.

- (c) The opening signal for the Commodore Schuyler Heim Bridge is three prolonged blasts. The acknowledging signal is two prolonged blasts followed by one short blast when the draw will open immediately, and five short blasts when the draw cannot open immediately.
- (d) If the draw of the Henry Ford Avenue Railroad Bridge is in the closed position, the opening signal is two short blasts followed by one prolonged blast. The acknowledging signal is two prolonged blasts followed by one short blast when the draw will open immediately and five short blasts when the draw cannot open immediately.
- (e) Radio telephones are installed to enable the drawtender at the Commodore Schuyler Heim Bridge and the Henry Ford Avenue Railroad Bridge to communicate with vessels on radio telephone frequency 156.65 MHz (Channel 13), or such other frequency as may be assigned by the Federal Communications Commission.

GERALD DESMOND BRIDGE

- Horizontal usable width (of channel): 260 feet
- Vertical clearance: 155 feet

SOUTHERN CALIFORNIA EDISON CO. OVERHEAD POWER CABLES

- Vertical clearance: 155 feet

BOATING SAFETY INFORMATION

The Department of Boating and Waterways offers a home study boating course. The course, which includes a colorful handbook, can be completed at one's own pace. Upon successful completion of the optional final examination, the student will receive a state certificate in the mail. For more information, contact the Department of Boating and Waterways, 1629 "S" Street, Sacramento, CA 95814-7291.

In addition, boaters can call California Boating Information at (800) 869-SAIL for information on U.S. Power Squadron and U.S. Coast Guard Auxiliary boating safety classes offered throughout California.

For general safety information, contact the Los Angeles Port Police, (310) 732-3500.

CONTROLLED NAVIGATION AREAS

Controlled Navigation Areas (CNAs) have been added to Tariff No. 4, restricting entry into certain areas of the Port by recreational boats without a Port Police-issued permit. Creation of the CNAs will help to ensure navigational safety for large commercial vessels by reducing non-essential boating traffic, while also increasing waterside security by limiting access to commercial or permitted vessels. The Main Channel and other primary waterways will remain open to recreational boaters, but those areas best kept for commercial-only vessels will be restricted. (See map on pages 38-39)

CNAs will be identified with posted signs and enforced by the Los Angeles Port Police. Recreational vessel owners/operators may request to enter a CNA by contacting the Port Police at (310) 732-3500. The Controlled Navigation Areas are part of the Port of Los Angeles Responsible Marina Program.

SMALL (RECREATIONAL) VESSEL SAFETY

Recreational vessels should follow the Standards of Care (listed below) to ensure the safe operation of their craft while in and around the port. Recreational vessel operators should be sensitive to the fact that large commercial vessels are severely limited in their ability to stop or alter course, and many times are limited in their ability to see small vessels due to “blind spots” that extend more than 1/2 mile ahead. These large commercial vessels cannot easily avoid a collision with a smaller, more maneuverable recreational vessel.

1. Ensure vessel is safe before getting underway.
2. Ensure vessel is seaworthy.
3. Keep flares and distress calling equipment readily accessible.
4. Be extra careful in fog.
5. Comply with Rules of the Road, Rule 9: Small vessels remain clear of large vessels that must navigate within a narrow channel.
6. Avoid passing larger vessels close aboard.
7. Pass tugs with caution.
8. Know the locations of traffic lanes and the regulated navigational area.
9. Know how and when to monitor VHF Channels 16, 14, and 13.
10. Know vessel's position.
11. Be an informed mariner:
 - Know the Rules of the Road.
 - Read Coast Guard Notices to Mariners.
 - Monitor the weather.
 - Listen to Channel 16 for Coast Guard information broadcasts.

METRIC CONVERSION TABLE

Meters	Feet	Meters	Feet	Meters	Feet
3.0	9.84	6.0	19.69	9.0	29.53
3.1	10.17	6.1	20.01	9.1	29.86
3.2	10.50	6.2	20.34	9.2	30.18
3.3	10.83	6.3	20.67	9.3	30.51
3.4	11.15	6.4	21.00	9.4	30.84
3.5	11.48	6.5	21.33	9.5	31.17
3.6	11.81	6.6	21.65	9.6	31.50
3.7	12.14	6.7	21.98	9.7	31.82
3.8	12.47	6.8	22.31	9.8	32.15
3.9	12.80	6.9	22.64	9.9	32.48
4.0	13.12	7.0	22.97	10.0	32.81
4.1	13.45	7.1	23.29	10.1	33.14
4.2	13.78	7.2	23.62	10.2	33.46
4.3	14.11	7.3	23.95	10.3	33.79
4.4	14.44	7.4	24.28	10.4	34.12
4.5	14.76	7.5	24.61	10.5	34.45
4.6	15.09	7.6	24.93	10.6	34.78
4.7	15.42	7.7	25.26	10.7	35.10
4.8	15.75	7.8	25.59	10.8	35.43
4.9	16.08	7.9	25.92	10.9	35.76
5.0	16.40	8.0	25.92	11.0	36.09
5.1	16.73	8.1	26.57	11.1	36.42
5.2	17.06	8.2	26.90	11.2	36.75
5.3	17.39	8.3	27.23	11.3	37.07
5.4	17.72	8.4	27.56	11.4	37.40
5.5	18.04	8.5	27.89	11.5	37.73
5.6	18.37	8.6	28.22	11.6	38.06
5.7	18.70	8.7	28.54	11.7	38.39
5.8	19.03	8.8	28.87	11.8	38.71
5.9	19.36	8.9	29.20	11.9	39.04

METRIC CONVERSION TABLE

Meters	Feet	Meters	Feet	Meters	Feet
12.0	39.37	15.0	49.21	18.0	59.06
12.1	39.70	15.1	49.54	18.1	59.38
12.2	40.03	15.2	49.87	18.2	59.71
12.3	40.35	15.3	50.20	18.3	60.04
12.4	40.68	15.4	50.52	18.4	60.37
12.5	41.01	15.5	50.85	18.5	60.70
12.6	41.34	15.6	51.18	18.6	61.02
12.7	41.67	15.7	51.51	18.7	61.35
12.8	41.99	15.8	51.84	18.8	61.68
12.9	42.32	15.9	52.17	18.9	62.01
13.0	42.65	16.0	52.49	19.0	62.34
13.1	42.98	16.1	52.82	19.1	62.66
13.2	43.31	16.2	53.15	19.2	62.99
13.3	43.64	16.3	53.48	19.3	63.32
13.4	43.96	16.4	53.81	19.4	63.65
13.5	44.29	16.5	54.13	19.5	63.98
13.6	44.62	16.6	54.46	19.6	64.30
13.7	44.95	16.7	54.79	19.7	64.63
13.8	45.28	16.8	55.12	19.8	64.96
13.9	45.60	16.9	55.45	19.9	65.29
14.0	45.93	17.0	55.77	20.0	65.62
14.1	46.26	17.1	56.10	20.1	65.94
14.2	46.59	17.2	56.43	20.2	66.27
14.3	46.92	17.3	56.76	20.3	66.60
14.4	47.24	17.4	57.09	20.4	66.93
14.5	47.57	17.5	57.41	20.5	67.26
14.6	47.90	17.6	57.74	20.6	67.59
14.7	48.23	17.7	58.07	20.7	67.91
14.8	48.56	17.8	58.40	20.8	68.24
14.9	48.88	17.9	58.73	20.9	68.57

METRIC CONVERSION TABLE

Meters	Feet	Meters	Feet	Meters	Feet
21.0	68.90	24.0	78.74	45.0	147.64
21.1	69.23	24.1	79.07	46.0	150.92
21.2	69.55	24.2	79.40	47.0	154.20
21.3	69.88	24.3	79.72	48.0	157.48
21.4	70.21	24.4	80.05	49.0	160.76
21.5	70.54	24.5	80.38	50.0	164.04
21.6	70.87	24.6	80.71	51.0	167.32
21.7	71.19	24.7	81.04	52.0	170.60
21.8	71.52	24.8	81.36	53.0	173.88
21.9	71.85	24.9	81.69	54.0	177.17
22.0	72.18	25.0	82.02	55.0	180.45
22.1	72.51	26.0	85.30	56.0	183.73
22.2	72.83	27.0	88.58	57.0	187.01
22.3	73.16	28.0	91.86	58.0	190.29
22.4	73.49	29.0	95.14	59.0	193.57
22.5	73.82	30.0	98.43	60.0	196.85
22.6	74.15	31.0	101.71	61.0	200.13
22.7	74.48	32.0	104.99	62.0	203.41
22.8	74.80	33.0	108.27	63.0	206.69
22.9	75.13	34.0	111.55	64.0	209.97
23.0	75.46	35.0	114.83	65.0	213.25
23.1	75.79	36.0	118.11	66.0	216.54
23.2	76.12	37.0	121.39	67.0	219.82
23.3	76.44	38.0	124.67	68.0	223.10
23.4	76.77	39.0	127.95	69.0	226.38
23.5	77.10	40.0	131.23	70.0	229.66
23.6	77.43	41.0	134.51	71.0	232.94
23.7	77.76	42.0	137.80	72.0	236.22
23.8	78.08	43.0	141.08	73.0	239.50
23.9	78.41	44.0	144.36	74.0	242.78

METRIC CONVERSION TABLE

Meters	Feet	Meters	Feet	Meters	Feet
75.0	246.06	105.0	344.49	135.0	442.91
76.0	249.34	106.0	347.77	136.0	446.19
77.0	252.62	107.0	351.05	137.0	449.48
78.0	255.91	108.0	354.33	138.0	452.76
79.0	259.19	109.0	357.61	139.0	456.04
80.0	262.47	110.0	360.89	140.0	459.32
81.0	265.75	111.0	364.17	141.0	462.60
82.0	269.03	112.0	367.45	142.0	465.88
83.0	272.31	113.0	370.73	143.0	469.16
84.0	275.59	114.0	374.02	144.0	472.44
85.0	278.87	115.0	377.30	145.0	475.72
86.0	282.15	116.0	380.58	146.0	479.00
87.0	285.43	117.0	383.86	147.0	482.28
88.0	288.71	118.0	387.14	148.0	485.56
89.0	291.99	119.0	390.42	149.0	488.85
90.0	295.28	120.0	393.70	150.0	492.13
91.0	298.56	121.0	396.98	151.0	495.41
92.0	301.84	122.0	400.26	152.0	498.69
93.0	305.12	123.0	403.54	153.0	501.97
94.0	308.40	124.0	406.82	154.0	505.25
95.0	311.68	125.0	410.11	155.0	508.53
96.0	314.96	126.0	413.39	156.0	511.81
97.0	318.24	127.0	416.67	157.0	515.09
98.0	321.52	128.0	419.95	158.0	518.37
99.0	324.80	129.0	423.23	159.0	521.65
100.0	328.08	130.0	426.51	160.0	524.93
101.0	331.36	131.0	429.79	161.0	528.22
102.0	334.65	132.0	433.07	162.0	531.50
103.0	337.93	133.0	436.35	163.0	534.78
104.0	341.21	134.0	439.63	164.0	538.06

METRIC CONVERSION TABLE

Meters	Feet	Meters	Feet	Meters	Feet
165.0	541.34	195.0	639.76	225.0	738.19
166.0	544.62	196.0	643.04	226.0	741.47
167.0	547.90	197.0	646.33	227.0	744.75
168.0	551.18	198.0	649.61	228.0	748.03
169.0	554.46	199.0	652.89	229.0	751.31
170.0	557.74	200.0	656.17	230.0	754.59
171.0	561.02	201.0	659.45	231.0	757.87
172.0	564.30	202.0	662.73	232.0	761.15
173.0	567.59	203.0	666.01	233.0	764.44
174.0	570.87	204.0	669.29	234.0	767.72
175.0	574.15	205.0	672.57	235.0	771.00
176.0	577.43	206.0	675.85	236.0	774.28
177.0	580.71	207.0	679.13	237.0	777.56
178.0	583.99	208.0	682.41	238.0	780.84
179.0	587.27	209.0	685.70	239.0	784.12
180.0	590.55	210.0	688.98	240.0	787.40
181.0	593.83	211.0	692.26	241.0	790.68
182.0	597.11	212.0	695.54	242.0	793.96
183.0	600.39	213.0	698.82	243.0	797.24
184.0	603.67	214.0	702.10	244.0	800.52
185.0	606.96	215.0	705.38	245.0	803.81
186.0	610.24	216.0	708.66	246.0	807.09
187.0	613.52	217.0	711.94	247.0	810.37
188.0	616.80	218.0	715.22	248.0	813.65
189.0	620.08	219.0	718.50	249.0	816.93
190.0	623.36	220.0	721.78	250.0	820.21
191.0	626.64	221.0	725.07	251.0	823.49
192.0	629.92	222.0	728.35	252.0	826.77
193.0	633.20	223.0	731.63	253.0	830.05
194.0	636.48	224.0	734.91	254.0	833.33

METRIC CONVERSION TABLE

Meters	Feet	Meters	Feet	Meters	Feet
255.0	836.61	285.0	935.04	315.0	1033.46
256.0	839.90	286.0	938.32	316.0	1036.75
257.0	843.18	287.0	941.60	317.0	1040.03
258.0	846.46	288.0	944.88	318.0	1043.31
259.0	849.74	289.0	948.16	319.0	1046.59
260.0	853.02	290.0	951.44	320.0	1049.87
261.0	856.30	291.0	954.72	321.0	1053.15
262.0	859.58	292.0	958.01	322.0	1056.43
263.0	862.86	293.0	961.29	323.0	1059.71
264.0	866.14	294.0	964.57	324.0	1062.99
265.0	869.42	295.0	967.85	325.0	1066.27
266.0	872.70	296.0	971.13	326.0	1069.55
267.0	875.98	297.0	974.41	327.0	1072.83
268.0	879.27	298.0	977.69	328.0	1076.12
269.0	882.55	299.0	980.97	329.0	1079.40
270.0	885.83	300.0	984.25	330.0	1082.68
271.0	889.11	301.0	987.53	331.0	1085.96
272.0	892.39	302.0	990.81	332.0	1089.24
273.0	895.67	303.0	994.09	333.0	1092.52
274.0	898.95	304.0	997.38	334.0	1095.80
275.0	902.23	305.0	1000.66	335.0	1099.08
276.0	905.51	306.0	1003.94	336.0	1102.36
277.0	908.79	307.0	1007.22	337.0	1105.64
278.0	912.07	308.0	1010.50	338.0	1108.92
279.0	915.35	309.0	1013.78	339.0	1112.20
280.0	918.64	310.0	1017.06	340.0	1115.49
281.0	921.92	311.0	1020.34	341.0	1118.77
282.0	925.20	312.0	1023.62	342.0	1122.05
283.0	928.48	313.0	1026.90	343.0	1125.33
284.0	931.76	314.0	1030.18	344.0	1128.61

METRIC CONVERSION TABLE

Meters	Feet	Meters	Feet
345.0	1131.89	375.0	1230.32
346.0	1135.17	376.0	1233.60
347.0	1138.45	377.0	1236.88
348.0	1141.73	378.0	1240.16
349.0	1145.01	379.0	1243.44
350.0	1148.29	380.0	1246.72
351.0	1151.57	381.0	1250.00
352.0	1154.86	382.0	1253.28
353.0	1158.14	383.0	1256.56
354.0	1161.42	384.0	1259.84
355.0	1164.70	385.0	1263.12
356.0	1167.98	386.0	1266.40
357.0	1171.26	387.0	1269.69
358.0	1174.54	388.0	1272.97
359.0	1177.82	389.0	1276.25
360.0	1181.10	390.0	1279.53
361.0	1184.38	391.0	1282.81
362.0	1187.66	392.0	1286.09
363.0	1190.94	393.0	1289.37
364.0	1194.23	394.0	1292.65
365.0	1197.51	395.0	1295.93
366.0	1200.79	396.0	1299.21
367.0	1204.07	397.0	1302.49
368.0	1207.35	398.0	1305.77
369.0	1210.63	399.0	1309.06
370.0	1213.91	400.0	1312.34
371.0	1217.19		
372.0	1220.47		
373.0	1223.75		
374.0	1227.03		

SUNRISE AND SUNSET TABLE

LOS ANGELES, CALIFORNIA

Pacific Standard Time (Time Meridian 120° West for
Latitude 33° 43' N., Longitude 118° 16' W.)

This table gives the time of the rising and setting of the sun's upper limb for every fifth day of the year. An allowance of five meters has been made for the elevation of the observer. The table is approximately correct for any year, as the declination of the sun varies but little from its mean value from year to year.

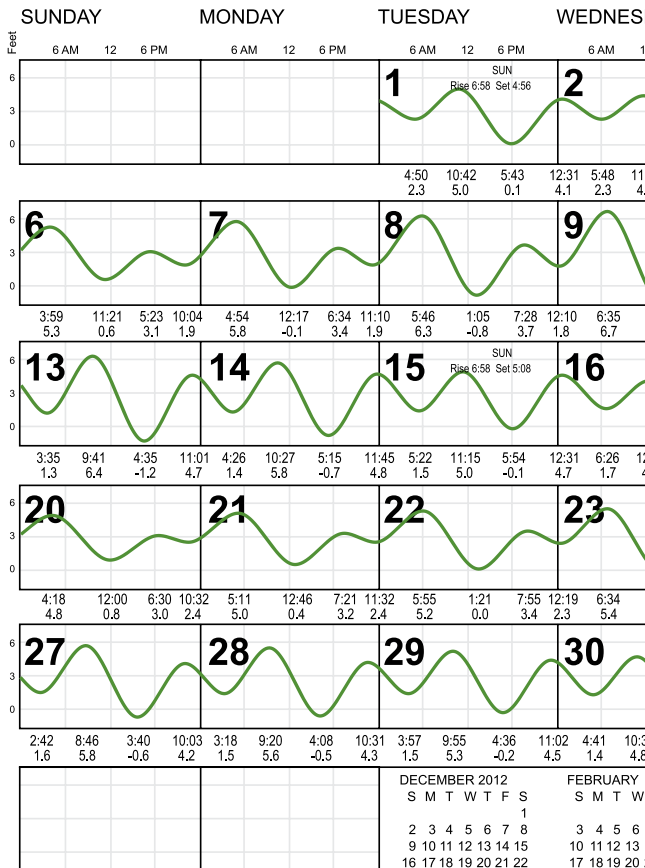
Add one hour for daylight-saving time where applicable.

Date	Sunrise	Sunset	Date	Sunrise	Sunset
Jan.	10658	1656	July	50448	1907
	60659	1700		100450	1906
	110658	1704		150453	1904
	160658	1708		200457	1902
	210656	1713		250500	1859
	260654	1718		300503	1855
	310651	1723			
Feb.	50647	1728	Aug.	40507	1851
	100643	1733		90511	1846
	150638	1737		140514	1841
	200632	1742		190518	1835
	250627	1746		240521	1829
March	20621	1750	Sept.	30528	1816
	70614	1754		80531	1810
	120608	1758		130535	1803
	170601	1802		180538	1756
	220555	1806		230542	1749
	270548	1810		280545	1742
April	10541	1814	Oct.	30549	1735
	60534	1817		80552	1728
	110528	1821		130556	1722
	160522	1825		180600	1716
	210516	1829		230604	1710
	260510	1832		280608	1705
May	10505	1836	Nov.	20613	1700
	60500	1840		70617	1656
	110456	1844		120622	1652
	160452	1848		170627	1649
	210449	1851		220631	1647
	260446	1855		270636	1645
	310444	1858			
June	50443	1901	Dec.	20640	1644
	100442	1903		70644	1644
	150442	1905		120648	1645
	200443	1906		170651	1647
	250444	1907		220654	1649
	300446	1908		270656	1652

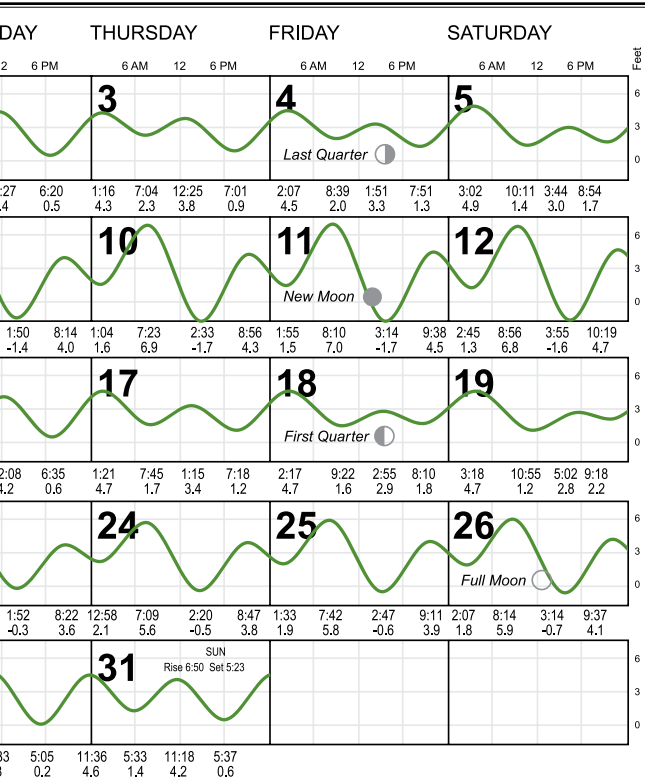
The information provided here has been compiled from reliable government sources. The Port assumes no responsibility for its accuracy.

Tide Tables

LOS ANGELES
(Outer Harbor)
CALIFORNIA



January 2013

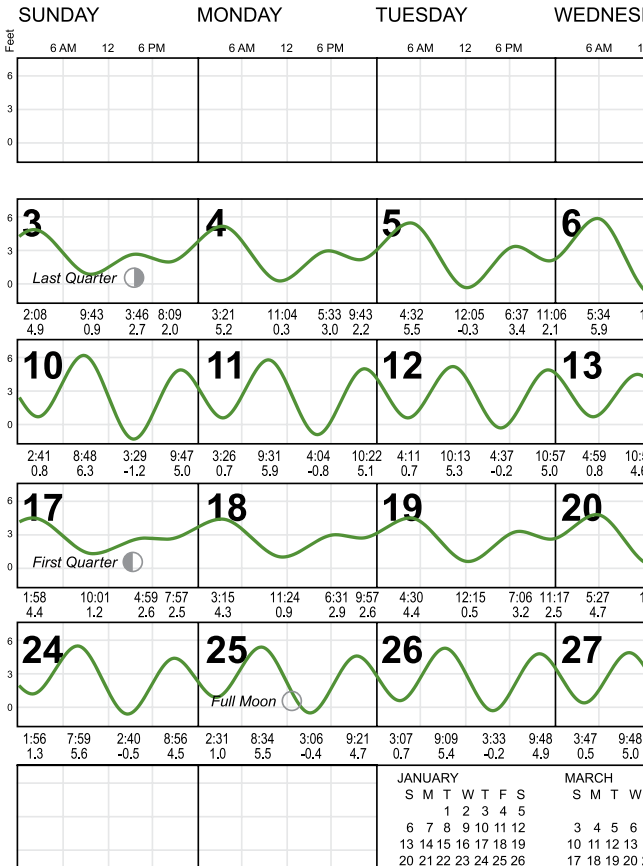


T F S
1 2
7 8 9
14 15 16
21 22 23
28

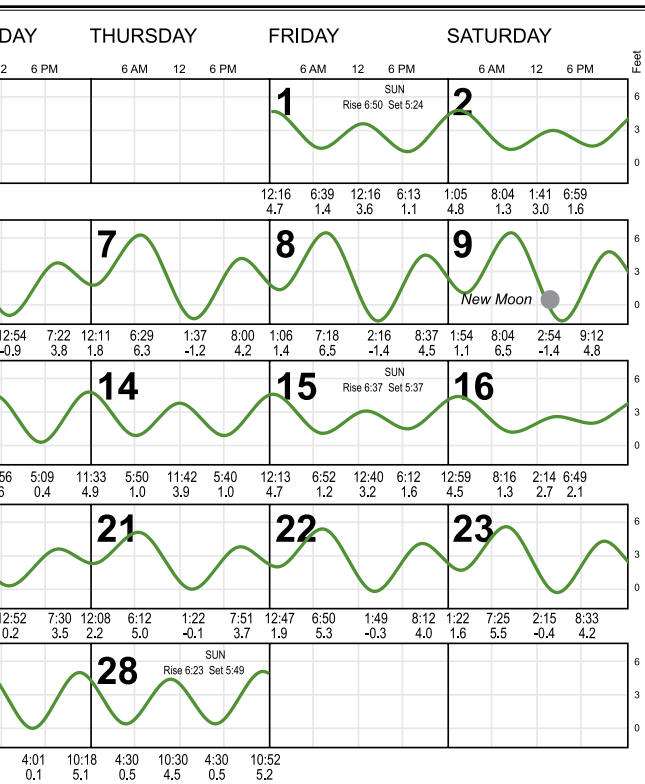
Times and Heights of
High and Low Water
(heights in feet)

Tide Tables

LOS ANGELES
(Outer Harbor)
CALIFORNIA



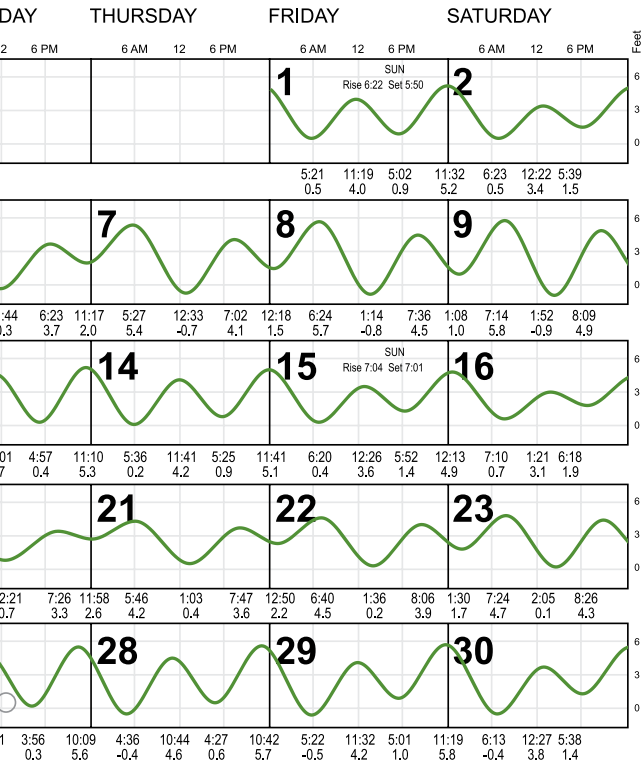
February 2013



T F S
 1 2
 7 8 9
 14 15 16
 21 22 23
 28 29 30

Times and Heights of
 High and Low Water
 (heights in feet)

March 2013

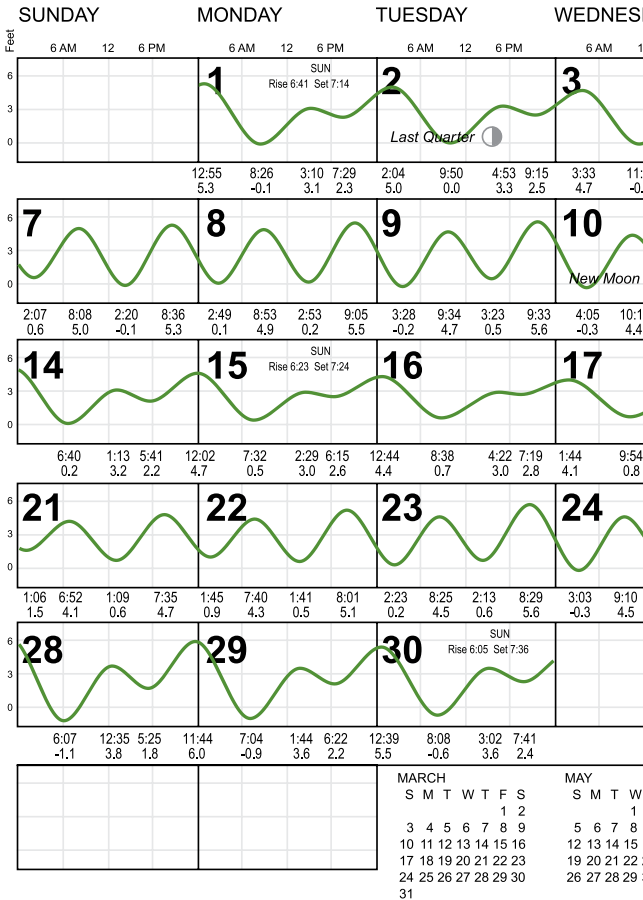


T F S
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18 19 20
25 26 27

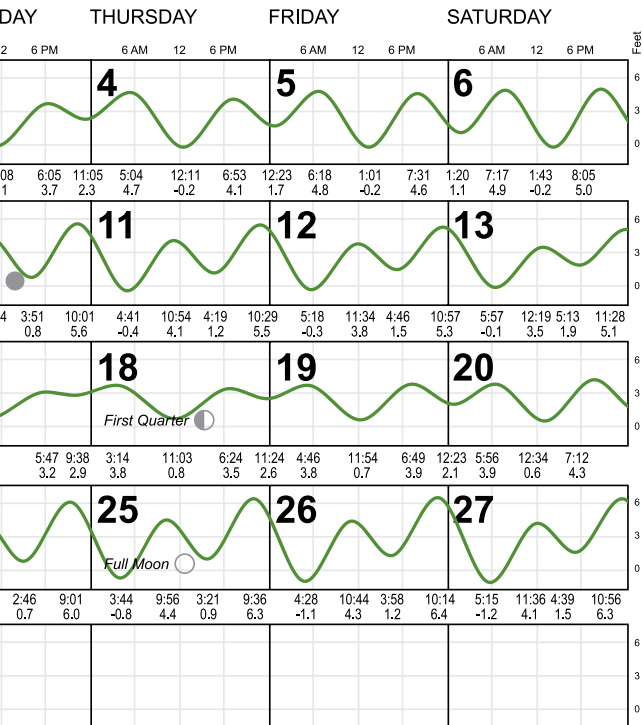
Times and Heights of
High and Low Water
(heights in feet)

Tide Tables

LOS ANGELES
(Outer Harbor)
CALIFORNIA



April 2013

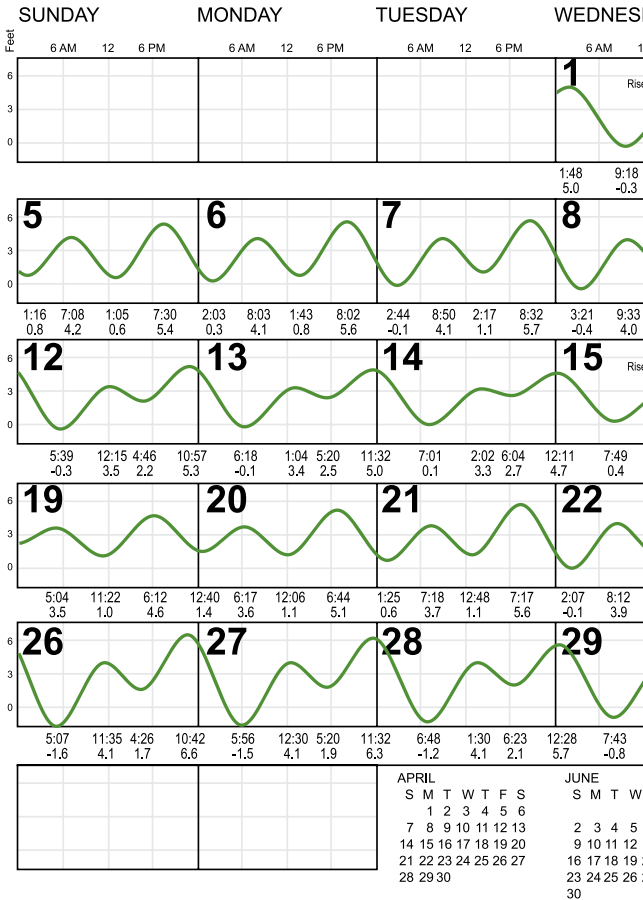


T F S
2 3 4
9 10 11
16 17 18
23 24 25
30 31

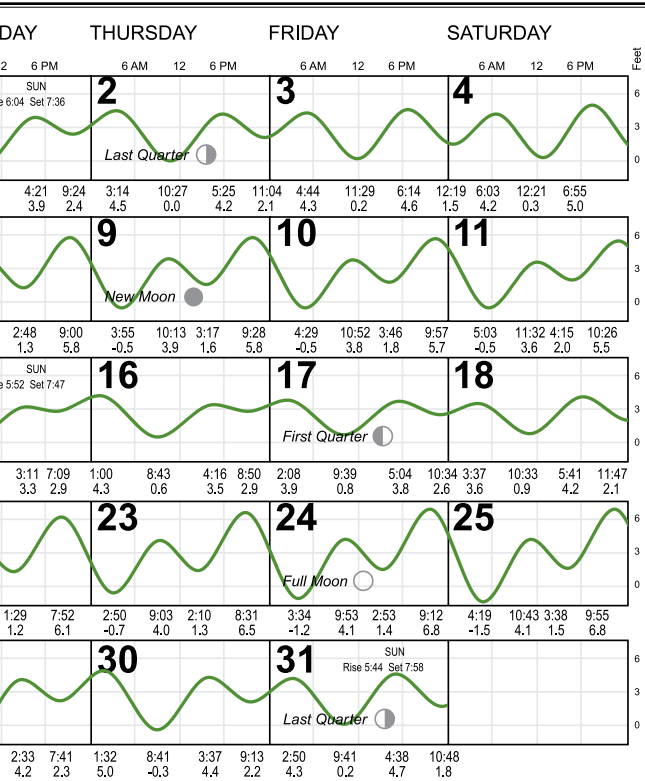
Times and Heights of
High and Low Water
(heights in feet)

Tide Tables

LOS ANGELES
(Outer Harbor)
CALIFORNIA



May 2013

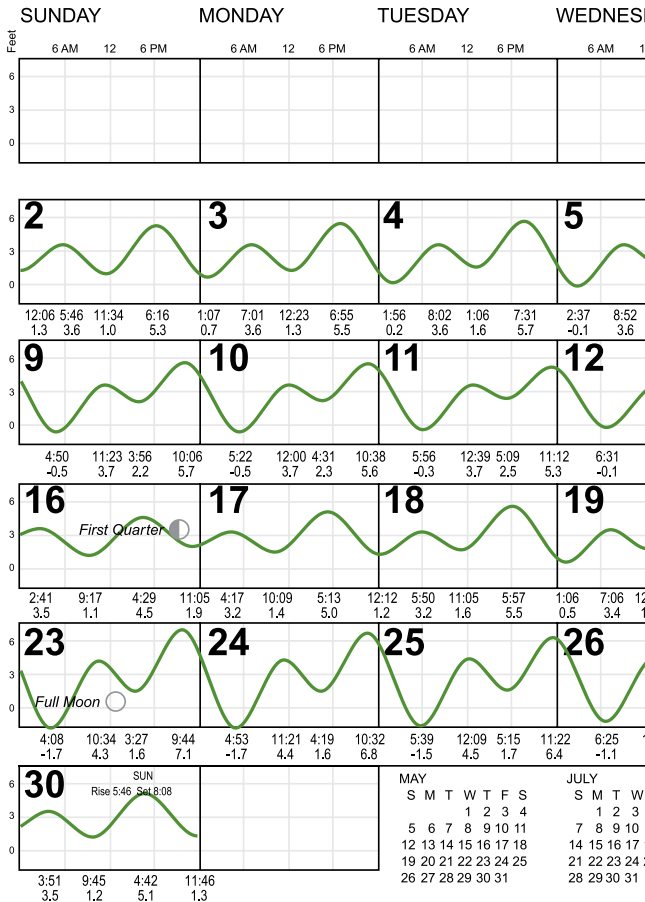


T F S
 1
 6 7 8
 13 14 15
 20 21 22
 27 28 29

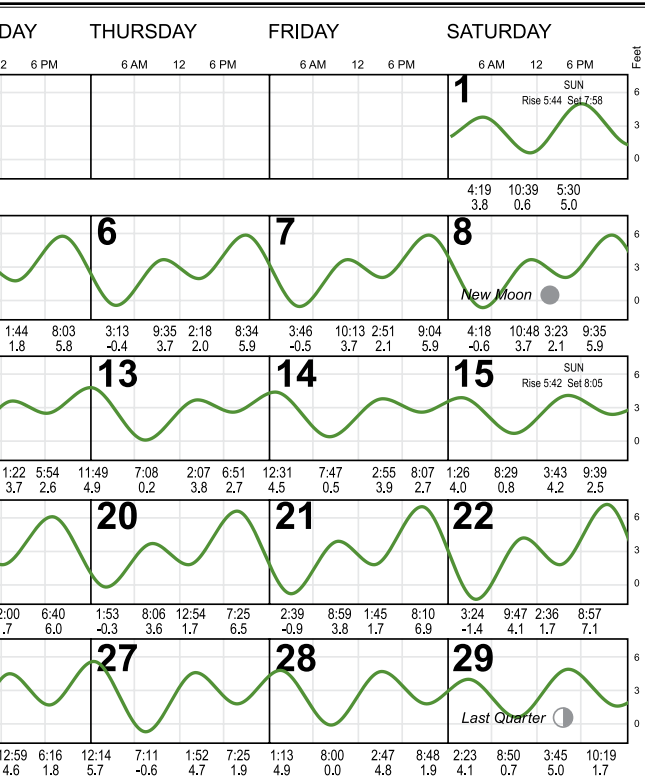
Times and Heights of
 High and Low Water
 (heights in feet)

Tide Tables

LOS ANGELES
(Outer Harbor)
CALIFORNIA



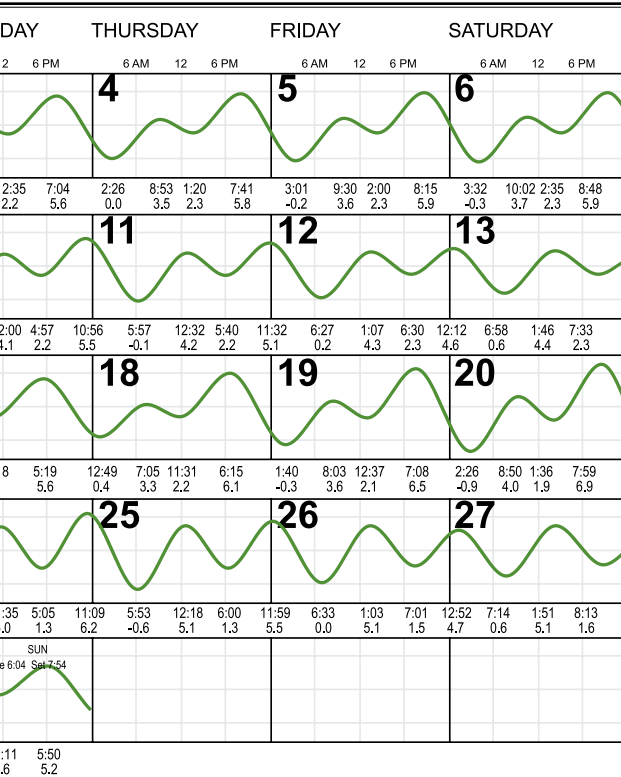
June 2013



T F S
4 5 6
11 12 13
18 19 20
25 26 27

Times and Heights of
High and Low Water
(heights in feet)

July 2013

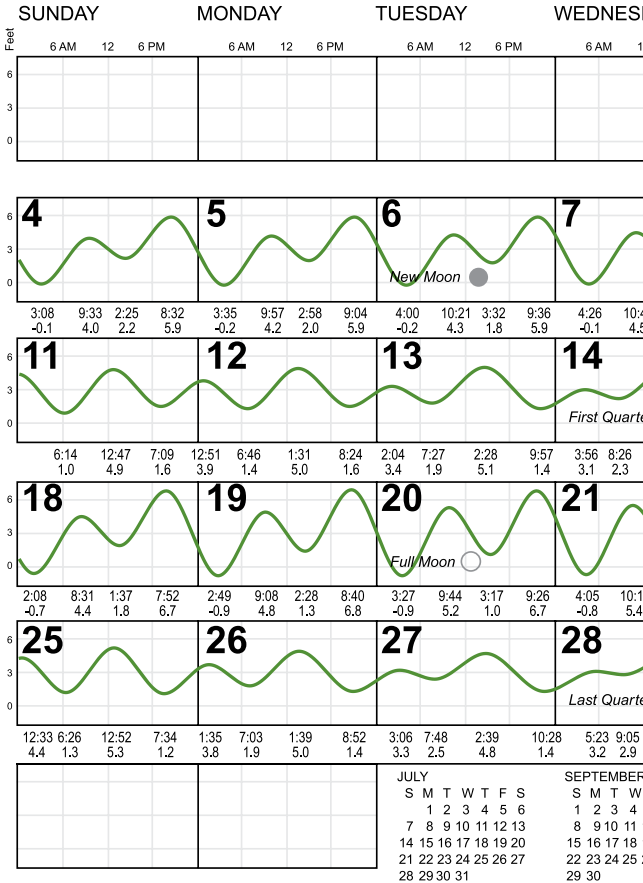


T F S
1 2 3
8 9 10
15 16 17
22 23 24
29 30 31

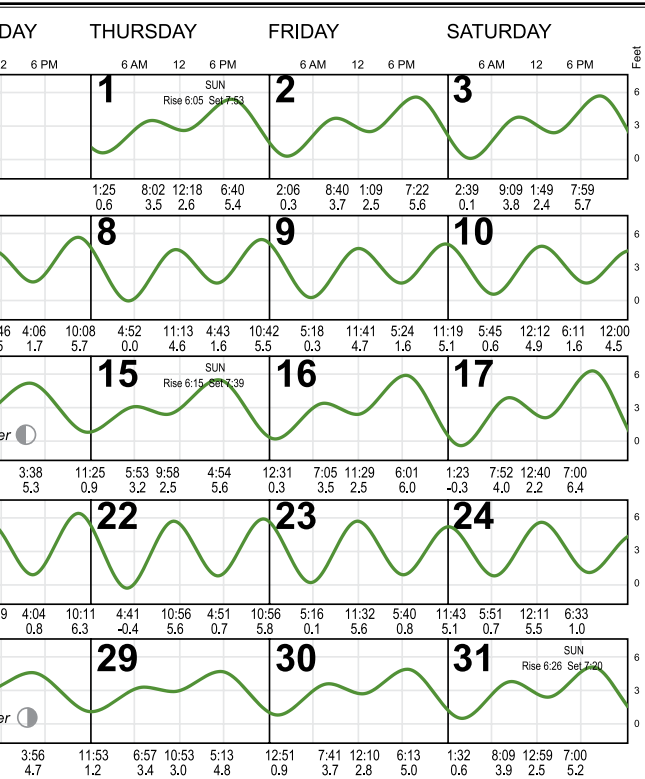
Times and Heights of
High and Low Water
(heights in feet)

Tide Tables

LOS ANGELES
(Outer Harbor)
CALIFORNIA



August 2013

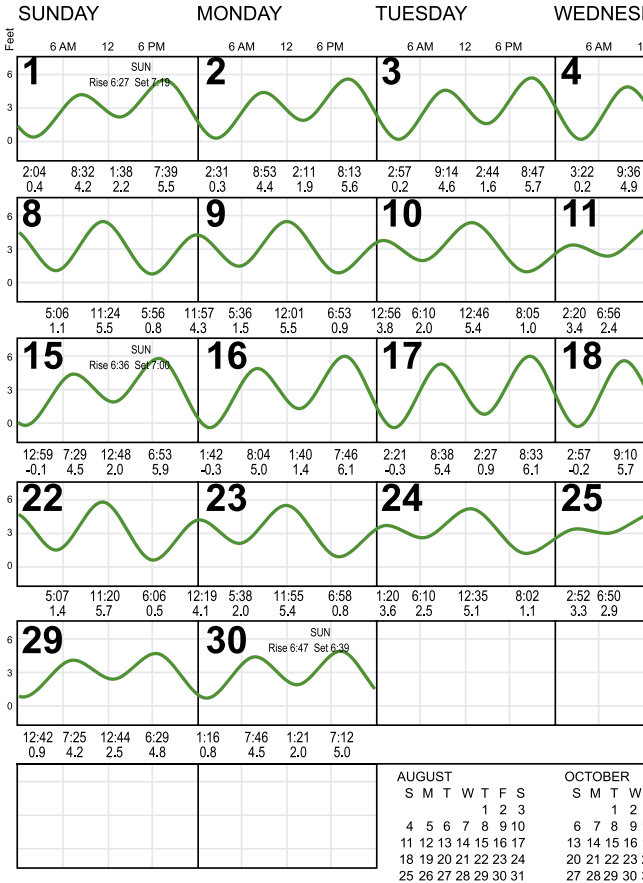


R
T F S
5 6 7
12 13 14
19 20 21
26 27 28

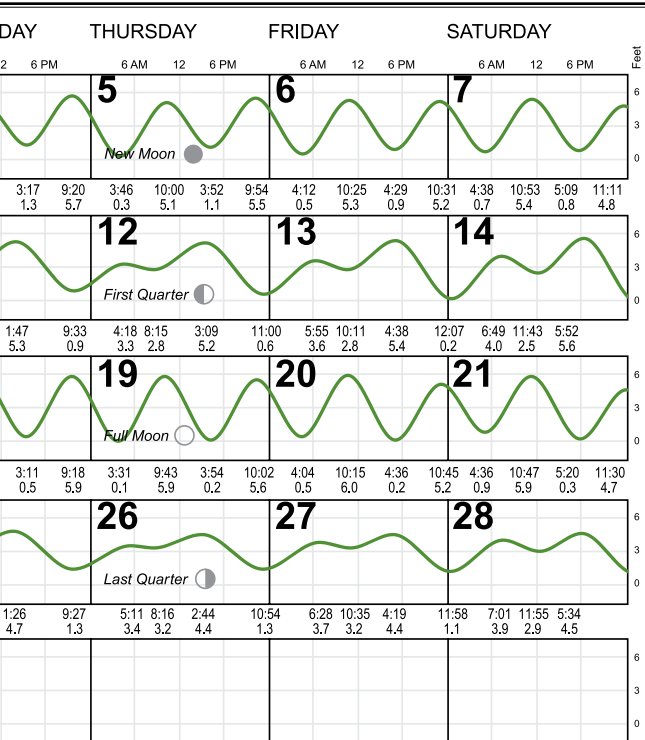
Times and Heights of
High and Low Water
(heights in feet)

Tide Tables

LOS ANGELES
(Outer Harbor)
CALIFORNIA



September 2013

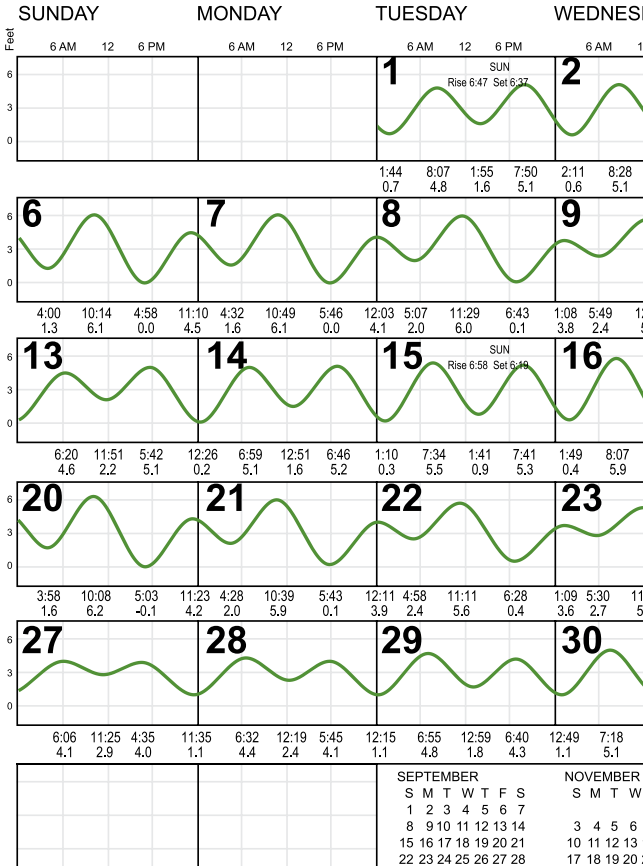


T F S
3 4 5
10 11 12
17 18 19
24 25 26
31

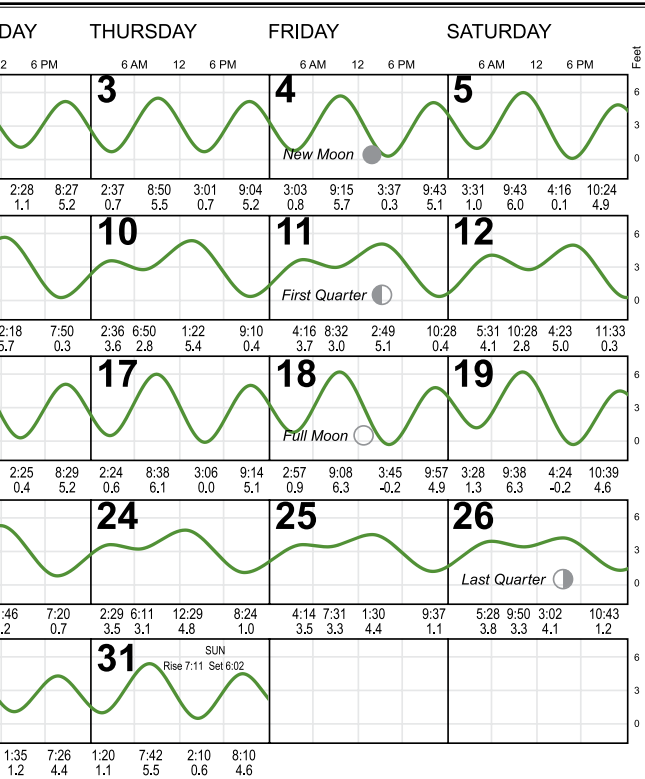
Times and Heights of
High and Low Water
(heights in feet)

Tide Tables

LOS ANGELES
(Outer Harbor)
CALIFORNIA



October 2013



T F S
1 2
7 8 9
14 15 16
21 22 23
28 29 30

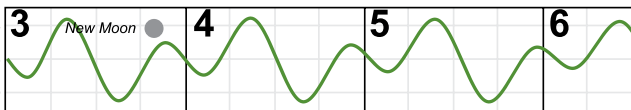
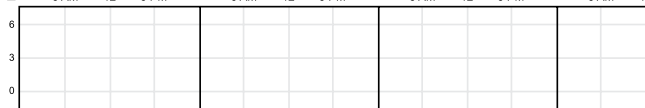
Times and Heights of
High and Low Water
(heights in feet)

Tide Tables

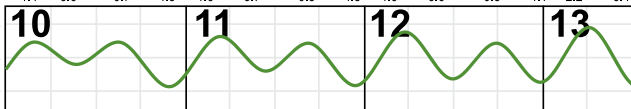
LOS ANGELES
(Outer Harbor)
CALIFORNIA

SUNDAY MONDAY TUESDAY WEDNESDAY

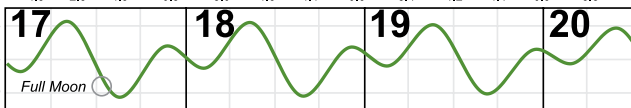
Feet



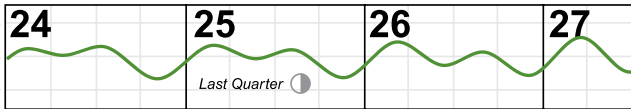
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1.4 6.6 -0.7 4.5 1.6 6.7 -0.8 4.3 1.9 6.6 -0.8 4.1 2.2 6.4



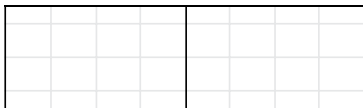
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4.5 2.5 4.5 0.5 5.0 1.9 4.4 0.6 5.4 1.2 4.4 0.9 5.8 6.4



1:58 8:10 3:14 9:38 2:29 8:40 3:49 10:19 3:00 9:10 4:25 11:02 3:32 9:42
1.8 6.3 -0.5 4.1 2.1 6.2 -0.4 4.0 2.3 6.0 -0.2 3.8 2.5 5.7



2:58 7:39 12:45 8:17 3:49 9:28 2:15 9:11 4:26 10:42 3:49 10:00 4:58 11:07
3.8 3.2 4.0 1.1 4.1 2.9 3.7 1.2 4.4 2.3 3.5 1.4 4.8 1.1



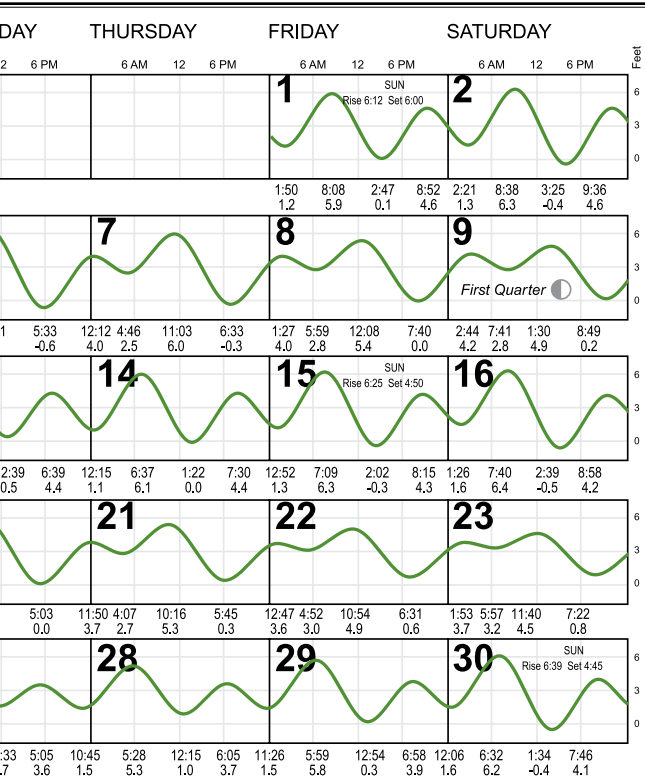
OCTOBER

S M T W T F S
1 2 3 4 5
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31

DECEMBER

S M T W
1 2 3 4
8 9 10 11
15 16 17 18
22 23 24 25
29 30 31

November 2013

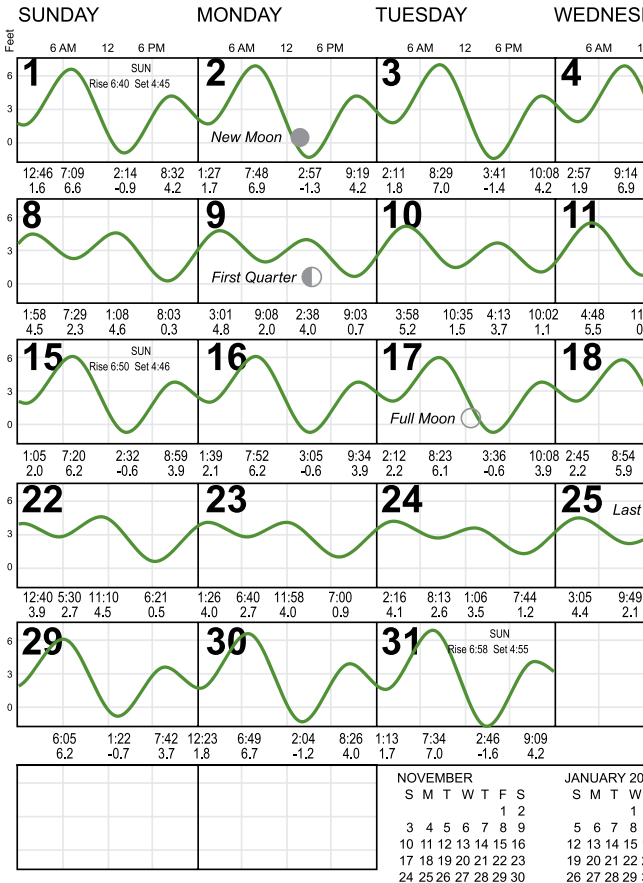


T F S
5 6 7
12 13 14
19 20 21
26 27 28

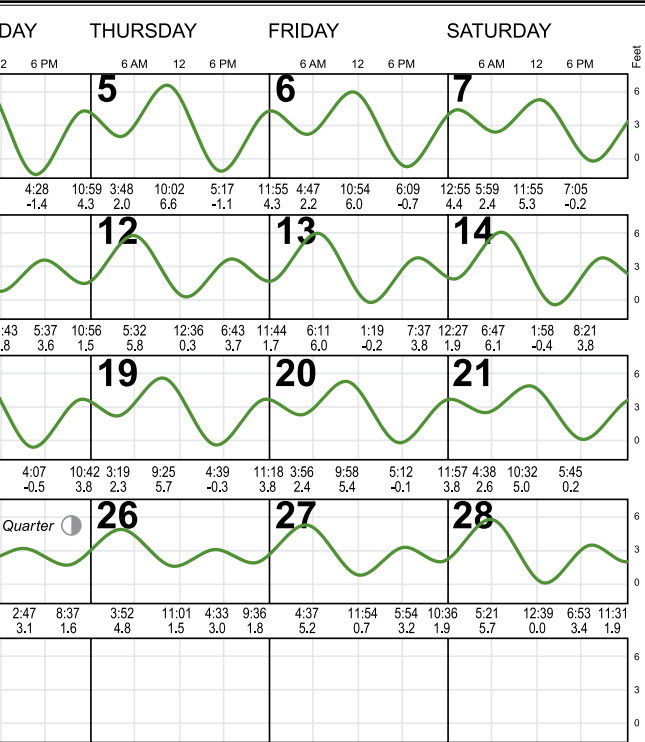
Times and Heights of
High and Low Water
(heights in feet)

Tide Tables

LOS ANGELES
(Outer Harbor)
CALIFORNIA



December 2013



14
T F S
2 3 4
9 10 11
16 17 18
23 24 25
30 31

Times and Heights of
High and Low Water
(heights in feet)

NOTES

NOTES

NOTES



Port of Los Angeles

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www.portoflosangeles.org

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and activities.