Entrance to San Francisco Bay
NOAA Chart 18649

A reduced-scale NOAA nautical chart for small boaters
When possible, use the full-size NOAA chart for navigation.

- Complete, reduced-scale nautical chart
- Print at home for free
- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA’s Office of Coast Survey, the nation’s chartmaker

Included Area

Point San Pedro
San Mateo
Half Moon Bay
Redwood City
Palo Alto
San Francisco
Oakland
Richmond
Berkeley
San Rafael
Sausalito
Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America’s commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at http://www.NauticalCharts.NOAA.gov.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.


(Selected Excerpts from Coast Pilot)

Bolinas Bay, E of Duxbury Point, is an open bight 3.5 miles wide between Duxbury Point and Rocky Point. The bay affords shelter in NW weather in 24 to 36 feet, sandy bottom. Care must be taken to avoid Duxbury Reef and the dangers extending up to 0.7 mile E of it. Bolinas Lagoon is separated from the bay by a narrow strip of sandy beach that is cut by a narrow shifting channel. The lagoon is shoal and entered only by small boats with local knowledge. The entrance has a depth of less than 3 feet.

Rocky Point is 100 feet high and shelving. Numerous detached rocks are within 200 yards of the cliffs on the S side of the point.

Point Bonita, on the N side of the entrance to Golden Gate, is a sharp black cliff 100 feet high, increasing to 300 feet on its seaward face, 0.3 mile N. From NW it shows as three heads. Point Bonita Light (37°48′56″N., 122°31′46″W.), 124 feet above the water, is shown from a 33-foot white tower on the S head. A sound signal is at the light.

Bonita Cove, E of Point Bonita, is occasionally used as an anchorage by small vessels. Anchorage is close under Point Bonita in about 36 feet.

San Francisco Approach Lighted Whistle Buoy SF (37°45′00″N., 122°41′34″W.) is 9 miles WSW of San Francisco Bay entrance. The buoy is red and white and is equipped with a racon.

San Francisco Bar, a semicircular shoal with depths less than 36 feet, is formed by silt deposits carried to the ocean by the Sacramento and San Joaquin River systems. The bar extends from 3 miles S of Point Lobos to within 0.5 mile of Point Bonita off the southern coast of Marin Peninsula; the extreme outer part is about 5 miles WSW of San Francisco Bay entrance. Potatopatch Shoal, the N part of the bar on Fourfathom Bank, has reported depths of less than 23 feet. The name is said to have originated from the fact that schooners from Bodega Bay frequently lost their deck load of potatoes while crossing the shoal. The S part of the bar has depths of 31 to 36 feet.

Golden Gate, the passage between the ocean and San Francisco Bay, is 2 miles wide at the W end between Point Bonita and Point Lobos, but the channel is reduced in width to 1.5 miles by Mile Rocks and to less than 0.7 mile by the Golden Gate Bridge pier. Depths in the passage vary from 108 feet to over 300 feet.

Warning.—Very dangerous conditions develop over San Francisco Bar whenever large swells, generated by storms far out at sea, reach the coast. A natural condition called shoaling causes the large swells to be amplified and increase in height when they move over the shallow water shoals. This piling up of the water over the shoals is worsened during times when the tidal current is flowing out (ebbing) through the Golden Gate. Outbound tidal current is strongest about 4 hours after high water at the Golden Gate Bridge and attains a velocity in excess of 6 knots at times. The incoming large swells are met by outbound tidal current causing very rough and dangerous conditions over the bar. Steep waves to 20 or 25 feet have been reported in the area. Mariners should exercise extreme caution as the bar conditions may change considerably in a relatively short period of time.

The most dangerous part of the San Francisco Bar is considered to be Fourfathom Bank. Bonita Channel, between the shoal and the Marin coast, can also become very dangerous during large swell conditions. The safest part of the bar is the Main Ship Channel through the center of the bar. But even that area can be extremely dangerous when the tidal current is ebbing.

Caution.—Vessels departing San Francisco Bay through Bonita Channel on the ebb current must use extreme caution when crossing the tide rip off Point Bonita. When the bow passes the rip the stern is thrown to port and, unless promptly met, the vessel will head straight for the rocks off the point. Vessels favoring Potatopatch Shoal too closely have reported a set toward it.

Bonita Channel should not be used by large vessels.
Lateral System As Seen Entering From Seaward

PORT SIDE

ODD NUMBERED AIDS
- GREEN LIGHT ONLY
- FLASHING (2)
- OCCULTING
- QUICK FLASHING
- ISO

PREFERRED CHANNEL
- NO NUMBERS – MAY BE LETTERED
- PREFERRED CHANNEL TO STARBOARD
- TOPMOST BAND GREEN

PREFERRED CHANNEL
- NO NUMBERS – MAY BE LETTERED
- PREFERRED CHANNEL TO PORT
- TOPMOST BAND RED

STARBOARD SIDE

EVEN NUMBERED AIDS
- RED LIGHT ONLY
- FLASHING (2)
- OCCULTING
- QUICK FLASHING
- ISO

For more information on aids to navigation, including those on Western Rivers, please consult the latest USCG Light List for your area. These volumes are available online at http://www.navcen.uscg.gov
VHF Marine Radio channels for use on the waterways:
Channel 6 – Inter-ship safety communications.
Channel 9 – Communications between boats and ship-to-coast.
Channel 13 – Navigation purposes at bridges, locks, and harbors.
**Channel 16** – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.
Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.
Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

**Getting and Giving Help** — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

**EMERGENCY INFORMATION**

**Distress Call Procedures**
- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: “MAYDAY, MAYDAY, MAYDAY.”
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

**HAVE ALL PERSONS PUT ON LIFE JACKETS!**

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.

http://www.nws.noaa.gov/nwr/

**Quick References**
- Nautical chart related products and information — http://www.nauticalcharts.noaa.gov
- Interactive chart catalog — http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
- Chart and chart related inquiries and comments — http://ocsdata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs
- Chart updates (LNM and NM corrections) — http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html
- Coast Pilot online — http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm
- Tides and Currents — http://tidesandcurrents.noaa.gov
- National Data Buoy Center — http://www.ndbc.noaa.gov/
- NowCoast web portal for coastal conditions — http://www.nowcoast.noaa.gov/
- National Hurricane Center — http://www.nhc.noaa.gov/
- Pacific Tsunami Warning Center — http://ptwc.weather.gov/
- Contact Us — http://www.nauticalcharts.noaa.gov/staff/contact.htm

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This Booklet chart has been designed for duplex printing (printed on front and back of one sheet). If a duplex option is not available on your printer, you may print each sheet and arrange them back-to-back to allow for the proper layout when viewing.