

Gulf of the Farallones & Cordell Bank Shipwrecks

A Classroom Activity for Ocean Gazing Episode 20: The final frontier

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Credits: Channel Islands National Marine Sanctuary, NOAA National Marine Sanctuaries

Grade Level: 9-12

Lesson Time: 1- 3 hrs. (depends on number of sanctuaries and shipwrecks explored)

Materials Required

[Gulf of the Farallones National Marine Sanctuary Chart](#), [Cordell Bank National Marine Sanctuary Chart](#)

Summary

Explore shipwrecks from the Gulf of the Farallones and Cordell Bank National Marine Sanctuaries on the West Coast of the U.S.

Objectives

- ✓ Report on the historical background of shipwrecks within a sanctuary
- ✓ Practice using latitude and longitude by plotting shipwreck locations on a map.
- ✓ Assess the environmental factors contributing to shipwreck locations
- ✓ Discuss ocean navigation in a historical and modern context

Vocabulary

Radar, Seamount

Introduction

The [Gulf of the Farallones National Marine Sanctuary](#) encompasses 1,235 square miles of nearshore and offshore waters and seabed off the eastern Pacific. It includes nursing and spawning grounds for commercially valuable species, at least 26 species of marine mammals and 15 species of breeding seabirds. Located just a few miles north of cosmopolitan San Francisco, it is north of and contiguous with the Monterey Bay National Marine Sanctuary in Central California.

The adjacent [Cordell Bank National Marine Sanctuary](#) is a submerged seamount. The prevailing California Current flows southward along the coast, and the upwelling of nutrient-rich, deep ocean waters in the sanctuary stimulates the growth of organisms at all levels of the marine food web. The sanctuary was named for Edward Cordell of the U.S. Coast Survey, who mapped it in 1869. The granite formation ranges from 50 to 200 meters in depth and is almost 22 miles west of Point Reyes, California. It is unknown how many shipwrecks, if any, lie on the floor of the Cordell Bank National Marine Sanctuary. The depth of the sanctuary and its distance



from shore have made it difficult to conduct surveys of the area.

The waters of the Gulf of the Farallones National Marine Sanctuary have witnessed a rich diversity of watercraft, and over 140 shipwrecks have been reported in this region. Most of the maritime activity in the last 400 years has been focused on trade. The Spanish built missions around the Bay after 1776, which brought supply ships and foreign fur traders. Following Mexico's independence from Spain in 1821, the port of Yerba Buena (later named San Francisco) gradually expanded into a regional trading center. New England's "Yankee Traders" and ships of European nations traded, whaled, and gathered furs and hides while using San Francisco as a base to re-supply their vessels.

The Farallon Islands and the mainland coast north of the Golden Gate have historically provided hazardous navigational obstacles to shipping. Year-round fogs and dangerous winds and storms often led ships to rocks and beaches to be pounded by the Pacific swells. Fierce currents have always swept in and out of the entrance to the Golden Gate. Many known shipwrecks litter the floor of the Gulf of the Farallones National Marine Sanctuary. The earliest recorded shipwreck in the sanctuary area was the Spanish Manila galleon, *San Augustin*, sunk in a gale while anchored in Drake's Bay in 1595.

Data Activity

Part 1: Be a Shipwreck Detective

Print out the charts for the [Gulf of the Farallones](#) and [Cordell Banks National Marine Sanctuaries](#). (This requires Adobe Acrobat Reader. [Click here](#) to download this for free).

Go to the [Gulf of the Farallones and Cordell Banks National Marine Sanctuaries Shipwreck Database](#), and plot the shipwrecks listed in the data table by placing a small x and the shipwreck's name at the spot on the map where the latitude and longitude intersect.

1. Are there certain areas within your sanctuary that seem more prone to shipwrecks than others? Can you think of any reasons why this may be the case?
2. Are there certain times of year when there seemed to be more shipwrecks reported? Can you think of any reasons why this might be the case?
3. How many shipwrecks were reported in your sanctuary before 1942? How many were reported after 1942? Can you think of any reason for this difference?

Check your answers with our answers.

Part 2: Be a Shipwreck Historian

It will be easiest for your students to study the individual historical reports if you have printed them out ahead of time and made copies. In each sanctuary's database, click on the name of the ship to access the historical report. In some cases, a report may contain another link to an image and more information; be sure to print out that information also.

1. Name the two vessels that were sister ships and later in their careers collided.
2. Name the shipwreck that during the California Gold Rush represented an innovation in steam propulsion that differed from paddle driven vessels.
3. What shipwreck had on board troops who survived World War II, only to face another life threatening event less than 30 miles from the American shore?

4. Name the shipwreck that was named for a character in a Sir Walter Scott story, and carried lavish decorations of scenes and portraits from the Waverly novel.
5. Name the shipwreck that was rigged as a schooner at the time of her loss, but originally was launched as a steamer.
6. Name the shipwreck that carried a hazardous cargo that still leaks its toxic cargo into the National Marine Sanctuary today.
7. Mariners now have modern technology assisting them in navigating the Pacific West Coast. Would you consider ocean travel? Explain why you are excited about or hesitant about going to sea.

Check your answers with our answers.

Answers

Part 1

1. Are there certain areas within your sanctuary that seem more prone to shipwrecks than others? Can you think of any reasons why this may be the case?

Answer: Point Reyes, Point Bolinas, and the South Farallon Islands Reasons – hazardous navigation, year-round fog, dangerous winds and storms.

2. Are there certain times of year when there seemed to be more shipwrecks reported? Can you think of any reasons why this might be the case?

Answer: There are no particular times of year when there were more shipwrecks reported. Ships could encounter bad weather and fog in any season on the West Coast, and this factor, combined with navigational hazards, led many ships to their graveyards.

3. How many shipwrecks were reported in your sanctuary before 1942? How many were reported after 1942? Can you think of any reason for this difference?

Answer: Number of shipwrecks before 1942: 27; number of shipwrecks after 1942: 3. This difference can be attributed to the refinement of radar technology needed for use in World War II.

Part 2

1. Name the two vessels that were sister ships and later in their careers collided.

Answer: *Jacob Luckenbach & Hawaiian Pilot.*

2. Name the shipwreck that during the California Gold Rush represented an innovation in steam propulsion that differed from paddle driven vessels.

Answer: *S.S. Lewis, “propeller.”*

3. What shipwreck had on board troops who survived World War II, only to face another life threatening event less than 30 miles from the American shore?

Answer: *Henry Bergh.*

4. Name the shipwreck that was named for a character in a Sir Walter Scott story, and carried lavish decorations of scenes and portraits from the Waverly novel.

Answer: *Lammermoor.*

5. Name the shipwreck that was rigged as a schooner at the time of her loss, but originally was launched as a steamer.

Answer: *Louis.*

6. Name the shipwreck that carried a hazardous cargo that still leaks its toxic cargo into the National Marine Sanctuary today.

Answer: *Puerto Rican.*

Related Resources

[National Marine Sanctuaries Shipwrecks DATA Activity](#), [Maritime heritage](#), [Archeology](#), [Conservation](#)

References

Gulf of the Farallones National Marine Sanctuary. NOAA National Marine Sanctuaries.

<http://farallones.noaa.gov/>

Cordell Bank National Marine Sanctuary. NOAA National Marine Sanctuaries.

<http://cordellbank.noaa.gov/>

Gulf of the Farallones National Marine Sanctuary & Cordell Banks National Marine Sanctuary Shipwreck Database. NOAA National Marine Sanctuaries.

<http://channelislands.noaa.gov/bridge/gfnms1.html>

Sources

The related podcast episode for this activity can be found by going to the podcast section of www.oceangazing.org