

# **S.S. MONTEBELLO BACKGROUND INFORMATION**

*Prepared by the S.S. MONTEBELLO Task Force*

## **Vessel Background:**

The *MONTEBELLO* oil tanker was sunk off the coast of California on Dec. 23, 1941 by a Japanese submarine during World War II. The vessel sits in federal waters, approximately six miles off the coast of Moonstone Beach in Cambria, 900 feet below the water's surface. Prior to its sinking, the *MONTEBELLO* loaded 73,571 barrels (3,089,982 gallons) of Santa Maria crude oil and 2,477 barrels (104,034 gallons) of bunker fuel at Port San Luis, Calif.

The *MONTEBELLO* regularly transported oil from the Hawaiian Islands, Siberia, British Columbia and other Pacific ports. She was launched for the first time on January 24, 1921 from the Southwestern Shipbuilding Company in San Pedro, Calif. At the time of the accident, the vessel was owned by Union Oil Company of California. Later Union Oil was taken over by Chevron.

## Dimensions (feet)

Length: Registered: 440.0

Overall: 457.0

Beam: 58.2

Depth of Hold: 32.8

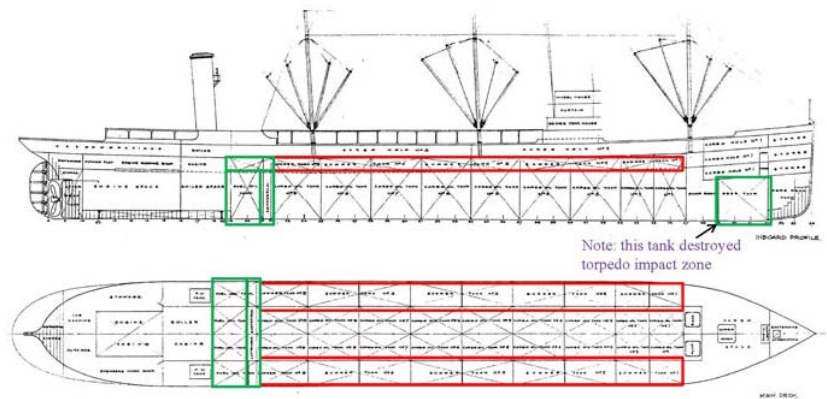
## Cargo Capacity (barrels)

Main cargo tanks: 72,858

Summer tanks: 9,192

Total: 82,050 barrels

Average Cargo 76,500 barrels



## **Development of Task Force:**

The Department of Fish and Game's Office of Spill Prevention and Response (OSPR) has been aware of the *MONTEBELLO* for a number of years. In 2003, OSPR participated in developing a report *California High Risk Sunken Vessels*, in which the *MONTEBELLO* was identified as one among several others. Senator Sam Blakeslee became aware of the *MONTEBELLO* in 2008 and requested OSPR investigate the threat the *MONTEBELLO* posed to California shores.

OSPR agreed to coordinate and complete an assessment report on the *MONTEBELLO* and partnered with other stakeholders to conduct the necessary research on the sunken vessel and its cargo. The stakeholders formed the Task Force and met for the first time in early 2009. Stakeholders include:

- Coast Guard
- Department of Fish and Game's Office of Spill Prevention and Response
- National Oceanic and Atmospheric Administration (NOAA)

- Senator Blakeslee's Office
- California Department of Transportation (CalTrans)
- Monterey Bay Aquarium Research Institute
- Monterey Bay National Marine Sanctuary

## **Goals:**

Assessing the condition of the vessel and determining the status of oil it carried became the primary focus of the Task Force. Historic records indicated the *MONTEBELLO* had been loaded with 73,571 barrels of heavy crude oil before it departed San Luis Obispo, but it is uncertain whether or not the oil still remains aboard.

Taking into account the water's frigid temperatures and the characteristics of the oil, the Task Force believes the oil in the *MONTEBELLO* is quite viscous. If any has leaked or could leak, it is anticipated the oil would warm up as it rose to the surface. This would allow the oil to spread, causing damage to sea life, beaches, and important economic sites.

In order to complete the tasks of evaluating the integrity of the vessel and the status of the oil aboard, OSPR sponsored a survey that captured side sonar scans in 2010. The scans confirmed vessel location, orientation, hull position, etc. In order for any action to be determined, a full assessment including oil and sediment samples, as well as a thorough hull integrity assessment was needed.

The Coast Guard agreed to fund a series of dives that will be conducted by a contractor under the direction of the Coast Guard and Department of Fish and Game in a Unified Command in Oct., 2011. The Coast Guard funded dives will focus upon evaluating the condition of the *MONTEBELLO*, determining whether oil is aboard, and obtaining oil samples from the vessel and sediment samples from the surrounding area for testing. The data collected by the Coast Guard contractor will help determine whether the *MONTEBELLO* threatens California's coast with an oil release.

## **Results of Past Dives**

Over the past 68 years, there have been two underwater dives conducted to gain a visual picture of the sunken vessel. These dives revealed that the vessel appears to be fully intact and is sitting perfectly upright on the bottom of the ocean.

### *MONTEBELLO* Rediscovery: 1996

Central Coast Maritime Museum Association in collaboration with NOAA West Coast National Undersea Research Center and the Coastal Maritime Archaeology Resources Organization surveyed the vessel on November 7, 1996. Survey accomplishments included:

- Surveying wreck and determining potential for an environmental threat
- Looking for oil discharge in water column or signs of *Beggiatoa* bacteria (presence of hydrocarbon) which were negative

- Properly memorializing this little known WWII event and the local community's involvement (National Register nomination)
- Surveying marine environment biology

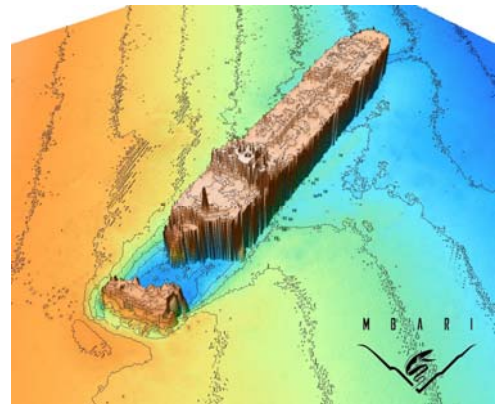
#### Monterey Bay National Marine Sanctuary 2003 Expedition - NOAA

Monterey Bay National Marine Sanctuary (MBNMS) in collaboration with archaeologists from California State Parks and CalTrans surveyed the wreck again in 2003. Survey accomplishments included:

- Looking for oil discharge in water column or signs of *Beggiatoa* bacteria (presence of hydrocarbon) which were again negative
- Exploring and recording in greater detail bow section (not completed in 1996)
- Reporting on structural integrity of wreck and noting signs of degradation since 1996 survey
- Surveying extensive marine life that has colonized at the shipwreck site for biological documentation including 16 fish species and 29 invertebrate species
- Surveying new areas including seafloor contiguous to wreck and bow section
- Noting possible hull degradation since 1996 survey reported in starboard stern quarter

#### Monterey Bay Aquarium Research Institute (MBARI) autonomous underwater vehicle 2010

OSPR funded an MBARI expedition to use an autonomous underwater vehicle to provide initial assessment of the vessel using sonar to determine full extent and overall layout of the wreckage. The information gathered assisted with planning of the Coast Guard full assessment dive in 2011. The AUV captured a variety of images:



- Sidescan sonar yielded black and white image of the ocean bottom showing hardness and softness of seafloor as well as objects on the floor
- Multi-beam sonar create a detailed bathymetric map (3-D image) of the seafloor and wreckage
- Sub-bottom profiling sonar indicated density of layers of rock beneath sediment on floor

#### **Potential Issues and Threats:**

**Historical Preservation** -- Under the National Historic Preservation Act (NHPA), all federal agencies have an obligation to protect historic properties, including shipwrecks. Federal law generally defines historic sites as those being at least 50 years old, which includes WWII ships. However, if the cleanup action does not require significant disturbance but only tapping into a hull and pumping out oil, it is likely to comply with NHPA.

**Biological Threats** – On the last dive expedition from the MBNMS, 16 fish species and 29 invertebrate species were recorded on the ship, though these numbers are considered to be conservative, since there is likely to be many smaller and cryptic species. There is not yet any

mention from MBNMS that the existence of these species would prohibit oil removal but, presumably, some habitat fostered by the *MONTEBELLO* may be disrupted by oil removal efforts. At least 24 species listed or proposed for listing under the Federal or California Endangered Species Acts may occur in the study area. Some of these species are likely only to occur as uncommon transients in the study area, and some, such as the whales, are relatively unlikely to be impacted by oil releases. The Montebello Task Force is conducting a more in-depth study on this issue.

### **Monterey Bay National Marine Sanctuary**

The MBNMS is part of a system of 13 National Marine Sanctuaries and one marine national monument, administered by the National Oceanic and Atmospheric Administration.

The *MONTEBELLO* is sitting in deep water on the seabed off of Piedras Blancas point, just south of the National Monterey Bay National Sanctuary. MBNMS is a federally protected marine area offshore of California's central coast. Stretching from Marin to Cambria, the MBNMS encompasses a shoreline length of 276 miles and 6,094 square miles of ocean. This sanctuary could be in danger if the *MONTEBELLO* was to leak oil; it could impact wildlife and shorelines, and the habitat upon which the wildlife depends.

### **PG&E Diablo Canyon Nuclear Power Plant**

PG&E uses seawater to cool the nuclear reactors. Diablo Canyon Independent Safety Committee heard testimony from Gary Talley in June 2008 on the importance of monitoring systems to detect oil in the vicinity of the salt water intake. There is no evidence that PG&E has a monitoring system to detect oil leaks near the plant. On October 21, 2008 a swarm of jellyfish covered the racks used to keep ocean creatures out of the water used to cool the reactors, forcing a partial shut down. Presumably, a heavy thick mass of petroleum would have similar effects.

## **Potential Funding Sources:**

### **Imminent Threat Fund**

Overseen by: California's Office of Oil Spill Prevention and Response

OSPR has a \$100,000 fund used to respond to threats of oil. OSPR agreed to utilize some funds for initial activities on the *MONTEBELLO*.

### **The Lempert-Keene-Seastrand Oil Spill Prevention and Response Act**

Overseen by: California Department of Fish and Game

The Lempert-Keene-Seastrand Act of 1990 (The Act) created the Oil Spill Prevention Administration Fund (OSPAF) to provide a funding base for oil spill preparation and response capabilities. This money comes from a fee of 5 cents per barrel on crude oil or petroleum products that transit through state waters. It includes the Imminent Threat Fund which allocates monies for OSPR to investigate situations, like shipwrecks, that pose a potential threat.

The Act also created a one-time fee of 25 cents per barrel to establish the Oil Spill Response Trust Fund (OSRTF) of approximately \$50 million to serve as a funding source during oil spill events when no responsible party has been identified or the responsible party does not have the funding available to pay for the response. The OSRTF is restored through the cost recovery and settlement process.

## **The Federal Oil Spill Liability Trust Fund**

Overseen by: Coast Guard

The federal fund was created in 1990 after *EXXON VALDEZ* grounding. The fund is managed by the Coast Guard and sustained by fees from the oil industry. The fund currently pays for claims associated with oil cleanup and the restoration of natural resources impacted by oil incidents when there is no responsible party or where the incident was caused by an “Act of God” or “Act of War.”

### **Historical Precedent:**

Between the winter months between 1990 and 2003, a series of “mystery” oil spills fouled the feathers of thousands of birds over the span of 200 miles of California. Responders gathered samples from the different spills, as they tried to find the source of each incident. As incidents continued, the OSPR Petroleum Chemistry Laboratory (PCL) analyzed the samples and determined that all were from the same source. To investigators, this eliminated the possibility of a vessel causing the problem because of the number of years over which the spills occurred, and so they turned suspicion toward sunken vessels. Triangulating the search based upon where birds washed up, tides and currents, investigators isolated the source to one of four sunken vessels in the area 17 miles west-southwest of San Francisco. With the capture of a sample of oil from the *SS JACOB LUCKENBACH*, the PCL confirmed the match and the *LUCKENBACH* identified as the source of the mystery spills. The *LUCKENBACH* had collided with a sister ship in 1953 with 475,000 gallons onboard, in 180 feet of water, and over time had begun releasing oil.

The Coast Guard and DFG’s Office of Spill Prevention and Response created a Unified Command to respond to the situation. There was not an RP identified to pay for the cleanup because of the amount of time that had passed since the accident and the fact that the Luckenbach Steamship Company had dissolved in the 1960s. In the absence of a responsible party, trustees were identified to administer funding (DFG, NOAA, USFWS, NPS). The clean-up took four months in 2002 and costs were paid out of the nation’s \$1 billion federal Oil Spill Liability Trust Fund.

Before cleanup efforts began, Coast Guard performed daily flyovers and boat inspections looking for oil leaking from the *LUCKENBACH*. During cleanup, USCG was responsible for establishing a temporary safety zone in the navigable waters surrounding the sunken vessel. In 2002, Coast Guard awarded a \$3.5-million contract to Titan Maritime of Florida to conduct an underwater assessment of the sunken wreck and remove any recoverable oil discovered within the fuel tanks. Over 460 metric tons of fuel was pumped out of the wreck. In order to heat the oil up enough to allow it to be pumped out, steam was injected into the hull using “heat taps.”

**NOTE:** the *LUCKENBACH* case involved bunker oil while the *MONTEBELLO* carries heavy crude oil. Though the process of recovery would be similar, the *MONTEBELLO* sits at a much greater depth and in much colder water than the *LUCKENBACH*, which would make the task more difficult if oil must be extracted. If the Oil Spill Liability Trust Fund is used for operations to recover oil on the *MONTEBELLO*, the primary issue will likely be the limits of deep sea engineering technology.