

CMS Thermograph Array Project Site Information – Breakwater Cove

07.14.20 - AJM

Permit Information:

Monterey Bay National Marine Sanctuary Permit #: MBNMS-2019-010
California Department of Fish and Wildlife Permit #: S-191530001-19154-001
California Department of Fish and Wildlife Permit Holder ID#: EID-191530001
California State Parks Permit #: 061719-021

Divers Participating:

Andrew Morgan
Scott Chapman

Instrument Number:

30 FSW Temperature Sensor – 20481387
Retrieved Sensor – 20668566

60 FSW Temperature Sensor – 20539516
Retrieved Sensor – 20668565

Date:

July 14, 2020 - Retrieved & Placed New Sensor

Site Description:

Dive Site GPS Coordinates (Approximate) – 36 36' 35.7" N / 121 53' 38.5" W



Breakwater Cove dive site is a part of San Carlos Beach and is located within the Edward F. Ricketts State Marine Reserve (SMCA). The breakwater itself is approximately 1,700 feet long and

was built in the 1930s by the Army Corps of Engineers for the U.S. Coast Guard. This is arguably the most popular location in Monterey Bay for scuba diving classes. It is also host to a boat launch ramp. Potential hazards at this dive site include surf on entry and exit, limited visibility, entanglement (kelp and/or fishing line), sea life (urchins, sea lions, etc.), boat traffic, kayakers, and other divers. Parking is ample but fills up quickly on the weekends. Parking is metered and rates are \$1.50 an hour or \$10.00 per day (rates subject to change). Payment can be made at any of the pay stations located throughout the parking lot. Breakwater is close walking distance to Cannery Row, including food and Breakwater Scuba, a local dive shop that offers gear rental and air fills. Two restrooms with flush toilets are available. One is at the north end of the grassy field (San Carlos Beach Park Public Restrooms) and the other is on the eastern tip of the parking on the pier. Two showers are available. One is free and open air at the top of the stairs leading from the grassy area to the beach; the other takes quarters and has an enclosed stall behind the restrooms on the eastern tip of the pier.

Location and Coordinates:

30 FSW Temperature Sensor – Exact GPS Coordinates – Undetermined

Although exact GPS coordinates were not taken from the surface directly above the sensor, the following directions and techniques can be used to relocate the shallow sensor:

- Surface swim along the breakwater (on your right if you are looking offshore) until you reach the bend in the wall.
- Locate the 7 ½ marker that is painted on the breakwater.
- Position yourself in front of the large crack that is located between the 7 ½ and 8 marker.
- Descend to the bottom and look for the large rock that pinnacles to mid water column.
- The sensor is secured to the face of the rock near the base, just above the overhang.

60 FSW Temperature Sensor – Exact GPS Coordinates – Undetermined

Although exact GPS coordinates were not taken from the surface directly above the sensor, the following directions and techniques can be used to relocate the deep sensor:

- Surface swim along the breakwater (on your right if you are looking offshore) until you nearly reach the end of the wall.
- Position yourself in front of the 13 marker that is painted on the breakwater.
- Descend to the bottom until you reach the base of the breakwater.
- Swim offshore (breakwater positioned on your right) until you reach a large pipe in the sand that runs perpendicular to the base of the breakwater.
- Once you reach the pipe orient yourself facing onshore (breakwater positioned on your left)
- The sensor is secured to the face of a medium sized lean-to rock structure that is approximately 6-8 feet onshore from the pipe.

Time Instrument Hits Water:

30 FSW Temperature Sensor – 0905

60 FSW Temperature Sensor – 0905

Time Instrument Is Fastened to Bottom:

30 FSW Temperature Sensor – 1015

60 FSW Temperature Sensor – 0940

Tide:

Time	Tide	Height
6:12 PM	High	4.82 ft
1:25 AM	Low	1.55 ft
7:08 AM	High	3.05 ft
11:56AM	Low	2.10 ft

Depth:

30 FSW Temperature Sensor – actual depth of sensor 23 FSW

60 FSW Temperature Sensor – actual depth of sensor 50 FSW

Substrate:

The breakwater is largely comprised of a man-made structure that acts as a reef for giant kelp. The majority of the large boulders are solid granite, but others may be types of composite rock material. Adjacent to the breakwater is an open sandy bottom with small rocks and cobble scattered throughout. The breakwater runs along a 60 degree / 250 degree heading.

Distance from Shore:

Exact distance from shore is unknown and difficult to determine. Approximate distance from shore for the shallow sensor is 200 yards. The approximate distance from shore for the deep sensor

is 350 – 400 yards. This approximation is based on a visual estimate from the surface, directly above where the sensor was deployed. The information in this report will allow the laymen diver to reliably relocate the sensor.

Bathymetry:

The bathymetry surrounding both sensor locations is very similar, vast expanses of open sand adjacent to the breakwater that follow a gradual slope as you move offshore. The breakwater is very dynamic with various cracks and crevices. However, if you swim along the edge of the breakwater it follows the same gradual slope as you move offshore.