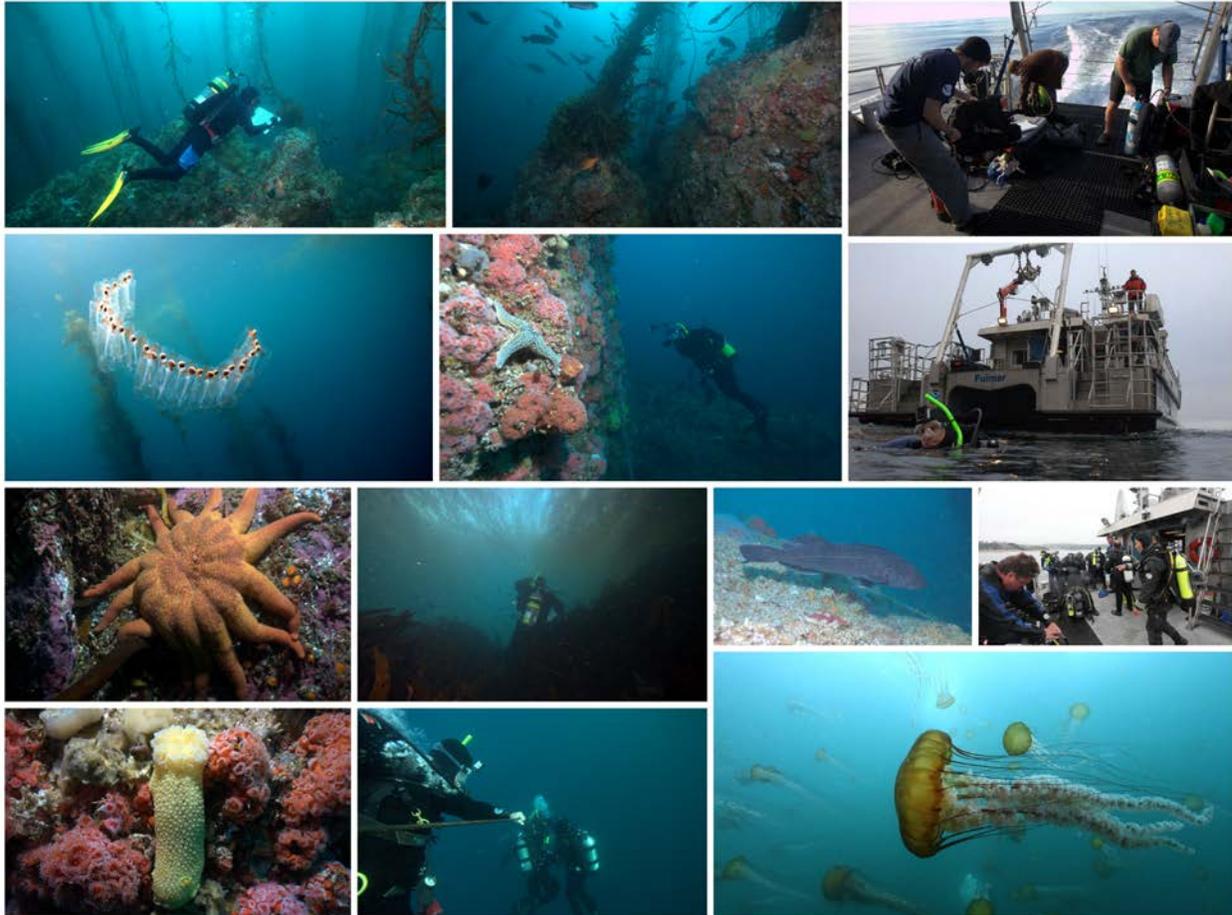


# Summary of SCUBA Diving Operations Conducted From R/V *Fulmar* – 2012



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## Unit or Line Office Primary Diving Mission/Task:

The diving team at the Monterey Bay National Marine Sanctuary (MBNMS) primarily conducts or participates in, diving operations that characterize the nearshore habitats (primarily kelp forest ecosystems) from the Monterey Peninsula, south to Cambria. The MBNMS is also tasked with the supervision and oversight of the maintenance of a network of oceanographic moorings stationed in the nearshore up and down the central California coast and equipped for search and recovery tasks, with the consideration of the certification limits of each diver. Additionally, the MBNMS diving team is equipped with underwater digital SLR cameras, a GoPro camera, point and shoot cameras and a high-definition underwater video camera for habitat and resource characterization and outreach purposes.

## Summary of Diving Statistics from Projects Conducted From R/V *Fulmar* during 2012:

- 130 dives conducted by 26 divers
- 85 hours of total bottom time
- Average Depth of 61 feet (+/- 19.5 std dev)
- Average Bottom Time of 39 minutes
- 34.6% of dives used Enriched Air NITROX
- 27 unique dive sites

## Specific Projects or Operations Completed During the Fiscal Year

### Project Purpose by Bottom Time

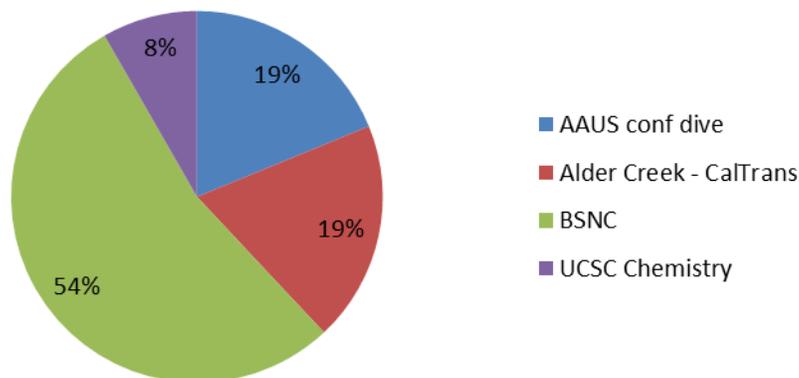


Figure 1. Total bottom time (in minutes) recorded for diving projects conducted off of the R/V *Fulmar* in 2012.

The MBNMS supported, through dive master supervision and research diving participation, diving operations (3 survey days, 24 dives totaling 16.4 hours of bottom time) conducted off of the R/V *Fulmar* to conduct qualitative subtidal fish, invertebrate, and algae surveys and document nearshore subtidal habitat near Gorda, California, where a significant landslide and subsequent debris deposition by CalTrans occurred during 2011. Underwater video and still photography were also used. This project is funded by CalTrans.

The MBNMS supported, through dive master supervision and research diving participation, diving operations (6 survey days, 56 dives totaling 56 hours of bottom time) conducted off of the R/V *Fulmar* for Big Sur Nearshore Characterization.

The MBNMS supported, through dive master supervision and research diving participation (simultaneous with BSNC expedition, 3 survey days total, 14 dives totaling 7 hours of bottom time) to conduct sediment sampling for the UC Santa Cruz Chemistry department.

The MBNMS supported, through dive master supervision and research diving participation, diving operations (1 survey days, 36 dives totaling 16.1 hours of bottom time) conducted off of the R/V *Fulmar* in support of the American Academy of Underwater Sciences (AAUS).

The MBNMS acquired a digital SLR camera, housing, and lights in 2005 and continues to use this asset to photograph marine resources. An additional digital SLR and point and shoot camera was acquired in 2009 to incorporate wide-angle photography. These images are indexed, classified, and select photographs are posted on the Sanctuary Integrated Monitoring Network website ([www.sanctuarymonitoring.org/photos](http://www.sanctuarymonitoring.org/photos)).

In 2012, the MBNMS acquired a high definition “GoPro” video camera. The MBNMS used the GoPro to record the duration of all BSNC and Alder Creek characterization dives for video visual baselines.

The MBNMS saw decreased diving operations in 2012 and relied heavily upon the R/V *Fulmar* and its NUVAIR NITROX compressor. All diving was completed without incident. An electronic dive log (MS Excel) was created in August 2007, and can be accessed from the scientific PC aboard the R/V *Fulmar* for immediate entry by the divemaster on duty. It is approximately 95% complete for all diving operations (currently over 1,898 dives have been logged).

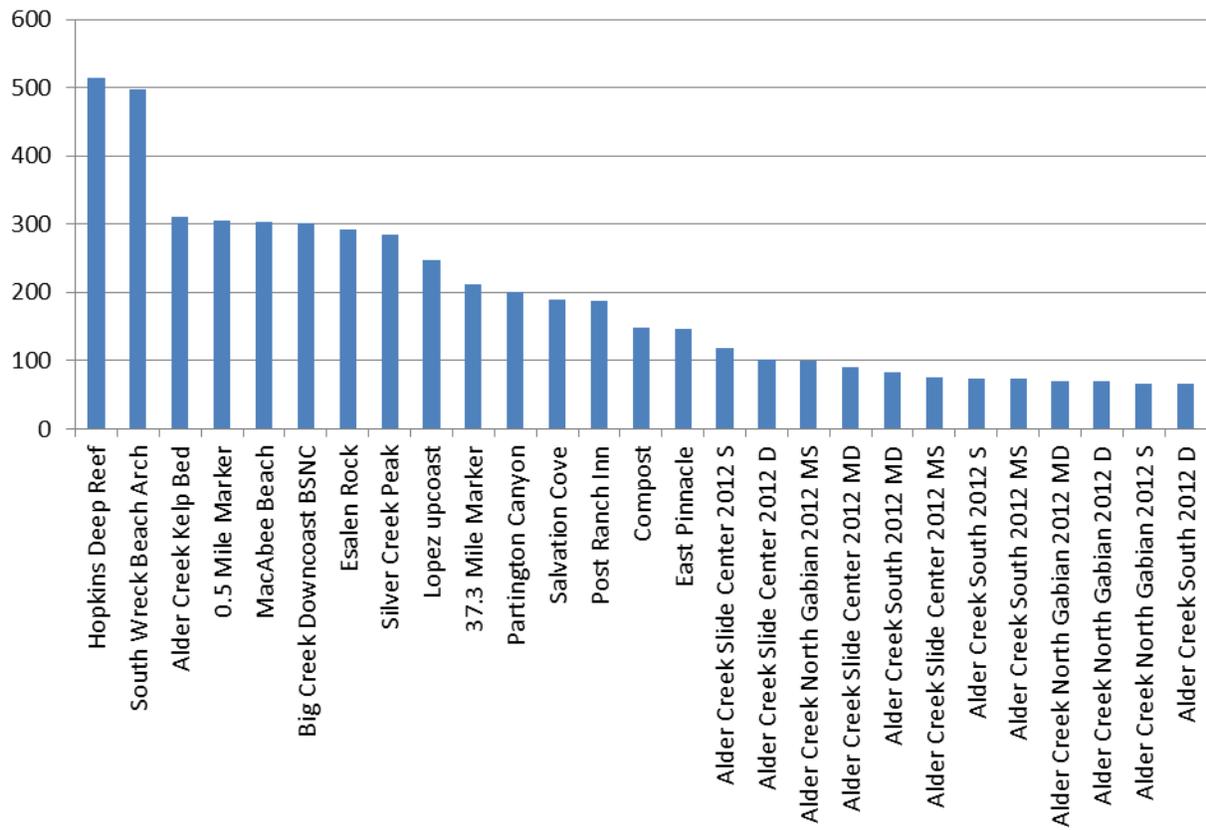


Figure 2. Total bottom time (minutes) recorded at 27 dive sites.