



Updated 24 Sep 2018

**Propeller Driven Long Range Autonomous Underwater Vehicle (LRAUV)
Open-water Demonstration conducted by the
Woods Hole Oceanographic Institution, Monterey Bay Aquarium Research Institute and Arctic
Domain Awareness Center Research Team**

Thursday, September 27, 2018 09:00-16:00

OVERVIEW

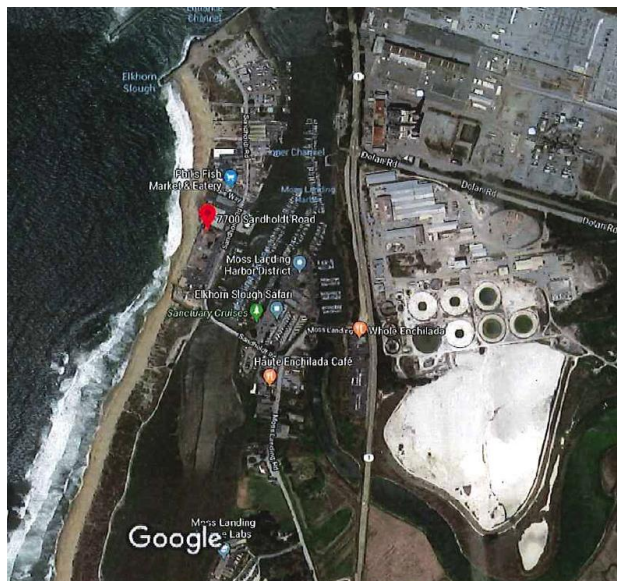
Welcome to MBARI, your hosts for today's proceedings. Led by the LRAUV project PI, Dr. Bellingham, the laboratories at Monterey Bay Aquarium Research Institute (MBARI) developed a small long-range system called the Tethys Autonomous Underwater Vehicle (AUV). The Tethys AUV is a helicopter-portable system that functions as a rapid response solution to incidents occurring in the maritime environment, and aims to increase the situational awareness of first responders. The planned open-water test in Monterey Bay California is a milestone in this important ADAC, WHOI and MBARI combined research team project. Gaining an autonomous underwater capability to survey oil spills at long range, high latitudes, and under ice answers an unmet need for the U.S Department of Homeland Security Science and Technology's Office of University Programs (OUP) and the U.S Coast Guard (USCG).

Today's mission is a mission oriented test of LRAUV, which includes sensing and mapping sea dye, simulating an oil spill in open water. This test is part of LRAUV's established research as described in the ADAC Program Year 5 workplan. This test provides DHS S&T OUP and USCG measures of confidence in this important research project and an opportunity to advance discussions for future research and development.

MBARI has secured the relevant permits for this test with the State of California. The test is conducted in accordance with U.S. federal statutes and environmental marine regulations.



LOGISTICS



7700 Sandholdt Rd
Moss Landing, CA 95039

MBARI location, phone and parking details:

- Address is 7700 Sandholdt Rd
Moss Landing CA, 95039
- Phone: (831) 775-1941
- Parking: Guest parking near front door of the facility
- Recommended attire: Casual. Closed toe shoes are required for the boat.

AGENDA

0900

Meet in MBARI Lobby.

Greeted by Amy Kukulya and Brett Hobson.

0905

Arrive MBARI Conference Room.

Convene in MBARI Conference Room for a brief on LRAUV water demonstration.

- 0935** **Depart Conference Room for vessel.**
Walk down to the Pier and board the R/V Martin for an orientation and view LRAUV.
- 1000** **Depart pier and transit to test site (30 minute voyage)**
- 1030** **Observe sea-dye Mapping Mission**
Including observing Remotely Piloted Aircraft (RPA) launch for aerial documentation. The AUV will start searching for the dye plume, and when it crosses the plume it will make a large course correction to swim back through the plume and this behavior will be repeated as it locates the extents of the plume. The observing team watch this from the ship with some viewing assistance from a small RPA flying above.
- 1130** **Depart test site and return to MBARI**
- 1200** **Arrive MBARI pier, transit to MBARI conference room**
- 1205-1315** **Conduct working lunch**
Team will debrief in MBARI Conference room, data review presentation led by Brett Hobson, Amy Kukulya, and Dr. Jim Bellingham providing overview of vehicle specifications, instrumentation, mission planning, vehicle communications and current capability, vehicle future capability, transition plan, future work.
- 1315-1400** **Open discussion: Focused principally on LRAUV transition**
ADAC and WHOI project members will guide discussions in follow-up from the 14 Sep 2018 LRAUV Transition Teleconference with USCG LRAUV Project Champion and USCG Project Stakeholders.
- 14:00-15:30** **MBARI Tour**
Brett Hobson provides vehicle and lab tour, aborts vehicle and is brought back by MBARI's R/V Paragon. Data will be viewed to see if the Sea Owl sensed the dye and data will be plotted in the lab or conference room.
- 1600** **Completion of activities**