

**Mission.** To provide our warfighters with threat representative targets, EW systems, and adaptive training environments in air, sea, and land domains; supporting worldwide live, virtual, and constructive threat presentations for T&E, warfighter experimentation, mission rehearsal, and fleet training.

**Unique Features.** The Threat / Target Systems Department (T/TSD, AIR-5.3) provides threat and target systems including test event and exercise planning, rehearsal, and execution to both fleet training and T&E customers at range locations worldwide. The Point Mugu complex is the only location that operates all of the current subsonic and supersonic aerial targets, along with various seaborne targets including the Aerial Target Launch Ship (ATLS). The Department's Airborne Threat Simulation and Combat Environment Simulation Divisions combine as the Navy's premier team for developing and deploying multi-use / multi-service threat EW and radar signal simulation systems.



**Combat Support.** AIR-5.3 continues to provide high quality products consistently around the globe to defense acquisition programs, the U.S. Naval Fleet, other DoD services and Coalition Forces, and various federal agencies in support of testing and training objectives.

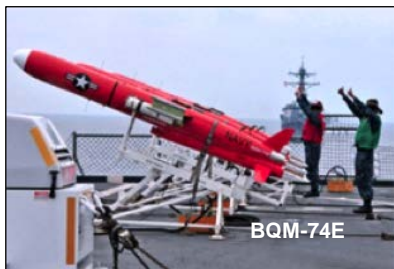
AIR-5.3 provides ground targets and supporting services to over 100 events annually worldwide and seaborne targets and services to more than 1,200 training and T&E events per year.



Gulf of Aden rescue of the Magellan Star

*"In September 2010, members of the 15<sup>th</sup> Marine Expeditionary Unit's (MEU's) Maritime Raid Force onboard the USS Dubuque, located in the Gulf of Aden, were called in to neutralize a developing piracy event onboard the motor vessel Magellan Star. The Pentagon considers this event to be the first time in modern history the military forcibly boarded a ship held by pirates. Their success was partially credited to the realistic, pre-deployment training provided by AIR-5.3 personnel."*

**Cost / Time Savings.** In the past decade, AIR-5.3 has developed both powered and non-powered targets for T&E and training. Current platforms include the Mobile Ship Target (MST), High-Speed Maneuvering Surface Target (HSMST), Fast Attack Craft Target (FACT), QST-35 Seaborne Powered Target, Low Cost Modular Target (LCMT), and the Low Cost Tow Target (LCTT). Future platforms include the Polyethylene Tow Target (PETT) and the SQUID (an unsinkable, non-powered tow target that is highly cost efficient). Considered one of the most versatile seaborne target vessels, the MST is the only self-propelled target ship of its size in the U.S. inventory and is recognized internationally as the leader of environmentally friendly, highly survivable, target ships. As an additional benefit, they provide an enhanced threat realism capability and lower unit cost than earlier platforms. In 2012, the BQM-74E combined hit and kill operational loss rate was reduced from 13% in 2010 down to only 6% thanks to the extraordinary preservation efforts by both the support personnel and their customer activities.



BQM-74E

**RDT&E.** Aerial, land, and seaborne targets are all available. Target augmentations include C<sup>2</sup>, flight termination, radar and IR signature enhancement systems, threat seeker / threat countermeasure simulators, scoring systems, and laser designators. These capabilities enable the testing of a myriad of naval weapon systems as well as support significant testing of other services, allied, and foreign military systems.

**Size / Description / Scope.** The threat and targets complex encompasses 413,000 SF with facilities located at Naval Base Ventura County (NBVC) Point Mugu, CA (273,000 SF), Naval Surface Warfare Center (NSWC) Port Hueneme, CA (100,000 SF), and Naval Air Weapons Station (NAWS) China Lake, CA (39,000 SF). **Combined Annual Test Events:** 2,500+. **Year Opened:** 1940s. **Plant Value:** \$500M+.

## Main Facilities

**Harbor Facilities.** NSWC Port Hueneme (PH) provides ready access to the Pacific Sea Test Range and open-ocean for seaborne targets. In addition, the PH facility provides depot-level support to 7 operating activities at 10 operating sites worldwide and is considered the Navy's lead technical facility for seaborne targets.



**Aerial and Ground Target Facilities.** Include hangar spaces, electronic and mechanical shop spaces, an engine run block house, decontamination area, ordnance ready service lockers, and an extensive ramp space.

The systems engineering facilities include an M&S laboratory along with target system test and development laboratories. The Airborne Threat Simulation Organization includes electronic developmental laboratories as well as prototyping capabilities. The Combat Environment Simulation Division includes fixed transmission sites, facilities for their various types of relocatable fixed and mobile threats / targets, and aircraft survivability equipment (ASE) / hostile fire indication (HFI) testing facilities.



## Equipment

**Aerial Targets.** Include subscale subsonic and supersonic targets. The current subscale subsonic platforms include the BQM-74E and the BQM-34S, while the supersonic targets include both the AQM-37C and the QGM-163A. A recent addition is the QRQ-2B Flycatcher that will provide test and training communities with a threat representative low, slow flyer UAV target.



**Land Targets.** Include a broad selection of fixed, mobile, and anti-radiation targets and threat simulators. Examples include the Shootable Remote Threat Ground Target (SRTGT), BRDM II Amphibious Scout Vehicle, SA-9, AT-5 Spandrel, T-72 Main Battle Tank, ZSU-23-4 Shilka, SA-6 Straight Flush, SA-6 Gainful, SA-20 Tombstone, 2S6 Tunguska, BTR, M2A2 Bradley, and HUMVEE.

**Live-Fire Targets.** Live Fire Test and Evaluation (LFT&E) programs are designed to provide a measured assessment of the vulnerability / lethality of a system during each of its developmental stages prior to entering full production.

**Seaborne Targets.** The Seaborne Targets Team is located at NSWC Port Hueneme and supports on average 1,100 operations annually. The portable command and control unit (PCCU) system is used as the primary target control system for the U.S. Navy's Seaborne Program of Record (POR) targets currently configured to interface with any seaborne target platform that has a SeaCAN (Seaborne Controller Area Network) remote control system installed. Powered POR examples include the HSMST, QST, FACT, and MST (full-scale, remotely controlled, and environmentally friendly). Non-powered (towed) POR examples include the LCMT (which supports both gunnery and missile operations and is active at all target operating activities), the HARM / IR drifting barge target, the PETT, and the SQUID.

**Instrumentation.** Includes scoring (scalar and vector), radar / IR signatures, target  $C^2$ , location, navigation, and identification services. The newest innovation from the Seaborne Targets Team is the humannequin representative IR signature and vulnerability scoring.

**Unique or Historic Tests.** During a live-fire Combat Systems Ship Qualification Trial (CSSQT) against the USS *Lake Champlain*, the Aerial Targets Team successfully completed the development and operation of a high precision, GPS-based flight control system known as the Programmable Autonomous Waypoint Navigation (PAWN) system. This system was used to control four in-flight BQM-74E targets simultaneously in a coordinated time-of-arrival scenario. This was done in coordination with the Seaborne Targets Team providing support and execution of several manned support vessels and various unmanned seaborne powered and non-powered target vessels.