

### **MK-5 completes exercise mine recovery operation**

March 14-19 2016 MK-5 MMS embarked aboard Naval Recovery Craft 1 (RSC-1) and provided mine exercise training support for southern California Offshore Range (SCORE) at San Clemente Island. The MK-5 MMS is a deep water recovery system which utilizes California Sea Lions to retrieve objects from the sea floor in depths beyond human capabilities. MK-5 MMS was tasked with localization & recovery of 62 Air Dropped Mine Exercise Training Shapes (METS) at San Clemente Island at Depths of up to 400' to provide data & training for USAF 340<sup>th</sup> Weapons Squadron (340WPS).

MK-5 recovered all assets configured in MK-5 system specifications.

Estimated replacement value of assets recovered is \$516,000 USD

### **MK 5 completes exercise mine recovery operation**

April 12-13 2016 MK 5 MMS embarked from SSC Pacific Point Loma and provided mine exercise training support for HFWB SIBR/TTS (High Frequency Wideband target test) for NSWC Panama City in the waters off Imperial Beach, CA. The MK 5 MMS is a deep water recovery system which utilizes California Sea Lions to retrieve objects from the sea floor in depths beyond human capabilities. MK 5 MMS was tasked with localization & recovery of 32 Mine Exercise Training Shapes (METS) in the Imperial Beach SCORE range.

MK 5 recovered all assets. Estimated replacement value of assets recovered is \$57,220 USD

### **MK 5 Marine Mammal System (MMS)**

April 25-May 24 2016 the MK 5 Marine Mammal System (MMS) deployed to 5th Fleet area of responsibility to provide mine exercise training support for the International Mine Countermeasures Exercise (IMCMEX) 2016. IMCMEX is a defensive mine countermeasures exercise held in the international waters of the Middle East. IMCMEX serves to reinforce relationships with international partners, improve capability within the area of responsibility, and strengthen the regional capacity to improve interoperability of 30 participating nations. The MK 5 MMS is a deep water recovery system which utilizes California sea lions to retrieve objects from the sea floor in depths beyond human capabilities.

MK 5 was tasked with localization and recovery of Mine Exercise Training Shapes (METS) in the Gulf of Oman, Kuwait and Central Arabian Gulf in support of IMCMEX 2016.

Airlift was provided by VR-57. Sea lions and crew flew direct from North Island NAS into Bahrain and embarked aboard USNS Catawba. While aboard Catawba, MK 5 sailed over 1600 nautical miles and recovered 59 mine simulators. The four week deployment represents MK 5's longest expeditionary recovery operation in the region to date.

### **MK 7 Marine Mammal System (MMS) participated in RIMPAC (6/29-7/29/16)**

Participation in this year's RIMPAC was designed to help train our forces both to clear mines from a US or foreign harbor, and to perform the mine clearance tasking involved with a Navy/Marine Corps amphibious assault, all while working with mine clearance forces from a

variety of other countries. Additionally, this exercise provided a valuable opportunity to train the MK 7 dolphins and personnel to operate from a US Navy amphibious vessel.

Overall MK 7 MMS participation in this exercise included eight dolphins, 29 Space and Naval Warfare Systems Center Pacific (SSC) Pacific civil service and contractor personnel, and three Explosive Ordnance Disposal Mobile Unit ONE (EODMU1) personnel. MK 7 MMS was split into two Platoons (PLTs). One PLT was based aboard the USS PEARL HARBOR (LSD 52), and cleared inert training mines from the waters around San Clemente Island. The second PLT was shore-based in San Diego and cleared inert training mines from the waters in San Diego harbor and the surrounding ocean areas. MK 7 MMS uses bottlenose dolphins to detect and mark bottom and moored mines in shallow water and very shallow water.

#### **MK 5 completes RIMPAC exercise mine recovery operation**

July 31-Aug 6 2016 MK 5 MMS embarked aboard Naval Recovery Craft 1 (RSC-1) and provided mine exercise training support for Southern California Offshore Range (SCORE) at San Clemente Island. The MK 5 MMS is a deep water recovery system which utilizes California sea lions to retrieve objects from the sea floor in depths beyond human capabilities. MK 5 MMS was tasked with localization and recovery of Air Dropped Mine Exercise Training Shapes (METS) at San Clemente Island at depths of up to 450 fsw in support of RIMPAC 2016 participation of USAF 37th and 9th Bomber Squadrons. MK 5 recovered all assets configured to MK 5 system specifications, including (81) MK-62 Quick Strike METS, (3) MK-65 laying mine METS, and (1) MK-63 Quick Strike MET.

#### **MK 7 Marine Mammal System (MMS) Vigilant Shield exercise participation**

The MK 7 Marine Mammal System (MMS) participated in exercise Vigilant Shield from 26 October to 6 November 2015, the MK 7 MMS is a shallow water and very shallow water bottom and moored mine hunting system. Overall MK 7 MMS participation in this exercise included eight MK 7 dolphins, 25 Space and Naval Warfare Systems Center (SSC) Pacific personnel, and four Explosive Ordnance Disposal Mobile Unit ONE (EODMU1) personnel. Based aboard the USS SOMERSET (LPD 25), and working with other US Navy mine hunting forces, MK 7 searched for and marked inert training mines in the Naval Weapons Station Seal Beach harbor and the surrounding ocean areas during the exercise. SSC Pacific civilian employees and contractors operated the MK 7 system with support from EODMU1. Exercises are critical to warfighter readiness and this one was designed to help train our forces to clear mines from a US harbor. Additionally, this exercise provided a valuable opportunity to train the MK 7 dolphins and personnel to operate from a US Navy amphibious vessel.

#### **MK 5 Completes CTX16 Exercise Mine Recovery Operation**

On 15-17 November 2016 MK 5 MMS embarked aboard Naval Recovery Craft 1 (RSC-1) and provided mine exercise training support for Southern California Offshore Range (SCORE) at San Clemente Island. The MK 5 MMS is a deep water recovery system which utilizes California sea lions to retrieve objects from the sea floor in depths beyond human capabilities. MK 5 MMS was tasked with localization and recovery of Air Dropped Mine Exercise Training Shapes (METS) at San Clemente Island at depths of up to 400 fsw in support of CTX16 participation of USN Carrier Air Wing Two (CVW-2). MK 5 recovered (21) MK-62 Quick Strike METS configured to MK 5 system specifications.

## **Marine Mammals Support Animal Conservation Efforts in San Francisco Bay**

Specially-trained U.S. Navy dolphins and their human teammates from the Space and Naval Warfare Systems Center Pacific deployed to San Francisco Bay from October 24 - November 14 to explore how the dolphins might be used to detect and track other marine mammals, including the Bay's resident harbor porpoises, to assist in possible future animal conservation efforts. The dolphins flew to the Bay Area from their home port in San Diego aboard a United States Coast Guard C-27J Spartan transport plane operated by USCG Air Station Sacramento. When not out in the Bay searching for porpoises, the dolphins were housed pier side in portable enclosures moored at the US Army Corps of Engineers facility in Sausalito. By the conclusion of the deployment, Navy dolphins participating were reporting the presence of the harbor porpoises when they were present, and also importantly not reporting positive when there were not harbor porpoises in the area.

## **MK 5 Marine Mammal System (MMS)**

MK 5 completes 9BS exercise mine recovery operation. MK 5 MMS embarked 9-14 January 2017 aboard Naval Recovery Craft 1 (RSC-1) and provided mine exercise training support for Southern California Offshore Range (SCORE) at San Clemente Island. The MK 5 MMS is a deep water recovery system which utilizes California sea lions to retrieve objects from the sea floor in depths beyond human capabilities. MK 5 MMS was tasked with localization and recovery of Air Dropped Mine Exercise Training Shapes (METS) at San Clemente Island at depths of up to 400' fsw to provide data & training for USAF 9th Bomber Squadron (9BS). MK 5 recovered (45) METS configured to MK 5 system specifications..

## **Marine Mammal Counter UUV demonstration at Naval Air Station Key West**

Specially trained sea lions from the Space and Naval Warfare Systems Center Pacific deployed to Naval Air Station Key West from January 9-23 to explore how the sea lions might be used to interdict unmanned underwater vehicles that could pose a threat to Navy ships and waterside facilities. United States Fleet Forces Command sponsored the sea lions' participation in this capability demonstration, along with other technologies being evaluated by the Stiletto Maritime Demonstration Program. Navy sea lions already play a small but important operational role in protecting against incursions by underwater intruders. Navy dolphins and sea lions were based at NAS Key West from 1988 to 1992, and since then have participated in various operations and exercises in Florida.