Southern California Marine Institute

Summer 2017 Newsletter

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Inside This Issue

Important Dates

Fall CSU Marine Biology Semester on Catalina

August 28th – December 15th, 2017

Summer 2017 AAUS Dive Courses

June 12th – June 28th, 2017

July 24th – August 8th, 2017

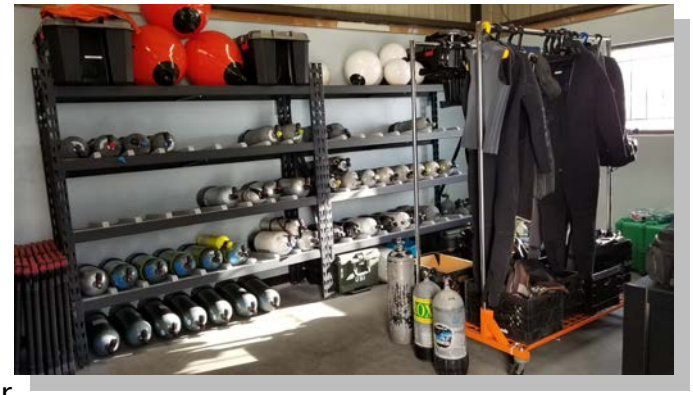
Summer 2017 MOTC Course

July 10th – July 14th, 2017

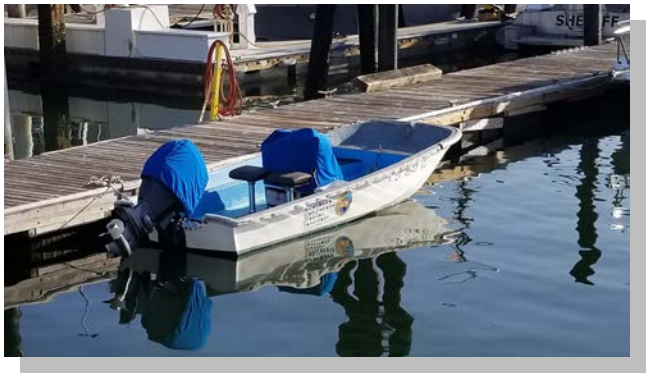
August 14th – August 18th, 2017

Message from the Director

By Daniel Pondella II Ph.D.



With the spring terms finishing up, it is good to reflect on another productive and exciting start to our year. SCMI is moving forward at full steam and we have generated quite a bit of momentum. The first of our two spring scientific diving (AAUS) courses just launched and is being supported by the new dive locker that is equipped with state of the art equipment (fill station, compressors and nitrox). You'll notice that our dive safety officers, Darrell Montague and Jim Cvitanovich, are doubling their duties as boat safety officers. As safety is our number one priority, SCMI is leading the region in the launch of its Motorboat Operator Training Course (MOTC). Our new members NOAA and Bay Foundation are continuing to develop their programs increasing the use and visibility of SCMI. We are currently transitioning into the traditional field season and our fleet of vessels are tuned up and ready to go and I've already noticed the boats coming and going. The R/V Yellowfin will be offline for July and August as we install new Tier 4 engines and generators. It will be in tiptop shape and ready to go for the fall semester when another wonderful Marine Biology Semester at Catalina Island is being organized. Have a great summer.



Fall 2016 CSU Marine Biology Semester Recap

By: Erin Crowley

How quickly the time has passed! It seems like just yesterday when the Fall 2016 CSU Marine Biology Catalina Semester students boarded the Miss Christi and were on their way to the Wrigley Institute. But already, the semester is over and the students are back on the mainland. This year's program was hosted by CSU Northridge, with classes taught by professors Dr. Larry Allen, Dr. Robert Carpenter, Dr. Steven Dudgeon, and Dr. Mark Steele. The courses offered for this semester were Marine Biology, Marine Phycology, and Ecology of Marine Fishes. Then, towards the end of the semester, the students were asked to design and execute a research project. These projects have the capability of being the stepping stones for possible grad projects to pursue after graduation. Kathryn Scafidi, a CSULB student, told us more about the project she did over on the island, "My independent research project was looking at the effects the invasive alga, *Sargassum horneri*, has on the foraging of three local temperate rocky reef fishes, *Semicossyphus pulcher*, *Hypsypops rubicundus*, and *Halichoeres semicinctus*. I collected three of the most commonly foraged algae, which included *S. horneri* to identify and record the abundance of the micro-invertebrates present. Overall there was a low abundance of micro-inverts present on *S. horneri* and the fish exhibited a negative preference to foraging off it as well." This project is just one of many done this past semester. You can be a student in the upcoming Fall 2017 semester program. Applications are now available!

Fish Highlight: California Sheephead

By: Erin Crowley

The California Sheephead, or *Semicossyphus pulcher*, is a common resident here at SCMI. As you can see by the pictures shown, California Sheephead have two different physical appearances. This is because the males (top picture) and females (bottom picture) develop to look different. First sheephead are born as females, and then later in life, some will further develop to become males. Any possible influences on the sheephead that help signal its sex changes is still not fully understood. Distinguishing males from females is simple because of their black markings and clearly visible hump above the eyes. *S. pulcher* tends to reside in kelp forests. Under the protection of the tall kelp beds, these fish choose to hunt throughout the day. But once the moon is out, sheephead will produce a mucus covering around their body to protect themselves while they are sleeping. Other fish, or possible predators, are unable to detect the sheephead through the mucus layer. If you ever find yourself diving in the kelp beds, be sure to look out for these beautiful fish and their very prominent front teeth!

Source:https://www.montereybayaquarium.org/animal-guide/fishes/california-sheephead

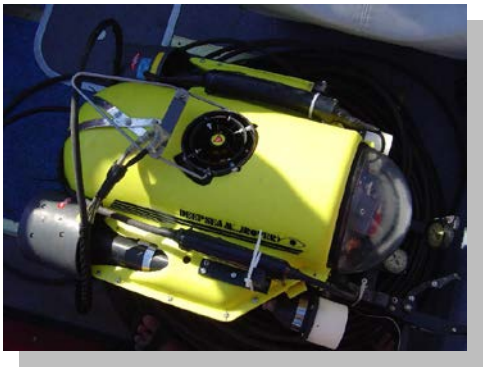
The Bay Foundation: Abalone Project

By: Ben Grime

The Bay Foundation (TBF) joined SCMI as its first non-academic member in late 2015. With proposed goals to develop a unique partnership, TBF has already made great strides in actively conserving and restoring the diverse ecosystems of the Santa Monica Bay. Joining the SCMI team has given TBF convenient access to the local rocky reefs where they can manage and monitor their kelp forest restoration project. The project has successfully removed urchin barrens at 4 coves and restored over 34 acres of kelp to date. TBF has also started working on bringing back the depleted abalone populations on Palos Verdes through captive and wild spawning techniques. March 2016 highlighted the opening of the brand new TBF/SCMI abalone aquaculture facility at the SCMI headquarters. The abalone lab is providing researchers with state of the art facilities to refine captive spawning and aquaculture techniques with the future hopes of outplanting to wild populations. We are very excited for what the future holds for The Bay Foundation and SCMI collaborations.

RESEARCH SPOTLIGHT: Polymorphic Robotics Laboratory: The Catalina Robot (ROV/AUV)

By: Erin Crowley



The Polymorphic Robotics Laboratory is a branch of the University of Southern California (USC). Under the supervision of professor Wei-Min Shen, this lab conducts research in "adaptive, self-reconfigurable, autonomous robots and systems." The lab has brought to life SCMI's old ROV unit to use at the Wrigley Institute over on Catalina Island. It is referred to as "the Catalina Robot." This robot contains 2 computers, 3 motors, 2 cameras, 2 lights, 1 IMU, 1 depth sensor and 1 compass, which give it the ability to navigate underwater. The Catalina Robot is capable of at least 50 minutes of operation time, and can safely operate at a depth of up to 300 feet. The overall purpose of this ROV/AUV is to monitor ecological systems in shallow and deep waters.

Source: https://www.isi.edu/robots/index.html

National Oceanic and Atmospheric Administration National Marine Fisheries Service West Coast Region Joins SCMI

By: Adriana Stowell

We are happy to welcome NOAA National Marine Fisheries Service West Coast Region (NMFS) to the SCMI consortium. NMFS is responsible for the stewardship of the nation's ocean resources and their habitat. NMFS West Coast Region offices are located a short distance from SCMI in Long Beach and many of their programs overlap with SCMI's interests. NMFS have programs in species recovery, specifically in endangered white and black abalone and sea turtles, habitat conservation with a focus on rocky reefs and seagrass ecosystems, and marine mammal and sea turtle strandings. NMFS is the first federal agency to join SCMI's consortium and can provide a unique benefit to SCMI members through collaborations with research and conservation efforts. Currently, NMFS biologists are collaborating with The Bay Foundation on the Abalone Project. SCMI is growing now more than ever and we are excited for the many opportunities our new members provide to students, faculty, and researchers in Southern California.

New to SCMI: MOTC Program

By: Darrell Montague

The California State University/Ocean Studies Institute has become an Institutional Member of the Scientific Boating Safety Association (SBSA) and has adopted its Motorboat Operator Training Course (MOTC) as the standard for our program. The MOTC is an entry-level course recommended for persons who will be acting as a small vessel operator or crew for CSU/OSI member institutions or other organizations. It reviews minimum requirements for safe operation of motorboats and includes a review of legal requirements, preparations, navigation, operations, emergency procedures, rescue, self-rescue, trailering, fire suppression and basic seamanship. The course includes both classroom and on-the-water instruction. SCMI is looking forward to beginning this program and allowing students, faculty, and staff to receive the proper boat training needed for future research opportunities.

Interested in taking the next MOTC Course? Check out http://www.scmi.net/motc/ to learn more!