

Discovering The Colour of Coral



Coral, never before seen in colour - and fish never seen alive, nor in their natural habitat - have been filmed by a Saab Seaeye Falcon DR ROV in an expedition to discover new coral communities deep in the Gulf of Mexico. The four-year project is investigating a series of unexplored sites along the northern Gulf of Mexico between 300 and 1000m, and is funded by the NOAA Office of Ocean Exploration and Research, and the US Mineral Management Service.

Deployed from the NOAA Ship *Nancy Foster*, the Seaeye Falcon is undertaking large scale photographic surveys and collecting key species in a project known as Lophelia II 2008: Deepwater Coral Expedition: Reefs, Rigs, and Wrecks.

The ROV also gathers information on conditions for coral colonization and growth. Sensors on the ROV will acquire data on temperature, salinity, dissolved oxygen concentration, pH, turbidity (amount of material suspended in the water) and fluorescence (how much of the suspended material is plant matter from the upper depths of the ocean or land).

SeaView Systems, owners of the 1000m deepwater rated Falcon ROV, subcontracted their vehicle to Seavison Marine Services for the project. The ROV comes complete with a full inspection and sample collection suite that includes external Nuytsun LED illumination, Hydrolek 5 function manipulator, Linkquest USBL acoustic positioning and Tritech altimeter. It operates from a 20' shipping container which acts as a combined control van/workshop.

Running the SeaView ROV operation is Matthew Cook, who says that the combination of a seven-megapixel Westech digital still camera and the Nuytsun LED module has enhanced video and digital still quality, '... and achieved excellent quality images that have exceeded the client's expectations'.

Matt Porter, from Pennsylvania State University, reported in oceanexplorer.noaa.gov, that the Falcon ROV is one of the most important pieces of equipment on the expedition. He suggests that, equipped with a high-resolution low-light video camera and a seven-megapixel camera for still shots, along with a robotic manipulator that mimics a human arm and hand, the Falcon is a fully competent human substitute.