

The Great Red Snapper Count

Direct Visual Counts



Photo by the Center for Sportfish Science and Conservation

This publication describes the direct visual counts phase of the Great Red Snapper Count, which is a 2-year research project to estimate the abundance of red snapper in the U.S. Gulf of Mexico.

Where will scientists count red snapper?

Counts will be performed across the U.S. Gulf of Mexico at various habitat types. For more details, see our Habitat Classification video and MSU Extension Publication 3282 The Great Red Snapper Count: Habitat Classification.

What types of equipment will scientists use onboard research vessels?

- Scientists will use two types of camera equipment: remotely operated vehicles (ROVs) and towed cameras.
- An ROV is deployed from a stationary vessel and driven by an operator in a specific pattern, much like the operation of a remote-controlled car.
- A towed camera is pulled behind a research vessel at a constant speed and altitude above the seafloor, along a predetermined path.
- Both camera types will record video footage to be analyzed later.



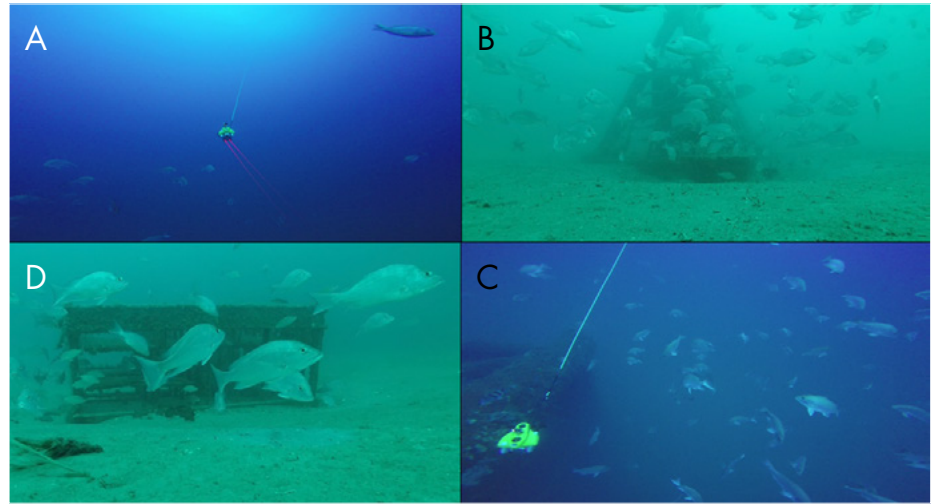
(A) An ROV, the VideoRay Pro 4, and (B) a towed camera, the Camera-Based Assessment Survey System (C-BASS), are used for direct visual counts.

Photos by (A) the Center for Sportfish Science and Conservation and (B) the Continental Shelf Characterization, Assessment, and Mapping Project (C-SCAMP)

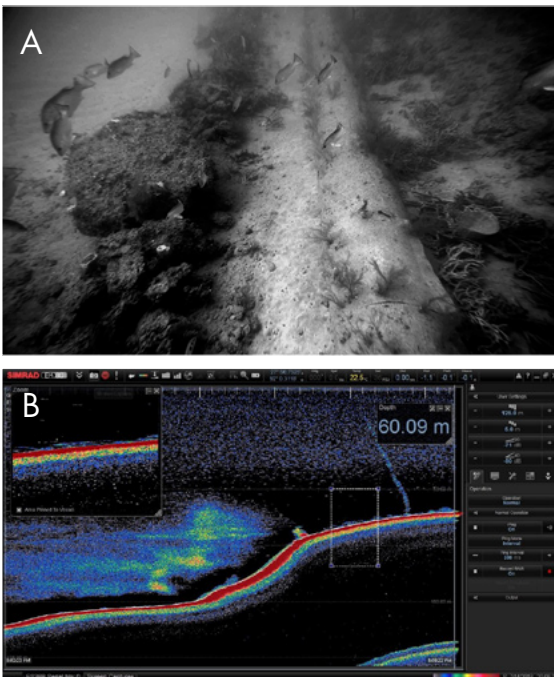
Why do scientists need to use two different types of equipment?

- ROVs are best for surveying discrete artificial and natural habitats.
- Towed cameras are best for surveying large expanses of sand and mud bottom.

Photos by (A, C) the Center for Sportfish Science and Conservation and (B, D) the Dauphin Island Sea Lab/University of South Alabama Fisheries Ecology Lab



(A, C) A VideoRay ROV surveys red snapper along a transect. (B, D) ROV screenshots show red snapper congregating at a pyramid and chicken transport cage, respectively.



How will scientists collect fish count data from the video footage?

- The videos from the two types of cameras will be transferred to laboratory computers and analyzed.
- First, scientists will count the number of red snapper in each ROV and towed camera video.
- Then, these counts will be converted to density estimates, which will yield abundance estimates.
- In areas with poor visibility or very large structures, bioacoustic sonar (imagine a “fish finder”) will be used with ROV surveys to confirm red snapper abundance estimates.

(A) An ROV screenshot shows gray snapper along the Gulfstream pipeline. (B) An EK-80 bioacoustic sonar display depicts an elevated feature with fish near the seafloor and a prominent gas seep at far right.

Photos by (A) the Continental Shelf Characterization, Assessment, and Mapping Project (C-SCAMP) and (B) Edward Hughes, C-SCAMP

This independent study is being conducted by a leading team of red snapper scientists from across the Gulf of Mexico and beyond:



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