



SEA-BIRD
SCIENTIFIC

Application Note:

Defensible Data with Less Time and Effort

Background:

Louisiana's commercial shrimp fishery is of significant value to the state as a whole and to the communities along its gulf coast. In 2011 the value of this catch was on the order of \$130 million. To properly manage the opening and closing of the state's bi-annual commercial shrimp season the state has relied on two environmental markers to estimate the health of the shrimp population, and thereby the duration of the spring and fall open seasons.

The first is an estimation of shrimp size based on in-situ recorded seawater salinity and temperature data in natural shrimp habitats along the Louisiana coast. The second is a frequent field-catch by biologists to measure shrimp maturity. Understandably, the field catch activity can be costly and time consuming especially to track the health of hundreds of estuary habitats, some in very remote locations.

Project Initiation:

To attempt to reduce the reliance on costly field-catch activities researchers are exploring use of higher quality, long duration deployment, in-situ instrument packages, especially for the most remote of habitat locations. To this end a group of federal Hydrologic Scientists and Field Technicians in Louisiana set out to evaluate the performance of the latest water quality instruments in a coastal environment. These hydrologists selected an existing measurement site for the evaluation, located in Caillou Lake, near Houma, Louisiana. This site was selected as it is centered near a number of critical shrimp habitats and historically has exhibited very high fouling in summer months.

The project began in May 2012 with deployment of three water quality instruments, including the Sea-Bird Coastal HydroCAT. The project's main goal was to determine the duration that a given instrument could be relied upon to provide high quality and stable salinity and temperature data for use in shrimp sizing estimation calculations. The instruments were moored next to an existing observation pier using a winch as shown in Figure 1, above.



Figure 1a: Sea-Bird Coastal HydroCAT deployment location at Caillou Lake, near Houma, LA

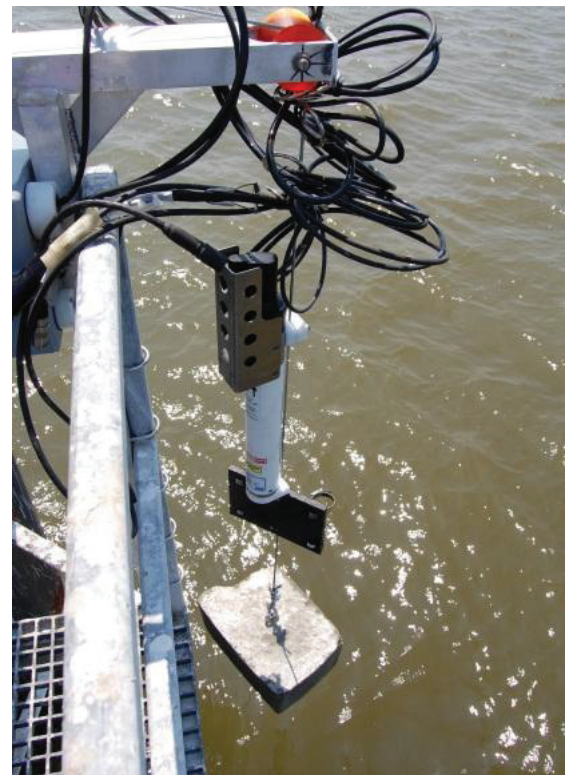


Figure 1b: Sea-Bird Coastal HydroCAT deployment location at Caillou Lake, near Houma, LA

