

EM 3002 Multi-beam on NOAA R/V Gloria Michelle

The United States of America National Oceanic and Atmospheric Administration's (NOAA) Northeast Fisheries Science Center (NEFSC), has awarded a contract to Kongsberg Maritime, Inc. for the supply and installation of suite of survey and positioning equipment and software for the NOAA R/V *Gloria Michelle*. The package includes an EM 3002 (Single) Multi-beam Sounding System including Operator Station Software (SIS), MRU-6 Motion Reference Unit, Seapath 20 Heading Reference Unit, Kongsberg bathymetric post-processing software and Echowiew water column post-processing software. The R/V *Gloria Michelle* is a 50-foot vessel with stern trawling capabilities and is a resource of the Northeast Fisheries Science Center. Its primary use has been for near-shore work in fisheries and some side-scan operations. The original impetus to purchase a system came from the State of Massachusetts for benthic habitat studies. It was thought that if a system could be used that would also include the water column, then it would greatly increase the system's suitability for multiple objectives. The Kongsberg EM 3002 is an optimal shallow-water system as it provides bathymetry and seafloor backscatter for benthic habitat studies, conforms to IHO standards for charting, and provides the water-column data for pelagic fisheries (fish and zooplankton) applications. The water column multi-beam module Echowiew (SonarData Pty Ltd, Hobart, Australia) was supplied as it provides advanced visualisations and post-processing capabilities for the water-column. The goal is to apply multi-beam for quantitative fisheries assessments and for characterising benthic habitats. Quantifying the water column data, as well as standardising seafloor backscatter for habitat characterisation, will require calibrating the EM 3002. The R/V *Gloria Michelle* provides an excellent platform for testing the system and collecting data to investigate beamforming, processing, and post-processing techniques.

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