Scientists have had their first view of the habitats and ecosystem that support Australia’s largest commercial crab - the “giant crab” (*Pseudocarcinus gigas*).

A series of five surveys are planned in waters of 150-350 metres depth to assess the seabed habitats of the giant crab at the edge of the continental shelf around Tasmania.

The pilot survey was completed on the State’s east coast earlier this month in a collaborative project between CSIRO Marine Research and the Tasmanian Aquaculture and Fisheries Institute (TAFI), University of Tasmania.

"We used a specially designed camera platform towed behind a research vessel to provide a tremendously exciting first look at the type of habitat that supports the giant crab fishery," says project scientist, Dr Alan Williams, from CSIRO Marine Research in Hobart. "We were as pleasantly surprised by the extremely good detail provided by the new cameras system as we were by the range of habitats we were able to film," he said. Seafloor features observed ranged from large plains of muddy sands supporting communities of small invertebrate animals, to ridges, and rock outcrops exceeding 20 metres in height.

The project includes a study of the distribution of the giant crab in relation to habitat features, evaluating ecosystem links with the seabed habitats and assessing the abundance, sex, condition and size of the giant crabs.

"The crab trap fishery is a unique Australian fishery, and based in an environment and depth that, until now, we have not had the technology to study in this way," says project leader Dr Caleb Gardner, from the Tasmanian Aquaculture and Fisheries Institute (TAFI). "Sustainability of all Australian fisheries is reliant on healthy habitats and ecosystems and this project seeks to identify the characteristics of the system and what, if any, impacts are occurring as a result of fishing activity," Dr Gardner said.

The long-lived, slow-growing giant crab is highly sought after especially in the Asian market. Although mostly sold at around 4kg and with a shell of 20 cm or less, the crab reaches a massive 13.5 kg. The Tasmanian pot fishery expanded rapidly in the 1990’s and is now targeted across southern Australia in Victoria, Tasmania, South Australia and Western Australia.

Funded by the Tasmanian fishing industry and the Department of Primary Industry, Water and Environment, the project is a joint study involving the Tasmanian Aquaculture and Fisheries Institute, CSIRO Marine Research, and the crab trapping and finfish trawling sectors.
More information on the Giant Crab discovery:
Dr Caleb Gardner http://www.utas.edu.au/tafi/
Dr Alan Williams http://www.marine.csiro.au/

For more information on ocean assessment techniques and how the scientist can make these discoveries:

Read the CSIRO Fact sheets http://www.marine.csiro.au/LeafletsFolder/solutions.html

“Australian ocean engineers are working alongside scientists at the forefront of marine research. Participation in major national and international experiments often involves preparing and deploying specially constructed instruments. As Australian marine research extends its knowledge of coastal waters and deep-ocean processes, ocean engineering capabilities will advance in parallel to support that scientific development.”