

## Development of Robotic Fish for Fishery Habitat Mapping

Australia has the third largest fishing zone in the world and ranks fiftieth in the world in terms of the tonnes of fish that are harvested. As a result, there is now keen interest and a compelling need for Australia to carry out fisheries habitat mapping prior to substantial growth of this industry. The established methods are capable of creating maps at sub-meter resolutions over broad areas of habitat. Much of the biologically important detail in habitats though occurs at the level of decimetres and centimetres. Understanding animal-habitat associations will therefore require surveying at microhabitat scales because these are the scales at which animal distributions vary and where impacts can be recognised and quantified. To satisfy these needs a robotic fish system was developed which was capable of free swimming in the near-shore environment. Equipped with ultrasonic sensors, a pressure sensor and a high resolution camera, the robotic fish can thoroughly explore and map micro habitat environments.

