

**Using an acoustic camera (BlueView P900-130) to assess size and structure  
of goliath groupers population in the extremely turbid waters of French  
Guiana**

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The Goliath Grouper, *Epinephelus itajara*, is listed as a critically endangered species on the IUCN red list. While goliath groupers are totally protected in some countries, their fishing is still allowed in French Guiana.

The usual methods to study marine species, such as visual survey or video cameras observation, cannot be used in the extremely turbid Guiana marine waters. In this context, the acoustic camera has been tested in order to perform goliath groupers population survey.

In 2011, the BlueView P900-130 acoustic camera has been deployed around 5 known goliath groupers living sites along the French Guiana coast. The camera was mounted on the boat with a precise angle. Both high resolution acoustic images and GPS positions are directly recorded on a laptop onboard. Rocky sites were bypassed at constant speed. The swimming behaviors and body shapes of goliath groupers allowed differentiating them from other species. This method has permitted to locate accurately goliath groupers micro-habitats and to assess their abundance. Their number varies from 5 around fishing sites to 50 in the marine reserve. Their size, measured with the acoustic camera associated software, varies from 60 to 190 cm.

This first experiment results shows using a high resolution acoustic camera as a fast and efficient tool for studying and mapping goliath groupers population in extremely turbid environment, where traditional methods do not work. Although biases existed in this method, size and structure of a critically endangered fish population can be assessed.