

**IDENTIFICATION OF SUBMERGED
OBJECTS USING SIDE SCAN SONAR
IMAGING AND ITS IMPACT ON BEACH
SEINE FISHERY**

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ABSTRACT

North east coast is playing significant role in economy of the Sri Lanka via fishery. During war period there was minimum fishing activity due to terrorism activity in this area. Under water war remnants were overspread around sea floor area due to terrorism activities. These Manmade and other buried objects are significantly destroying beach seine fishing gears through entangling. That is major constrain to improve beach seine fishery in this area. This study was undertaken to investigate the unidentified specific objects on the seafloor such as shipwrecks, mines, sunken objects.

Side scan sonar (SSS) survey technology was selected for the project that systems have been developed recently using medical ultrasound technology. Data was acquired using side scan sonar instrument that was towed by vessel along the predetermined survey lines just above the bottom of the sea floor depending upon the water depth.

Image Processing techniques with "*sonarWiz 5* and *ArcGIS* software use to detection and classification of manmade objects in side-scan sonar images.

Three identified objects can mark as negatively affected area for beach seine fishery operations. Object 1 was at 09° 17.97244' N/080° 48.66892'E 85 m long and 21 m width at the widest point, Object 2 was at 09° 18.71599' N/080° 48.02634'E 55 m long and 15 m width at the widest point and object 3 was at 09° 18.87650' N/080° 47.48114'E 120 m long and 25 m width at the widest point.

Object 1 and 2 were large iron ship wrecks and object 3 was natural reef. There are vast amounts of ship debris spread around ship wreck those have possibility for entangle in to beach seine nets. Sand ripples are started to accumulate around wreck that shows as smoothie edges around object 3.

Side scan sonar acoustics technology is the most cost effective and accurate technology to investigate vast area of sea bed within a short time period for the underwater object detection.

Key words: Side scan sonar acoustics, Shipwrecks, Seafloor, and Beach seine nets.