Underwater Archaeology at the Isle Royale Institute: Baseline Documentation of the Underwater Components of Coastal Archaeological Sites using High-Resolution Sector Scanning Sonar

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Abstract:
The acoustic imaging of underwater archaeological heritage has become more prevalent in the cultural sciences with improvements in resolution of the output and user “friendliness” of these imaging systems. In particular, sector scanning sonar is receiving attention as a tool in the baseline documentation and monitoring/assessment of these types of sites. It has been applied more routinely, however, by firms engaged in marine engineering and construction. The primary benefits of sector scanning sonar appear to be visual representation of the target resource unimpeded by water clarity, spatially-controlled output in several formats, reduction in labor costs and human health risks as compared with manned diving operations, and overall cost effectiveness (i.e. high quality output in an efficient and immediate manner). The new high-resolution sensors being developed by Kongsberg Maritime hold much promise for future applications of sector scanning sonar by the research, engineering, and resource management communities.

The Isle Royale Institute is a partnership between Isle Royale National Park and Michigan Technological University. The Institute is housed at Michigan Tech, in the School of Forest Resources and Environmental Studies.
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The mission of the Isle Royale Institute is to foster science, resource management, and education at Isle Royale National Park and on the waters of Lake Superior.

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