

**ACOUSTICS2008/486**  
**The application of rapid environmental assessment to sonar performance**

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Naval sonar operations and planning in littoral environments requires information from historical databases, in situ sampling of environmental parameters, and models capable of estimating sonar performance and the uncertainty in the estimate. Defence R&D Canada's approach to enable rapid environmental assessment (REA) for sonar incorporates three components: (1) a GIS-enabled database to manage historical environmental data, (2) measurement tools that operate while underway to provide in situ sampling of water column and seabed properties, and (3) a sensitivity model that examines the relative importance of different environmental parameters in order to quantify the impact of incomplete or degraded environmental information, and to specify the appropriate spatial and temporal scales for sampling. In this presentation, the integration of these aspects of REA will be demonstrated using transmission loss data collected in shallow water. Predictions made using REA data provide a substantially better fit to the measurements than those using historical databases.