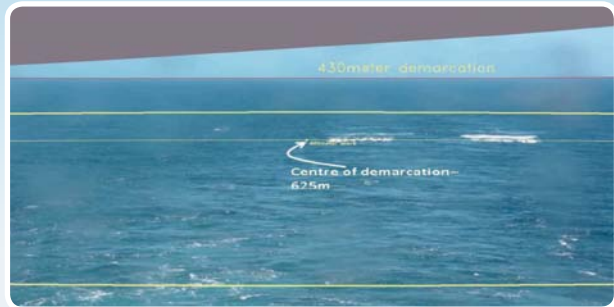


## RADES | ARC SOFTWARE

### DESCRIPTION

Seiche's proprietary software has two components: RADES accurately assesses the distance and range of objects at sea and provides an overlay of a specified mitigation zone. This enables robust decision making on the position of an animal that is both objective and recordable. The Automated Recognition of Cetacean (ARC) software builds on the RADES framework to provide automated detection of marine mammals and assists a visual observer in locating animals at the surface.



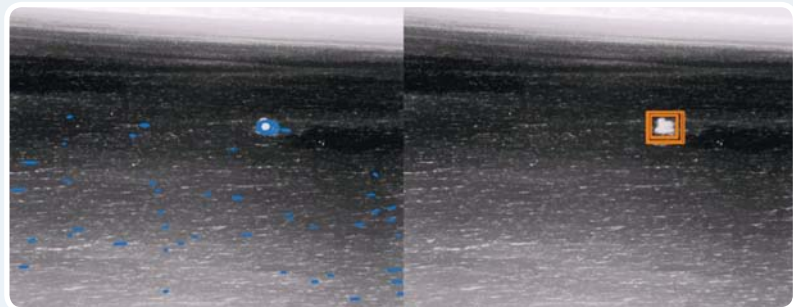
*Horizon detection and demarcation zone around the sound source*

### RADES: Real Time Automated Distance Estimate at Sea

Images are stabilized in software using horizon detection and an inertial measurement unit. RADES has a simple user interface to allow the operator to enter height information, capture images and zoom. Graphics drawn on the images demarcate the specified mitigation zone on the sea surface. A mouse pointer system provides information on GPS position and range from observer for any point on the image.




### ARC: Automated Recognition of Cetaceans

This element of the software assists the MMO in detecting marine mammals at the sea surface. Pattern recognition algorithms seek anomalies in the incoming images to select potential targets. Trigger events are then tracked and assessed for likelihood as a true detection. Probable detections are highlighted and presented to the observer for examination. This tool is under development and is designed to assist human observers.



*Potential targets are selected and tracked (left), then highlights probable detections (right)*

### APPLICATIONS

-  Marine mammal mitigation
-  Hazard detection
-  Security and safety