

Multibeam Survey

Multibeam echo-sounders form the primary acquisition tool for LandScope's hydrographic survey service and are typically utilised to determine the depth of water and the nature of the bed, although their applications are numerous. It is possible to acquire wide swathes of sonar data from a single pass to create detailed underwater datasets.

In addition to a permanent installation on our dedicated, road tow-able survey vessel, S.V. "Investigator", we also have flexible mounting options allowing the multibeam system to be deployed to any vessel of opportunity.



Multibeam echo sounders provide significant advantages over traditional survey. Surveying the bed with a wide band of narrow acoustic beams means it is possible to obtain complete coverage of the bed topography, allowing surveys to be completed faster and minimising risks such as weather delay.

The multibeam sonar head may be tilted to facilitate data acquisition beneath jetties and other structures. In addition, it is also possible to capture survey data along wall/bed interface and, with ultra high-resolution, wall and structure inspection may be completed.

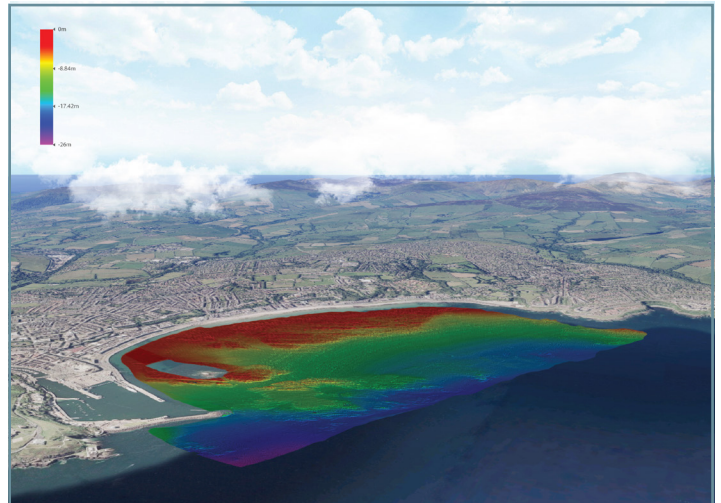
Applications Include:

- Seabed Topography
- Conservancy
- Wall and Structure Inspection
- Cable /Pipeline Route Mapping
- Geological Mapping
- Bathymetric Survey
- Ensonification
- Dredge Reporting
- Wreck Analysis
- UXO Survey

LandScope utilise multibeam echo-sounders from R2 Sonic which offer exceptionally high performance, operating at 200 to 400KHz frequencies with an option to survey at ultra high 700KHz resolution.

The narrow beam widths at the high resolution are invaluable for detailed site surveys such as pipeline inspections, cable laying operations, archaeological wreck surveys or structural inspections.

To ensure the data is accurately geo-referenced, LandScope utilise the R2Sonic I2NS inertial navigation system. Based on the Applanix POS MV Surfmaster, accurate position, heading, pitch, yaw, roll and heave are provided in a variety of challenging environments. The current release of Hypack with Hysweep is our preferred acquisition, processing and charting software. The resultant data ensures compliance with the stringent IHO standards.



Key to the performance of multibeam survey is an accurate dimensional control survey of the vessel. This ensures the sensors are referenced to a common reference point on the vessel in order to minimise any data acquisition errors. In order to accomplish this, LandScope utilise in-house laser scanning expertise combined with the latest scanning technology. The resultant point cloud enables a comprehensive dimensional control report to be issued for the vessel in multiple configurations.

