



### Highlights:

- Topographic survey for environmental impact assessment of future hydroelectric dam
- Map shoreline, banks, islands, flood plain and exposed mudflats in low water conditions



### Background:

LSI collected LiDAR data along the Nelson River in the summers of 2004 and 2005 as part of Manitoba Hydro's environmental impact assessment for a planned hydroelectric dam installation.

To map the river bed and shoreline at maximum exposure, LiDAR data had to be collected during low water conditions as controlled by upstream dams along the Nelson River. Manitoba Hydro was also interested in mapping the exposed mudflats at the river's estuary in the Hudson Bay. The LSI HELIX LiDAR received a high number of returns from the saturated mud, providing the client with an accurate topographic model of the river bed above the low water boundary.

In addition to the classified point clouds, deliverables included 1m contours, digital terrain models and downward digital video from each LiDAR flight. On the Nelson River and elsewhere, LSI has been a proven leader in applying LiDAR technology to flood plain and water boundary mapping projects.