Detailed Lake Bathymetry Maps: Uncovering the Underwater World of Algonquin Park Trout

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New methods of collecting and processing bathymetric data provide a versatile tool for fisheries research and assessment. Geographic Positioning System (GPS) equipment and depth sounders are linked to a laptop computer to simultaneously collect and record water depth and geographical position on a lake. This removes some of the restrictions that applied to the older depth sounding methods, such as the need to drive the boat in a straight line and at a constant speed to and from known reference points. More data can be collected in a given amount of time, and the increased detail may reveal features not previously recorded in a lake, such as offshore shoals or troughs. Once the data have been collected and stored, they can be used for many different purposes, including map making, habitat assessment, project planning and interpretation, and analysis of other spatially-referenced data. Mapping software can create traditional-looking contour maps, as well as cross sections, 3-D maps, and many other types of images. Areas and volumes of the entire lake or subsections of a lake can be quickly calculated. The data are especially useful for planning projects that use depth-stratified sampling, or to show where gear with specific depth requirement can be set. Maps can be quickly displayed and modified on the computer screen, and maps with sampling locations can be printed for field use. The real value of the data can be realised if integrated into a full-featured Geographical Information System (GIS).

Additional Readings

Betteridge, G. 2002. *New Lake Bathymetry Methods and Practical Applications for Fisheries Science*. FAU Network Report 2002-01, Ontario Ministry of Natural Resources, Algonquin Fisheries Assessment Unit, Whitney ON. 6p.