

# ADVANCES IN LAKE SURVEY TECHNIQUES

TIME FRAME	DEPTH MEASUREMENT	GEO-REFERENCING	POSITIONAL ACCURACY	SURVEY STRATEGY	INNOVATION
PRE 1960	WEIGHTED DEPTH STRING	50' GRID SURVEYED ON ICE	2-5 METERS	XY-Z POINT DATA COLLECTED AT GRID INTERSECTIONS	PRODUCED FIRST GENERATION OF LAKE MAPS
1960-1992	LOWRANCE GRAPHING DEPTH SOUNDER	LOCATING TRANSECTS ON AERIAL PHOTOGRAPHS	3-30 METERS Problems With Big Lakes	TRANSECT DATA PLOTTED ON AERIAL PHOTOS	GRAPHING SOUNDER RECORDS ALL DEPTHS ALONG TRANSECTS
1992-1996	LOWRANCE GRAPHING DEPTH SOUNDER	LOCATING TRANSECTS WITH TRIMBLE PATHFINDER GPS	2-10 METERS	TRANSECT DATA LOCATED BY GPS IN A GIS	GPS IMPROVES ACCURACY IN LOCATING TRANSECTS
1997-1999	FURUNO DEPTH SOUNDER WITH NMEA OUTPUT	DEPTHS LOCATED AS POINTS WITH TRIMBLE PATHFINDER PROXR GPS	1 METER	XY-Z POINT DATA ORGANIZED ALONG TRANSECTS WITH FREE-FORM DEVIATIONS IN AREAS OF INTEREST	FREE-FORM SURVEY NOT RESTRICTED TO TRANSECTS AND AUTOMATED DATA COLLECTION INTERFACING DEPTH SOUNDER AND GPS
1999-2000	HUMMINBIRD WIDE3D DEPTH SOUNDER WITH SIX BEAM DISPLAY	DEPTHS ENTERED AS POINTS WITH TRIMBLE PATHFINDER PROXR GPS WITH DATA LOGGER	1 METER	XY-Z POINT DATA ORGANIZED ALONG TRANSECTS WITH FREE-FORM DEVIATIONS IN AREAS OF INTEREST	HIGH-SPEED, HAND-ENTERED DATA COLLECTION OF 600 TO 1,000 DATA POINTS PER HOUR