

This Map was Funded by a Grant From the
WISCONSIN DEPARTMENT
OF NATURAL RESOURCES, and the
LAKE ALTOONA PROTECTION
AND REHABILITATION DISTRICT

LAKE ALTOONA

GPS Bathymetric Survey
and Map Production by
SEAN HARTNETT GEOGRAPHER
UNIVERSITY OF WISCONSIN - EAU CLAIRE



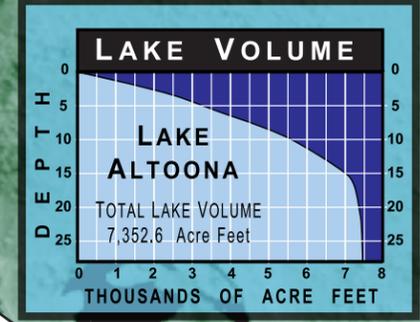
LAKE ALTOONA

Township 27 North
Range 8 and 9 West
Eau Claire and
Seymour Townships
Eau Claire County

BATHYMETRIC MAP
with Five Foot Depth Contours
Measured From Full Pool Elevation 801.8
Lake Surveyed Summer, 2001

AREA 800.4 Acres
817.9 Acres with Islands
Under 3 Feet 95.3 Acres 11.9%
Over 20 Feet 11.6 Acres 1.4%
VOLUME 7,352.6 Acre Feet
SHORELINE 9.93 Miles
MAXIMUM DEPTH 32 Feet

SPECIES OF FISH	COMMON PRESENT
MUSKIE	X
WALLEYE	X
LARGEMOUTH BASS	X
NORTHERN PIKE	X
SMALLMOUTH BASS	X
PANFISH	X



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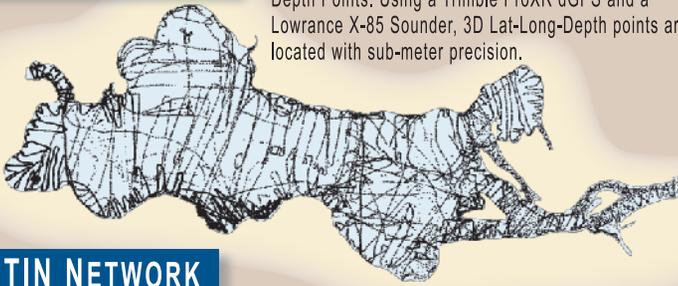
⊥	EMERGENT VEGETATION
T	SUBMERGENT VEGETATION
≡	FLOATING VEGETATION
⋈	FISH CRIBS
◀	BOAT ACCESS WITH PARKING
⊗	NAVIGATION HAZARD
	LAKE BOTTOM
	Sd Sand
	Mk Muck
	Gr Gravel
	St Silt
	R Rubble

ALTOONA

MAKING THE LAKE ALTOONA BATHYMETRIC MAP

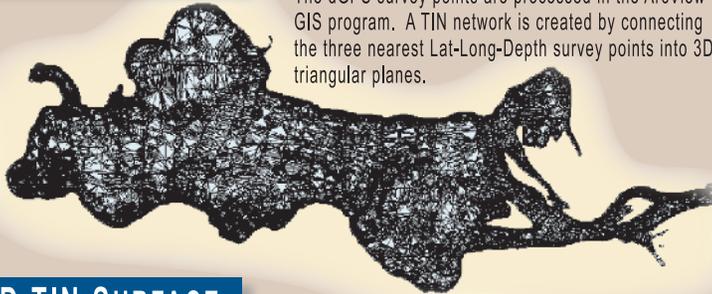
GPS LAKE SURVEY

Mapping begins with the collection of over 24,000 Depth Points. Using a Trimble ProXR dGPS and a Lowrance X-85 Sounder, 3D Lat-Long-Depth points are located with sub-meter precision.



3D TIN NETWORK

The dGPS survey points are processed in the ArcView GIS program. A TIN network is created by connecting the three nearest Lat-Long-Depth survey points into 3D triangular planes.



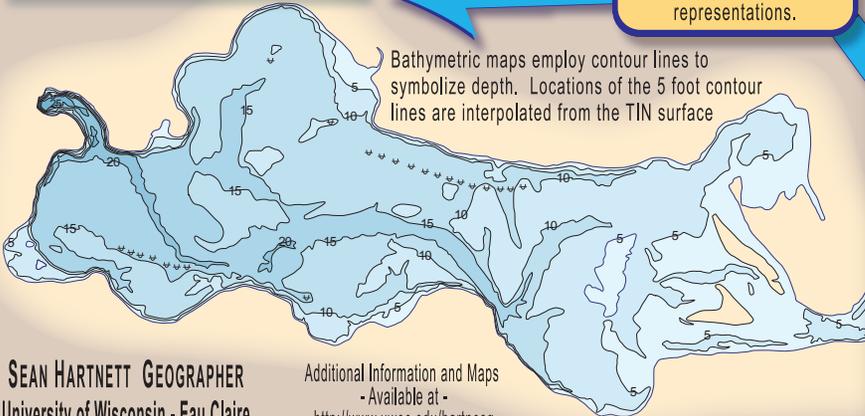
3D TIN SURFACE

A 3D TIN surface is rendered by connecting the triangular planes and projecting them in 3D space. The resulting Digital Elevation Model (DEM) is shadowed and colored to illustrate structure of the lake bottom.

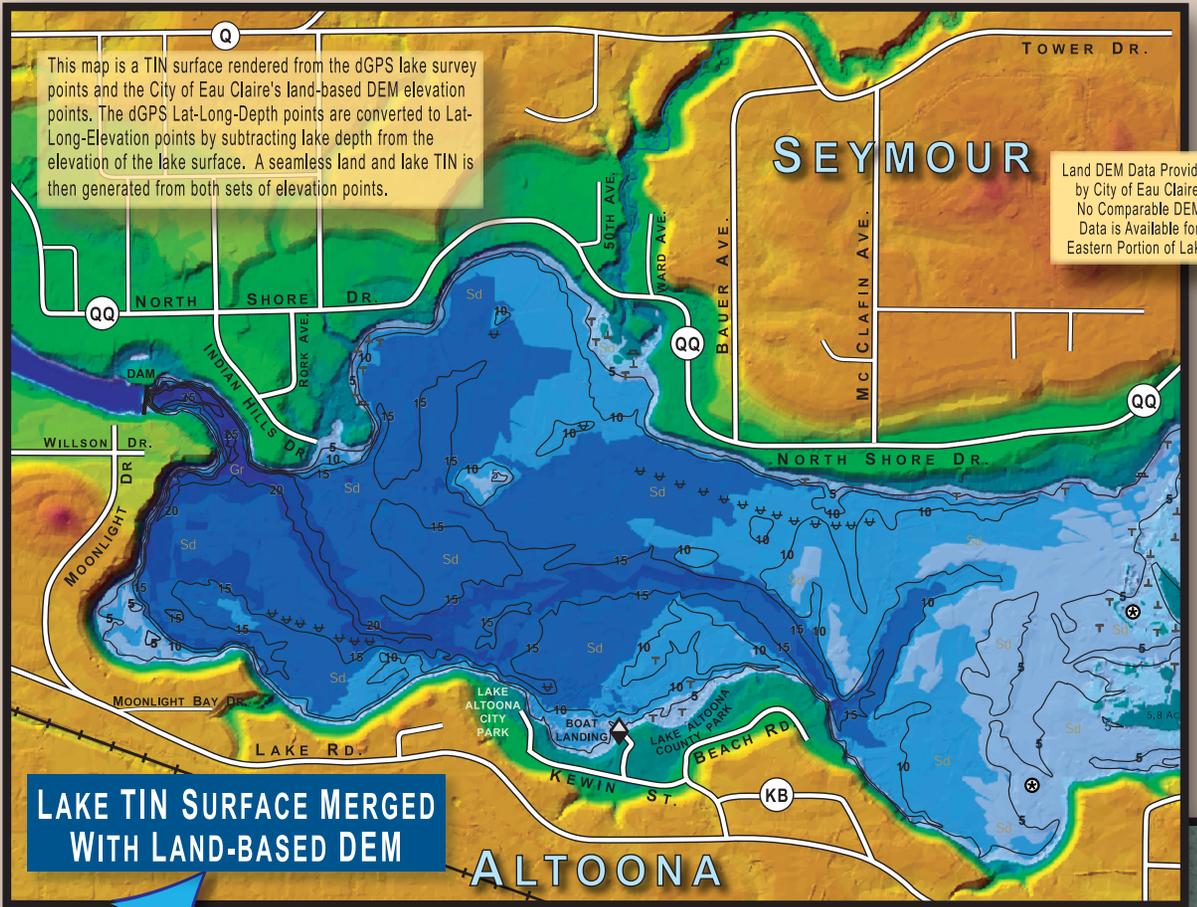


DEPTH CONTOUR LINES

Bathymetric maps employ contour lines to symbolize depth. Locations of the 5 foot contour lines are interpolated from the TIN surface



LAKE TIN SURFACE MERGED WITH LAND-BASED DEM



This 3D TIN surface of connected triangular planes can be transformed into a variety of surface representations.

LAKE GRID SURFACE DRAPED OVER DOQ IMAGES

