



Table1. Surface area and capacity at specified water-surface elevations for Unionville Reservoir (Mahoney Lake) near Unionville, Missouri, May 3, 2022.

[Primary spillway elevation is about 976.7 feet; the mean water-surface elevation during the survey was about 977.3 feet (row shaded in the table)]

| Water-surface elevation, ¹ in feet | Surface-area, in acres | Capacity, ² in acre-feet |
|---|------------------------|-------------------------------------|
| 960.0 | 1.20 | 0.22 |
| 962.0 | 8.27 | 9.28 |
| 964.0 | 16.7 | 33.9 |
| 966.0 | 25.5 | 75.9 |
| 968.0 | 35.2 | 137 |
| 970.0 | 43.3 | 216 |
| 972.0 | 50.4 | 310 |
| 974.0 | 59.5 | 419 |
| 976.0 | 68.5 | 547 |
| 976.7 | 71.7 | 595 |
| 977.3 | 76.5 | 648 |

¹Elevations are referenced to the North American Vertical Datum of 1988 using the geoid model GEOID18.

²Capacities were calculated from surface testing at 0.007-foot vertical accuracy at a 95-percent confidence level. An explanation of the vertical accuracy calculation can be found in the “Quality Assurance for Bathymetric Surface, Contour Map, and Bathymetric Change” section of the report of which this plate is a part.

EXPLANATION

- Area of multibeam survey data collection
- Boundary of resurvey for point-to-point quality-assurance data collection (cross-check line)
- Water-surface elevation—Shows mean water-surface elevation (977.28 feet, refer to table 1). Datum is North American Vertical Datum of 1988 using the geoid model GEOID18
- Spillway elevation—Shows approximate primary spillway elevation (976.68 feet, refer to table 1). Datum is North American Vertical Datum of 1988 using the geoid model GEOID18
- Bathymetric contour—Shows elevation of the lake bottom. Index contour interval 10 feet. Intermediate contour (gray) interval 2 feet. Datum is North American Vertical Datum of 1988 using the geoid model GEOID18
- Reference mark and identifier—Shows location of survey control used in the survey. RM1 is the chiseled X on the southeast corner of concrete pad in front of latrine near the boat ramp. Elevation 987.43 feet. RM2 is the chiseled arrow near the south end of the west wingwall of the spillway, near the curved section. Elevation 989.76 feet. RM3 is the west edge of the spillway crest. Elevation 976.68 feet. Datum is North American Vertical Datum of 1988 using the geoid model GEOID18

Bathymetric Contour Map and Surface Area and Capacity Table for Unionville Reservoir (Mahoney Lake; lake 41)
near Unionville, Missouri, 2022

By
Benjamin C. Rivers, Richard J. Huizinga, and Garrett J. Waite
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