

Appendix G. Mono Lakebed Contours and Lake Surface Areas Developed by SWRCB Consultants

A set of contours depicting the bed of Mono Lake was generated by SWRCB consultants (Jones & Stokes Associates) through a computer-aided drafting system (AutoCAD) for use in impact analysis and to create maps for the EIR (Table G-1). These contours are more accurate and should therefore supersede earlier topographic depictions of lakeshore lands developed for 7.5-minute topographic maps by the U.S. Geological Survey and Pacific Western Aerial Surveys (1986). The 7.5-minute topographic maps that cover Mono Lake include Mount Dana, 1988; Lundy, 1986; Negit Island, 1986; Lee Vining, 1986; Mono Mills, 1986; and Sulphur Pond, 1986.

The digital data set of all contours shown on Table G-1, except those in brackets, has been verified as complete and closed; the data were exported to a geographic information system (ARC/INFO) for acreage calculations and for overlay on environmental data sets. Those in brackets are control contours used in interpolation of some of the other contours. Note that the contour set includes one for each of the nominal alternatives and intermediate contours useful in evaluating the fluctuating lake levels of the alternatives.

The source of each contour is given in Table G-1. The control contours were derived from aerial photographs of the lake at known lake levels; both shorelines and strands of former, known-elevation shorelines were digitized. This empirical method of developing contours is more accurate than using conventional photogrammetric techniques, evidenced by horizontal discrepancies of up to 2,000 feet between contours from photogrammetric surveys (U.S. Geological Survey 7.5-minute topographic maps, from 1982 aerial photographs, and Pacific Western Aerial Surveys [1986] from same photographs) and locations of lakeshores of corresponding elevations compiled herein.

Bathymetric contours from a ship-based sounding survey (Pelagos 1986) are also included in Table G-1, ranging from 6,320 ft to 6,365 ft. The 6,365-ft contour was modified in a few places to avoid conflict with the well-established 6,372.7-ft contour (rectified lakeshore used on U.S. Geological Survey 7.5-minute quadrangle maps).

The AutoCAD data set also includes the Universal Transverse Mercator grid, selected roads, and spot elevations determined by LADWP surveyors.

The procedures to prepare these contours were developed by SWRCB staff and consultants (Jones & Stokes Associates), LADWP staff, and Dr. Scott Stine on August 23, 1991.

Lake surface acreages have been computed for each of these contours through ARC/INFO. These data appear in Table G-2. Additional acreages for lake surfaces at each whole foot increment have been

estimated through linear interpolation. These data are available in Lotus 1-2-3 spreadsheet format from SWRCB consultants.

CITATIONS

Printed References

Pacific Western Aerial Surveys. 1986. Topographic map of Mono Lake. N.p.

Pelagos Corporation. 1986. Executive summary, a bathymetric and geologic survey of Mono Lake, California. San Diego, CA.