

Information Availability

The WQDB and associated data files are available at (<http://pubs.usgs.gov/ds/471/>). These files contain the actual WQDB Microsoft Access database (WQDB.mbd), comma-separated-values (CSV) files of each of the eight database tables, and CSV files, representing the output of pre-defined sample queries, which combine data from select tables. The data from the pre-defined queries are also directly available from the GCMRC database at <http://www.gcmrc.gov/dasa/tabdata/damsQuery.aspx>. Further assistance and other data formats are available from the author.

WQDB Metadata

1. These data represent the results of water-quality monitoring activities in Lake Powell and from Glen Canyon Dam releases. These data were collected by the Bureau of Reclamation's Upper Colorado Regional Office and Glen Canyon Environmental Studies program (1964-1996) and subsequently by the U.S. Geological Survey's Grand Canyon Monitoring and Research Center (1996-2013).
2. These data are part of the WQDB, a Microsoft Access relational database that contains the results of Lake Powell water-quality monitoring activities from 1964 to 2013. The WQDB is comprised of 8 tables of related information and several pre-defined queries to display different types of information from the database. The following tables make up the WQDB:

| Table Name | Description |
|---------------|--|
| tblStations | A listing of Lake Powell sampling stations, geographical coordinates, and locations within mainchannel and tributary arms of the reservoir |
| tblSurface | A listing of site visits to various sampling locations |
| tblProfiles | Depth-profiles of common water-quality parameters associated with site visits |
| tblSecchi | Secchi-depth transparency observations associated with site visits |
| tblSamples | Water sample collection information with links to sample analyses |
| tblAlkalinity | Field alkalinity determinations performed on collected samples |
| tblMajor Ions | Results of laboratory analyses for the determination of major ionic constituents |
| tblNutrients | Results of laboratory analyses for the determination of nutrient compounds of phosphorus and nitrogen |

3. The data represented in these files are completely described in the following report:

Vernieu, W.S., 2015, Historical physical and chemical data for water in Lake Powell and from Glen Canyon Dam releases, Utah-Arizona, 1964–2013 (ver. 3.0,

February 2015): U.S. Geological Survey Data Series 471, 23 p.,
<http://dx.doi.org/10.3133/ds471>.

Historical and current methods are described in the body of the report. Database structure and contents of data tables are described in detail in the report appendix. Further assistance may be obtained from the author:

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4. The geographic coordinates of sampling locations were determined with hand-help geographic positioning systems and represent the approximate locations of sampling activities. Actual reservoir sampling activities may take place within a 100-m radius of the given sampling location.
5. The following predefined queries are included in the WQDB. Each of these queries may be subqueried for selected Station Groups or date ranges.

| Query Name | Description |
|------------------------------------|--|
| qryStation Groups-Primary | A listing of the 31 primary station groups of the current monitoring program |
| qrySite Visits at Primary Stations | Site visits at the 31 primary station groups |
| qryProfiles at Primary Stations | Water-quality depth profiles at the 31 primary station groups |
| qryMajor Ions at Primary Stations | Results of laboratory analyses for the determination of major ionic constituents at the 31 primary station groups |
| qryNutrients at Primary Stations | Results of laboratory analyses for the determination of nutrient compounds of phosphorus and nitrogen at the 31 primary station groups |