

ARCHEOLOGY AT LAKE POWELL

The effects of inundation, exposure, and visitation on cultural resources at Lake Powell



GLEN CANYON DAM

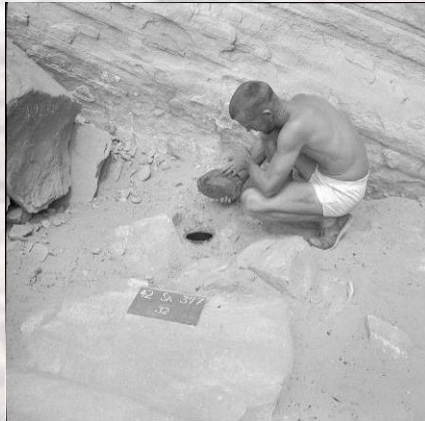


[This Photo](#) by Unknown Author is licensed under [CC BY-ND](#)

1957-1962
UPPER COLORADO RIVER BASIN
ARCHAEOLOGICAL SALVAGE PROJECT (UCRBAS)



Northern Arizona University, Cline Library Tad Nichols
Collection

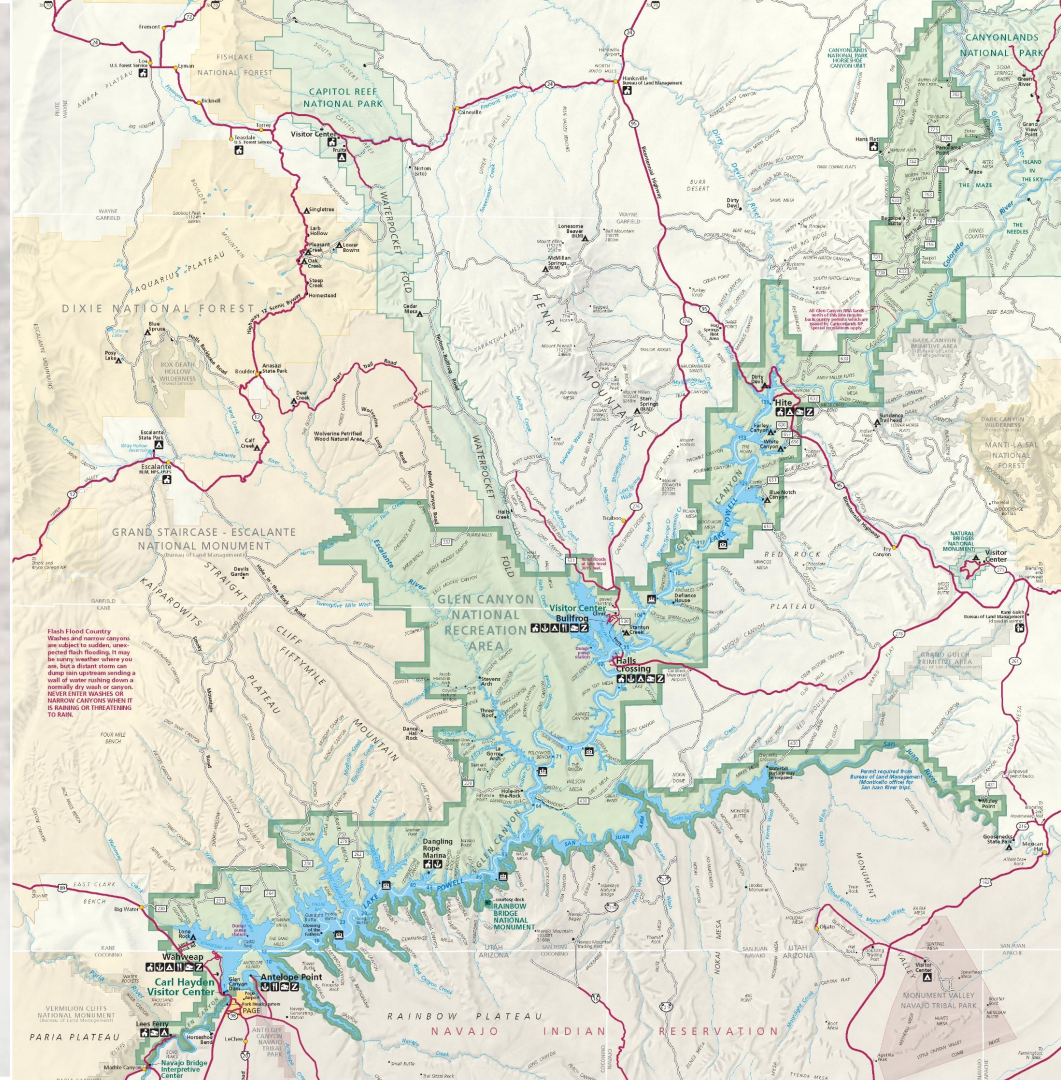


Courtesy of Natural History Museum of Utah



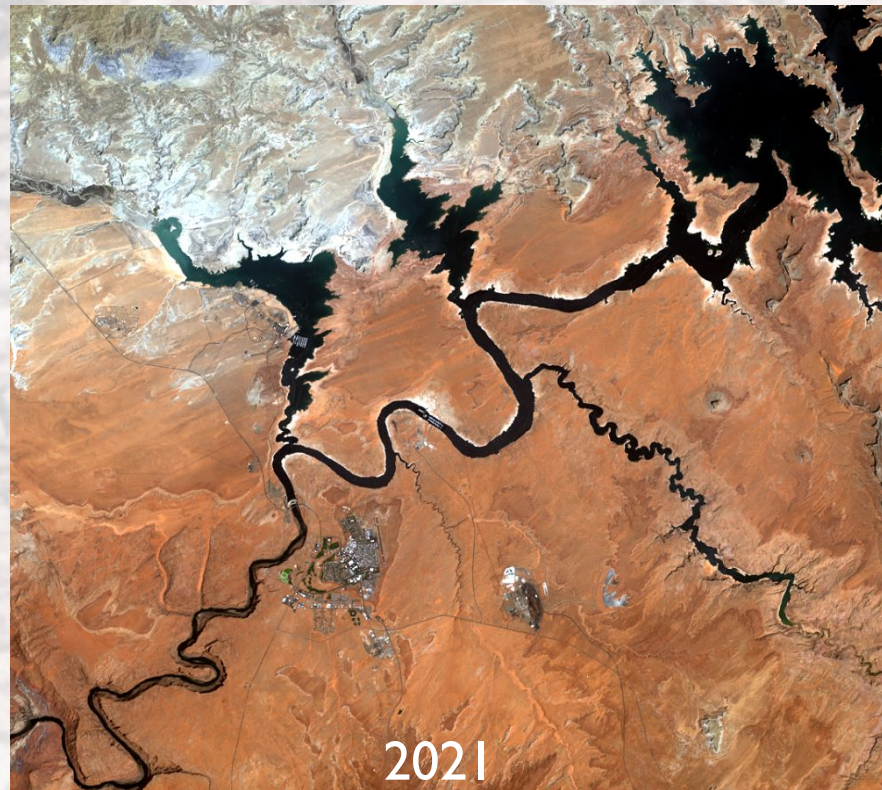
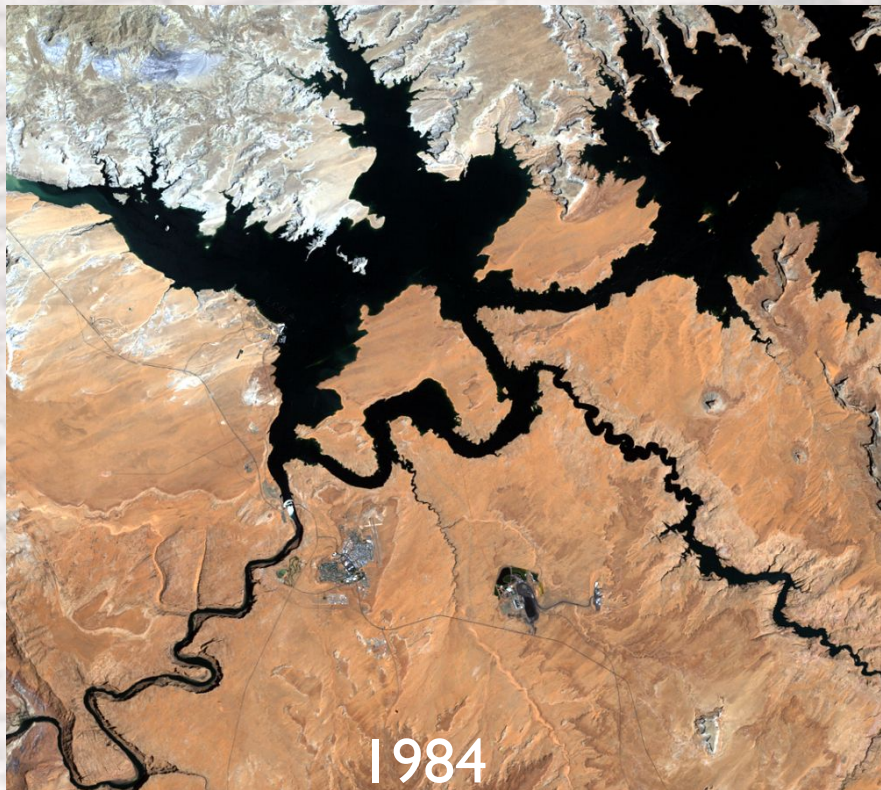
Courtesy of Natural History Museum of Utah

GLEN CANYON NATIONAL RECREATION AREA



As of Feb 16, 2022

- Current water level: **3,528.91 ft**
- Percent of Full Pool: **25.37%**
- Feet Below Full Pool: **171.09 ft**



NATIONAL HISTORIC PRESERVATION ACT: SECTION 110 & 106

- Historic properties under the jurisdiction or control of the agency are to be managed and maintained in a way that considers the preservation of their historic, archeological, architectural, and cultural values
- Agency preservation-related activities are to be carried out in consultation with other Federal, State, and local agencies, Indian tribes, Native Hawaiian organizations, and the private sector

INUNDATION STUDIES



Inundation Study archaeologists prepare to map a site at Glen Canyon. The red and white flags on the poles make good visual targets for the alidade in low visibility water.

NPS Archives



NPS Archives



This small section of masonry wall from a submerged component of "Boll House" ruin was eventually stabilized by Larry Nordby. As far as we know, this represents the first time that an attempt has been made to stabilize an underwater masonry structure. Upon reexamination two months after stabilization, the epoxy grout seemed to be holding well. The site is located at a depth of 50', in a shallow sandstone alcove.

NPS Archives

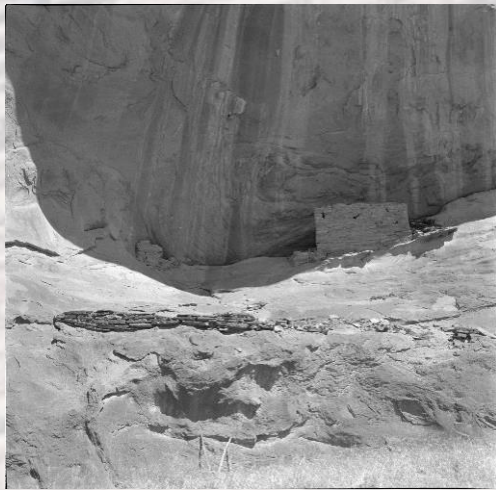


This photograph was exposed after project research divers rubbed the ever present film from the canyon wall. It was found at a depth of 25' in site 425a585. Prior documentation by the University of Utah before the waters were impounded contained photos of these pictographs - when Inundation Study personnel compared them to the above, they seemed to indicate that impacts were minimal from the long period of inundation. Pigment samples were collected and will be analyzed along with a control sample that was taken before inundation.

NPS Archives

INVENTORY AND MONITORING OF CULTURAL SITES





Courtesy of Natural History Museum of Utah

1957-1963



Courtesy of Natural History Museum of Utah



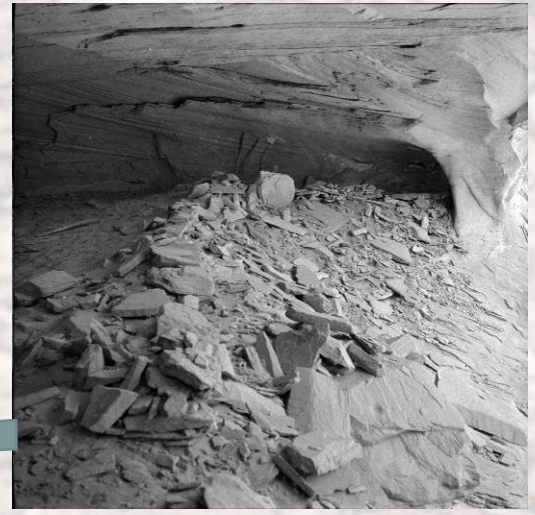
2017-2019





Courtesy of Natural History Museum of Utah

1957-1963



Courtesy of Natural History Museum of Utah



2017-2019

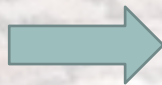


1957-1963



Courtesy of Natural History Museum of Utah

2017-2019



MOQUI FORT

1950

s



200

5



DOCUMENTED CONDITIONS

The evidence presented here suggests that archeological sites vary widely in their condition.

Of **120** sites visited as a part of this project, 25% were intact but in varying conditions:

- 12 good condition
 - 14 fair condition
 - 4 poor condition
 - 30 destroyed
 - 37 currently inundated
 - 9 not relocated
 - 14 unknown condition*
- * (usually inaccessible due to cliffs, etc.)

Of **30** intact sites (good, fair, or poor condition)

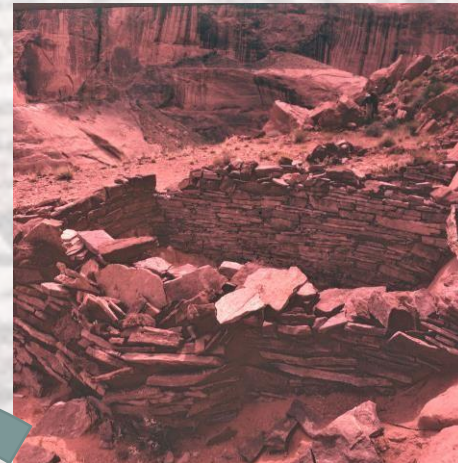
77% were determined to retain depositional integrity:

- 4 are well preserved
- 5 retain substantial depositional integrity
- 14 retain moderate depositional integrity
- 4 retain poor depositional integrity
- 1 lacks depositional integrity



Courtesy of Natural History Museum of Utah

1957-1963



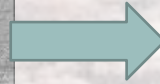
Museum of Northern Arizona Archives



2017-2019



1957-1963



2018



IMPACTS

- Erosion causing exposure of subsurface materials
- Weakened cliffs and alcoves cause spalling and rockfalls
- Invasive vegetation causing displacement of walls, impacts to rock art, and can be a fire hazard
- Graffiti
- Damage to structures & looting
- Camping in sites

EROSION



SPALLING



Structure

Spalling



VEGETATION



VISITOR IMPACTS- GRAFFITI



VISITOR IMPACTS – DAMAGE



VISITOR IMPACTS - LOOTING



VISITOR IMPACTS - CAMPING



QUESTIONS AND DISCUSSION



Erik Stanfield

Anthropologist

Navajo Nation Heritage and Historic Preservation
Department

Phone: (928) 551-5146

Email: ErikStanfield@navajo-nsn.gov

Website: <https://www.hpd.navajo-nsn.gov>



WORKS CITED

- Crampton, Gregory
1964a The San Juan Canyon Historical Sites. University of Utah Anthropological Papers No. 70 (Glen Canyon Series No. 22). University of Utah Press, Salt Lake City.
- 1964b Historical Sites in Cataract and Narrow Canyons, and in Glen Canyon to California Bar. University of Utah Anthropological Papers No. 72 (Glen Canyon Series No. 24). University of Utah Press, Salt Lake City.
- Horn, Amy, and Harmon, Bran
2019 A New Low in Cultural Resource Management: Insights from Monitoring Archaeological Resources Re-exposed by Low Levels of Lake Powell in Glen Canyon National Recreation Area. Presented at: 15th Biennial Conference of Science and Management on the Colorado Plateau and Southwest Region, Flagstaff, Arizona. September 2019.
- Jennings, Jesse D.
1966 Glen Canyon: A Summary. Anthropological Papers 81 (Glen Canyon Series 31). University of Utah Press, Salt Lake City.
- Jennings, Jesse, D. and Floyd W. Sharrock
1965 The Glen Canyon: A Multi-Discipline Project. Utah Historical Quarterly 33(1):35-50.
- Lenihan, D.J., T.L. Carrell, S. Fosberg, L. Murphy, S.L. Rayl and J.A. Ware
1981 The Final Report of the National Reservoir Inundation Study, Volume 1. Department of the Interior, National Park Service, Southwest Cultural Research Center, Santa Fe.
- National Park Service
2013 ASMIS 4.01, Archeological Sites Management Information System Version 4.01 Data Dictionary. Archeology Program, Park Cultural Resources Programs, National Park Service, Washington, D.C.
- Nordby, Larry V.
1981 Preliminary Experiments in the Structural Preservation of Submerged Anasazi Units. In The Final Report of the National Reservoir Inundation Study, Volume 2, pp 7-1 to 7-45. Department of the Interior, National Park Service, Southwest Cultural Research Center, Santa Fe.
- Schroedl, Alan
1976 Prehistoric Cultural Resources of Lake and Moqui Canyons, Glen Canyon National Recreation Area. Prepared for National Park Service. Manuscript on file, Glen Canyon National Recreation Area, Page.

