

USGS Studies at Lake Mead

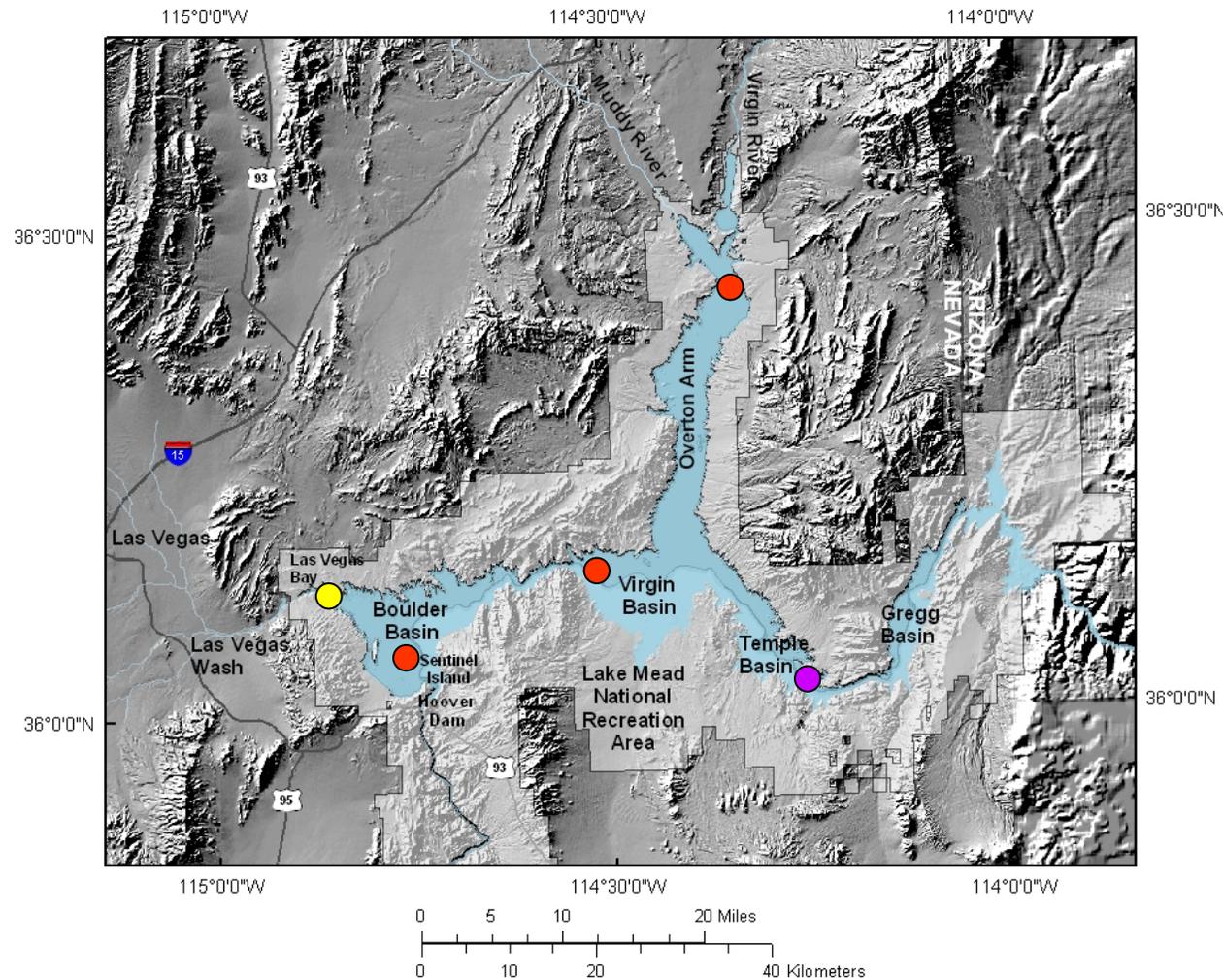
Prepared for the Lake Mead
Water Quality Forum Meeting
January 23, 2007

U.S. Department of Interior
U.S. Geological Survey

USGS Studies at Lake Mead

- **Water Quality and Meteorological Monitoring**
- **Occurrence of Hydrocarbons**
- **Chemical and Biological Assessment of Fish Health**

Water Quality and Meteorological Station Locations



- QW + Met
- QW
- QW + Met (2007 Startup)

World Wide Web (<http://nevada.usgs.gov/lmqw>)

The screenshot shows the USGS website for Lake Mead water quality monitoring. At the top left is the USGS logo and the text "Water Resources of Nevada". The main heading is "WATER-QUALITY MONITORING AT LAKE MEAD, ARIZONA AND NEVADA". To the right of the heading is a circular image of a yellow and black monitoring boat on the water. Below the heading is a navigation menu with six items: "Background Information", "Instrumentation", "Near-Real-Time Data", "Additional Information", "Quality Assurance", and "Home". A paragraph of text describes Lake Mead as one of the most intensely used reservoirs in the western United States, providing recreational watercraft activities and domestic drinking, industrial, and irrigation water for over 22 million users. It notes that the quality of this water must be maintained to guarantee a reliable and safe resource. Inflow into Lake Mead primarily is from the Colorado River; however, about 3 percent of the inflow is from tributaries on the northern side of the Lake and from Las Vegas Wash on the northwest side of the Lake. Below the text is a satellite map of Lake Mead and its surrounding area. The map shows the Colorado River flowing into the lake from the north and east. Key features labeled on the map include Las Vegas Wash, Las Vegas Bay, Boulder Basin, Sentinel Island, Virgin Basin, Overton Arm, and Gregg Basin. Several circular inset images show monitoring boats at different locations. An inset map in the top left corner shows the location of Lake Mead within the states of Nevada, Utah, and Arizona. At the bottom left of the map area is a "Done" button.

USGS Open-File Data Report

Physical and Chemical Water-Quality Data for Automatic Profiling Systems, Boulder Basin, Lake Mead, Arizona and Nevada, Water Years 2001–04

By Ryan C. Rowland, Craig L. Westenburg, Ronald J. Veley, and Walter E. Nylund

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Hydrocarbon Data Collection Locations (●) – Lake Mead

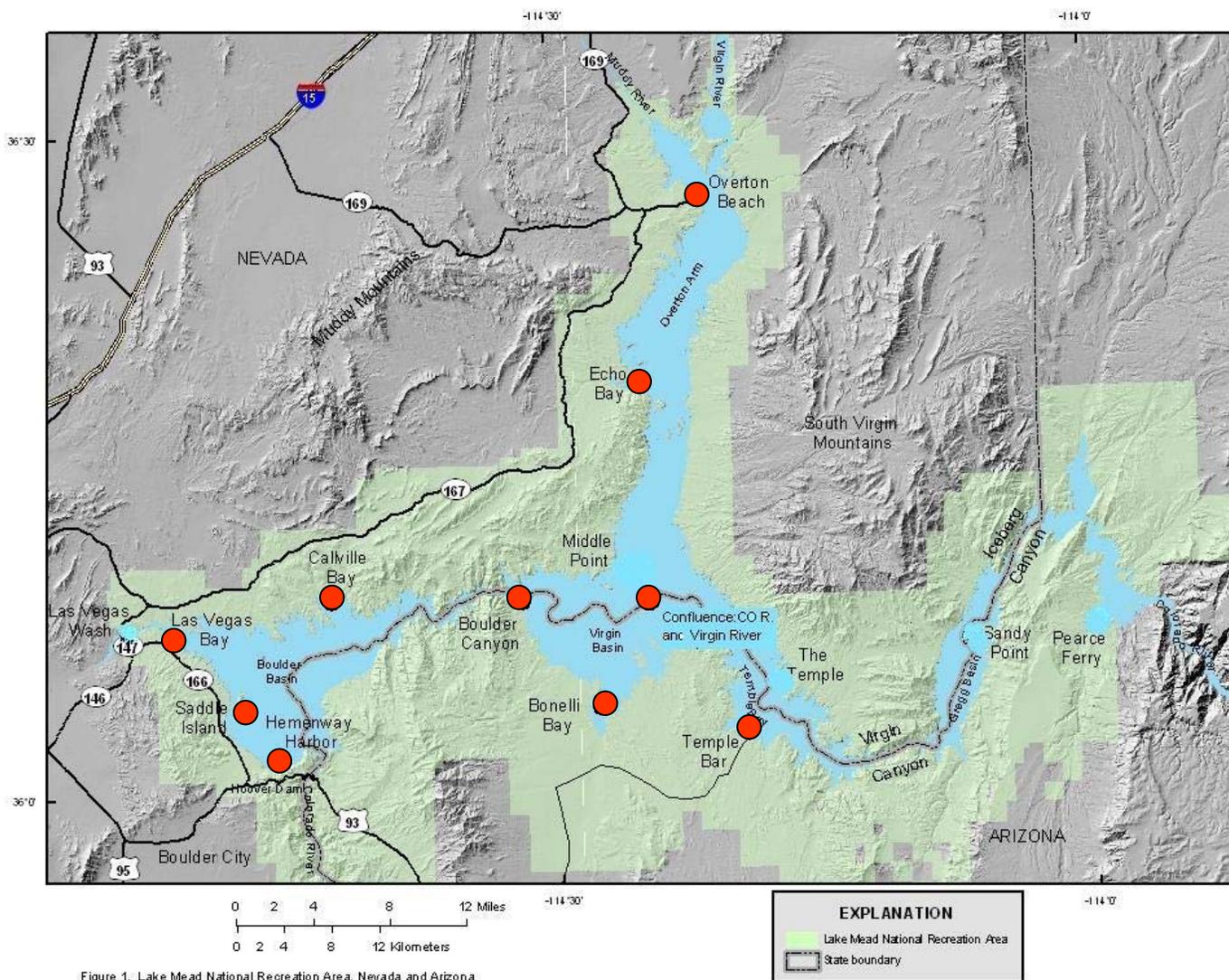
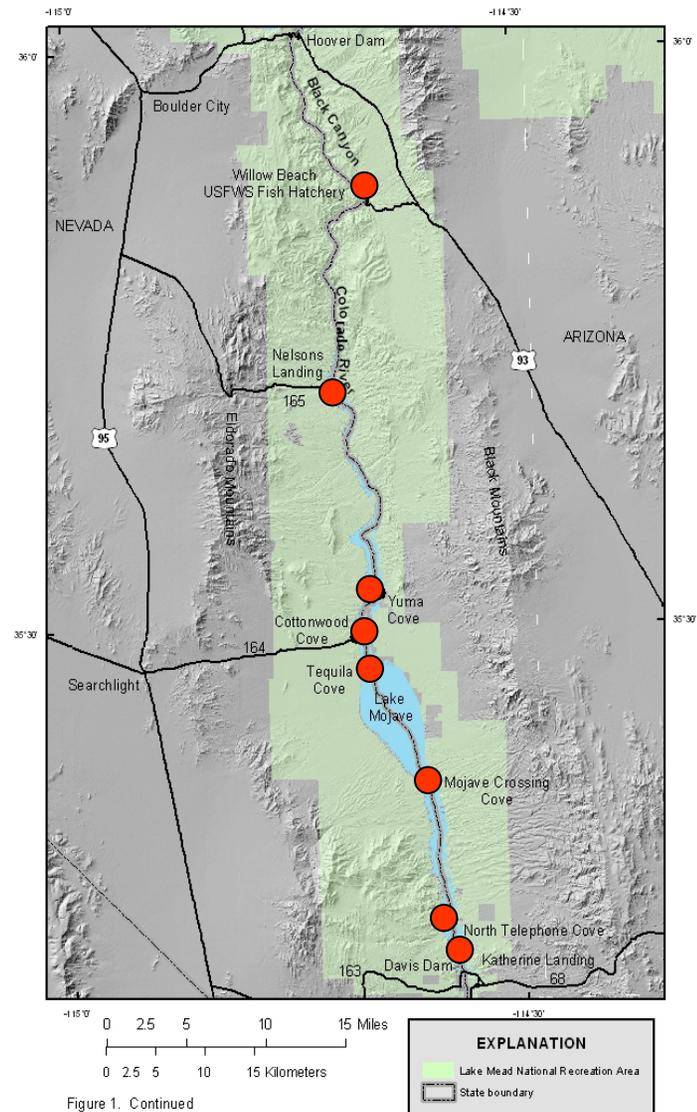


Figure 1. Lake Mead National Recreation Area, Nevada and Arizona

Hydrocarbon Data Collection Locations (●):

Lake Mohave and the Colorado River



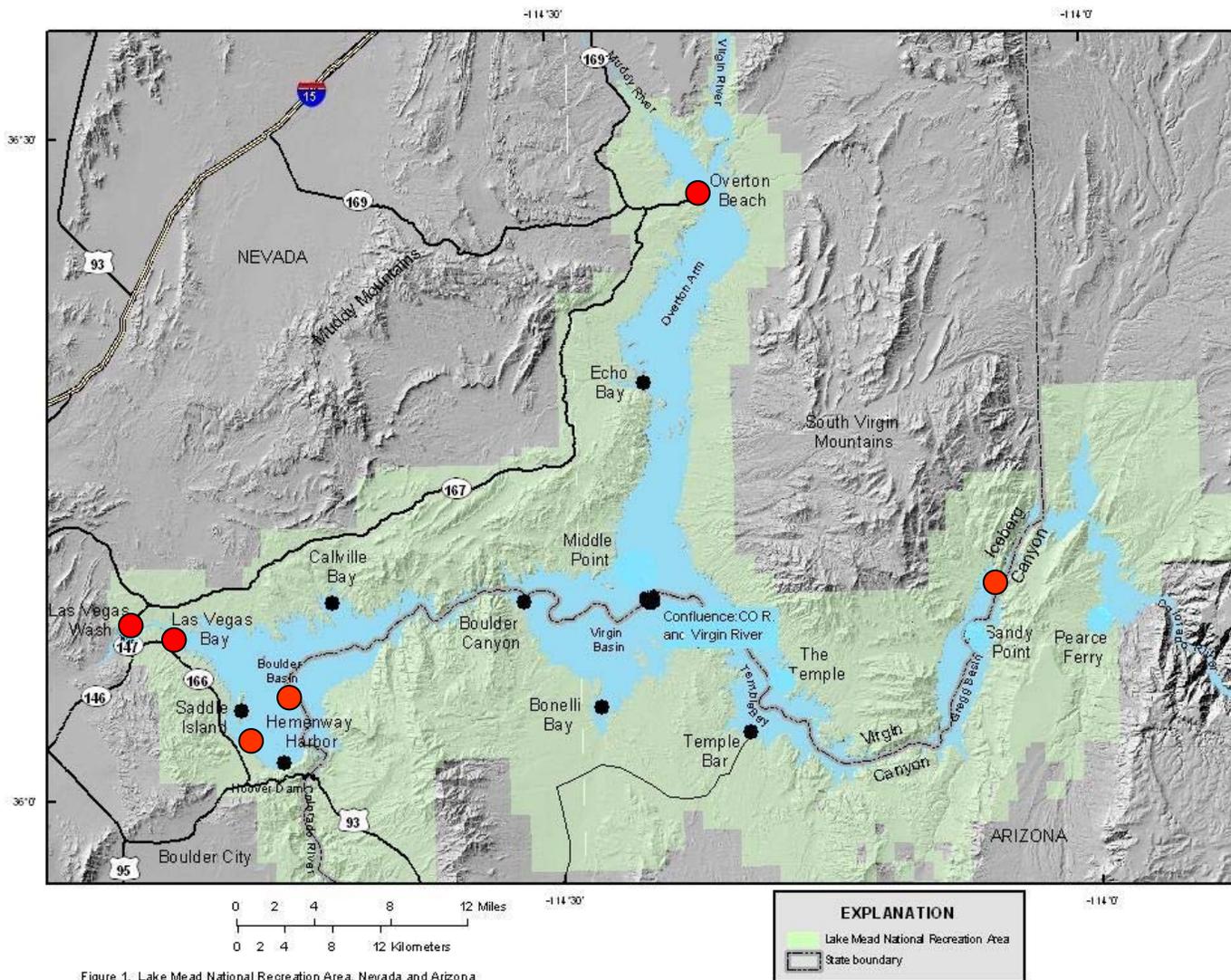
Significant Findings

- **Hydrocarbon concentrations (BTEX - volatile components of gasoline) are higher in Lake Mohave than Lake Mead**
- **BTEX concentrations are directly tied to boat use (similar to USGS Lake Tahoe hydrocarbon study)**
- **No samples exceeded the U.S. EPA MCLs (Maximum Contaminant Levels)**
- **USGS Report – September, 2007**

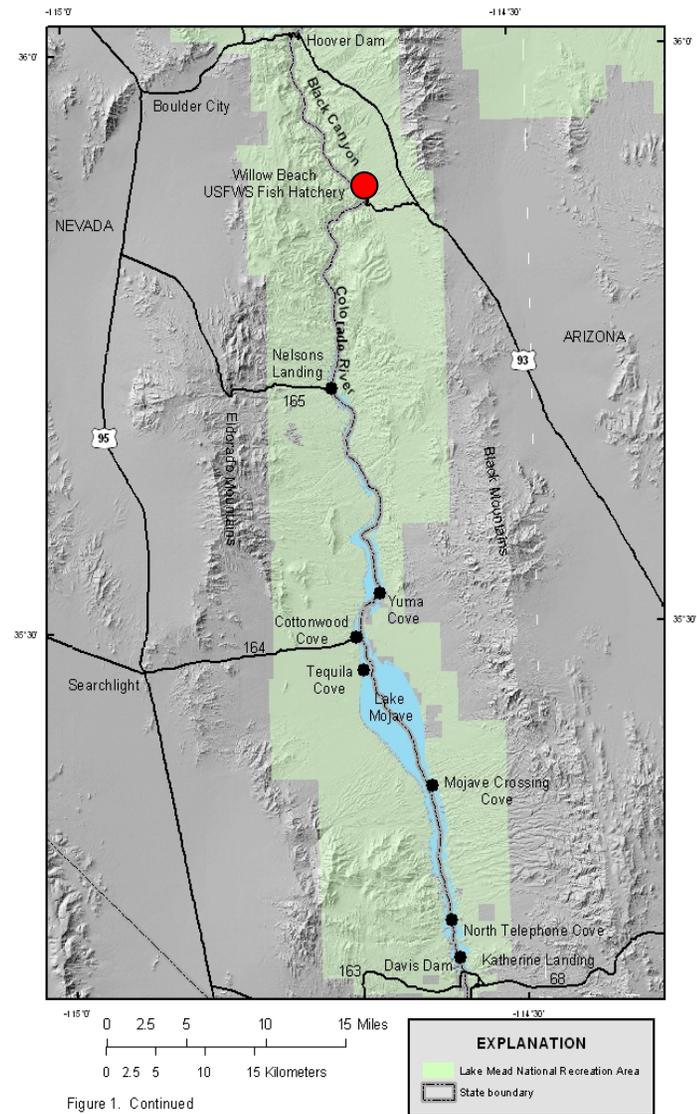
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Chemical/Biological Data Collection Locations (●) – Lake Mead



Chemical/Biological Data Collection Location (●) on the Colorado River



USGS Fact Sheet (2006)

Investigations of the Effects of Synthetic Chemicals on the Endocrine System of Common Carp in Lake Mead, Nevada and Arizona

By Michael R. Rosen, Steven L. Goodbred, Reynaldo Patiño, Thomas A. Leiker, and Erik Orsak (USFWS)

USGS Studies at Lake Mead Contacts

- **Water Quality and Meteorological Monitoring**

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- **Chemical and Biological Assessment of Fish Health**

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