

U.S. Geological Survey–Lake Mead Water-Quality Monitoring

**Prepared for the Lake Mead
Ecosystem Monitoring Workgroup
Meeting
August 23, 2012**

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U.S. Geological Survey (USGS)**

Why Collect the Data?

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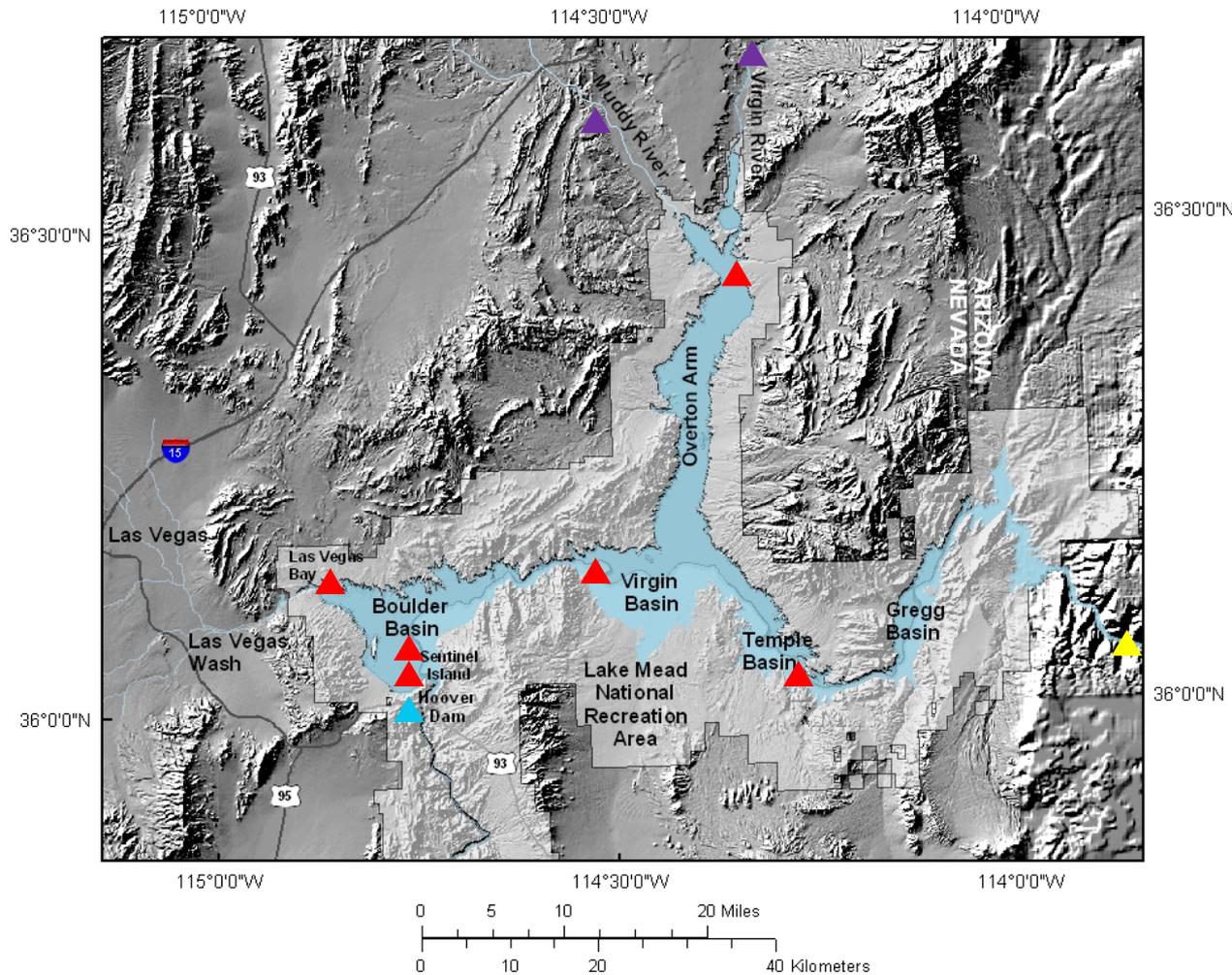
is listed as critical habitat (endangered razorback sucker and southwestern willow flycatcher).

Why Collect the Data? (Continued)

- **Urbanization—Las Vegas, Mesquite, and St. George.**

(point and non-point sources such as irrigated agricultural fields, dairy operations, periodic storm-water runoff, cooling water from power plants, and municipal waste water...)

Lake Mead QW Monitoring Station Locations



- ▲ Colorado River Station
- ▲ Lake Mead Stations
- ▲ Muddy and Virgin Stations
- ▲ Lower Colorado Station

USGS science for a changing world

National Water Information System: Web Interface

USGS Water Resources (District Access) Data Category: Home Geographic Area: Nevada GO

News - updated July 2012

USGS Water Data for Nevada

Annual Water Data Reports

Search for Sites With Data

- Current Conditions** Sites with real-time or recent surface-water, groundwater, or water-quality data.
- Site Information** Descriptive site information for all sites with links to all available water data for individual sites.



Map of all sites with links to all available water data for individual sites.

Frequent Searches By Data Category

- Surface Water** Water flow and levels in streams and lakes.
- Groundwater** Water levels in wells.
- Water Quality** Chemical and physical data for streams, lakes, springs, wells and other sites.
- Water Use** Water Use Information.

Introduction

In 1889, the U.S. Geological Survey established its first gaging station in Nevada and providing to the public data about Nevada's water resources. Today, this systematic collection and dissemination of hydrologic data is made possible with the cooperation from Federal, Tribal, State, and local agencies. A list of our current cooperators is available [online](#).

These pages provide access to water-resources data collected at approximately 20,000 sites in Nevada. Online access to this data is organized around the categories listed to the left.

The USGS investigates the occurrence, quantity, quality, distribution, and movement of surface and underground waters and disseminates the data to the public; Tribal, State and local governments; public and private utilities; and other Federal agencies involved with managing Nevada's water resources. For more information on the USGS activities in Nevada, please visit our [home page](#).

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U.S. Department of the Interior | U.S. Geological Survey
 Title: USGS Water Data for Nevada

USA.gov

Lake Mead Monitoring Stations



Boulder Basin Monitoring Station

Boulder Basin Monitoring Station

Near-continuous depth-dependent water-quality data collected include:

- Water Temperature
- Specific Conductance
- Dissolved Oxygen
- pH
- Turbidity

Note: 4 profiles every 6 hours (starting after midnight daily)—every 5 meters (starting at 1 meter below surface)

[http://nevada.usgs.gov/water/lmqw/data_boulder.htm](#)
USGS Nevada Wate...

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Nevada Water Science Center

Water-Quality Monitoring at Lake Mead, Arizona and Nevada

[Near-Real-Time and Quality Assured Data](#)
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[Project Bibliography](#)
[Lake Mead Water Quality Home Page](#)

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 Nevada Water Science Center
 160 N. Stephanie St.
 Henderson, NV 89074

[Nevada Water Science Center Home Page](#)

Boulder Basin
Note: These data should be considered PROVISIONAL and are subject to revision until formal USGS publication.

Current Data
 Current Profile Data: [Graphs](#) | [Table](#)

Historic Quality-Assured Data
[Water Year 2011](#)

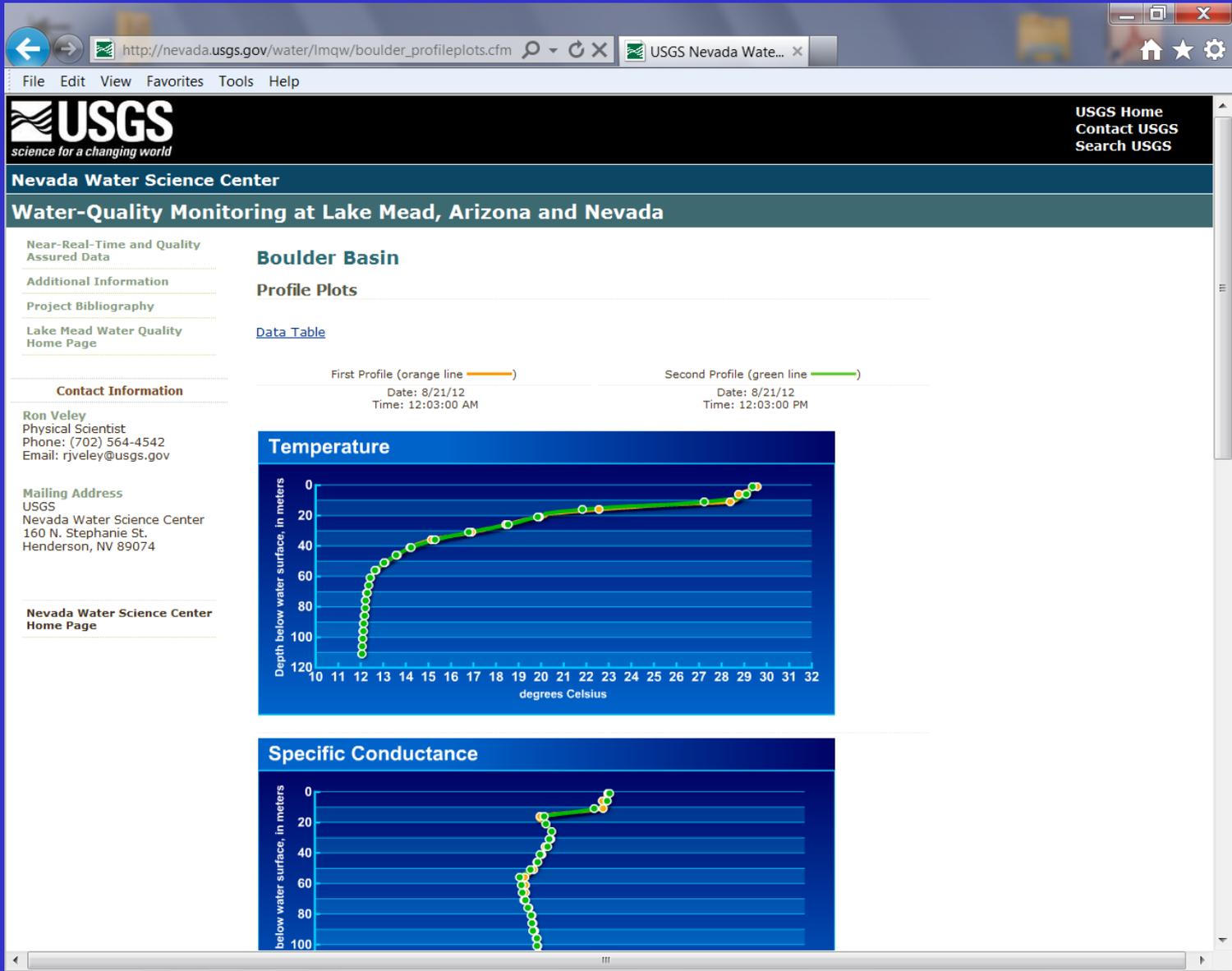
Data Collection
 Location: Latitude 36° 03' 10"; Longitude 114° 17' 23"
 Current profile frequency: 6 hours
 Collection began: May 2011



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[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)
 URL: <http://nevada.usgs.gov/water/et/index.htm>
 Page Contact Information: [Nevada Water Science Center Web Team](#)
 Page Last Modified: May 27, 2012



BBMS_WaterQuality_ByProfile_WaterYear2011.xls [Read-Only] [Compatibility Mode] - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Add-Ins Acrobat

Clipboard Font Alignment Number Styles Cells Editing

A2

**Quality Assured U.S. Geological Survey (USGS) Water-Quality Data, Boulder Basin
Monitoring Station, Water Year 2011 (October 1, 2010 - September 30, 2011)**

	Year	Month	Day	Time (PST)	Depth (m)	Depth QA Rating	Temperature (°C)	Temperature QA Rating	Specific conductance (µS/cm)	Specific conductance QA Rating	Discharge (m³/s)
3											
4	2011	9	30	1203	0.9	Excellent	26.9	Excellent	1000	Excellent	
5	2011	9	30	1206	5.9	Excellent	26.7	Excellent	1010	Excellent	
6	2011	9	30	1210	11.0	Excellent	26.2	Excellent	994	Excellent	
7	2011	9	30	1214	16.0	Excellent	21.4	Excellent	823	Excellent	
8	2011	9	30	1217	20.9	Excellent	20.4	Excellent	827	Excellent	
9	2011	9	30	1221	26.0	Excellent	19.4	Excellent	841	Excellent	
10	2011	9	30	1224	31.0	Excellent	18.5	Excellent	873	Excellent	
11	2011	9	30	1228	36.0	Excellent	17.6	Excellent	904	Excellent	
12	2011	9	30	1231	40.9	Excellent	16.5	Excellent	900	Excellent	
13	2011	9	30	1235	46.0	Excellent	15.4	Excellent	906	Excellent	
14	2011	9	30	1239	50.9	Excellent	14.4	Excellent	902	Excellent	
15	2011	9	30	1242	55.9	Excellent	13.2	Excellent	902	Excellent	
16	2011	9	30	1246	61.1	Excellent	12.4	Excellent	897	Excellent	
17	2011	9	30	1250	66.0	Excellent	12.1	Excellent	898	Excellent	
18	2011	9	30	1253	71.1	Excellent	11.9	Excellent	900	Excellent	
19	2011	9	30	1257	76.0	Excellent	11.8	Excellent	902	Excellent	
20	2011	9	30	1301	81.0	Excellent	11.8	Excellent	903	Excellent	
21	2011	9	30	1305	86.0	Excellent	11.7	Excellent	902	Excellent	
22	2011	9	30	1308	91.0	Excellent	11.7	Excellent	904	Excellent	
23	2011	9	30	1312	96.0	Excellent	11.6	Excellent	906	Excellent	
24	2011	9	30	1316	101.0	Excellent	11.6	Excellent	907	Excellent	
25	2011	9	30	1320	106.0	Excellent	11.6	Excellent	909	Excellent	
26	2011	9	30	1324	111.0	Excellent	11.5	Excellent	912	Excellent	
27	2011	9	30	1803	0.9	Excellent	26.8	Excellent	1010	Excellent	
28	2011	9	30	1806	6.0	Excellent	26.7	Excellent	1010	Excellent	
29	2011	9	30	1810	11.0	Excellent	26.4	Excellent	1000	Excellent	
30	2011	9	30	1814	15.9	Excellent	21.2	Excellent	813	Excellent	
31	2011	9	30	1817	21.2	Excellent	20.2	Excellent	825	Excellent	

BBMS_1 - 111 Meters

Ready

Boulder Basin Monitoring Station

**U.S. Geological Survey
Water-Quality Monitoring Station
Boulder Basin, Lake Mead**

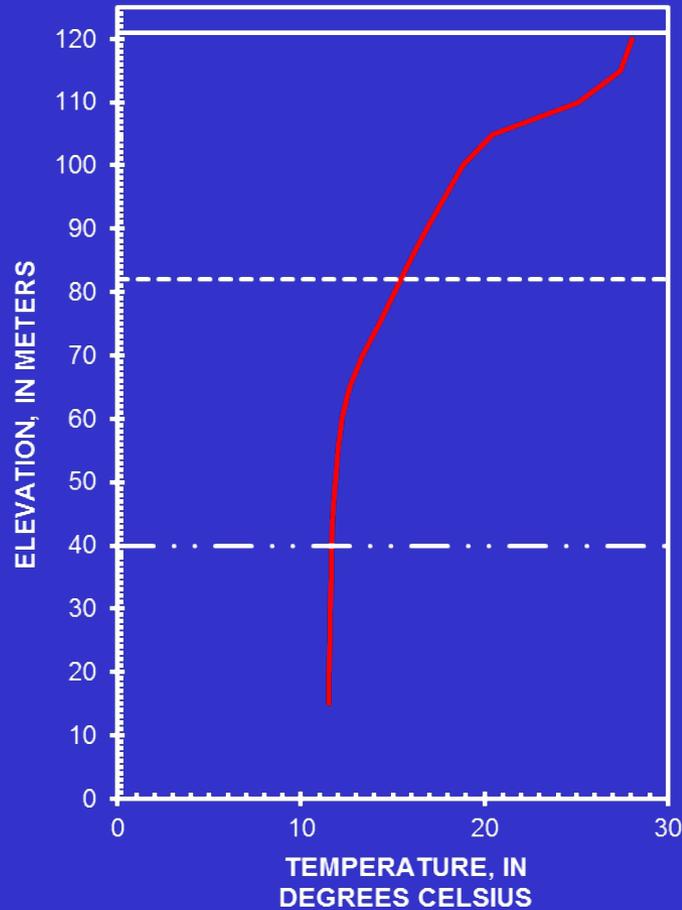
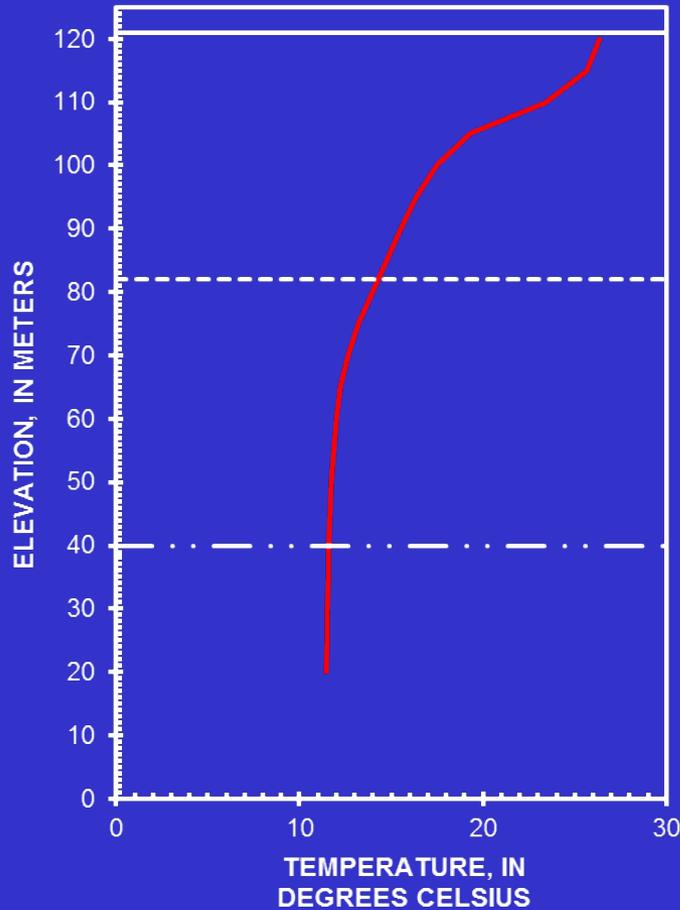
**Averaged Monthly Temperatures
By
Depth-Dependent Profiles**

July 2011 – July 2012

Provisional Data—Subject to Review/Revision

July 2011

August 2011



Explanation

Lake Stage —

Average Temperature —

Intakes 1&2 ----

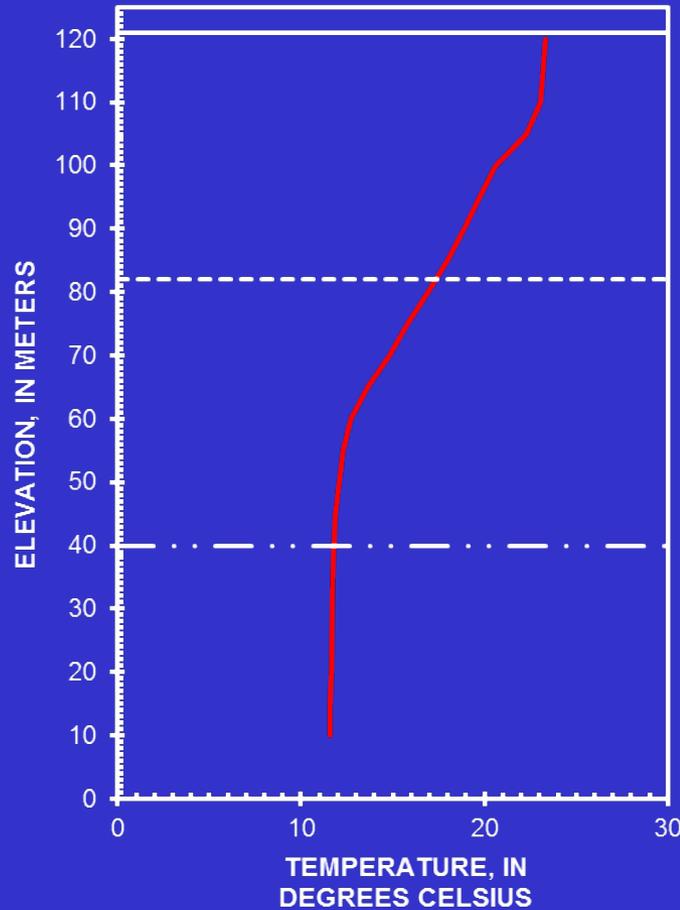
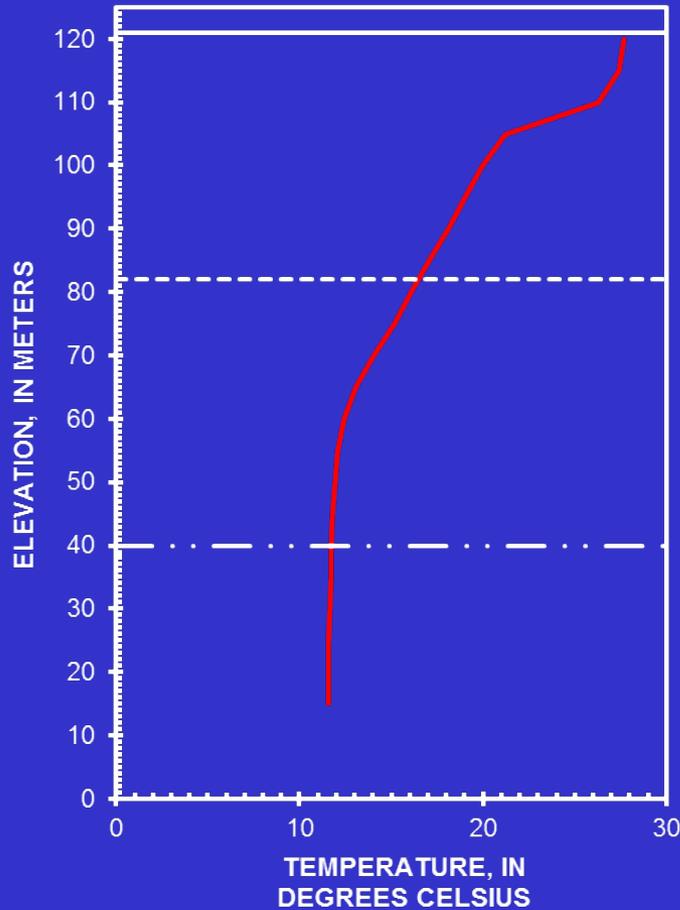
Intake 3 - . .

Note—Stage and Intake Levels are Approximations

Provisional Data—Subject to Review/Revision

September 2011

October 2011



Explanation

Lake Stage ———

Average Temperature ———

Intakes 1&2 - - - -

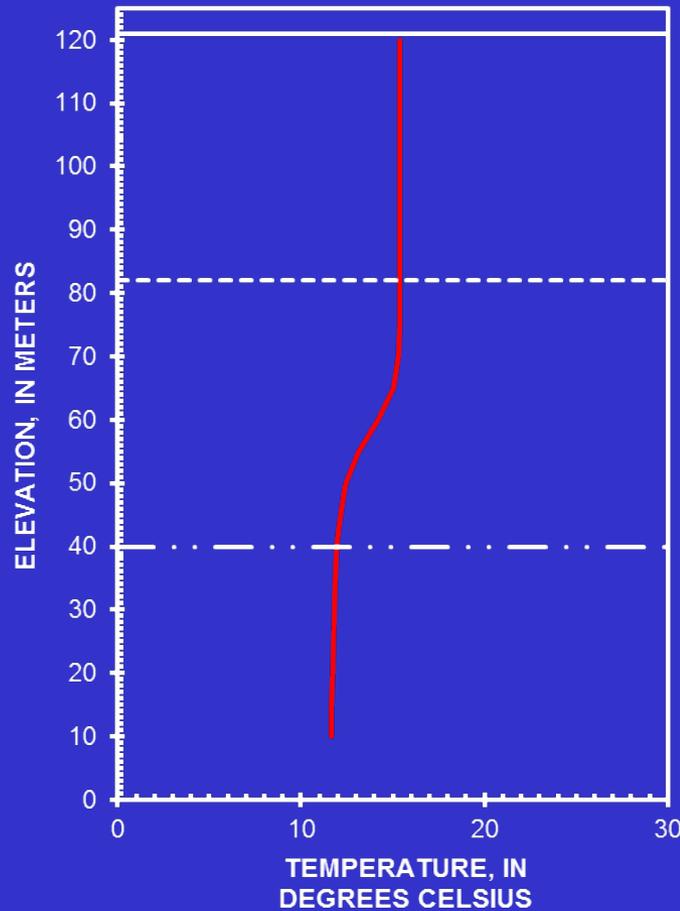
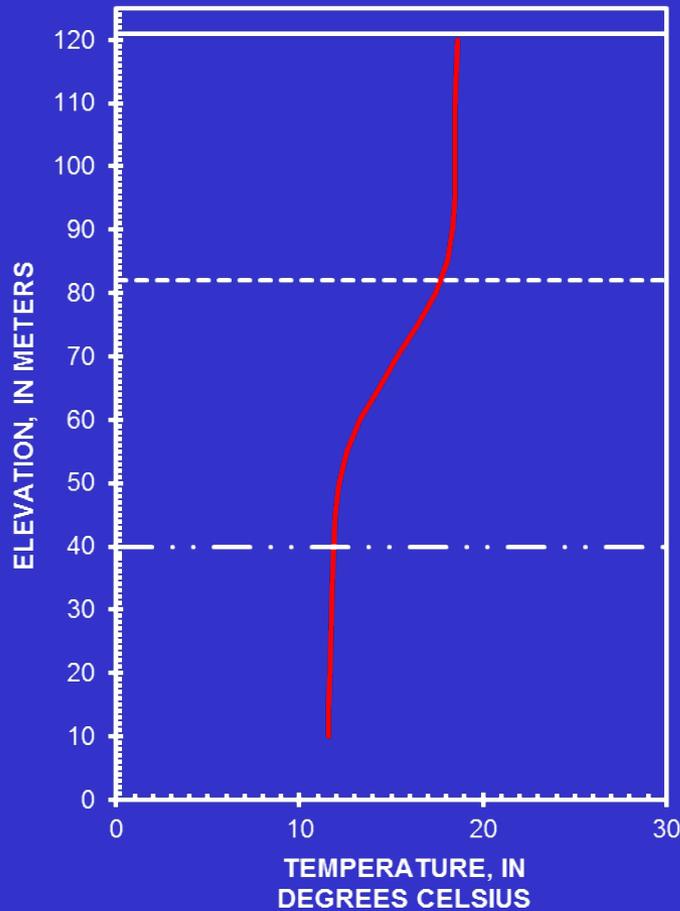
Intake 3 - . . .

Note—Stage and Intake Levels are Approximations

Provisional Data—Subject to Review/Revision

November 2011

December 2011



Explanation

Lake Stage —

Average Temperature —

Intakes 1&2 ----

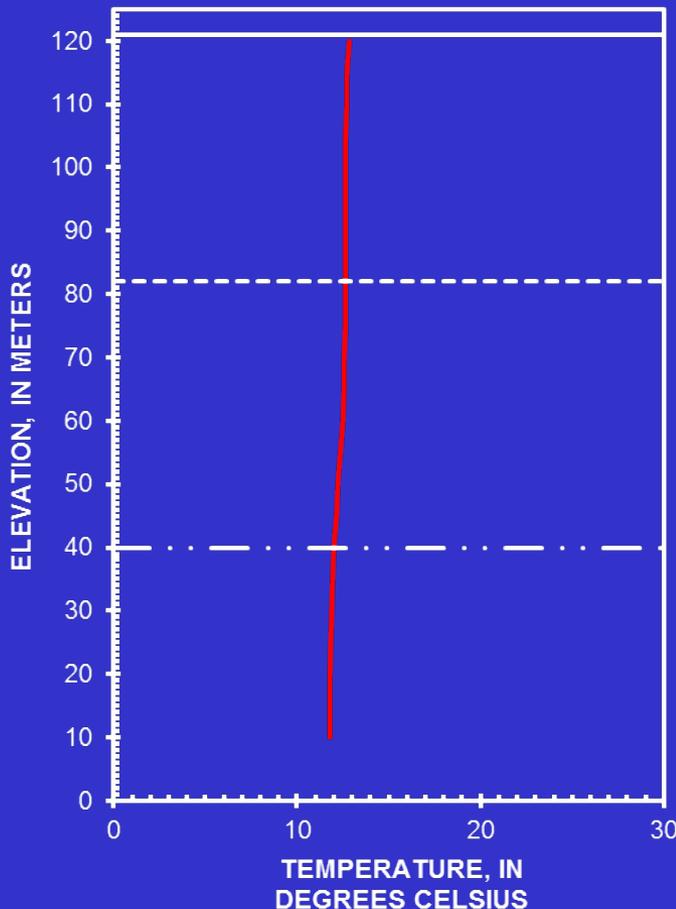
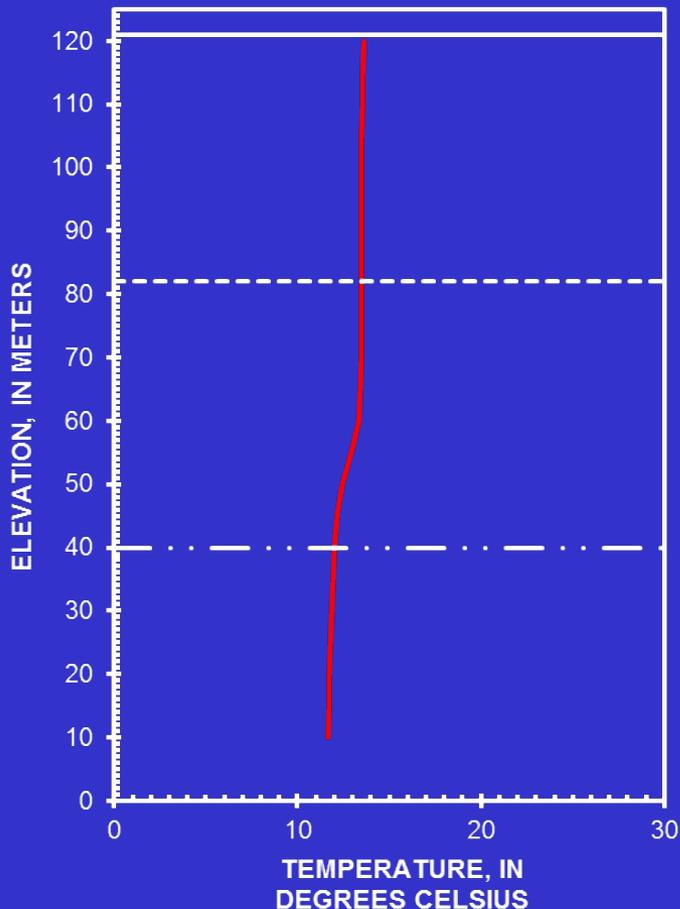
Intake 3 - . .

Note—Stage and Intake Levels are Approximations

Provisional Data—Subject to Review/Revision

January 2012

February 2012



Explanation

Lake Stage ———

Average Temperature ———

Intakes 1&2 - - - -

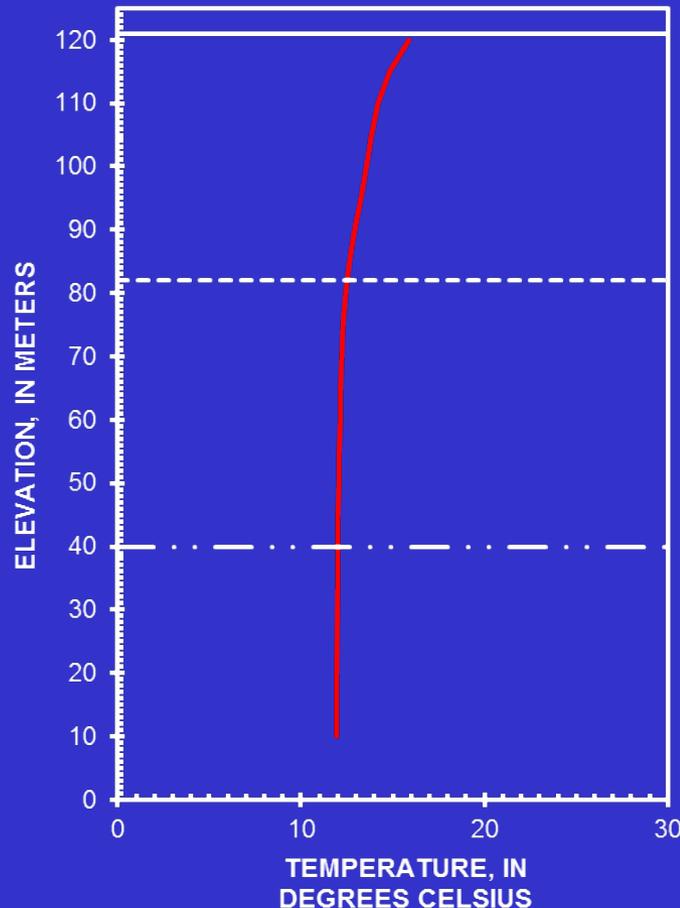
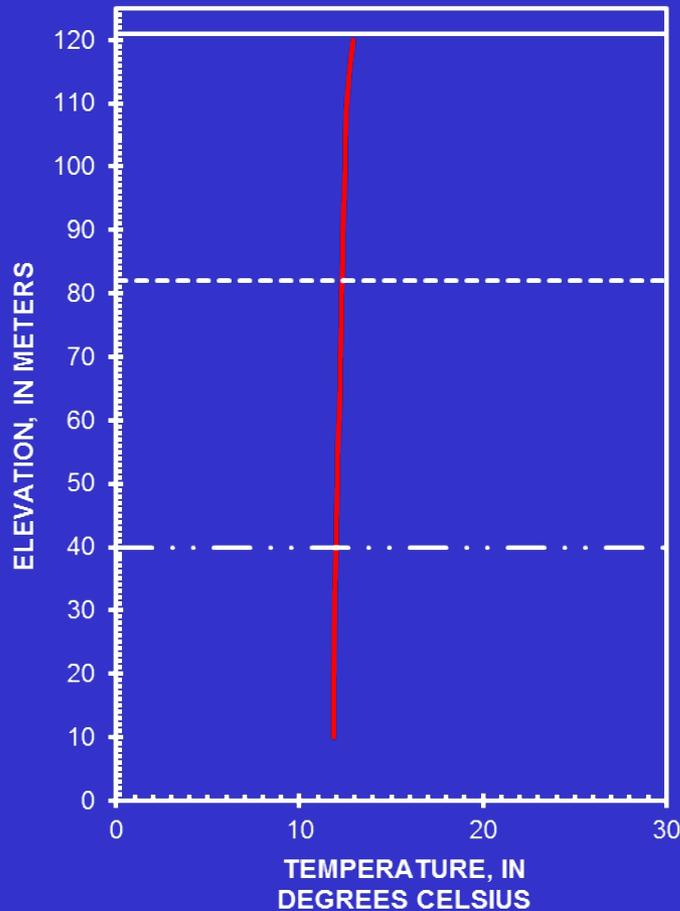
Intake 3 — · · ·

Note—Stage and Intake Levels are Approximations

Provisional Data—Subject to Review/Revision

March 2012

April 2012



Explanation

Lake Stage ———

Average Temperature ———

Intakes 1&2 - - - -

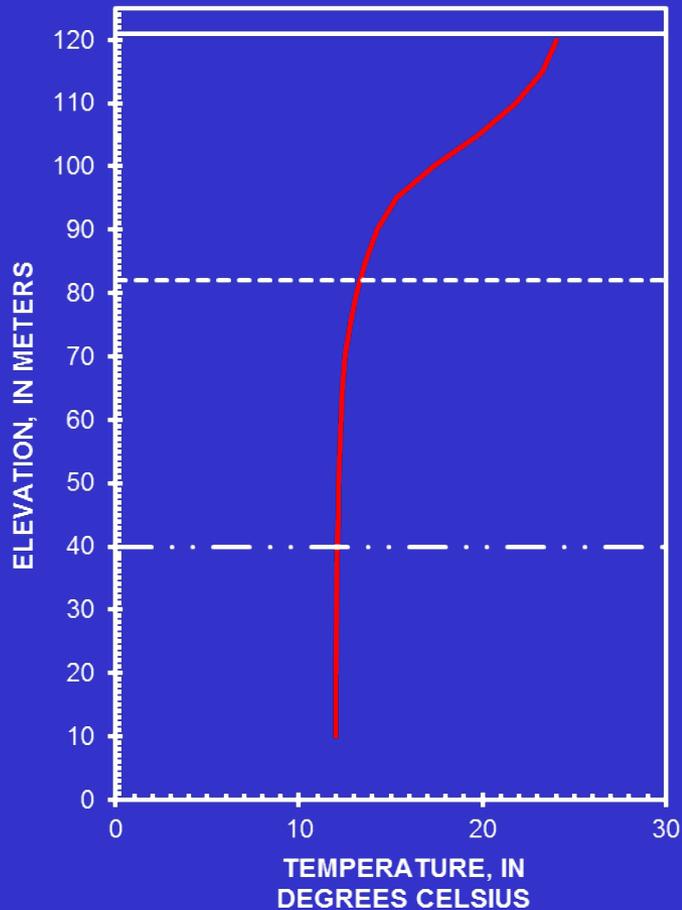
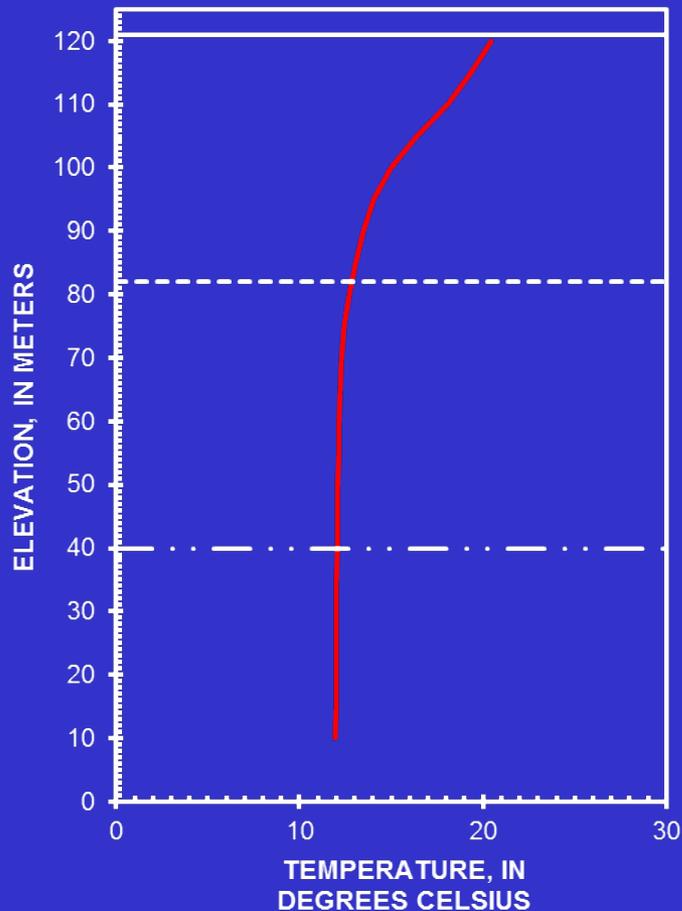
Intake 3 — · · ·

Note—Stage and Intake Levels are Approximations

Provisional Data—Subject to Review/Revision

May 2012

June 2012



Explanation

Lake Stage —

Average Temperature —

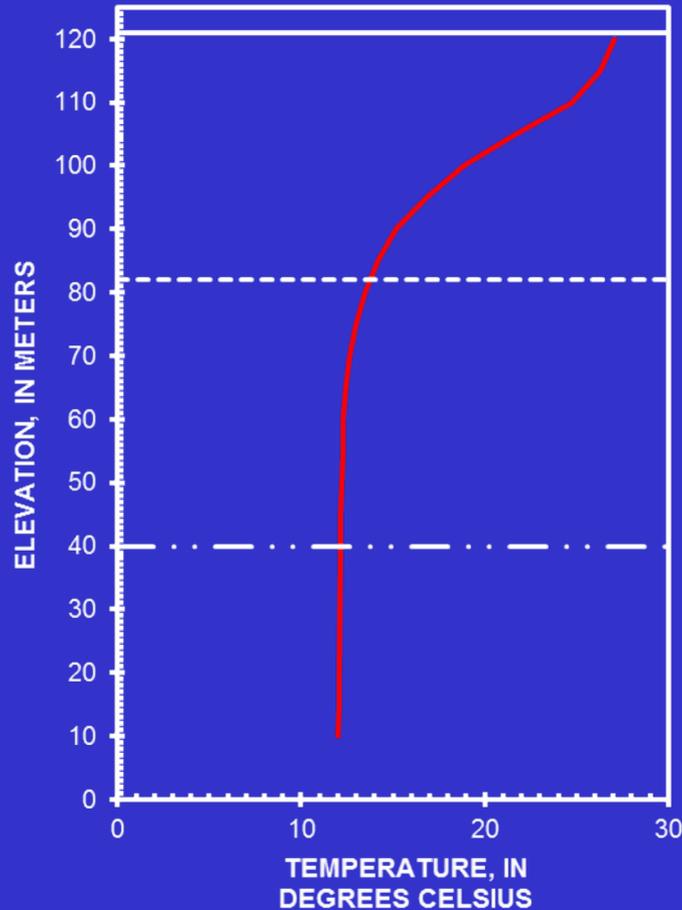
Intakes 1&2 ----

Intake 3 - . .

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Provisional Data—Subject to Review/Revision

July 2012



Explanation

Lake Stage —

Average Temperature —

Intakes 1&2 - - - -

Intake 3 - . . .

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Provisional Data—Subject to Review/Revision

Questions?

