

Integrated Resource Planning Advisory Committee



February 26, 2014

IRPAC Phase II

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Meeting Topics

- **Review of integrated resource planning and the SNWA**
- **Review mission statement**
- **Discuss drought**
- **Drought update**
- **Public Comment**

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About Integrated Resource Planning

- Long-term strategy
- Includes a diversified mix of water supply and water conservation in order to meet current and future water needs, while also addressing other multiple criteria
- Considers risk and uncertainty
- Developed with stakeholder input

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Advisory Committee Scope

Water and Facility Issues

- Understand existing water supplies and facilities
- Consider facility needs given future supplies
- Evaluate alternatives against multiple criteria
- Evaluate funding implications for potential recommendations
- Recommend preferred long-term strategy

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Consensus-based Recommendations

- **An opinion or position reached by a group as a whole**
- **Focuses on discussion and considers input of all participants**
- **Cooperatively seeks mutually-beneficial solutions**
- **Not unanimity**
- **Recommendation may not necessarily be your first choice**

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Your Commitment

- 1. Attend and participate in all meetings.**
- 2. Be prepared to discuss the issues on the agenda, as well as information distributed by staff in advance of meetings.**
- 3. Be willing to explore goals, constraints and multiple options.**
- 4. Listen attentively and with an open mind.**
- 5. Respect the ideas and perspectives of others. Give everyone a chance to speak. Avoid side discussions. Don't interrupt.**
- 6. Maintain focus on the topic currently under discussion. Avoid repeating issues that have already been raised or recorded.**
- 7. Achieve consensus.**

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SNWA Commitment

1. **Begin meetings on time**
2. **Provide information in a timely manner**
3. **Be available to answer questions or for further discussion**
4. **Provide committee members with reasonable notice of meeting date and accurate description of discussion topics**
5. **Respect the opinions of committee members**

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Missed a Meeting?

- **Materials and updates will be provided to members following meetings**
- **Staff is available for individual briefings**
- **Contact me for any additional information or concerns**
- **Alternates not permitted**

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SNWA Integrated Resource Planning

The SNWA often utilizes citizen advisory committees to advise policy decisions and program directives:

- **Integrated Resource Planning Advisory Committee (1994-96)**
- **Advisory Committee for Groundwater Management (1997-present)**
- **Water Quality Citizens Advisory Committee (1997-98)**
- **Las Vegas Wash Coordination Committee (1998-present)**
- **Drought Citizens Advisory Committee (2003)**
- **Integrated Water Planning Advisory Committee (2004-05)**
- **Integrated Resource Planning Advisory Committee (2012-present)**

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1994 IRPAC

The 1990s presented significant challenges to water managers:

- **Increasing population projections**
- **Limited supplies available to meet projected demands**
- **Facility limitations to meet projected demands and max-day capacity:**
 - **Reliability**
Single system and inadequate backup supply could lead to outages
 - **Additional Capacity**
Maximum capacity reached at existing facility
Existing capacity could not access all available resources
 - **Potential Water Quality Issues**
Improved treatment techniques were needed

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1994 IRPAC

IRPAC made key recommendations related to:

- **Facilities**
- **Resources**
- **Finance**

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1994 IRPAC

RECOMMENDATIONS - FACILITIES

- **Build a new treatment and transmission facility immediately, large enough to be reliable and provide backup in the event of a catastrophic event.**

In 2002, the River Mountains Water Treatment Facility becomes operational and provides an additional 150 MGD of regional treatment capacity.

In 2006, regional capacity reaches 900 MGD.

- **Expand the existing Southern Nevada Water System to capacity as soon as possible.**

In 1999, SNWS capacity was increased from 400 MGD to 600 MGD.

- **Implement a phased and expandable water facilities program.**

In 1995, the SNWA Board approved a phased Capital Improvements Program (later retired in 2010 following the completion of \$2.9 billion in projects) to build “just in time” facilities

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1994 IRPAC

RECOMMENDATIONS - RESOURCES

- **Seek permanent, long-term water supplies. Develop a water resource plan to meet future water demands.**

In 1996, the SNWA developed its Water Resource Plan. The plan is reviewed annually and includes a 50-year planning horizon.

- **Place top priority on Colorado River water resources.**

In 1997, the SNWA began purchasing Muddy and Virgin River water.

In 2001, the BOR's Interim Surplus Guidelines were finalized. The guidelines allow the SNWA to use additional Colorado River supplies when available.

In 2004, finalized agreement for Arizona water bank.

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1994 IRPAC

RECOMMENDATIONS - FINANCE

- **Study different approaches to financing and rate setting.**

The committee developed recommendations specific to funding new facilities:

- The "growth pays for growth" model.
- An assumption that water rates should contribute to new facilities.
- Incorporation of sales tax as a revenue source.
- An assumption that increased revenues should help fund conservation programs.

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2004 IWPAC

The onset of severe drought served as the catalyst for another integrated water planning process in 2004.

The Integrated Water Planning Advisory Committee (IWPAC) was comprised of 29 members, including rural community representation.

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2004 IWPAC

IWPAC made key recommendations related to:

- **Conservation**
- **Resources**
- **Finance**

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2004 IWPAC

RECOMMENDATIONS - CONSERVATION

- **Pursue more aggressive promotion of water conservation through methods such as the reduction of turf.**

Since inception, the SNWA's Water Smart Landscape program has removed more than 168 million square feet of turf, resulting in a savings of more than 9 billion gallons annually.

- **Decrease total water demand from 272 GPCD to 250 GPCD by 2010, and to 245 GPCD by 2035.**

After meeting its previous goal ahead of schedule, the SNWA Board adopted a new conservation goal of 199 GPCD by 2035 in 2009.

The SNWA is on schedule to meet its goal, with a current GPCD of 219

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2004 IWPAC

RECOMMENDATIONS - RESOURCES

- **Pursue development of all resource options considered in IWPAC planning scenarios.**

Developed a diverse portfolio of resource options including groundwater banks, in-state groundwater, Colorado River supplies and additional conservation.

Hearings were conducted for the SNWA's water right applications in eastern Nevada.

- **Work with Colorado River Basin States and the Bureau of Reclamation to implement augmentation credits for non-Colorado resources.**

Revised return-flow credit methodology to include in-state groundwater.

- **Continue to pursue ocean desalination as a long-term resource.**

A Basin Study is currently underway to evaluate future basin demands and possible solutions including desalination.

The SNWA has funded pilot studies in Yuma, Arizona and Rosarito, Mexico.

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2004 IWPAC

RECOMMENDATIONS - RESOURCES

- Pursue delivery of pre-Compact Muddy and Virgin River rights.**
The SNWA currently owns or leases 30,000 acre-feet per year of water rights on both rivers.
- Utilize the Southern Nevada Water Bank and California Water Bank as “bridge resources” to meet supply deficiencies.**
Banked significant resources in Southern Nevada and California.
Amended the Arizona Water Banking agreement to guarantee 600,000 MAF of banked water in Arizona.
Recently approved new agreement with the Metropolitan Water District of Southern California to bank additional water.
- When available, utilize surplus and interim surplus Colorado River water.**
The SNWA can utilize up to 100,000 AF of Interim Surplus if Lake Mead levels are above 1,145 ft.

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2004 IWPAC

RECOMMENDATIONS - FINANCE

- Pursue and extension of the quarter-cent sales tax.**
In 2011, the Nevada State Legislature authorized the County Commission to extend the sales tax.

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2012-13 IRPAC

In 2012, the SNWA Board again initiated an integrated resource planning process in response to changing conditions:

- Population growth rates
- Economic recession
- Ongoing drought

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2012-13 IRPAC (Funding)

Following the committee's recommendations in September, the SNWA and its member agencies conducted significant outreach:

- Four public workshops
- Website information
- Media
- Direct mail (post and electronic)
- Speakers Bureau (25+ civic and professional groups)
- Radio advertisement buys (286)
- Business Impact Statement

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2012-13 IRPAC (Funding)

The committee's funding recommendations were unanimously approved by four elected boards:

- City of Henderson
- City of North Las Vegas
- Las Vegas Valley Water District
- Southern Nevada Water Authority

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2013-14 IRPAC (Resources and Facilities)

The upcoming phase will focus on evaluating and making recommendations on issues affecting the SNWA, including:

- Drought and climate change planning
- Long-term facility planning
- Facility construction and maintenance
- Conservation
- Water Quality
- Water resource development and management

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Mission Statement

COMMITTEE APPROVED:

The Integrated Resource Planning Advisory Committee will evaluate current and near-term (2016) water charges, future resources, conservation, and facility needs in a way that supports adaptation to changing conditions, and develop recommendations on all these areas for the Southern Nevada Water Authority's Board of Directors.

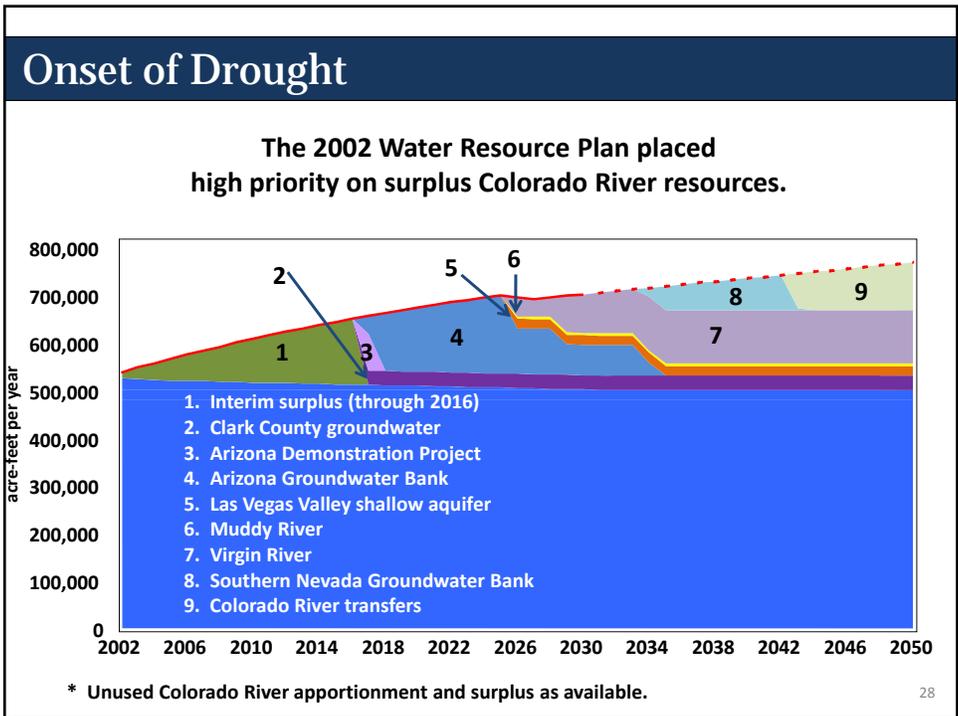
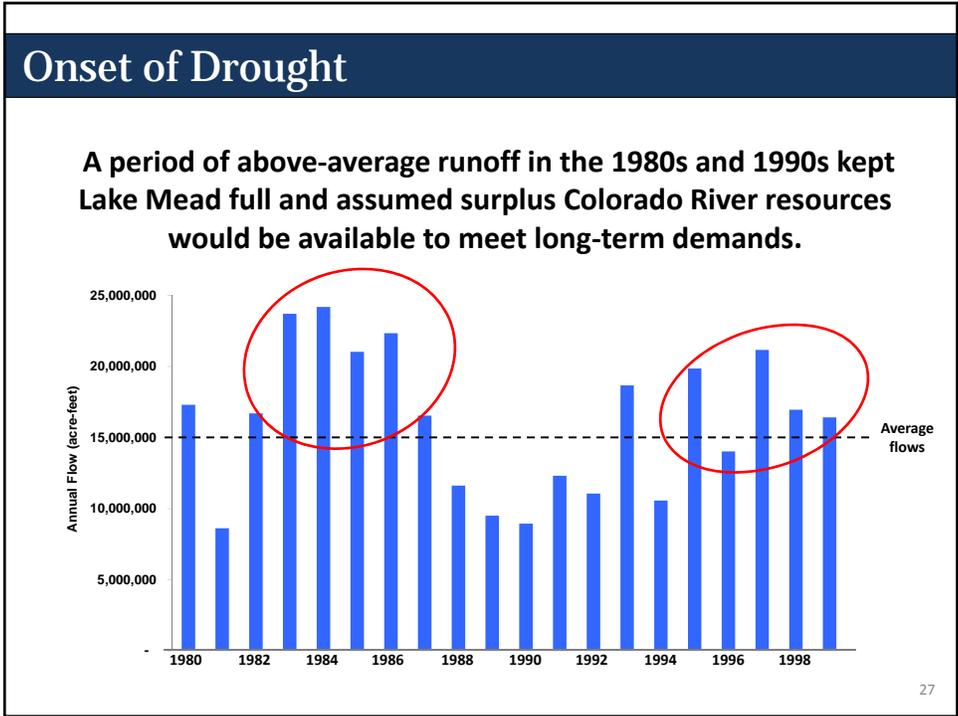
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Resource Attributes

- **New attributes needed for second phase**
- **Will be used to evaluate resource and facility options**
- **To be developed at a subsequent meeting**

RATE ATTRIBUTES
Legal
Sufficient/Adequate
Financeable
Equitable and Fair
Stable
Address economic environment at any point in time, maintain flexibility
Encourage conservation
Simple to administer
Predictable
Understandable

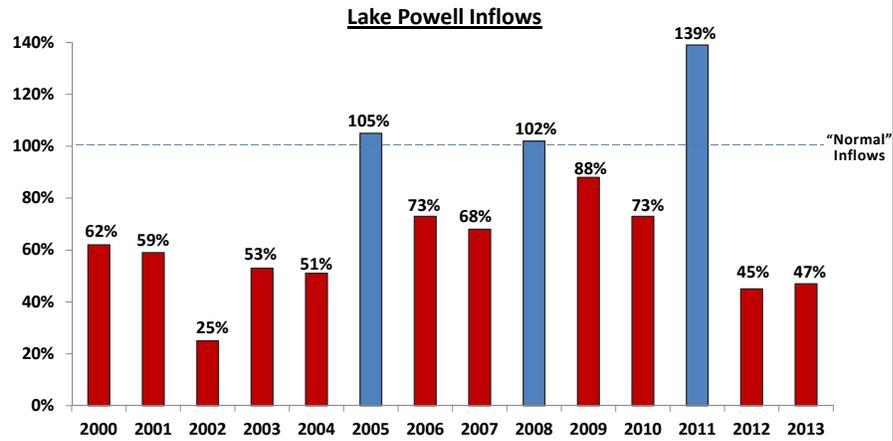
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* Unused Colorado River apportionment and surplus as available.

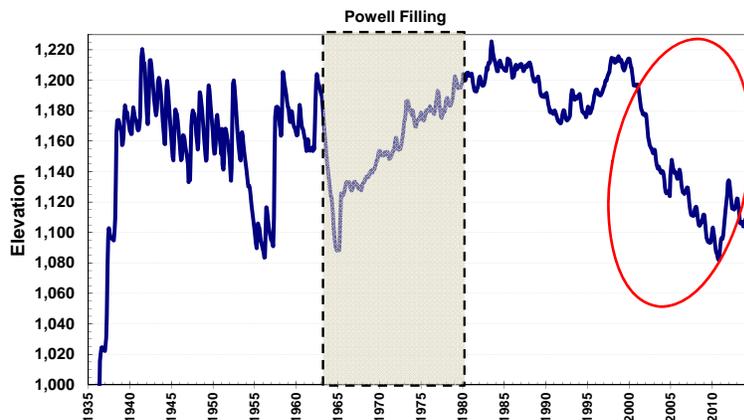
Onset of Drought

In the early 2000s, the Colorado River basin experienced some of the lowest average flows since record keeping began.



Onset of Drought

As a result, Lake Mead water elevations have been falling.



Drought



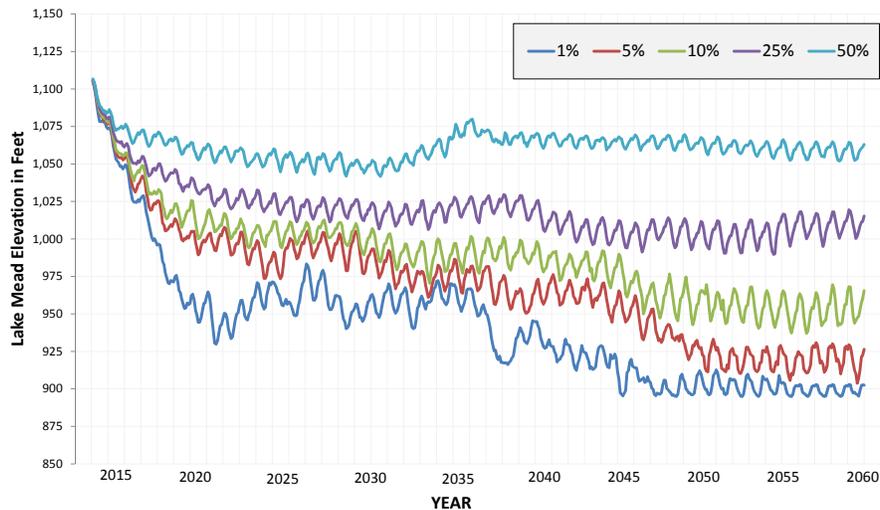
What is Drought?

- Occurs in virtually any climate; impacts vary from region to region
- Not a “distinct” event – such as flood, fire or hurricane
- Often difficult to recognize and plan for (for example, could be interpreted as unusually dry winter)

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Onset of Drought

Statistical Percentiles for Lake Mead Elevations



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Drought Response

The SNWA initiated multiple processes to address the drought and mitigate impacts early.

- Regional conservation strategic planning process (2002)
- Drought Plan (2002)
- Drought Citizens Advisory Committee (2003)
- Drought Code Implementation Team (2003)

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Drought Response

Regional planning boards adopted plans and policies to reduce water use and fundamentally changed the way water is used in Southern Nevada.

Key efforts:

- Land development codes
- Watering restrictions
- Increasing the incentives for the Water Smart Landscape program
- Golf course water budgets
- Community Outreach
- Infrastructure improvements
- More robust conservation program offerings

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Drought Response



Land Development Codes

- No turf in residential front yards
- Turf limited to 50% in back yard
- Multi-family properties turf limited to 50% of landscapable area
- No turf installations in new commercial properties

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Drought Response

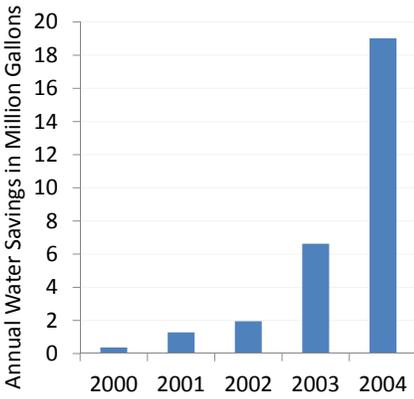


Watering Restrictions

- Summer watering restricted to cooler parts of the day to avoid evaporation
- One-day-per-week watering in cooler months
- Assigned watering days
- Automatic shutoff on nozzles

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Drought Response



Year	Annual Water Savings (Million Gallons)
2000	~0.5
2001	~1.5
2002	~2.0
2003	~6.5
2004	~19.0

Ramping Water Smart Landscapes

- The Water Smart Landscapes Program rebate were increased to encourage more participation.
- To date, we've spent more than **\$205 million** on the program, which saves the community nearly **9.4 billion gallons** each year.

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Drought Response



Golf Course Water Budgets

- Budgets were developed based on the size of each course
- Significant financial penalties assessed if budgets are exceeded

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Drought Response



Community Outreach

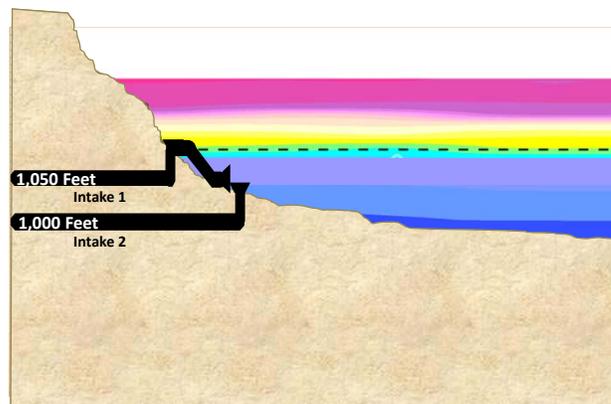
- Conservation and related programs became the primary focus of SNWA-related messaging
- Print media and advertisements were increased to spread awareness of the issue

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Drought Response

Infrastructure Improvements

To protect water quality from falling lake levels, an extension was added to Lake Mead Intake No. 1.

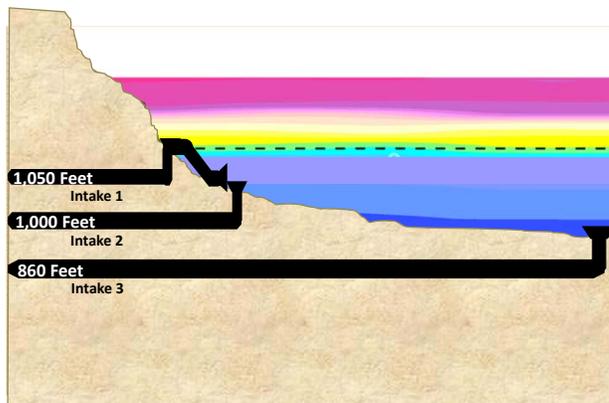


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Drought Response

Infrastructure Improvements

A process began to evaluate how to access water in Lake Mead below 1,000 feet.

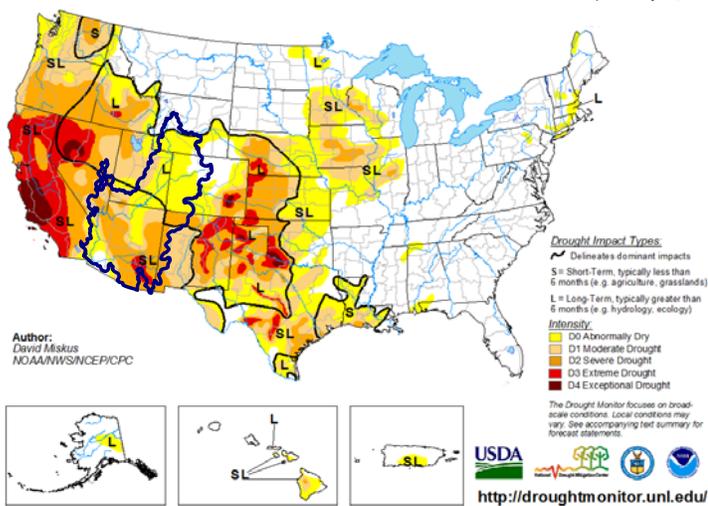


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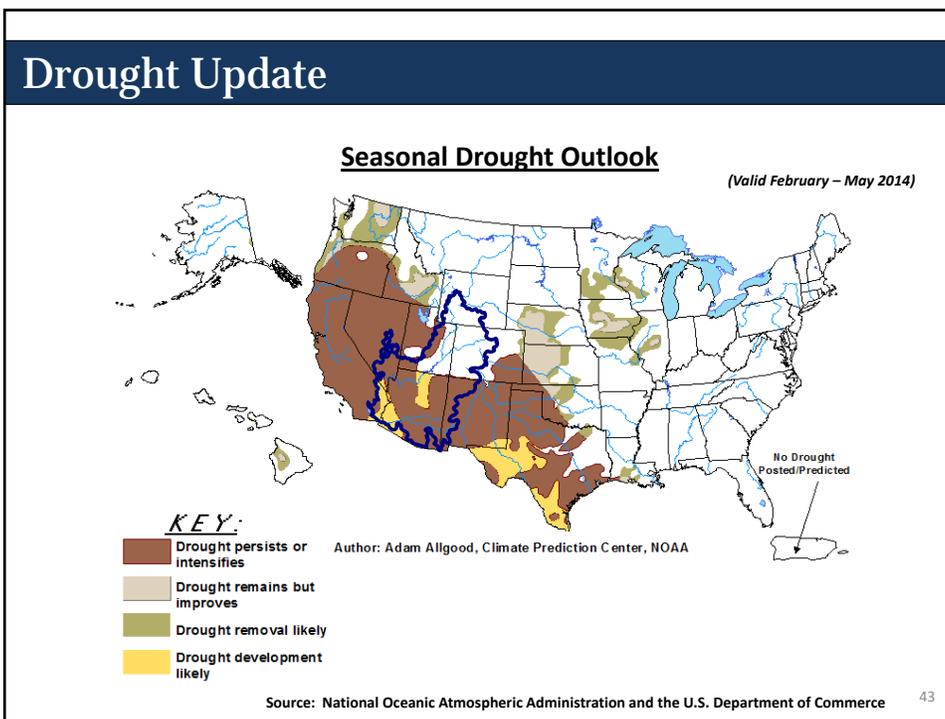
Drought Update

Drought Monitor

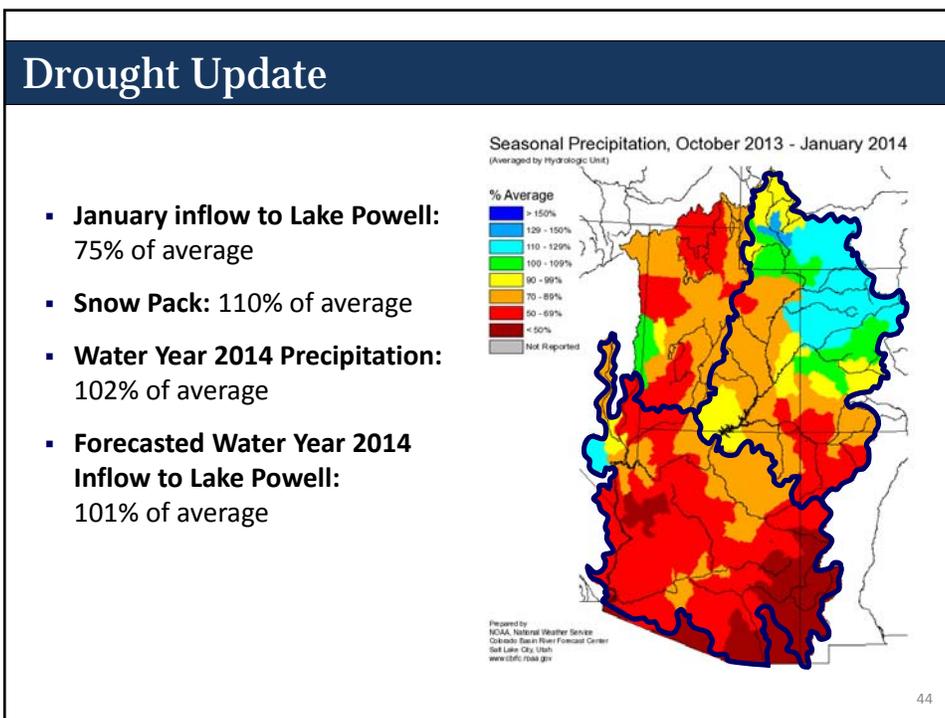
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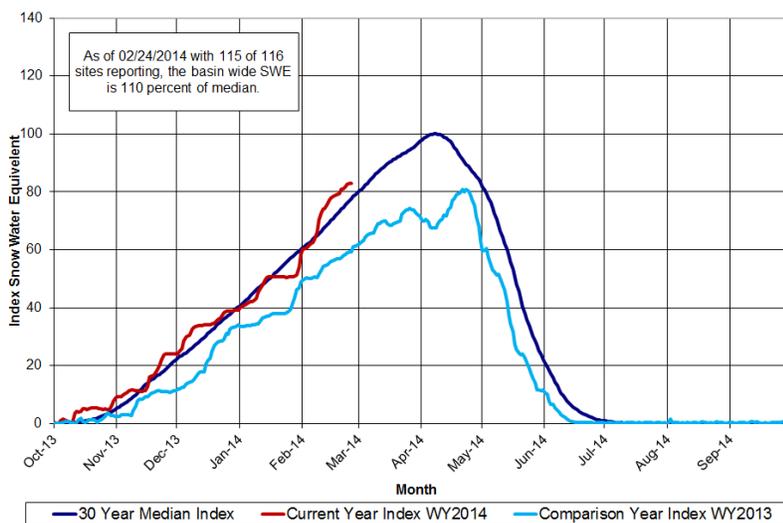
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Drought Update

Upper Colorado River Basin Snow Accumulation



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Drought Update

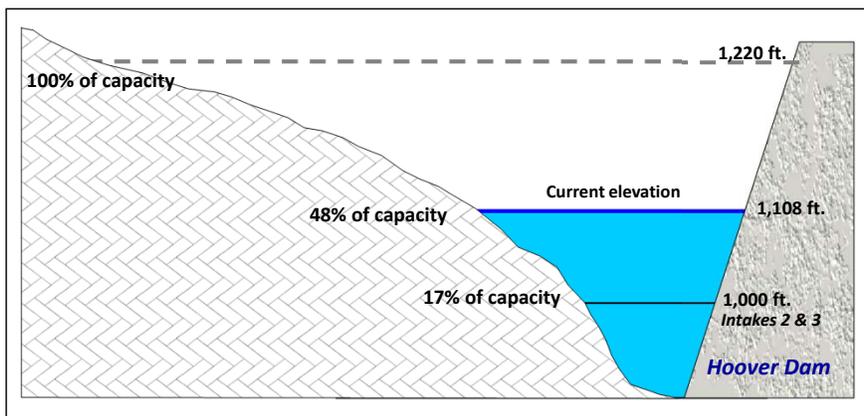
Lake Powell Precipitation and Inflow Forecast

2013 Water Year			2014 Water Year	
Month	Actual Precipitation	Inflows Forecast	Actual Precipitation	Inflows Forecast
Jan	72%	61%	96%	93%
Feb	78%	54%	102%	101%
Mar	76%	49%		
Apr	78%	42%		
May	80%	45%		
Jun	77%	44%		
Jul	80%	41%		
Aug	81%	40%		
Sept	90%	46%		
Actual	91%	47%		

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Drought Update

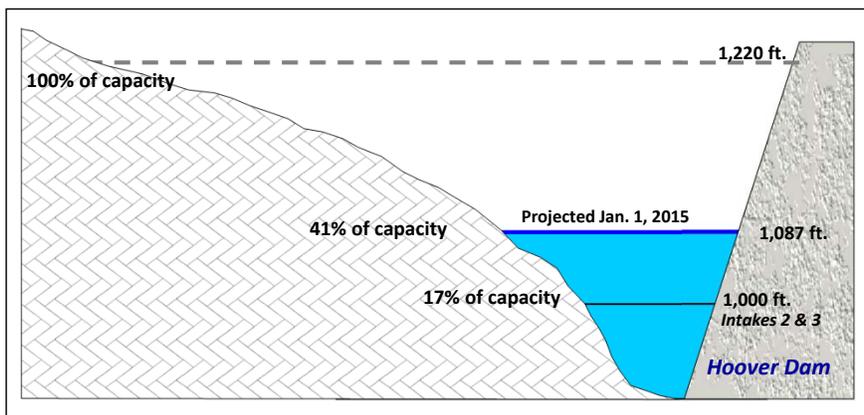
Lake Mead Capacity - Current



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Drought Update

Lake Mead Capacity - Projected (January 2015)



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Upcoming Meetings

March 26: Colorado River Basin States Drought Response

April 23: Climate Change and Attribute Development

Future Topics:

Existing and deferred facilities

Water quality and emerging issues

SNWA environmental efforts

Asset management

Conservation

Current and long-term water resources

Funding impacts

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