

The Colorado River Commission of Nevada (Commission) meeting was held at 1:33 p.m. on Tuesday, March 8, 2022, at the Clark County Government Center, Commission Chambers, 500 South Grand Central Parkway, Las Vegas, NV 89155.

COMMISSIONERS IN ATTENDANCE

Vice Chairwoman	Kara J. Kelley
Commissioner	Dan H. Stewart
Commissioner	Justin Jones

COMMISSIONERS PRESENT VIA TELECONFERENCE

Chairwoman	Puoy K. Premsrirut
Commissioner	Marilyn Kirkpatrick
Commissioner	Cody T. Winterton

COMMISSIONERS NOT PRESENT

Commissioner	Allen J. Puliz
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DEPUTY ATTORNEY(S) GENERAL

Special Counsel, Attorney General	Christine Guerci
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COMMISSION STAFF IN ATTENDANCE

Executive Director	Eric Witkoski
Senior Assistant Director	Sara Price
Chief of Finance and Administration	Douglas N. Beatty
Assistant Director, Energy Information Systems	Kaleb Hall
Assistant Director, Engineering and Operations	Robert D. Reese
Assistant Director, Hydropower	Gail Bates
Natural Resources Program Manager	Angela Slaughter
Environmental Program Manager	Warren Turkett, Ph.D.
Senior Accountant	Gail L. Benton
Senior Energy Accountant	Stephanie Salleroli
Senior Energy Accountant	Ha N. Tran
Hydropower Engineering	Stevie Espinosa
Natural Resources Specialist	Laura Dye
System Coordinator	Chris Smith
Office Manager	Gina L. Goodman
Administrative Assistant IV	Katie Aguilar
Administrative Assistant IV	Kira Bakke

COMMISSION STAFF IN ATTENDANCE (CONTINUED)

Administrative Assistant III
Administrative Assistant II

Saira Castillo
Joshua Cleveland

OTHERS PRESENT; REPRESENTING

City of North Las Vegas
College of Southern Nevada
Legislative Counsel Bureau, Program Analyst
Moss Adams
Overton Power District No. 5
PAR Western Line Contractors, LLC
Quanta Utility Engineering Services
Quanta Utility Engineering Services
Self
Southern Nevada Water Authority
Southern Nevada Water Authority
Southern Nevada Water Authority

Tom Brady
Tina Dobbs
Justin Luna
Keith Simovic
MeLisa Garcia
Andrejs Kukainis
Brendan Haynes
Eric Manuel
Brock Reesberg
Annalise Porter
Jordan Bunker
Scott Krantz

COLORADO RIVER COMMISSION OF NEVADA

MEETING OF

MARCH 8, 2022

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COLORADO RIVER COMMISSION OF NEVADA

MEETING OF

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The Colorado River Commission of Nevada (Commission) meeting was called to order by Chairwoman Premsrirut 1:33 p.m., followed by pledge of allegiance.

A. Conformance to Open Meeting Law.

Executive Director Eric Witkoski confirmed that the meeting was posted in compliance with the Open Meeting Law.

B. Comments from the public. (No action may be taken on a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action will be taken.)

Chairwoman Premsrirut asked if there were any comments from the public. There were none.

C. For Possible Action: Approval of minutes of the December 14, 2021, meeting.

Vice Chairwoman Kelley moved for approval of the minutes of the December 14, 2021, meeting. The motion was seconded by Commissioner Stewart and approved by unanimous vote.

D. For Possible Action: Selection of Vice Chair of the Commission.

NRS 538.111 provides: "At the first meeting of the Commission in each calendar year, the Commission shall select the Vice Chair for the ensuing calendar year."

Commissioner Jones moved to retain Commissioner Kara J. Kelley as the Vice Chair for the Commission. The motion was seconded by Commissioner Stewart and approved by unanimous vote.

E. For Possible Action: Consideration of and possible acceptance of the Commission's Annual Comprehensive Financial Report for the Fiscal Year Ended June 30, 2021 and a report or comments from the Finance and Audit Subcommittee members regarding the report.

Chief of Finance and Administration, Doug Beatty presented the Annual Comprehensive Financial Report (ACFR) for Fiscal Year Ended June 30, 2021. At the Financial and Audit Subcommittee meeting held on December 14, 2021, Staff presented the ACFR for review. At that time the audit and financial report was complete however the Auditors for Moss Adams were waiting for the final concurring review by the last partner. There were no audit adjustments noted. Staff received an unmodified or clean opinion on the financial statements. There were no reportable findings and no material weaknesses. In addition, this was the first year that the financial report was fully completed by Staff.

Vice Chairwoman Kelley expressed her gratitude towards Doug Beatty, Gail Benton, Senior Accountant, and Staff for their consistent and diligent work on integrating the software CaseWare and working with Moss Adams. Vice Chairwoman Kelley explained Moss Adams was awarded the contract through the Request for Proposal (RFP) process on 6/8/21. Vice Chairwoman Kelley added, it was a very thorough audit with no findings, no concerns, no management comments with collaborative process and transparency. Vice Chairwoman Kelley once more extended her gratitude to Staff on how the financial matters were handled and provided our customers and public confidence. Vice Chairwoman Kelley added the first year can be intense but is looking forward to the continued positive relationship.

Commissioner Stewart echoed Vice Chairwoman Kelley's comments. He added the process was smooth and seamless, and congratulated Staff.

Chairwoman Premsrirut echoed the comments about the labor-intensive task of having this audit and thanked the Staff and Moss Adams on behalf of the Commission. Chairwoman Premsrirut thanked the Financial and Audit Subcommittee for rolling up their sleeves and dealing with this all year.

Commissioner Stewart moved for approval to the Commission's Annual Comprehensive Financial Report for the Fiscal Year Ended June 30, 2021. The motion was seconded by Vice Chairwoman Kelley and approved by unanimous vote.

<p>F. <i>For Possible Action:</i> Consideration of and possible action to approve a contract between the Colorado River Commission of Nevada and PAR Western Line Contractors, LLC, dba QUES, for design and engineering services in an amount not to exceed \$860,000.</p>
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Assistant Director, Engineering and Operations Robert Reese explained the Colorado River Commission of Nevada (Commission) owns, operates, and maintains seventeen high voltage substations Staffed by seven Commission employees in the Commission's Power Delivery Project Group (PDP). In addition, the Commission is responsible for the operation and maintenance of ten substations that are owned by the Southern Nevada Water Authority (SNWA), three owned by the Clark County Water Reclamation District, along with three facilities for the Basic Industrial Customers

The Commission's Staff includes in-house electrical engineer to provide engineering support for the system. As a result, Commission Staff is capable of performing many routine engineering support functions. However, the Commission occasionally requires further engineering support for its operation and maintenance functions and to assist with the preparation of designs for ongoing and future projects for the agencies it serves.

The areas of expertise required periodically include civil engineering for foundation, grading, and structural design; communication engineering for assistance with the Commission's fiber optic and microwave radio communication system; and system studies. On a less

frequent basis, the Commission requires expertise in environmental engineering and structural engineering for minor projects and problems.

Staff began the process of recruiting qualified engineering firms through a Request for Proposals (RFP) process in March of 2021. The RFP for engineering services was posted in the Las Vegas Review Journal, Reno Gazette Journal, on the Commission website, and on NVEPro beginning on March 1, 2021. In addition to being posted, it was also sent to thirty-eight vendors directly via email. Due to management changes at PAR Western Line Contractors, LLC, dba QUES (PAR), and COVID issues negotiations for this contract were delayed.

The proposed four-year contract for design and support services for Commission's consideration is with PAR a multi-discipline engineering company with expertise, in all areas that may be required by the Commission's operation and maintenance function and for construction projects. It is an enabling contract and will utilize their services when approved by our project customers. The Commission has three entities that fund projects: Southern Nevada Water Authority, Basic Industrial Customers, and the Clark County Water Reclamation District.

The contract is subjected to the Board of Examiners' approval. Work under the contract will be authorized by Commission Staff, as needed through the development and execution of written task authorizations. The total combined value of task authorizations under this contract shall not exceed \$860,000 over the term of the contract.

Chairwoman Premsrirut stated to have the record reflect that the RFP was issued, sent out to thirty-eight vendors acknowledging opportunity and bid eligibility is always a concern for the Commission. Chairwoman Premsrirut commended Staff for always taking great strides to have a broader reach.

Chairwoman Premsrirut inquired if the not to exceed amount of \$860,000, for the contract, is based on an estimate or a precedent that has occurred in the past in relation to this type of contract and sought services.

Mr. Reese responded in past years engineering projects typically run between \$650,000 to \$1.2 million. Mr. Reese added with the current active engineering contract in place, \$860,000 would be an appropriate amount to provide services for existing and future projects.

Vice Chairwoman Kelley applauded Staff for being proactive and going through the RFP process in order to have the Commission allocate the money. In the event that something happens the Commission will be able to respond immediately to customers. Vice Chairwoman Kelley expressed her appreciation and stated that is the spirit by which this item is before us today.

Vice Chairwoman Kelley moved for approval to the contract between the Colorado River Commission of Nevada and PAR Western Line Contractors, LLC, dba QUES,

for design and engineering services in an amount not to exceed \$860,000. The motion was seconded by Commissioner Jones and approved by unanimous vote.

G. *For Possible Action:* Consideration of and possible action to approve Amendment No. 1, an Assignment to PAR Western Line Contractors, LLC of the contract dated December 2020 between the Colorado River Commission of Nevada and PAR Electrical Contractors, Inc. for labor services related to Transmission and Distribution System Support Services.

A. Background of Contract:

In December of 2020, the Commission approved a four-year contract with PAR Electrical Contractors, Inc. (PAR) for labor services related to Transmission and Distribution System Support Services to provide services to the Commission's customers when requested. Those customers included Southern Nevada Water Authority, Clark County Water Reclamation, and Basic Substation Project.

B. Contract Amendment for Consideration:

The proposed amendment to the contract is a name change of the contracting party from PAR Electrical Contractors, Inc. to PAR Western Contractors, LLC. The services and operations under the contract remain as originally approved.

Executive Director Eric Witkoski explained the purpose of the amendment is a business name change. PAR Electrical Contractors, Inc., changed its business name to Par Western Line Contractors, LLC. All the elements of the contract remain the same.

Chairwoman Premsrirut asked if there were any questions or comments from members of the Commission. There were none.

Commissioner Stewart moved for approval to Amendment No.1, an Assignment to PAR Western Line Contractors, LLC of the contract dated December 2020 between the Colorado River Commission of Nevada and PAR Electrical Contractors, Inc., for labor services related to Transmission and Distribution System Support Services. The motion was seconded by Vice Chairwoman Kelley and approved by unanimous vote.

Chairwoman Premsrirut reiterated the item is solely a name change and not a new obligor on the contract, the Commission is not looking to two separate parties.

H. *For Possible Action: Consideration of and possible action to approve beginning the process to amend NAC 538.610 to add provisions related to the administrative charge.*

A. Proposed changes to be considered:

The proposed regulation change involves two areas. The first change removes the projection of annual costs for two years and replaces it with a projection based on an average of at least three previous years' annual costs incurred and adjusted for future known and expected changes.

The second change removes the requirement to determine an administrative rate that is charged solely on the kilowatt-hours of energy delivered to the customers. The proposed language would allow the Commission the flexibility, if it was necessary, to base the hydropower administrative charge an allocation of fixed costs.

With the variability of hydrology and the variability of the nonhydroelectric purchases made on behalf of the industrial customers, the Commission's administrative fee revenue has declined over time using the method required by the regulation. Although the Commission is not anticipating the need to increase the administrative rate at this time, the regulation change would provide a tool for the Commission to consider in the future if such a tool was necessary to stabilize the administrative revenue.

B. Process for rulemaking:

Staff recommends the Commission approve beginning the process of amending NAC 538.610 related to the administrative charge. By approving the process to begin, the Commission Staff will hold a rulemaking workshop that will receive stakeholder comments and input on the proposed changes. Once the workshop is held and comments are taken, the Staff will bring the proposed regulation back to the Commission with a summary of comments received and any recommended changes to the regulation based on the input from the workshop.

Chief of Finance and Administration, Doug Beatty added that this proposed amendment item is something that Staff have discussed internally for the last several years. There is a problem of having a volumetric rate with a large portion of fixed costs and the contracts provide that the contractors carry those fixed costs. With the continuing drought and the declining projection on hydropower resources Staff thought this is a good time to address the addition of another method for recovering costs in addition to the current procedure. The first change under section 3 is to ensure the projections of costs, when a rate increase is needed, whether it is by the traditional method or under the new proposed method, would be three-year average instead of just two years. The second change, which is the more substantive change, would be to allow Staff to allocate our administrative costs, including fixed costs into a base monthly charge. This would quite closely what the federal government does with Hoover the base charges. It also would more align with what is done with the water administrative charge, and with the energy services charge. Both of

which are budget-based charges. In the case of energy services, they are billed monthly and in the case of the water administrative charge they are billed quarterly. The proposed regulation change would give us the tool to be able to mirror those charges more closely.

Chairwoman Premsrirut commented that she is always in favor of clairvoyance especially when it's self-starting and initiated by Staff. Given the decrease in hydrology, she believes we were quoted 3.72 percent decrease and then also with revenues of the power administrative charge on a significant decline, flexibility in how we establish things moving forward is also always something that is commendable. Hence, she is certainly a proponent of starting the process early versus racing in the ninth inning to enact emergency regulations even if such a mechanism exists.

Chairwoman Premsrirut asked if there were questions or comments from members to the Commission. There were none.

Vice Chairwoman Kelley moved for approval to begin the process to amend NAC 538.610 to add provisions related to the administrative charge. The motion was seconded by Commissioner Stewart and approved by unanimous vote.

<p>I. <i>For Information Only: Presentation by Colby Pellegrino, Deputy General Manager of the Southern Nevada Water Authority (SNWA), on SNWA's Water Resource Plan and Conservation Efforts.</i></p>

Executive Director Eric Witkoski introduced Colby Pellegrino, Deputy Manager of Southern Nevada Water Authority (SNWA) who gave a presentation on water conservation and resource planning.

A copy of the presentation is attached and made a part of the minutes. (See Attachment A).

Vice Chairwoman Kelley proposed a few questions; if 11-million-acre feet is the average in flow southern Nevada has been operating on, and we were to average what the drought has brought since its inception, would it be below the 11-million-acre feet? Do other municipalities on the Colorado River rely on this dry hydrology or just those within southern Nevada?

Ms. Pellegrino answered that when looking back since the drought began, over half of the years' inflow has been below 11-million-acre feet. Southern Nevada is the only one using hydrology that dry for modeling purposes. The current drought is about 12.3-million-acre feet in flow. Although 11-million-acre feet is not significantly dryer than that, when considering the Colorado River Compact was based upon there being 17½ million-acre feet of water just within the US, it's a big deal for people to acknowledge that there is really not that much water available on the river in the long term. That is why more municipalities do not use that in their planning. If we were to average what the drought has brought since its inception, it would be 12.3-million-acre feet. Climate scientists suggest we could see 30% or more drier hydrology on the river just in the next 50 years.

Ms. Pellegrino stated 11-million-acre feet is not outlandish. When referring to “other municipalities,” Ms. Pellegrino is referring to those along the Colorado River. Ms. Pellegrino added that SNWA does water planning for all of its municipalities.

Commissioner Jones asked Ms. Pellegrino for a brief update on the concerns about Glen Canyon and Lake Powell dropping and how that might affect us, since it has been a serving issue over the last week or two.

Ms. Pellegrino explained that the situation on the river is poor right now. The snow cap flatlined in February. Southern Nevada did get a little bit of snow last month, but Lake Powell is at historically low elevations. The drought contingency plans in place require us to meet and negotiate additional actions. If we don't get enough snow runoff into Lake Powell, we are going to find ourselves in the situation where Lake Powell loses the ability to generate power. That also significantly constrains the Bureau of Reclamation's ability to release water in a way that they historically have, which could cause Lake Mead's elevation to drop down much faster than previously predicted. We are in active negotiations with the other states, talking with the Bureau of Reclamation about what the constraints are at Glen Canyon Dam, what can be done with the drought response operations agreement in the upper basin to move water from the upstream reservoirs down, as well as looking at our Drought Contingency Plan, plus efforts on what additional things can be done to get more water in the reservoir. However, the river is not in a very good position right now, and with only 1.8% of the allocation of water on the river, the problems are not ones we can change by ourselves. This is where our partnerships really matter.

Vice Chairwoman Kelley expressed her gratitude towards Ms. Pellegrino for the valuable information provided and was pleased to know what our partners at the Southern Nevada Water Authority are achieving, as we also happen to have SNWA representative members on this Commission.

J. *For Information Only: Update on pending legal matters, including Federal Energy Regulatory Commission or Public Utilities Commission of Nevada filings.*

Special Counsel, Christine Guerri provided an update on pending legal matters such as Federal Energy Regulatory Commission and Public Utilities Commission of Nevada filings.

Navajo Nation v. Dept. Of the Interior:

The Federal defendants and the Intervener states had filed separate Motions for Rehearing En Banc. The 9th Circuit reversed the dismissal of the lawsuit by the Arizona court and instructed the District Court to address the Navajo's breach of trust claims. Earlier this month, the 9th Circuit had denied the motions for Rehearing, so the case is headed back to the District Court in Arizona. The Federal defendants have 90 days to

decide if they wish to appeal the 9th Circuit's decision to the Supreme Court. A status conference has been set for the beginning of June in the District Court.

Save the Colorado v. Dept. Of the Interior (LTemp):

The Court had previously set a briefing schedule for cross motions for summary judgement. At the end of January, the plaintiffs filed their Motion for Summary Judgment and the Federal defendant's cross motion and answering brief is due this Friday- March 11. Nevada and the other intervenor states then have 4 weeks to review the filings and prepare a responsive brief. The briefing schedule continues through June. It is anticipated that oral argument will be set sometime in the Fall.

K. For Information Only: Status update from Staff on the hydrological conditions, drought and climate of the Colorado River Basin, Nevada's consumptive use of Colorado River water, the drought contingency plan, impacts on hydropower generation, electrical construction activities and other developments on the Colorado River.

Dr. Warren Turkett, Environmental Program Manager gave a presentation on the hydrology and water use update on the hydrological conditions, drought and climate of the Colorado River Basin, Nevada's consumptive use of the Colorado River.

- Precipitation and temperature
- Colorado River Basin forecast center
- Unregulated inflow, current and projected reservoir status
- Water Use in Southern Nevada
- Summary

A copy of the report is attached and made a part of the minutes. (See Attachment B).

L. Comments from the public. (No action may be taken on a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action may be taken.)

Vice Chairwoman Kelley asked if there were any comments from the public. There were none.

M. Comments and questions from the Commission members.

Vice Chairwoman Kelley asked if there were any comments from the Commission members. There were none.

N. Selection of the next possible meeting date.

The next meeting is tentatively scheduled for 1:30 p.m. on Tuesday, April 12, 2022, at the Clark County Government Center, Commission Chambers, 500 South Grand Central Parkway, Las Vegas, Nevada 89155.

O. Adjournment.

The meeting was adjourned at 2:35 p.m.



Eric Witkoski, Executive Director

APPROVED:


Kara Kelley (Jul 21, 2022 10:11 PDT)

For Puoy K. Premsrirut, Chairwoman

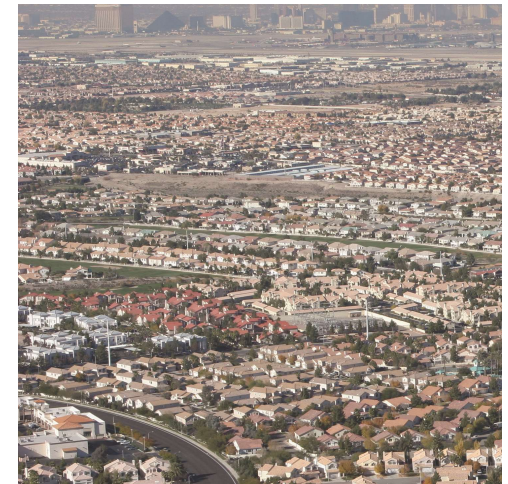
Water Conservation & Resource Planning

2021 WATER RESOURCE PLAN

The SNWA reviews its water resource plan annually.

Key Inputs:

- Population forecast from the University of Nevada, Las Vegas Center for Business and Economic Research (CBER)
- Hydrologic modeling from the U.S. Bureau of Reclamation
- Conservation progress (actual and projected)



2021 WATER RESOURCE PLAN

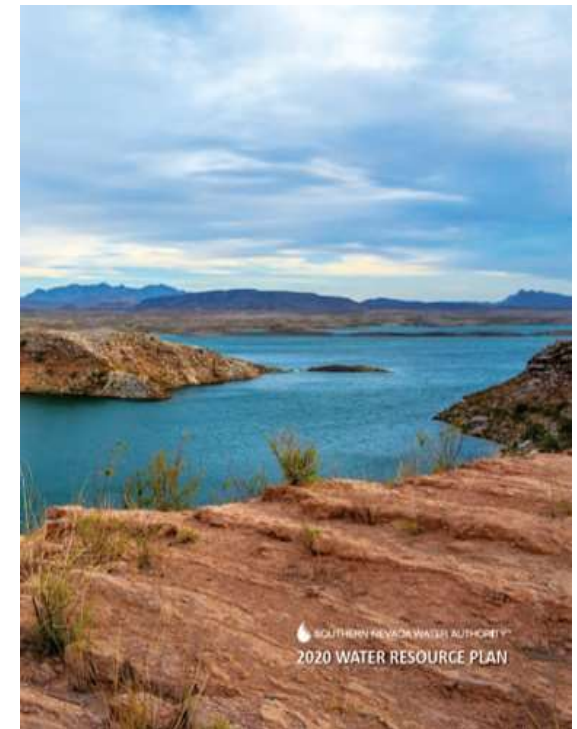
The SNWA’s Water Resource Portfolio includes a diverse set of resource options that will be used in tandem with demand reduction tools to reliably meet the community’s current and future water resource needs.

Permanent Resources	Temporary Resources	Future Resources
Colorado River (SNWA)	Southern Nevada Groundwater Bank	Transfers and Exchanges – Permanent Future Supply Desalination & Colorado River Partnerships
Nevada Unused Colorado River (Non-SNWA)	Interstate Bank (Arizona)	Transfers and Exchanges – Virgin River/Colorado River Augmentation
Tributary Conservation ICS	Interstate Bank (California)	Garnet & Hidden Valleys Groundwater
Las Vegas Valley Groundwater Rights	Intentionally Created Surplus (Lake Mead storage)	Tikaboo & Three Lakes Valley Groundwater

2021 WATER RESOURCE PLAN

2021 Plan Changes:

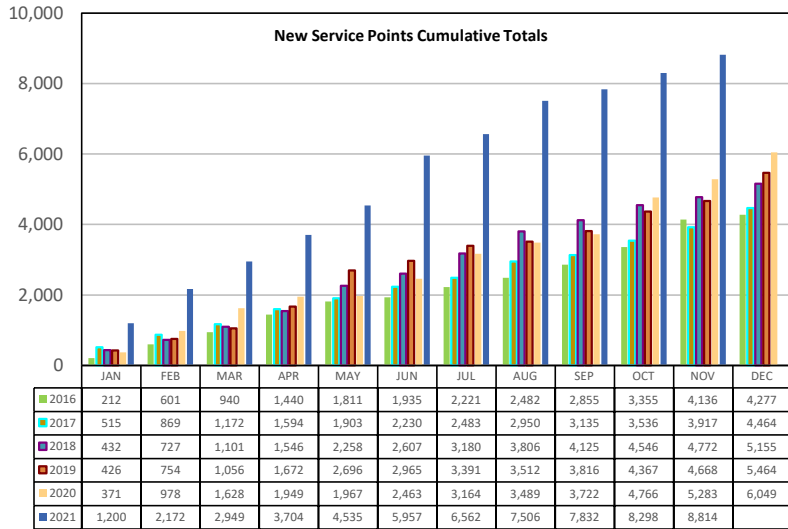
- Extended the planning horizon through 2072.
- Updated demand range based on the new population forecast.
- Applied new assumptions about conservation achievements.
- Incorporated the latest Colorado River supply outlook.
- Developed planning scenarios that reflect supply impacts under variable hydrology.
 - 14.7 MAFY
 - 12.9 MAFY
 - 11.0 MAFY



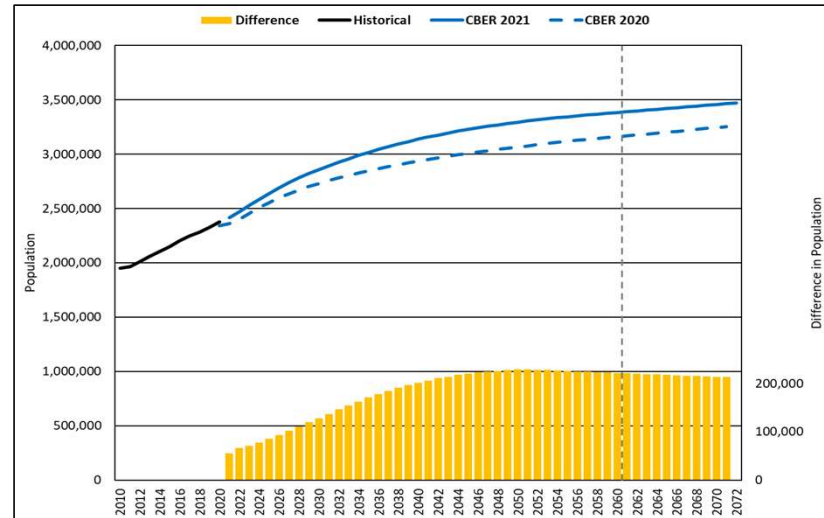
Supply and demand inputs have changed significantly.

2021 WATER RESOURCE PLAN

New account growth and longer-term forecasts are much higher than prior years.



New Account Growth (LVVWD)

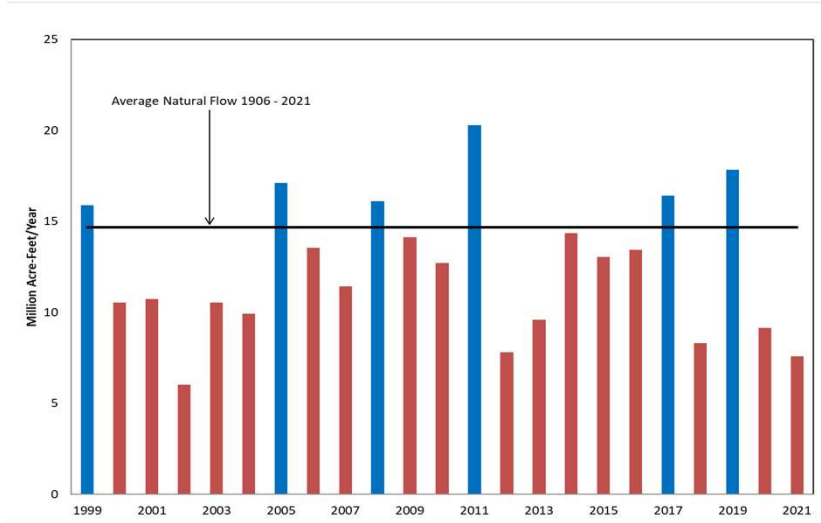


2021 CBER Forecast

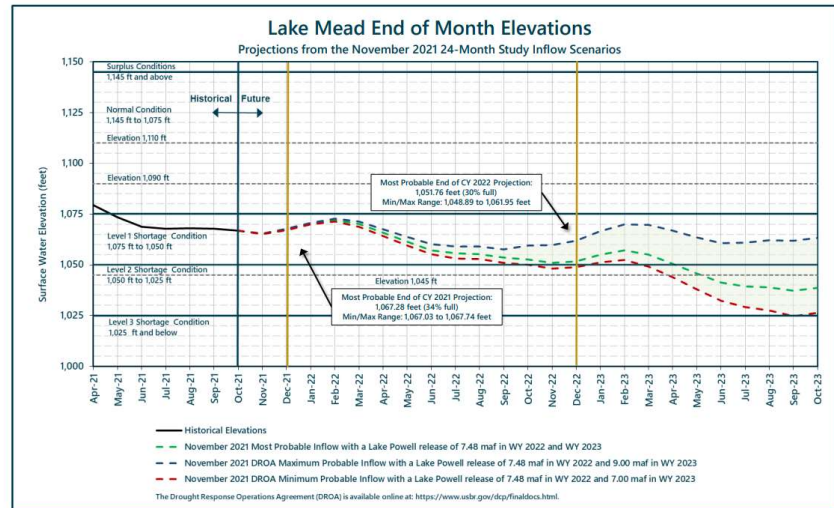
This affects the volume and timing of future resource needs.

2021 WATER RESOURCE PLAN

Annual Colorado River inflows have been at or below 11.0 million acre-feet for nearly half of the last 22 years.



Colorado River Inflows



24-Month Study

Further water-level declines are expected.

2021 WATER RESOURCE PLAN

There is a high probability for shortage over the long-term planning horizon.



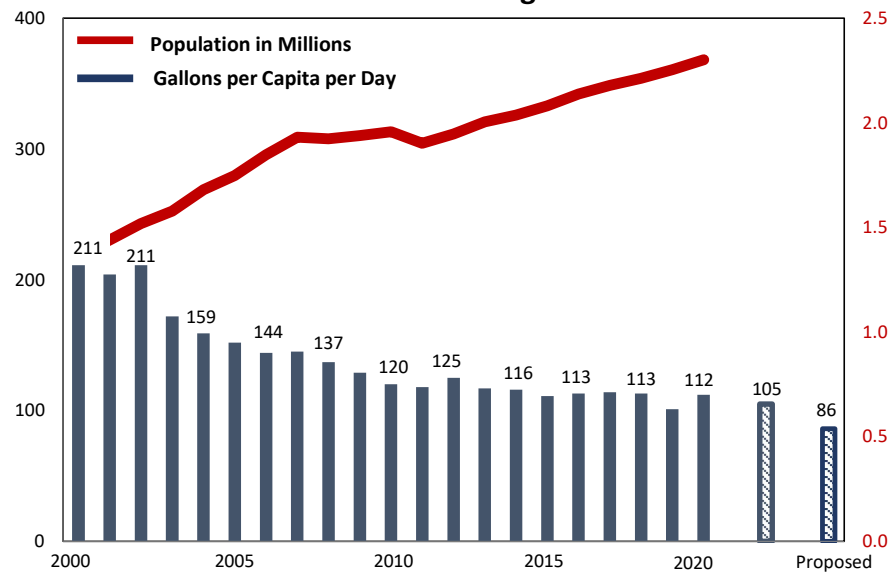
Lake Mead Elevation (ft. above mean sea level)	2007 Interim Guidelines Shortages		Minute 323 Delivery Reductions	Total Combined Reductions	DCP Water Savings Contributions				Binational Water Scarcity Contingency Plan Savings		Combined Volumes by States and Country				
	AZ	NV	MX	Lower Basin & Mexico Total	AZ	NV	CA	MX	AZ Total	NV Total	CA Total	Lower Basin Total	MX Total	Lower Basin & Mexico Total	
	1,090-1,075	0	0	0	0	192	8	0	41	192	8	0	200	41	241
1,075-1,050	320	13	50	383	192	8	0	30	512	21	0	533	80	613	
1,050-1,045	400	17	70	487	192	8	0	34	592	25	0	617	104	721	
1,045-1,040	400	17	70	487	240	10	200	76	640	27	200	867	146	1,013	
1,040-1,035	400	17	70	487	240	10	250	84	640	27	250	917	154	1,071	
1,035-1,030	400	17	70	487	240	10	300	92	640	27	300	967	162	1,129	
1,030-1,025	400	17	70	487	240	10	350	101	640	27	350	1,017	171	1,188	
<1,025	480	20	125	625	240	10	350	150	720	30	350	1,100	275	1,375	

Nevada is making DCP contributions and will take shortage next year but additional reductions from all stakeholders are needed to preserve Colorado River operations.

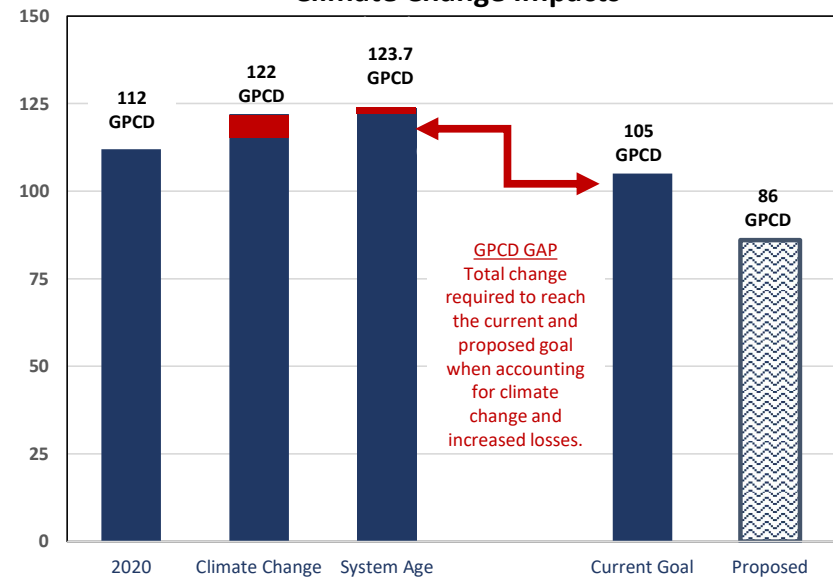
2021 WATER RESOURCE PLAN

Higher levels of efficiency are needed to address population growth, offset supply impacts due to shortage, reduce upward pressure from climate change, and maximize the availability of existing water supplies.

Conservation Goal Progress



Climate Change Impacts



WATER RESOURCE PLAN UPDATE

As part of its 2021 planning effort, the SNWA considered:

- The water resource implications of higher demands and lower flows over the planning horizon.
- The extent to which additional conservation could extend permanent resources and delay the use of temporary and future resources.
- Specific conservation actions that could be implemented to achieve additional conservation and efficiency gains.



2021 WATER RESOURCE PLAN

As recommended by IRPAC, the SNWA is focused on reducing consumptive water use.



Landscape Efficiency



Cooling Efficiency



Water Loss Control



Irrigation Compliance



New Development Efficiency

2021 WATER RESOURCE PLAN

Existing and planned measures do not go far enough.

Current Programs & Policies		
Golf course water budgets	Mandatory watering restrictions	Incentive programs
Customer leak notification	Asset management programs	Tiered water rates
Water waste enforcement & fees	Out-of-Valley Water Use Policy	Utility leak detection
Turf limits	Turf development standards	Education & outreach

Work in Progress		
AB356 non-functional turf removal (2026)	AMI upgrades (2024) and leak resolution	Increased water waste enforcement
Cooling efficiency research & studies	Large water user policy (new development)	

Additional actions are needed to address changing conditions.

2021 WATER RESOURCE PLAN

Additional actions are needed to address changing conditions.

Conservation Opportunities for Existing Users:

- Reduce golf course water budgets
- Require high-efficiency cooling retrofits
- Implement park efficiency improvements
- Make water rate changes to incentivize conservation
- Develop and implement a septic system conversion policy



2021 WATER RESOURCE PLAN

Additional actions are needed to address changing conditions.

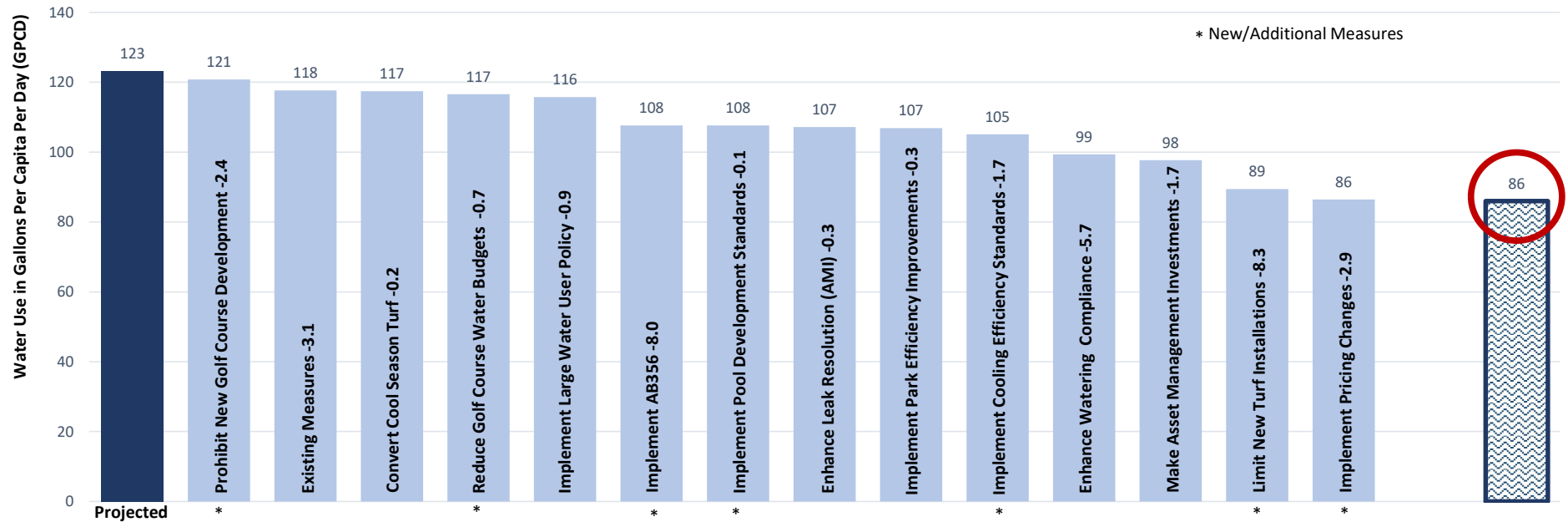
Conservation Opportunities for New Development:

- Prohibit new golf course development
- Limit new pool construction size
- Update development standards for cooling technology
- Restrict turf in new development
- Implement large water user policy



2021 WATER RESOURCE PLAN

Achieving higher levels of efficiency will extend the availability of current resources and reduce the need for temporary and future resources.

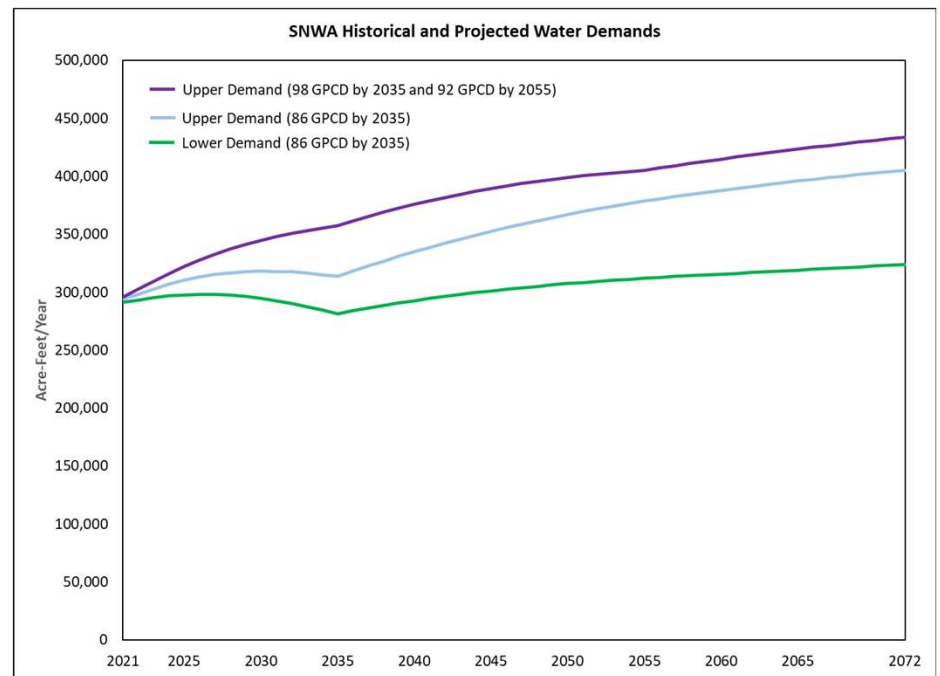
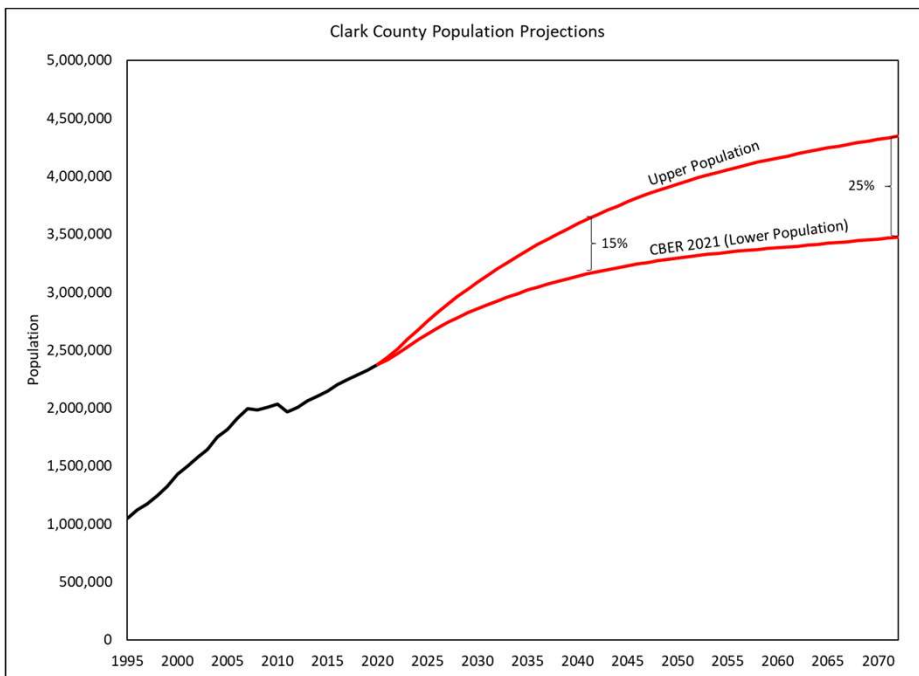


It will also offset supply reductions associated with shortage and help to reduce upward pressure on demands associated with climate change.

2021
Planning Assumptions
& Planning Scenarios

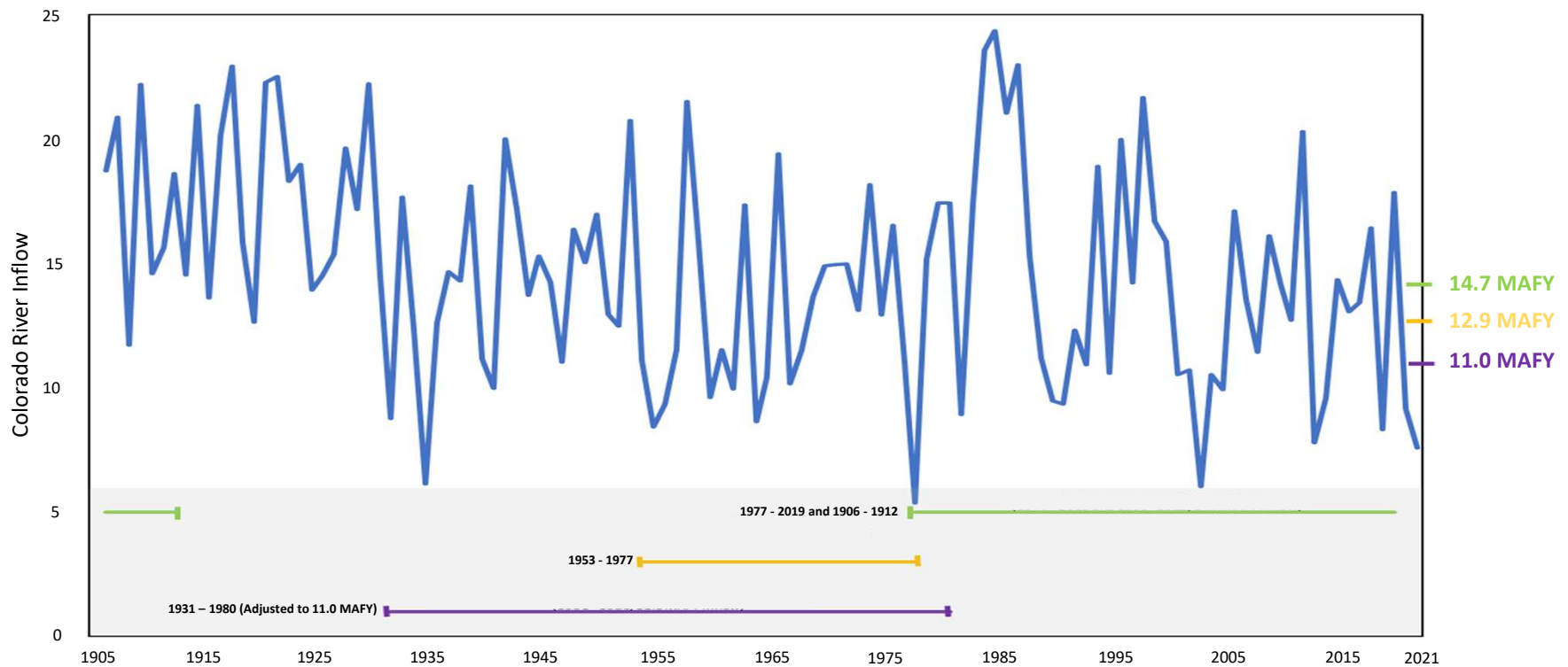
2021 WATER RESOURCE PLAN

The 2021 Water Resource Plan considers higher population and lower per capita water use.



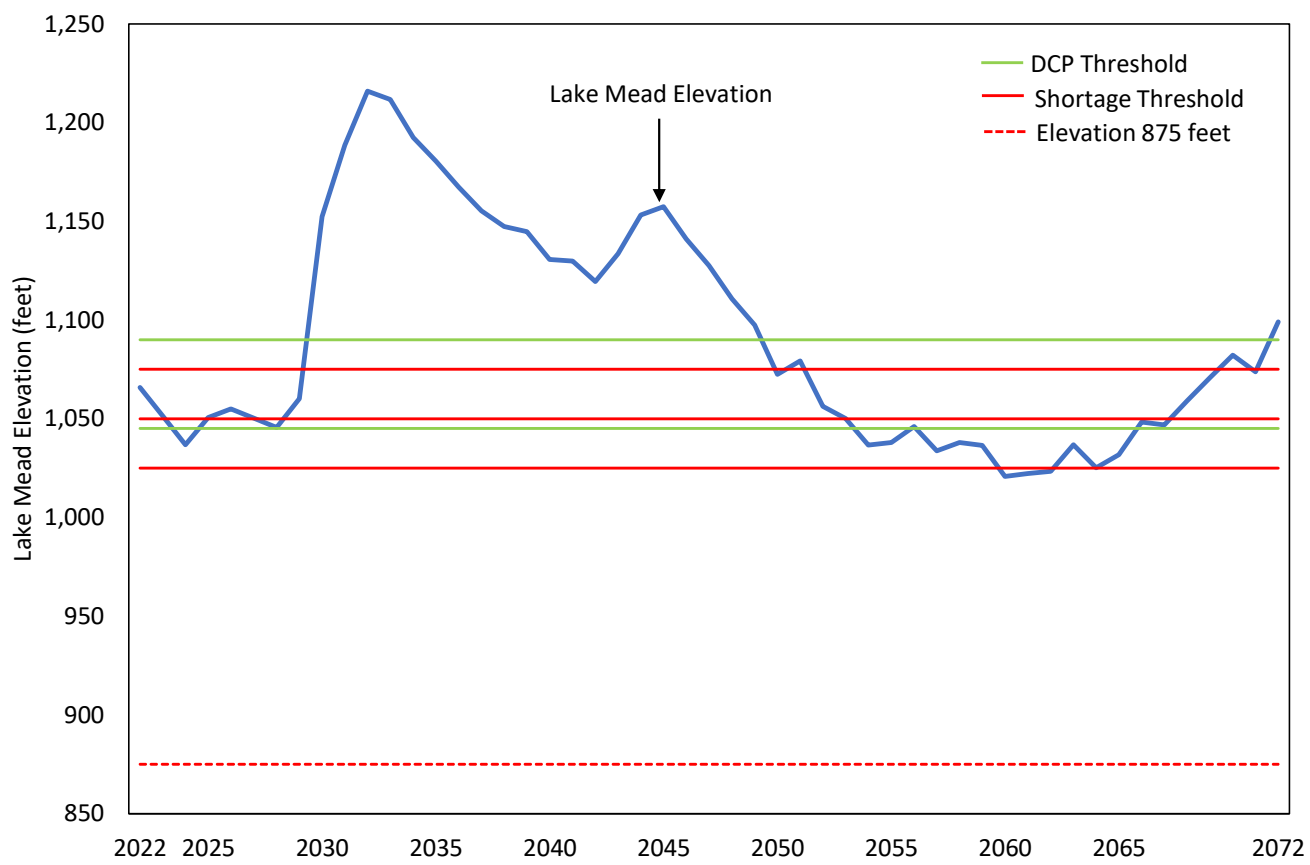
2021 WATER RESOURCE PLAN

The 2021 Water Resource Plan considers three water supply conditions.



14.7 MAFY Inflow Planning Scenarios

2021 WATER RESOURCE PLAN



14.7 MAFY Inflow

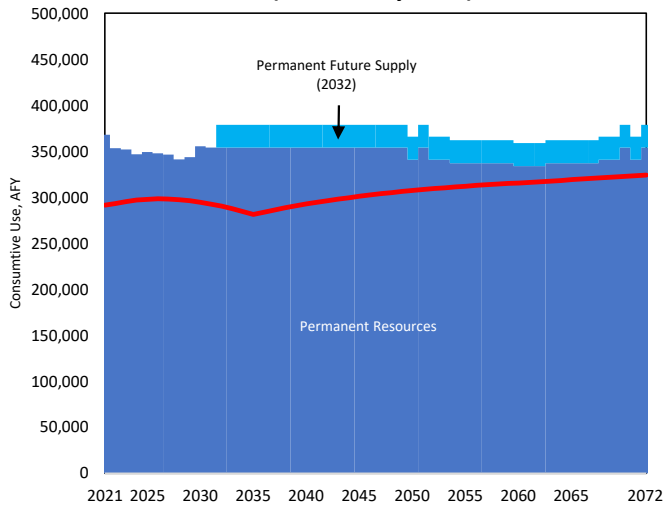
This hydrology is more optimistic than current conditions.

Over the most recent 22-year period, there were five years with inflows at or above 14.7 MAF.

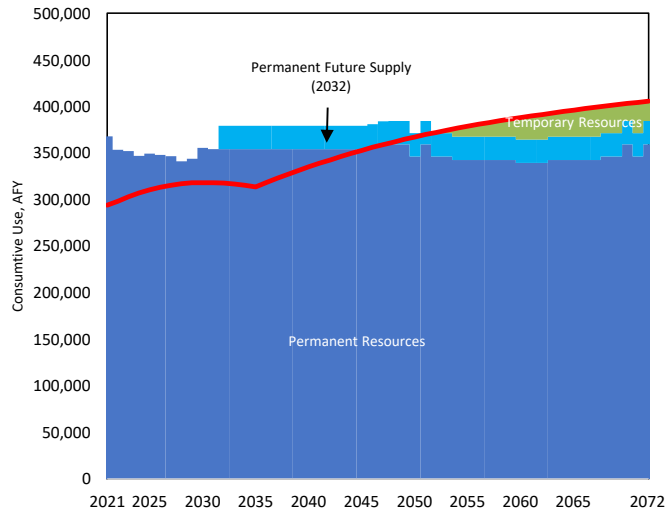
2021 WATER RESOURCE PLAN

14.7 MAFY Inflow Scenarios

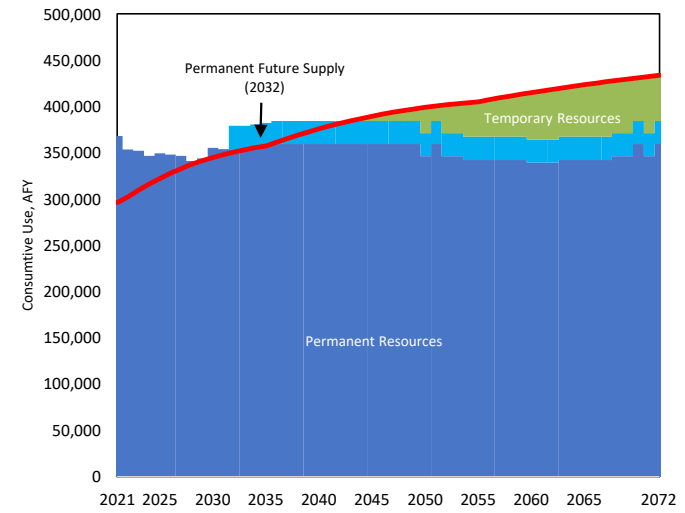
**Lower Demand
(86 GPCD by 2035)**



**Upper Demand
(86 GPCD by 2035)**

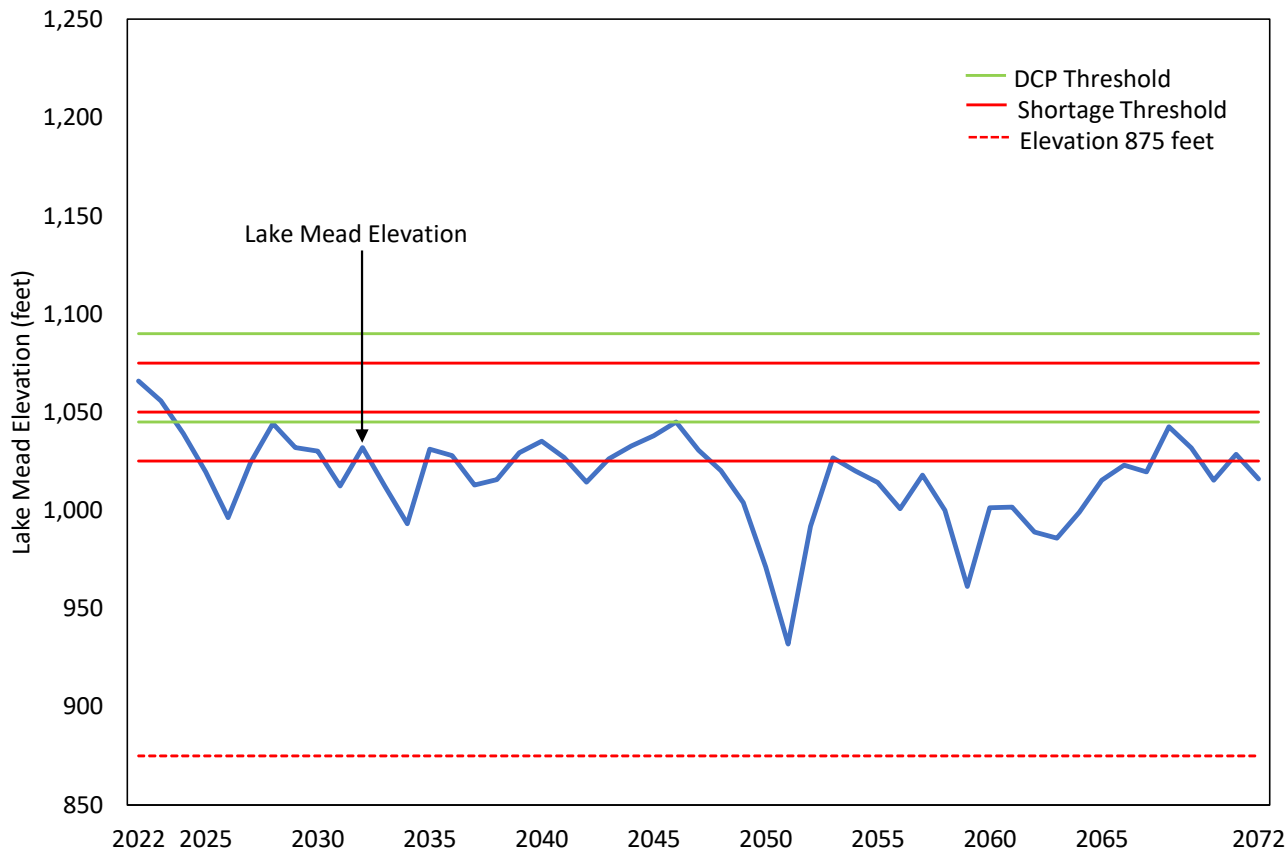


**Upper Demand
(98 GPCD by 2035 and 92 GPCD by 2055)**



12.9 MAFY Inflow Planning Scenarios

2021 WATER RESOURCE PLAN



12.9 MAFY Inflow

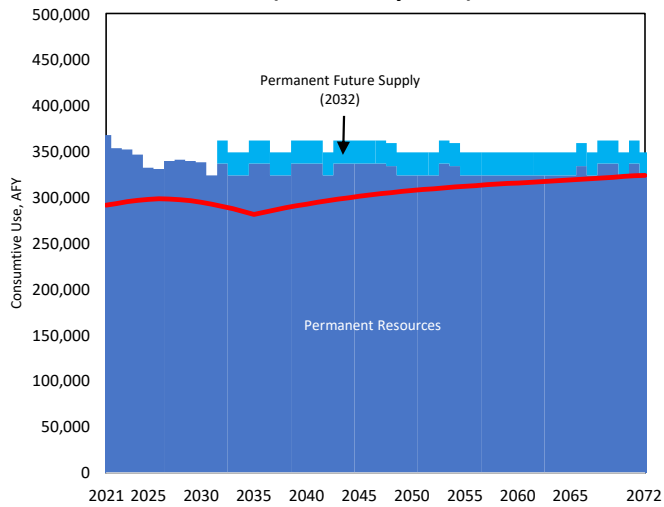
This hydrology is slightly more optimistic than current conditions.

Over the most recent 22-year period, inflows average approximately 12.3 MAF.

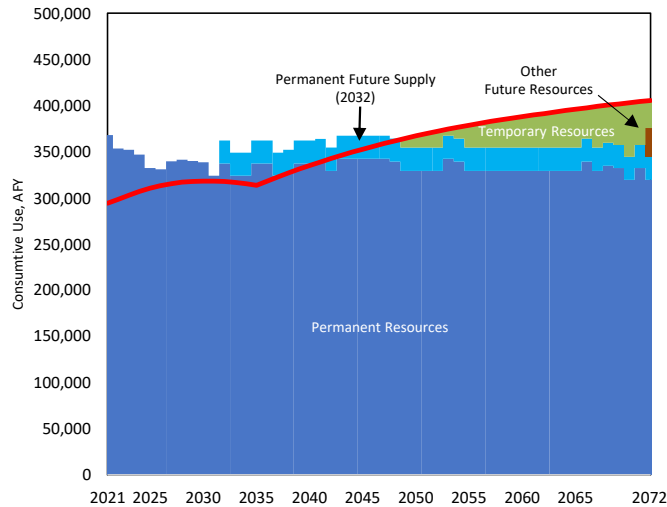
2021 WATER RESOURCE PLAN

12.9 MAFY Inflow Scenarios

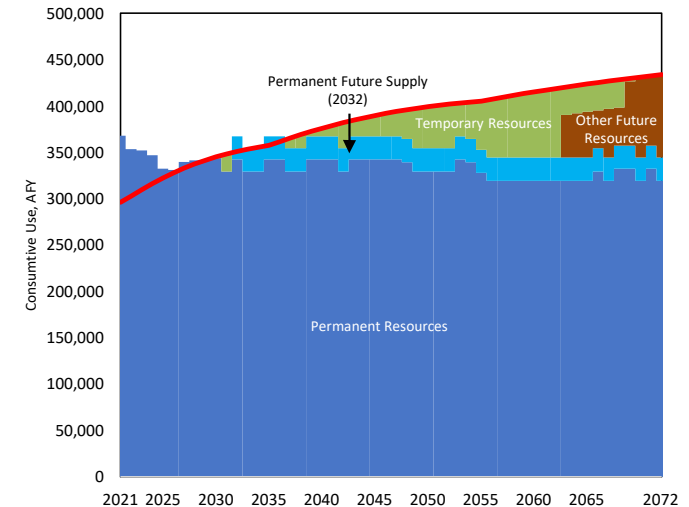
**Lower Demand
(86 GPCD by 2035)**



**Upper Demand
(86 GPCD by 2035)**

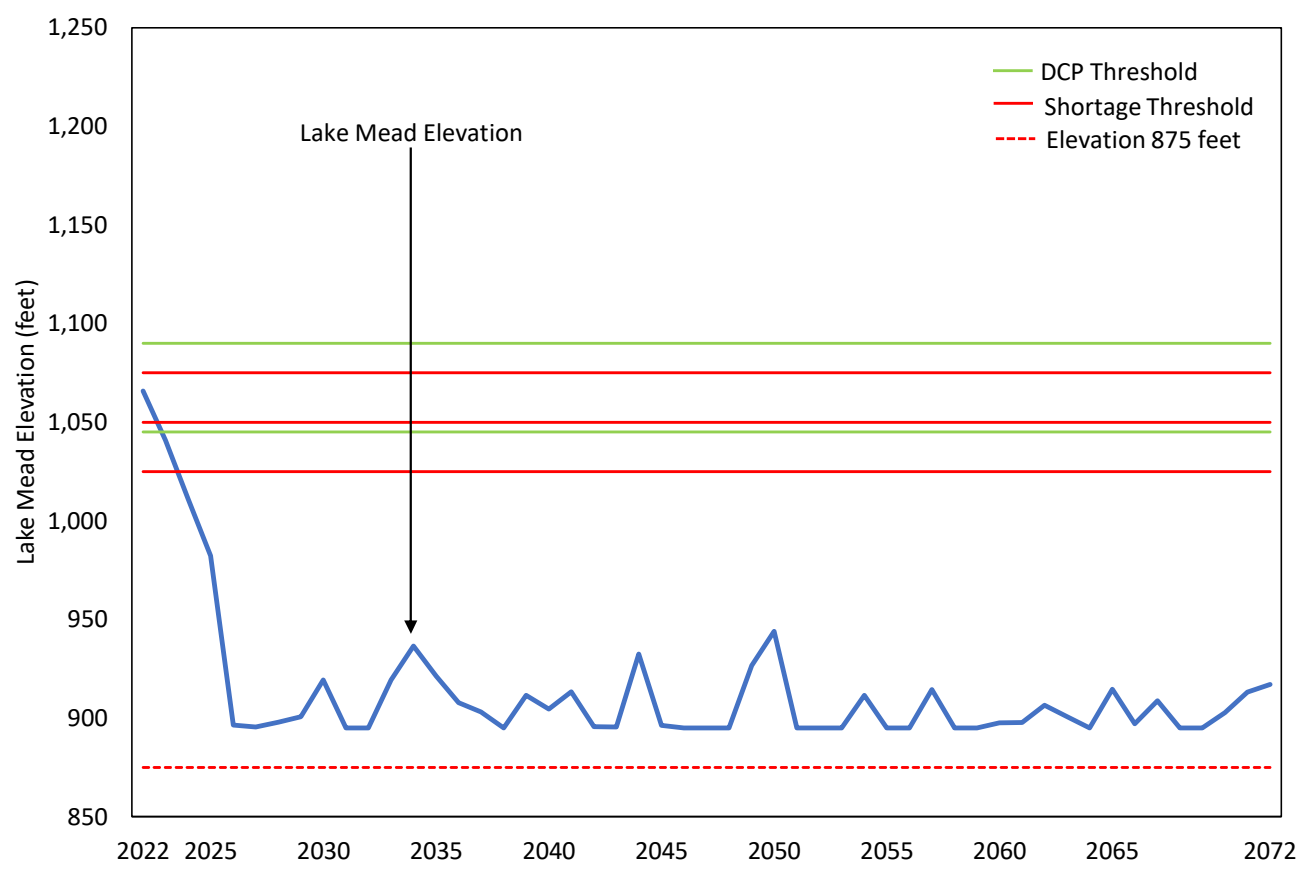


**Upper Demand
(98 GPCD by 2035 and 92 GPCD by 2055)**



11.0 MAFY Inflow Planning Scenarios

2021 WATER RESOURCE PLAN



11.0 MAFY Inflow

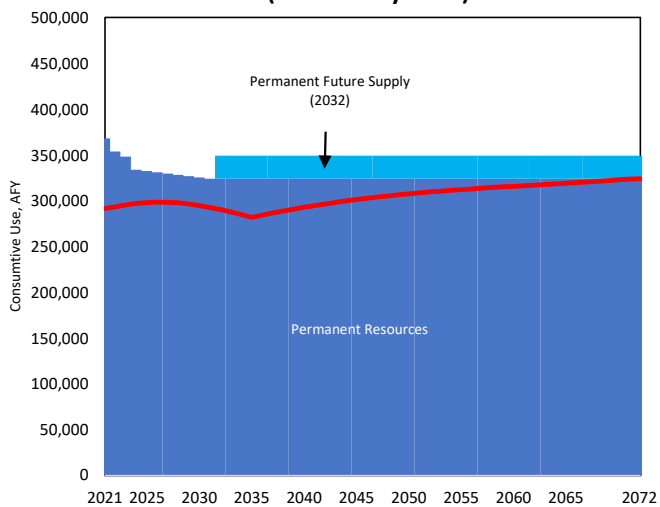
This hydrology is less optimistic than current conditions but reflects the potential for significant hydrological change.

Over the most recent 22-year period, there were nine years with inflows at or below 11.0 MAF.

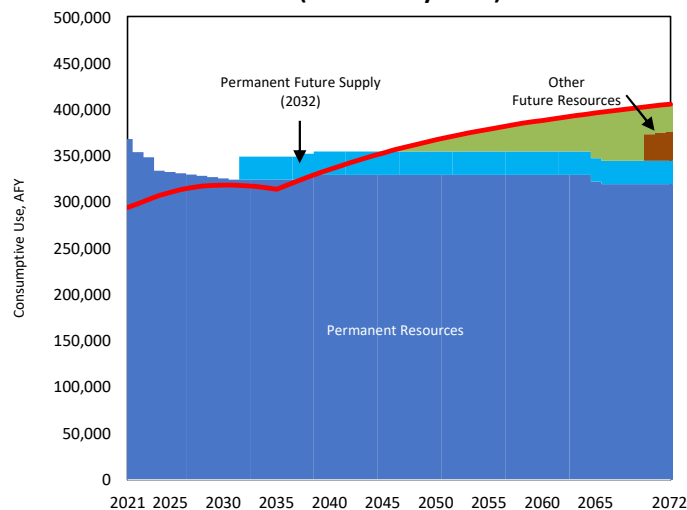
2021 WATER RESOURCE PLAN

11.0 MAFY Inflow Scenarios

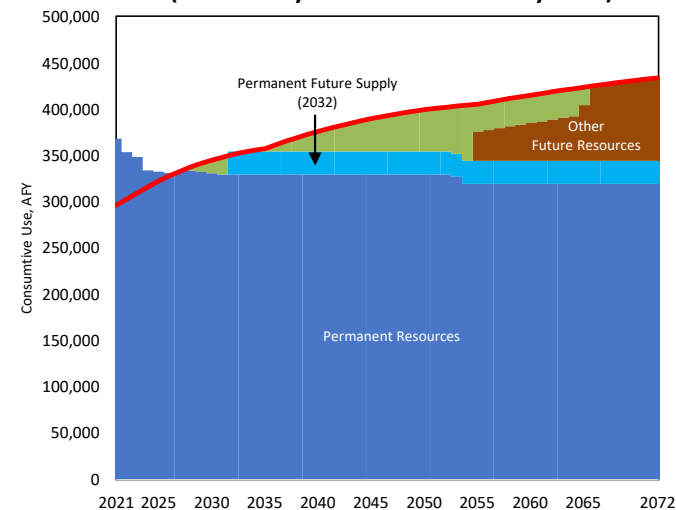
**Lower Demand
(86 GPCD by 2035)**



**Upper Demand
(86 GPCD by 2035)**



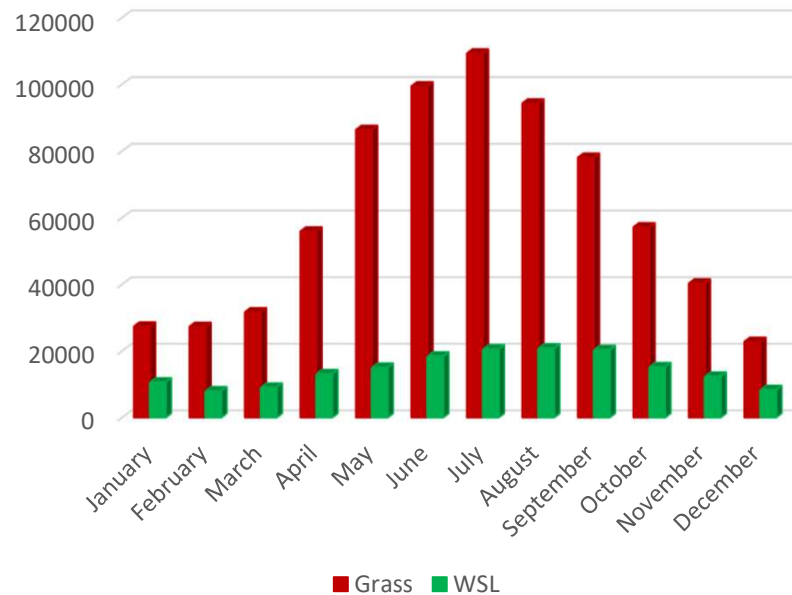
**Upper Demand
(98 GPCD by 2035 and 92 GPCD by 2055)**



AB356 and Turf Definitions

AB-356

A long-term analysis of turf conversion projects shows that drip-irrigated landscapes use an average of ~75 percent less water per year



Potential water savings associated with replacing non-functional turf could reach 9.5 billion gallons (29,150 acre-feet)



NONFUNCTIONAL TURF

A new law passed during the 81st Legislative Session prohibits our community's water supplies from watering existing unused grass by 2027.

Single family residential homes excluded.

- Neighborhood entries
- Streetscapes
- Medians
- Roundabouts
- Non-residential applications (commercial buildings, office parks, etc.)



Non-functional turf is now defined as:

“Non-functional Turf” means irrigated lawn grass area not meeting the below definition of Functional Turf, including without limitation, such areas in the following locations:

- Streetscape Turf: except as otherwise specified turf located along public or private streets, streetscape sidewalks, driveways and parking lots, including but not limited to turf within community, park and business streetscape frontage areas, medians and roundabouts
- Frontage, Courtyard, Interior and Building Adjacent Turf: turf in front of, between, behind or otherwise adjacent to a building or buildings located on a property not zoned exclusively as a single-family residence, including but not limited to maintenance areas and common areas.
- Certain HOA-Managed Landscape Areas: turf managed by a homeowner association that does not provide a recreational benefit to the community or that otherwise does not qualify as Functional Turf, regardless of the property zoning.

Functional turf is now defined as:

“Functional Turf” means an irrigated lawn grass area that provides a recreational benefit to the community and is:

- (a) located at least 10 feet from a street (except as otherwise specified), installed on slopes less than 25 percent, and not installed within street medians, along streetscapes or at the front of entryways to parks, commercial sites, neighborhoods or subdivisions; and
- (b) Active/Programmed Recreation Turf, Athletic Field Turf, Designated Use Area Turf, Golf Course Play Turf, Pet Relief Turf, Playground Turf or Resident Area Turf, as these terms are further defined and qualified.

FUNCTIONAL TURF TYPES

“Active/Programmed Recreation Turf” means irrigated lawn grass in an active/programmed recreation area on homeowner association-owned or managed property or at a public park or water park (excluding park streetscape and community frontage areas).

Active/programmed recreation turf at existing properties must be:

- 1,500 contiguous square feet or greater.
- Co-located with facilities, including but not limited to trash bins, benches, tables, walking paths and/or other recreational amenities.
- Located at least 10 feet from a public or private street or interior facing parking lot unless:
 - The contiguous turf area is at least 30 feet in all dimensions; or
 - The turf is immediately adjacent to an athletic field



FUNCTIONAL TURF TYPES

“Athletic Field Turf” means irrigated lawn grass used as a programmed sports field or for physical education and intermural use that is 1,500 contiguous square feet or greater, not less than 30 feet in any dimension, and located at a school, daycare, youth recreation center, senior center, public park, private park, water park or religious institution.

Athletic Field Turf may be located less than 10 feet from a public or private street or interior-facing parking lot if the contiguous turf area is at least 30 feet in all dimensions.



FUNCTIONAL TURF TYPES

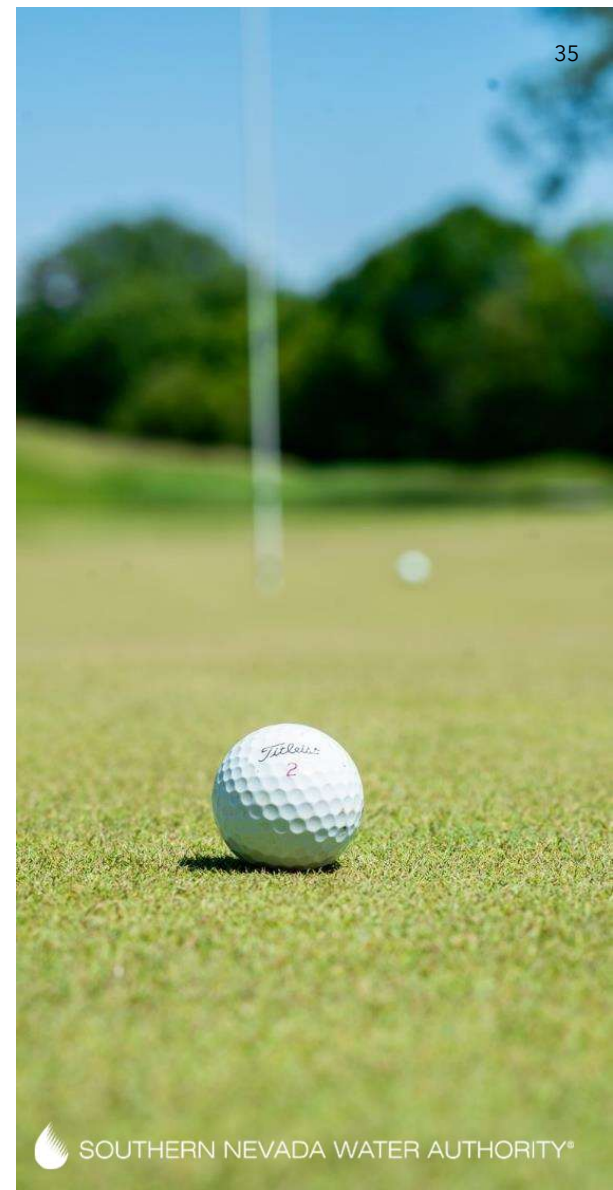
“Designated Use Area Turf” means irrigated lawn grass designated for special use at cemeteries and mortuaries.



RECOMMENDATION #2 (cont.)

FUNCTIONAL TURF TYPES

“**Golf Course Play Turf**” means irrigated lawn grass at a golf course in driving ranges, chipping and putting greens, tee boxes, greens, fairways and rough.



RECOMMENDATION #2 (cont.)

FUNCTIONAL TURF TYPES

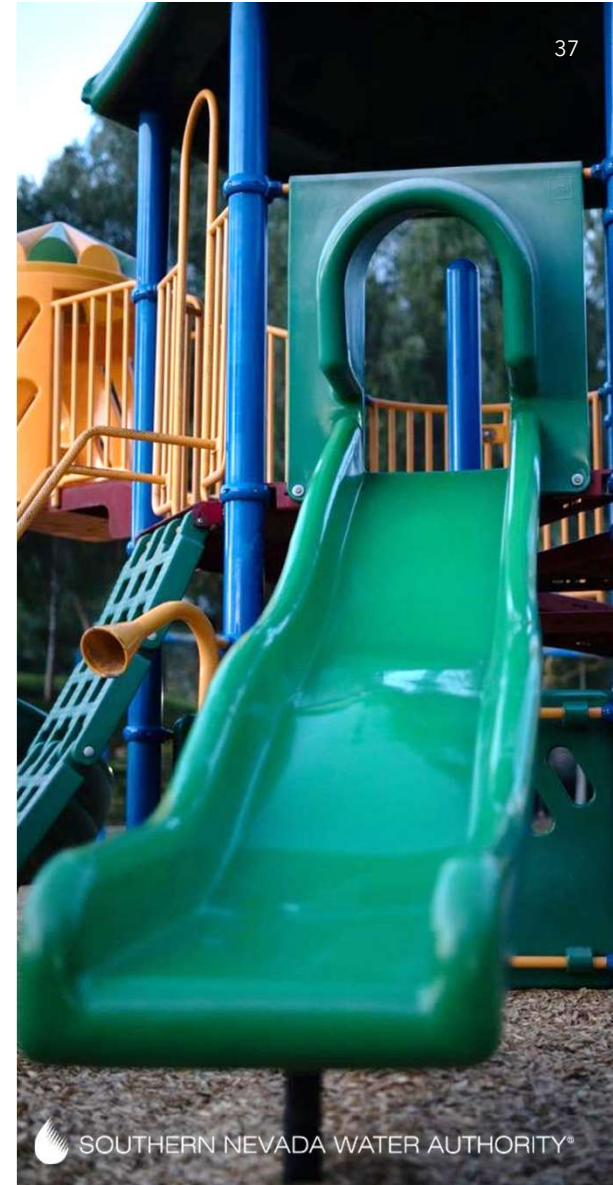
“**Pet Relief Turf**” means irrigated lawn grass in a property providing commercial and retail services for pets that is designated for pet use (such as veterinarians or boarding facilities). Pet Relief Turf may not exceed 200 square feet.



FUNCTIONAL TURF TYPES

“Playground Turf” means irrigated lawn grass in designated play areas with playground amenities, including but not limited to slides, swings and climbing structures on homeowner association-owned or managed property or at a public park, water park, school, daycare, youth recreation center, senior center or religious institution.

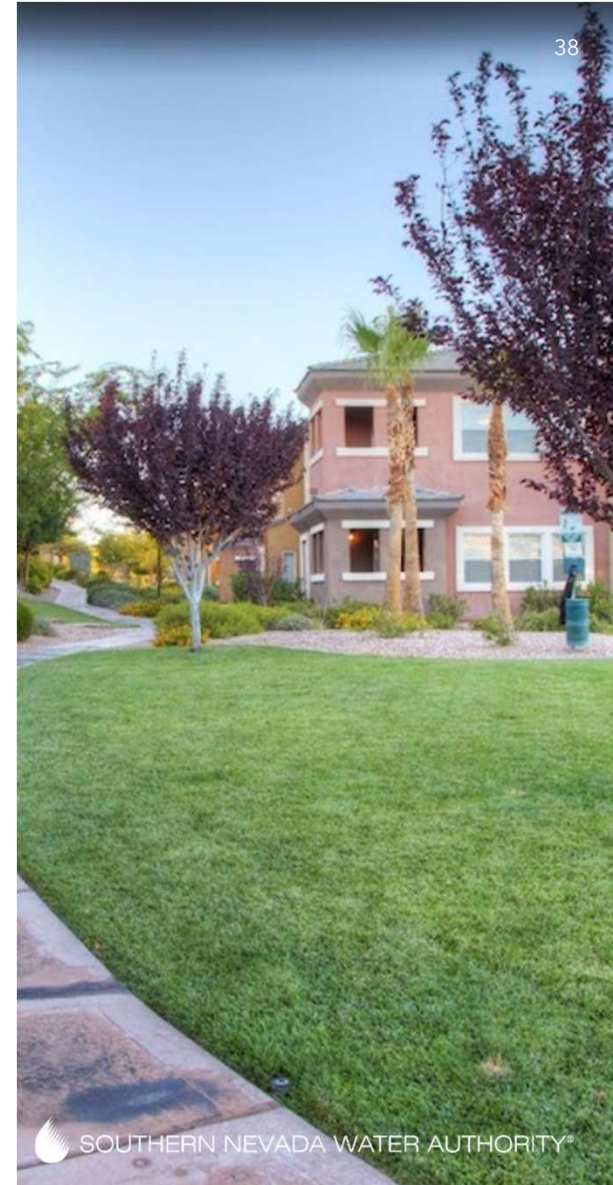
Playground Turf may be located less than 10 feet from a public or private street if fenced.



FUNCTIONAL TURF TYPES

“Resident Area Turf” means up to 150 square feet of irrigated lawn grass per dwelling unit at multi-family residential properties, single-family attached properties, commercial/multi-family mixed use properties, extended stay hotels/motels, or assisted living and rehabilitation centers used by tenants for recreation and leisure.

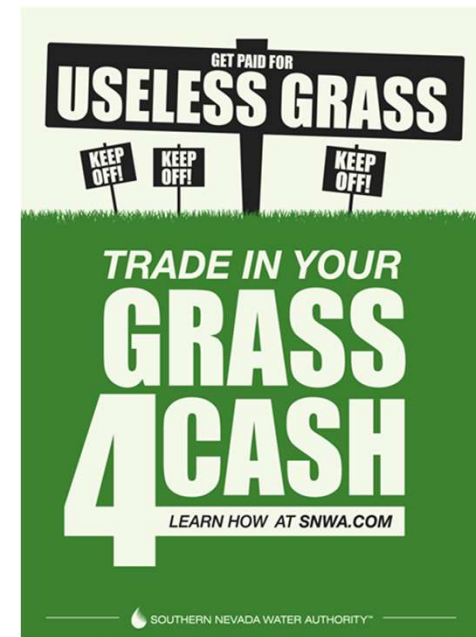
Resident Area Turf must be in areas reasonably accessible for active use by residents and therefore may not be located in streetscape frontages, parking lots, roundabouts, medians, driveways and other non-accessible or exclusive-use areas such as commercial courtyards.



Implementation

The SNWA is allocating staff and resources to meet the anticipated demand for Water Smart Landscapes projects

- Initial response to the legislation has been a 200+ percent increase in multi-family conversion appointments and a 300+ percent increase in commercial/institutional appointments
- The SNWA has engaged a third-party contractor to support administrative/processing activities; staff at peak levels is expected to surpass 20 FTE
- Incentive outlays over the next five years are expected to surpass \$300 million
- The SNWA will continuously engage affected property owners throughout the implementation period







Colorado River Commission of Nevada

Hydrology and Water Use Update

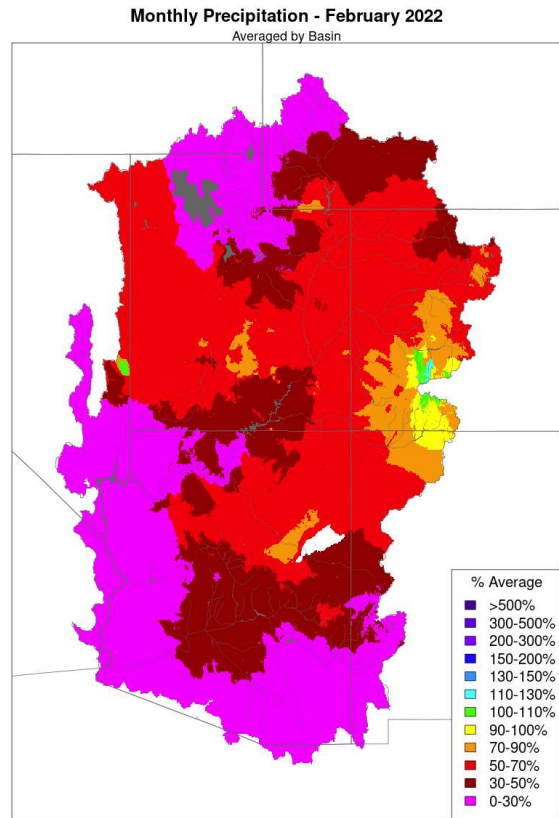
Warren Turkett

March 8, 2022

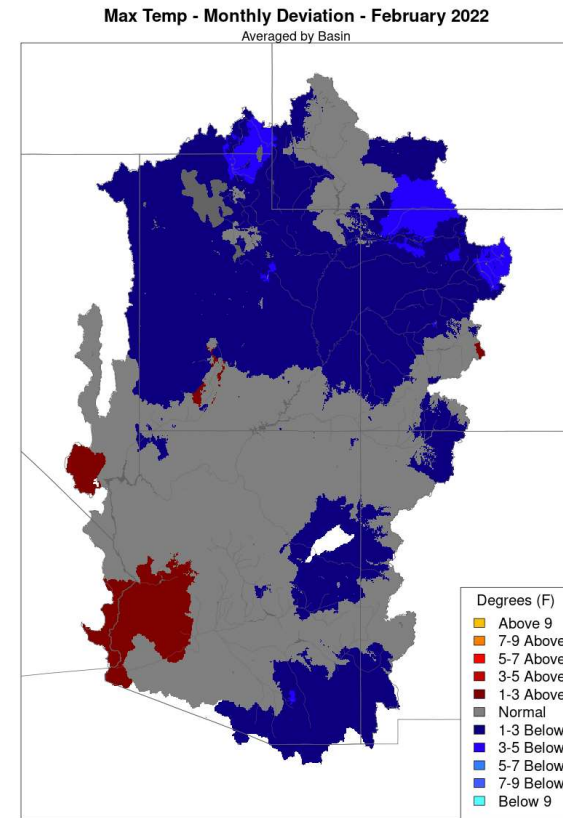




Precipitation and Temperature



Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov



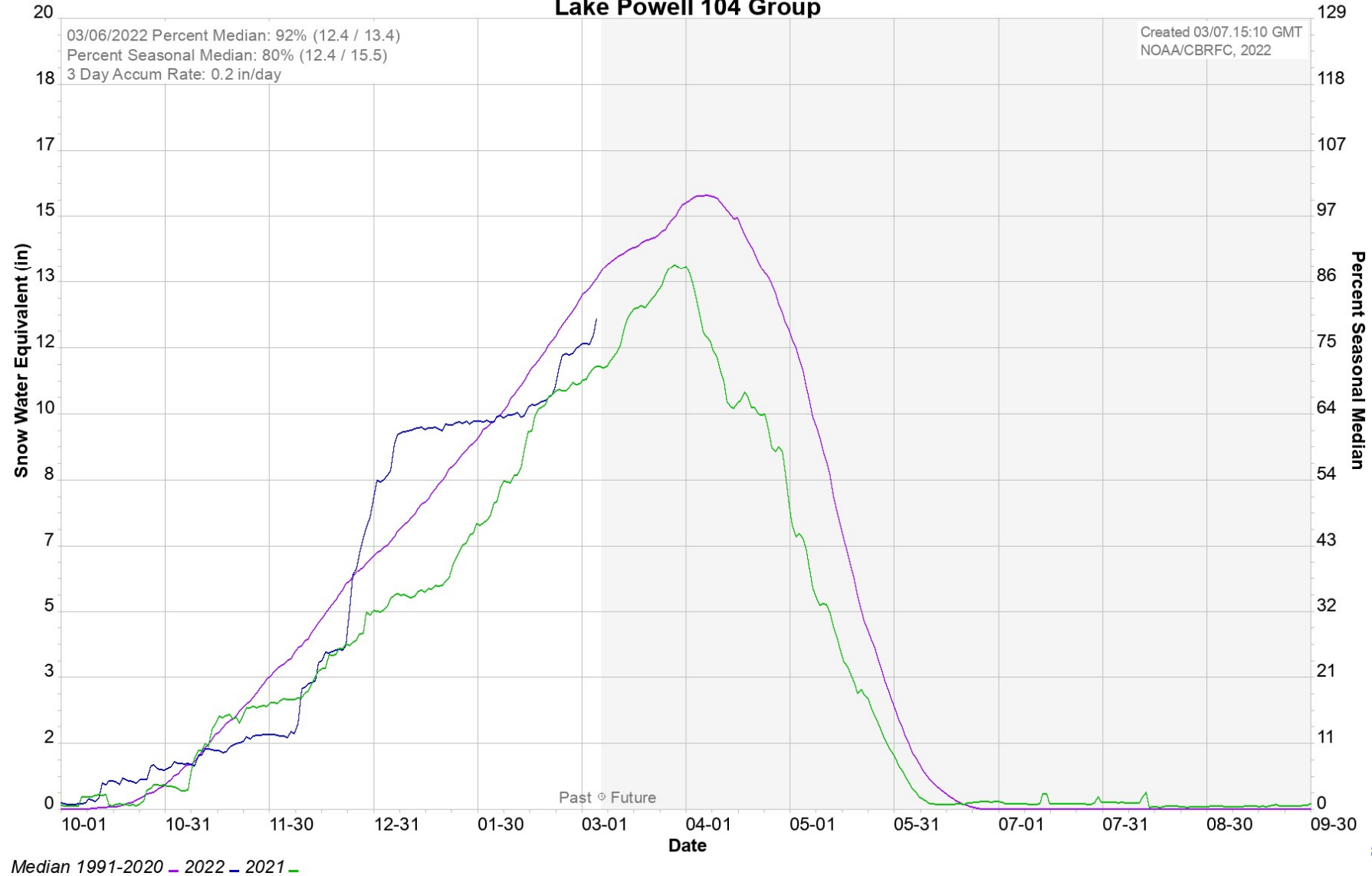
Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

Lake Powell %Average Precipitation Water Year 2022

Area	Oct	Nov	Dec	Jan	Feb	Water Year
UC-Powell	127	45	206	51	63	98



**Colorado Basin River Forecast Center
Lake Powell 104 Group**



Unregulated Inflow, Current and Projected Reservoir Status



Projected unregulated inflow to Lake Powell	Acre-Feet	% Average
Water Year 2022	6,583,000	69%
April thru July 2022	4,400,000	69%

Reservoir	Current Elevation	Current Storage Acre-Feet	Current % Capacity	Projected Elevation on 1/1/2023 ¹
Lake Mead	1,066.8	8,948,000	34%	1,050.3
Lake Powell	3,527.2	6,061,000	25%	3,524.4

Data retrieved March 3, 2022

¹ Based on Reclamation's February 2021 24 Month Study Most Probable Inflow.

Water Use In Southern Nevada

Southern Nevada Water Use

2021 Actual Use in Acre-Feet*

Nevada Annual Allocation	300,000
Diversions	480,322
Return Flow Credits	235,588
Consumptive Use	241,735
2021 Drought Contingency Plan contribution	-8,000
Unused Allocation Available for Banking	50,265 (17%)

* 2021 Water use is provisional.

Southern Nevada Water Use

Diversions

Return Flows

Consumptive Use

January 2022	30,657	19,837	10,821
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Banked Water (through end of 2020)

Acre-Feet

Ground Water Recharge in So. Nevada	357,643
Banked in Lake Mead	865,741
Banked in California and Arizona	944,071
Total	2,167,455





Summary

Lake Powell

- Water Year 2022¹ has received 98% of average precipitation in the Upper Basin.
- Upper Basin snowpack accumulation is currently 92% of the seasonal median.
- Unregulated inflow for water year 2022 is forecasted to be 69% of average.

Lake Mead

- In calendar year 2022, there will be a Tier 1 shortage under the 2007 Guidelines and required DCP contributions for Nevada and Arizona.
- Over the last 6 years, the Lower Basin has conserved enough water to raise Lake Mead by 65 feet.

Nevada Water Supply

- Southern Nevada has about 9 years of water supply banked. ²
- **In 2021, Southern Nevada used 58,265 af less than our annual allocation.**

Storage	Elevation (f)	% Capacity	Change since last year
Lake Mead	1,066.8	34%	-20.3 ft
Lake Powell	3,527.2	25%	-43.8 ft

Data retrieved March 3, 2022.

¹ Water year is defined as October through September.

² Based on 2021 consumptive use and storage volumes through 2020.