(ACT) ACTION NEEDED
(INF) INFORMATION ONLY
(DIS) DISCRETIONARY

AGENDA

REGULAR MEETING OF THE
BOARD OF PUBLIC UTILITIES
OF THE CITY OF NEEDLES
TUESDAY, JANUARY 20, 2026 AT 4:00 PM
1111 BAILEY AVENUE, NEEDLES

THE PUBLIC MAY ATTEND VIA TEAMS AND MAY SUBMIT ANY COMMENTS IN WRITING PRIOR TO NOON ON THE DAY OF THE MEETING BY EMAILING csallis@cityofneedles.com

TO JOIN THE LIVE TEAMS MEETING: log into the City of Needles website at www.cityofneedles.com to access the agenda and Click here to join the meeting

If asked, enter the following: Meeting ID: 768 033 388#
OR listen in and participate by calling Teams: 1-323-488-2227 - Meeting ID: 768 033 388#
Meetings are being recorded

CALL TO ORDER - ROLL CALL

APPROVAL OF AGENDA (ACT)

Public Comments pertaining to the Executive Session Item (A three minute time limit per person has been established)

Recess to Executive Session -- Conference with legal counsel regarding potential initiation of litigation pursuant to Government Code 54956.9(d)(4) - One potential case

Reconvene Meeting - Report by City Attorney

CORRESPONDENCE

PUBLIC APPEARANCE: Persons wishing to address the Board on subjects other than those scheduled are requested to do so at this time. When called by the Chairman, please come to the podium and announce your name and address for the record. In order to conduct a timely meeting, a three minute time limit per person has been established by Municipal Code Section 2-18. Amendments to California Government Code Sec. 54950 prohibits the Board from taking action on a specific item until it appears on the agenda.

PRESENTATION (A ten minute time limit per presentation has been established per Municipal Code Section 2-18)

1. Presentation by Vasquez & Company LLP of the Needles Public Utility Authority Audit Report for the Fiscal Year Ended June 30, 2024 (DIS)

CONSENT CALENDAR: All matters listed on the Consent Calendar are considered to be routine and will be enacted by one motion in the form listed. The Chairman or any Member of the Board may pull an item from the Consent Calendar for discussion. Prior to Board action, a member of the public may address the Board on matters scheduled on the Consent Calendar. A three-minute time limit per person applies. **Recommended Action:** Approve Items 2 through 4 on the Consent Calendar by affirmative vote (ACT)

2. Approval of the minutes of the special joint meeting with the Needles Public Utility Authority / City Council held November 12, 2025

3. Approval of the minutes of the regular meeting held November 18, 2025

4. Authorize the City Manager to execute the First Amendment to the California River Contractors Forbearance Agreement for 2024–2026 Conservation Agreement under the Lower Colorado Conservation and Efficiency Program

REGULAR ITEMS (A three minute time limit per person has been established per Municipal Code Section 2-18)

5. Selection of a Chairman and Vice Chairman for the ensuing year of 2026 (ACT)

6. Staff recommendation to hold monthly meetings in lieu of the current semi-monthly schedule (ACT)

7. Discussion of the City of Needles Present Perfected Water Rights (PPR) (INF)

8. Setting 2026 Board of Public Utilities Goals (DIS)

9. Authorize Board Member(s) to attend the Lower Colorado River Tour scheduled for March 11–13, 2026 (DIS)

REPORTS (INF)

10. EUSI, LLC operational support services relating to the wastewater treatment facility and collection system November and December 2025

11. Present Perfected Rights Report November 2025

MANAGER'S REPORT

12. Manager's Report January 2 and 9, 2026

BOARD REQUESTS

ADJOURNMENT

INTERNET ACCESS TO BOARD AGENDA AND STAFF REPORT MATERIAL IS AVAILABLE PRIOR TO THE MEETING AT: HTTP://WWW.CITYOFNEEDLES.COM

Posted: January 15, 2026

SB 343-DOCUMENTS RELATED TO OPEN SESSION AGENDAS -- Any public record, relating to an open session agenda item, that is distributed within 72 hours prior to the meeting is available for public inspection at the Administrative Office, 817 Third Street, Needles, CA 92363.

In compliance with the American with Disabilities Act, if you need special assistance to participate in this meeting, please contact Cheryl Sallis, Secretary to the Board, at (760) 326-2113 ext 115. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting (28 CFR 35.102-104 ADA Title II).

City of Needles, California
Request for Commission Action

☐ CITY COUNCIL ☒ BOARD OF PUBLIC UTILITIES ☒ Regular ☐ Special

Meeting Date: January 20, 2026

Title: Presentation by Vasquez & Company LLP of the NPUA audit report for the fiscal year ended June 30, 2024

Background: The Utility Board has requested that all audit report findings be presented to the Board, prior to the final audit report being accepted.

The fiscal year 2023/24 NPUA audit report has been completed by Vasquez & Company LLP. The audit report will be presented via teleconference.

Attached are the 2024 Financial Audit Results Presentation materials, and audit report for the fiscal year ended June 30, 2024.

Fiscal Impact: None

Environmental Impact: n/a

Recommended Action: Discussion only.

Submitted By: Mark DeMay, Director of Finance and Administrative Services

City Manager Approval: Patrick J Martinez Date: 1/14/2026

Other Department Approval (when required): _____ Date: _____

Approved: ☐ Not Approved: ☐ Tabled: ☐ Other: ☐

Agenda Item: _____

REPORT TO THE BOARD OF PUBLIC UTILITIES

January 20, 2026

VASQUEZ + COMPANY LLP

/ Introduction

To the Honorable Members of the Board of Public Utilities Needles Public Utility Authority

We are pleased to present this report related to our audit of the financial statements of Needles Public Utility Authority (the Authority) as of and for the year ended June 30, 2024. This report summarizes certain matters required by professional standards to be communicated to you in your oversight responsibility for the Authority's financial reporting process, as well as other matters that we believe may be of interest to you. Our audit of the financial statements does not relieve management or those charged with governance of their responsibilities.

This report is intended solely for the information and use of the Board of Public Utilities and Management, and is not intended to be, and should not be, used by anyone other than these specified parties. It will be our pleasure to respond to any questions you have regarding this report. We appreciate the opportunity to be of service to the Authority.

VASQUEZ + COMPANY LLP

/ Table of Contents

VASQUEZ + COMPANY LLP

/ Engagement Team

Needles Public Utility Authority Engagement Team

Roger Martinez, CPA
Engagement Partner

Cristy Canieda, CPA, CGMA
Quality Control Partner

Isidro (Cid) Conde, CPA
Engagement Director

Sam Tolentino, CPA
Audit Manager

Rachel Anne A. Francisco - Estoque
Audit Associate Manager

Jeny Felipe
Eileen Bacaltos
Senior Auditors

VASQUEZ + COMPANY LLP

/ Independence

There are no relationships between any of our representatives and the Authority that in our professional judgment may reasonably be thought to bear on independence.

Vasquez & Company LLP meets the independence requirements of the *Government Auditing Standards* as it relates to the Authority.

VASQUEZ + COMPANY LLP

/ Scope of Engagement

FINANCIAL STATEMENTS AUDIT

- In accordance with Generally Accepted Government Auditing Standards
- As of and for the year ended June 30, 2024

VASQUEZ + COMPANY LLP

/ Summary of Audit Results

VASQUEZ + COMPANY LLP

/ Independent Auditor's Report

Financial Statements Audit – UNMODIFIED OPINION – "Clean" Opinion

Unmodified "Clean" Opinion

Audit performed in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*

The financial statements present fairly, in all material respects, Needles Public Utility Authority:

Financial position

Results of operations

Changes in net position

Cash flows

VASQUEZ + COMPANY LLP

/ Independent Auditor's Report, Continued

Report on Internal Control Over Financial Reporting and on Compliance

Material weakness(es)	**None noted**
Significant deficiency	**Significant Deficiency on Internal Controls over Inventories**
Noncompliance material to the financial statements	**None noted**

VASQUEZ + COMPANY LLP

/ Auditor's Required Communication to Those Charged with Governance (AU-C 260)

VASQUEZ + COMPANY LLP

/ Required Communication to Those Charged with Governance

Management's Responsibility	Management has primary responsibility for the accounting principles used, including their consistency, application, clarity and completeness.
Significant Accounting Policies	The Authority's significant accounting policies are appropriate, and management has applied its policies consistently with prior periods in all material respects.
Controversial issues	No significant or unusual transactions or accounting policies in controversial or emerging areas for which there is lack of authoritative guidance or consensus were identified.
Basis of Accounting	The financial statements were prepared on the assumption that the Authority will continue as a going concern.

VASQUEZ + COMPANY LLP

/ Required Communication to Those Charged with Governance, Continued

Audit Adjustments	Audit adjustments, other than those that are clearly trivial, proposed by us were recorded by the Authority.
Disagreements with Management	We encountered no disagreements with management on financial accounting and reporting matters as it relates to the current year financial statements.
Consultations with Other Accountants	We are not aware of any consultations management had with other accountants about accounting and auditing matters.
Conditions of Retention	No significant issues were discussed, or subject to correspondence, with management prior to retention.

VASQUEZ + COMPANY LLP

/ Required Communication to Those Charged with Governance, Continued

Difficulties with Management	We did not encounter any difficulties with management while performing our audit procedures that require the attention of the Board.
Material Weakness and Significant Deficiency	A **significant deficiency** on internal controls over inventories was identified related to the controls in place in relation to withdrawal and purchases of inventories, and update of inventory unit cost. This is a reiteration of the prior year finding and the Authority committed to address this finding on or before June 30, 2026. Details of the significant deficiency noted is reported starting on page 37 of the audit report. **No material weaknesses in internal controls were identified.**
Irregularities, Fraud or Illegal Acts	No irregularities, fraud or illegal acts or that would cause a material misstatement of the financial statements, came to our attention as a result of our audit procedures.
Management Representations	The Authority provided us with a signed copy of the management representation letter at the end of the audit and prior to our issuance of the report on financial statements.

VASQUEZ + COMPANY LLP

New Accounting Pronouncements – GASB Implementation

To be implemented in FY2025 and FY2026

- GASB Statement No. 101, *Compensated Absences*

  (effective for fiscal year 2025)

- GASB Statement No. 102, *Certain Risk Disclosures*
  (effective for fiscal year 2025)
- GASB Statement No. 103, *Financial Reporting Model Improvements*
  (effective for fiscal year 2026).
- GASB Statement No. 104, Disclosure of Certain Capital Assets

  (effective for fiscal year 2026)

VASQUEZ + COMPANY LLP

QUESTIONS

VASQUEZ + COMPANY LLP

/ Contact Information

Vasquez + Company LLP has over 50 years of experience in performing audit, tax, accounting, and consulting services for all types of nonprofit organizations, governmental entities, and private companies. We are the largest minority-controlled accounting firm in the United States and the only one to have global operations and certified as MBE with the Supplier Clearinghouse for the Utility Supplier Diversity Program of the California Public Utilities Commission.

We are clients of the **RSM Professional Services+ Practice**. As a client, we have access to the Professional Services+ Collaborative, a globally connected community that provides access to an ecosystem of capabilities, collaboration and camaraderie to help professional services firms grow and thrive in a rapidly changing business environment. As a participant in the PS+ Collaborative, we have the opportunity to interact and share best practices with other professional services firms across the U.S. and Canada.

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VASQUEZ
+ COMPANY LLP

Thank you for your time and attention!

Needles Public Utility Authority
(A Component Unit of the City of Needles)
Audited Financial Statements
As of and for the Year Ended June 30, 2024
with Independent Auditor's Report

VASQUEZ + COMPANY LLP

VASQUEZ
+ COMPANY LLP

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Independent Auditor's Report

The Board of Public Utilities
Needles Public Utility Authority

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of the Needles Public Utility Authority (the Authority), a component unit of the City of Needles, California, which comprise the statement of net position as of June 30, 2024, the related statement of revenues, expenses and changes in net position, and cash flows for the year then ended, and the related notes to the financial statements, (collectively, the Authority's basic financial statements).

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the financial position of the Authority as of June 30, 2024, and the changes in its net position and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS), the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the State Controller's Minimum Audit Requirements for California Special Districts. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Authority and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Management's Responsibilities for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Authority's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, no such opinion is expressed.

- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.

- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Authority's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control–related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that management's discussion and analysis on pages 4 through 9, be presented to supplement the basic financial statements. Such information is the responsibility of management, and although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with GAAS, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The accompanying combining schedules of net position, revenues, expenses and changes in net position, and cash flows, are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with GAAS. In our opinion, the supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated December 5, 2025, on our consideration of the Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Authority's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control over financial reporting and compliance.

Vasquez & Company LLP

Glendale, California
December 5, 2025

MANAGEMENT'S DISCUSSION AND ANALYSIS
(UNAUDITED)

As Management of the Needles Public Utility Authority (the Authority), we offer readers of the Authority's financial statements this narrative overview and analysis of the Authority's financial performance during the fiscal year ended June 30, 2024. Please read it in conjunction with the Authority's financial statements, which follow this section.

FINANCIAL HIGHLIGHTS

- The total net position amounted to $26.585 million and $17.332 million, as of June 30, 2024 and 2023, respectively. The increase of $9.253 million or 53.39% in the current year was primarily due to an increase in capital contributions and adjustment of pension-related accounts.

- Operating revenues amounted to $21.068 million and $16.746 million in 2024 and 2023, respectively. The increase of $4.322 million or 25.81% in 2024 was due to higher consumption and usage and increases in utility rates.

- Operating expenses (excluding depreciation) amounted to $15.751 million and $14.389 million in 2024 and 2023, respectively. The increase of $1.362 million or 9.47% in 2024 was primarily due to the payment to the California Energy Commission’s renewable portfolio standard for Renewable Energy Certificates for the compliance period covering years 2021-2024.

Overview of the Financial Statements

This annual report includes the management's discussion and analysis report, the independent auditors' report, the Authority's basic financial statements, and the supplementary schedules. The financial statements also include notes that explain in more detail some of the information in the financial statements.

Required Financial Statements

The Authority's financial statements report information using accounting methods like those used by private sector companies. These statements offer both short-term and long-term financial information about its activities. The Statement of Net Position includes all the Authority's assets, deferred outflows of resources, liabilities, and deferred inflows of resources, and provides information about the nature and amount of investments in resources (assets), and the obligations to creditors (liabilities). It also provides the basis for evaluation of the capital structure of the Authority and assessing the liquidity and financial flexibility of the Authority.

All the revenues and expenses for the year are accounted for in the Statement of Revenues, Expenses and Changes in Net Position. This Statement measures the success of the Authority's operations over the past two years and can be used to determine whether the Authority has successfully recovered its costs, through its fees and other charges, profitability, and creditworthiness.

The final required financial statement is the Statement of Cash Flows. This statement reports cash receipts, cash payments, and net changes in cash resulting from operations, investing, and financing activities, and provides answers to such questions as sources of cash coming in, what expenditures cash was used for, and the change in the cash balance during the reporting periods.

Financial Analysis of the Authority

One of the most important questions asked about the Authority's finances is "Is the Authority, as a whole, better off, or worse off as a result of the year's activities?". The Statement of Net Position, and the Statement of Revenues, Expenses and Changes in Net Position will help answer this question. These two statements report the net position of the Authority, and changes in them.

One can think of these changes as indicators of whether the financial health is improving or deteriorating. However, one should also consider other factors, such as changes in the economy, population growth, and if there is any new governmental legislation.

We begin our analysis with a summary of the Authority's Statement of Net Position.

Condensed Statement of Net Position
(000's)

	2024	2023	Dollar Change	Percent Change
Assets				
Current and other assets	**$ 16,917**	$ 14,046	$ 2,871	20.44%
Capital and intangible assets	**31,384**	26,050	5,334	20.48%
Total assets	**48,301**	40,096	8,205	20.46%
Deferred outflows of resources	**1,129**	1,089	40	3.67%
Liabilities				
Long-term debt	**19,476**	20,368	(892)	-4.38%
Other liabilities	**3,308**	3,371	(63)	-1.87%
Total liabilities	**22,784**	23,739	(955)	-4.02%
Deferred inflows of resources	**61**	114	(53)	-46.49%
Net Position				
Net investment in capital and intangible assets	**16,222**	9,728	6,494	66.76%
Restricted for debt service	**6,858**	6,321	537	8.50%
Unrestricted	**3,505**	1,283	2,222	173.19%
Total net position	**$ 26,585**	$ 17,332	$ 9,253	53.39%

Condensed Statement of Revenues, Expenses, and Changes in Net Position
(000's)

	2024	2023	Dollar Change	Percent Change
Revenues				
Operating revenues	**$ 21,068**	$ 16,746	$ 4,322	25.81%
Nonoperating revenues	**149**	67	82	122.39%
Total revenues	**21,217**	16,813	4,404	26.19%
Expenses				
Depreciation and amortization	**1,540**	1,372	168	12.24%
Other operating expenses	**15,754**	14,389	1,365	9.49%
Nonoperating expenses	**951**	976	(25)	-2.56%
Total expenses	**18,245**	16,737	1,508	9.01%
Income before contributions and transfers	**2,972**	76	2,896	3810.53%
Capital contributions	**6,931**	5,781	1,150	19.89%
Transfers	**(650)**	(839)	189	-22.53%
Changes in net position	**9,253**	5,018	4,235	84.40%
Net position at beginning of year	**17,332**	12,314	5,018	40.75%
Net position at end of year	**$ 26,585**	$ 17,332	$ 9,253	53.39%

The $9.253 million increase in total net position in 2024, versus an increase of $5.018 million in 2023, reflects the combination of increase in operating revenues and increase in capital contributions. The higher operating revenues in 2024 were due to increased consumption and usage and increases in utility rates in FY2024.

While the Statements of Net Position show the changes in financial position, the Statements of Revenues, Expenses and Changes in Net Position provide answers as to the nature of and source of these changes.

Capital Assets
(000's)

	2024	2023	Dollar Change	Percent Change
Costs				
Land	**$ 3,381**	$ 3,199	$ 182	5.69%
Utility plant	**48,586**	42,588	5,998	14.08%
Right-of-use lease asset	**236**	236	-	0.00%
Construction in progress	**5,992**	5,374	618	11.50%
Total costs	**58,195**	51,397	6,798	
Accumulated depreciation	**29,213**	27,768	1,445	5.20%
Net capital assets	**$ 28,982**	$ 23,629	$ 5,353	22.65%

The Authority's capital plan for the ensuing 10 years includes various capital and deferred maintenance projects, which include, but are not limited to the following:

ELECTRIC DEPARTMENT

- Cure Farms substation.
- Pole yard equipment steel building
- Advanced Metering Infrastructure (AMI) project.
- Wire trailer
- Mohave Line rehabilitation
- Park Moabi Line Upgrade
- Street light LED phase out program
- Double bucket truck
- South Hwy 95 Substation (cemetery site)
- Eagle Pass to Cemetery site Line Upgrade
- 230kv line

WATER DEPARTMENT

- Well No. 11 Treatment
- 1.5 MG of reservoir capacity
- Water services replacement – fourth year street paving
- Water services replacement – fifth year street paving
- Replace deteriorating pipe in Monterey & Arizona Avenues
- Replace deteriorating pipe in Chesney's subdivision

- Replace deteriorating pipe in Coronado Street area
- Replace deteriorating pipe in Chestnut Street area
- Replace deteriorating pipe in Casa Linda Street area
- Replace deteriorating pipe in River Road area
- Main replacement in the Vista Street area & new services
- AMI meters
- Golf course maintenance yard main distribution manifold
- Jet Vac / Trailer
- Main replacement at Verde Shores
- Extension into North Needles
- Fire hydrant replacements

WASTEWATER DEPARTMENT

- Railroad crossing at Bazoobuth
- Plant grit separator
- Upsize deficient sewer lines on T Street to Front Street
- Upsize deficient sewer lines on 15 blocks of Front Street
- Jet Vac trailer
- Mini excavator & tilt trailer
- Upsize effluent pump
- North Needles sewer line extension
- Manhole rehab program (ongoing)
- Manhole replacement and upsize project
- Bazoobuth lift station pump replacement
- North Needles sewer line extension

During the current fiscal year, the Authority carried out several capital and maintenance projects for the Water department, as follows:

- Well No. 11 Treatment
- Stand by Generator & ATS-Well 15
- Waterline Inter-Tie 11-15

Long-term Debt

Total indebtedness (all liabilities) outstanding at June 30, 2024, and 2023 amounted to $22.784 million and $23.739 million, respectively. The decrease in total liabilities was primarily due to payments of debt. More detailed information about the Authority's long-term liabilities is presented in Note 7 of the financial statements.

Economic Factors and Power Rates

The Authority's cost for electricity is dependent upon the open market prices. Since 2008 the Authority has been purchasing its power from the Western Area Power Administration (WAPA), and energy costs decreased substantially because of this contract, from their peak in 2006 and 2007. In September 2020, the City of Needles, on behalf of the Authority, entered into Amendment No. 6 to Contract No. 00-DSR-11223 among United States Department of Energy Western Area Power Administration Desert Southwest Service Region ("WAPA"), Parker-Davis Project, SLCA Integrated Projects, Boulder Canyon Project and Yuma County Water Users' Association and Wellton-Mohawk Irrigation and Drainage District and Eastern Arizona Preference Pooling Association for Aggregated Energy Services ("AES") (through WAPA) that accommodates aggregation of all member resources (hydroelectric and thermal electric) subject to transmission arrangements. There is an opportunity for Needles to receive excess Wellton-Mohawk Irrigation and Drainage District Federal Energy Services ("FES") hydro at a pre-negotiated cost, based on the FES rate (exchanges cannot be made at a rate greater than the FES rate). Those hydro deliveries will be deemed "specified" resources and will not be subject to Cap and Trade penalties.

Contacting the Authority's Financial Manager

This financial report is designed to provide our customers and creditors with a generalized overview of the Authority's finances and to demonstrate the Authority's accountability for the money it receives. If you have questions about this report, or if additional financial information is needed, please contact the Needles Public Utility Authority, Director of Finance, 817 Third Street, Needles, California 92363.

BASIC FINANCIAL STATEMENTS

Needles Public Utility Authority
(A Component Unit of the City of Needles)
Statement of Net Position
June 30, 2024

ASSETS		
Current assets		
Cash and investments	$	6,857,694
Accounts receivables, net		3,806,926
Notes receivable, current portion		-
Due from City of Needles		5,044,547
Materials and supplies inventory		1,039,089
Total current assets		16,748,256
Noncurrent assets		
Notes receivable		168,441
Capital assets, net of accumulated depreciation		28,981,598
Intangible assets, net of accumulated amortization		2,402,772
Total noncurrent assets		31,552,811
Total assets		48,301,067
DEFERRED OUTFLOWS OF RESOURCES		
Deferred outflows related to pensions		1,102,416
Deferred outflows related to OPEB		26,724
Total deferred outflows of resources		1,129,140
LIABILITIES AND NET POSITION		
Current liabilities		
Lease liability, current portion		51,101
Accounts payable and other current liabilities		196,339
Due to the City of Needles		30,246
Compensated absences		230,122
Customer deposits		2,709,595
Accrued interest payable		141,117
Bonds and notes payable, current portion		1,272,074
Total current liabilities		4,630,594
Noncurrent liabilities		
Lease liability, net of current portion		68,966
Net pension liability		2,478,277
Net OPEB liability		526,945
Bonds and notes payable, net of current portion		15,078,996
Total noncurrent liabilities		18,153,184
Total liabilities		22,783,778
DEFERRED INFLOWS OF RESOURCES		
Deferred inflows related to pensions		61,445
Net position		
Net investment in capital and intangible assets		16,221,949
Restricted for debt service		6,857,694
Unrestricted		3,505,341
Total net position	$	26,584,984

See accompanying notes to financial statements.

Needles Public Utility Authority
(A Component Unit of the City of Needles)
Statement of Revenues, Expenses and Changes in Net Position
Year ended June 30, 2024

Operating revenues		
Sales of electricity	$	14,890,864
Sales of water		3,937,189
Charges for wastewater system use		2,197,020
Other revenues		43,424
Total operating revenues		21,068,497
Operating expenses		
Operations and maintenance		8,392,509
Electric power purchased		6,539,507
Depreciation and amortization		1,539,936
Fair share allocation		821,803
Total operating expenses		17,293,755
Operating income		3,774,742
Nonoperating revenues (expenses)		
Interest expense		(951,623)
Interest and investment revenue		149,227
Net nonoperating expenses		(802,396)
Income before contributions and transfers		2,972,346
Capital Contributions		6,930,945
Operating transfers		
Transfers to the City		(650,064)
Change in net position		9,253,227
Net position at beginning of year		17,331,757
Net position at end of year	$	26,584,984

See accompanying notes to financial statements.

Needles Public Utility Authority
(A Component Unit of the City of Needles)
Statement of Cash Flows
Year ended June 30, 2024

Cash flows from operating activities		
Receipts from customers	$	19,734,844
Payments to City of Needles:		
Suppliers and other costs		(14,093,461)
Employee compensation and related costs		(2,422,257)
Net cash flows provided by operating activities		3,219,126
Cash flows from capital and related financing activities		
Capital contributions		6,930,945
Cash paid for lease		(48,925)
Purchases of capital assets		(6,874,623)
Principal paid on capital debt		(1,220,349)
Interest paid on capital debt		(968,873)
Net transfers for asset replacement reserves		(650,064)
Cash flows used in capital and related financing activities		(2,831,889)
Cash flows from investing activity		
Interest and investment revenue		149,227
Cash flows from investing activity		149,227
Net increase in cash and investments		536,464
Cash and investments at beginning of year		6,321,230
Cash and investments at end of year	$	6,857,694
Reconciliation of operating income to net cash flows used in operating activities		
Operating income	$	3,774,742
Adjustments to reconcile operating income to net cash from operating activities:		
Depreciation and amortization		1,539,936
Changes in operating assets and liabilities:		
Receivables		(1,196,514)
Materials and supplies inventory		(209,539)
Deferred outflows of resources		(40,355)
Deferred inflows of resources		(52,697)
Accounts payable and other current liabilities		(10,317)
Due from (to) the City of Needles		(917,000)
Compensated absences		(8,495)
Customer deposits		(38,263)
Net pension liability		340,075
Net OPEB liability		37,553
Net cash flows provided by operating activities	$	3,219,126

See accompanying notes to financial statements.

NOTE 1 REPORTING ENTITY

Organization and Operations of the Reporting Entity

The financial statements of the Needles Public Utility Authority (the Authority) have been prepared in conformity with generally accepted accounting principles in the United States of America (U.S. GAAP) as applied to government units. The Governmental Accounting Standards Board (GASB) is the accepted standard-setting body for establishing governmental accounting and financial reporting principles.

The Authority was formed by a Joint Powers Agreement, entered into on June 6, 1997, between the City of Needles, California (City) and the Redevelopment Agency of the City of Needles (Agency). Pursuant to the provisions of ABX126, the Agency was dissolved effective February 1, 2012. After the Agency was dissolved, the Authority was reorganized as a Joint Powers Agreement between the City and the Needles Public Financing Authority.

The Authority was formed for the purpose of acquiring and operating the City's water, sewer and electrical enterprises. The Authority is governed by a Commission, the members of which are also members of the City Council. The Authority has no employees; its day-to-day activities and operations are performed by City employees under a management agreement with the City. The Authority is a blended component unit of the City.

NOTE 2 SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting and Measurement Focus

The financial statements of the Authority are prepared in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP) issued by the Governmental Accounting Standards Board (GASB) applicable to governmental entities that use proprietary fund accounting.

The Authority reports its activities as an enterprise fund, which is used to account for operations that are financed and operated in a manner similar to a private business enterprise, where the intent of the Authority is that the costs of providing electricity, water and wastewater services, collection, and treatment for its service areas on a continuing basis be financed or recovered primarily through utility charges, capital grants and similar funding. Revenues and expenses are recognized on the full accrual basis of accounting. Revenues are recognized in the accounting period in which they are earned, and expenses are recognized in the period incurred, regardless of when the related cash flows take place.

Operating revenues and expenses, such as electric, water and sewer charges, result from exchange transactions associated with the principal activity of the Authority. Exchange transactions are those in which each party receives and gives up essentially equal values. Management, administration, and depreciation expenses are also considered operating expenses. Other revenues and expenses not included in the above categories are reported as non-operating revenues and expenses.

NOTE 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Financial Reporting
The following recent accounting pronouncements are not yet applicable to the Authority for the year ended June 30, 2024.

GASB 101, "*Compensated Absences*", effective for fiscal years beginning after December 15, 2023.

GASB 102, "*Certain Risk Disclosures*", effective for fiscal years beginning after June 15, 2024.

GASB 103, "*Financial Reporting Model Improvements*", effective for fiscal years beginning after June 15, 2025.

GASB 104, " New Capital Asset Disclosures", effective for fiscal years beginning after June 15, 2025.

Use of Estimates
The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Assets, Liabilities, Deferred Outflows/Inflows of Resources, and Net Position
The basic financial statements are comprised of the statement of net position, the statement of revenues, expenses, and changes in net position, the statement of cash flows, and the related notes to the financial statements.

Cash and Cash Equivalents
Cash and cash equivalents include cash on hand and in banks, money market accounts and deposits with the Local Agency Investment Fund (LAIF), and also certificates of deposit and U.S. Treasury bills with maturities of less than 90 days when purchased. It also includes money market accounts in deposits held by the bond trustee that are not restricted.

Investments
Investments are generally reported at fair value. Investments in the LAIF are reported at amortized cost, which approximates fair value.

Accounts Receivables
The Authority extends credit to customers in the normal course of operations. Management closely monitors outstanding balances and based on collection experience, has determined receivables that are doubtful of collection. Allowances for doubtful accounts as at June 30, 2024 were estimated at $395,125. Receivables also includes accrued interest receivable of $35,389 from its LAIF investment, representing interest earned but not yet received as at June 30, 2024.

NOTE 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Assets, Liabilities, Deferred Outflows/Inflows of Resources, and Net Position (Continued)

Inventories
Inventories are recorded at average cost, which approximates net realizable value. Inventories consist of expendable supplies held for consumption. The cost is recorded as an expense at the time individual inventory items are consumed rather than when purchased.

Capital Assets
Capital assets are defined by the Authority as assets with an initial, individual cost of more than $5,000 and with an estimated useful life in excess of one year.

Capital assets of the Authority are recorded at either their historical cost or at an allocation of the utility plant purchase price, based on appraisal values at January 1, 1997. Donated assets are valued at their estimated fair value on the date donated. Depreciation for all exhaustible capital assets is charged as an expense against operations.

Depreciation is computed using the straight-line method over estimated useful lives of the assets as follows:

Buildings	20 – 40 years
Improvements	20 – 40 years
Utility Plant	15 – 30 years
Equipment	3 – 10 years

Major additions and betterments are capitalized while expenditures for maintenance and repairs that do not add value to the assets and materially extend asset lives are charged to operations as incurred.

Right-of-Use Lease Assets and Lease Payable
The Authority recorded right-of-use lease assets and lease payable as a result of implementing GASB Statement No. 87, *Leases*. The right-of-use lease assets are initially measured at an amount equal to the related lease liability plus any lease payments made prior to the lease term, less lease incentives, and plus ancillary charges necessary to place the lease into service. The lease assets are amortized on a straight-line basis over the term of the related leases or the useful life of the underlying assets, whichever is shorter.

Deposits
Customer deposits represent deposits held by the Authority as collateral in the event of non- payment for service rendered.

NOTE 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Assets, Liabilities, Deferred Outflows/Inflows of Resources, and Net Position (Continued)

Pension
For purposes of measuring the net pension liability and deferred outflows/inflows of resources related to pension, and pension expense, information about the fiduciary net position of the City's California Public Employees' Retirement System (CalPERS) plan (Plan) and additions to/deductions from the Plan's fiduciary net position have been determined on the same basis as they are reported by CalPERS.

For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value. The City allocates about 42.17% of the net pension liability and pension-related transactions to the Authority based on its share in the pension contribution for the year ended June 30, 2024.

GASB 68 requires that the reported results must pertain to liability and asset information within certain defined timeframes. For this report, the following timeframes are used:

- Valuation Date: June 30, 2022
- Measurement Date: June 30, 2023
- Measurement Period: July 1, 2022 to June 30, 2023

Other Post-Employment Benefits Other Than Pensions (OPEB)
The Authority's OPEB Plan benefits are paid on pay-as-you-go basis. There is no OPEB Trust established that meets the criteria in paragraph 4 of GASB Statements 75.

GASB 75 requires that the reported results must pertain to liability and asset information within certain defined timeframes. For this report, the following timeframes are used:

- Valuation Date: June 30, 2023
- Measurement Date: June 30, 2023
- Measurement Period: July 1, 2022 to June 30, 2023

The City allocates about 42.17% of the net OPEB liability and OPEB-related transactions to the Authority based on its share in the OPEB contribution for the year ended June 30, 2024.

NOTE 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Assets, Liabilities, Deferred Outflows/Inflows of Resources, and Net Position (Continued)

Deferred Outflows and Inflows of Resources
In addition to assets, the statement of net position includes a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net assets that applies to future periods and so will not be recognized as an outflow of resources (expense/ expenditure) until then. In addition to liabilities, the statement of net position includes a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of net position that applies to a future period and so will not be recognized as an inflow of resources (revenue) until that time.

Compensated Absences
As discussed in Note 13, the Authority has a management agreement with the City concerning employees and their compensation.

All earned vacation, holiday, compensatory time off, and a portion of accumulated sick leave of the City's employees payable upon termination or retirement are accrued. The liability is accrued for a portion of the sick leave balances of all employees who are currently eligible to receive a payment for sick leave upon termination, as well as for those expected to become eligible. As of June 30, 2024, the total estimated liability for all compensated absences, including sick leave, was $230,122.

Accounts Payable and Accrued Expenses
Accounts payable and accrued expenses include amounts payable to vendors.

Long-term Debt
Debt premiums and discounts are amortized over the life of the debt using the straight-line method. Long-term debt is reported net of the applicable unamortized bond premium or discount. Debt issuance costs are expensed when incurred.

Amortization
Canal construction cost sharing is amortized using the straight-line method over 40 years. Effective July 1, 2004, the Authority discontinued amortizing its Water Rights intangible asset, as this asset has an indeterminate life and has value. Water Rights are tested annually for impairment under GASB 42, *Accounting and Financial Reporting for Impairment of Capital Assets and for Insurance Recoveries.* If it is determined that the asset has been impaired, the book value will be adjusted to reflect the reduced fair value of the rights. Accumulated amortization on Water Rights amounted to $490,687 prior to July 1, 2004. As of June 30, 2024, no impairment was recognized.

NOTE 2 SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Assets, Liabilities, Deferred Outflows/Inflows of Resources, and Net Position (Continued)

Revenues and Expenses

Revenue Recognition
Charges for electricity, water and sewer use are recorded as billed to customers on a monthly cycle billing basis. At the end of each year, unbilled revenues are accrued for each cycle based on the most recent cycle billings.

Operating and Non-Operating Revenues and Expenses
Revenues and expenses are distinguished between operating and nonoperating items. The Authority defines operating revenues to be exchange transactions where a product or service is furnished and a charge collected therefrom, while operating expenses are all of the costs incurred in delivering those products or services including depreciation on capital assets. Nonoperating revenues and expenses are generally non-exchange transactions and those transactions that are capital and non-capital related financing activities or investing activities.

Net Position
Net position represents the difference between all other elements in the statement of net position and should be displayed in the following three components:

Net Investment in Capital and Intangible Assets – This component of net position consists of capital and intangible assets, unexpended proceeds of debt restricted to the financing of capital and intangible assets, and related deferred charges on refunding, net of accumulated depreciation and amortization and reduced by any related debt outstanding against the acquisition, construction or improvement of those capital and intangible assets.

Restricted – This component of net position consists of constraints placed on net position use through external restrictions imposed by creditors, grantors, contributors, or laws or regulations of other governments or restrictions imposed by law through constitutional provisions or enabling legislation.

Unrestricted – This component of net position is the amount of the assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position.

NOTE 3 CASH AND INVESTMENTS

The indenture for the 2016 Revenue Refunding Bonds (Note 7) requires the establishment of special funds to be held and administered by trustees and by the Authority. As of June 30, 2024, investments and cash held by trustees and by the Authority in these funds and accounts are as follows:

Custodian		
Local Agency Investment Fund	$	3,124,952
Bank		3,732,742
	$	6,857,694
Special funds balances		
Operating funds	$	2,583,731
Electric asset replacement reserve		2,873,991
Utility rate stabilization fund		699,972
PCA balances		700,000
	$	6,857,694

The Authority has, periodically during the year, maintained bank balances in excess of federally insured limits.

The California Government Code requires California banks and savings and loan associations to secure the Authority's cash deposits by pledging securities as collateral. This Code states that collateral pledged in this manner shall have the effect of perfecting a security interest in such collateral superior to those of a general creditor. Thus, collateral for cash deposits is considered to be held in the Authority’s name.

The fair value of pledged securities must equal at least 110% of the Authority's cash deposits. California law also allows institutions to secure the Authority's deposits by pledging first trust deed mortgage notes having a value of 150% of the Authority's total cash deposits. The Authority may waive collateral requirements for cash deposits, which are fully insured up to $250,000 by the Federal Deposit Insurance Corporation. The Authority, however, has not waived the collateralization requirements.

Investment in State Investment Pool

The Authority is a voluntary participant in LAIF that is regulated by California Government Code Section 16429 under the oversight of the Treasurer of the State of California. The fair value of the Authority’s investment in this pool is reported in the accompanying financial statements at amounts based upon the Authority’s pro-rata share of the fair value provided by LAIF for the entire LAIF portfolio (in relation to the amortized cost of that portfolio).

The balance available for withdrawal is based on the accounting records maintained by LAIF, which are recorded on an amortized cost basis. At June 30, 2024, the total fair value of LAIF, including accrued interest was approximately $179 billion. The fair value of the Authority’s investment in the pool was $3,124,952 as of June 30, 2024.

NOTE 3 CASH AND INVESTMENTS (CONTINUED)

Investments Authorized by the California Government Code and the Authority's Investment Policy

The table below identifies the investment types that are authorized for the Authority by the California Government Code (or the Authority's investment policy, where more restrictive). The table also identifies certain provisions of the California Government Code (or the Authority's investment policy, where more restrictive) that addresses interest rate risk, credit risk, and concentration of credit risk. This table does not address investments of debt proceeds held by the bond trustee that are governed by the provisions of debt agreements of the Authority, rather than the general provisions of the California Government Code or the Authority's investment policy.

Authorized Investment Type	Maximum Maturity	Maximum Specified Percentage of Portfolio	Minimum Quality Requirements
Local Agency Bonds	5 years	None	None
U.S. Treasury Obligations	5 years	None	None
State Obligations - CA and Others	5 years	None	None
CA Local Agency Obligations	5 years	None	None
U.S. Agency Obligations	5 years	None	None
Banker's Acceptances	180 days	40%	None
Commercial Paper - Non-Pooled Funds (under $100,00,000)	270 days	25%	Highest letter and number rating
Commercial Paper - Non-Pooled Funds (min. $100,000,000)	270 days	40%	Highest letter and number rating
Commercial Paper - Pooled Funds	270 days	40%	Highest letter and number rating
Negotiable Certificates of Deposit	5 years	30%	None
Non-negotiable Certificates of Deposit	5 years	None	None
Placement Service Deposits	5 years	50%	None
Placement Service Certificates of Deposits	5 years	50%	None
Repurchase Agreements	1 year	None	None
Reverse Repurchase Agreements and Securities Lending Agreements	92 days	20%	None
Medium-Term Notes	5 years	30%	"A" rating or better
Mutual Funds and Money Market Mutual Funds	N/A	20%	Multiple
Collateralized Bank Deposits	5 years	None	None
Mortgage Pass-Through and Asset-Backed Securities	5 years	20%	"AA" rating or better
County Pooled Investment Funds	N/A	None	None
Joint Powers Authority Pool	N/A	None	Multiple
Local Agency Investment Fund (LAIF)	N/A	None	None
Voluntary Investment Program Fund	N/A	None	None
Supranational Obligations	5 years	30%	"AA" rating or better
Public Bank Obligations	5 years	None	None

NOTE 3 CASH AND INVESTMENTS (CONTINUED)

Investments Authorized by Debt Agreements

Investments of debt proceeds held by bond trustees are governed by provisions of the debt agreements, rather than the general provisions of the California Government Code or the Authority's investment policy. The Authority has no investment authorized by debt agreements as of June 30, 2024.

Disclosures Relating to Interest Rate Risk

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Generally, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. One of the ways to manage the exposure to interest rate risk is by purchasing a combination of shorter term and longer term investments and by timing cash flows from maturities so that a portion of the portfolio is maturing or coming close to maturity as necessary to provide the cash flow and liquidity needed for operations.

Information about the sensitivity of the fair values of the Authority's investments (including investments held by the bond trustee) to market interest rate fluctuations is provided by the following table that shows the distribution of the Authority's investments by maturity as of June 30, 2024.

	Remaining Maturity (in Years)
Investment Type	**Less Than 1 Year**
Local Agency Investment Fund	$ 3,124,952

Disclosures Relating to Credit Risk

Generally, credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. State law limits investments in commercial paper and corporate bonds to the top two ratings issued by nationally recognized statistical rating organizations (NRSROs). As of June 30, 2024, the Authority has no investments in commercial paper and corporate bonds.

Concentration of Credit Risk

The Authority's investment policy contains no limitation on the amount that can be invested in any one issuer beyond that stipulated by the California Government Code. As of June 30, 2024, there were no investments in any one issuer (other than U.S. Treasury securities, mutual funds, and external investment pools) that represent 5% or more of the total Authority's investments.

NOTE 3 CASH AND INVESTMENTS (CONTINUED)

Custodial Credit Risk

Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, a government will not be able to recover its deposits or will not be able to recover collateral securities that are in the possession of an outside party. The custodial credit risk for investments is the risk that, in the event of the failure of the counterparty (e.g., broker-dealer) to a transaction, a government will not be able to recover the value of its investment or collateral securities that are in the possession of another party. The California Government Code and the Authority's investment policy do not contain legal or policy requirements that would limit the exposure to custodial credit risk for deposits or investments, other than the following provision for deposits:

The California Government Code requires that a financial institution secure deposits made by state or local governmental units by pledging securities in an undivided collateral pool held by a depository regulated under state law (unless so waived by the governmental unit). The market value of the pledged securities in the collateral pool must equal at least 110% of the total amount deposited by the public agencies. California law also allows financial institutions to secure Authority deposits by pledging first trust deed mortgage notes having a value of 150% of the secured public deposits. As of June 30, 2024, none of the Authority's deposits or investments were exposed to custodial credit risk.

Fair Value Measurements

The Authority categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

The Authority's investment in LAIF as of June 30, 2024 is reported at the Agency's pro-rata share of the amortized cost provided by LAIF for the entire LAIF portfolio. This valuation amount, which approximates fair value, is not categorized under the fair value hierarchy.

NOTE 4 RECEIVABLES

Accounts Receivables

As of June 30, 2024, accounts receivable consisted of the following:

	Electric	Water	AAC	Wastewater	Total
Accounts receivables	$ 3,195,453	$ 463,476	$ 182,239	$ 325,494	$ 4,166,662
Accrued interest receivable	26,721	2,219	1,773	4,676	35,389
Allowance for doubtful accounts	(251,788)	(53,598)	-	(89,739)	(395,125)
Net receivables	$ 2,970,386	$ 412,097	$ 184,012	$ 240,431	$ 3,806,926

NOTE 4 RECEIVABLES (CONTINUED)

Notes Receivable

As of June 30, 2024, notes receivable consisted of the following:

	Electric	Water	Total
Due within one year	$ 167,019	1,422	$ 168,441

On May 24, 2022, the City of Needles entered into a payment agreement and release with Medical Investor Holdings, LLC (MIH) for its delinquent business taxes and utilities amounting to $1,839,458. Out of this amount, $924,956 is owed to the Authority for the unpaid utilities as of the date of the agreement. MIH agreed to pay the City, by July 11, 2024, the full delinquent amount in a secured promissory note. The note is payable in 24 monthly installments. The balance of the unpaid utilities owed to the Authority as of June 30, 2024 was $168,441.

On February 15, 2024, the payment agreement and release entered into between the City and Medical Investor Holdings, LLC (MIH) was amended to extend the payment period of the promissory note until February 12, 2026.

NOTE 5 CAPITAL ASSETS

Changes in capital assets for the year ended June 30, 2024 were as follows:

	Beginning Balance	Additions	Transfers/ Deductions	Ending Balance
Non depreciable Assets				
Land	$ 3,199,100	$ 182,153	$ -	$ 3,381,253
Construction in progress	5,374,183	4,608,201	(3,990,167)	5,992,217
Total	8,573,283	4,790,354	(3,990,167)	9,373,470
Depreciable Assets				
Utility plant	42,588,389	6,074,436	(77,086)	48,585,739
Right-of-use lease assets	235,748	-	-	235,748
Total	42,824,137	6,074,436	(77,086)	48,821,487
Accumulated Depreciation				
Utility plant	(27,698,019)	(1,471,094)	77,086	(29,092,027)
Right-of-use lease assets	(70,699)	(50,633)	-	(121,332)
Total	(27,768,718)	(1,521,727)	77,086	(29,213,359)
Total depreciable assets, net	15,055,419	4,552,709	-	19,608,128
Capital Assets, net	$ 23,628,702	$ 9,343,063	$ (3,990,167)	$ 28,981,598

Out of the total additions of $10,864,790 during the year, total amount cash paid was $6,874,623, the remaining $3,990,167 was transferred from prior year construction in progress that was completed in the current year.

NOTE 6 INTANGIBLE ASSETS

Changes in the intangible assets for the year ended June 30, 2024 were as follows:

	Beginning Balance	Additions	Transfers/ Deductions	Ending Balance
Cost				
Water rights	$ 2,662,807	$ -	$ -	$ 2,662,807
Canal construction cost sharing	728,366	-	-	728,366
Total	3,391,173	-	-	3,391,173
Accumulated amortization				
Water rights	(490,687)	-	-	(490,687)
Canal construction cost sharing	(479,505)	(18,209)	-	(497,714)
Total	(970,192)	(18,209)	-	(988,401)
Intangibles, net	$ 2,420,981	$ (18,209)	$ -	$ 2,402,772

NOTE 7 LONG-TERM DEBT

Long-term debt consisted of the following:

- 2016 Revenue Refunding Bonds, interest at 3.86% payable each February 1st and August 1st – principal redemptions in varying annual amounts that are due through February 2031.

Purchase Obligation due to the City, $685,300 payable each February 1st, including interest imputed at 6.714% through February 2011. Starting in February 2011, the annual payment was reduced as a result of the $250,000 prepayments made in 2010. The annual payment was further reduced to $666,436 as a result of additional prepayments made in the years 2012 and 2013 amounting to $750,000. The prepayments have resulted in lower interest charges. The annual payment will be reduced to $535,421 beginning in fiscal year 2026.

Long-term liabilities activity for the year ended June 30, 2024 was as follows:

	Beginning Balance	Additions	Reductions	Ending Balance	Amounts Due Within One Year
Revenue bonds	$ 9,846,660	$ -	$ (1,072,556)	$ 8,774,104	$ 1,114,355
Purchase obligation	7,724,759	-	(147,793)	7,576,966	157,719
	$ 17,571,419	$ -	$ (1,220,349)	$ 16,351,070	$ 1,272,074

NOTE 7 LONG-TERM DEBT (CONTINUED)

Annual maturities of long-term debt are as follows:

Year Ending June 30	Revenue Refunding Bonds	Purchase Obligation	Interest	Total
2025	$ 1,114,355	$ 157,719	$ 1,133,152	$ 2,405,226
2026	1,157,784	37,293	1,061,051	2,256,128
2027	1,202,907	39,797	993,044	2,235,748
2028	1,249,787	42,469	920,215	2,212,471
2029	1,298,494	45,320	842,551	2,186,365
2030-2031	2,750,777	7,254,368	13,113,032	23,118,177
Total	$ 8,774,104	$ 7,576,966	$ 18,063,045	$ 34,414,115

The varying long-term debt installment payments are to be made from various Authority revenues (all as defined in the applicable agreements) which are irrevocably pledged to such payments, as follows: net independent utility revenues for the 2016 Revenue Refunding Bonds; and surplus revenues for the Purchase Obligation.

If an event of default shall have occurred and be continuing and if requested by the bond owner of a majority in aggregate principal amount of outstanding bonds, the Trustee shall exercise one or more of such available remedies as the Trustee as directed by the bond owner. All amounts received by the Trustee pursuant to any right given or action taken by the Trustee under the provisions of the Indenture shall be applied by the Trustee in order upon presentation of the bonds.

Upon payment in full of all indebtedness of the Authority, title to the water, sewer, and electrical enterprises (Enterprises) shall automatically revert to the City.

NOTE 8 LEASES

The Authority has existing seven (7) leased vehicles from a car rental company during the fiscal year 2024. The lease term of each leased vehicle is five (5) years with monthly payments ranging from $465 to $880.

Since the interest rate of the leases is not readily determinable by the Authority, the future lease payments were discounted using an estimated incremental borrowing rate should a loan be taken to pay lease amounts during the lease terms. The discount rates used to calculate the lease liability range from 2.62% to 7.50%.

The Authority recorded right-to-use lease assets with net book value of $114,416 and lease liabilities of $120,067 for all the leases as of June 30, 2024.

NOTE 8 LEASES (CONTINUED)

As of June 30, 2024, the lease liability consisted of the following:

	Beginning Balance	Additions	Payments	Ending Balance	Amounts Due Within One Year
Vehicle 23JSN6	$ 12,230	$ -	$ (5,555)	$ 6,675	$ 5,709
Vehicle 23MS7Z	12,340	-	(5,189)	7,151	5,338
Vehicle 23JSN5	12,348	-	(5,609)	6,739	5,763
Vehicle 23MS7J	20,328	-	(8,256)	12,072	8,475
Vehicle 254JCC	36,916	-	(8,645)	28,271	9,160
Vehicle 254JD7	34,235	-	(7,960)	26,275	8,347
Vehicle 25T9QX	40,595	-	(7,711)	32,884	8,309
	$ 168,992	$ -	$ (48,925)	$ 120,067	$ 51,101

Payments of principal and interest for each of the next four (4) fiscal years are as follows:

Year Ending June 30	Principal	Interest
2025	51,101	5,222
2026	34,765	3,096
2027	28,230	1,357
2028	5,971	150
	$ 120,067	$ 9,825

NOTE 9 RETIREMENT PLAN

General Information about the Pension Plans

Plan Description
All qualified permanent and probationary employees are eligible to participate in the City of Needles' Miscellaneous Employee Pension Plan, cost-sharing multiple employers defined benefit pension plan administered by CalPERS. Benefit provisions under the Plan are established by State statute and City resolution. CalPERS issues publicly available reports that include a full description of the pension plan regarding benefit provisions, assumptions and membership information that can be found on the CalPERS website.

NOTE 9 RETIREMENT PLAN (CONTINUED)

General Information about the Pension Plans (Continued)

Plan Description (Continued)
Classic participants (defined as eligible participants prior to January 1, 2013) are required to contribute 8% of their annual covered salary. New participants (defined as eligible employees brought into CalPERS membership for the first time on or after January 1, 2013) contribute at least half the normal cost rate as determined by CalPERS. The City contributes the remaining amounts necessary to fund the benefits for its employees, using the actuarial basis adopted by the CalPERS Board of Administration.

Benefits Provided
CalPERS provides service retirement and disability benefits, annual cost of living adjustments and death benefits to plan members, who must be public employees and beneficiaries. Benefits are based on years of credited service, equal to one year of full-time employment. Classic members with five years of total service are eligible to retire at age 50 with statutorily reduced benefits. All members are eligible for non-duty disability benefits after 10 years of service. The death benefit is one of the following: the Basic Death Benefit, the 1957 Survivor Benefit, or the Optional Settlement 2W Death Benefit. The cost-of-living adjustments for each plan are applied as specified by the Public Employees' Retirement Law.

With the implementation of GASB Statement No. 68, the City allocates about 42.17% of the City's net pension liability and pension-related transactions to the Authority based on its share in the pension contribution for the year ended June 30, 2024.

Amounts allocated in fiscal year 2023-24 were as follows:

Net pension liability	$ 2,478,277
Deferred outflows of resources	1,102,416
Deferred inflows of resources	61,445
Pension expense	385,793

Please refer to the City's audited financial statements for the fiscal year ended June 30, 2024, for more information about the City's retirement plan required financial statements note disclosures and supplementary information in accordance with GASB Statement No. 68.

NOTE 10 POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS (OPEB)

General Information About the OPEB Plan

Plan Description
In addition to providing pension benefits, the City provides certain healthcare benefits for retired employees. Classified and unclassified employees retiring after 20 or more years of service and after having reached age 58 or older are provided medical insurance coverage until the retiree becomes eligible for Medicare. Classified employees hired after July 1, 2007 and retiring at age 55 or later with 20 or more years of service are paid $300 per month for medical insurance coverage until the retiree becomes eligible for Medicare.

Contributions and Funding Policy
The contribution requirements of the City are established and may be amended by the City Council. While GASB Statement 75 requires that the liability for all postemployment benefits be measured, it does not require that an agency “pre-fund” the accrued liability. The City pays for the postemployment healthcare cost on a “pay-as-you-go” basis. The provisions of GASB Statement 75 determine the amount that must be presented as an annual expense and accrued liability on the City’s financial statements.

Net OPEB Liability
The Authority’s net OPEB liability was measured as of June 30, 2023, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation as of June 30, 2023.

GASB 75 requires the total OPEB liability to be measured as of a date no earlier than the end of the employer’s prior fiscal year and no later than the end of the employer’s current fiscal year, consistently applied from period to period. The City has elected to measure liabilities as of the end of the prior fiscal year.

GASB 75 requires that the total OPEB liability should be determined by (a) an Alternative Measurement Method (AMM) valuation as of the measurement date or (b) the use of update procedures to roll forward to the measurement date amounts from an AMM valuation as of a date no more than 30 months and 1 day earlier than the employer’s most recent fiscal year-end. Liabilities were calculated as of the valuation date and rolled forward to the measurement date using standard actuarial roll forward techniques per GASB 75 option (b) mentioned above. No adjustments were made for events occurring after the measurement date.

Valuation date	June 30, 2023
Measurement date	June 30, 2023
Measurement period	July 1, 2022 to June 30, 2023
Reporting date	June 30, 2024

NOTE 10 POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS (OPEB) (CONTINUED)

General Information About the OPEB Plan (Continued)

Net OPEB Liability (Continued)
With the implementation of GASB Statement No. 75, the City allocates about 42.17% of the City's net OPEB liability and related transactions to the Authority based on its share in the contribution for the year ended June 30, 2024. Amounts allocated in fiscal year 2023-24 were as follows:

Net OPEB liability	$	526,945
Deferred outflows of resources		26,724
OPEB expense		88,462

Please refer to the City's audited financial statements for the fiscal year ended June 30, 2024 for more information about the City's OPEB plan required financial statements note disclosures and supplementary information in accordance with GASB Statement No. 75.

NOTE 11 ASSET REPLACEMENT FUNDS

The Authority transfers certain amounts to the City to fund future replacement of existing property and equipment and other capital expenditure requirements of the Authority. For the year ended June 30, 2024, the Authority transferred $650,064 to the City for deposit to the asset replacement funds.

As of June 30, 2024, the following asset replacement funds are under the control and custody of the City and are recorded in the City's accounting records as restricted funds (less usage):

Water	$	1,866,067
Wastewater		345,317
Electric		2,218,020
	$	4,429,404

NOTE 12 COMMITMENTS AND CONTINGENCIES

The Authority is considered a transmission and generation-dependent electric utility, and, therefore, completely dependent on others for the supply and transmission of energy to the City's electric system.

NOTE 12 COMMITMENTS AND CONTINGENCIES (CONTINUED)

The Authority receives a hydroelectric allotment from the Parker-Davis Dam. The Authority's rate structure is designed to allocate the hydroelectric allotment equally among all customers, giving 402 KWH per customer per month in winter months and 757 KWH per customer per month in summer months. The actual cost of power is analyzed every month and if a Power Cost Adjustment (PCA) is required, it is to be put into effect the following month. If the PCA has gone down, then a credit is to be calculated by KWH per bill. The new rate structure is put into place every October.

In 2008, the Authority partnered with the United States Department of Energy Western Area Power Administration (WAPA) for the management of energy costs. This partnership was effective April 1, 2008 and has allowed the Authority greater flexibility in the power purchase market. Through WAPA, the Authority is able to procure long-term power supply contracts and limit risks in the spot market. Rate studies are conducted every 5 years to ensure the NPUA rates are established at the cost to provide the service. The next rate study is scheduled for fiscal year 2025.

NOTE 13 RELATED PARTY TRANSACTIONS

Section 1202 of the Needles Municipal Code states, "Each utility shall be operated as a separate unit and all accounting respecting such utility shall be on that basis. All personal services of officers or employees and all costs incurred for the joint benefit of any such utility and any other office, department or agency of the city shall be prorated between them. Charges shall be made by the utility for all service, property or other things of value supplied or rendered by it to any other office, department or agency of the city."

The City acts as the manager and operator of the Authority's Enterprises under a Management Agreement. The City receives a management fee equal to its actual costs and direct overhead incurred in connection with the management and operation of the Enterprises.

Such costs include, but are not limited to, salaries, insurance and retirement benefits of City employees providing services to the Enterprises. Each July 1, the Management Agreement is extended for one year, unless either party notifies the other that it does not intend to extend the term of the Agreement. Total payments made to the City for operating the Enterprises for the year ended June 30, 2024 amounted to $16,139,611. This amount includes payment of Fair Share Allocation (FSA) and purchases of electric power and capital assets.

NOTE 13 RELATED PARTY TRANSACTIONS (CONTINUED)

In exchange for the City providing rights of way and rights of access to all real property owned by the City and necessary for the Authority to operate the Enterprises, the City collected an annual franchise fee from the Authority. The amount of the franchise fee was determined by the City, the payment of which is subordinate to the Authority's annual debt service. In August 2010, the Authority's Board approved the increase in franchise fee from 5% of gross revenues to 7.5% of gross revenues for two years, and then 5% thereafter. In November 2012, the voters of the City of Needles approved Measure T eliminating 2.5% of the franchise fee that the City of Needles charges the Authority and established a utility user tax of up to 2.5% to be applied to electric, water and sewer charges. In FY17 the City underwent a study to determine the utilities' actual usage of rights of way and rights of access to all real property owned by the City. After the study, the City eliminated the franchise fee and created the FSA. The Authority paid FSA and utility user tax which amounted to $821,803 and $387,841 for the year ended June 30, 2024, respectively.

In connection with the City's 1997 sale of the Enterprises to the Authority, the Authority's remaining unpaid purchase obligation to the City is payable annually, each February 1, through 2065. Payments are payable solely from Surplus Revenues (as defined). Purchase obligation payments amounted to $666,436 for the year ended June 30, 2024, which included interest amounting to $518,643. The unpaid purchase obligation is included in the bonds and note payable account in the Statement of Net Position.

NOTE 14 RISK MANAGEMENT

The Authority is subject to various risks in the normal course of operations. The Authority, as a component unit of the City, protects itself against such risks by the City's participation in the California Joint Powers Insurance Authority (CJPIA), a joint power agency (risk-sharing pool) that provides an independently managed, self-insurance program for member cities.

The City contributes its pro rata share of anticipated losses to a pool administered by CJPIA. Should actual losses among participants exceed anticipated losses, the City will be assessed its pro rata share of that deficiency. Conversely, if the actual losses are less than anticipated, the City will be refunded its pro rata share of the excess.

The Authority's allocated share of the City's contributions to CJPIA is included in the operations and maintenance expenses paid to the City under the management agreement discussed in Note 13.

NOTE 15 SUBSEQUENT EVENTS

In preparing these financial statements, the Authority has evaluated events and transactions for potential recognition or disclosure through December 5, 2025, the date the financial statements were available to be issued. Based upon this evaluation, it was determined that, no subsequent events occurred that require recognition or additional disclosure in the financial statements.

SUPPLEMENTARY SCHEDULES

Needles Public Utility Authority
(A Component Unit of the City of Needles)
Combining Schedule of Net Position
June 30, 2024

	Electric	Water	Water: All American Canal	Wastewater	Total
ASSETS					
Current assets					
Cash and investments	$ 5,178,197	$ 429,968	$ 343,537	$ 905,992	$ 6,857,694
Accounts receivables, net	2,970,386	412,097	184,012	240,431	3,806,926
Due from City of Needles	4,138,544	341,828	230,693	333,482	5,044,547
Materials and supplies inventory	964,877	35,223	-	38,989	1,039,089
Total current assets	13,252,004	1,219,116	758,242	1,518,894	16,748,256
Noncurrent assets					
Notes receivable	167,019	1,422	-	-	168,441
Capital assets, net of accumulated depreciation	11,665,765	13,435,650	-	3,880,183	28,981,598
Intangible assets, net of accumulated amortization	-	2,402,772	-	-	2,402,772
Total noncurrent assets	11,832,784	15,839,844	-	3,880,183	31,552,811
Total assets	25,084,788	17,058,960	758,242	5,399,077	48,301,067
DEFERRED OUTFLOWS OF RESOURCES					
Deferred outflows related to pensions	493,162	322,245	198,229	88,780	1,102,416
Deferred outflows related to OPEB	12,026	7,750	4,810	2,138	26,724
Total deferred outflows of resources	505,188	329,995	203,039	90,918	1,129,140
LIABILITIES AND NET POSITION					
Current liabilities					
Lease liabilities, current portion	23,398	14,056	-	13,647	51,101
Accounts payable and other current liabilities	141,363	23,167	8,246	23,563	196,339
Due to the City of Needles	30,246	-	-	-	30,246
Compensated absences	161,450	42,653	8,139	17,880	230,122
Customer deposits	2,610,342	99,253	-	-	2,709,595
Accrued interest payable	66,325	31,046	-	43,746	141,117
Bonds and notes payable, current portion	597,875	279,856	-	394,343	1,272,074
Total current liabilities	3,630,999	490,031	16,385	493,179	4,630,594
Noncurrent liabilities					
Lease liabilities, net of current portion	23,684	18,894	-	26,388	68,966
Net pension liability	1,108,648	724,420	445,627	199,582	2,478,277
Net OPEB liability	237,125	152,814	94,850	42,156	526,945
Bonds and notes payable, net of current portion	7,087,128	3,317,379	-	4,674,489	15,078,996
Total noncurrent liabilities	8,456,585	4,213,507	540,477	4,942,615	18,153,184
Total liabilities	12,087,584	4,703,538	556,862	5,435,794	22,783,778
DEFERRED INFLOWS OF RESOURCES					
Deferred inflows related to pensions	27,487	17,961	11,049	4,948	61,445
Net position					
Net investment in capital and intangible assets	3,980,762	12,241,187	-	-	16,221,949
Restricted for debt service	5,178,197	429,968	343,537	905,992	6,857,694
Unrestricted	4,315,946	(3,699)	49,833	(856,739)	3,505,341
Total net position	$ 13,474,905	$ 12,667,456	$ 393,370	$ 49,253	$ 26,584,984

See independent auditor's report.

Needles Public Utility Authority
(A Component Unit of the City of Needles)
Combining Schedule of Revenues, Expenses and Changes in Net Position
Year ended June 30, 2024

	Electric	Water	Water - All American Canal	Wastewater	Total
Operating revenues					
Sales of electricity	$ 14,890,864	$ -	$ -	$ -	$ 14,890,864
Sales of water	-	2,858,163	1,079,026	-	3,937,189
Charges for wastewater system use	-	-	-	2,197,020	2,197,020
Other revenues	43,424	-	-	-	43,424
Total operating revenues	14,934,288	2,858,163	1,079,026	2,197,020	21,068,497
Operating expenses					
Electric power purchased	6,539,507	-	-	-	6,539,507
Salaries and benefits	1,304,488	956,055	121,997	315,798	2,698,338
Depreciation and amortization	586,539	490,544	-	462,853	1,539,936
Fair share allocation	584,454	145,564	-	91,785	821,803
Supplies	62,952	121,234	937	22,596	207,719
Administrative and management	485,248	344,588	19,920	179,937	1,029,693
Power and utilities	59,944	94,861	26	118,655	273,486
Contractual services	182,042	120,771	895,518	377,924	1,576,255
Maintenance and operations	30,897	40,525	-	40,850	112,272
Insurance	255,014	37,326	-	45,892	338,232
Conservation/solar rebates	118,009	5,615	-	-	123,624
Miscellaneous	1,912,067	39,514	7,448	73,861	2,032,890
Total operating expenses	12,121,161	2,396,597	1,045,846	1,730,151	17,293,755
Operating income	2,813,127	461,566	33,180	466,869	3,774,742
Nonoperating revenues (expenses)					
Interest expense	(447,263)	(209,357)	-	(295,003)	(951,623)
Interest and investment revenue	70,137	32,830	-	46,260	149,227
Net nonoperating expenses	(377,126)	(176,527)	-	(248,743)	(802,396)
Income before contributions and transfers	2,436,001	285,039	33,180	218,126	2,972,346
Capital contributions	307,882	6,460,704	-	162,359	6,930,945
Operating transfers					
Transfers to the City	(355,080)	(259,308)	-	(35,676)	(650,064)
Change in net position	2,388,803	6,486,435	33,180	344,809	9,253,227
Net position at beginning of year	11,086,102	6,181,021	360,190	(295,556)	17,331,757
Net position at end of year	$ 13,474,905	$ 12,667,456	$ 393,370	$ 49,253	$ 26,584,984

See independent auditor's report.

Needles Public Utility Authority
(A Component Unit of the City of Needles)
Combining Schedule of Cash Flows
Year ended June 30, 2024

	Electric	Water	Water - All American Canal	Wastewater	Total
Cash flows from operating activities					
Receipts from customers	$ 13,757,265	$ 2,683,186	$ 1,081,006	$ 2,213,387	$ 19,734,844
Payments to City of Needles:					
Suppliers and other costs	(10,303,411)	(1,605,505)	(963,037)	(1,221,508)	(14,093,461)
Employee compensation and related costs	(1,533,085)	(744,747)	225,568	(369,993)	(2,422,257)
Net cash flows provided by operating activities	1,920,769	332,934	343,537	621,886	3,219,126
Cash flows from capital and related financing activities					
Capital contributions	307,882	6,460,704	-	162,359	6,930,945
Cash paid for lease	(22,510)	(13,515)	-	(12,900)	(48,925)
Purchases of capital assets	(283,128)	(6,445,582)	-	(145,913)	(6,874,623)
Principal paid on capital debt	(573,565)	(268,478)	-	(378,306)	(1,220,349)
Interest paid on capital debt	(455,370)	(213,152)	-	(300,351)	(968,873)
Net transfers for asset replacement reserves	(355,080)	(259,308)	-	(35,676)	(650,064)
Net cash flows used in capital and related financing activities	(1,381,771)	(739,331)	-	(710,787)	(2,831,889)
Cash flows from investing activity					
Interest and investment revenue	70,137	32,830	-	46,260	149,227
Cash flows provided by investing activity	70,137	32,830	-	46,260	149,227
Net increase (decrease) in cash and investments	609,135	(373,567)	343,537	(42,641)	536,464
Cash and investments at beginning of year	4,569,062	803,535	-	948,633	6,321,230
Cash and investments at end of year	$ 5,178,197	$ 429,968	$ 343,537	$ 905,992	$ 6,857,694
Reconciliation of operating income to net cash flows from operating activities					
Operating income	$ 2,813,127	$ 461,566	$ 33,180	$ 466,869	$ 3,774,742
Adjustments to reconcile operating income to net cash from operating activities:					
Depreciation and amortization	586,539	490,544	-	462,853	1,539,936
Changes in operating assets and liabilities:					
Receivables	(972,794)	(257,899)	1,980	32,199	(1,196,514)
Materials and supplies inventory	(192,456)	(13,910)	-	(3,173)	(209,539)
Deferred outflows of resources	110,833	(299)	(172,053)	21,164	(40,355)
Deferred inflows of resources	(105,016)	48,539	24,594	(20,814)	(52,697)
Accounts payable and other current liabilities	(7,428)	(1,217)	(434)	(1,238)	(10,317)
Due from (to) the City of Needles	(746,660)	(106,024)	9,070	(73,386)	(917,000)
Due from (to) other funds	806,554	(550,687)	(47,824)	(208,043)	-
Compensated absences	1,387	(9,529)	5,859	(6,212)	(8,495)
Customer deposits	(137,516)	99,253	-	-	(38,263)
Net pension liability	(179,291)	151,919	404,103	(36,656)	340,075
Net OPEB liability	(56,510)	20,678	85,062	(11,677)	37,553
Net cash flows provided by operating activities	$ 1,920,769	$ 332,934	$ 343,537	$ 621,886	$ 3,219,126

See independent auditor's report.

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Independent Auditor's Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

The Board of Public Utilities
Needles Public Utility Authority

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of Needles Public Utility Authority (the Authority), a component unit of the City of Needles, California, as of and for the year ended June 30, 2024, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements, and have issued our report thereon dated December 5, 2025.

Report on Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Authority's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of the Authority's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that were not identified. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. We identified a deficiency in internal control described in the following page as Finding FS 2024-001 that we consider to be a significant deficiency.

Authority's Response to the Finding
Government Auditing Standards requires the auditor to perform limited procedures on the Authority's response to the finding identified in our audit and described below. The Authority's response was not subjected to the other auditing procedures applied in the audit of the financial statements and, accordingly, we express no opinion on the response.

Repeat of Prior Year Finding:

Finding FS 2024-001 Significant Deficiency on Internal Controls over Inventories

Criteria
Maintaining detailed audit trails for all transactions and adjustments and ensuring all documentation is complete and readily available for audits are essential practices that are crucial for demonstrating compliance with policies, substantiating financial statements, and providing necessary documents for audits. Audit preparedness and keeping organized, accessible records are key components of a successful audit process.

Condition
We have noted that there are no controls in place in relation to withdrawal and purchase of inventories. Based on our understanding of the process, there is no documentation and monitoring being made for every material receipt and issuance. There are no formal controls in place to verify whether the items picked from the warehouse or yard are valid and properly authorized.

In addition, during our review of inventory listings, we noted that listings are not being updated based on the recent purchase date and cost of materials and inventories. We noted non-moving materials and items that have a date of last order or receipt still from the years 1997, 1998 and 1999 up to 2005. We also noted that the unit cost is not updated in the system based on the recent purchases.

Further, the Authority does not perform a random count of sample inventories on a regular basis to verify the existence and completeness of inventories. Inventory count is being performed only at fiscal year-end.

Lastly, based on the inventory count procedures we performed, five (5) out of eight (8) samples from the inventory listing have discrepancies against the actual count.

Repeat Finding
The audit team noted that this is a repeat finding from prior year as this has not yet been implemented by the Authority based on the results of the audit procedures performed during the current year.

Cause / Effect
The above condition is attributed to the lack of proper controls and documentation which may pose a risk to the existence, accuracy, valuation, and completeness of the inventory on hand. Accordingly, the Authority is exposed to the risk of misappropriation of assets, financial reporting misstatements, and/or negative impact on its operations.

Recommendation
We recommend that management establish and strictly implement controls over receipts and withdrawals of inventory. This is to avoid unauthorized issuance of inventory supplies and materials to safeguard company assets and will also help to ensure the existence, completeness and accuracy of inventory.

We further recommend that management perform a detailed review of inventory listings and ensure that the listings are updated based on the recent purchase date and purchase cost and provide allowance for obsolescence for non-moving inventories. This is to ensure proper valuation of assets and present more fairly the status of inventory as well as to enhance the fair presentation of the financial statements in accordance with generally accepted accounting principles.

Management's Response and Action Plan

The NPUA inventory is located at several sites and in some places, multiple locations at one site. Our goal is to relocate inventory into one area for Electric and one area for Water. Electric inventory will be relocated to the planned building on California Ave and Water will be located at Third St. After this, a formal inventory check in and out procedure will be implemented. The warehouse employee will be responsible for logging in material and checking out material into NPUA's accounting system. All inventory will be properly recorded into NPUA's accounting system upon receipt. Costs will also be updated. A formal inventory policy will be created, adopted, and implemented. This policy will also deal with handling obsolete inventory

Personnel Responsible:
Rainie Torrance – Utility Manager

Anticipated Completion Date:
June 30, 2026

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Authority's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Authority's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Vasquez & Company LLP

Glendale, California
December 5, 2025

BOARD OF PUBLIC UTILITIES

November 12, 2025

The special joint meeting of the Board of Public Utilities and Needles Public Utility Authority (NPUA) / City Council held on the 12th day of November, 2025, was called to order at 6:38 p.m. with CHAIRMAN TERRY CAMPBELL presiding and the following COMMISSIONERS present:

COMMISSIONERS JONES, WALTERS, BROWN, McNEIL, CAIRNS AND POWELL

NPUA/CITY COUNCIL: MAYOR JERNIGAN, MEMBERS FORD, McCORKLE, CAMPBELL, POGUE AND LONGBRAKE

Also Present: CITY MANAGER MARTINEZ, UTILITY MANAGER TORRANCE, BOARD SECRETARY SALLIS, CITY CLERK CLARK AND CITY ATTORNEY WADE

PUBLIC HEARINGS – WATER AND WASTEWATER RATE INCREASES

1. Board of Public Utilities / NPUA / Council: Public hearing noticed to consider all evidence and testimony for or against a proposed increase in water rates for water services

   - Staff Report – Utility Manager Torrance provided a PowerPoint presentation on the utility services provided by the city including electric, water and wastewater. She noted that three community meetings were held on the proposed rate increases for water and wastewater and there was one resident at one hearing and two residents at another. The proposed rate increases include a 3% increase in water and 6% in wastewater each year for the next five years with the last increase October 1, 2029.
   - Board / NPUA / Council questions of staff - None
   - Mayor to open the public hearing – 6:49 p.m.
   - Public Comment – Ruth Musser-Lopez asked that the protests be read into the record and not just announced how many were received. She voiced her objection to the rate increases speaking on city employees increases in salary and benefits, social security for seniors being 2.8% but the utilities increasing more every year and not considering use of cannabis business tax for utilities in the general fund or amortization of capital improvements over 30 years. She asked when rates will go down with no inflation.

     Donna Rohr questioned if the rates projected for water overages are increasing and Utility Manager Torrance explained the proposed new rate for the basic service charge and volumetric rate (water used).
   - Mayor to close the public hearing – 6:54 p.m.
   - City Clerk will announce the final number of written protests received under Prop 218 and whether a majority protest exists – City Clerk Clark announced that 15 written protests were received which do not constitute a majority.
   - Board / NPUA / Council Discussion / Deliberation – None

- **BOARD ACTION:** COMMISSIONER McNEIL MOVED, SECONDED BY COMMISSIONER BROWN, to waive the reading and adopt Resolution No. 11-12-25 BPU establishing and recommending rates for water service effective February 1, 2026; and rescinding all prior resolutions relating to the establishment of water rates subject to adoption of new rates by the City Council and Needles Public Utility Authority. Motion carried by the following roll call vote:

  AYES: CHAIRMAN CAMPBELL, COMMISSIONERS JONES, WALTERS, BROWN, McNEIL, CAIRNS AND POWELL
  NOES: NONE
  ABSENT: NONE

- **NPUA ACTION:** MEMBER McCORKLE MOVED, SECONDED BY MEMBER POGUE, to waive the reading and adopt Resolution No. 11-12-2025-NPUA approving rates for water service effective February 1, 2026, and rescinding all prior resolutions relating to the establishment of water rates. Motion carried by the following roll call vote:

  AYES: MEMBERS FORD, McCORKLE, CAMPBELL, JERNIGAN, POGUE AND LONGBRAKE
  NOES: NONE
  ABSENT: MEMBER BELT

- **COUNCIL ACTION:** COUNCILMEMBER POGUE MOVED, SECONDED BY COUNCILMEMBER McCORKLE, to waive the reading and adopt Resolution No. 2025-47 approving rates for water service effective February 1, 2026, and rescinding all prior resolutions relating to the establishment of water rates. Motion carried by the following roll call vote:

  AYES: COUNCILMEMBERS FORD, McCORKLE, CAMPBELL, POGUE AND LONGBRAKE
  NOES: NONE
  ABSENT: COUNCILMEMBER BELT

2. Board of Public Utilities / NPUA / Council: Public hearing noticed to consider all evidence and testimony for or against a proposed increase in wastewater rates for wastewater services

- Staff Report – Previously provided
- Board / NPUA / Council questions of staff - None
- Mayor to open the public hearing – 6:57 p.m.
- Public Comment – Ruth Musser-Lopez noted her objection comments are the same as water. She does not feel it's right to take the inflation rate and then only allow protests. There should be a cap when inflation rates are unreasonable, and it should not be a protest vote but should go on the ballot. People cannot afford to pay and she felt this is wrong.
- Mayor to close the public hearing – 7:00 p.m.
- City Clerk will announce the final number of written protests received under Prop 218 and whether a majority protest exists – As reported during the water rate public hearing increase.

- Board / NPUA / Council Discussion / Deliberation - None

- **BOARD ACTION:** COMMISSIONER POWELL MOVED, SECONDED BY COMMISSIONER CAIRNS, to waive the reading and adopt Resolution No. 11-12-25-1 BPU establishing and recommending rates for wastewater service effective February 1, 2026; and rescinding all prior resolutions relating to the establishment of wastewater rates subject to adoption of new rates by the City Council and Needles Public Utility Authority. Motion carried by the following roll call vote:

  AYES: CHAIRMAN CAMPBELL, COMMISSIONERS JONES, WALTERS, BROWN, McNEIL, CAIRNS AND POWELL
  NOES: NONE
  ABSENT: NONE

- **NPUA ACTION:** MEMBER McCORKLE MOVED, SECONDED BY MEMBER POGUE, to waive the reading and adopt Resolution No. 11-12-2025-1-NPUA approving rates for wastewater service effective February 1, 2026, and rescinding all prior resolutions relating to the establishment of water rates. Motion carried by the following roll call vote:

  AYES: MEMBERS FORD, McCORKLE, CAMPBELL, JERNIGAN, POGUE AND LONGBRAKE
  NOES: NONE
  ABSENT: MEMBER BELT

- **COUNCIL ACTION:** COUNCILMEMBER McCORKLE MOVED, SECONDED BY COUNCILMEMBER FORD, to waive the reading and adopt Resolution No. 2025-48 approving rates for wastewater service effective February 1, 2026, and rescinding all prior resolutions relating to the establishment of wastewater rates. Motion carried by the following roll call vote:

  AYES: COUNCILMEMBERS FORD, McCORKLE, CAMPBELL, POGUE AND LONGBRAKE
  NOES: NONE
  ABSENT: COUNCILMEMBER BELT

City Manager Martinez commended the Board and NPUA/Council for the tough decisions that had to be made to protect the financial stability of the utilities. He also thanked the staff that were involved in the process to get to this action today.

CHAIRMAN CAMPBELL declared the special joint meeting of the Board of Public Utilities and Needles Public Utility Authority (NPUA) / City Council held on the 12th day of November, 2025 adjourned at 7:03 p.m.

ATTEST:_____ _____
Chairman Secretary

BOARD OF PUBLIC UTILITIES

November 18, 2025

The regular meeting of the Board of Public Utilities held on the 18th day of November, 2025, was called to order at 4:00 p.m. with VICE CHAIRMAN BROWN presiding and the following COMMISSIONERS present:

COMMISSIONERS JONES, WALTERS, CAIRNS AND POWELL

Also Present: SECRETARY SALLIS, CITY MANAGER MARTINEZ, UTILITY MANAGER TORRANCE AND OTHER KEY STAFF

APPROVAL AGENDA — COMMISSIONER CAIRNS MOVED, SECONDED BY COMMISSIONER WALTERS, to approve the agenda. Motion carried by the following roll call vote:

AYES:	VICE CHAIRMAN BROWN, COMMISSIONERS JONES, WALTERS, CAIRNS AND POWELL
NOES:	NONE
ABSENT:	CHAIRMAN CAMPBELL AND COMMISSIONER McNEIL

CORSPNDN: None

PBLC APRN: None

PRESENTN WW OPS — Kris Hendricks, EUSI, chief plant operator, provided a brief summary of the wastewater treatment plant and noted that some of the Board Members toured the facility last week which was productive. He reviewed the PowerPoint explaining the process of wastewater treatment and disposal. COMMISSIONER JONES explained he took the tour which was educational and he now understands how it works. He also mentioned a sulfur smell in the Chesney's/Colorado Shores area after which a brief discussion followed on possible causes.

EX ABSNC CAMPBELL — COMMISSIONER POWELL MOVED, SECONDED BY COMMISSIONER CAIRNS, to grant an excused absence to CHAIRMAN CAMBPELL. Motion carried by the following roll call vote:

AYES:	VICE CHAIRMAN BROWN, COMMISSIONERS JONES, WALTERS, CAIRNS AND POWELL
NOES:	NONE
ABSENT:	CHAIRMAN CAMPBELL AND COMMISSIONER McNEIL

CNST CAL: COMMISSIONER JONES requested to pull agenda item 3 (Ratify the Utility Manager's purchase of Greenhouse Gas Emissions Instruments for the calendar year 2024 compliance period from Amerex for a total cost of $58,867.50).

COMMISSIONER JONES MOVED, SECONDED BY COMMISSIONER CAIRNS, to approve consent calendar item 2

2. Approve the minutes of the regular meeting held October 21, 2025

Motion carried by the following roll call vote:

AYES:	VICE CHAIRMAN BROWN, COMMISSIONERS JONES, WALTERS, CAIRNS AND POWELL
NOES:	NONE
ABSENT:	CHAIRMAN CAMPBELL AND COMMISSIONER McNEIL

GHG EMS INSTRUMTS Utility Manager Torrance briefly explained the purchase of additional Greenhouse Gas Emissions Instruments from a renewable energy source outside of California at an additional cost of $58,867.50. A brief discussion followed on the purchase of the GHG Instruments to be compliant.

COMMISSIONER CAIRNS MOVED, SECONDED BY COMMISSIONER POWELL, to ratify the Utility Manager's purchase of Greenhouse Gas Emissions Instruments for the calendar year 2024 compliance period from Amerex for a total cost of $58,867.50. Motion carried by the following roll call vote:

AYES:	VICE CHAIRMAN BROWN, COMMISSIONERS JONES, WALTERS, CAIRNS AND POWELL
NOES:	NONE
ABSENT:	CHAIRMAN CAMPBELL AND COMMISSIONER McNEIL

REG ITEMS: None

REPORTS: VICE CHAIRMAN BROWN acknowledged 1) Present Perfected Rights Report September 2025; 2) Parker-Davis Voluntary Reduction November and December 2025; 3) Western Area Power Administration Term Purchase FY 26 Q3 (January – February 2026); 4) Monthly Activity Report June 2025.

MGR'S RPT: Utility Manager Torrance reviewed her written report dated November 18, 2025 which included: 1) a fire hydrant was hit on Front Street by a sanitation services vehicle causing a 4 hour water outage. The sanitation services contractor will be invoiced for all staff time and materials; and 2) the completion of phases 1 and 2 of the electric pole replacement program whereby 11 deteriorated poles will be replaced by the end of November. The contractor will return in January to complete phase 3. 80% of the poles were butt-rotted and required immediate replacement.

BRD RQSTS: COMMISSIONER CAIRNS thanked the wastewater staff for the tour of the facility.

COMMISSIONER WALTERS questioned street repairs/temporary patches that will be needed from the work being done to install fiber optics. City Manager Martinez responded yes, repairs will have to meet all city adopted requirements.

VICE CHAIRMAN BROWN asked about work being done in the Vista streets area including use of a vac truck. City Manager Martinez explained we're in the process of doing the water lines in that area, and have had multiple water leaks on the newly paved streets and trying to find out why so we can move forward as appropriate.

VICE CHAIRMAN BROWN declared the regular meeting of the Board of Public Utilities held on the 18th day of November, 2025, adjourned at 4:32 p.m.

ATTEST:_____ _____

Vice Chairman Secretary

City of Needles, California
Request for Commission Action

☐ CITY COUNCIL ☒ BOARD OF PUBLIC UTILITIES ☒ Regular ☐ Special

Meeting Date: January 20, 2026

Title: Authorize the City Manager to execute the First Amendment to the California River Contractors Forbearance Agreement for 2024 – 2026 Conservation Agreement under the Lower Colorado Conservation and Efficiency Program

Background: Recently, MWD, PVID, and USBR amended the SCIA. Attached is a draft amendment to the 2024-2026 California Forbearance Agreement to cover the amended SCIA that extends the agreement for an additional 5 months through December 31, 2026.

The amendment is not objectionable. It adds to the existing system conservation from within PVID but on a voluntary basis, with a callback provision for the Metropolitan Water District, ending December 31, 2026. The underlying 117,000 AF of system conservation is unchanged.

Enclosed is the forbearance agreement and SCIA amendment.

Fiscal Impact: None

Environmental Impact: None

Recommended Action: Authorize the City Manager to execute the First Amendment to the California River Contractors Forbearance Agreement for 2024 – 2026 Conservation Agreement under the Lower Colorado Conservation and Efficiency Program

Submitted By: Rainie Torrance, Utility Manager

City Manager Approval: Patrick J Martinez Date: 1/14/2026

Other Department Approval (when required): _____ Date: _____

First Amendment to the California Colorado River Contractors Forbearance Agreement for 2024-2026 Conservation Agreements Under the Lower Colorado Conservation and Efficiency Program

A. On or about November 19, 2024, Coachella Valley Water District, Imperial Irrigation District, The Metropolitan Water District of Southern California (Metropolitan), Palo Verde Irrigation District (PVID), and the City of Needles (the Parties) entered into an agreement titled "California Colorado River Contractors Forbearance Agreement for 2024-2026 Conservation Agreements Under the Lower Colorado Conservation and Efficiency Program" (Forbearance Agreement).

B. The Agreement provides forbearance for several system conservation agreements, including an agreement entered into by Metropolitan and the United States Bureau of Reclamation (Reclamation) on December 20, 2023, titled "System Conservation Implementation Agreement (SCIA) Between the United States Bureau of Reclamation and The Metropolitan Water District of Southern California, to Implement the Lower Colorado Conservation and Efficiency Program (LC Conservation Program)" (SCIA), SCIA No. 23-XX-30-W0772, dated December 13, 2023 (up to 117,021 acre-feet/year from 2024-2026).

C. On December 5, 2025, Metropolitan and Reclamation entered into Amendment No. 1 to the SCIA. Under Amendment No. 1 to the SCIA, Reclamation provides funding to Metropolitan to create system conservation water from August 1, 2026 through December 31, 2026 on a voluntary basis that would otherwise accrue to Metropolitan under the Fallowing Program for up to 36,066 acre-feet from August 1, 2026 through December 31, 2026. On or about December 5, 2025, PVID provided its written concurrence with Amendment No. 1 to the SCIA.

D. The Parties desire to incorporate Amendment No. 1 to SCIA No. 23-XX-30-W0772 in the Forbearance Agreement.

Therefore, the Parties hereby amend the Forbearance Agreement by deleting Section 1c in its entirety and replace it with the following:

> The System Conservation Implementation Agreement between the United States Bureau of Reclamation and The Metropolitan Water District of Southern California to implement a Lower Colorado Conservation and Efficiency Program (LC Conservation Program) based upon temporary and compensated conservation of Colorado River water historically used for irrigation of lands within the Palo Verde Irrigation District, SCIA No. 23-XX-30-W0772 dated December 13, 2023, as revised by Amendment 1 to the SCIA (up to 117,021 acre-feet/year from 2024-2026 and up to 36,066 acre-feet from August 1, 2026 through December 31, 2026).

Approved as to form:

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

_____
General Counsel

_____
General Manager

Approved as to form:

COACHELLA VALLEY WATER DISTRICT

_____
Legal Counsel

_____
General Manager

Approved as to form:

IMPERIAL IRRIGATION DISTRICT

_____
General Counsel

_____
General Manager

Approved as to form:

PALO VERDE IRRIGATION DISTRICT

_____
Legal Counsel

_____
General Manager

Approved as to form:

CITY OF NEEDLES

_____
City Attorney

_____
City Manager

AMENDMENT NO. 1 TO SYSTEM CONSERVATION IMPLEMENTATION AGREEMENT ("SCIA") BETWEEN THE UNITED STATES BUREAU OF RECLAMATION AND THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, TO IMPLEMENT THE LOWER COLORADO CONSERVATION AND EFFICIENCY PROGRAM (LC CONSERVATION PROGRAM)

1. PREAMBLE SCIA No. 23-XX-30-W0772, dated December 20, 2023 ("SCIA"), to implement the LC Conservation Program is amended by this Amendment No. 1, hereinafter referred to as ("SCIA Amendment No. 1") and entered into this 5th day of December 2025, by and between the United States, Department of the Interior, Bureau of Reclamation ("Reclamation"), acting through the Regional Director of the Lower Colorado Basin Region of the Bureau of Reclamation and The Metropolitan Water District of Southern California ("MWD"), hereinafter referred to singularly as "Party" or collectively as "Parties" and pursuant to the Act of Congress approved June 17, 1902 (32 Stat. 388), designated the Reclamation Act, and acts amendatory thereof or supplementary thereto, the Act of December 21, 1928 (45 Stat. 1057), designated the Boulder Canyon Project Act, the Act of September 30, 1968 (82 Stat. 885), designated the Colorado River Basin Project Act, the Colorado River Drought Contingency Plan Authorization Act, Public Law 116-14, dated April 16, 2019, and the Inflation Reduction Act of 2022, Public Law 117-169 dated August 16, 2022;

WITNESSETH THAT:

2. EXPLANATORY RECITALS

2.1 WHEREAS, Reclamation and MWD entered into the SCIA, as concurred to by the Palo Verde Irrigation District ("PVID"), whereby MWD agreed that instead of using the water created under the land fallowing Program Agreement that it has with PVID, which is Exhibit A to the SCIA, for its own use, MWD will create System Conservation Water under the SCIA during a three-year period that began August 1, 2023 and continues through July 31, 2026, unless otherwise determined in accordance with Section 6.4 of the SCIA, thereby allowing such System Conservation Water to remain in Lake Mead in exchange for financial compensation;

2.2 WHEREAS, the process for a Supplemental Environmental Impact Statement to the 2007 Record of Decision was completed and on May 6, 2024, the Secretary of the Interior signed the Record of Decision for the *Supplement to the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead*;

2.3 WHEREAS, MWD and PVID notified Reclamation by letter or email dated August 25, 2025, attached hereto as ("Exhibit B-1") that it desires to amend the SCIA to create System Conservation Water in the remaining five months of calendar year 2026 (August 1, 2026 through December 31, 2026) with similar terms and conditions as in the three-year period from August 1, 2023 through July 31, 2026, but on a voluntary basis;

2.4 WHEREAS, Reclamation and MWD desire to amend the SCIA whereby MWD agrees to create System Conservation Water in the remaining five months of calendar year 2026 beginning August 1, 2026 through December 31, 2026, hereinafter referred to as the ("Five-Month Period"), with similar terms and conditions as in the three-year period from August 1, 2023 through July 31, 2026, but on a voluntary basis, and allow such volume to remain in Lake Mead in exchange for financial compensation; and

2.5 WHEREAS, capitalized terms used but not defined in this SCIA Amendment No. 1 have the meanings assigned to such terms in the SCIA;

NOW, THEREFORE, in consideration of the terms and conditions set forth herein, the Parties agree as follows:

3. AMENDMENT TO SCIA

3.1 The SCIA is hereby amended as follows:

3.1.1 Section 3.4 of the SCIA is hereby superseded and replaced with the following:

"3. DEFINITIONS

3.4 Exhibit B and B-1 is a copy of the LC Conservation Program proposal dated November 21, 2022, as modified through negotiation of this SCIA and the letter or email dated August 25, 2025. Exhibit B and B-1 are attached hereto and part of this SCIA.

3.1.2 Section 4 of the SCIA is hereby superseded and replaced with the following:

"4. PURPOSE

4.1 The purpose of this SCIA is for Reclamation to fund land fallowing under the Program Agreement to create System Conservation Water. Instead of using the water created under the Program Agreement for its own use, MWD will create System Conservation Water under this SCIA, unless otherwise determined in accordance with Section 6.4 herein. MWD proposes to create System Conservation Water during a three-year and Five-Month Period that began August 1, 2023 and continues through December 31, 2026, which will be 117,021 acre-feet per year and up to 36,066 acre-feet for five months, as described in Section 6.3 herein, less any Call Back under Section 6.4, thereby allowing such System Conservation Water to remain in Lake Mead as Colorado River System Water. MWD attests that such water was used in previous years and it would have been used in the years and months covered under this SCIA."

3.1.3 Section 5 of the SCIA is hereby superseded and replaced with the following:

"5. SYSTEM CONSERVATION IMPLEMENTATION

5.1 The term of this SCIA begins upon execution of this SCIA and

continues until the final payment in accordance with Section 9 herein is made by Reclamation to MWD and all terms and conditions herein are satisfied.

5.2 MWD and PVID jointly submitted a LC Conservation Program proposal dated November 21, 2022, and is attached to this SCIA as Exhibit B. The proposed plan to be implemented under this SCIA is to use the Program Agreement capacity to participate in the LC Conservation Program to cover a three-year period that began August 1, 2023 through July 31, 2026. MWD and PVID jointly submitted an amendment to their proposal to add the last five months of calendar year 2026 to create System Conservation Water through December 31, 2026. The Program Agreement has 25,947 acres enrolled that are entitled to receive Priority 1 water pursuant to the California Seven-Party Agreement of 1931. MWD issues fallowing call notices from time-to-time that declare the number of acres to be fallowed for a given year ranging from a minimum of 6,487 fallowed acres, which is 25 percent, to the maximum amount of 25,947 acres, which is 100 percent.

5.3 MWD made or will make a fallowing call notice declaring the maximum amount of up to 25,947 acres allowed in the Program Agreement to be fallowed whereby, beginning August 1, 2023 through July 31, 2026, the Program Agreement will be at maximum fallowing of up to 25,947 acres to create up to 117,021 acre-feet per year as described in Section 6.1 herein of System Conservation Water under this SCIA. MWD will make a fallowing call notice pursuant to the Program Agreement for the period of August 1, 2026 through July 31, 2027 and, in addition, MWD will offer Participating Landowners the opportunity to voluntarily increase their fallowing, up to the maximum amount of 25,947 acres, for the period of August 1, 2026 through December 31, 2026, to create up to 36,066 acre-feet for the Five-Month Period, described in Section 6.1 herein, of System Conservation Water under this SCIA. MWD has executed or will execute agreements with PVID and the Participating Landowners within PVID ensuring that the land fallowing is performed in accordance with the terms and conditions of the Program Agreement and such landowner agreements."

3.1.4 Section 6 of the SCIA is hereby superseded and replaced with the following:

"6. LAND FALLOWING

6.1 MWD agrees it has caused or will cause the Participating Landowners to fallow up to the maximum fallowing amount of 25,947 acres by making a one hundred percent (100 percent) fallowing call in accordance with the Program Agreement for the following periods that are covered under this SCIA:

6.1.1 First Year from August 1, 2023 through July 31, 2024.

6.1.2 Second Year from August 1, 2024 through July 31, 2025.

6.1.3 Third Year from August 1, 2025 through July 31, 2026.

6.1.4 Five-Month Period from August 1, 2026 through

December 31, 2026; provided that any fallowing above the fallowing call during this period will be voluntary in that rather than cause the fallowing to occur, MWD will request such fallowing but Participating Landowners will not be obligated to participate.

6.2 Consumptive Use: The Parties agree that for each fallowed acre within PVID pursuant to this SCIA, the consumptive use reduction is 4.51 acre-feet per acre for a full year. For the Five-Month Period from August 1, 2026 through December 31, 2026, the consumptive use reduction is 1.39 acre-feet per acre.

6.3 The System Conservation Water created each year will be 117,021 acre-feet (25,947 acres x 4.51 acre-feet per acre) and up to 36,066 acre-feet (25,947 acres x 1.39 acre-feet per acre) for the Five-Month Period, less any Call Back under Section 6.4.

6.4 The Parties agree that MWD has the option to call back and divert water saved in an amount equal to the minimum call for a full year (i.e. 29,255 acre-feet) into the Colorado River Aqueduct for each of the Second Year and Third Year, and an amount equal to the minimum call for a partial year (i.e., 25,947 acres x 0.25 x 1.39 acre-feet per acre, or 9,717 acre-feet) into the Colorado River Aqueduct for the Five-Month Period in 2026, hereinafter referred to as the "Call Back Option".

6.4.1 MWD shall notify Reclamation in writing of a decision to exercise its Call Back Option for the Second Year and Third Year on or before September 1, and the quantity to be called back and for the Five-Month Period on or before June 15, 2026. If MWD does not timely notify Reclamation that MWD is exercising its Call Back Option, then the Call Back Option will be deemed declined. If MWD exercises its Call Back Option in any year, it shall submit a modification to its water order for that year.

6.4.2 Any determination by MWD to exercise or decline its Call Back Option is considered final and is not subject to revision.

6.5 MWD agrees that Reclamation shall not compensate PVID for water that MWD calls back under the Call Back Option in accordance with this SCIA.

6.6 MWD agrees it shall not seek reimbursement from Reclamation for the water that is called back under the Call Back Option in accordance with this SCIA.

6.7 The Parties agree that implementation of this SCIA including all payments from Reclamation under this SCIA is contingent upon the forbearance of the California Colorado River water contractors for the creation of System Conservation Water under this SCIA.

6.8 The Parties agree that implementation of this SCIA including all payments from Reclamation under this SCIA is contingent upon MWD executing a separate written agreement with PVID regarding implementation of this SCIA. MWD will provide a copy of its agreement with PVID to Reclamation after it is executed."

3.1.5 Sections 7.1 and 7.4 of the SCIA are hereby superseded and replaced with the following:

"7. MONITORING AND ACCOUNTING

7.1 The Parties agree that Reclamation shall (1) verify and document reductions in consumptive use of Colorado River water under this SCIA and (2) report the verified volume of System Conservation Water created from August 1, 2023 through December 31, 2026, under this SCIA in the annual *Colorado River Accounting and Water Use Report: Arizona, California, and Nevada*. ("Water Accounting Report").

7.4 For Reclamation approval, MWD will submit to Reclamation and MWD will request PVID submit to Reclamation a revised water order, as needed, for calendar years 2023, 2024, 2025, and 2026 to account for the land fallowing and System Conservation Water created during the period of August 1, 2023 through December 31, 2026."

3.1.6 Section 9 of the SCIA is hereby superseded and replaced with the following:

"9. PAYMENTS

9.1 Reclamation will pay MWD $400.00 per acre-foot for water conserved under this SCIA during the three-year period and the Five-Month Period beginning August 1, 2023 through December 31, 2026, estimated to be up to 117,021 acre-feet per year and up to 36,066 acre-feet for the Five-Month Period.

9.1.1 MWD will invoice Reclamation based on the total number of acres fallowed under the Program Agreement, and only for the portion of fallowed acreage that is contributed to the creation of System Conservation Water, within 60 days after MWD makes its payments to the Participating Landowners in September of each year.

9.1.1.1 The Parties agree that for the First Year MWD will invoice Reclamation after MWD has made its second payment to the Participating Landowners for the period beginning August 1, 2023 through July 31, 2024. Reclamation will pay MWD no later than 60 days after the last of the following events occur: (1) execution of this SCIA, (2) receipt of the invoice from MWD for the First Year for a lump sum payment of not to exceed $46,808,400.00 ($400.00 per acre-foot multiplied by up to 117,021 acre-feet), and (3) receipt from MWD of the agreement between MWD and PVID that implements this SCIA as provided Section 6.10 herein.

9.1.2 For the Second Year and Third Year respectively, Reclamation will pay MWD no later than 60 days after receiving the annual invoice from MWD a lump sum annual payment of not to exceed $46,808,400.00 ($400.00 per acre-foot multiplied by up to 117,021 acre-feet), for a total of not to exceed $140,425,200.00 over the three-year period.

9.1.3 For the Five-Month Period, notwithstanding the provision in Section 9.1.1 that requires MWD to invoice Reclamation after MWD makes its payments to the Participating Landowners in September of each year, MWD may invoice Reclamation on June 15, 2026, and Reclamation will pay MWD no later than 45 days after receiving the Five-Month Period invoice from MWD a lump sum annual payment of not to exceed $14,426,400.00 ($400.00 per acre-foot multiplied by up to 36,066 acre-feet), for a total of not to exceed $154,851,600.00 over the three-year period and Five-Month Period.

9.2 If Reclamation finds that the System Conservation Water volume in accordance with SCIA was not created or that MWD did not forbear such System Conservation Water in accordance with Section 7.5, the annual payments in Section 9.1.2 and 9.1.3 herein shall be reduced accordingly and MWD will be required to reimburse Reclamation as provided in Section 11 herein."

4. OTHER PROVISIONS UNAFFECTED

4.1 Except as expressly modified by this SCIA Amendment No. 1, all other provisions of the SCIA remain in full force and effect.

5. COUNTERPARTS

5.1 This SCIA Amendment No. 1 may be executed in counterparts, each of which shall be an original and all of which, together, shall constitute only one SCIA Amendment No. 1.

6. EFFECTIVE DATE

6.1 This SCIA Amendment No. 1 shall become effective upon the date of its execution by both Parties. Once effective, this SCIA Amendment No. 1 will remain in effect until all of the terms and conditions are satisfied.

6.2 The Parties hereto have executed this SCIA Amendment No. 1 on the day and year first written above.

Approved as to form:

By: _____
Marcia L. Scully
General Counsel

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

By: _____
Deven N. Upadhyay
General Manager

Signatures continued next page.

THE UNITED STATES OF AMERICA

By: _____

Genevieve R. Johnson
Acting Regional Director
Interior Region 8: Lower Colorado Basin
Bureau of Reclamation

Signatures continued next page.

Concur:

Approved as to form:

By: _____
David R. Saunders
General Counsel

PALO VERDE IRRIGATION DISTRICT

By: _____
J.R. Echard
General Manager

Exhibit B and B-1

1. A copy of the proposal, as modified through negotiation of this SCIA, and a copy of the letter or email dated August 25, 2025, are attached.

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

November 21, 2022

VIA EMAIL AT DBUNK@USBR.GOV

Mr. Daniel A. Bunk
Chief, Boulder Canyon Operations Office
U.S. Bureau of Reclamation
Lower Colorado Regional Office
PO Box 61470
Boulder City, NV 89006
DBunk@usbr.gov

Dear Mr. Bunk:

Joint Metropolitan Water District – Palo Verde Irrigation District Proposal for
Voluntary Participation in the Lower Colorado Conservation and Efficiency Program

The Metropolitan Water District of Southern California (Metropolitan) and Palo Verde Irrigation District (PVID) are pleased to submit a joint proposal for consideration under the Program 1.a. component of the Lower Colorado Conservation and Efficiency Program (LC Conservation Program). Metropolitan and PVID are jointly proposing a three-year agreement to voluntarily fallow up to 19,460 acres in the PVID service area in years 2023 to 2026 for an intended total conserved volume of up to 373,000 acre-feet for the proposed term. If implemented for the proposed three consecutive years, the resulting system conservation would not be considered as contributions to the 500+ Plan, but would instead be eligible for the Program 1.a. three-year agreement set price of $400 per acre-foot.

The following attachments are included as part of this letter:

- Exhibit 1 – Funding Opportunity for Voluntary Participation in the Lower Colorado Conservation and Efficiency Program letter from the Department of the Interior
- Exhibit 2 – Proposal: Metropolitan – Palo Verde Irrigation District Fallowing Program

If you have any questions or require additional information, please contact Ms. Kira Alonzo, Supply Acquisition Team Manager, at (213) 217- 6489 or kalonzo@mwdh2o.com.

Sincerely,

Brad Coffey
Manager, Water Resource Management
The Metropolitan Water District
of Southern California

J.R. Echard
General Manager
Palo Verde Irrigation District

AMG:vsm

cc: K. Z. Alonzo
K. Donhoff
A. M. Garcia
N. Hardjadinata
B. Hasencamp
M. Westford

EXHIBIT 1

Funding Opportunity for Voluntary Participation in the Lower Colorado Conservation and Efficiency Program Letter from the Department of the Interior

United States Department of the Interior

BUREAU OF RECLAMATION
P.O. Box 61470
Boulder City, NV 89006-1470

IN REPLY REFER TO:
LCB-4000
2.2.4.23

VIA ELECTONIC & OVERNIGHT MAIL

Interested Parties

Subject: Funding Opportunity for Voluntary Participation in the Lower Colorado Conservation and Efficiency Program

Greetings:

The purpose of this letter is to follow-up on the Department of the Interior's September 22, 2022, announcement of additional steps to address drought in the Colorado River Basin (https://www.usbr.gov/newsroom/news-release/4338). The Department of the Interior (Department) through the Bureau of Reclamation (Reclamation) is creating this new Lower Colorado Conservation and Efficiency Program (LC Conservation Program) to increase system conservation and efficiency opportunities to address the unprecedented drought in the Lower Colorado River Basin. Similar conservation programs in the Upper Colorado River Basin and other basins experiencing comparable levels of long-term drought are also being developed. The new LC Conservation Program is a part of the commitment made by the Department on August 16, 2022, to address the drought crisis with prompt and responsive actions and investments to ensure the entire Colorado River Basin (Basin) can function and support all who rely on it.

Prolonged drought and low runoff conditions accelerated by climate change have led to historically low water levels in Lakes Powell and Mead. Over the last two decades, Department leaders have engaged with Basin partners on various drought response operations. However, given that water levels are projected to continue to decline, additional action is needed to protect the Colorado River System and prevent the reservoirs from falling to critically low elevations threatening water deliveries and power production. Reclamation is using the best available science and actively collaborating with water users across the Basin to determine the best ways to meet this increased conservation need. The historic funding committed by the Biden-Harris Administration in the Bipartisan Infrastructure Law and the recently passed Inflation Reduction Act provide resources for water management and conservation efforts in the Basin and other basins experiencing comparable levels of long-term drought. The Department will continue to deploy these resources in the Lower Colorado River Basin with this LC Conservation Program.

The LC Conservation Program is intended to provide new opportunities to fund system conservation and efficiencies in the Lower Colorado River Basin that lead to additional conservation and bridge the immediate need while moving toward improved system efficiency and more durable long-term solutions for the Colorado River system.

The LC Conservation Program has three components:

1.a.) Beginning immediately, Reclamation is accepting proposals for system conservation resulting in additional volumes of water remaining in Lake Mead at a set price of:

- One-year agreement: $330 per acre-foot
- Two-year agreement: $365 per acre-foot
- Three-year agreement: $400 per acre-foot

This program will require a system conservation agreement with Reclamation and is similar to previous system conservation efforts in Lower Colorado River Basin under the Pilot System Conservation Program and system conservation under the Lower Basin Drought Contingency Plan. Lower Colorado River water delivery contract or entitlement holders and Central Arizona Project water delivery contract or entitlement holders are eligible to participate in the LC Conservation Program. We request this first round of 1.a. proposals be submitted no later than November 21.

1.b.) Additionally, beginning immediately, Reclamation will accept the first round of proposals describing Lower Colorado River Basin water conservation plans that can be implemented resulting in reductions in consumptive use of lower Colorado River water having a recent history of use. The proposals will include a price per acre-foot; economic justification for the price; plan description; proposed conservation amount; verification methodologies; approximate time frame for startup and the plan duration. The proposal must meet the requirements enclosed with this letter (Enclosure). Plan proposals that reduce Colorado River consumptive use based on new or innovative concepts and collaboration among partners is encouraged. Colorado River water delivery contract or entitlement holders and Central Arizona Project water delivery contract or entitlement holders are eligible to apply. We request this first round of 1.b. proposals be submitted no later than November 21.

2) In early 2023, Reclamation will announce an opportunity for entities to submit proposals for long-term system efficiency improvements that will result in additional system conservation. The proposal review and evaluation process will be competitive and ranking factors will include: the amount and timing of water conserved in Lake Mead; the duration of the conservation; and previous participation in existing conservation programs and/or the LC Conservation Program described in 1.a. and 1.b. above with emphasis placed on participation in 1.a. conservation.

The Department encourages participation under this voluntary LC Conservation Program to minimize any reductions in the future. If you are interested in participating in the 1.a. or 1.b. component of the LC Conservation Program, submit your proposal electronically by November 21, 2022, to:

Daniel A. Bunk
Chief, Boulder Canyon Operations Office
Email: dbunk@usbr.gov.

To the extent permissible by applicable law, proposals will remain confidential until plan agreements are executed to preserve the competitive nature of the selection process.

Should you have questions regarding the LC Conservation Program, or wish to discuss plan concepts, please contact Daniel Bunk at 702-293-8013 or dbunk@usbr.gov. Individuals in the United States, who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or Tele Braille) to access telecommunication relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

Sincerely,

JACKLYNN GOULD

Digitally signed by JACKLYNN GOULD
Date: 2022.10.12 11:29:07 -07'00'

Jacklynn L. Gould, P.E.
Regional Director
Interior Region 8: Lower Colorado Basin
Bureau of Reclamation

ENCLOSURE 1

Requirements for Lower Basin System Conservation and Efficiency Project Proposals

Purpose: The Lower Colorado River Basin System Conservation and Efficiency Program (LC Conservation Program) is intended to provide new opportunities for system conservation in the Lower Colorado River Basin that also lead to additional conservation and bridge the immediate need while moving toward improved system efficiency and more durable long-term solutions for the System. The Bureau of Reclamation is requesting proposals describing Lower Colorado River Basin water conservation projects that can be implemented resulting in reductions in consumptive use of Colorado River water having a recent history of use. Colorado River water delivery contract or entitlement holders and Central Arizona Project (CAP) water delivery contract or entitlement holders are eligible to apply. The conserved Colorado River System water will not accrue to the benefit or use of any individual Colorado River water user.

Proposal and Selection Requirements:

Proposal Requirements

System Conservation Program Under a Set Fixed Price (Program 1.a. in Letter)

The LC Conservation Program fixed-priced 1.a. proposals must include the following information:

- Plan description.
- The amount of Colorado River System water to be conserved per year and over the life of the proposed plan.
    - System water conserved shall be based on a history of use (not entitlement); this criterion will be reviewed on a case-by-case basis.
- Methodology for estimated consumptive use reduction and supporting information that documents the estimate.
- Description of how the proponent will verify and document the consumptive use reduction on an annual or more frequent basis, as appropriate.

We request this first round of 1.a. proposals be submitted no later than November 21, 2022.

Proposals for System Conservation (Program 1.b. in Letter)

The LC Conservation Program fixed-priced 1.b. proposals must include the following information:

- Plan description.
- The amount of Colorado River System water to be conserved per year and over the life of the proposed plan.
    - System water conserved shall be based on a history of use (not entitlement); this criterion will be reviewed on a case-by-case basis.
- Methodology for estimated consumptive use reduction and supporting information that documents the estimate.
- Description of how the proponent will verify and document the consumptive use reduction

on an annual or more frequent basis, as appropriate.

- Amount of time required to implement the conservation plan and the plan duration.
- Estimated cost per acre-foot of conserved water (on either an annual basis or other proposed period of plan operation) and economic explanation of the proposed cost.
- Description of how the proposed plan will ensure that the amount of conserved water to remain in Lake Mead will not be ordered by other entitlement holder(s), for example, through third party consents or forbearance agreements.
- Any additional information deemed helpful to explain and aid understanding of the proposal.

We request this first round of 1.b. proposals be submitted no later than November 21, 2022.

Selection Criteria
System Conservation Program Under a Set Fixed Price (Program 1.a. in Letter)

Reclamation will select proposals on the basis of how well they meet the following requirements. In developing your proposal, please keep in mind:

- Only Colorado River water delivery contract or entitlement holders and CAP water delivery contract or entitlement holders are eligible to participate in the LC Conservation Program.
- Entities and/or individuals will need to collaborate with Reclamation and other water entitlement holders in your state to ensure that the conserved water is not ordered for delivery and that it remains in Lake Mead.
- In early 2023, the Department will announce an opportunity for entities to submit proposals for long-term system efficiency improvements that will result in additional system conservation. The proposal review and evaluation process will be competitive, and ranking will occur on factors including: the amount and timing of water conserved in Lake Mead; the duration of the conservation; and previous participation in existing conservation programs and/or this LC Conservation Program.

System Conservation (Program 1.b. in Letter)

Reclamation will select proposals on the basis of how well they meet the following requirements. In developing your proposal, please keep in mind:

- Only Colorado River water delivery contract or entitlement holders and CAP water delivery contract or entitlement holders are eligible to participate in the LC Conservation Program.
- The proposal review and evaluation process is competitive; ranking will occur on the amount and timing of water conserved in Lake Mead, the cost per acre-foot, feasibility in verifying and accounting for water conserved in Lake Mead and evaluating the uniqueness of testing new approaches for creating conservation.
- Entities and/or individuals may have already committed financial and other resources to water use plans for calendar years 2022 and 2023. In such cases, we are flexible regarding plan initiation.
- Entities and/or individuals will need to collaborate with Reclamation and other water entitlement holders in your state to ensure that the conserved water is not ordered for delivery and that it remains as system conservation in Lake Mead.
- In early 2023, the Department will announce an opportunity for entities to submit proposals for long-term system efficiency improvements that will result in additional system conservation. The proposal review and evaluation process will be competitive, and ranking will occur on factors including: the amount and timing of water conserved in Lake Mead; the duration of the system conservation; and previous participation in existing

system conservation programs and/or this LC Conservation Program.

Other Information: Participants will be required to execute a System Conservation Implementation Agreement (SCIA) with Reclamation containing terms and conditions for the design, implementation, monitoring, evaluation of the LC Conservation Program plan, and compensation to the entitlement holder proposing the plan, and setting forth the obligations of the parties. By entering into a SCIA, the participant grants access to Reclamation to perform periodic on-site inspections of system conservation plan. Participants must be in compliance with applicable Federal, State, and local environmental, cultural, and paleontological resource protection laws and regulations throughout the term of the SCIA. Reclamation's annual Colorado River Accounting and Water Use Report: Arizona, California, and Nevada will serve as the basis for documenting the amount of system conservation achieved under the LC Conservation Program.

EXHIBIT 2

Metropolitan Water District of Southern California - Palo Verde Irrigation District Fallowing Proposal for the Lower Colorado Conservation and Efficiency Program

Purpose

The Metropolitan Water District of Southern California (MWD) and Palo Verde Irrigation District (PVID) are jointly submitting the following proposal for consideration to participate in the Lower Colorado Conservation and Efficiency Program (LC Conservation Program). This proposal is for the first component of the LC Conservation Program, i.e., System Conservation Program Under a Set Fixed Price (Program 1.a). The proposal is for the three-year agreement: $400 per acre-foot.

Background

In 2004, Metropolitan Water District of Southern California (MWD) entered into a 35-year agreement, *Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program* (PVID/MWD Forbearance and Fallowing Program), with Palo Verde Irrigation District (PVID) and landowners within the PVID's service area whereby MWD pays for land within the valley's service area to be fallowed. The amount of land fallowed varies annually in response to water savings needed in any given year, fluctuating between approximately 7 and 28 percent of the valley land. The forborne water is made available for MWD use on a direct acre-foot for acre-foot basis.

The PVID/MWD Forbearance and Fallowing Program has 25,947 acres enrolled. The enrolled acres are entitled to receive Priority 1 water. MWD from time-to-time issues fallowing call notices. A call notice declares the number of acres to be fallowed for a given year, ranging from a minimum of 6,487 fallowed acres (25%) to the maximum amount of 25,947 acres (100%). In addition, on the condition there is a California Environmental Quality Act approval, an additional 7,500 acres are eligible for landowners to fallow voluntarily above the PVID/MWD Forbearance and Fallowing Program's maximum.

Starting August 1, 2023, the PVID/MWD Forbearance and Fallowing Program will be at maximum fallowing of up to 25,947 acres. Of this number of fallowed acres, 50% are paid by a joint funding agreement, *Funding Agreement Among the United States of America, through the Department of the Interior, Bureau of Reclamation, the Central Arizona Water Conservation District, The Metropolitan Water District of Southern California, and the Southern Nevada Water Authority, for the Creation of Colorado River System Water*. The agreement will expire on July 31, 2024.

Proposed Plan

The plan is to use the PVID/MWD Forbearance and Fallowing Program's unused fallowing capacity to participate in the Lower Colorado Conservation and Efficiency Program (LC Conservation Program).

The proposed plan will cover a period from the second quarter of the calendar year 2023 through July 31, 2026. Starting approximately in the second quarter of 2023, since the program is under a maximum fallowing call, MWD will solicit the PVID landowners to voluntarily fallow up to 7,500 additional acres. The additional volunteered acres are above the maximum fallowed acres allowed in the PVID/MWD Forbearance and Fallowing Program. The additional acres could conserve up to 23.5 TAF in 2023, 31.5 TAF in 2024, 31.5 TAF in 2025, and 18 TAF in 2026.

In addition to the volunteered acres, starting August 1, 2024, the PVID/MWD Forbearance and Fallowing Program would use the unused fallowing capacity of 19,460 acres (this is 75% of the maximum acres) to participate in the LC Conservation Program through July 31, 2026. The conserved estimate is of up to 34 TAF in 2024, 82 TAF in 2025, and 48 TAF in 2026.

Summary Table of Conserved System Water per Calendar Year

	Volunteered Acres	Program Acres
2023	23.5 TAF	-----
2024	31.5 TAF	34.0 TAF
2025	31.5 TAF	82.0 TAF
2026	18.0 TAF	48.0 TAF

The cumulative sum over the life of the proposed plan is an estimate of 268.5 TAF conserved for the LC Conservation Program.

Methodology for estimated consumptive use reduction and supporting information that documents the estimate.

Since the start of the PVID/MWD Forbearance and Fallowing Program, annually, a verification report is prepared mutually with MWD, PVID, and U.S. Bureau of Reclamation (USBR) documenting the methodology, the verification of fallowed land and the calculations estimating the water saved. The proposed plan would use the annual verification report to estimate the consumptive use reduction and would be the document supporting the estimates.

Description of how the proponent will verify and document the consumptive use reduction on an annual or more frequent basis, as appropriate.

As part of the administrative management of the PVID/MWD Forbearance and Fallowing Program, MWD conducts, at least twice a year, randomly selected on-site field inspections. The field inspections verify the land is meeting the fallowing requirements. USBR also conducts, twice a year, on-site randomly selected field inspections, which are independent of the MWD's field inspections. On a continuous basis, PVID staff monitors and inspects fields routinely. In addition to the field inspections, PVID has through the water delivery systems do not permit water deliveries to land that are designated as fallowed land in the PVID/MWD Forbearance and Fallowing Program. The activities ensure there is consumptive use reduction in the PVID service area through fallowing.

DiDonato, Nancy

From: Bunk, Daniel A
Sent: Tuesday, September 2, 2025 8:28 AM
To: Hasencamp,William
Cc: Hughes,Michael W; JR Echard; Dodds, Jeremy R.; Kirsch-Burke, Lesli Y; DiDonato, Nancy; Dickson, Kerim E; Everett, Nicole A; Watkins, Kyle R
Subject: RE: [EXTERNAL] MWD and PVID Approve Revised SCIA

Hi Bill and JR,

Your message has been received and we will proceed with preparing an execution copy of the amendment for signature.

Thanks,
Dan

From: Hasencamp,William <whasencamp@mwdh2o.com>
Sent: Monday, August 25, 2025 10:35 AM
To: Bunk, Daniel A <dbunk@usbr.gov>
Cc: Hughes,Michael W <MHughes@mwdh2o.com>; JR Echard <jr@pvid.org>
Subject: [EXTERNAL] MWD and PVID Approve Revised SCIA

Dan Bunk
Area Manager | Boulder Canyon Operations Office

Dear Dan:

We are pleased to inform you that the boards of both MWD and PVID have approved entering into a revised SCIA with Reclamation. This email serves to notify Reclamation that MWD and PVID hereby request Reclamation amend the current SCIA to extend the creation of system conservation water from August 1, 2026 through December 31, 2026 with similar terms and conditions in the current SCIA.

Please contact either of us if you have any questions. We appreciate Reclamation's support of this program.

Thank you,

Bill Hasencamp, Metropolitan Water District
JR Echard, Palo Verde Irrigation District

California Colorado River Contractors Forbearance Agreement for 2024-2026 Conservation Agreements Under the Lower Colorado Conservation and Efficiency Program

Coachella Valley Water District, Imperial Irrigation District, The Metropolitan Water District of Southern California, Palo Verde Irrigation District, and the City of Needles, each of which is a "Party" and together are the "Parties," enter into this Agreement as follows:

Recitals

A. Each of the Parties to this Agreement is a California Colorado River contractor pursuant to a contract with the Secretary of the Interior for delivery of Colorado River water under Section 5 of the Boulder Canyon Project, which contracts, together with subsequent agreements among some or all the Parties or among some or all of the parties and the United States Department of Interior Bureau of Reclamation, and along with applicable State and Federal laws, define the rights of each Party to request and receive delivery of Colorado River water for diversion for beneficial uses within the State of California.

B. Several of the Parties are individually or collectively engaging in programs to conserve Colorado River water to assist in maintaining storage in the Colorado River reservoirs to help prevent the reservoirs from declining below critical elevations as a result of recent hydrologic conditions in the Colorado River system.

C. In 2023, the Parties entered into the California Colorado River Contractors Forbearance Agreement for 2023 Conservation Agreements Under the Lower Colorado Conservation and Efficiency Program to provide assurance that no Party would claim a right to the benefit of, the delivery of, or to the diversion of certain water conserved during 2023 in order to enable that water to increase storage in the Colorado River reservoirs.

D. The purpose of this Agreement is to provide assurance that no Party will claim a right to the benefit of, the delivery of, or to the diversion of the water conserved beginning in 2024 and through 2026 under the Conservation Programs listed below in order to enable the water conserved to increase storage in the Colorado River reservoirs.

Now THEREFORE, in consideration of the agreements and covenants herein, the Parties agree as follows:

Forbearance

1. Each of the Parties hereby forbears any claim to the benefit of, to divert, or to seek the delivery of Colorado River water conserved by any of the following programs ("Conservation Programs"):

a. The System Conservation Implementation Agreement (SCIA) between the United States Bureau of Reclamation and the Coachella Valley Water District to Implement the Lower Colorado Conservation and Efficiency Program (LC Conservation Program) based upon temporary and

compensated conservation of Colorado River water historically used to recharge groundwater aquifers, SCIA No. 23-XX-30-W0764 dated July 24, 2023 (up to 35,000 acre-feet/year in 2024 and 2025).

b. The System Conservation Implementation Agreement between the United States Bureau of Reclamation and the Coachella Valley Water District to Implement the Lower Colorado Conservation and Efficiency Program (LC Conservation Program) based upon temporary and compensated conservation of Colorado River water historically used for irrigation of lands within Coachella Valley Water District, SCIA No. 23-XX-30-W0821 dated March 28, 2024 (up to 10,000 acre-feet/year from 2024-2026).

c. The System Conservation Implementation Agreement between the United States Bureau of Reclamation and The Metropolitan Water District of Southern California to implement a Lower Colorado Conservation and Efficiency Program (LC Conservation Program) based upon temporary and compensated conservation of Colorado River water historically used for irrigation of lands within the Palo Verde Irrigation District, SCIA No. 23-XX-30-W0772 dated December 13, 2023 (up to 117,021 acre-feet/year from 2024-2026).

d. The System Conservation Implementation Agreement between the United States Bureau of Reclamation and the Imperial Irrigation District to implement a Lower Colorado Conservation and Efficiency Program (LC Conservation Program) based upon temporary and compensated conservation of Colorado River water historically used for irrigation of lands within Imperial Irrigation District's service area, SCIA No. 24-XX-30-W0825 dated August 26, 2024 (up to 300,000 acre-feet/year with a cumulative total not to exceed 700,000 acre-feet from 2024-2026).

e. The System Conservation Implementation Agreement among the United States Bureau of Reclamation, The Metropolitan Water District of Southern California, and the Bard Water District to implement a Lower Colorado Conservation and Efficiency Program (LC Conservation Program) based upon temporary and compensated conservation of Colorado River water historically used for irrigation of lands within Bard Water District, SCIA No. 23-XX-30-W0773 dated September 23, 2024 (up to 5,700 acre-feet/year from 2024-2026).

2. Imperial Irrigation District, The Metropolitan Water District of Southern California, Palo Verde Irrigation District, and the City of Needles, each hereby forbears any claim to the benefit of, to divert, or to seek the delivery of Colorado River water conserved during 2024 and 2025 by the following Conservation Program:

a. The System Conservation Implementation Agreement between the United States Bureau of Reclamation and The Metropolitan Water District of Southern California to implement a Lower Colorado Conservation and Efficiency Program (LC Conservation Program) based upon temporary and compensated conservation of Colorado River water historically used for irrigation of lands within the Quechan Indian Reservation in California, SCIA No. 23-XX-30-W0783 dated December 13, 2023, and as amended on November 12, 2024 (up to 13,000 acre-feet per year in 2024-2026).

3. The forbearance given by this Agreement as to the Conservation Programs identified in Sections 1 and 2 above shall be for the benefit of each of the Parties and shall also be for the benefit of the United States Department of Interior, Bureau of Reclamation. This Agreement does not create any third-party beneficiary rights in any person other than the Parties and the United States Department of the Interior, Bureau of Reclamation.

4. The Parties' forbearance under this Agreement is conditioned upon the annual verification of the conserved water after a workgroup consultation between the United States Department of Interior, Bureau of Reclamation, The Metropolitan Water District of Southern California, Imperial Irrigation District, and Coachella Valley Water District. Any objection must be conveyed in writing within twenty-one (21) days following the consultation.

CVWD Limitation

5. Coachella Valley Water District hereby reaffirms its commitment made in paragraph 6 of the Drought Contingency Plan Implementation Agreement Between The Metropolitan Water District of Southern California and Coachella Valley Water District dated May 20, 2019.

Agreement Is Non-Precedential, Contains No Admissions, and Modifies No Other Agreements

6. The Parties agree that this Agreement shall not in any matter constitute a precedent as to the following:

(a) any right, obligation, or authority of any Party to engage in a conservation program;

(b) any methodology used to establish a baseline of consumptive use by which conservation for a program is measured or established in any future year; and

(c) the quantity of water or the proportion of reduction of contractual entitlement that an agency may be required to conserve or not divert, during any declared shortage.

7. The Parties agree that the reference to "forbearance" in this Agreement does not constitute an admission by any Party that any Party actually has a legal right to claim the conserved water created by any other Party in the absence of a forbearance agreement.

8. Some of the Parties are parties to other agreements among themselves and others relating to drought or shortages on the Colorado River. Nothing in this Agreement expressly or implicitly amends, modifies, or conflicts with the provisions of any of those other such agreements.

Term

9. This Agreement shall be effective when signed by two or more Parties as between the initial signatory Parties and shall be binding upon a subsequent signatory Party as of the date of signature of that Party.

10. The obligations related to the forbearance of conserved water conserved relating to the Conservation Programs under this Agreement shall terminate on May 31, 2027. Otherwise, the provisions of this Agreement shall remain enforceable.

Miscellaneous

11. The rights and obligations under this Agreement do not commit any Party to engage in the creation of conserved water under the Conservation Programs identified in Section 1 above.

12. Each Party represents and warrants that each person or persons executing this Agreement on its behalf is duly authorized to do so by the respective Party and that this Agreement binds that Party.

13. This Agreement may be executed in counterparts, each which is an original, but all of which together will constitute one and the same instrument.

[Signatures on following page]

The Parties are signing this Agreement as of the dates indicated below:

Approved as to form:

Signed by:
Marcia Scully
9D1F0CE7D578409...
General Counsel

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Signed by:
Deven Upadhyay
A4844BCDF3984DE...
General Manager

Approved as to form:

Signed by:
Steven B. Abbott
64525CB1FF9F4CB...
Legal Counsel

COACHELLA VALLEY WATER DISTRICT

DocuSigned by:
6F25411F04354B6...
General Manager

Approved as to form:

Signed by:
Geoffrey P. Holbrook
35E2A702FB6B45B...
General Counsel

IMPERIAL IRRIGATION DISTRICT

DocuSigned by:
Jamie Asbury
3223185B497044D...
General Manager

Approved as to form:

Signed by:
David R. Saunders
1F2191DD92D8491...
Legal Counsel

PALO VERDE IRRIGATION DISTRICT

Signed by:
JR Echard
0C2A0461EA6B483...
General Manager

Approved as to form:

Signed by:
Robert Hargreaves
5E80596304194C5...
City Attorney

CITY OF NEEDLES

DocuSigned by:
24453C88D677439...
City Manager

City of Needles, California
Request for Commission Action

☐ CITY COUNCIL ☒ BOARD OF PUBLIC UTILITIES ☒ Regular ☐ Special

Meeting Date: January 20, 2026

Title: Selection of a Chairman and Vice Chairman for the ensuing year of 2026

Background: Terry Campbell has served as Chairman since January 2018 and Ed Brown as Vice Chairman since June 2025 with the resignation of Mike Schneider.

Fiscal Impact:

Environmental Impact:

Recommended Action: Appoint _____ as Chairman for the ensuing year of 2026.

Appoint _____ as Vice Chairman for the ensuing year of 2026.

Submitted By: Cheryl Sallis

City Manager Approval: Patrick J Martinez Date: 1/14/2026

Other Department Approval (when required): _____ Date: _____

Approved: ☐ Not Approved: ☐ Tabled: ☐ Other: ☐

Agenda Item: _____

City of Needles, California
Request for Commission Action

☐ CITY COUNCIL ☒ BOARD OF PUBLIC UTILITIES ☒ Regular ☐ Special

Meeting Date: January 20, 2026

Title: Staff recommendation to hold monthly meetings in lieu of the current semi-monthly schedule

Background: To be in conformance with all other City Boards and Commissions, staff would recommend that the Board consider going to monthly meetings (1st Tuesday of each month) in lieu of the current semi-monthly schedule. City Charter Sec. 904 provides "Each board or commission shall hold such regular and special meetings as such board or commission may require. All proceedings shall be open to the public." Should the need arise for immediate Board action, a special meeting could be called by the Chairman. If approved, this schedule of monthly meetings will continue until changed by further Board action.

Fiscal Impact: None

Environmental Impact: N/A

Recommended Action: Move to approve holding regular monthly meetings on the first Tuesday of each month with the option of calling a special meeting on the third Tuesday should the need arise for Board action.

Submitted By: Rainie Torrance, Utility Manager

City Manager Approval: Patrick J Martinez Date: 1/14/2026

Other Department Approval (when required): _____ Date: _____

City of Needles, California
Request for Commission Action

☐ CITY COUNCIL ☒ BOARD OF PUBLIC UTILITIES ☒ Regular ☐ Special

Meeting Date: January 20, 2026

Title: City of Needles Present Perfected Rights ("PPR")

Background: Since 1885, the City has had Present Perfected Rights ("PPR") under Contract No. 05-XX-30-W0445; to 1,500 acre-feet ("AF") of diversion from the Colorado River ("River"), which provides 950 AF of consumptive use under PPR #43. The Contract is listed in the Consolidated Degree of the Supreme Court of the United States in the case of *Arizona v. California et a*l.

The highest priority rights to River water are "perfected rights" that are based on historical use of river water prior to the construction of the large Federal projects to dam and divert the river water. It is sometimes stated as "First in use, first in right." The use must be for beneficial purposes.

In 1995, the City purchased additional PPR from the Santa Fe Railway Company for 1,250 AF of diversion and 273 AF of consumption, PPR #44. Added together, these PPR allow the City to divert up to 2,760 AF of water (1,500 AF allowed the City via its 1885 PPR diversion and 1,260 AF via the City's acquisition of Santa Fe Railway Company's 1896 PPR diversion) and consume 1,223 AF.

The City of Needles is also allocated 527 acre-feet per year through management of the Lower Colorado Water Supply Project.

The City completed a Phase 1 SCIA pilot project for turf removal at the River's Edge Golf Course on April 15, 2016, which reduces the annual diversion by 232 acre-feet for ten years, expiring in 2026. In total, the City of Needles is allocated to divert 2,261 AF annually.

Future:

A number of reservoir and water management decisional documents and agreements that govern the operation of Colorado River facilities and the management of Colorado River water are currently scheduled to expire at the end of 2026. The Secretary, acting through Reclamation, proposes the adoption of new guidelines and coordinated management strategies to address Lake Powell and Lake Mead through their full operating range, to be implemented upon the expiration of the existing guidelines and agreements.

The Draft EIS analyzes a broad range of reasonable alternatives for the operational elements identified in the proposed federal action. These alternatives were developed through extensive engagement with a wide range of partners and stakeholders, as well as the general public, over a timeframe of over three years.

City of Needles, California
Request for Commission Action

Despite this extensive engagement, this Draft EIS does **not identify a Preferred Alternative** due to the current absence of a consensus-based approach to post-2026 reservoir operations among Basin entities.

Reclamation anticipates identifying a Preferred Alternative after publication of this Draft EIS that incorporates elements or variations of the Draft EIS alternatives, which would then be fully analyzed in the Final EIS.

Enclosed is the Bureau of Reclamation Draft Environmental Impact Statement evaluating a range of operational alternatives for managing Colorado River reservoirs after 2026, when current interim guidelines expire.

The Draft EIS will be published in the Federal Register on January 16, 2026, initiating a 45-day comment period that will end on March 2, 2026. Comments may be submitted via the following methods:

Reclamation will hold two virtual public meetings to provide information on the Draft EIS:

- Virtual meeting — Thursday, January 29, 2026, at 1:00 – 3:00 p.m. Mountain time
- Virtual meeting — Tuesday, February 10, 2026, at 5:30 – 7:30 p.m. Mountain time

To register for a virtual public meeting, please go to CR Post-2026 Operations | Bureau of Reclamation

Fiscal Impact: To be determined

Environmental Impact: To be determined

Recommended Action: Discussion Item

Submitted By:

City Manager Approval: Patrick J Martinez Date: 1/14/2026

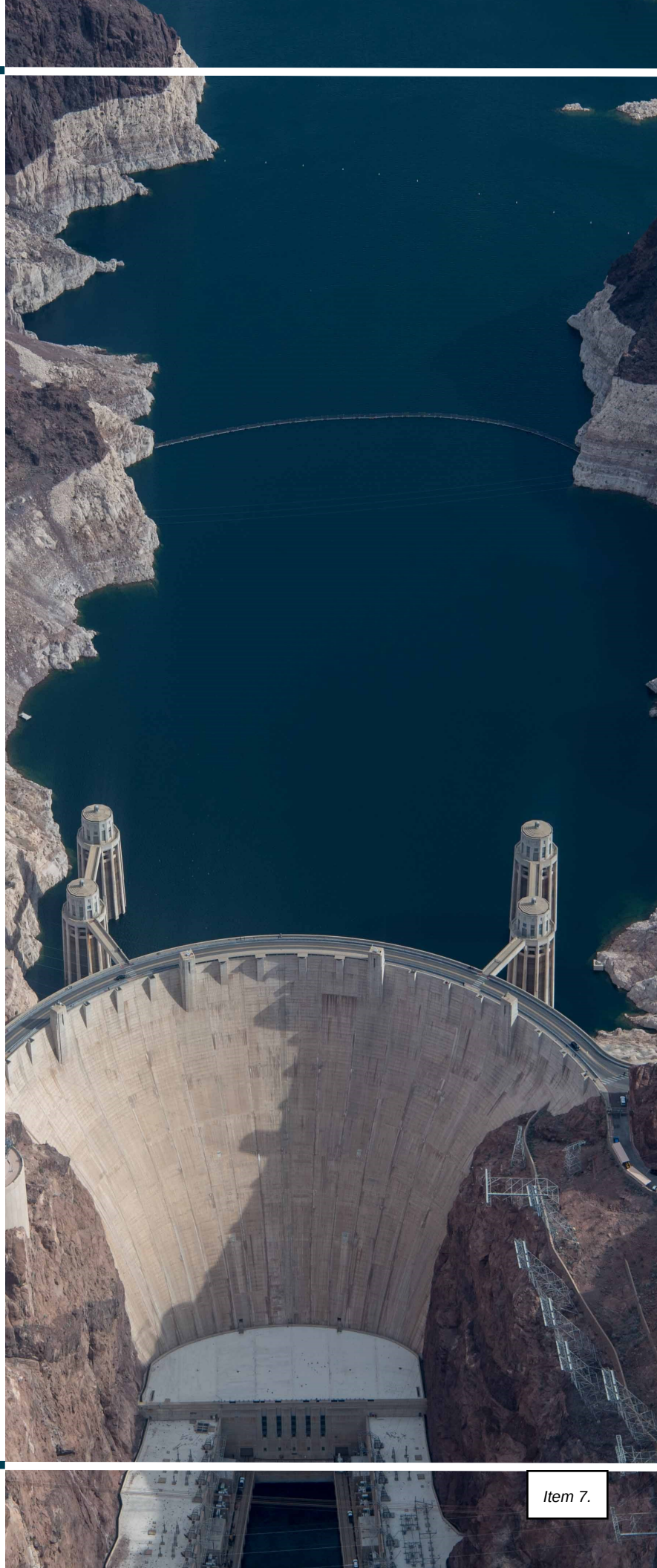
Other Department Approval (when required): _____ Date: _____

BUREAU OF
RECLAMATION

Draft
Environmental Impact Statement

Post-2026 Operational Guidelines and Strategies for Lake Powell and Lake Mead

Executive Summary



January 2026
U.S. Department of the Interior
Bureau of Reclamation
Upper and Lower Colorado Basins
Interior Regions 7 and 8

BUREAU OF
RECLAMATION

Mission Statements

The **Department of the Interior** protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the **Bureau of Reclamation** is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

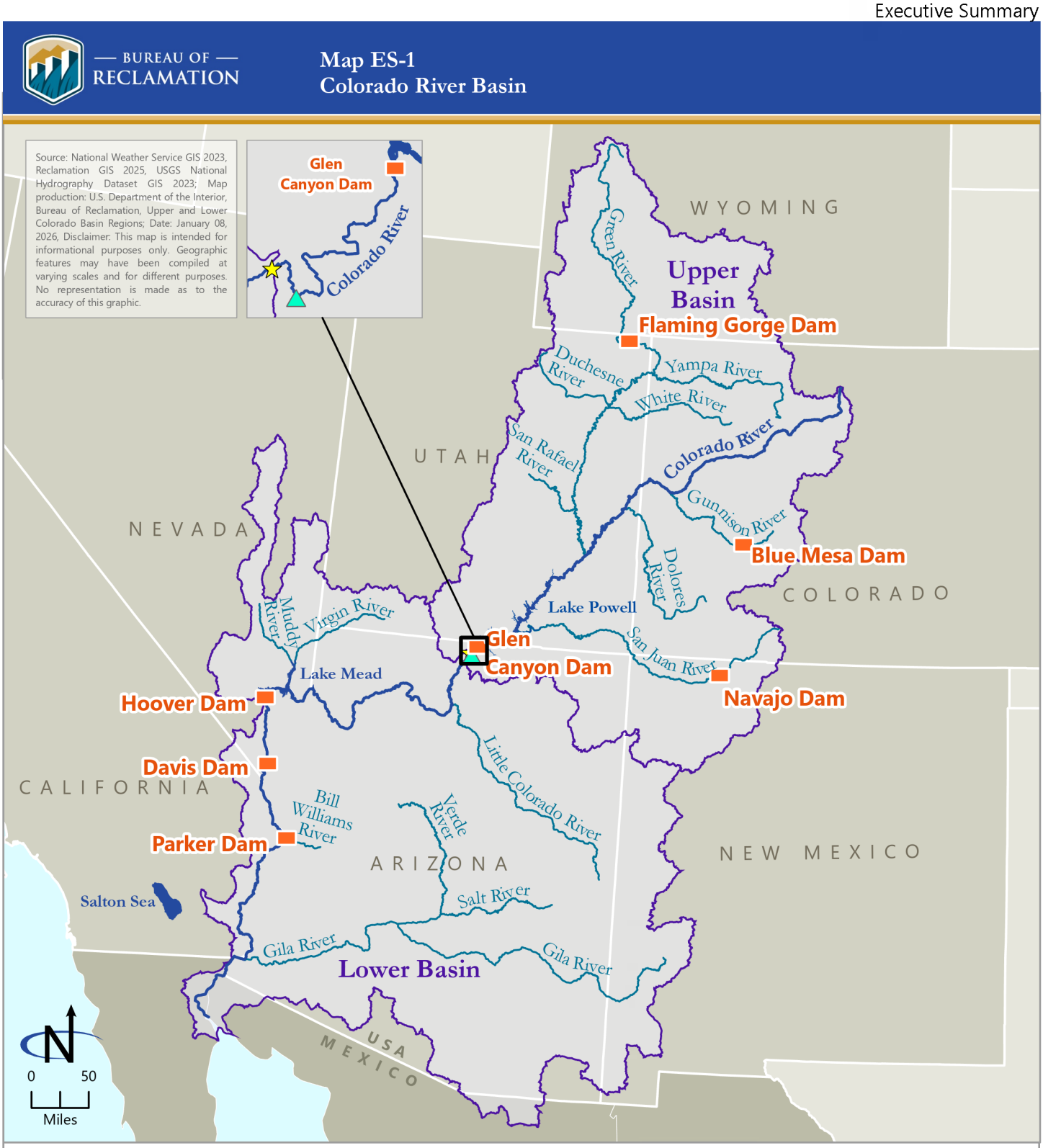
Photo by Reclamation, unknown date

Executive Summary

ES.1 Background

Prudent management of the Colorado River Basin (Basin) is crucial because the Colorado River is the foundation for diverse resources across a large geographic region and faces exceptional challenges from prolonged drought and future uncertainty. States, tribes, and Mexico rely on the Colorado River to support essential municipal, agricultural, environmental, cultural and hydropower needs. These resources are now at significant risk: since the onset of the current drought in 2000, the Basin's primary reservoirs, Lake Powell and Lake Mead, have fallen to historically low elevations. Several of the major reservoir- and water-management documents and agreements developed to guide Colorado River operations through the persistently dry conditions expire in 2026, including the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (2007 Interim Guidelines; Reclamation 2007), the 2019 Colorado River Drought Contingency Plans (Reclamation 2019), and key international agreements between the United States and Mexico. Despite the significance of these agreements, actions taken over the past two decades have not been sufficiently robust to prevent continued decline of the reservoirs.

The Secretary (Secretary) of the Department of the Interior (Department), acting through the Bureau of Reclamation (Reclamation), proposes adoption of new guidelines and coordinated management strategies to address Lake Powell and Lake Mead through their full operating range to take effect when the current agreements expire in 2026. Management strategies will primarily focus on the operation of Glen Canyon Dam and Hoover Dam but may include actions upstream and downstream of these facilities to protect critical reservoir elevations such as releases from the Colorado River Storage Project (CRSP) Upper Initial Units and approaches to enhance opportunities for Lower Basin water users to reduce water use (see **Map ES-1**). This Draft EIS has been prepared to inform the Secretary's timely adoption of a new set of guidelines that would be sufficiently robust and provide improved predictability to all water users and managers in the Basin. Developing new guidelines is difficult in this complex Basin, where critically low storage in Lake Powell and Lake Mead, significant hydrologic variability, and the anticipation of drier future conditions amplify the central tradeoff: balancing the potentially profound impacts of water-delivery reductions with the need to maintain reservoir storage. The alternatives in this Draft EIS capture a broad range of management strategies to address this tradeoff, and they demonstrate that there are multiple ways to find a balance if conditions improve. If conditions do not improve, achieving a balance is more difficult, and, under critically dry futures, even large and unprecedented reductions may not be enough to stabilize storage.


BUREAU OF RECLAMATION
Map ES-1
Colorado River Basin
Source: National Weather Service GIS 2023, Reclamation GIS 2025, USGS National Hydrography Dataset GIS 2023; Map production: U.S. Department of the Interior, Bureau of Reclamation, Upper and Lower Colorado Basin Regions; Date: January 08, 2026, Disclaimer: This map is intended for informational purposes only. Geographic features may have been compiled at varying scales and for different purposes. No representation is made as to the accuracy of this graphic.
Glen Canyon Dam
Colorado River
WYOMING
Green River
Upper Basin
Flaming Gorge Dam
Duchesne River
Yampa River
White River
UTAH
San Rafael River
Colorado River
Gunnison River
Blue Mesa Dam
NEVADA
COLORADO
Dolores River
Lake Powell
Muddy River
Virgin River
Glen Canyon Dam
San Juan River
Navajo Dam
Lake Mead
Hoover Dam
Davis Dam
Little Colorado River
CALIFORNIA
Bill Williams River
Verde River
Parker Dam
NEW MEXICO
ARIZONA
Salton Sea
Salt River
Gila River
Gila River
Lower Basin
USA
MEXICO
N
0
50
Miles
Major dam
Lee Ferry Compact Point
Lees Ferry Gaging Station
Colorado River
Major Colorado River tributary
Colorado River Basin, Upper and Lower Basins
States in the Colorado River Basin (Wyoming, Colorado, Utah, and New Mexico are Upper Division states, and Arizona, California, and Nevada are Lower Division states)

Given the magnitude of the tradeoffs and the considerable hydrologic uncertainty, and recognizing the important operating experience gained during the current interim period, the Secretary proposes that these new guidelines also be interim in duration to gain additional operating experience. To provide stability and predictability to Basin water users, the Secretary intends that the interim period extend approximately 20 years; however, given the ongoing efforts toward achieving consensus among various Basin entities regarding appropriate post-2026 operations, the Secretary remains open to a shorter duration or phased implementation as part of a longer-term framework.

Reclamation, as the agency that is designated to act on the Secretary's behalf with respect to operation of Glen Canyon Dam and Hoover Dam and managing the mainstream waters of the lower Colorado River pursuant to federal law, is the lead federal agency for the purposes of compliance pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended, for the development and implementation of the proposed interim guidelines. Five federal agencies are cooperating for purposes of assisting with environmental analysis and preparation of this Environmental Impact Statement (EIS). The cooperating agencies are the Bureau of Indian Affairs, United States Fish and Wildlife Service, National Park Service (NPS), Western Area Power Administration, and the United States Section of the International Boundary and Water Commission. The EIS is organized into three volumes:

Volume I – EIS with the following chapters:

> Chapter 1: Purpose and Need. Provides the background of Colorado River operations and describes why federal action is needed.
>
> Chapter 2: Description of Alternatives. Describes Reclamation's engagement with stakeholders, how alternatives were developed and considered, and a detailed overview of all alternatives evaluated in the EIS.
>
> Chapter 3: Affected Environment and Environmental Consequences. Describes the existing environmental conditions and evaluates potential impacts that could result from implementation of the alternatives.
>
> Chapter 4: Consultation and Coordination. Describes public and stakeholder involvement process during the preparation of this Draft EIS.

Volume II – Supporting appendices, primarily focused on modelling information, including modeling assumptions, analytical methods, and supporting calculations.

Volume III – Technical appendices for each of the environmental resources discussed in Chapter 3. These appendices provide supporting and more detailed information.

ES.1.1 Purpose and Need for Action

The proposed federal action is needed for the following reasons:

- *The Secretary is legally required to coordinate operations of Colorado River reservoirs:* The Colorado River Basin Project Act of 1968 directs the Secretary to adopt criteria for the coordinated

long-range operation of Colorado River reservoirs. In compliance with this obligation, the Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs (LROC) were developed and adopted by the Secretary in 1970. The LROC provides general narrative guidance regarding Lake Powell and Lake Mead operations but does not contain specific, objective criteria to guide annual operations. To address this inadequacy, the 2007 Interim Guidelines were developed to provide objective criteria used by the Department to implement the LROC. The 2007 Interim Guidelines have provided the predictability needed by the entities that receive Colorado River water to better plan for and manage available water supplies from the Colorado River and other sources.

- The *2007 Interim Guidelines are expiring:* Current operational guidelines expire during the 2026 operating year. The Department has determined that specific, objective operational guidelines are important to provide improved predictability and should be established for another interim period beyond 2026. Most of the federal and non-federal agreements associated with implementing provisions of the 2007 Interim Guidelines also expire after the 2026 operating year.
- *The 2007 Interim Guidelines have not sufficiently reduced risk:* Based on operational experience since 2007, the current guidelines are not robust enough to manage the system in a way that is sufficiently protective of the resources dependent on the Colorado River. Despite near-continuous drought-response actions in recent years, low-reservoir conditions have persisted, and new infrastructure risks at Glen Canyon Dam have arisen. More robust and adaptive guidelines are needed for the efficient and sustainable management of the major mainstream Colorado River reservoirs and system resources.
- *Imbalance between water supply and demand will be exacerbated by increasingly likely low-runoff conditions:* The Basin is experiencing increased aridity due to climate variability, and long-term drought and low-runoff conditions are expected in the future. These conditions will exacerbate the now widely recognized imbalance between water supply and demand in the Basin. Robust and flexible guidelines are needed to manage the Colorado River system and its resources under a broad range of potential future hydrologic conditions.
- *Expanded and innovative use of conservation is needed:* Recognizing the anticipated future low-runoff conditions in the Basin, the Department has also determined a need for guidelines that provide Colorado River water users, including Basin Tribes, expanded opportunities to conserve, store, and take subsequent delivery of water in and from Lake Mead and/or Lake Powell. The guidelines should also support and integrate future efficiency improvements and opportunities for augmentation.
- *Addressing tribal concerns regarding Basin management is needed:* Basin Tribes have expressed concern that the current approach to Colorado River water management is insufficient to address the range of interests, needs, and fundamental rights of the Basin Tribes. The Department has determined a need for guidelines that provide flexibility and predictability for Basin Tribes to remain able to benefit from their water rights and have opportunities to participate in voluntary conservation programs.

The purpose for the proposed federal action is to:

- Update and expand management guidelines for Colorado River reservoirs, particularly for the coordinated operation of Lake Powell and Lake Mead
- Provide Colorado River water users a greater degree of predictability with respect to annual water availability in future years under anticipated increasing variability, low runoff, and low-reservoir conditions
- Provide additional mechanisms for the conservation, storage, and delivery of water supplies in Colorado River reservoirs
- Provide new or enhanced opportunities for Basin Tribes to benefit from their water rights
- Provide flexibility to build resilience and accommodate future needs and growth that are supported by Colorado River water supplies, including the integration of unquantified tribal water rights once they are resolved

ES.1.2 Proposed Federal Action

Reclamation, acting on behalf of the Secretary, proposes to adopt specific guidelines and coordinated reservoir management strategies to address operations of Lake Powell and Lake Mead through their full operating ranges. This action would improve predictability to all water users and managers in the Basin by developing and adopting objective guidelines for the operation of Glen Canyon Dam and Hoover Dam to take effect when the current operating guidelines expire in 2026. This action is designed to provide for the sustainable management of the Colorado River system and its resources under a wide range of potential future system conditions.

The proposed federal action considers the following operational elements that are collectively designed to address the purpose and need for the proposed federal action:

1) Identification of circumstances under which the Secretary would allocate the annual amount of water available for consumptive use from Lake Mead to the Lower Division states (Arizona, California, and Nevada) at, below, or above 7.5 million acre-feet (maf), pursuant to the Supreme Court Decree in *Arizona* v. *California,* 376 U.S. 340 (1964) (Final Decree entered in 2006).
2) Coordinated operations of Lake Powell and Lake Mead, particularly under low reservoir conditions.
3) Storage and delivery of conserved water in Lake Mead and/or Lake Powell to increase the flexibility to meet water use needs from both reservoirs, including the storage and delivery of non-system water; exchanges; and water conserved through extraordinary measures by or for tribal, agricultural, or municipal entities.

The proposed federal action allows for development of robust operating guidelines for Lake Powell and Lake Mead without precluding upstream or downstream actions needed to protect critical reservoir elevations at Lake Powell and Lake Mead, such as the following:

- Approaches that consider total system storage in all major Colorado River reservoirs and/or actual inflows to determine coordinated operations of Lake Powell and Lake Mead.
- Approaches that include opportunities for conservation, augmentation, demand management, or other water management strategies.
- Emergency response operations at upstream CRSP reservoirs to protect critical infrastructure at Glen Canyon Dam.

The Secretary intends that the guidelines be interim in nature and extend for the same duration as the 2007 Interim Guidelines (approximately 20 years). Adoption of new guidelines for an interim (or limited) period provides the opportunity to gain additional experience for operating the reservoirs, thereby informing future operational and water management decisions. Given the ongoing efforts toward achieving consensus among various Basin entities regarding appropriate post-2026 operations, the Secretary remains open to a shorter duration or phased implementation as part of a longer-term framework.

Recognizing additional authorities may be developed, the Department intends to adopt and implement the guidelines in a manner consistent with the Law of the River. The Department also intends that the guidelines be used to implement the LROC through the issuance of the Annual Operating Plan for Colorado River Reservoirs.

ES.1.3 Geographic Scope

Consistent with the geographic scope analyzed in the 2007 Interim Guidelines FEIS, the geographic scope that would be affected by the proposed federal action begins at full pool of Lake Powell at Gypsum Canyon and extends downstream along the mainstream Colorado River floodplain to the Southerly International Boundary (SIB) with Mexico. This proposed federal action would also potentially affect interests of water users in the Lower Division States in service areas that extend beyond the Colorado River floodplain.

Although the proposed federal action is focused on Lake Powell and Lake Mead operations, management strategies that include activities upstream of Lake Powell are being analyzed in this Draft EIS. These activities include Upper Basin conservation and, if warranted to protect critical reservoir elevations, operations at the CRSP Upper Initial Units. Operations at the CRSP Upper Initial Units specifically contemplated in the Draft EIS alternatives are intended to remain within the scope of the existing Records of Decision (RODs). [1] Accordingly, the Draft EIS does not expand the geographic scope of analysis upstream of Lake Powell. With respect to Upper Basin

[1] While the Secretary will consider and prioritize operations at these facilities that are consistent with existing RODs, the Secretary retains the authority to operate outside those RODs if necessary. The modeling assumptions regarding operation of the CRSP Upper Initial Units presented in this Draft EIS are not intended to, and do not, limit the Secretary's ability to operate these facilities as necessary to respond to hydrologic conditions in accordance with applicable federal law, including operations for the authorized purposes as stated in the 1956 Colorado River Storage Project Act.

conservation, the nexus to the proposed federal action is the storage and delivery of that conserved water in Lake Powell. The effects of this storage in and delivery from Lake Powell are within the scope of the EIS, while specific activities that may be undertaken in the Upper Basin to generate the conserved water are not within the scope of this EIS. Any such activities are unknown at this time and will not necessarily require federal decision making. Any federal decisions associated with these conservation activities will be assessed outside of this EIS.

ES.2 Alternatives

ES.2.1 Alternative Development

The process of developing the range of alternatives was informed by solicitation of input and extensive collaborative engagement with stakeholders, including the Basin States,[2] Basin Tribes, conservation organizations, other federal agencies, and members of the public. Reclamation solicited input on considerations for alternatives during pre-scoping and scoping periods in 2022 and 2023 and worked collaboratively with Basin stakeholders to identify a range of alternatives throughout 2024 and 2025.

During the public involvement periods and the subsequent alternatives development process, Reclamation received considerable input from the Basin States, many Basin Tribes,[3] conservation organizations, other federal agencies, other stakeholders, and members of the public. Input submitted ranged from detailed proposed alternatives to operational concepts and principles. Throughout the alternatives development phase, Reclamation conducted over 100 meetings with states, tribes, and other partners to review and discuss their input. For those proposals containing sufficient detail to be considered as a full alternative or a major component of an alternative, Reclamation worked extensively with these entities to not only understand and gather additional information, but also to model and perform preliminary analyses of their proposals to facilitate refinements. Additionally, Reclamation developed and hosted an online platform, the Post-2026 Operations Exploration Web Tool, allowing stakeholders, interested parties, and the public to independently or collaboratively design operational strategies to inform their input to the NEPA process.

Despite this extensive engagement, a consensus-based approach to Basin reservoir operations has not yet been achieved and therefore, Reclamation has not identified a Preferred Alternative in this Draft EIS. Since 1970, the Basin States have supported operations and reached agreements among themselves and with the Secretary on various aspects of Colorado River reservoir operations. It is beyond question that achieving a consensus-based approach to Basin reservoir operations has

[2] Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming

[3] There are 30 federally recognized Native American Tribes in the Colorado River Basin: Ak-Chin Indian Community, Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort McDowell Yavapai Nation, Fort Mojave Indian Tribe, Fort Yuma-Quechan Tribe, Gila River Indian Community, Havasupai Tribe, Hopi Tribe, Hualapai Tribe, Jicarilla Apache Nation, Kaibab Band of Paiute Indians, Las Vegas Paiute Tribe, Moapa Band of Paiute Indians, Navajo Nation, Pascua Yaqui Tribe, Pueblo of Zuni, Salt River Pima-Maricopa Indian Community, San Carlos Apache Tribe, San Juan Southern Paiute, Shivwits Band of Paiutes, Southern Ute Indian Tribe, Tohono O'odham Nation, Tonto Apache Tribe, Ute Indian Tribe of the Uintah and Ouray Reservation, Ute Mountain Ute Tribe, White Mountain Apache Tribe, Yavapai-Apache Nation, and Yavapai-Prescott Indian Tribe.

proved critical to the long-term operating success of the Basin. Given the importance of a consensus-based approach to operations in terms of the stability of the system, the Department will continue to pursue an agreement among various Basin entities. Should a consensus emerge following the publication of this Draft EIS, Reclamation anticipates that such an agreement will incorporate elements or variations of these Draft EIS alternatives and will be fully analyzed in the Final EIS.

ES.2.2 Alternatives

This Draft EIS includes the following five alternatives that capture an appropriately board range of operational elements and potential environmental impacts:

- No Action Alternative
- Basic Coordination Alternative
- Enhanced Coordination Alternative
- Maximum Operational Flexibility Alternative
- Supply Driven Alternative

Three of the alternatives directly reflect proposals and concepts received from, and refined through, stakeholder engagement. Specifically, a group of Basin Tribes and other federal agencies informed Reclamation's development of the Enhanced Coordination Alternative and the Maximum Operational Flexibility Alternative is based on a proposal from a consortium of conservation organizations. The Supply Driven Alternative incorporates concepts from the separate proposals submitted by the Upper Division and Lower Division States, as well as ideas emerging from discussions with the Basin States during spring 2025. Reclamation developed the Basic Coordination Alternative to provide a compliance option for a set of operations that could be implemented in 2027 if no new agreements among Basin water users are adopted.

The Secretary has the vested authority and responsibility to operate the System through coordinated operations, including the ability to respond to exigent and emergency conditions, pursuant to applicable federal law, the Decree, contractual obligations, and other elements of the Law of the River. The full extent of Reclamation's operational authority has not been tested to date—either operationally or through legislative or judicial review. The primary reason for this is that management of the river has been based on agreements among Basin water users. In most cases, Reclamation's authority to fully implement the agreements has not been in question; however, specific operational mechanisms negotiated as part of the 2019 Drought Contingency Plan required congressional legislation[4] to fully implement.

The alternatives in this Draft EIS are designed to cover a wide range of potential outcomes with respect to post-2026 operations; accordingly, they incorporate components that are within existing authorities along with components that would require new authorities and/or new agreements among Basin water users to fully implement.

[4] The Colorado River Drought Contingency Authorization Act was passed on April 16, 2019, directing the Secretary to implement the 2019 DCP.

Each alternative is comprised of four operational elements reflective of the proposed federal action: (1) Guidelines to Reduce or Increase Deliveries from Lake Mead, (2) Coordinated Reservoir Operations (Lake Powell and Lake Mead), (3) Storage and Delivery of Conserved System and Non-System Water, and (4) Additional Activities Above Lake Powell. Each element is varied across the alternatives providing a reasonable and broad range of Colorado River operations that capture an appropriate range of potential environmental impacts. Based on the analysis in and public review of this Draft EIS, Reclamation may refine these Draft EIS alternatives or develop additional alternatives for the Final EIS.

Summary descriptions of the No Action Alternative and the four action alternatives considered and evaluated in the Draft EIS are provided in **Table ES-1**.

Table ES-1
Summary Comparison of Alternatives

No Action Alternative

The No Action Alternative is included as a requirement of NEPA. Operations would revert to annual determinations announced through the Annual Operating Plan. Pursuant to the LROC, the objective is to maintain a minimum release of water from Lake Powell of 8.23 maf, therefore Lake Powell releases are assumed to be 8.23 maf[1] unless a higher release is required for equalization or a lower release occurs due to Glen Canyon Dam infrastructure limitations.[2] Shortages to the Lower Basin would be based on priority and reach a maximum of 600 thousand acre-feet (kaf). This would not represent a continuation of current operations but is generally based on the operating guidance that was in place before the adoption of the 2007 Interim Guidelines. While the authority to use CRSP Upper Initial Units to respond to exigent and emergency conditions was recognized at that time, no specific framework for such activities had been developed, so no defined activities are included in this alternative. Existing Intentionally Created Surplus (ICS) would be delivered in accordance with existing agreements, but there would be no new storage and delivery mechanisms.

Shortage Guidelines to Reduce Deliveries from Lake Mead[3]	Coordinated Reservoir Operations (Lake Powell and Lake Mead)	Storage and Delivery of Conserved System and Non-system Water[3]	Surplus Guidelines to Increase Deliveries/ Releases from Lake Mead[3]	Additional Activities Above Lake Powell
• Shortages determined based on Lake Mead elevation • Shortage volume of 400, 500, and 600 kaf at elevations 1,075, 1,050, and 1,025 feet, respectively • Shortages distributed based on priority	• Lake Powell release of 8.23 maf unless more is required for equalization releases • Releases less than 8.23 maf below elevation 3,490 feet due to Glen Canyon Dam infrastructure limitations	• No new storage and delivery mechanism to replace ICS • Delivery of existing ICS in accordance with existing agreements	• Surplus determinations limited to 70R (spill avoidance strategy) and Flood Control conditions	• No specific additional activities above Lake Powell defined

[1] Article II(2) of the LROC states the "objective shall be to maintain a minimum release of water from Lake Powell of 8.23 [maf]." Reclamation recognizes that entities in the Basin have different legal positions regarding how this LROC statement incorporates other Law of the River elements to determine annual releases. Reclamation also recognizes that variation in releases of water above and below the minimum objective release of 8.23 maf can, in appropriate circumstances, be adopted.

[2] Releases from Glen Canyon Dam may be unable to achieve the specified annual release volume when Lake Powell is below elevation 3,490 feet due to infrastructure constraints. Modeling assumptions for all alternatives reflect this constraint (see **Appendix A**).

[3] These operational elements contain modeling assumptions for water deliveries to Mexico. Shortage volumes include assumptions related to reductions in water deliveries to Mexico. Lake Mead storage volumes for the Storage and Delivery of Conserved System and Non-system Water include assumptions related to storage available to Mexico. Surplus Guidelines include assumptions related to increased deliveries to Mexico. **Appendix A** provides additional detail. Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current United States policy or a determination of future United States policy regarding deliveries to Mexico. The United States will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Water Treaty with Mexico through the IBWC in consultation with the Department of State.

<table>
<tr><td>Basic Coordination Alternative</td><td colspan="5">This alternative is designed to be implementable absent new agreements among Basin water users. Lake Powell releases would primarily be 8.23 maf, with some releases above and below 8.23 maf, and minimum releases of 7.0 maf. Lake Powell elevations could be increased by releases from CRSP Upper Initial Units within their respective RODs to protect infrastructure at Glen Canyon Dam. Reclamation would identify triggers for when additional Upper Basin actions are needed to protect critical infrastructure. Lower Basin shortages up to 1.48 maf would be triggered based on Lake Mead elevation and distributed consistent with priority system. Existing ICS would be delivered in accordance with existing agreements, but there would be no new delivery and storage mechanisms.</td></tr>
<tr><td></td><td>Shortage Guidelines to Reduce Deliveries from Lake Mead[3]</td><td>Coordinated Reservoir Operations (Lake Powell and Lake Mead)</td><td>Storage and Delivery of Conserved System and Non-system Water[3]</td><td>Surplus Guidelines to Increase Deliveries/ Releases from Lake Mead[3]</td><td>Additional Activities Above Lake Powell</td></tr>
<tr><td></td><td>• Shortages based on Lake Mead elevation up to 1.48 maf
• Shortages distributed based on priority
• Identify conditions when additional reductions may be needed to avoid reaching critically low elevations</td><td>• Lake Powell releases are determined based on Lake Powell elevation unless equalization releases are required
• Releases range from 9.5 to 7.0 maf, unless more is required for equalization releases
• Identify conditions when additional action may be needed for infrastructure protection</td><td>• No new storage and delivery mechanism to replace ICS
• Delivery of existing ICS in accordance with existing agreements</td><td>• Surplus determinations limited to 70R (spill avoidance strategy) and Flood Control conditions</td><td>• Releases from CRSP Upper Initial Units within their respective RODs and contingent on hydrologic conditions to protect infrastructure at Glen Canyon Dam
• Identify conditions when additional Upper Basin actions may be needed for infrastructure protection</td></tr>
</table>

[3] These operational elements contain modeling assumptions for water deliveries to Mexico. Shortage volumes include assumptions related to reductions in water deliveries to Mexico. Lake Mead storage volumes for the Storage and Delivery of Conserved System and Non-system Water include assumptions related to storage available to Mexico. Surplus Guidelines include assumptions related to increased deliveries to Mexico. **Appendix A** provides additional detail. Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current United States policy or a determination of future United States policy regarding deliveries to Mexico. The United States will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Water Treaty with Mexico through the IBWC in consultation with the Department of State.

Enhanced Coordination Alternative

This alternative is based on concepts from Basin Tribes, federal agencies, and other stakeholders to achieve protection of critical infrastructure while benefitting key resources (e.g., natural, hydropower and recreation) through an approach to distributing storage between Lake Powell and Lake Mead. Lake Powell releases would be determined based on a combination of Lake Powell and Lake Mead elevations, 10-year running-average hydrology, and Lower Basin deliveries. This alternative would include storage and delivery mechanisms for Lake Powell and Lake Mead and extensive flexibilities for all users. The operations incorporate Basin-wide shared contributions to the system, including Upper Basin conservation that would be stored in Lake Powell and Lower Basin shortages starting at 1.3 maf, approximately the average annual evaporative and system losses at and below Lake Mead, and reaching a maximum of 3.0 maf. Shortages would be triggered based on combined storage in Lake Powell and Lake Mead and distributed pro rata.

Shortage Guidelines to Reduce Deliveries from Lake Mead[3]	**Coordinated Reservoir Operations (Lake Powell and Lake Mead)**	**Storage and Delivery of Conserved System and Non-system Water[3]**	**Surplus Guidelines to Increase Deliveries/ Releases from Lake Mead[3]**	**Additional Activities Above Lake Powell**
• Shortages determined based on combined storage in Lake Powell and Lake Mead • Shortages begin at 60% full at a volume of 1.3 maf, then increase linearly, reaching a maximum of 3.0 maf at 30% full and below • Shortages distributed pro rata	• Lake Powell releases determined based on a combination of Lake Powell and Lake Mead elevations, 10-year running-average hydrology, and Lower Basin deliveries • Releases range from 10.8 to 4.7 maf	• Storage up to 5.0 maf in Lake Mead with additional 2.0 maf Protection Pool; included for purposes of determining Lake Powell releases and shortages • Storage up to 2.0 maf in Lake Powell; included for purposes of determining Lake Powell releases but excluded from shortage determinations • Existing ICS converted to new mechanism immediately • Extensive flexibilities for all users: intra- and interstate transactions within each basin • Tribal water (both conserved consumptive use and unused) including in Lake Powell conservation pool and Lake Mead Protection Pool	• Surplus determinations limited to 70R (spill avoidance strategy) and Flood Control conditions	• Upper Basin conservation contributed to the Lake Powell conservation pool based on hydrologic conditions: up to 200 kaf per year for first 5 years, up to 275 kaf per year for second 5 years, up to 350 kaf starting in year 11

[3] These operational elements contain modeling assumptions for water deliveries to Mexico. Shortage volumes include assumptions related to reductions in water deliveries to Mexico. Lake Mead storage volumes for the Storage and Delivery of Conserved System and Non-system Water include assumptions related to storage available to Mexico. Surplus Guidelines include assumptions related to increased deliveries to Mexico. **Appendix A** provides additional detail. Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current United States policy or a determination of future United States policy regarding deliveries to Mexico. The United States will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Water Treaty with Mexico through the IBWC in consultation with the Department of State.

Maximum Operational Flexibility Alternative

This alternative is informed by a proposal submitted by a consortium of conservation organizations and incorporates proactive responses, targeted reservoir management strategies, and innovative and flexible tools to address an increasingly variable set of future hydrologic conditions. Lake Powell releases would range from 11.0 maf to 5.0 maf and would be determined by total CRSP system storage and recent hydrology. Releases would switch to "run-of-river" when Lake Powell is at 3,510 feet or lower. The operations incorporate Basin-wide shared contributions, including up to 4.0 maf of shortages in the Lower Basin triggered by combined seven-reservoir storage (CRSP Units, Lake Mead, Lake Mohave, and Lake Havasu) and recent hydrology and voluntary water contributions from both basins.

Shortage Guidelines to Reduce Deliveries from Lake Mead[3]	**Coordinated Reservoir Operations (Lake Powell and Lake Mead)** [3]	**Storage and Delivery of Conserved System and Non-system Water**	**Surplus Guidelines to Increase Deliveries/ Releases from Lake Mead**[3]	**Additional Activities Above Lake Powell**
• Shortages determined based on combined seven-reservoir storage and recent hydrology • Shortages start at 80% full and increase linearly, subject to upward adjustment based on hydrology, reaching a maximum of 4.0 maf • Shortages distributed based on priority, as described in Approach 1 of the Supply Driven Alternative	• Lake Powell releases determined based on total Upper Basin system storage and recent hydrology • Releases subject to downward adjustment based on hydrology and range from 11.0 to 5.0 maf • Releases switch to "run-of-river" when Lake Powell is at elevation 3,510 feet or lower	• Storage up to 8.0 maf in either Lake Powell or Lake Mead; excluded for purposes of determining Lake Powell releases and shortages • Existing ICS converted to new mechanism over 5 years • Extensive flexibilities for all users: transactions within and across basins, including interstate and inter-basin	• Surplus determinations limited to Flood Control conditions	• Average of 200 kaf of Upper Basin annual conservation based on hydrologic conditions contributed to the Lake Powell conservation pool

[3] These operational elements contain modeling assumptions for water deliveries to Mexico. Shortage volumes include assumptions related to reductions in water deliveries to Mexico. Lake Mead storage volumes for the Storage and Delivery of Conserved System and Non-system Water include assumptions related to storage available to Mexico. Surplus Guidelines include assumptions related to increased deliveries to Mexico. **Appendix A** provides additional detail. Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current United States policy or a determination of future United States policy regarding deliveries to Mexico. The United States will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Water Treaty with Mexico through the IBWC in consultation with the Department of State.

<table>
<tr><td>Supply Driven Alternative</td><td colspan="5">Annual Lake Powell releases are determined based on a 65 percent of 3-year-average natural flow at Lees Ferry. Lake Powell elevations could be increased by releases from CRSP Upper Initial Units within their respective RODs to protect infrastructure at Glen Canyon Dam. This alternative would include new delivery and storage mechanisms for Lake Powell and Lake Mead. Lower Basin shortages up to 2.1 maf would be triggered based on Lake Mead elevation. This alternative analyzes two approaches to shortage distribution: state-based combined with Lower Basin-wide priority and state-based combined with Lower Basin-wide pro rata.</td></tr>
<tr><td></td><td>Shortage Guidelines to Reduce Deliveries from Lake Mead[3]</td><td>Coordinated Reservoir Operations (Lake Powell and Lake Mead)</td><td>Storage and Delivery of Conserved System and Non-system Water[3]</td><td>Surplus Guidelines to Increase Deliveries/Releases from Lake Mead[3]</td><td>Additional Activities Above Lake Powell</td></tr>
<tr><td></td><td>• Shortages determined based on Lake Mead elevation
• Shortages start at 1,145 feet and reach a maximum of 2.1 maf at 1,000 feet and below</td><td>• Lake Powell releases determined primarily based on 65% of 3-year natural flows at Lees Ferry
• Releases range from 12.0 to 4.7 maf</td><td>• Storage up to 8.0 maf in Lake Mead; excluded for purposes of determining shortages
• Storage up to 3.0 maf at Lake Powell; included for purposes of determining Lake Powell releases
• Existing ICS converted to new mechanism over 10 years
• Expanded flexibilities: interstate exchanges within each basin</td><td>• Surplus determinations based on Lake Mead elevation at or above 1,165 feet, 70R (spill avoidance strategy) or Flood Control conditions</td><td>• Increased releases from CRSP Upper Initial Units by up to 500 kaf per year within their respective RODs and contingent on hydrologic conditions to protect infrastructure at Glen Canyon Dam
• Up to 200 kaf of Upper Basin annual conservation based on hydrologic conditions contributed to the Lake Powell conservation pool
• In years when Lake Powell cannot meet its required water year release because of low elevation, additional “gap water” is introduced into the system and tracked to be released in subsequent years</td></tr>
</table>

[3] These operational elements contain modeling assumptions for water deliveries to Mexico. Shortage volumes include assumptions related to reductions in water deliveries to Mexico. Lake Mead storage volumes for the Storage and Delivery of Conserved System and Non-system Water include assumptions related to storage available to Mexico. Surplus Guidelines include assumptions related to increased deliveries to Mexico. **Appendix A** provides additional detail. Reclamation’s modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current United States policy or a determination of future United States policy regarding deliveries to Mexico. The United States will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Water Treaty with Mexico through the IBWC in consultation with the Department of State.

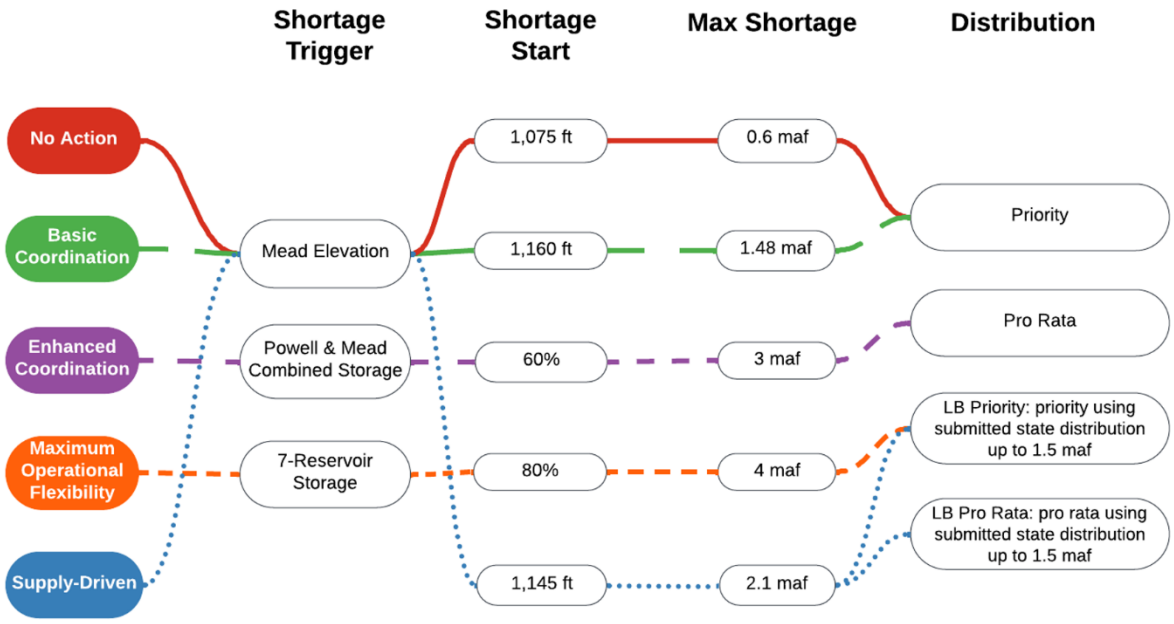
ES.2.3 Range of Alternatives

The Draft EIS incorporates a reasonable and broad range of alternatives in accordance with NEPA. It is important that the range is sufficient to cover reasonable permutations of operations and provide flexibility to incorporate public input between the Draft and Final EIS. The figures below demonstrate the broad range of operational approaches incorporated into the alternatives by summarizing them across the following categories: Lower Basin Shortage Guidelines, Coordinated Reservoir Operations, Lake Mead Storage and Delivery of Conserved Water, and Activities above Lake Powell. For each figure below, the individual lines connect each alternative with the approach(es) that Reclamation has analyzed within that alternative.

Lower Basin Shortage Guidelines

Figure ES-1, Lower Basin Shortage Guidelines, shows the range of approaches considered for factors that would trigger Lower Basin shortage, the level at which shortages would start, the maximum Lower Basin shortage amount, and the method(s) by which shortages would be distributed among Lower Basin water users.

Figure ES-1
Lower Basin Shortage Guidelines

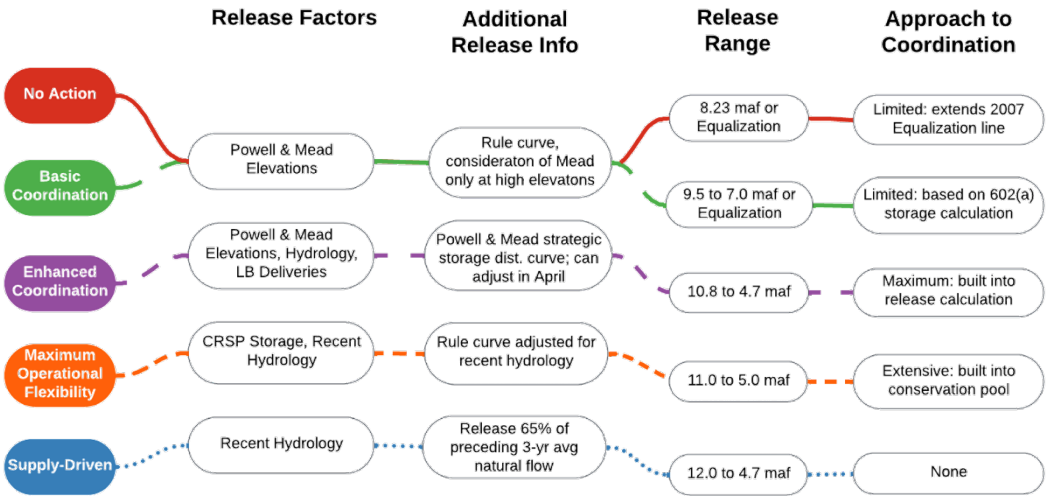


Notes: Additional restrictions in water deliveries will occur when Lake Mead is near dead pool, resulting in large reductions (referred to as "dead-pool related reductions"). These are not considered an operational element of the alternatives.
Shortage volumes include modeling assumptions for reductions in water deliveries to Mexico. Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current United States policy or a determination of future United States policy regarding deliveries to Mexico. The United States will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Water Treaty with Mexico through the IBWC in consultation with the Department of State.

Coordinated Reservoir Operations

Figure ES-2, Coordinated Reservoir Operations, shows the range of approaches considered for the factors that would determine Lake Powell water year release volumes, additional information about the structure of operations, the range of water year release volumes that could occur based on those factors, and the approach to coordination of operations between Lake Powell and Lake Mead (that is, how dependent operations of Lake Powell would be on conditions at Lake Mead).

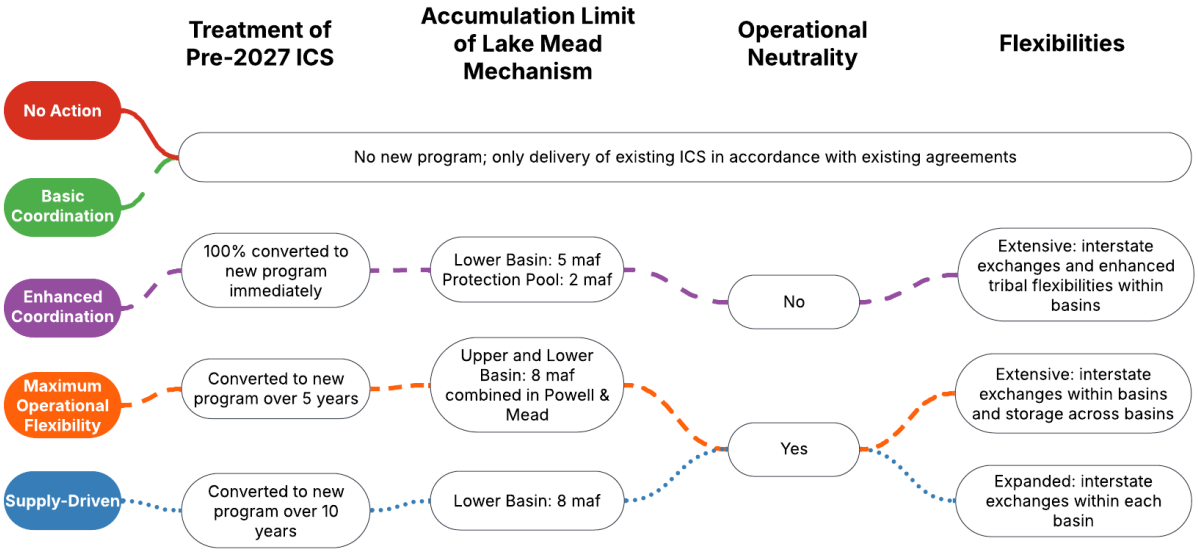
Figure ES-2
Coordinated Reservoir Operations



Lake Mead Storage and Delivery of Conserved Water

Figure ES-3, Lake Mead Storage and Delivery of Conserved System Water, shows the range of approaches considered to incorporate this mechanism, including how Intentionally Created Surplus created prior to 2027 is converted into a new mechanism, the maximum amount of conserved water that could be stored in Lake Mead, whether stored conserved water is excluded from determinations of Lake Powell releases and shortage volumes ("operational neutrality"), and the level of flexibilities for transactions of stored conserved water between users. .

Figure ES-3
Lake Mead Storage and Delivery of Conserved System Water



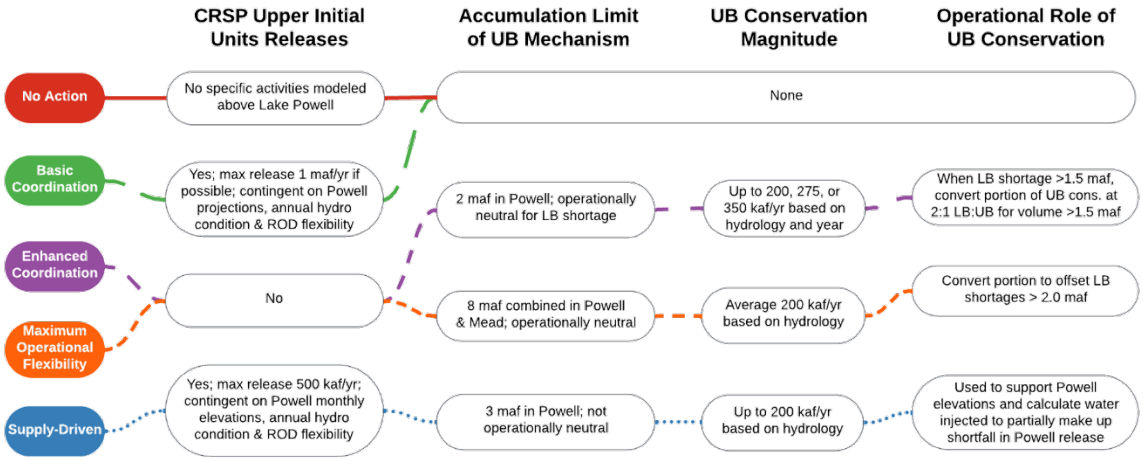
Note: Accumulation limits include modeling assumptions for storage available to Mexico. Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current United States policy or a determination of future United States policy regarding deliveries to Mexico. The United States will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Water Treaty with Mexico through the IBWC in consultation with the Department of State.

Activities Above Lake Powell

Figure ES-4, Activities Above Lake Powell, shows the range of approaches to releases from CRSP Upper Initial Units to protect Glen Canyon Dam infrastructure,[5] the maximum amount of conserved water that could be stored, assumptions about the amount of annual Upper Basin conservation, and rules for when Upper Basin conserved water would be converted to system water.

[5] CRSP Upper Initial Units include Flaming Gorge, Blue Mesa (a component of the Aspinall Unit), and Navajo reservoirs. Current RODs governing operations of these units were signed in 2006, 2012, and 2006, respectively.

Figure ES-4
Activities Above Lake Powell



ES.3 Potential Environmental Effects

ES.3.1 Analysis Methods

The analysis for this Draft EIS uses a Decision Making under Deep Uncertainty (DMDU) approach, drawn from a well-established branch of decision science, that is designed to account for uncertainty in future Basin conditions. The most impactful and largest source of uncertainty is future hydrology. Since 2000, hydrologic conditions drier than those in the previously observed record have continued to occur, confounding ongoing efforts to manage system risk. Reclamation began significant investments in research to improve hydrologic predictions and understanding of long-term supply outlooks in 2004, but there have been only limited improvements in prediction skill and long-term hydrologic projections continue to show a wide range of possibilities around the overall likelihood of a drier future. Therefore, long-term planning in the Basin must account for conditions of *deep uncertainty*, which occur when it is not possible to confidently assign probabilities to specific future conditions. Population growth and water use in the Basin also contribute to the challenge of planning for a deeply uncertain future.

Alongside research into understanding hydrologic uncertainty, Reclamation has also invested in decision science research through the development of DMDU methods that allow for reliable analysis despite the uncertainty. Development of DMDU applications in the Basin stems from a collaboration with the RAND Corporation during the 2012 Colorado River Basin Water Supply and Demand Study, when the methods were introduced into Reclamation's long-term planning. The DMDU framework used here enhances the ability to evaluate the robustness of the alternatives – that is, their ability to meet important performance objectives in a wide range of futures. It also supports the identification of future conditions that could cause vulnerability to critical system conditions. A focus on robustness and vulnerability prevent overreliance on the types of probabilistic risk projections that, in previous planning efforts, did not convey the actual risks facing the system and contributed to insufficient protection against the ongoing drought.

The hydrologic modeling performed for this analysis employs DMDU by testing the system in 1,200 potential futures that cover a wide range of hydrologic conditions and incorporate multiple sets of initial reservoir conditions that account for uncertainty about where the system will be in January 2027 when the new guidelines would take effect. This hydrologic modeling generated projections of future Colorado River system conditions (such as reservoir elevations, reservoir releases, and river flows) for the alternatives. These system projections serve as the basis for analyzing potential effects on other environmental resources (e.g., recreation, biological resources, and energy) and any associated resource specific models. For each resource, the analysis describes robustness across this wide range, identifies specific conditions that could cause vulnerability, and provides important context for interpreting those findings without overconfidently predicting system outcomes. This aligns with the guidance provided in Executive Order "Restoring Gold Standard Science" from May 2025, and provides a sound basis for comparing the alternatives' ability to meet key performance thresholds for resources throughout the Basin.

ES.3.2 Summary of Environmental Consequences

The analysis focuses on specific issues identified during internal and public scoping for all affected environmental resources (e.g., hydrologic, biologic, and socioeconomic). Resources considered but determined to not be significantly impacted by the action include transportation, noise, light, and minerals.

A summary of environmental consequences is provided in **Table ES-8**, Summary of Potential Effects of the Alternatives, located at the end of this Executive Summary. Performance indicators were developed to address the specific issues raised during scoping. Throughout, a higher percentage reflects better performance. Where quantitative or DMDU results are not possible, a qualitative description of potential impacts is provided. The affected environment and environmental consequences are discussed in detail in Chapter 3 and the associated resource appendices.

ES.4 Key Tradeoffs and Conclusions

The action alternatives together capture a wide range of concepts across the operational elements that make up an alternative; this operational variety produces a wide range of potential system outcomes. The following sections provide an overview of performance and vulnerability for long-term and near-term outlooks.

ES.4.1 Overview of Long-term Performance in Key Metrics

Figure ES-5 summarizes how the alternatives and the Continued Current Strategies Comparative Baseline[6] (labeled Cont. Current in the following figures and tables) perform over the next 20 years in five metrics that are represented by vertical axes. The metrics are described in **Table ES-2**. While there are many important metrics across Basin resources, these summarize the high-level system impacts that propagate through all resources. As described in **Table ES-2**, these elevations have

[6] This scenario represents no changes from current operations and relies on strategies and agreements that expire in 2026. It is provided as a comparative baseline to inform an understanding of how the alternatives perform relative to current operations.

particular operational relevance, and comparing alternative performance relative to these elevations provides meaningful insight. In practice, operational implementation would include identifying elevations above critical thresholds (i.e., 3,490 feet and 950 feet) at which additional responsive actions could be taken in advance to avoid reaching those critical elevations. The "buffer" elevations shown in **Table ES-2** (i.e., 3,500 feet and 975 feet) do not represent an operational decision for actual implementation; rather, they are used solely for analytical purposes in this Draft EIS.

Table ES-2
High Level Performance Metrics Included in Figure ES-5

Metric Name	Description
Percent of months in which Lake Powell stays above elevation 3,500 feet	Elevation 3,500 feet provides a buffer above 3,490 feet, below which infrastructure may be critically impacted and hydropower cannot be produced at Glen Canyon Dam
Percent of months in which Lake Mead stays above elevation 975 feet	Elevation 975 feet provides a buffer above 950 feet, below which infrastructure may be critically impacted and hydropower cannot be produced at Hoover Dam
Percent of years in which Lake Mead dead pool-related reductions[7] are avoided	Delivery reductions due to Lake Mead being near dead pool (elevation 895 feet) resulting in large magnitudes of reductions to Lower Basin water users
Average annual shortage	The average annual shortage that occurs under each alternative provides important summary information for Lower Basin water users and context for reservoir-based performance
Average water year releases from Glen Canyon Dam	The average water year release from Glen Canyon Dam that occurs under each alternative provides important context for reservoir-based performance

In **Figure ES-5**, the performance of each alternative is captured by a colored, segmented line that crosses the axes at different vertical positions, where the height denotes performance. Crossing lines are a visual cue that there is a tradeoff between different performance metrics. The five-metric performance summary is divided into three categories of long-term future hydrology,[8] summarized in **Table ES-3**. Results are divided into these categories to demonstrate how the alternatives respond under different assumptions about long-term hydrologic conditions and to explore the impacts of hydrology on performance tradeoffs.

[7] Dead pool and Hoover Dam infrastructure can start to impact Lake Mead's ability to make deliveries to the Lower Basin at elevation 950 feet. Restrictions in water deliveries will occur when Lake Mead is near dead pool, resulting in large reductions (referred to as "dead-pool related reductions"). Although not considered an operational element of the alternatives, accounting for such reductions is an important performance metric.
[8] Wetter futures were also tested and are included in the impact analysis; however, for this analysis the hydrologic categories shown are most informative.

Figure ES-5
Key Performance Tradeoffs in Different Hydrologic Conditions

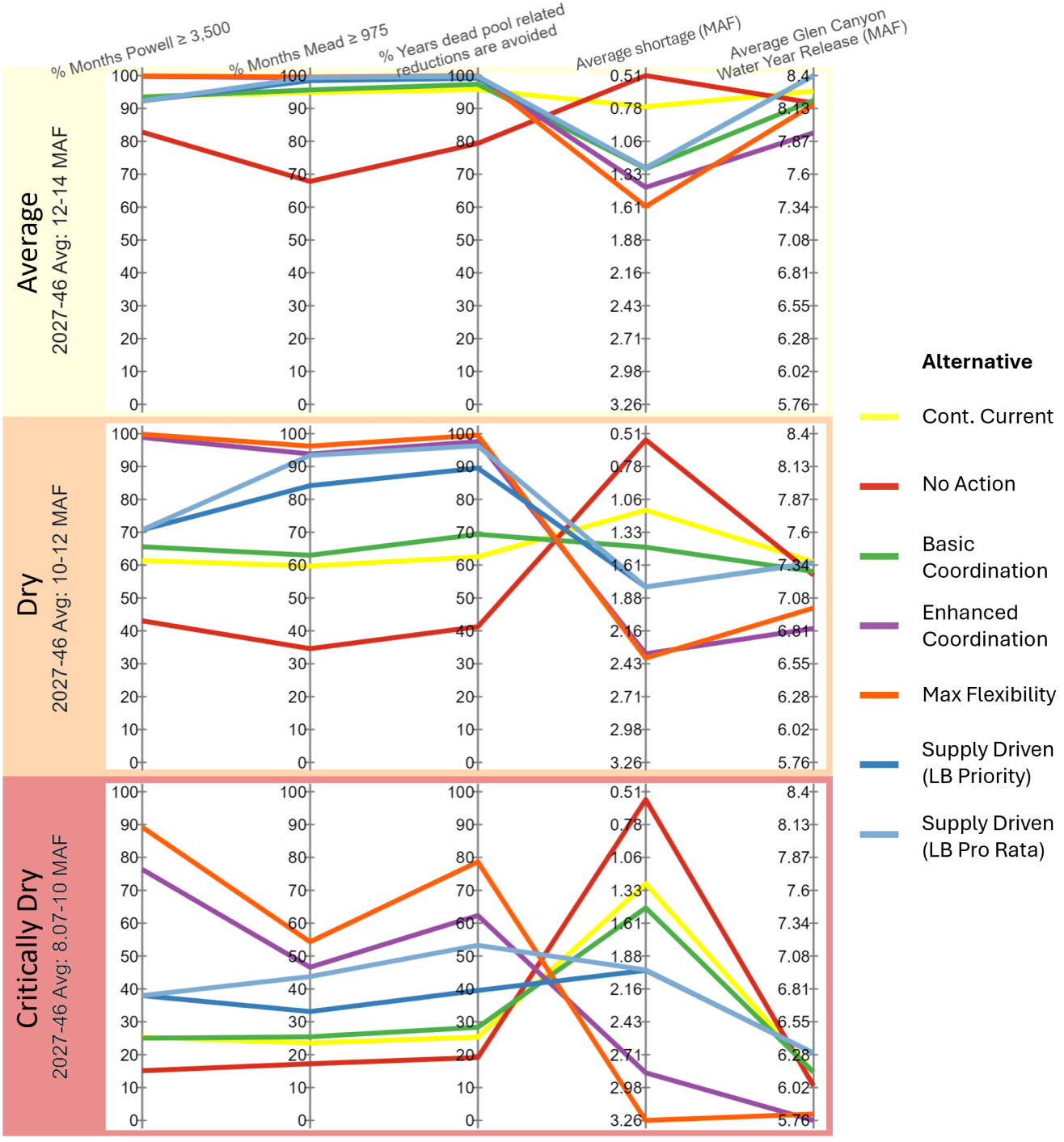


Table ES-3
Hydrologic Categories Included in Figure ES-5

Long-Term Hydrologic Category	Average Annual Simulated Lees Ferry Flow, 2027-2046 (maf)
Average[9]	12-14
Dry	10-12
Critically Dry	<10

A key performance tradeoff demonstrated by **Figure ES-5** is the tradeoff between percent of years in which critical reservoir elevations and dead pool-related reductions are avoided (first three axes from left) and average shortage (fourth axis from left). In the Average hydrologic category, this stands out as a difference between the No Action Alternative and the other alternatives, but in the Dry and Critically Dry hydrologic categories, the performance differences between the action alternatives becomes clearer and the tradeoffs (indicated by the crossing lines) become steeper: the Maximum Operational Flexibility and Enhanced Coordination alternatives incorporate large shortages and better protect the reservoirs, Supply Driven and Basic Coordination have lower volumes of shortage and lower reservoir protection, and No Action provides minimal protection and results in a high frequency of dead pool-related reductions while imposing minimal shortage. Differences in performance between Supply Driven (Lower Basin [LB] Priority approach) and the Supply Driven (LB Pro Rata approach) are primarily due to differing assumptions regarding the use of the storage and delivery mechanism for conserved water.

In Dry hydrologic futures, Maximum Operational Flexibility and Enhanced Coordination show that lower water year releases from Glen Canyon Dam provide more protection to keep Lake Powell above 3,500 feet, while the higher water year releases in Basic Coordination and Supply Driven result in significantly higher frequencies of Lake Powell falling below 3,500 feet. In the Critically Dry hydrologic category, water year releases are low across all alternatives, but, for Basic Coordination and Supply Driven, this is driven largely by critically low Lake Powell elevations and thus constrained release volumes in over 60 percent of months.

The effectiveness of large shortages at preventing dead pool-related delivery reductions is clearest in the Critically Dry hydrologic category, where Maximum Operational Flexibility and Enhanced Coordination rely on large average shortages to significantly outperform the other alternatives in avoiding dead pool-related reductions. However, even these two more protective alternatives would experience Lake Mead elevations below 975 feet in over 50 percent of months if future conditions are similar to those in the Critically Dry hydrologic category.

[9] The 20-year average Lees Ferry natural flow is 12.7 maf in 2025. Since 2004, the 20-year running average has been in the Average hydrologic category in 21 out of 22 years, with one year slightly above 14 maf. Since 2018, the 20-year averages have been predominantly between 12 and 13 maf.

The analysis related to **Figure ES-5** examines tradeoffs and the influence of different long-term hydrologic scenarios on the alternatives' performance in important metrics. **Table ES-4** and **Table ES-5**, below, provide insight into what specific long-term hydrology is likely to cause the system to be vulnerable to critical conditions under different alternatives and whether those conditions are similar to anything from the observed record. This context is helpful in understanding whether the conditions leading to vulnerability could be reasonably expected based on history.[10] Based on analysis of 1,200 modeled futures (which include system projections resulting from three sets of 2027 initial reservoir elevations), an average-flow threshold was identified for each alternative that skillfully predicted the occurrence of a critical system condition at least once within 20 years of implementation (between 2027 and 2046).

Table ES-4
Vulnerability to Lake Powell Falling Below Elevation 3,500 Feet at Least Once in the First 20 Years and Comparison to Historical Conditions

Alternative	Water Year 2027-2046 Average Natural Flow that Could Cause Vulnerability (maf/yr)	Number of Years Below Threshold 2000-2024 *(Historical Data)*	Number of Years Below Threshold 1906-2024 *(Historical Data)*
Cont. Current	≤13.1	8	12
No Action	≤18.6	25	100
Basic Coordination	≤13.1	8	12
Enhanced Coordination	≤9.7	0	0
Max Flexibility	≤9.0	0	0
Supply Driven (LB Priority)	≤13.9	18	40
Supply Driven (LB Pro Rata)	≤13.9	18	40

Table ES-5
Vulnerability to Lake Mead Falling Below Elevation 975 Feet at Least Once in the First 20 Years and Comparison to Historical Conditions

Alternative	Water Year 2027-2046 Average Natural Flow that Could Cause Vulnerability (maf/yr)	Number of Years Below Threshold 2000-2024 *(Historical Data)*	Number of Years Below Threshold 1906-2024 *(Historical Data)*
Cont. Current	≤12.5	1	1
No Action	≤15.8	24	81
Basic Coordination	≤12.0	0	0
Enhanced Coordination	≤10.9	0	0
Max Flexibility	≤10.2	0	0
Supply Driven (LB Priority)	≤11.3	0	0
Supply Driven (LB Pro Rata)	≤10.5	0	0

[10] Information about how the vulnerability thresholds compare to projections of future conditions, which include the potential for a drier future, can be found in Technical Appendix 3 – Hydrologic Resources.

With respect to Lake Powell falling below elevation 3,500 feet at least once in the next 20 years, the Supply Driven Alternative is most vulnerable action alternative: under these operations, Lake Powell would likely fall to critical elevations if the 20-year average natural flow at Lees Ferry is 13.9 maf or lower. Hydrologic conditions this dry or drier occurred in 18 years since 2000. With respect to Lake Mead falling below elevation 975 feet at least once in the next 20 years, the flow thresholds indicating vulnerability are drier for all of the action alternatives than any observed historical conditions.

ES.4.2 Near-term Vulnerability

The guidelines adopted through the post-2026 process are likely to face an early test as they begin 2027 operations with low elevations at Lake Powell and Lake Mead. It is useful to understand what hydrology could cause the same critical system conditions examined above to occur under each alternative within the first five years of operations. **Table ES-6** and **Table ES-7** compare the vulnerability thresholds between alternatives in the context of historical conditions. These results only include system projections resulting from the low 2027 initial reservoir elevations. For context, the 5-year average Lees Ferry natural flow is 11.1 maf in 2025.

With respect to Lake Powell falling below elevation 3,500 feet at least once in the next five years, the Supply Driven and Basic Coordination alternatives are equally vulnerable: under these operations, Lake Powell would likely fall to critical elevations if the average natural flow at Lees Ferry from 2027 to 2031 is 11.3 maf or lower. Hydrologic conditions this dry or drier occurred in six years since 2000. With respect to Lake Mead falling below elevation 975 feet at least once in the next five years, the Basic Coordination Alternative is the most vulnerable; Lake Mead would likely fall to critical elevations if the average flow from 2027 to 2031 is 10.2 maf or drier. These conditions have occurred in one year since 2000.

Table ES-6
Vulnerability to Lake Powell Falling Below Elevation 3,500 Feet at Least Once in the First Five Years and Comparison to Historical Conditions

Alternative	Water Year 2027-2031 Average Natural Flow that Could Cause Vulnerability (maf/yr)	Number of Years Below Threshold 2000-2024 *(Historical Data)*	Number of Years Below Threshold 1906-2024 *(Historical Data)*
Cont. Current	≤10.9	4	5
No Action	≤12.9	13	29
Basic Coordination	≤11.3	6	7
Enhanced Coordination	≤8.6	0	0
Max Flexibility	≤8.2	0	0
Supply Driven (LB Priority)	≤11.3	6	7
Supply Driven (LB Pro Rata)	≤11.3	6	7

Table ES-7
Vulnerability to Lake Mead Falling Below Elevation 975 Feet at Least Once in the First Five Years and Comparison to Historical Conditions

Alternative	Water Year 2027-2031 Average Natural Flow that Could Cause Vulnerability (maf/yr)	Number of Years Below Threshold 2000-2024 *(Historical Data)*	Number of Years Below Threshold 1906-2024 *(Historical Data)*
Cont. Current Strategies	≤10.9	3	5
No Action	≤12.5	11	25
Basic Coordination	≤10.2	1	1
Enhanced Coordination	≤9.2	0	0
Max Flexibility	≤9.1	0	0
Supply Driven (LB Priority)	≤10.0	1	1
Supply Driven (LB Pro Rata)	≤8.7	0	0

ES.4.3 Conclusions

A number of reservoir and water management decisional documents and agreements that govern operation of Colorado River facilities and management of Colorado River water are currently scheduled to expire at the end of 2026. The Secretary, acting through Reclamation, proposes adoption of new guidelines and coordinated management strategies to address Lake Powell and Lake Mead through their full operating range, to be implemented upon the expiration of the existing guidelines and agreements. Management strategies will primarily focus on the operation of Glen Canyon Dam and Hoover Dam but may include actions upstream and downstream of these facilities to protect critical reservoir elevations.

Since the adoption of the current guidelines in 2007, unprecedented drought has changed the Basin's understanding of hydrology. Hydrologic conditions drier than those in the previously observed record have continued to occur, confounding ongoing efforts to manage system risk. This reality poses both near and long-term challenges in managing the Colorado River system to continue to provide predictability and certainty to Basin water users as well as operating flexibility to conserve and enhance water storage in Colorado River system reservoirs.

This Draft EIS analyzes a broad range of reasonable alternatives for the operational elements identified in the proposed federal action. These alternatives were developed through extensive engagement with a wide range of partners and stakeholders as well as the general public during a timeframe of over three years. Despite this extensive engagement, this Draft EIS does not identify a Preferred Alternative due to the current absence of a consensus-based approach to post-2026 reservoir operations among Basin entities. Reclamation anticipates identifying a Preferred Alternative after publication of this Draft EIS that incorporates elements or variations of the Draft EIS alternatives, which would then be fully analyzed in the Final EIS.

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Some performance indicator descriptions include italics to denote a definition of the "*preferred minimum performance*" that was used as a significant reference point for technical analysis. The following were considered when determining preferred minimum performance: input from resource experts, the severity of negative outcomes associated with not satisfying a given performance level, historical (observed) data, and/or reasonably expected outcomes if current operations and recent hydrology continued. To find more information about preferred minimum performance levels, see Volume III – Technical Appendices.

ES.5 Summary of Potential Effects

Table ES-8
Summary of Potential Effects of the Alternatives

Hydrology

Impact Category	Performance Indicator[1]	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Reservoir Elevations	Lake Powell end-of-water-year (EOWY) elevations in the critically dry flow category	**Lowest** elevations in the critcally dry flow category	**Second lowest** elevations in the critcally dry flow category	**Highest** elevations in the critcally dry flow category	**Second highest** elevations in the critcally dry flow category	**Tied in the middle** performing for elevations in the critcally dry flow category	**Tied in the middle** performing for elevations in the critcally dry flow category
	Percent of modeled futures in which *Lake Powell elevation stays above 3,500 feet 100% of the time*. The higher the percentage, the more likely Lake Powell will remain above the minimum power pool (3,490 feet) under most future hydrologic scenarios.	**20%** of modeled futures meet *the preferred minimum performance*.	**25%** of modeled futures meet *the preferred minimum performance*.	**82%** of modeled futures meet *the preferred minimum performance*.	**87%** of modeled futures meet *the preferred minimum performance*.	**24%** of modeled futures meet *the preferred minimum performance*.	**24%** of modeled futures meet *the preferred minimum performance*.
	Lake Mead end-of-calendar-year (EOCY) elevations in all flow categories	**Lowest** elevations in all flow categories	**Second lowest** elevations in all flow categories	**Third lowest** elevations in all flow categories	**Third highest** elevations in all flow categories	**Second highest** elevations in all flow categories	**Highest** elevations in all flow categories
	Percent of futures in which *Lake Mead elevation stays above 975 feet 100% of the time*. The higher the percentage, the more likely Lake Mead will remain above the minimum power pool (950 feet) under most future hydrologic scenarios.	**25%** of modeled futures meet *the preferred minimum performance*.	**58%** of modeled futures meet *the preferred minimum performance*.	**75%** of modeled futures meet *the preferred minimum performance*.	**79%** of modeled futures meet *the preferred minimum performance*.	**71%** of modeled futures meet *the preferred minimum performance*.	**80%** of modeled futures meet *the preferred minimum performance*.
	Lake Mohave and Lake Havasu end of year elevations.	No impact; the existing rule curves continue to determine elevations.					
System Storage	Lake Powell + Lake Mead combined storage capacity (median values across all flow categories)	**Lowest** combined storage in all flow categories	**Second lowest** combined storage in all flow categories	**Second highest** combined storage in all flow categories	**Highest** combined storage in all flow categories	**Third lowest** combined storage in all flow categories	**Third highest** combined storage in all flow categories
	CRSP Reservoir (Flaming Gorge, Navajo, Blue Mesa, and Powell) combined storage capacity (median values across all flow categories)	**Highest** combined storage in the two wettest flow categories. **Third highest** combined storage in the average and two driest flow categories.	**Second lowest** combined storage in all flow categories except the dry and critically dry flow categories, where it is the **lowest**.	**Third highest** storage in the two wettest flow categories **Highest** combined storage in the average and two driest flow categories.	**Second highest** combined storage in all flow categories	**Lowest** combined storage in wet, moderately wet, and average flow categories (same as Supply Driven Alternative [LB Pro Rata approach])	**Lowest** combined storage in wet, moderately wet, average, and critically dry flow categories (same as Supply Driven Alternative [LB Priority approach])

Some performance indicator descriptions include italics to denote a definition of the "*preferred minimum performance*" that was used as a significant reference point for technical analysis. The following were considered when determining preferred minimum performance: input from resource experts, the severity of negative outcomes associated with not satisfying a given performance level, historical (observed) data, and/or reasonably expected outcomes if current operations and recent hydrology continued. To find more information about preferred minimum performance levels, see Volume III – Technical Appendices.

Impact Category	Performance Indicator[1]	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
System Storage *(continued)*	Seven-Reservoir (Flaming Gorge, Navajo, Blue Mesa, Powell, Mead, Mohave, and Havasu) combined storage capacity (median values across all flow categories)	**Lowest** combined storage in all flow categories	**Second lowest** combined storage in all flow categories	**Second highest** combined storage in all flow categories	**Highest** combined storage in all flow categories	**Third lowest** combined storage in all flow categories	**Third highest** combined storage in all flow categories
Reservoir Releases	Annual Glen Canyon Dam EOWY releases under average and critically dry hydrology conditions (median values)	Releases of 8.23 maf in the average flow category. Releases of 6.26 maf the critically dry flow category.	Releases of 8.23 maf in the average flow category. Releases of 6.82 maf in the critically dry flow category.	Releases of 7.87 maf in the average flow category. Releases of 5.11 maf in the critically dry flow category.	Releases of 8.17 maf in the average flow category. Releases of 5.68 maf in the critically dry flow category.	Releases of 8.39 maf in the average flow category. Releases of 5.96 maf in the critically dry flow category.	Releases of 8.39 maf in the average flow category. Releases of 5.96 maf in the critically dry flow category.
	10-year Glen Canyon Dam releases under average and critically dry hydrology conditions (median values)	Releases of 82.2 maf in the average flow category. Releases of 74.5 maf Releases in the critically dry flow category.	Releases of 81.5 maf in the average flow category. Releases of 74.7 maf in the critically dry flow category.	Releases of 79.8 maf in the average flow category. Releases of 69.0 maf in the critically dry flow category.	Releases of 80.9 maf in the average flow category. Releases of 70.8 maf in the critically dry flow category.	Releases of 83.0 maf in the average flow category. Releases of 73.4 maf in the critically dry flow category.	Releases of 83.0 maf in the average flow category. Releases of 73.4 maf in the critically dry flow category
	10-year Lee Ferry Compact Point flow volumes under average and critically dry hydrology conditions (median values)	Flows of 83.6 maf in the average flow category. Flows of 76.0 maf in the critically dry flow category.	Flows of 83.0 maf in the average flow category. Flows of 76.2 maf in the critically dry flow category.	Flows of 81.3 maf in the average flow category. Flows of 70.4 maf in the critically dry flow category.	Flows of 82.3 maf in the average flow category. Flows of 72.4 maf in the critically dry flow category.	Flows of 84.6 maf in the average flow category. Flows of 74.9 maf in the critically dry flow category.	Flows of 84.6 maf in the average flow category. Flows of 74.9 maf in the critically dry flow category.
	Annual EOCY Hoover Dam releases under critically dry hydrology conditions (median values)	Releases of 8.7 maf in the average flow category. Flows of 7.1 maf in the critically dry flow category.	Releases of 8.1 maf in the average flow category. Flows of 7.7 maf in the critically dry flow category.	Releases of 7.7 maf in the average flow category. Flows of 6.6 maf in the critically dry flow category.	Releases of 7.8 maf in the average flow category. Flows of 6.6 maf in the critically dry flow category.	Releases of 7.8 maf in the average flow category. Flows of 7.3 maf in the critically dry flow category.	Releases of 7.7 maf in the average flow category. Flows of 7.2 maf in the critically dry flow category.
	Annual EOCY Davis Dam releases under average and critically dry hydrology conditions (median values)	Releases of 8.6 maf in the average flow category. Releases of 7.0 maf in the critically dry flow category.	Releases of 8.0 maf in the average flow category. Releases of 7.6 maf in the critically dry flow category.	Releases of 7.5 maf in the average flow category. Releases of 6.5 maf in the critically dry flow category.	Releases of 7.7 maf in the average flow category. Releases of 6.5 maf in the critically dry flow category.	Releases of 7.7 maf in the average flow category. Releases of 7.2 maf in the critically dry flow category.	Releases of 7.6 maf in the average flow category. Releases of 7.1 maf in the critically dry flow category.
	Annual EOCY Parker Dam releases under average and critically dry hydrology conditions (median values)	Releases of 6.6 maf in the average flow category. Releases of 5.9 maf in the critically dry flow category.	Releases of 6.5 maf in the average flow category. Releases of 6.3 maf in the critically dry flow category.	Releases of 5.5 maf in the average flow category. Releases of 4.7 maf in the critically dry flow category.	Releases of 6.3 maf in the average flow category. Releases of 5.8 maf in the critically dry flow category.	Releases of 6.3 maf in the average flow category. Releases of 6.1 maf in the critically dry flow category.	Releases of 5.8 maf in the average flow category. Releases of 5.5 maf in the critically dry flow category.

Some performance indicator descriptions include italics to denote a definition of the "*preferred minimum performance*" that was used as a significant reference point for technical analysis. The following were considered when determining preferred minimum performance: input from resource experts, the severity of negative outcomes associated with not satisfying a given performance level, historical (observed) data, and/or reasonably expected outcomes if current operations and recent hydrology continued. To find more information about preferred minimum performance levels, see Volume III – Technical Appendices.

Impact Category	Performance Indicator[1]	Impacts Summary					
		No Action Alternative	**Basic Coordination Alternative**	**Enhanced Coordination Alternative**	**Maximum Operational Flexibility Alternative**	**Supply Driven Alternative (LB Priority)**	**Supply Driven Alternative (LB Pro Rata)**
River Flows	River flows in Reach 1 (Glen Canyon Dam to Lake Mead).	**Second highest** river flows in the critically dry flow category. Mirrors trends for releases from Glen Canyon Dam. River flows decrease as flow categories get drier.	**Highest** river flows in the critically dry flow category. Mirrors trends for releases from Glen Canyon Dam. River flows decrease as flow categories get drier.	**Lowest** river flows in the critically dry flow category. Mirrors trends for releases from Glen Canyon Dam. River flows decrease as flow categories get drier.	**Second lowest** river flows in the critically dry flow category. Mirrors trends for releases from Glen Canyon Dam. River flows decrease as flow categories get drier.	**Third lowest** river flows in the critically dry flow category (same as Supply Driven Alternative [LB Pro Rata approach]) Mirrors trends for releases from Glen Canyon Dam. River flows decrease as flow categories get drier.	**Third lowest** river flows in the critically dry flow category (same as Supply Driven Alternative [LB Priority approach]) Mirrors trends for releases from Glen Canyon Dam. River flows decrease as flow categories get drier.
	River flows in Reach 2 (Hoover Dam to Lake Mohave)	**Second lowest** river flows in the critically dry flow category. Mirrors trends for releases from Hoover Dam. River flows decrease as flow categories get drier.	**Highest** river flows in the dry flow category. Mirrors trends for releases from Hoover Dam. River flows decrease as flow categories get drier.	**Tied lowest** river flows in the dry flow category (same as Maximum Flexibility). Mirrors trends for releases from Hoover Dam. River flows decrease as flow categories get drier.	**Tied lowest** river flows in the dry flow category (same as Enhanced Coordination). Mirrors trends for releases from Hoover Dam. River flows decrease as flow categories get drier.	**Second highest** river flows in the dry flow category. Mirrors trends for releases from Hoover Dam. River flows decrease as flow categories get drier.	**Third highest** river flows in the dry flow category. Mirrors trends for releases from Hoover Dam. River flows decrease as flow categories get drier.
	River flows in Reach 3 (Davis Dam to Lake Havasu)	**Second lowest** river flows in the dry flow category. Mirrors trends for releases from Davis Dam. River flows decrease as flow categories get drier.	**Highest** river flows in the dry flow category. Mirrors trends for releases from Davis Dam. River flows decrease as flow categories get drier.	**Tied lowest** river flows in the dry flow category (same as Maximum Flexibility). Mirrors trends for releases from Davis Dam. River flows decrease as flow categories get drier.	**Tied lowest** river flows in the dry flow category (same as Enhanced Coordination). Mirrors trends for releases from Davis Dam. River flows decrease as flow categories get drier.	**Second highest** river flows in the dry flow category. Mirrors trends for releases from Davis Dam. River flows decrease as flow categories get drier.	**Third highest** river flows in the dry flow category. Mirrors trends for releases from Davis Dam. River flows decrease as flow categories get drier.
	River flows in Reach 4 (Parker Dam to Cibola Gage)	**Third highest** river flows in the dry flow category. Mirrors trends for releases from Parker Dam. River flows decrease as flow categories get drier.	**Highest** river flows in the dry flow category. Mirrors trends for releases from Parker Dam. River flows decrease as flow categories get drier.	**Lowest** river flows in the dry flow category. Mirrors trends for releases from Parker Dam. River flows decrease as flow categories get drier.	**Third lowest** river flows in the dry flow category. Mirrors trends for releases from Parker Dam. River flows decrease as flow categories get drier.	**Second highest** river flows in the dry flow category. Mirrors trends for releases from Parker Dam. River flows decrease as flow categories get drier.	**Second lowest** river flows in the dry flow category. Mirrors trends for releases from Parker Dam. River flows decrease as flow categories get drier.
	River flows in Reach 5 (Cibola Gage to Imperial Dam)	**Third highest** river flows in the dry flow category. Mirrors trends for river flows in Reach 4. River flows decrease as flow categories get drier.	**Highest** river flows in the dry flow category. Mirrors trends for river flows in Reach 4. River flows decrease as flow categories get drier.	**Lowest** river flows in the dry flow category. Mirrors trends for river flows in Reach 4. River flows decrease as flow categories get drier.	**Third lowest** river flows in the dry flow category. Mirrors trends for river flows in Reach 4. River flows decrease as flow categories get drier.	**Second highest** river flows in the dry flow category. Mirrors trends for river flows in Reach 4. River flows decrease as flow categories get drier.	**Second lowest** river flows in the dry flow category. Mirrors trends for river flows in Reach 4. River flows decrease as flow categories get drier.

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Impact Category	Performance Indicator[1]	Impacts Summary					
		No Action Alternative	**Basic Coordination Alternative**	**Enhanced Coordination Alternative**	**Maximum Operational Flexibility Alternative**	**Supply Driven Alternative (LB Priority)**	**Supply Driven Alternative (LB Pro Rata)**
River Flows *(continued)*	River flows in Reach 6 (Imperial Dam to Northerly International Boundary [NIB])	Among the **middle** performing. Releases of 1.1 maf in the middle flow category.	Among the **middle** performing Releases of 1.0 maf in the middle flow category.	Among the **middle** performing Releases of 1.0 maf in the middle flow category.	**Lowest** river flows in all flow categories. Releases of 0.9 maf in the middle flow category.	Among the **middle** performing**.** Releases of 1.0 maf in the middle flow category.	**Highest** river flows in all flow categories. Releases of 1.1 maf in the middle flow category.
	River flows in Reach 7 (NIB to SIB)	Flows below Morelos Dam are infrequent under all flow categories. **Least likely** for infrequent flows to occur in the wetter flow categories.	Flows below Morelos Dam are infrequent under all flow categories. Among the **middle** performing for infrequent flows to occur in the wetter flow categories.	Flows below Morelos Dam are infrequent under all flow categories. Among the **middle** performing for infrequent flows to occur in the wetter flow categories.	Flows below Morelos Dam are infrequent under all flow categories. Among the **middle** performing for infrequent flows to occur in the wetter flow categories.	Flows below Morelos Dam are infrequent under all flow categories. **Most likely** for infrequent flows to occur in the wet flow category.	Flows below Morelos Dam are infrequent under all flow categories. **Most likely** for infrequent flows to occur in the wet flow category.
Groundwater	Groundwater in Reach 1 (Glen Canyon Dam to Lake Mead).	**Least** robust at keeping elevations above 3,500 feet, changes to groundwater levels adjacent to Lake Powell may be affected by changes in reservoir elevations. Groundwater elevations through Grand Canyon are not anticipated to be affected.	**Second least** robust at keeping elevations above 3,500 feet, changes to groundwater levels adjacent to Lake Powell may be affected by changes in reservoir elevations. Groundwater elevations through Grand Canyon are not anticipated to be affected.	**Second most** robust at keeping elevations above 3,500 feet, changes to groundwater levels adjacent to Lake Powell may be affected by changes in reservoir elevations. Groundwater elevations through Grand Canyon are not anticipated to be affected.	**Most** robust at keeping elevations above 3,500 feet, changes to groundwater levels adjacent to Lake Powell may be affected by changes in reservoir elevations. Groundwater elevations through Grand Canyon are not anticipated to be affected.	**Tied third least** robust at keeping elevations above 3,500 feet, changes to groundwater levels adjacent to Lake Powell may be affected by changes in reservoir elevations. Groundwater elevations through Grand Canyon are not anticipated to be affected.	**Tied third least** robust at keeping elevations above 3,500 feet, changes to groundwater levels adjacent to Lake Powell may be affected by changes in reservoir elevations. Groundwater elevations through Grand Canyon are not anticipated to be affected.
	Groundwater in Reach 2 (Hoover Dam to Lake Mohave)	Groundwater elevations through this reach are not anticipated to be affected.	Groundwater elevations through this reach are not anticipated to be affected.	Groundwater elevations through this reach are not anticipated to be affected.	Groundwater elevations through this reach are not anticipated to be affected.	Groundwater elevations through this reach are not anticipated to be affected.	Groundwater elevations through this reach are not anticipated to be affected.
	Groundwater in Reach 3 (Davis Dam to Lake Havasu)	**Second lowest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage. Groundwater elevations adjacent to Lake Havasu are not anticipated to be affected.	**Highest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage. Groundwater elevations adjacent to Lake Havasu are not anticipated to be affected.	**Tied lowest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage. Groundwater elevations adjacent to Lake Havasu are not anticipated to be affected.	**Tied lowest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage. Groundwater elevations adjacent to Lake Havasu are not anticipated to be affected.	**Second highest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage. Groundwater elevations adjacent to Lake Havasu are not anticipated to be affected.	**Third highest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage. Groundwater elevations adjacent to Lake Havasu are not anticipated to be affected.

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Impact Category	Performance Indicator[1]	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Groundwater *(continued)*	Groundwater in Reach 4 (Parker Dam to Cibola Gage)	**Third highest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage.	**Highest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage.	**Lowest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage.	**Third lowest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage.	**Second highest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage.	**Second lowest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage.
	Groundwater in Reach 5 (Cibola Gage to Imperial Dam)	**Third highest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage.	**Highest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage.	**Lowest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage.	**Third lowest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage.	**Second highest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage.	**Second lowest** river flows in reach; changes to groundwater levels adjacent to the river may be affected by changes in river stage.
	Groundwater in Reach 6 (Imperial Dam to NIB)	Most of the river channel is bypassed with a series of canals and sluiceways. Groundwater elevations through this reach are not anticipated to be affected.	Most of the river channel is bypassed with a series of canals and sluiceways. Groundwater elevations through this reach are not anticipated to be affected.	Most of the river channel is bypassed with a series of canals and sluiceways. Groundwater elevations through this reach are not anticipated to be affected.	Most of the river channel is bypassed with a series of canals and sluiceways. Groundwater elevations through this reach are not anticipated to be affected.	Most of the river channel is bypassed with a series of canals and sluiceways. Groundwater elevations through this reach are not anticipated to be affected.	Most of the river channel is bypassed with a series of canals and sluiceways. Groundwater elevations through this reach are not anticipated to be affected.
	Groundwater in Reach 7 (NIB to SIB)	**Least likely** for infrequent flows to occur in this reach. Groundwater in the southern reach of the limitrophe may be affected by decreased flows.	Among the **middle** performing for infrequent flows to occur in this reach. Groundwater in the southern reach of the limitrophe may be affected by decreased flows.	Among the **middle** performing for infrequent flows to occur in this reach. Groundwater in the southern reach of the limitrophe may be affected by decreased flows.	Among the **middle** performing for infrequent flows to occur in this reach. Groundwater in the southern reach of the limitrophe may be affected by decreased flows.	**Most likely** for infrequent flows to occur in this reach. Groundwater in the southern reach of the limitrophe may be affected by decreased flows.	**Most likely** for infrequent flows to occur in this reach. Groundwater in the southern reach of the limitrophe may be affected by decreased flows.

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Water Deliveries

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	**Basic Coordination Alternative**	**Enhanced Coordination Alternative**	**Maximum Operational Flexibility Alternative**	**Supply Driven Alternative (LB Priority)**	**Supply Driven Alternative (LB Pro Rata)**
Apportionments	Upper Division States	No impact	No impact	No impact	No impact	No impact	No impact
	Lower Division States	Shortages are distributed based on priority.	Shortages are distributed based on priority.	Shortages are distributed pro rata.	Shortages are distributed based on priority.	Shortages are distributed based on priority.	Shortages are distributed pro rata.
Lower Division States Water Supply Determinations and Total Water Deliveries	Percent of modeled futures in which *dead pool-related reductions are avoided in 100% of years*. The higher the percentage, the more likely dead pool-related reductions are avoided.	**30%** of modeled futures meet *the preferred minimum performance*.	**62%** of modeled futures meet *the preferred minimum performance*.	**84%** of modeled futures meet *the preferred minimum performance*.	**91%** of modeled futures meet *the preferred minimum performance*.	**76%** of modeled futures meet *the preferred minimum performance*.	**85%** of modeled futures meet *the preferred minimum performance*.
	Effects of modeling assumptions for Upper and Lower Basin conservation activity (comparison of shortage and depletion results when turning conservation activity on and off).	Median reductions remain **similar** with conservation on or off.[11]	Median reductions remain **similar** with conservation on or off.[1]	Median reductions **slightly higher with conservation on** compared to conservation off in **wetter flow** categories. Median reductions **slightly higher with conservation off** compared to conservation on in **drier flow categories**.	Median reductions **slightly higher with conservation on** compared to conservation off in **wetter flow** categories. Median reductions **slightly higher with** conservation **off** compared to conservation on in **drier flow categories**.	Median reductions **slightly higher with conservation on** compared to conservation off	Median reductions **slightly higher with conservation on** compared to conservation off
	Maximum shortage (maf) where shortage is any modeled reduction to the ability of an entitlement holder to exercise an entitlement as described in the assumptions of the model	Total Lower Basin: 0.60 Arizona: 0.47 California: 0.00 Nevada: 0.03	Total Lower Basin: 1.48 Arizona: 1.15 California: 0.00 Nevada: 0.08	Total Lower Basin: 3.00 Arizona: 0.93 California: 1.47 Nevada: 0.10	Total Lower Basin: 4.00 Arizona: 1.93 California: 1.28 Nevada: 0.20	Total Lower Basin: 2.10 Arizona: 1.22 California: 0.44 Nevada: 0.09	Total Lower Basin: 2.10 Arizona: 0.92 California: 0.76 Nevada: 0.07
	Annual volume of Lower Basin shortage and dead pool-related reductions under critically dry hydrologic conditions (median values). Volumes are expressed as a total volume of reductions to the Lower Basin, including Mexico.	Median reductions increase as flow categories become drier. Shortage: 0.6 maf **Lowest** Dead pool-related reductions: 1.7 maf **Highest**	Median reductions increase as flow categories become drier. Shortage: 1.48 maf **Second lowest** Dead pool-related reductions: 0 maf **Tied lowest**	Median reductions increase as flow categories become drier. Shortage: 2.93 maf **Second highest** Dead pool-related reductions: 0 maf **Tied lowest**	Median reductions increase as flow categories become drier. Shortage: 2.98 maf **Highest** Dead pool-related reductions: 0 maf **Tied lowest**	Median reductions increase as flow categories become drier. Shortage: 1.95 maf **Third highest** Dead pool-related reductions: 0 maf **Tied lowest**	Median reductions increase as flow categories become drier. Shortage: 1.94 maf **Third lowest** Dead pool-related reductions: 0 maf **Tied lowest**

[11] While the No Action and Basic Coordination alternatives do not include mechanisms to conserve and store water in Lake Powell or Lake Mead, the model does include assumptions for the delivery of existing ICS that was conserved prior to 2027. In the conservation-off results, activity related to pre-2027 conservation is turned off for all the alternatives and the CCS Comparative Baseline. Refer to **TA 4**, Water Deliveries, for more details.

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Lower Division States Water Supply Determinations and Total Water Deliveries *(continued)*	Annual shortage by state under critically dry hydrology conditions (median values). Values are reported as percent of apportionment.	Arizona: 16.7% **Lowest** California: 0% **Lowest** Nevada: 11% **Lowest**	Arizona: 41.1% **Second highest** California: 0% **Lowest** Nevada: 27.2% **Third highest**	Arizona: 32.6% **Third lowest** California: 32.6% **Highest** Nevada: 32.6% **Second highest**	Arizona: 57.8% **Highest** California: 16.4% **Second highest** Nevada: 45.9% **Highest**	Arizona: 39.7% **Third highest** California: 10% **Second lowest** Nevada: 25.5% **Third lowest**	Arizona: 31.4% **Second lowest** California: 15.3% **Third lowest** Nevada: 21.5% **Second lowest**
	Annual depletions (reported as percent of apportionment) by state under critically dry hydrology conditions (median values). Depletion is defined as total consumptive use (such as the amount of water diverted from the river) minus the return flow.	Arizona: 54.6% **Second Lowest** California: 89.0% **Second highest** Nevada: 64.2% **Lowest**	Arizona: 58.9% **Third highest** California: 100% **Highest** Nevada: 83.3% **Third Lowest**	Arizona: 71.3% **Highest** California: 66.6% **Lowest** Nevada: 89.2% **Third highest**	Arizona: 42.5% **Lowest** California: 82.0% **Second Lowest** Nevada: 72.1% **Second Lowest**	Arizona: 57.4% **Third Lowest** California 87.0% **Third highest** Nevada: 89.7% **Second highest**	Arizona: 63.0% **Second highest** California: 84.0% **Third Lowest** Nevada: 96.4% **Highest**
Deliveries to Mexico	Annual delivery reduction under critically dry hydrology (median values). Values are reported as percent of allotment.	6.7% **Lowest**	16.4% **Second Lowest**	32.6% **Second highest**	33.1% **Highest**	21.7% **Third highest**	21.5% **Third Lowest**
	Annual depletions under critically dry hydrology (median values). Values are reported as percent of allotment.	75.0% **Third Lowest**	83.6% **Highest**	68.1% **Second Lowest**	66.1% **Lowest**	83.3% **Second highest**	83.3% **Second highest**
Lower Division States Combined Shortages	Shortage Allocation Model (SAM) and Alternative Distribution Model (ADM) estimated shortage impacts by water user type (Tribal, Domestic, and Non-Tribal Irrigation) under shortage conditions over a specified range of shortage volumes	Tribal: 241 kaf Domestic: 277 kaf Non-Tribal Irrigation: 6 kaf	Tribal: 241-489 kaf Domestic: 277-752 kaf Non-Tribal Irrigation: 6-34 kaf	Tribal: 76-378 kaf Domestic: 109-546 kaf Non-Tribal Irrigation: 316-1,578 kaf	Tribal: 209-582 kaf Domestic: 313-1,501 kaf Non-Tribal Irrigation: 2-1,211 kaf	Tribal: 209-510 kaf Domestic: 313-1,179 kaf Non-Tribal Irrigation: 2-88 kaf	Tribal: 139-357 kaf Domestic: 155-449 kaf Non-Tribal Irrigation: 206-944 kaf

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Geomorphology and Sediment

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Water Availability	Percent of modeled futures in which *Lake Powell exceeds 3,500 feet in November or April (or both) in 100 percent of years*.	**25%** of modeled futures meet *the preferred minimum performance*.	**37%** of modeled futures meet *the preferred minimum performance*.	**87%** of modeled futures meet *the preferred minimum performance*.	**91%** of modeled futures meet *the preferred minimum performance*.	**30%** of modeled futures meet *the preferred minimum performance*.	
Sand Mass	Percent of modeled futures in which the *monthly Glen Canyon Dam releases are less than 900,000 acre-feet (approximately 15,000 cfs) in at least 90 percent of months*. In other words, Glen Canyon Dam release rates are non-erosive in at least 90 percent of the simulation period.	**10%** of modeled futures meet *the preferred minimum performance*.	**28%** of modeled futures meet *the preferred minimum performance*.	**59%** of modeled futures meet *the preferred minimum performance*.	**20%** of modeled futures meet *the preferred minimum performance*.	**8%** of modeled futures meet *the preferred minimum performance*.	
	Percent of modeled futures in which the *sand mass in Marble Canyon exceeds 294,000 metric tons, the average transport capacity for a 60-hour duration HFE, in November or April at least once every four years*.	**43%** of modeled futures meet *the preferred minimum performance*.	**47%** of modeled futures meet *the preferred minimum performance*.	**47%** of modeled futures meet *the preferred minimum performance*.	**44%** of modeled futures meet *the preferred minimum performance*.	**43%** of modeled futures meet *the preferred minimum performance*.	
High Flow Experiment (HFE) Frequency and Duration	Percent of modeled futures in which *a spring or fall HFE of at least 60 hours occurs at least once every four years*.	**10%** of modeled futures meet *the preferred minimum performance*.	**20%** of modeled futures meet *the preferred minimum performance*.	**23%** of modeled futures meet *the preferred minimum performance*.	**25%** of modeled futures meet *the preferred minimum performance*.	**17%** of modeled futures meet *the preferred minimum performance*.	
Sandbar Volume	Percent of modeled futures in which *the maximum sediment year sandbar volume is greater than the sandbar volume at the start of the simulation period in at least 60% of years*. In other words, net sandbar growth is positive for at least 60 percent of the years.	**82%** of modeled futures meet *the preferred minimum performance*.	**90%** of modeled futures meet *the preferred minimum performance*.	**92%** of modeled futures meet *the preferred minimum performance*.	**93%** of modeled futures meet *the preferred minimum performance*.	**93%** of modeled futures meet *the preferred minimum performance*.	
Sand Transport	Percent of modeled futures in which *the fraction of sand mass transported by sandbar-forming flow rates (above 37,000 cfs) is at least 0.4 (40 percent of the sand transport)*.	**49%** of modeled futures meet *the preferred minimum performance*.	**74%** of modeled futures meet *the preferred minimum performance*.	**82%** of modeled futures meet *the preferred minimum performance*.	**82%** of modeled futures meet *the preferred minimum performance*.	**77%** of modeled futures meet *the preferred minimum performance*.	

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Water Quality

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
How would reservoir storage, reservoir releases, and corresponding changes in river flows downstream of the reservoirs affect projected **salinity**?	Percent of modeled futures in which *the salinity concentration below **Hoover Dam** is less than 723 mg/L in 100% of years*.	**77%** of modeled futures meet *the preferred minimum performance*.	**83%** of modeled futures meet *the preferred minimum performance*.	**80%** of modeled futures meet *the preferred minimum performance*.	**86%** of modeled futures meet *the preferred minimum performance*.	**91%** of modeled futures meet *the preferred minimum performance*.	**92%** of modeled futures meet *the preferred minimum performance*.
	Percent of modeled futures in which *the salinity concentration below **Parker Dam** is less than 747 mg/L in 100% of years*.	**77%** of modeled futures meet *the preferred minimum performance*.	**85%** of modeled futures meet *the preferred minimum performance*.	**84%** of modeled futures meet *the preferred minimum performance*.	**89%** of modeled futures meet *the preferred minimum performance*.	**92%** of modeled futures meet *the preferred minimum performance*.	**93%** of modeled futures meet *the preferred minimum performance*.
	Percent of modeled futures in which *the salinity concentration **at Imperial** is less than 879 mg/L in 100% of years*.	**88%** of modeled futures meet *the preferred minimum performance*.	**93%** of modeled futures meet *the preferred minimum performance*.	**94%** of modeled futures meet *the preferred minimum performance*.	**96%** of modeled futures meet *the preferred minimum performance*.	**98%** of modeled futures meet *the preferred minimum performance*.	**98%** of modeled futures meet *the preferred minimum performance*.
How would reservoir storage, reservoir releases, and corresponding changes in river flows downstream of the reservoirs affect projected **temperature**?	Annual average daily temperature of the Colorado River **at Lees Ferry** under critically dry hydrology conditions (median values)	13.6 °C (56.5 °F)	13.8 °C (56.8 °F)	12.3 °C (54.1 °F)	13.2 °C (55.8 °F)	13.6 °C (56.5 °F)	13.6 °C (56.5 °F)
How would reservoir storage, reservoir releases, and corresponding changes in river flows downstream of the reservoirs affect projected **temperature**?	Annual maximum daily temperature of the Colorado River **at Lees Ferry** under critically dry hydrology conditions (median values)	19.5 °C (67.1 °F)	19.7 °C (67.5 °F)	16.3 °C (61.3 °F)	17.7 °C (63.9 °F)	18.9 °C (66 °F)	18.9 °C (66 °F)
How would reservoir storage, reservoir releases, and corresponding changes in river flows downstream of the reservoirs affect projected **temperature**?	Annual average daily temperature of the Colorado River **at Pearce Ferry** under critically dry hydrology conditions (median values)	16.8 °C (62.2 °F)	16.7 °C (62 °F)	16.1 °C (61 °F)	16.6 °C (61.9 °F)	16.8 °C (62.2 °F)	16.8 °C (62.2 °F)
How would reservoir storage, reservoir releases, and corresponding changes in river flows downstream of the reservoirs affect projected **temperature**?	Annual maximum daily temperature of the Colorado River **at Pearce Ferry** under critically dry hydrology conditions (median values)	23.3 °C (73.9 °F)	23.5 °C (74.3 °F)	22.4 °C (72.3 °F)	23.3 °C (73.9 °F)	23.6 °C (74.5 °F)	23.6 °C (74.5 °F)
How would reservoir storage, reservoir releases, and corresponding changes in river flows downstream of the reservoirs affect projected **dissolved oxygen**?	Percent of modeled futures in which *Lake Powell reservoir elevations stay above 3,490 feet and minimum dissolved oxygen concentration is greater than 2mg/L from Glen Canyon Dam releases in at least 90% of years*.	**40%** of modeled futures meet *the preferred minimum performance*.	**40%** of modeled futures meet *the preferred minimum performance*.	**89%** of modeled futures meet *the preferred minimum performance*.	**87%** of modeled futures meet *the preferred minimum performance*.	**35%** of modeled futures meet *the preferred minimum performance*.	**35%** of modeled futures meet *the preferred minimum performance*.

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
How would reservoir storage, reservoir releases, and corresponding changes in river flows downstream of the reservoirs affect **harmful algal blooms and nutrients**?	Qualitative comparison of water year minimum Lake Powell reservoir elevations under critically dry hydrology conditions (median values)	Water year minimum Lake Powell elevation median is the lowest, which would pose the **highest increased risk** for cyanobacterial blooms.	Water year minimum Lake Powell elevation median is the second lowest, which would pose **increased risk** for cyanobacterial blooms.	Water year minimum Lake Powell elevation median is highest, which would pose a **decreased risk** for cyanobacterial blooms.	Water year minimum Lake Powell elevation median is the second highest, which would pose a **decreased risk** for cyanobacterial blooms.	Water year minimum Lake Powell elevation median is third lowest compared with the other alternatives, which would pose an **increased risk** for cyanobacterial blooms compared with the Enhanced Coordination and Maximum Operational Flexibility alternatives, but a **decreased risk** compared with the No Action and Basic Coordination alternatives.	
How would reservoir storage, reservoir releases, and corresponding changes in river flows downstream of the reservoirs affect **dilution capacity**?	Qualitative comparison of water year minimum Lake Powell reservoir elevations under critically dry hydrology conditions (median values)	Water year minimum Lake Powell elevation median is the lowest, which would pose the **greatest increased risk** of greater concentrations of pollutants of concern but it is unlikely for any alternative to significantly reduce the dilution capacity.	Water year minimum Lake Powell elevation median is the lowest, which would pose an **increased risk** of greater concentrations of pollutants of concern but it is unlikely for any alternative to significantly reduce the dilution capacity.	Water yea minimum Lake Powell elevation median is the highest, which would pose a **decreased risk** of greater concentrations of pollutants of concern but it is unlikely for any alternative to significantly reduce the dilution capacity.	Water year minimum Lake Powell elevation median is the highest, which would pose a **decreased risk** of greater concentrations of pollutants of concern but it is unlikely for any alternative to significantly reduce the dilution capacity.	Water year minimum Lake Powell elevation median is third lowest compared with the other alternatives, which would pose an **increased risk** of greater concentrations of pollutants of concern compared with the Enhanced Coordination and Maximum Operational Flexibility alternatives, but a decreased risk compared with the No Action and Basic Coordination alternatives. However, it is unlikely for any alternative to significantly reduce the dilution capacity.	

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Air Quality

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Shoreline Area	Percent of modeled futures in which ***Lake Mead*** *shoreline exposure area stays below 500 square kilometers in every month.*	**40%** of modeled futures meet *the preferred minimum performance.*	**67%** of modeled futures meet *the preferred minimum performance.*	**84%** of modeled futures meet *the preferred minimum performance.*	**89%** of modeled futures meet *the preferred minimum performance.*	**79%** of modeled futures meet *the preferred minimum performance.*	
	Percent of modeled futures in which ***Lake Powell*** *shoreline exposure area stays below 500 square kilometers in every month.*	**24%** of modeled futures meet *the preferred minimum performance.*	**33%** of modeled futures meet *the preferred minimum performance.*	**86%** of modeled futures meet *the preferred minimum performance.*	**95%** of modeled futures meet *the preferred minimum performance.*	**28%** of modeled futures meet *the preferred minimum performance.*	
Shoreline Dust Emissions	Percent of modeled futures in which ***Lake Mead*** *shoreline dust emissions stay below 500 kilograms in every month.*	**27%** of modeled futures meet *the preferred minimum performance.*	**59%** of modeled futures meet *the preferred minimum performance.*	**78%** of modeled futures meet *the preferred minimum performance.*	**82%** of modeled futures meet *the preferred minimum performance.*	**74%** of modeled futures meet *the preferred minimum performance.*	
	Percent of modeled futures in which ***Lake Powell*** *shoreline dust emissions stay below 450 kilograms in every month.*	**22%** of modeled futures meet *the preferred minimum performance.*	**29%** of modeled futures meet *the preferred minimum performance.*	**85%** of modeled futures meet *the preferred minimum performance.*	**92%** of modeled futures meet *the preferred minimum performance.*	**27%** of modeled futures meet *the preferred minimum performance.*	
How would lake reservoir elevations and releases impact power generation and carbon dioxide equivalent (**CO_2e**) emissions?	Change in CO_2e emissions due to a loss of hydropower generation at **Glen Canyon Dam** under average hydrology conditions.	Hydropower generation would be highly affected resulting in the **tied most CO_2e emissions** under this alternative. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Hydropower generation would be slightly less affected than under the No Action Alternative, resulting in the **second most CO_2e emissions** under this alternative. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Hydropower generation would be least affected, resulting in the **tied lowest CO_2e emissions** under this alternative. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Hydropower generation would be similar to that under the Enhanced Coordination Alternative, resulting in the **tied lowest CO_2e emissions** under this alternative. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Hydropower generation would be the same as under the No Action Alternative, resulting in the **tied most CO_2e emissions** under this alternative. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	
	Change in CO_2e emissions due to a loss of hydropower generation at **Hoover Dam** under average hydrology conditions.	Hydropower generation would be most affected resulting in the **most CO_2e emissions**, with potential decrease in CO_2e emissions. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Hydropower generation would be slightly less affected than under the No Action Alternative, resulting in the **second lowest CO_2e emissions** under this alternative. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Hydropower generation would be slightly less affected than under the Basic Coordination Alternative, resulting in the **third lowest CO_2e emissions** under this alternative. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Hydropower generation would be similar to that under the Enhanced Coordination Alternative.	Hydropower generation would be least affected, resulting in the **lowest CO_2e emissions**. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases. Hydropower generation would be the same between the two Supply Driven Alternatives.	

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
How would lake reservoir elevations and releases impact power generation and carbon dioxide equivalent (**CO_2e**) emissions? *(continued)*	Change in CO_2e emissions due to a loss of hydropower generation at **Davis Dam** under average hydrology conditions.	Hydropower generation would be the least affected, resulting in the **lowest CO_2e emissions**. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Hydropower generation would be slightly less affected than under the No Action Alternative, resulting in the **second lowest CO_2e emissions**. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Hydropower generation would be highly affected, resulting in the **tied most CO_2e emissions**. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Hydropower generation would be similar to that under the Enhanced Coordination Alternative, resulting in the **tied most CO_2e emissions**. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Hydropower generation would be similar to that under the Enhanced Coordination Alternative. Hydropower generation would be similar between the two Supply Driven Alternatives.	
	Change in CO_2e emissions due to a loss of hydropower generation at **Parker Dam** under average hydrology conditions.	Hydropower generation would be the least affected, resulting in the **tied least CO_2e emissions**. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Hydropower generation would be similar to that under the No Action Alternative, resulting in the **tied least CO_2e emissions**. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Hydropower generation would be highly affected, resulting in the **most CO_2e emissions**. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Hydropower generation would be slightly more affected than under the No Action Alternative, resulting in the **second least CO_2e emissions**. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	Under the Supply Driven Alternative (LB Priority approach), hydropower generation would be similar to that under the Maximum Flexibility Alternative. Under the Supply Driven Alternative (LB Pro Rata approach), hydropower generation would be highly affected, resulting in the **second most CO_2e emissions**. This is due to the inverse correlation between CO_2e emissions from alternative energy sources and generation from reservoir elevations and releases.	

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Aquatic Resources

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Lake Powell elevations	Percent of modeled futures in which *Lake Powell elevation is below 3,598 feet at least 60% of months*, meaning critical habitat of Colorado Pikeminnow and Razorback Sucker is not inundated in the Colorado River Inflow.	**43%** of modeled futures meet *the preferred minimum performance*.	**49%** of modeled futures meet *the preferred minimum performance*.	**17%** of modeled futures meet *the preferred minimum performance*.	**20%** of modeled futures meet *the preferred minimum performance*.	**58%** of modeled futures meet *the preferred minimum performance*.	**58%** of modeled futures meet *the preferred minimum performance*.
	Percent of modeled futures in which *Lake Powell elevation is below 3,600 feet at least 60% of months*, meaning critical habitat of Colorado Pikeminnow and Razorback Sucker is not inundated in the San Juan River Inflow.	**44%** of modeled futures meet *the preferred minimum performance*.	**50%** of modeled futures meet *the preferred minimum performance*.	**18%** of modeled futures meet *the preferred minimum performance*.	**21%** of modeled futures meet *the preferred minimum performance*.	**59%** of modeled futures meet *the preferred minimum performance*.	**59%** of modeled futures meet *the preferred minimum performance*.
	Percent of modeled futures in which *Lake Powell elevation is below 3,666.5 feet in 100% of months, meaning the Paiute Farms Waterfall remains a barrier to upstream fish passage*.	**29%** of modeled futures meet *the preferred minimum performance*.	**29%** of modeled futures meet *the preferred minimum performance*.	**18%** of modeled futures meet *the preferred minimum performance*.	**17%** of modeled futures meet *the preferred minimum performance*.	**43%** of modeled futures meet *the preferred minimum performance*.	**43%** of modeled futures meet *the preferred minimum performance*.
	Percent of modeled futures in which *October 1st Lake Powell elevation is above 3,570 feet at least 80% of years*, meaning the risk of smallmouth bass entrainment is reduced.	**34%** of modeled futures meet *the preferred minimum performance*.	**30%** of modeled futures meet *the preferred minimum performance*.	**73%** of modeled futures meet *the preferred minimum performance*.	**61%** of modeled futures meet *the preferred minimum performance*.	**28%** of modeled futures meet *the preferred minimum performance*.	**28%** of modeled futures meet *the preferred minimum performance*.
Water Temperature	Percent of modeled futures in which *water temperature at Lees Ferry (river mile [RM] 0) never exceeds 20°C*.	**22%** of modeled futures meet *the preferred minimum performance*.	**24%** of modeled futures meet *the preferred minimum performance*.	**71%** of modeled futures meet *the preferred minimum performance*.	**59%** of modeled futures meet *the preferred minimum performance*.	**21%** of modeled futures meet *the preferred minimum performance*.	**21%** of modeled futures meet *the preferred minimum performance*.
	Percent of modeled futures in which *water temperature at the Little Colorado River Confluence (RM 62) exceeds 12°C ≥200 days every year*.	**1%** of modeled futures meet *the preferred minimum performance*.	**1%** of modeled futures meet *the preferred minimum performance*.	**0%** of modeled futures meet *the preferred minimum performance*.	**1%** of modeled futures meet *the preferred minimum performance*.	**0%** of modeled futures meet *the preferred minimum performance*.	**0%** of modeled futures meet *the preferred minimum performance*.
	Percent of modeled futures in which *water temperature at the Little Colorado River Confluence (RM 62) exceeds 16°C ≤170 days every year*.	**35%** of modeled futures meet *the preferred minimum performance*.	**34%** of modeled futures meet *the preferred minimum performance*.	**78%** of modeled futures meet *the preferred minimum performance*.	**70%** of modeled futures meet *the preferred minimum performance*.	**29%** of modeled futures meet *the preferred minimum performance*.	**29%** of modeled futures meet *the preferred minimum performance*.
	Percent of modeled futures in which *water temperature at the Havasu Creek Confluence (RM 157.2) exceeds 12°C ≥200 days every year*.	**21%** of modeled futures meet *the preferred minimum performance*.	**20%** of modeled futures meet *the preferred minimum performance*.	**9%** of modeled futures meet *the preferred minimum performance*.	**8%** of modeled futures meet *the preferred minimum performance*.	**29%** of modeled futures meet *the preferred minimum performance*.	**29%** of modeled futures meet *the preferred minimum performance*.

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	**Basic Coordination Alternative**	**Enhanced Coordination Alternative**	**Maximum Operational Flexibility Alternative**	**Supply Driven Alternative (LB Priority)**	**Supply Driven Alternative (LB Pro Rata)**
Water Temperature *(continued)*	Percent of modeled futures in which *water temperature at the Havasu Creek Confluence (RM 157.2) exceeds 16°C ≤190 days every year.*	**35%** of modeled futures meet *the preferred minimum performance.*	**42%** of modeled futures meet *the preferred minimum performance.*	**80%** of modeled futures meet *the preferred minimum performance.*	**78%** of modeled futures meet *the preferred minimum performance.*	**35%** of modeled futures meet *the preferred minimum performance.*	**35%** of modeled futures meet *the preferred minimum performance.*
	Percent of modeled futures in which *water temperature at Pearce Ferry (RM 281) exceeds 12°C ≥200 days every year.*	**63%** of modeled futures meet *the preferred minimum performance.*	**70%** of modeled futures meet *the preferred minimum performance.*	**67%** of modeled futures meet *the preferred minimum performance.*	**63%** of modeled futures meet *the preferred minimum performance.*	**78%** of modeled futures meet *the preferred minimum performance.*	**78%** of modeled futures meet *the preferred minimum performance.*
	Percent of modeled futures in which *water temperature at Pearce Ferry (RM 281) exceeds 16°C ≤190 days every year.*	**19%** of modeled futures meet *the preferred minimum performance.*	**19%** of modeled futures meet *the preferred minimum performance.*	**49%** of modeled futures meet *the preferred minimum performance.*	**40%** of modeled futures meet *the preferred minimum performance.*	**16%** of modeled futures meet *the preferred minimum performance.*	**16%** of modeled futures meet *the preferred minimum performance.*
Smallmouth population growth	Percent of modeled futures in which *the 5-year Smallmouth Bass growth rate (lambda) at Lees Ferry is always less than 1.*	**22%** of modeled futures meet *the preferred minimum performance.*	**25%** of modeled futures meet *the preferred minimum performance.*	**69%** of modeled futures meet *the preferred minimum performance.*	**57%** of modeled futures meet *the preferred minimum performance.*	**23%** of modeled futures meet *the preferred minimum performance.*	**23%** of modeled futures meet *the preferred minimum performance.*
Smallmouth bass entrainment	Percent of modeled futures in which *the annual count of adult smallmouth bass that are entrained and survive is always less than 50 individuals.*	**18%** of modeled futures meet *the preferred minimum performance.*	**18%** of modeled futures meet *the preferred minimum performance.*	**61%** of modeled futures meet *the preferred minimum performance.*	**50%** of modeled futures meet *the preferred minimum performance.*	**16%** of modeled futures meet *the preferred minimum performance.*	**16%** of modeled futures meet *the preferred minimum performance.*
Lake Mead elevation	Percent of modeled futures in which *Lake Mead elevation is above the historical minimum elevation of 1,040.92 feet ≥90% of months.*	**13%** of modeled futures meet *the preferred minimum performance.*	**44%** of modeled futures meet *the preferred minimum performance.*	**57%** of modeled futures meet *the preferred minimum performance.*	**56%** of modeled futures meet *the preferred minimum performance.*	**58%** of modeled futures meet *the preferred minimum performance.*	**69%** of modeled futures meet *the preferred minimum performance.*
	Percent of modeled futures in which *Colorado River water levels at Pearce Ferry Rapid are Below 1,090 Feet ≥90% of months.*	**58%** of modeled futures meet *the preferred minimum performance.*	**26%** of modeled futures meet *the preferred minimum performance.*	**12%** of modeled futures meet *the preferred minimum performance.*	**13%** of modeled futures meet *the preferred minimum performance.*	**9%** of modeled futures meet *the preferred minimum performance.*	**7%** of modeled futures meet *the preferred minimum performance.*
Hoover Dam releases	Percent of modeled futures in which *monthly releases from Hoover Dam are within the range observed during 2008–2024 in 100% of the time.*	**66%** of modeled futures meet *the preferred minimum performance.*	**58%** of modeled futures meet *the preferred minimum performance.*	**32%** of modeled futures meet *the preferred minimum performance.*	**20%** of modeled futures meet *the preferred minimum performance.*	**34%** of modeled futures meet *the preferred minimum performance.*	**32%** of modeled futures meet *the preferred minimum performance.*

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Vegetation Including Special Status Species

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Vegetation, including special status plant species	Marsh habitat (Lake Powell, Lake Mead, and Hoover Dam to SIB Reaches) – Changes in water fluctuations within a single year compared to historical conditions.	The No Action Alternative is **among the middle performing** alternative for the Lake Powell reach because the annual variability is neither the most similar nor the least similar to historic conditions for these reaches. The No Action Alternative is **among the best performing** alternatives for the Hoover Dam to SIB reaches because it has annual variability similar to historic conditions. The No Action Alternative is **among the least performing** alternatives for the Lake Mead reach because its annual variability is least like historic conditions.	The Basic Coordination Alternative is **among the best performing** alternatives for the Lake Mead and Hoover Dam to SIB reaches because it has annual variability similar to historic conditions. The Basic Coordination Alternative is **among the least performing** alternatives for the Lake Powell reach because its annual variability is least like historic conditions.	The Enhanced Coordination Alternative is **among the middle performing** alternative for the Lake Mead reach because the annual variability is neither the most similar nor the least similar to historic conditions for these reaches. The Enhanced Coordination Alternative is **among the best performing** alternatives for the Lake Powell reach because it has annual variability similar to historic conditions. The Enhanced Coordination Alternative is **among the least performing** alternatives for the Hoover Dam to SIB reach because its annual variability is least like historic conditions.	The Maximum Operational Flexibility Alternative is **among the best performing** alternatives for the Lake Powell and Lake Mead reaches because it has annual variability similar to historic conditions. The Maximum Operational Flexibility Alternative is **among the least performing** alternatives for the Hoover Dam to SIB reach because its annual variability is least like historic conditions.	The Supply Driven Alternative is **never the best performing** alternative because it never has variability most similar to historic conditions. The Supply Driven Alternative is **among the middle performing** alternative for the Lake Mead and the Hoover Dam to SIB reaches because the annual variability is neither the most similar nor the least similar to historic conditions for these reaches. The Supply Driven Alternative is **among the least performing** alternatives for the Lake Powell and Hoover Dam to SIB reach because its annual variability is least like historic conditions.	
	Woody riparian habitat (Lake Powell, Lake Mead, and Hoover Dam to SIB Reaches) – Changes in water fluctuations in the preceding 5 years compared to historical conditions.	The No Action Alternative is **among the middle performing** alternative for the Lake Powell reach because the annual variability is neither the most similar nor the least similar to historic conditions for these reaches. The No Action Alternative is **among the best performing** alternatives for the Hoover Dam to SIB reaches because it has annual variability similar to historic conditions. The No Action Alternative is **among the least performing** alternatives for the Lake Mead reach because its annual variability is least like historic conditions.	The Basic Coordination Alternative is **among the best performing** alternatives for the Lake Mead and Hoover Dam to SIB reaches because it has annual variability similar to historic conditions. The Basic Coordination Alternative is **among the least performing** alternatives for the Lake Powell reach because its annual variability is least like historic conditions.	The Enhanced Coordination Alternative is **among the best performing** alternatives for the Lake Powell reach because it has annual variability similar to historic conditions. The Enhanced Coordination Alternative is **among the least performing** alternatives for Lake Mead and the Hoover Dam to SIB reach because its annual variability is least like historic conditions.	The Maximum Operational Flexibility Alternative is **among the best performing** alternatives for the Lake Powell and Lake Mead reaches because it has annual variability similar to historic conditions. The Maximum Operational Flexibility Alternative is **among the least performing** alternatives for the Hoover Dam to SIB reach because its annual variability is least like historic conditions.	The Supply Driven Alternative is **never the best performing** alternative because it never has variability most similar to historic conditions. The Supply Driven Alternative is **among the middle performing** alternative for the Lake Mead reach because the annual variability is neither the most similar nor the least similar to historic conditions for these reaches. The Supply Driven Alternative is **among the least performing** alternatives for the Lake Powell and Hoover Dam to SIB reach because its annual variability is least like historic conditions. No Alternative is better performing in the Glen Canyon Dam to Lake Mead reach.	
	Upland habitat (Lake Powell, Lake Mead, and Hoover Dam to SIB Reaches) – Changes in water fluctuations in either the preceding single year or preceding 5 years compared to historical conditions.	Upland habitat would be gained or lost depending on whether conditions are suitable for marsh or woody riparian habitat (see above).					

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	**Basic Coordination Alternative**	**Enhanced Coordination Alternative**	**Maximum Operational Flexibility Alternative**	**Supply Driven Alternative (LB Priority)**	**Supply Driven Alternative (LB Pro Rata)**
Vegetation, including special status plant species *(continued)*	Marsh habitat suitable area (Glen Canyon Dam to Lake Mead Reach) - A change from the median and interquartile ranges from modeled historic conditions	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach. However, under the Maximum Flexibility Alternative under the driest modeled conditions, marsh habitat **could increase** compared to modeled historic conditions.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach. However, under the Supply Driven Alternative under the driest modeled conditions, marsh habitat **could increase** compared to modeled historic conditions.	
	Woody Riparian habitat suitable area (Glen Canyon Dam to Lake Mead Reach) - A change from the median and interquartile ranges from modeled historic conditions.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach. However, under the No Action Alternative under the driest modeled conditions, woody riparian vegetation **could increase** compared to modeled historic conditions.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	
	Upland habitat suitable area	Upland habitat would be gained or lost depending on whether conditions are suitable for marsh or woody riparian habitat (see above).					
	Native Species Richness (Glen Canyon Dam to Lake Mead Reach) - A change from the median and interquartile ranges from modeled historic conditions.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.					
	Proportion Native Species Cover (Glen Canyon Dam to Lake Mead Reach) - A change from the median and interquartile ranges from modeled historic conditions.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach. However, under the No Action Alternative under the driest modeled conditions, the No Action Alternative had the **highest** proportion of modeled native cover compared to modeled historic conditions.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach. However, under the Maximum Operational Flexibility Alternative under the driest modeled conditions, the Maximum Operational Flexibility Alternative had the **lowest** proportion of modeled native cover compared to modeled historic conditions.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	

Some performance indicator descriptions include italics to denote a definition of the "*preferred minimum performance*" that was used as a significant reference point for technical analysis. The following were considered when determining preferred minimum performance: input from resource experts, the severity of negative outcomes associated with not satisfying a given performance level, historical (observed) data, and/or reasonably expected outcomes if current operations and recent hydrology continued. To find more information about preferred minimum performance levels, see Volume III – Technical Appendices.

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Vegetation, including special status plant species *(continued)*	Annual Total Vegetation Cover (Glen Canyon Dam to Lake Mead Reach) - A change from the median and interquartile ranges from modeled historic conditions.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach. However, under the Maximum Operational Flexibility Alternative under the driest modeled conditions, annual total vegetation cover **could increase** compared to modeled historic conditions.	Considering all modeled natural flow conditions, no alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach. However, under the Supply Driven Alternative under the driest modeled conditions, annual total vegetation cover **could increase** compared to modeled historic conditions.	

Terrestrial Wildlife Including Special Status Species

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Terrestrial wildlife species habitat availability, including for special status species	Terrestrial wildlife species using marsh habitat – Changes in water fluctuations within a single year compared to historical conditions.	The No Action Alternative is **among the middle performing** alternative for the Lake Powell reach because the annual variability is neither the most similar nor the least similar to historic conditions for these reaches. The No Action Alternative is **among the best performing** alternatives for the Hoover Dam to SIB reaches because it has annual variability similar to historic conditions. The No Action Alternative is **among the least performing** alternatives for the Lake Mead reach because its annual variability is least like historic conditions. Considering all modeled natural flow conditions, no Alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	The Basic Coordination Alternative is **among the best performing** alternatives for the Lake Mead and Hoover Dam to SIB reaches because it has annual variability similar to historic conditions. The Basic Coordination Alternative is **among the least performing** alternatives for the Lake Powell reach because its annual variability is least like historic conditions. Considering all modeled natural flow conditions, no Alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	The Enhanced Coordination Alternative is **among the middle performing** alternative for the Lake Mead reach because the annual variability is neither the most similar nor the least similar to historic conditions for these reaches. The Enhanced Coordination Alternative is **among the best performing** alternatives for the Lake Powell reach because it has annual variability similar to historic conditions. The Enhanced Coordination Alternative is **among the least performing** alternatives for the Hoover Dam to SIB reach because its annual variability is least like historic conditions. Considering all modeled natural flow conditions, no Alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	The Maximum Operational Flexibility Alternative is **among the best performing** alternatives for the Lake Powell and Lake Mead reaches because it has annual variability similar to historic conditions. The Maximum Operational Flexibility Alternative is **among the least performing** alternatives for the Hoover Dam to SIB reach because its annual variability is least like historic conditions. Considering all modeled natural flow conditions, no Alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach. However, under the Maximum Flexibility Alternative under the driest modeled conditions, marsh habitat could increase compared to modeled historic conditions.	The Supply Driven Alternative is **never the best performing** alternative because it never has variability most similar to historic conditions. The Supply Driven Alternative is **among the middle performing** alternative for the Lake Mead and the Hoover Dam to SIB reaches because the annual variability is neither the most similar nor the least similar to historic conditions for these reaches. The Supply Driven Alternative is **among the least performing** alternatives for the Lake Powell and Hoover Dam to SIB reach because its annual variability is least like historic conditions. Considering all modeled natural flow conditions, no Alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach. However, under the Supply Driven Alternative under the driest modeled conditions, marsh habitat could increase compared to modeled historic conditions.	

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	**Basic Coordination Alternative**	**Enhanced Coordination Alternative**	**Maximum Operational Flexibility Alternative**	**Supply Driven Alternative (LB Priority)**	**Supply Driven Alternative (LB Pro Rata)**
Terrestrial wildlife species habitat availability, including for special status species *(continued)*	Terrestrial wildlife species using woody riparian habitat – Changes in water fluctuations in the preceding 5 years compared to historical conditions.	The No Action Alternative is **among the middle performing** alternative for the Lake Powell reach because the annual variability is neither the most similar nor the least similar to historic conditions for these reaches. The No Action Alternative is **among the best performing** alternatives for the Hoover Dam to SIB reaches because it has annual variability similar to historic conditions. The No Action Alternative is **among the least performing** alternatives for the Lake Mead reach because its annual variability is least like historic conditions. Considering all modeled natural flow conditions, no Alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach. However, under the No Action Alternative under the driest modeled conditions, woody riparian vegetation may increase compared to modeled historic conditions	The Basic Coordination Alternative is **among the best performing** alternatives for the Lake Mead and Hoover Dam to SIB reaches because it has annual variability similar to historic conditions. The Basic Coordination Alternative is **among the least performing** alternatives for the Lake Powell reach because its annual variability is least like historic conditions. Considering all modeled natural flow conditions, no Alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	The Enhanced Coordination Alternative is **among the best performing** alternatives for the Lake Powell reach because it has annual variability similar to historic conditions. The Enhanced Coordination Alternative is **among the least performing** alternatives for Lake Mead and the Hoover Dam to SIB reach because its annual variability is least like historic conditions. Considering all modeled natural flow conditions, no Alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	The Maximum Operational Flexibility Alternative is **among the best performing** alternatives for the Lake Powell and Lake Mead reaches because it has annual variability similar to historic conditions. The Maximum Operational Flexibility Alternative is **among the least performing** alternatives for the Hoover Dam to SIB reach because its annual variability is least like historic conditions. Considering all modeled natural flow conditions, no Alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	The Supply Driven Alternative is **never the best performing** alternative because it never has variability most similar to historic conditions. The Supply Driven Alternative is **among the middle performing** alternative for the Lake Mead reach because the annual variability is neither the most similar nor the least similar to historic conditions for these reaches. The Supply Driven Alternative is **among the least performing** alternatives for the Lake Powell and Hoover Dam to SIB reach because its annual variability is least like historic conditions. Considering all modeled natural flow conditions, no Alternative is better performing compared to the modeled historic conditions in the Glen Canyon Dam to Lake Mead reach.	
	Terrestrial wildlife species using upland habitat – Changes in water fluctuations in either the preceding single year or preceding 5 years compared to historical conditions.	Upland habitat would be gained or lost depending on whether conditions are suitable for marsh or woody riparian habitat (see above).	Upland habitat would be gained or lost depending on whether conditions are suitable for marsh or woody riparian habitat (see above).	Upland habitat would be gained or lost depending on whether conditions are suitable for marsh or woody riparian habitat (see above).	Upland habitat would be gained or lost depending on whether conditions are suitable for marsh or woody riparian habitat (see above).	Upland habitat would be gained or lost depending on whether conditions are suitable for marsh or woody riparian habitat (see above).	Upland habitat would be gained or lost depending on whether conditions are suitable for marsh or woody riparian habitat (see above).

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Cultural Resources

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	**Basic Coordination Alternative**	**Enhanced Coordination Alternative**	**Maximum Operational Flexibility Alternative**	**Supply Driven Alternative (LB Priority)**	**Supply Driven Alternative (LB Pro Rata)**
Projected end-of-year lake elevations that may expose cultural resources to damage from wave action, wet/dry cycling, or increased ease of access	Projected end-of-year lake elevations for Lake Powell (EOWY) and Lake Mead (EOCY) and number of cultural resources potentially impacted	Lake Powell: Under wet hydrologic conditions, median water levels are at or above 3,680 feet protecting all sites up to 3,700 feet. Under average conditions, median water levels fall below 3,600 feet exposing at least 274 archaeological sites. Under critically dry conditions, median water levels drop below 3,500 feet, potentially leaving the most sites exposed with at least 274 sites down to 3,580 feet and those between 3,580 feet and 3,500 feet out of the 477 sites below 3,580 feet. Lake Mead: Under wet hydrologic conditions, median elevations are around 1,150 feet exposing at least 173 archaeological sites. During average hydrologic conditions, median elevations are around 990 feet potentially exposing all 240 sites. In critically dry conditions, all 240 sites would likely be exposed due to low reservoir elevations.	Lake Powell: Under wet hydrologic conditions, median water levels are at or above 3,680 feet, protecting at least 686 sites. Under average conditions, median water levels fall below 3,600 feet exposing at least 274 archaeological sites. Under critically dry conditions, median water levels drop below 3,500 feet, potentially leaving the most sites exposed with at least 274 sites down to 3,580 feet and those between 3,580 feet and 3,500 feet out of the 477 sites below 3,580 feet. Lake Mead: Under wet hydrologic conditions, median water levels are around 1,180 feet, exposing at least 119 archaeological sites. During average hydrological conditions, median elevations are around 1,080 feet exposing at least 237 sites. In critically dry conditions, all 240 sites would likely be exposed due to low reservoir elevations.	Lake Powell: Under wet hydrologic conditions, median water levels are at or above 3,680 feet protecting at least 686 sites. Under average conditions, median water levels drop to around 3,630 feet, leaving at more than 193 sites exposed. Under critically dry conditions, median water levels drop below 3,500 feet, potentially leaving the most sites exposed with at least 274 sites down to 3,580 feet and those between 3,580 feet and 3,500 feet out of the 477 sites below 3,580 feet. Lake Mead: Under wet hydrologic conditions, median water levels are around 1,210 feet, exposing the fewest number of sites (fewer than 69 sites). Under average conditions, median elevations are around 1,110 feet exposing at least 217 sites. In critically dry conditions, all 240 sites would likely be exposed due to low reservoir elevations.	Lake Powell: Under wet hydrologic conditions, median water levels are at or above 3,680 feet protecting at least 686 sites. Under average conditions, median water levels drop to around 3,620 feet, leaving at least 193 sites exposed. Under critically dry conditions, median water levels drop below 3,500 feet, potentially leaving the most sites exposed with at least 274 sites down to 3,580 feet and those between 3,580 feet and 3,500 feet out of the 477 sites below 3,580 feet. Lake Mead: Under wet conditions, median water levels are around 1,210 feet, exposing the fewest number of sites (fewer than 69). Under average conditions, median elevations are around 1,130 feet exposing at least 202 sites. Under critically dry conditions, all 240 sites would likely be exposed due to low reservoir elevations.	Lake Powell: During the wettest flow categories, median water levels are at or above 3,680 feet protecting at least 686 sites. Under average conditions, median elevations are below 3,580 feet leaving at least 274 sites exposed. Under critically dry conditions, median water levels drop below 3,500 feet, potentially leaving the most sites exposed with at least 274 sites down to 3,580 feet and those between 3,580 feet and 3,500 feet out of the 477 sites below 3,580 feet. Lake Mead: Under wet conditions, median water levels are around 1,220 feet, protecting all 240 sites. During average conditions, median elevations are around 1,160 feet exposing at least 173 sites. Under critically dry conditions, all 240 sites would likely be exposed due to low reservoir elevations.
	Lake Powell: Percent of modeled futures in which *the preservation risk at Lake Powell is below 2.72 in at least 90% of months* Lake Mead: Percent of modeled futures in which *the preservation risk at Lake Mead is below 2.24 in at least 90% of months*	Lake Powell: **23%** of modeled futures meet *the preferred minimum performance*. Lake Mead: **7%** of modeled futures meet *the preferred minimum performance*.	Lake Powell: **21%** of modeled futures meet *the preferred minimum performance*. Lake Mead: **22%** of modeled futures meet *the preferred minimum performance*.	Lake Powell: **58%** of modeled futures meet *the preferred minimum performance*. Lake Mead: **26%** of modeled futures meet *the preferred minimum performance*.	Lake Powell: **36%** of modeled futures meet *the preferred minimum performance*. Lake Mead: **37%** of modeled futures meet *the preferred minimum performance*.	Lake Powell: **16%** of modeled futures meet *the preferred minimum performance*. Lake Mead: **43%** of modeled futures meet *the preferred minimum performance*.	

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Projected changes in river flows that may contribute to erosion and exposure of cultural resources that may expose sites to damage from erosion, wet/dry cycling, or increased ease of access	Projected releases from dams and forecasted river flow volumes that are outside past releases or flows	Under wet and average hydrologic conditions, releases fall within past volumes for the Glen Canyon Dam to Lake Mead reach and Hoover Dam to Lake Mohave. During critically dry conditions, release volumes may drop below past releases; however, impacts would only be for sites close to riverbank. No impacts below Lake Mohave.	Under wet and average hydrologic conditions, releases fall within past volumes for the Glen Canyon Dam to Lake Mead reach and Hoover Dam to Lake Mohave. During critically dry conditions, release volumes may drop below past releases; however, impacts would only be for sites close to riverbank. No impacts below Lake Mohave.	Under wet and average hydrologic conditions, releases fall within past volumes for the Glen Canyon Dam to Lake Mead reach and Hoover Dam to Lake Mohave. During critically dry conditions, release volumes may drop below past releases; however, impacts would only be for sites close to riverbank. No impacts below Lake Mohave.	Under wet and average hydrologic conditions, releases fall within past volumes for the Glen Canyon Dam to Lake Mead reach and Hoover Dam to Lake Mohave. During critically dry conditions, release volumes may drop below past releases; however, impacts would only be for sites close to riverbank. No impacts below Lake Mohave.	Under wet and average hydrologic conditions, releases fall within past volumes for the Glen Canyon Dam to Lake Mead reach and Hoover Dam to Lake Mohave. During critically dry conditions, release volumes may drop below past releases; however, impacts would only be for sites close to riverbank. No impacts below Lake Mohave.	
Projected availability of sediments along the river which may be transported by wind and deposited on archaeological sites	Percent of modeled futures in which *annual sand area >50th and vegetation cover <50th percentile or sandbar volume >1.5 initial condition at least one out of every 3 years*	**11%** of modeled futures meet *the preferred minimum performance*.	**5%** of modeled futures meet *the preferred minimum performance*.	**15%** of modeled futures meet *the preferred minimum performance*.	**15%** of modeled futures meet *the preferred minimum performance*.	**2%** of modeled futures meet *the preferred minimum performance*.	**2%** of modeled futures meet *the preferred minimum performance*.

Paleontological Resources

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Paleontological preservation risk due to dam operations	Percent of modeled futures in which *monthly preservation risk rank at **Lake Powell** stays below 2.9 at least 90% of months*	**22%** of modeled futures meet *the preferred minimum performance*.	**18%** of modeled futures meet *the preferred minimum performance*.	**47%** of modeled futures meet *the preferred minimum performance*.	**28%** of modeled futures meet *the preferred minimum performance*.	**13%** of modeled futures meet *the preferred minimum performance*.	
	Percent of modeled futures in which *monthly preservation risk rank at **Lake Mead** stays below 2.3 at least 90% of months*	**6%** of modeled futures meet *the preferred minimum performance*.	**15%** of modeled futures meet *the preferred minimum performance*.	**18%** of modeled futures meet *the preferred minimum performance*.	**29%** of modeled futures meet *the preferred minimum performance*.	**35%** of modeled futures meet *the preferred minimum performance*.	
Paleontological resource preservation and stability due to altered sediment transport	Percent of modeled futures in which *annual sand area >50th and vegetation cover <50th percentile or sandbar volume >1.5 initial condition at least one out of every 3 years*	**11%** of modeled futures meet *the preferred minimum performance*.	**5%** of modeled futures meet *the preferred minimum performance*.	**15%** of modeled futures meet *the preferred minimum performance*.	**15%** of modeled futures meet *the preferred minimum performance*.	**2%** of modeled futures meet *the preferred minimum performance*.	
	Percent of modeled futures in which *the fraction of sand mass transported by sandbar-forming flow rates (above 37,000 cfs) is at least 0.4 over 34 years (40% of the sand transport)*	**49%** of modeled futures meet *the preferred minimum performance*.	**74%** of modeled futures meet *the preferred minimum performance*.	**82%** of modeled futures meet *the preferred minimum performance*.	**82%** of modeled futures meet *the preferred minimum performance*.	**77%** of modeled futures meet *the preferred minimum performance*.	

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Impacts of increased disturbance, unauthorized collection, and recreational impacts on paleontological resources due to dam operations and altered water levels	Percent of modeled futures in which *Lake Powell elevation stays above 3,500 feet in 100% of months*	**20%** of modeled futures meet *the preferred minimum performance.*	**25%** of modeled futures meet *the preferred minimum performance.*	**82%** of modeled futures meet *the preferred minimum performance.*	**87%** of modeled futures meet *the preferred minimum performance.*	**24%** of modeled futures meet *the preferred minimum performance.*	
	Percent of modeled futures in which *Lake Mead elevation stays above 975 feet in 100% of months*	**25%** of modeled futures meet *the preferred minimum performance.*	**58%** of modeled futures meet *the preferred minimum performance.*	**75%** of modeled futures meet *the preferred minimum performance.*	**79%** of modeled futures meet *the preferred minimum performance.*	**71%** of modeled futures meet *the preferred minimum performance.*	**80%** of modeled futures meet *the preferred minimum performance.*

Tribal Resources

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Reservoir Elevations that may expose TCPs, archaeological sites, or sacred sites to increased access and visitation	Lake Powell EOWY elevations	Lowest elevations in the critcally dry flow category exposing the greatest number of sites to visitation	Second lowest elevations in the critcally dry flow category	Highest elevations in the critcally dry flow category exposing the fewest number of sites to visitation	Second highest elevations in the critcally dry flow category	Tied in the middle performing for elevations in the critcally dry flow category	Tied in the middle performing for elevations in the critcally dry flow category
	Lake Mead EOCY elevations in feet	Lowest elevations in all flow categories exposing the greatest number of sites to visitation	Second lowest elevations in all flow categories	Third lowest elevations in all flow categories	Third highest elevations in all flow categories	Second highest elevations in all flow categories	Highest elevations in all flow categories exposing the fewest number of sites to visitation
Projected changes in river flows that may contribute to erosion and exposure of archaeological sites or sacred sites	Projected releases from dams and forecasted river flow volumes that are outside past releases or flows	Under wet and average hydrologic conditions, releases fall within past volumes for the Glen Canyon Dam to Lake Mead reach and Hoover Dam to Lake Mohave. During critically dry conditions, release volumes may drop below past releases; however, impacts would only be for sites close to riverbank. No impacts below Lake Mohave.	Under wet and average hydrologic conditions, releases fall within past volumes for the Glen Canyon Dam to Lake Mead reach and Hoover Dam to Lake Mohave. During critically dry conditions, release volumes may drop below past releases; however, impacts would only be for sites close to riverbank. No impacts below Lake Mohave.	Under wet and average hydrologic conditions, releases fall within past volumes for the Glen Canyon Dam to Lake Mead reach and Hoover Dam to Lake Mohave. During critically dry conditions, release volumes may drop below past releases; however, impacts would only be for sites close to riverbank. No impacts below Lake Mohave.	Under wet and average hydrologic conditions, releases fall within past volumes for the Glen Canyon Dam to Lake Mead reach and Hoover Dam to Lake Mohave. During critically dry conditions, release volumes may drop below past releases; however, impacts would only be for sites close to riverbank. No impacts below Lake Mohave.	Under wet and average hydrologic conditions, releases fall within past volumes for the Glen Canyon Dam to Lake Mead reach and Hoover Dam to Lake Mohave. During critically dry conditions, release volumes may drop below past releases; however, impacts would only be for sites close to riverbank. No impacts below Lake Mohave.	

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Projected changes in natural resources important to Native Americans including riparian vegetation and wildlife	Woody riparian habitat most similar to historic conditions	Among the **middle performing alternatives** for the Lake Powell reach, among the **best performing alternatives** for the Hoover Dam to SIB reaches, and among the **least performing alternatives** for the Lake Mead reach.	Among the **best performing alternatives** for the Lake Mead and Hoover Dam to SIB reaches and among **the least performing alternatives** for the Lake Powell reach.	Among the **best performing alternatives** for the Lake Powell reach and among the **least performing alternatives** for Lake Mead and the Hoover Dam to SIB reach.	Among the **best performing alternatives** for the Lake Powell and Lake Mead reaches and among the **least performing alternatives** for the Hoover Dam to SIB reach.	Never the best performing alternative but among the **middle performing alternatives** for the Lake Mead reach because the annual variability is neither the most similar nor the least similar to historic conditions for these reaches. Among the **least performing alternatives** for the Lake Powell and Hoover Dam to SIB. The **best performing alternative** in the Glen Canyon Dam to Lake Mead reach.	
	Critical fish habitat (Colorado River)	Modeling presented for aquatic species suggests that **between 41 and 50%** of futures would meet acceptable critical habitat performance standards	Modeling suggests that **between 41 and 50%** of futures would meet acceptable critical habitat performance standards	Modeling suggests that **between 11 and 20%** of futures would meet acceptable critical habitat performance standards	Modeling suggests that **between 11 and 20%** of futures would meet acceptable critical habitat performance standards	Modeling suggests that **between 51 and 60%** of futures would meet acceptable critical habitat performance standards	

Recreation

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Reservoir elevation impacts on shoreline recreational facilities, reservoir boating, and sport fishing opportunities	Percent of modeled futures in which *the proportion of **Lake Powell** recreation sites open stays above 0.7 (historical benchmark) for all summer months (May 31 – August 31) each year*	**17%** of modeled futures meet *the preferred minimum performance.*	**15%** of modeled futures meet *the preferred minimum performance.*	**45%** of modeled futures meet *the preferred minimum performance.*	**26%** of modeled futures meet *the preferred minimum performance.*	**13%** of modeled futures meet *the preferred minimum performance.*	**13%** of modeled futures meet *the preferred minimum performance.*
	Percent of modeled futures in which *the proportion of **Lake Mead** recreation sites open stays above 0.8 (historical benchmark) for all summer months (May 31 – August 31) each year*	**8%** of modeled futures meet *the preferred minimum performance.*	**35%** of modeled futures meet *the preferred minimum performance.*	**37%** of modeled futures meet *the preferred minimum performance.*	**42%** of modeled futures meet *the preferred minimum performance.*	**45%** of modeled futures meet *the preferred minimum performance.*	**53%** of modeled futures meet *the preferred minimum performance.*
	Percent of modeled futures in which ***Lake Powell** elevation is above the identified boating hazard minimum (3,620 ft) for at least 20% of months*	**66%** of modeled futures meet *the preferred minimum performance.*	**61%** of modeled futures meet *the preferred minimum performance.*	**84%** of modeled futures meet *the preferred minimum performance.*	**83%** of modeled futures meet *the preferred minimum performance.*	**48%** of modeled futures meet *the preferred minimum performance.*	**48%** of modeled futures meet *the preferred minimum performance.*
	Percent of modeled futures in which ***Lake Mead** elevation is above the identified boating hazard minimum (1,170 ft) for at least 10 percent of months*	**29%** of modeled futures meet *the preferred minimum performance.*	**39%** of modeled futures meet *the preferred minimum performance.*	**58%** of modeled futures meet *the preferred minimum performance.*	**68%** of modeled futures meet *the preferred minimum performance.*	**78%** of modeled futures meet *the preferred minimum performance.*	**81%** of modeled futures meet *the preferred minimum performance.*

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Glen Canyon Dam releases impacts on whitewater boating and sport fishing	Percent of modeled futures in which *daytime flows (7am – 7pm) below Glen Canyon Dam are at least 5,000 cfs every day*	**78%** of modeled futures meet *the preferred minimum performance.*	**80%** of modeled futures meet *the preferred minimum performance.*	**98%** of modeled futures meet *the preferred minimum performance.*	**57%** of modeled futures meet *the preferred minimum performance.*	**97%** of modeled futures meet *the preferred minimum performance.*	**97%** of modeled futures meet *the preferred minimum performance.*
	Percent of modeled futures in *which daily water temperature at Lees Ferry never exceed 20℃*	**22%** of modeled futures meet *the preferred minimum performance.*	**24%** of modeled futures meet *the preferred minimum performance.*	**71%** of modeled futures meet *the preferred minimum performance.*	**59%** of modeled futures meet *the preferred minimum performance.*	**21%** of modeled futures meet *the preferred minimum performance.*	**21%** of modeled futures meet *the preferred minimum performance.*

Dams and Electrical Power Resources

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Reservoir Elevations and Power Pool Robustness	Percent of modeled futures in which *Lake Powell elevation is always above minimum power pool (3,490 feet).*	**24%** of modeled futures meet *the preferred minimum performance.*	**33%** of modeled futures meet *the preferred minimum performance.*	**86%** of modeled futures meet *the preferred minimum performance.*	**95%** of modeled futures meet *the preferred minimum performance.*	**28%** of modeled futures meet *the preferred minimum performance.*	**28%** of modeled futures meet *the preferred minimum performance.*
	Percent of modeled futures in which *Lake Mead elevation is always above minimum power pool (950 feet).*	**30%** of modeled futures meet *the preferred minimum performance.*	**61%** of modeled futures meet *the preferred minimum performance.*	**81%** of modeled futures meet *the preferred minimum performance.*	**87%** of modeled futures meet *the preferred minimum performance.*	**76%** of modeled futures meet *the preferred minimum performance.*	**84%** of modeled futures meet *the preferred minimum performance.*
Energy Capacity of the Glen Canyon Dam and Hoover Dam Powerplants	August power capacity (megawatt [MW]) under average hydrology conditions	Glen Canyon Dam: 500-635 MW Hoover Dam: 125-1,240 MW	Glen Canyon Dam: 635-750 MW Hoover Dam: 400-1,550 MW	Glen Canyon Dam: 625-790 MW Hoover Dam: 1,300-1,600 MW	Glen Canyon Dam: 600-650 MW Hoover Dam: 1,200-1,700 MW	Glen Canyon Dam: 620 -740 MW Hoover Dam: 1,380-1,700 MW	Glen Canyon Dam: 620 -740 MW Hoover Dam: 1,490 - 1,725 MW
	August power capacity (MW) under critically dry hydrology conditions	Glen Canyon Dam: 0-520 MW Hoover Dam: 0-250 MW	Glen Canyon Dam: 0-525 MW Hoover Dam: 0-1,260 MW	Glen Canyon Dam: 250-625 MW Hoover Dam: 200 -1,270 MW	Glen Canyon Dam: 225-380 MW Hoover Dam: 249 – 1,425 MW	Glen Canyon Dam: 0-390 MW Hoover Dam: 0-1,500 MW	Glen Canyon Dam: 0-390 MW Hoover Dam: 240-1,550 MW
Energy Generation of the Glen Canyon Dam and Hoover Dam Powerplants	Water year generation (Megawatt Hours [MWh]) under average hydrology conditions	Glen Canyon Dam: 3-4 MWh Hoover Dam: 1.3-3.3 MWh	Glen Canyon Dam: 3.1-3.7 MWh Hoover Dam: 2.8-3.6 MWh	Glen Canyon Dam: 3-4.1 MWh Hoover Dam: 2.7-3.8 MWh	Glen Canyon Dam: 3.3-4 MWh Hoover Dam: 2.9-3.8 MWh	Glen Canyon Dam: 3.1-3.6 MWh Hoover Dam: 2.9-3.9 MWh	Glen Canyon Dam: 3.1-3.6 MWh Hoover Dam: 2.9-4 MWh

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	**Basic Coordination Alternative**	**Enhanced Coordination Alternative**	**Maximum Operational Flexibility Alternative**	**Supply Driven Alternative (LB Priority)**	**Supply Driven Alternative (LB Pro Rata)**
Energy Generation of the Glen Canyon Dam and Hoover Dam Powerplants *(continued)*	Water year generation (MWh) under critically dry hydrology conditions	Glen Canyon Dam: 0-2 MWh Hoover Dam: 0-2.2 MWh	Glen Canyon Dam: 0-2.3 MWh Hoover Dam: 0-3 MWh	Glen Canyon Dam: 1.8-2.7 MWh Hoover Dam: 1.7-2.7 MWh	Glen Canyon Dam: 1.9-2.4 MWh Hoover Dam: 1.9-3 MWh	Glen Canyon Dam: 0-2 MWh Hoover Dam: 0.4-3.2 MWh	Glen Canyon Dam: 0-2 MWh Hoover Dam: 2-3.1 MWh
Glen Canyon Dam and Hoover Dam spillway infrastructure and life safety	Percent of modeled futures in which *the January 1 Lake Powell elevation does not exceed 3,684 feet, the target elevation to preserve flood control storage, in at least 90% of years*.	**60%** of modeled futures meet *the preferred minimum performance*.	**70%** of modeled futures meet *the preferred minimum performance*.	**69%** of modeled futures meet *the preferred minimum performance*.	**66%** of modeled futures meet *the preferred minimum performance*.	**82%** of modeled futures meet *the preferred minimum performance*.	**82%** of modeled futures meet *the preferred minimum performance*.
	Percent of modeled futures in which *Lake Powell elevation is below 3,700 feet in 100% of months*. The higher the percentage, the more likely Lake Powell will remain below the spillway crest.	**49%** of modeled futures meet *the preferred minimum performance*.	**56%** of modeled futures meet *the preferred minimum performance*.	**48%** of modeled futures meet *the preferred minimum performance*.	**43%** of modeled futures meet *the preferred minimum performance*.	**64%** of modeled futures meet *the preferred minimum performance*.	**64%** of modeled futures meet *the preferred minimum performance*.
	Percent of modeled futures in which *the Glen Canyon Dam spillway is not utilized*.	**65%** of modeled futures meet *the preferred minimum performance*.	**70%** of modeled futures meet *the preferred minimum performance*.	**66%** of modeled futures meet *the preferred minimum performance*.	**63%** of modeled futures meet *the preferred minimum performance*.	**76%** of modeled futures meet *the preferred minimum performance*.	**76%** of modeled futures meet *the preferred minimum performance*.
	Percent of modeled futures in which *Lake Mead stays below 1,205.4 feet, the elevation of the Hoover Dam spillway crest, in at least 90% of months*	**82%** of modeled futures meet *the preferred minimum performance*.	**76%** of modeled futures meet *the preferred minimum performance*.	**60%** of modeled futures meet *the preferred minimum performance*.	**50%** of modeled futures meet *the preferred minimum performance*.	**43%** of modeled futures meet *the preferred minimum performance*.	**40%** of modeled futures meet *the preferred minimum performance*.
	Percent of modeled futures in which *Lake Mead elevation stays below 1,219 feet in at least 90% of months*. The higher the percentage, the more likely Lake Mead will have reserve flood control storage.	**99%** of modeled futures meet *the preferred minimum performance*.	**98%** of modeled futures meet *the preferred minimum performance*.	**90%** of modeled futures meet *the preferred minimum performance*.	**87%** of modeled futures meet *the preferred minimum performance*.	**79%** of modeled futures meet *the preferred minimum performance*.	**78%** of modeled futures meet *the preferred minimum performance*.
	Percent of modeled futures in which *Lake Mead elevation never exceeds 1,226.9 feet*. At this elevation the volume of spillway discharge triggers a "Imminent Life-Threatening Emergency" response.	**91%** of modeled futures meet *the preferred minimum performance*.	**90%** of modeled futures meet *the preferred minimum performance*.	**83%** of modeled futures meet *the preferred minimum performance*.	**81%** of modeled futures meet *the preferred minimum performance*.	**71%** of modeled futures meet *the preferred minimum performance*.	**69%** of modeled futures meet *the preferred minimum performance*.
Glen Canyon Dam electricity rates and market value	Glen Canyon Dam electricity rates and market value	Results in much steeper rate trajectories and higher probabilities of major rate increases compared to the action alternatives.	Results in much steeper rate trajectories and higher probabilities of major rate increases compared to the other action alternatives.	Results in substantially smaller rate increases and less frequent rate adjustments than the No Action Alternative and Continued Current Strategies Comparative Baseline (CCS Comparative Baseline) under dry hydrologic conditions.	Results in substantially smaller rate increases and less frequent rate adjustments than the No Action Alternative and CCS Comparative Baseline under dry hydrologic conditions.	Results in substantially smaller rate increases and less frequent rate adjustments than the No Action Alternative and CCS Comparative Baseline under dry hydrologic conditions.	Results in substantially smaller rate increases and less frequent rate adjustments than the No Action Alternative and CCS Comparative Baseline under dry hydrologic conditions.

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Socioeconomics

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Economic contributions and social conditions associated with changes in agriculture due to water shortages	Level of annual impacts on acres of fallowed agricultural lands during a maximum shortage	For Arizona non-tribal agriculture entitlement holders, the No Action Alternative has the **lowest level of impact** on acres of fallowed lands during a maximum shortage of 0.6 maf, with an increase of about 1,000 fallowed acres. For California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, the No Action Alternative is among the alternatives with the **lowest level of impact** on acres of fallowed lands during a maximum shortage of 0.6 maf, with no change in fallowed acres. For Arizona tribal agriculture entitlement holders, the No Action Alternative has the **lowest level of impact** on acres of fallowed lands during a maximum shortage of 0.6 maf, with an increase of about 12,000 fallowed acres.	For Arizona non-tribal agriculture entitlement holders, the Basic Coordination Alternative is among the alternatives with a **low level of impact** on acres of fallowed lands during a maximum shortage of 1.5 maf, with an increase of about 6,000 fallowed acres. For California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, the Basic Coordination Alternative is among the alternatives with the **lowest level of impact** on acres of fallowed lands during a maximum shortage of 1.5 maf, with no change in fallowed acres. For Arizona tribal agriculture entitlement holders, the Basic Coordination Alternative is among the alternatives with a **medium level of impact** on acres of fallowed lands during a maximum shortage of 1.5 maf, with an increase of about 49,000 fallowed acres.	For Arizona non-tribal agriculture entitlement holders, the Enhanced Coordination Alternative is among the alternatives with a **medium level of impact** on acres of fallowed lands during a maximum shortage of 3.0 maf, with an increase of about 62,000 fallowed acres. For California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, the Enhanced Coordination Alternative has the **highest level of impact** on acres of fallowed lands during a maximum shortage of 3.0 maf, with an increase of about 283,000, 5,000, and 700 fallowed acres for California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, respectively. For Arizona tribal agriculture entitlement holders, the Enhanced Coordination Alternative is among the alternatives with a **medium level of impact** on acres of fallowed lands during a maximum shortage of 3.0 maf, with an increase of about 39,000 fallowed acres.	For Arizona non-tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative has the **highest level of impact** on acres of fallowed lands during a maximum shortage of 4.0 maf, with an increase of about 102,000 fallowed acres. For California non-tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative is among the alternatives with a **high level of impact** on acres of fallowed lands during a maximum shortage of 4.0 maf, with an increase of about 205,000 fallowed acres. For California tribal and Nevada tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative is among the alternatives with the **lowest level of impact** on acres of fallowed lands during a maximum shortage of 4.0 maf, with no change in fallowed acres. For Arizona tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative has the **highest level of impact** on acres of fallowed lands during a maximum shortage of 4.0 maf, with an increase of about 67,000 fallowed acres.	For Arizona non-tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with a **low level of impact** on acres of fallowed lands during a maximum shortage of 2.1 maf, with an increase of about 7,000 fallowed acres. For California non-tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with a **low level of impact** on acres of fallowed lands during a maximum shortage of 2.1 maf, with an increase of about 12,000 fallowed acres. For California tribal and Nevada tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with the **lowest level of impact** on acres of fallowed lands during a maximum shortage of 2.1 maf, with no change in fallowed acres. For Arizona tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with a **high level of impact** on acres of fallowed lands during a maximum shortage of 2.1 maf, with an increase of about 52,000 fallowed acres.	For Arizona non-tribal agriculture entitlement holders, the Supply Driven Alternative (LB Pro Rata approach) is among the alternatives with a **medium level of impact** on acres of fallowed lands during a maximum shortage of 2.1 maf, with an increase of about 61,000 fallowed acres. For California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, the Supply Driven Alternative (LB Pro Rata approach) is among the alternatives with a **high level of impact** on acres of fallowed lands during a maximum shortage of 2.1 maf, with an increase of about 153,000, 3,000, and 500 fallowed acres for California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, respectively. For Arizona tribal agriculture entitlement holders, the Supply Driven Alternative (LB Pro Rata approach) is among the alternatives with a **medium level of impact** on acres of fallowed lands during a maximum shortage of 2.1 maf, with an increase of about 39,000 fallowed acres.

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	**Basic Coordination Alternative**	**Enhanced Coordination Alternative**	**Maximum Operational Flexibility Alternative**	**Supply Driven Alternative (LB Priority)**	**Supply Driven Alternative (LB Pro Rata)**
Economic contributions and social conditions associated with changes in agriculture due to water shortages *(continued)*	Level of annual impacts on market value of crop production from a maximum shortage	For Arizona non-tribal agriculture entitlement holders, the No Action Alternative has the **lowest level of impact** on market value of crops during a maximum shortage of 0.6 maf, with a loss in market value of about $1.8 million. For California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, the No Action Alternative is among the alternatives with the **lowest level of impact** on market value of crops during a maximum shortage of 0.6 maf, with no loss in market value. For Arizona tribal agriculture entitlement holders, the No Action Alternative has the **lowest level of impact** on market value of crops during a maximum shortage of 0.6 maf, with a loss in market value of about $17.4 million.	For Arizona non-tribal agriculture entitlement holders, the Basic Coordination Alternative is among the alternatives with a **low level of impact** on market value of crops during a maximum shortage of 1.5 maf, with a loss in market value of about $10.3 million. For California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, the Basic Coordination Alternative is among the alternatives with the **lowest level of impact** on market value of crops during a maximum shortage of 1.5 maf, with no change in market value. For Arizona tribal agriculture entitlement holders, the Basic Coordination Alternative is among the alternatives with a **high level of impact** on market value of crops during a maximum shortage of 1.5 maf, with a loss in market value of about $77.6 million.	For Arizona non-tribal agriculture entitlement holders, the Enhanced Coordination Alternative is among the alternatives with a **medium level of impact** on market value of crops during a maximum shortage of 3.0 maf, with a loss in market value of about $79.6 million. For California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, the Enhanced Coordination Alternative has the **highest level of impact** on market value of crops during a maximum shortage of 3.0 maf, with a loss in market value of about $691.8 million, $10.9 million, and $0.6 million, for California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, respectively. For Arizona tribal agriculture entitlement holders, the Enhanced Coordination Alternative is among the alternatives with a **medium level of impact** on market value of crops during a maximum shortage of 3.0 maf, with a loss in market value of about $52.4 million.	For Arizona non-tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative has the **highest level of impact** on market value of crops during a maximum shortage of 4.0 maf, with a loss in market value of about $130.7 million. For California non-tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative is among the alternatives with a **high level of impact** on market value of crops during a maximum shortage of 4.0 maf, with a loss in market value of about $628.6 million. For California tribal and Nevada tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative is among the alternatives with the **lowest level of impact** on market value of crops during a maximum shortage of 4.0 maf, with no change in market value. For Arizona tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative has the **highest level of** on market value of crops during a maximum shortage of 4.0 maf, with a loss in market value of about $101.0 million.	For Arizona non-tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with a **low level of impact** on market value of crops during a maximum shortage of 2.1 maf, with a loss in market value of about $11.1 million. For California non-tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with a **low level of impact** on market value of crops during a maximum shortage of 2.1 maf, with a loss in market value of about $25.4 million. For California tribal and Nevada tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with the **lowest level of impact** on market value of crops during a maximum shortage of 2.1 maf, with no change in market value. For Arizona tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with a **high level of impact** on market value of crops during a maximum shortage of 2.1 maf with a loss in market value of about $83.1 million.	For Arizona non-tribal agriculture entitlement holders, the Supply Driven Alternative (LB Pro Rata approach) is among the alternatives with a **medium level of impact** on market value of crops during a maximum shortage of 2.1 maf, with a loss in market value of about $78.2 million. For California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, the Supply Driven Alternative (LB Pro Rata approach) is among the alternatives with a **high level of impact** on market value of crops during a maximum shortage of 2.1 maf, with a loss in market value of about $473.8 million, $7.7 million, and $0.5 million, for California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, respectively. For Arizona tribal agriculture entitlement holders, the Supply Driven Alternative (LB Pro Rata approach) is among the alternatives with a **medium level of impact** on market value of crops during a maximum shortage of 2.1 maf with a loss in market value of about $51.6 million.

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	**Basic Coordination Alternative**	**Enhanced Coordination Alternative**	**Maximum Operational Flexibility Alternative**	**Supply Driven Alternative (LB Priority)**	**Supply Driven Alternative (LB Pro Rata)**
Economic contributions and social conditions associated with changes in agriculture due to water shortages *(continued)*	Level of annual impacts on economic contributions, including jobs, labor income, and total economic output from a maximum shortage	For Arizona non-tribal agriculture entitlement holders, the No Action Alternative has the **lowest level of impact** on economic contributions during a maximum shortage of 0.6 maf, with a loss of over 10 jobs, about $0.6 million in labor income, and $2.8 million in economic output. For California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, the No Action Alternative is among the alternatives with the **lowest level of impact** on economic contributions during a maximum shortage of 0.6 maf, with no loss in jobs, labor income, or economic output. For Arizona tribal agriculture entitlement holders, the No Action Alternative has the **lowest level of impact** on economic contributions during a maximum shortage of 0.6 maf, with a loss of about 135 jobs, $10.7 million in labor income, and $34.8 million in economic output.	For Arizona non-tribal agriculture entitlement holders, the Basic Coordination Alternative is among the alternatives with a **medium level of impact** on economic contributions during a maximum shortage of 1.5 maf, with a loss of about 80 jobs, $3.5 million in labor income, and $15.8 million in economic output. For California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, the Basic Coordination Alternative is among the alternatives with the **lowest level of impact** on economic contributions during a maximum shortage of 1.5 maf, with no change in jobs, labor income, or economic output. For Arizona tribal agriculture entitlement holders, the Basic Coordination Alternative is among the alternatives with a **high level of impact** on economic contributions during a maximum shortage of 1.5 maf, with a loss of about 800 jobs, $45.3 million in labor income, and $153.1 million in economic output.	For Arizona non-tribal agriculture entitlement holders, the Enhanced Coordination Alternative is among the alternatives with a **high level of impact** on economic contributions during a maximum shortage of 3.0 maf, with a loss of about 500 jobs, $29.0 million in labor income, and $126.8 million in economic output. For California non-tribal agriculture entitlement holders, the Enhanced Coordination Alternative is among the alternatives with a **high level of impact** on economic contributions during a maximum shortage of 3.0 maf, with a loss of about 4,000 jobs, $246.5 million in labor income, and $1.0 billion in economic output. For California tribal and Nevada tribal agriculture entitlement holders, the Enhanced Coordination Alternative has the **highest level of impact** on economic contributions during a maximum shortage of 3.0 maf, with a loss of about 63 jobs, $3.9 million in labor income, and $15.9 million in economic output for California tribal entitlement holders, and a loss of about 13 jobs, $0.1 million in labor income, and $0.9 million in economic output for Nevada tribal agriculture entitlement holders. For Arizona tribal agriculture entitlement holders, the Enhanced Coordination Alternative is among the alternatives with a **high level of impact** on economic contributions during a maximum shortage of 1.5 maf, with a loss of about 500 jobs, $31.2 million in labor income, and $104.5 million in economic output.	For Arizona non-tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative has the **highest level of impact** on economic contributions during a maximum shortage of 4.0 maf, with a loss of about 900 jobs, $46.8 million in labor income, and $207.6 million in economic output. For California non-tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative has the **highest level of impact** on economic contributions during a maximum shortage of 4.0 maf, with a loss of about 5,000 jobs, $336.3 million in labor income, and $1.0 billion in economic output. For California tribal and Nevada tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative is among the alternatives with the **lowest level of impact** on economic contributions during a maximum shortage of 4.0 maf, with no change in jobs, labor income, or economic output. For Arizona tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative has the **highest level of** on economic contributions during a maximum shortage of 1.5 maf, with a loss of about 1,000 jobs, $57.1 million in labor income, and $199.2 million in economic output.	For Arizona non-tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with a **medium level of impact** on economic contributions during a maximum shortage of 2.1 maf, with a loss of about 90 jobs, $3.8 million in labor income, and $17.0 million in economic output. For California non-tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with a **medium level of impact** on economic contributions during a maximum shortage of 2.1 maf, with a loss of over 100 jobs, about $8.5 million in labor income, and $36.9 million in economic output. For California tribal and Nevada tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with the **lowest level of impact** on economic contributions during a maximum shortage of 2.1 maf, with no change in jobs, labor income, or economic output. For Arizona tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with a **high level of impact** on economic contributions during a maximum shortage of 1.5 maf, with a loss of about 900 jobs, $48.2 million in labor income, and $163.9 million in economic output.	For Arizona non-tribal agriculture entitlement holders, the Supply Driven Alternative (LB Pro Rata approach) is among the alternatives with a **high level of impact** on economic contributions during a maximum shortage of 2.1 maf, with a loss of 500 jobs, about $28.4 million in labor income, and $124.3 million in economic output. For California non-tribal agriculture entitlement holders, the Supply Driven Alternative (LB Pro Rata approach) is among the alternatives with a **high level of impact** on economic contributions during a maximum shortage of 2.1 maf, with a loss of about 3,000 jobs, $173.4 million in labor income, and $689.2 million in economic output. For California tribal and Nevada tribal agriculture entitlement holders, the Supply Driven Alternative (LB Pro Rata approach) is among the alternatives with a **low level of impact** on economic contributions during a maximum shortage of 2.1 maf, with a loss of about 45 jobs, $2.8 million in labor income, and $11.2 million in economic output for California tribal entitlement holders, and a loss of about 9 jobs, $0.1 million in labor income, and $0.6 million in economic output for Nevada tribal agriculture entitlement holders. For Arizona tribal agriculture entitlement holders, the Supply Driven Alternative (LB Pro Rata approach) is among the alternatives with a **high level of impact** on economic contributions during a maximum shortage of 1.5 maf, with a loss of about 400 jobs, $30.7 million in labor income, and $102.8 million in economic output.

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	**Basic Coordination Alternative**	**Enhanced Coordination Alternative**	**Maximum Operational Flexibility Alternative**	**Supply Driven Alternative (LB Priority)**	**Supply Driven Alternative (LB Pro Rata)**
Economic contributions and social conditions associated with changes in agriculture due to water shortages *(continued)*	Impacts on nonmarket values and social conditions from changes in agriculture	For non-tribal and tribal agriculture entitlement holders in Arizona, California, and Nevada, the No Action Alternative is among the alternatives with the **lowest level of impact** on access and quality of nonmarket values and social conditions due to the little to no increases in acreages of fallowed agriculture lands expected from shortages, under this alternative.	For Arizona non-tribal agriculture entitlement holders, the Basic Coordination Alternative is among the alternatives with a **low level of impact** on access and quality of nonmarket values and social conditions due to the low level of impact on acreages of fallowed agriculture lands from shortages. For California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, the Basic Coordination Alternative is among the alternatives with the **lowest level of impact** on access and quality of nonmarket values and social conditions due to the little to no increases in acreages of fallowed agriculture lands expected from shortages, under this alternative. For Arizona tribal agriculture entitlement holders, the Basic Coordination Alternative is among the alternatives with a **medium level of impact** on access and quality of nonmarket values and social conditions due to the medium level of impact on acreages of fallowed agriculture lands from shortages.	For Arizona non-tribal and tribal agriculture entitlement holders, the Enhanced Coordination Alternative is among the alternatives with a **medium level of impact** on access and quality of nonmarket values and social conditions due to the medium level of impact on acreages of fallowed agriculture lands from shortages. For California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, the Enhanced Coordination Alternative is among the alternatives with a **high level of impact** on access and quality of nonmarket values and social conditions due to the high level of impact on acreages of fallowed agriculture lands from shortages.	For Arizona non-tribal and tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative is among the alternatives with a **high level of impact** on access and quality of nonmarket values and social conditions due to the high level of impact on acreages of fallowed agriculture lands from shortages. For California non-tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative is among the alternatives with a **high level of impact** on access and quality of nonmarket values and social conditions due to the high level of impact on acreages of fallowed agriculture lands from shortages. For California tribal and Nevada tribal agriculture entitlement holders, the Maximum Operational Flexibility Alternative is among the alternatives with the **lowest level of impact** on access and quality of nonmarket values and social conditions due to the little to no increases in acreages of fallowed agriculture lands expected from shortages, under this alternative.	For Arizona non-tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with a **low level of impact** on access and quality of nonmarket values and social conditions due to the low level of impact on acreages of fallowed agriculture lands from shortages. For California non-tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with a **low level of impact** on access and quality of nonmarket values and social conditions due to the low level of impact on acreages of fallowed agriculture lands from shortages. For California tribal and Nevada tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with the **lowest level of impact** on access and quality of nonmarket values and social conditions due to the little to no increases in acreages of fallowed agriculture lands expected from shortages, under this alternative. For Arizona tribal agriculture entitlement holders, the Supply Driven Alternative (LB Priority approach) is among the alternatives with a **high level of impact** on access and quality of nonmarket values and social conditions due to the high level of impact on acreages of fallowed agriculture lands from shortages.	For Arizona non-tribal and tribal agriculture entitlement holders, the Supply Driven Alternative (LB Pro Rata approach) is among the alternatives with a **medium level of impact** on access and quality of nonmarket values and social conditions due to the medium level of impact on acreages of fallowed agriculture lands from shortages. For California non-tribal, California tribal, and Nevada tribal agriculture entitlement holders, the Supply Driven Alternative (LB Pro Rata approach) is among the alternatives with a **high level of impact** on access and quality of nonmarket values and social conditions due to the high level of impact on acreages of fallowed agriculture lands from shortages.

Some performance indicator descriptions include italics to denote a definition of the "*preferred minimum performance*" that was used as a significant reference point for technical analysis. The following were considered when determining preferred minimum performance: input from resource experts, the severity of negative outcomes associated with not satisfying a given performance level, historical (observed) data, and/or reasonably expected outcomes if current operations and recent hydrology continued. To find more information about preferred minimum performance levels, see Volume III – Technical Appendices.

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	**Basic Coordination Alternative**	**Enhanced Coordination Alternative**	**Maximum Operational Flexibility Alternative**	**Supply Driven Alternative (LB Priority)**	**Supply Driven Alternative (LB Pro Rata)**
Economic contributions and value associated with Lake-Based and River-based Recreation	Changes in recreation visitor spending and associated regional employment, labor income, and total economic output from lake-based recreation-related activities	Under No Action and all Alternatives, declining reservoir elevations at Lake Mead and Lake Powell reduce access to boating, marina operations, and shoreline recreation in dry conditions. This is expected to lead to a decrease in visitation and associated spending on lodging, food services, and transportation-related spending in nearby gateway communities. Businesses that rely on water-based visitation, including marinas, guide services, motels, and equipment rentals, are expected to experience losses in jobs and labor income. Downstream economic effects also weaken, reducing Potential for overall economic output.	Decreases in visitation and associated spending would occur under dry conditions as described under the No Action Alternative. Operational changes increase the frequency and duration of low-elevation conditions at Lake Powell, reducing marina operability and shortening boating seasons are likely to further reduce economic contributions associated with recreational use at this reservoir. For Lake Mead, there is more robust performance related to recreation site access and navigation thresholds, therefore visitation and spending associated with this reservoir are anticipated to be maintained at levels at or above that of the No Action Alternative.	Decreases in visitation and associated spending would occur under dry conditions as described under the No Action Alternative. This alternative is among the most robust in terms of meeting thresholds for recreation site access and navigation in Lake Powell and Lake Mead. Consequently, Employment and income losses remain but occur at lower levels relative to No Action and Basic Coordination Alternatives. Gateway communities experience more consistent seasonal activity.	Decreases in visitation and associated spending would occur under dry conditions as described under the No Action Alternative. As discussed under for the Maximum Operational Flexibility Alternative, consequently, economic contributions from lake-based recreation would likely be higher than the CCS Comparative Baseline and No Action Alternative due to more robust maintenance of access for recreation sites and navigation Consequently Employment and income losses remain but occur at lower levels relative to No Action and Basic Coordination Alternatives. Gateway communities experience more consistent seasonal activity.	Decreases in visitation and associated spending would occur under dry conditions as described under the No Action Alternative. For Lake Powell recreation site and navigation access would be less robust than the No Action Alternative which could further impact recreational spending and gateway businesses and concessionaire associated with Lake Powell. In contrast, for Lake Mead, the Supply Driven Alternative (LB Priority approach) modeling represents the most robust outcomes for recreation site access and navigation, supporting continued or increased spending associated with recreation activities for this reservoir.	Decreases in visitation and associated spending would occur under dry conditions as described under the No Action Alternative. Impacts would be the same as described for the Supply Driven Alternative (LB Priority approach).
	Percent of modeled futures in which *the annual recreational value*[12] *of whitewater boating exceeds 34 million dollars at least 90 percent of years*. This threshold indicates when modeled futures achieve recreation values at least as high as the lowest 10 percent of outcomes for recreation value based on recent historic hydrologic data (2020-2023).	**43%** of modeled futures meet *the preferred minimum performance*.	**50%** of modeled futures meet *the preferred minimum performance*.	**48%** of modeled futures meet *the preferred minimum performance*.	**9%** of modeled futures meet *the preferred minimum performance*.	**25%** of modeled futures meet *the preferred minimum performance*.	**25%** of modeled futures meet *the preferred minimum performance*.

[12] Recreational value of whitewater boating is calculated based on net economic value changes for whitewater rafting in Grand Canyon. This approach follows the methods used in the Glen Canyon Dam Long-Term Experimental and Management Plan Final Supplemental Environmental Impact Statement, where past survey research (Neher et al. 2017, Bishop et al. 1987) informed models to project the change in net economic value under different river flow scenarios. These models link willingness-to-pay estimates for boaters to hydrologic conditions, providing a measure of recreation benefits that extends beyond market spending. Reclamation used similar methods for the analysis of potential impacts on recreation as were used in the 2007 Final EIS and 2024 Final SEIS to assess the effects on recreation value associated with white-water boating.

Some performance indicator descriptions include italics to denote a definition of the "*preferred minimum performance*" that was used as a significant reference point for technical analysis. The following were considered when determining preferred minimum performance: input from resource experts, the severity of negative outcomes associated with not satisfying a given performance level, historical (observed) data, and/or reasonably expected outcomes if current operations and recent hydrology continued. To find more information about preferred minimum performance levels, see Volume III – Technical Appendices.

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	**Basic Coordination Alternative**	**Enhanced Coordination Alternative**	**Maximum Operational Flexibility Alternative**	**Supply Driven Alternative (LB Priority)**	**Supply Driven Alternative (LB Pro Rata)**
Economic contributions and value associated with Lake-Based and River-based Recreation *(continued)*	Percent of modeled futures in which *the annual recreational value*[13] *of angling exceeds 1.75 million dollars in at least 90 percent of years*. This value indicates when modeled futures achieve recreation values at least as high as the lowest 10 percent of outcomes for recreation value based on recent historic hydrologic data (2020-2023).	**25%** of modeled futures meet *the preferred minimum performance*.	**45%** of modeled futures meet *the preferred minimum performance*.	**1%** of modeled futures meet *the preferred minimum performance*.	**19%** of modeled futures meet *the preferred minimum performance*.	**21%** of modeled futures meet *the preferred minimum performance*.	**21%** of modeled futures meet *the preferred minimum performance*.
How would anticipated water shortages and changes in water levels in reservoirs and river segments affect access and quality of nonmarket values?	Changes in existence and symbolic values of the river due to shifts in scenic character or ecological conditions.	Lower reservoir elevations and increased shoreline exposure reduce opportunities for solitude, as well as access to quiet coves, beaches, and natural shorelines. These conditions diminish the experiential qualities that many users value. Extended low-flow periods could also impact river-based experiences in Grand Canyon due to changes in setting which could impact perceived naturalness (see **TA 14, Recreation**). Cultural and spiritual values tied to iconic landscapes and cultural artifacts could also be impacted in low-hydrologic flow periods (see **TA 11, Cultural Resources**). Ecological services such as riparian habitat stability may decline, influencing non-use values related to wildlife and vegetation communities (see **TA 8, Biological Resources – Fish and Other Aquatic Resources**).	Under dry conditions nonmarket values could be impacted as discussed under the no action alternative. More frequent low-elevation conditions could occur in the Basic Coordination Alternative, which could noticeably affect nonmarket values tied to lake-based recreation and scenic quality (see **TA 14, Recreation**) although at a reduced level compared to the No Action Alternative. Reduced reservoir levels may expose previously submerged areas, altering visual character and diminishing opportunities for solitude. Overall impacts are similar to the No Action.	Under dry conditions nonmarket values could be impacted as discussed under the no action alternative. The Enhanced Coordination Alternative is more robust in terms of the support for nonmarket values, particularly for values associated with Lake Powell, as reservoir levels would be maintained at thresholds supporting access for boating and camping in more modeled futures, supporting experiential benefits and cultural connections (see **TA 11, Cultural Resources**). River-based recreation quality is expected to remain high, due to increased stability with flow-dependent activities (see **TA 14, Recreation**). Non-use values tied to ecosystem services, such as wildlife habitat and riparian vegetation, would also be supported (see **TA 8, Biological Resources – Fish and Other Aquatic Resources**).	Under dry conditions nonmarket values could be impacted as discussed under the no action alternative. Similar to the Enhanced Coordination Alternative, this alternative is more robust in terms of the support for nonmarket values, particularly for values associated with Lake Powell, and for river Based recreation, due to increased stability with flow-dependent activities (see **TA 14, Recreation**).	Outcomes produced by the Supply Driven Alternative (LB Priority approach) vary depending on hydrology and location. In wet years, nonmarket values remain similar to the No Action Alternative but in dry sequences, reduced reservoir elevations and altered flow regimes diminish scenic quality and access for boating and angling (see **TA 14, Recreation**), for Lake Powell. For Lake Mead, the Supply Driven Alternatives (both LB Priority and LB Pro Rata approaches) are the most robust for supporting reservoir levels at Lake Mead which support non-market values. River-based recreation experiences moderate variability in trip quality, while ecosystem services and associated non-use values fluctuate with water availability (see **TA 8, Biological Resources – Fish and Other Aquatic Resources**). Cultural and spiritual values tied to river corridors may also be affected during extended drought periods (see **TA 11, Cultural Resources**).	Impacts would be as described for the Supply Driven Alternative (LB Priority approach).

[13] Recreational value of angling is calculated based on net economic value changes for angling in Glen Canyon. This approach follows the methods used in the Glen Canyon Dam Long-Term Experimental and Management Plan Final Supplemental Environmental Impact Statement, where past survey research (Neher et al. 2017, Bishop et al. 1987) informed models to project the change in net economic value under different river flow scenarios. These models link willingness-to-pay estimates for boaters to hydrologic conditions, providing a measure of recreation benefits that extends beyond market spending. Reclamation used similar methods for the analysis of potential impacts on recreation as were used in the 2007 Final EIS and 2024 Final SEIS to assess the effects on recreation value associated with angling.

Some performance indicator descriptions include italics to denote a definition of the "*preferred minimum performance*" that was used as a significant reference point for technical analysis. The following were considered when determining preferred minimum performance: input from resource experts, the severity of negative outcomes associated with not satisfying a given performance level, historical (observed) data, and/or reasonably expected outcomes if current operations and recent hydrology continued. To find more information about preferred minimum performance levels, see Volume III – Technical Appendices.

Population and Land Use

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Priority Group: Arizona CAP NIA-A and NIA-B	Percent of modeled futures in which greater than 80% of normal domestic delivery[14] occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**6%** of modeled futures meet the performance definition.	**1%** of modeled futures meet the performance definition.	**21%** of modeled futures meet the performance definition.	**0%** of modeled futures meet the performance definition.	**2%** of modeled futures meet the performance definition.	**3%** of modeled futures meet the performance definition.
	Percent of modeled futures in which greater than 60% of normal delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**6%** of modeled futures meet the performance definition.	**2%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**0%** of modeled futures meet the performance definition.	**2%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.
Priority Group: Arizona CAP Indian, M&I, and 4(i)	Percent of modeled futures in which greater than 80% of normal domestic delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**19%** of modeled futures meet the performance definition.	**2%** of modeled futures meet the performance definition.	**21%** of modeled futures meet the performance definition.	**3%** of modeled futures meet the performance definition.	**2%** of modeled futures meet the performance definition.	**3%** of modeled futures meet the performance definition.
	Percent of modeled futures, in which greater than 60% of normal domestic delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**100%** of modeled futures meet the performance definition.	**4%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**9%** of modeled futures meet the performance definition.	**3%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.
Priority Group: Arizona Priorities 2 and 3	Percent of modeled futures in which greater than 80% of normal domestic delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**21%** of modeled futures meet the performance definition.	**57%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**3%** of modeled futures meet the performance definition.
	Percent of modeled futures, in which greater than 60% of normal domestic delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**61%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.
Priority Group: Arizona present perfected right (PPR)	Percent of modeled futures in which greater than 80% of normal domestic delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**21%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**3%** of modeled futures meet the performance definition.

[14] Normal delivery refers to a full supply of domestic water delivery throughout this table.

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Priority Group: Arizona present perfected right (PPR) *(continued)*	Percent of modeled futures, in which greater than 60% of normal domestic delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.
Priority Group: California Priority 4	Percent of modeled futures in which greater than 80% of normal domestic delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**21%** of modeled futures meet the performance definition.	**1%** of modeled futures meet the performance definition.	**2%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.
	Percent of modeled futures, in which greater than 60% of normal domestic delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**100%** of modeled futures meet the performance definition.	**100%** of of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**3%** of modeled futures meet the performance definition.	**2%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.
Priority Group: California PPR	Percent of modeled futures in which greater than 80% of normal domestic delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**21%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.
	Percent of modeled futures, in which greater than 60% of normal domestic delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.
Priority Group: Nevada Priorities 1-7	Percent of modeled futures in which greater than 80% of normal domestic delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**21%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**50%** of modeled futures meet the performance definition.
	Percent of modeled futures, in which greater than 60% of normal domestic delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.

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Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	**Basic Coordination Alternative**	**Enhanced Coordination Alternative**	**Maximum Operational Flexibility Alternative**	**Supply Driven Alternative (LB Priority)**	**Supply Driven Alternative (LB Pro Rata)**
Priority Group: Nevada Priority 8	Percent of modeled futures in which greater than 80% of normal domestic delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**100%** of modeled futures meet the performance definition.	**4%** of modeled futures meet the performance definition.	**21%** of modeled futures meet the performance definition.	**13%** of modeled futures meet the performance definition.	**4%** of modeled futures meet the performance definition.	**50%** of modeled futures meet the performance definition.
	Percent of modeled futures, in which greater than 60% of normal domestic delivery occurs at least 90% of years. The higher the percentage, the more robust an alternative is with respect to achieving normal domestic deliveries.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**55%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.
Comparison of impacts to senior and junior entitlements	Shortage to domestic water users across the full modeling period	N/A	>80% percent of normal delivery to some senior entitlements (AZ P2, P3, AZ PPR, California P4, CA PPR, NV P1-7) occurs in all potential futures. In contrast, for junior entitlements there are fewer potential futures in which there is any percentage of normal delivery. Minimal futures (0-10) in which AZ CAP NIA-A and NIA-B receive >80% normal delivery.	While this alternative results in more priority groups receiving domestic delivery closer to normal conditions, it results in shortage impacts on senior entitlements that would otherwise receive deliveries consistent with normal conditions.	>80 percent of normal delivery to some senior entitlements (AZ PPR, CA PPR, NV P1-7) occurs in 100% of potential futures. In contrast, for junior entitlements (AZ CAP NIA-A, NIA-B, M&I, AZ 4(i), CA P4, NV P8) there are fewer potential futures, and in some cases no potential futures, in which there is any percentage of normal domestic water delivery.	>80 percent of normal delivery to senior entitlements (AZ P2, P3, AZ PPR, PPR, NV P1-7) occurs in all potential futures. In contrast, for junior entitlements (AZ CAP NIA-A, NIA-B, M&I, AZ 4(i), CA P4, NV P8), there are fewer potential futures, and in some cases no potential futures, in which there is any percentage of normal domestic water delivery.).	While this alternative results in more priority groups receiving domestic delivery closer to normal conditions, it results in shortage impacts on senior entitlements that would otherwise receive deliveries consistent with normal conditions.
How would operational changes affect population and land use developed land use patterns?	Acres of developed land within the analysis area and potential for changes based on municipal water availability	Development in western Arizona served counties may slow due to water supply uncertainty; risk of infrastructure delays and constraints on new subdivisions under Arizona Department of Water Resources assured water supply rules.	Slightly improved predictability but concentrated shortages in Arizona could still limit growth in high-demand areas like Pinal and Maricopa Counties.	Shared shortages reduce localized development constraints; moderate reservoir levels support more stable urban expansion across Lower Basin states.	Large shortages and operational variability increase risk of development limitations basin-wide; uncertainty may deter investment in growth corridors.	Development largely protected in senior-rights areas (California metro regions); junior-rights Arizona communities face higher risk of growth restrictions.	Broader distribution of shortages may affect development in California and Nevada metropolitan areas, introducing regional planning challenges.
	Acres of irrigated agricultural land within the analysis area and potential for changes based on agricultural water availability	Frequent and severe shortages for junior-priority irrigation users likely lead to fallowing, crop switching, and long-term land retirement in western Arizona counties; Imperial Valley impacts are more limited.	Concentrated impacts for junior users in Arizona still drive significant agricultural land use changes; California and senior priority holders see limited more limited impacts	Pro rata distribution mitigates concentrated impacts for junior users but introduces broader reductions, increasing risk of widespread crop switching and fallowing in both Arizona and California.	Large shortage volumes and reliance on conservation participation create high uncertainty; potential for extensive land retirement if participation is low.	Concentrates impacts on junior users, preserving senior districts but accelerating land use change in western Arizona counties.	Distributes shortages broadly, increasing exposure for senior priority holders California and potentially leading to widespread fallowing and crop switching across the Basin.

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Indian Trust Assets

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Upper Basin Tribal Water Deliveries	Typical Water Deliveries	The alternatives act the same in terms of Upper Basin tribal water deliveries.					
Lower Basin Tribal Water Deliveries	Percent of modeled futures in which *dead pool-related delivery reductions never occur*	**30%** of modeled futures meet *the preferred minimum performance*.	**62%** of modeled futures meet *the preferred minimum performance*.	**84%** of modeled futures meet *the preferred minimum performance*.	**91%** of modeled futures meet *the preferred minimum performance*.	**76%** of modeled futures meet *the preferred minimum performance*.	**85%** of modeled futures meet *the preferred minimum performance*.
Lower Basin Tribal Water Deliveries (Group of tribes with PPR rights)	At least 80% of Normal Water Deliveries (i.e., non-shortage conditions) occurs in at least 90% of years across the full period. The higher the percentage, the more frequently deliveries are estimated to remain consistent with normal delivery.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**21%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**4%** of modeled futures meet the performance definition.
Lower Basin Tribal Water Deliveries (Group of tribes with AZ Priority 3 entitlements)	At least 80% of Normal Water Deliveries (i.e., non-shortage conditions) occurs in at least 90% of years across the full period. The higher the percentage, the more frequently deliveries are estimated to remain consistent with normal delivery.	**100%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**21%** of modeled futures meet the performance definition.	**72%** of modeled futures meet the performance definition.	**100%** of modeled futures meet the performance definition.	**3%** of modeled futures meet the performance definition.
Lower Basin Tribal Water Deliveries (Group of tribes with Arizona CAP Indian, M&I, and 4i entitlements)	At least 80% of Normal Water Deliveries (i.e., non-shortage conditions) occurs in at least 90% of years across the full period. The higher the percentage, the more frequently deliveries are estimated to remain consistent with normal delivery.	**100%** of modeled futures meet the performance definition.	**2%** of modeled futures meet the performance definition.	**21%** of modeled futures meet the performance definition.	**4%** of modeled futures meet the performance definition.	**3%** of modeled futures meet the performance definition.	**3%** of modeled futures meet the performance definition.
Lower Basin Tribal Water Deliveries (Group of tribes with Arizona CAP Non-Indian Agriculture entitlements)	At least 80% of Normal Water Deliveries (i.e., non-shortage conditions) occurs in at least 90% of years across the full period. The higher the percentage, the more frequently deliveries are estimated to remain consistent with normal delivery.	**6%** of modeled futures meet the performance definition.	**2%** of modeled futures meet the performance definition.	**21%** of modeled futures meet the performance definition.	**0%** of modeled futures meet the performance definition.	**2%** of modeled futures meet the performance definition.	**3%** of modeled futures meet the performance definition.
Trust Land (Arizona)	Acres of Fallowed Tribal Land	12,428	12,428 to 49,049	8,072 to 39,176	6,535 to 66,987	6,535 to 52,377	15,801 to 38,575
Trust Land (California)	Acres of Fallowed Tribal Land	0	0	1,298 to 5,092	0	0	579 to 2,803
Trust Land (Nevada)	Acres of Fallowed Tribal Land	0	0	131 to 656	0	0	131 to 460

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Visual Resources

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Visibility of Attraction Features	Percent of futures in which *Lake Powell elevation is below 3,550 feet in at least 90% of months*. The higher the percentage, the more likely Lake Powell will remain at elevations where Cathedral in the Desert is visible and accessible.	**73%** of modeled futures meet *the preferred minimum performance*. **Third most acceptable** futures where Cathedral in the Desert is visible and accessible.	**74%** of modeled futures meet *the preferred minimum performance*. **Second most acceptable** futures where Cathedral in the Desert is visible and accessible.	**26%** of modeled futures meet *the preferred minimum performance*. **Fewest acceptable** futures where Cathedral in the Desert is visible and accessible.	**42%** of modeled futures meet *the preferred minimum performance*. **Second fewest** acceptable futures where Cathedral in the Desert is visible and accessible.	**76%** of modeled futures meet *the preferred minimum performance*. **Most acceptable futures** where Cathedral in the Desert is visible and accessible.	
	Percent of futures in which *Lake Powell elevation is above 3,550 feet at least 90% of months*. The higher the percentage, the more likely less of Glen Canyon Dam will be visible. Hoover Dam visibility is based on modeling associated with the next issue statement.	**27%** of modeled futures meet *the preferred minimum performance*. **Third fewest** futures where less of Glen Canyon and Hoover dams would be visible, with their increased visibility further dominating the local landscape character.	**26%** of modeled futures meet *the preferred minimum performance*. **Second fewest** futures where less of Glen Canyon Dam would be visible, with its increased visibility further dominating the local landscape character with less of Hoover Dam visible compared to the No Action.	**74%** of modeled futures meet *the preferred minimum performance*. **Most acceptable futures** where less of Glen Canyon and Hoover dams would be visible, reducing their level of dominance in the local landscape compared to the No Action	**58%** of modeled futures meet *the preferred minimum performance*. **Second most acceptable** futures where less of Glen Canyon and Hoover dams would be visible, reducing their level of dominance in the local landscape compared to the No Action.	**24%** of modeled futures meet *the preferred minimum performance*. **Fewest** futures where less of Glen Canyon Dam would be visible, with its increased visibility further dominating the local landscape character. Based on managing higher reservoir levels in Lake Mead compared to Lake Powell under this alternative, less of the upstream side of Hoover Dam would be visible under this alternative (similar to the Enhanced Coordination and Maximum Flexibility alternatives) with comparatively more of the upstream side of Glen Canyon Dam being visible as described above.	
Lake Powell and Lake Mead landscape character	Percent of futures in which ***Lake Powell*** *elevation would result in calcium carbonate rings remaining under historic maximums for 100 percent of the full modeling period*. The higher the percentage, the more likely calcium carbonate rings at Lake Powell will remain shorter than historic maximums.	**16%** of modeled futures meet *the preferred minimum performance*.	**16%** of modeled futures meet *the preferred minimum performance*.	**51%** of modeled futures meet *the preferred minimum performance*.	**38%** of modeled futures meet *the preferred minimum performance*.	**13%** of modeled futures meet *the preferred minimum performance*.	
	Percent of futures in which ***Lake Mead*** *elevation would result in calcium carbonate rings remaining under historic maximums for 100 percent of the full modeling period*. The higher the percentage, the more likely calcium carbonate rings at Lake Mead will remain shorter than historic maximums.	**6%** of modeled futures meet *the preferred minimum performance*.	**30%** of modeled futures meet *the preferred minimum performance*.	**29%** of modeled futures meet *the preferred minimum performance*.	**32%** of modeled futures meet *the preferred minimum performance*.	**47%** of modeled futures meet *the preferred minimum performance*.	

Some performance indicator descriptions include italics to denote a definition of the "*preferred minimum performance*" that was used as a significant reference point for technical analysis. The following were considered when determining preferred minimum performance: input from resource experts, the severity of negative outcomes associated with not satisfying a given performance level, historical (observed) data, and/or reasonably expected outcomes if current operations and recent hydrology continued. To find more information about preferred minimum performance levels, see Volume III – Technical Appendices.

Impact Category	Performance Indicator	Impacts Summary					
		No Action Alternative	Basic Coordination Alternative	Enhanced Coordination Alternative	Maximum Operational Flexibility Alternative	Supply Driven Alternative (LB Priority)	Supply Driven Alternative (LB Pro Rata)
Colorado River landscape character	Qualitative description of the effect associated with proposed flow rates and the potential to conduct HFEs from Glen Canyon Dam under each alternative.	Initially, there would be less impacts as flows would remain above 7.0 maf; however, if Lake Powell reaches dead pool, impacts would be extensive and immediate due to a dramatic reduction in flows. The current trends of increasing bank armoring, associated with expanding riparian vegetation areas (including tamarisk), would continue under the No Action Alternative. This alternative has the **fewest futures** where HFEs are conducted during the full modeling period.	Impacts would be similar to the No Action since it includes a similar range of releases from Glen Canyon Dam. This alternative would have an **increased number of futures** where HFEs are conducted compared to the No Action Alternative.	Based on yearly projections, if releases as low as 4.7 maf are needed, there would be increased impacts on the river's landscape character. If releases are above 7.0 maf, impacts would be the same as the No Action Alternative. This alternative would result in the **second most futures** where HFEs are conducted.	Based on yearly projections, if releases as low as 5.0 maf are needed, there would be increased impacts on the river's landscape character. If releases are above 7.0 maf, impacts would be the same as the No Action Alternative. This alternative would result in the **most futures** where HFEs are conducted.	Based on yearly projections, if releases as low as 4.7 maf are needed, there would be increased impacts on the river's landscape character. If releases are above 7.0 maf, impacts would be the same as the No Action Alternative. This alternative has the **second fewest futures** where HFEs are conducted during the full modeling period.	
Lower Division States' landscape character	Qualitative description of the effects associated with potential decreases in water availability for the Lower Division States on the broader landscape character including the potential to reach dead pool.	Initially, there would be lower impacts; however, if Lake Mead reaches dead pool, dramatic decreases in water availability could affect the landscape character in all three Lower Division States. Depending on the duration of these decreased water deliveries, the character of irrigated and agricultural landscapes within the Lower Division States would be modified through aridification of these areas; this would diminish the vivid greens associated with crops and ornamental plantings. This alternative has the **most futures** where dead pool shortage is reached.	Impacts would be similar to the No Action except this alternative includes increased shortages to Arizona and Nevada (up to 1.48 maf). While the potential to reach dead pool is reduced under this alternative, compared to the No Action, there is still a risk to reach dead pool under some futures. This alternative has the **second most futures** where dead pool shortage is reached.	Shortages up to 3.0 maf are possible under this alternative, which would incrementally affect all three Lower Division States including irrigated and agricultural landscapes. These shortages are designed to avoid reaching dead pool, tempering the impacts on the character of irrigated and agricultural landscapes within the Lower Division States and avoid more extensive impacts if Lake Mead reached dead pool. This alternative has the **second fewest** futures where dead pool shortage is reached.	Shortages up to 4.0 maf are possible under this alternative, which would incrementally affect all three Lower Division States including irrigated and agricultural landscapes. The shortages are designed to avoid reaching dead pool. This alternative has the **fewest futures** where dead pool shortage is reached.	Shortages up to 2.1 maf are possible under this alternative, which would incrementally affect all three Lower Division States including irrigated and agricultural landscapes. The shortages are designed to avoid reaching dead pool. This alternative, similar to the Enhanced Coordination Alternative, has the **second fewest futures** where dead pool shortage is reached.	

ES.6 References

Bureau of Reclamation (Reclamation). 2007. *Record of Decision: Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead*, Washington, D.C. Internet website: https://www.usbr.gov/lc/region/programs/strategies/RecordofDecision.pdf.

_____. 2019. Colorado River Drought Contingency Plans. May 2019. Internet website: https://www.usbr.gov/ColoradoRiverBasin/dcp/finaldocs.html.

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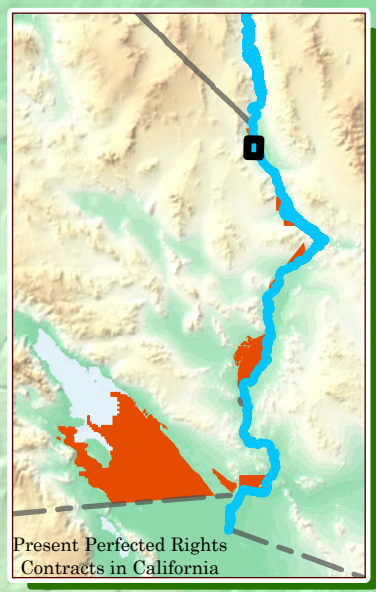
PPR #s: 30, 35, 36, 38, 39, 41, 41, 43 and 49



PPR #30
Stephenson

PPR #49
Dudley

PPR #36
Colorado River
Sportsman's League
Inc.

PPR #38
Daniel, David B.
and Faye D.

PPR #38
Andrade

PPR #38
Fairbanks, Charles

Arizona

California

PPR #40
Cooper

PPR #39
Reynolds

Colorado River

PPR #41
Chagnon

PPR #35 Simons and
PPR#43 Needles

Needles

PPR #43
City of Needles

95

40

0 0.5 1 2
Miles

PPR boundary

Area is a part of PPR #38
but has a different contract owner

Overlapping PPRs

Background imagery is clipped to the floodplain boundary

Green shading is an artistic representation of elevation outside of the floodplain

N
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RECLAMATION
Managing Water i

Item 7.

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The Colorado River is managed and operated under numerous compacts, federal laws, court decisions and decrees, contracts, and regulatory guidelines collectively known as the "Law of the River." This collection of documents apportions the water and regulates the use and management of the Colorado River among the seven basin states and Mexico. Following is a synopsis of the most significant documents (you can click on the highlighted titles to get the full text of these regulations inAdobe Acrobat pdf file formats):

Quick Links

- **The Colorado River Compact of 1922** - The cornerstone of the "Law of the River", this Compact was negotiated by the seven Colorado River Basin states and the federal government in 1922. It defined the relationship between the upper basin states, where most of the river's water supply originates, and the lower basin states, where most of the water demands were developing. At the time, the upper basin states were concerned that plans for Hoover Dam and other water development projects in the lower basin would, under the Western water law doctrine of prior appropriation, deprive them of their ability to use the river's flows in the future.

  The states could not agree on how the waters of the Colorado River Basin should be allocated among them, so the Secretary of Commerce Herbert Hoover suggested the basin be divided into an upper and lower half, with each basin having the right to develop and use 7.5 million acre-feet (maf) of river water annually. This approach reserved water for future upper basin development and allowed planning and development in the lower basin to proceed.

- **The Boulder Canyon Project Act of 1928** - This act: (1) ratified the 1922 Compact; (2) authorized the construction of Hoover Dam and related irrigation facilities in the lower Basin; (3) apportioned the lower basin's 7.5 maf among the states of Arizona (2.8 maf), California (4.4 maf) and Nevada (0.3 maf); and (4) authorized and directed the Secretary of the Interior to function as the sole contracting authority for Colorado River water use in the lower basin.
- **California Seven Party Agreement of 1931** - This agreement helped settle the long-standing conflict between California agricultural and municipal interests over Colorado

River water priorities. The seven principal claimants - Palo Verde Irrigation District, Yuma Project, Imperial Irrigation District, Coachella Valley Irrigation District, Metropolitan Water District, and the City and County of San Diego - reached consensus in the amounts of water to be allocated on an annual basis to each entity. Although the agreement did not resolve all priority issues, these regulations were also incorporated in the major California water delivery contracts.

- **The Mexican Water Treaty of 1944** - Committed 1.5 maf of the river's annual flow to Mexico.
- **Upper Colorado River Basin Compact of 1948** - Created the Upper Colorado River Commission and apportioned the Upper Basin's 7.5 maf among Colorado (51.75 percent), New Mexico (11.25 percent), Utah (23 percent), and Wyoming (14 percent); the portion of Arizona that lies within the Upper Colorado Basin was also apportioned 50,000 acre-feet annually.
- **Colorado River Storage Project Act of 1956** - Provided a comprehensive Upper Basin-wide water resource development plan and authorized the construction of Glen Canyon, Flaming Gorge, Navajo and Curecanti dams for river regulation and power production, as well as several projects for irrigation and other uses.
- **The Arizona v. California U.S. Supreme Court Decision of 1964** - In 1963, the Supreme Court issued a decision settling a 25-year-old dispute between Arizona and California. The dispute stemmed from Arizona's desire to build the Central Arizona Project so it could use its full Colorado River apportionment. California objected and argued that Arizona's use of water from the Gila River, a Colorado River tributary, constituted use of its Colorado River apportionment, and that it had developed a historical use of some of Arizona's apportionment, which, under the doctrine of prior appropriation, precluded Arizona from developing the project.

  The Supreme Court rejected California's arguments, ruling that lower basin states have a right to appropriate and use tributary flows before the tributary co-mingles with the Colorado River, and that the doctrine of prior appropriation did not apply to apportionments in the lower basin.

  In 1964, the Court issued its decree. This decree enjoined the Secretary of the Interior from delivering water outside the framework of apportionments defined by the law and mandated the preparation of annual reports documenting the uses of water in the three lower basin states.

  In 1979, the Supreme Court issued a Supplemental Decree which addressed present perfected rights referred to in the Colorado River Compact and in the Boulder Canyon Project Act. These rights are entitlements essentially established under state law, and have priority over later contract entitlements.

  On March 27, 2006, the Supreme Court issued a Consolidated Decree to provide a single reference to the provisions of the original 1964 decrees and several subsequent decrees (1966, 1979, 1984, and 2000) that stemmed from the original ruling. This decree also reflects the settlements of the federal reserved water rights claim for the Fort Yuma Indian Reservation.

- **The Colorado River Basin Project Act of 1968** - This Act authorized construction of a number of water development projects in both the upper and lower basins, including the Central Arizona Project (CAP). It also made the priority of the CAP water supply subordinate to California's apportionment in times of shortage, and directed the Secretary to prepare, in consultation with the Colorado River Basin states, long-range operating criteria for the Colorado River reservoir system.
- **The Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs of 1970** - Provided for the coordinated operation of reservoirs in the upper and lower basins and set conditions for water releases from Lake Powell and Lake Mead.

  On March 21, 2005, following a public review process, including consultation with the seven Colorado River Basin States and other interested parties and stakeholders, the Secretary of the Interior made a number of limited modifications to the text of the 1970 operating Criteria.The associated Federal Register notice annotates the modifications and describes the public process and comments that resulted in the changes.

- **Minute 242 of the U.S.-Mexico International Boundary and Water Commission of 1973** - Required the U.S. to take actions to reduce the salinity of water being delivered to Mexico at Morelos Dam.
- **The Colorado River Basin Salinity Control Act of 1974** - Authorized desalting and salinity control projects, including the Yuma Desalting Plant, to improve Colorado River quality.

Several other laws, contracts and documents are part of the "Law of the River," many of which can be found in **"Updating the Hoover Dam Documents"** - available on-line in the Western Water Digital Library hosted by the University of Utah. A new book - **"The Colorado River Documents 2008"** - that discusses the Interior Secretary's management of the Colorado River from 1979 through 2008 was published in December 2010, and is available for purchase through the Government Printing Office.

In addition to these provisions, the federal Endangered Species Act and various Native American water claim settlements affect the extent to which water developments and diversions can be utilized in the Colorado River Basin.

City of Needles, California
Request for Commission Action

☐ CITY COUNCIL ☒ BOARD OF PUBLIC UTILITIES ☒ Regular ☐ Special

Meeting Date: January 20, 2026

Title: Set the 2026 Board of Public Utilities Goals

Background: The Board of Public Utilities acts as a recommending body to the City Council on matters related to utility operations. The Board provides recommendations on a range of issues, including the annual budget, purchases of equipment, materials, and supplies for the utility system improvements, as well as the establishment of rates for water, wastewater, and electricity.

The Board's role ensures that utility services are managed efficiently and effectively, meeting the needs of the community while supporting sustainable growth and development. The City Charter outlines the following power authorities for the Board of Public Utilities;

Sec 909 Board Of Public Utilities
There shall be a board of public utilities consisting of seven members. The board of public utilities shall have the power and duty to:

a) Consider the annual budget for the department of public utilities during the process of its preparation and make recommendations with respect thereto to the council and the city manager.
b) Within the limits of the budget of the department of public utilities, authorize any purchase of equipment, materials or supplies exceeding the sum of three thousand dollars, and authorize the acquisition, construction, extension, enlargement, diminution, or curtailment of all or any part of any public utility system. No such purchase, acquisition, construction, extension, enlargement, diminution or curtailment shall be made without such authorization.
c) Require of the city manager monthly reports of receipts and expenditures of the department of public utilities, segregated as to each separate utility, and monthly statements of the general condition of the department and its facilities.
d) Establish rates for all revenue-producing utilities owned, controlled or operated by the city, but subject to the approval of the council and to any valid contract.
e) Approve or disapprove the appointment, suspension or removal of the director of public utilities, who shall be the department head.
f) Designate its own secretary.
g) Make such reports and recommendations to the council regarding the department of public utilities as it shall deem advisable.
h) Exercise such other powers and perform such other duties as may be prescribed by ordinance not inconsistent with any of the provisions of this Charter.

Staff are seeking guidance from the Board of Public Utilities on the top goals for 2026 that will provide guidance to the budget.

For examples at the top of the list of priorities are;

1) SCADA – Substation Installation Completion
2) Solar – 2MW Solar Farm/Pole Yard Building
3) Capital Improvement System Reliability Infrastructure

City of Needles, California
Request for Commission Action

Fiscal Impact: To be determined

Environmental Impact: To be determined

Recommended Action: Set the 2026 Board of Public Utilities Goals

Submitted By: Rainie Torrance, Utility Manager

City Manager Approval: Patrick J Martinez Date: 1/14/2026

Other Department Approval (when required): _____ Date: _____

DRAFT	NEEDLES PUBLIC UTILITY AUTHORITY				DRAFT
	Operating Budget				
		FY 2025			
			FY 2024	FY 2025	
	2022	2023	Revised	Proposed	
Revenues	**Actuals**	**Actuals**	**Budget**	**Budget**	
Interest	$ 11,940	$ 66,860	$ 98,000	$ 105,000	7.1%
Land Sales	$ -	$ -	$ -	$ -	0.0%
Expenditures					
Arbitrage Computations	$ 8,400	$ 2,950	$ 5,450	$ 5,500	
Bank Charges net of CC Conv Fee	$ 25,086	$ 41,356	$ 65,000	$ 20,000	-69.2%
Bond Payments	$ 1,443,000	$ 1,443,000	$ 1,442,385	$ 1,442,386	0.0%
Trustee fees	$ 5,375	$ 6,130	$ 6,700	$ 6,700	0.0%
Purchase Payment	$ 685,300	$ 666,436	$ 666,432	$ 666,432	0.0%
Utility User Tax	$ 319,323	$ 343,007	$ 474,884	$ 482,921	1.7%
Total NPUA Expenditures	$ 2,486,484	$ 2,502,879	$ 2,660,851	**$ 2,623,939**	
			Projected Operating Cash	**NET CHANGE**	**Projected Operating Cash**
			06/30/24		**06/30/25**
				$ (2,518,939)	NPUA
				$ 631,822	Water
				$ 814,066	Wastewater
				$ 1,364,507	Electric
				$ -	All Amer. Canal
			$ 2,235,868		**$ 2,527,324**
		Rate Stabilization Fund	**$ 700,000**		**$ 700,000**
		PCA Balancing Fund	**$ 700,000**		**$ 700,000**
Projected ending balances 06/30/24:					
Water Asset Replacement Fund	$ -	NPUA	$ 902,313	City side	
Wastewater Asset Replacement Fund	$ -	NPUA	$ 274,883	City side	
Electric Asset Replacement Fund	$ 2,872,924	NPUA	$ 333,734	City side	3,206,658
					Electric ↑ ARF total

Base Level Comparison	Revenues	FY 2025 Operating Expenses
WATER		
Base level from adjusted budget FY 24	3,056,300	2,178,797
Increases		
Increase in rates - 2% COLA to base	29,000	
Salaries lowered at mid-year due to vacant positions		70,951
Pay increases per contract, & associated p/r costs		58,030
Increase in hydrant, well, and reservoir maint		41,000
Increase in engineering and professional services		20,000
Increase in chlorine and chemical costs		5,000
Decreases		
Decrease in legal fees (RBV)		(80,000)
Decrease in allocable internal service costs		(70,000)
FY 25 draft budget v.1	3,085,300	2,223,778
Increase / (decrease)	29,000	44,981
WASTEWATER		
Base level from adjusted budget FY 24	2,168,342	1,337,175
Increases		
Increase in rates - 2% COLA to base	45,500	
Pay increases per contract, & associated p/r costs		24,433
Increase in professional/consulting services		20,000
Decreases		
Decrease in allocable internal service costs		(52,267)
FY 25 draft budget v.1	2,213,842	1,329,341
Increase / (decrease)	45,500	(7,834)
ELECTRIC		
Base level from adjusted budget FY 24	14,468,000	12,778,862
Increases		
Increase in rates - 2% COLA to base	247,000	
Increase in damage claims	5,000	
Increase in AB32 Surcharge RPS/C&T		1,114,500
Street light improvements		100,000
Pay increases per contract, & associated p/r costs		67,115
Decreases		
Decrease in transformer sales	(200,000)	
Decrease in Power Purchase		(1,362,500)
Decrease in allocable internal service costs		(94,492)
FY 25 draft budget v.1	14,520,000	12,603,485
Increase / (decrease)	52,000	(175,377)

DRAFT

WATER

Operating Budget

FY 2025

	2022 Actuals	2023 Actuals	FY 2024 Revised Budget	FY 2025 Proposed Budget	
Utility Revenues					
Water Revenues	$ 2,851,802	$ 2,591,407	$ 3,056,300	$ 3,085,300	0.9%
Total Water Revenues	$ 2,851,802	$ 2,591,407	$ 3,056,300	**$ 3,085,300**	
Utility Expenditures					
Operating Expenses	$ 1,703,846	$ 1,743,400	$ 2,178,797	$ 2,223,778	2.1%
Transfer to Water Asset Repl. Fund	$ 100,000	$ 298,845	$ 259,305	$ 229,700	-11.4%
Total Water Expenditures	$ 1,803,846	$ 2,042,245	$ 2,438,102	**$ 2,453,478**	
	$ 1,047,956	$ 549,162	$ 618,198	**$ 631,822**	**NET CHANGE**

		% of total utility revenue budget:
Utility User Tax	$ 75,179	15.6%
		Bond ratio:
Bank & Trustee Charges	$ 7,084	22%
Bond Payments 2016 issue	$ 310,159	22%
Purchase Payment	$ 146,615	22%
		Water only
Electric fund repayment	$ 92,785	100%
Allocable costs	**$ 631,822**	

$ (0)

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WASTEWATER
Operating Budget
FY 2025

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Utility Revenues	2022 Actuals	2023 Actuals	FY 2024 Revised Budget	FY 2025 Proposed Budget	
Wastewater Revenues	$ 2,153,601	$ 2,013,371	$ 2,168,342	$ 2,213,842	2.1%
Total Wastewater Revenues	$ 2,153,601	$ 2,013,371	$ 2,168,342	**$ 2,213,842**	
Utility Expenditures					
Operating Expenses	$ 1,226,329	$ 1,207,733	$ 1,337,175	$ 1,329,341	-0.6%
Transfer to WW Asset Repl. Fund	$ 79,398	$ 28,650	$ 35,677	$ 70,435	97.4%
Total Wastewater Expenditures	$ 1,305,727	$ 1,236,383	$ 1,372,852	**$ 1,399,776**	
	$ 847,874	$ 776,988	$ 795,490	**$ 814,066**	**NET CHANGE**
			% of total utility revenue budget:		
Utility User Tax		$ 53,943	11.2%		
			Bond ratio:		
Bank & Trustee Charges		$ 9,982	31%		
Bond Payments 2016 issue		$ 449,875	31%		
Purchase Payment		$ 206,594	31%		
			Wastewater only		
Electric fund repayment		$ 93,672	100%		
	Allocable costs	**$ 814,066**			
				$ (0)	

DRAFT

ELECTRIC

Operating Budget

FY 2025

DRAFT

Utility Revenues	2022 Actuals	2023 Actuals	FY 2024 Revised Budget	FY 2025 Proposed Budget	
Electric Revenues	$ 11,749,901	$ 11,139,098	$ 14,468,000	$ 14,520,000	0.4%
Total Electric Revenues	$ 11,749,901	$ 11,139,098	$ 14,468,000	**$ 14,520,000**	
Utility Expenditures					
Operating Expenses	$ 10,050,119	$ 10,758,375	$ 12,778,862	$ 12,603,485	-1.4%
Transfer to Electric Asset Repl. Fund	$ 499,133	$ 508,113	$ 355,083	$ 552,008	55.5%
Total Electric Expenditures	$ 10,549,252	$ 11,266,488	$ 13,133,945	**$ 13,155,493**	
	$ 1,200,649	$ (127,390)	$ 1,334,055	**$ 1,364,507**	**NET CHANGE**

			% of total utility revenue budget:		
Utility User Tax		$ 353,799	73.3%		
			Bond ratio:		
Bank & Trustee Charges		$ 15,134	47%		
Bond Payments 2016		$ 682,351	47%		
Purchase Payment		$ 313,223	47%		
	Allocable costs	**$ 1,364,507**			
				$ 0	

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ALL AMERICAN CANAL

Operating Budget
FY 2025

Utility Revenues	2022 Actuals	2023 Actuals	FY 2024 Revised Budget	FY 2025 Proposed Budget	
AAC Revenues	$ 975,500	$ 1,002,373	$ 1,041,800	$ 1,041,800	0.0%
Total AAC Revenues	$ 975,500	$ 1,002,373	$ 1,041,800	**$ 1,041,800**	
Utility Expenditures					
Operating Expenses	$ 887,459	$ 952,114	$ 1,041,800	$ 1,041,800	0.0%
Total AAC Expenditures	$ 887,459	$ 952,114	$ 1,041,800	**$ 1,041,800**	
	$ 88,041	$ 50,259	$ -	$ -	**NET CHANGE**
				$ -	

CAPITAL IMPROVEMENT PLAN - NPUA					***DRAFT***
FY 2025 - FY 2030					
			(in priority order as identified by dept. managers)	Cost Estimate	Funding Source
WATER DEPT.					
		1.	Well No. 11 Treatment	7,449,918	State Water Resources Control Board
		2.	Golf course maintenance yard main distribution manifold	1,079,133	State Water Resources Control Board
		3.	Replace Deteriorating Pipe in Monterey & Arizona Avenues	546,770	State Water Resources Control Board
		4.	Replace Deteriorating Pipe in River Road	639,860	State Water Resources Control Board
		5.	AMI-automated metering infrastructure	1,203,097	BOR / Coronavirus Local Fiscal Recovery Funds / Asset replacement
		6.	Jet Vac / Trailer	150,000	Asset replacement funds
		7.	Construct 1.5 Million Gallon Water Reservoir	2,380,000	State Water Resources Control Board
		8.	Main replacement in the Vista Street area & new services	1,300,000	Asset replacement funds
		9.	Replace Deteriorating Pipe in Chestnut Street	195,165	Asset replacement funds
		10.	Replace Deteriorating Pipe in Chesney's Subdivision (Housing)	416,637	Asset replacement funds
		11.	Replace Deteriorating Pipe in Coronado Street area	1,381,668	Asset replacement funds
		12.	Replace Deteriorating Pipe in Casa Linda Street area	530,589	Asset replacement funds
		13.	Main replacement at Verde Shores under the pond and Chesney development (Fire line into Verde Shores)	400,000	Asset replacement funds
		14.	Fire hydrant replacements	15,000	Asset replacement funds
		15.	Extension into North Needles	8,400,000	DIF / Privately funded
			Water Department Total (estimate)	26,087,837	
WASTEWATER DEPT.					
		1.	Bazoobuth lift station pump replacement	32,000	Asset replacement funds
		2.	Railroad crossing at Bazoobuth lift station	170,000	Asset replacement funds
		3.	Upsize effluent pump	20,000	Asset replacement funds
		4.	Mini excavator & tilt trailer	120,000	Asset replacement funds
		5.	Jet Vac / Trailer	150,000	Asset replacement funds
		6.	Plant grit separator	300,000	Asset replacement funds
		7.	Upsize deficient sewer lines on 15 blocks of Front St.	1,484,724	Asset replacement funds
		8.	Upsize deficient sewer lines from T St. to Front St.	885,145	Asset replacement funds
		9.	North Needles sewer line extension (engineering only)	72,000	Privately funded
		10.	Manhole rehab program (ongoing)	150,000	Asset replacement funds
		11.	North Needles sewer line extension	3,500,000	DIF / Privately funded
		12.	Manhole replacement and upsize project	1,660,920	Asset replacement funds
			Wastewater Department Total (estimate)	8,512,789	
ELECTRIC DEPT.					
		1.	AMI-automated metering infrastructure	2,200,000	Asset replacement funds
		2.	California Ave Pole Yard Equipment Steel Building	250,000	Asset replacement funds
		3.	Construction of South Hwy 95 Substation (cemetery site)	3,200,000	Developer funded
		4.	Upgrade power lines feeding Park Moabi	3,000,000	Developer funded
		5.	Wire trailer	30,000	Asset replacement funds
		6.	Mohave line rehabilitation	4,500,000	Developer funded
		7.	Eagle Pass to Cemetery site	2,000,000	Developer funded
		8.	Cure Farms substation (behind Needles Town Center)	1,100,000	Developer funded
		9.	230kv line	30,000,000	Developer funded
		10.	Street light LED phase out program	30,000	Asset replacement funds
		11.	Double bucket truck 80 ft	360,000	Asset replacement / Vehicle replacement
			Electric Department Total (estimate)	46,670,000	

City of Needles, California
Request for Commission Action

☐ CITY COUNCIL ☒ BOARD OF PUBLIC UTILITIES ☒ Regular ☐ Special

Meeting Date: January 20, 2026

Title: Lower Colorado River Tour 2026

Background: The Water Education Foundation conducts an annual tour of the Lower Colorado River. The tour began in Las Vegas, NV, and travels along the Colorado River visiting many of the critical users. Highlighted stops are the Hoover Dam, Havasu National Wildlife Refuge, Central Arizona Project, Metropolitan Water District intake pumping plant, Imperial Dam and many others.

Planned Stops Include:

- Hoover Dam
- Lake Mead
- Central Arizona Project's Mark Wilmer Pumping Plant
- Havasu National Wildlife Refuge
- Whitsett Intake Pumping Plant on the Colorado River Aqueduct
- Farms in the Palo Verde, Imperial & Coachella valleys
- Imperial Dam and the All-American Canal
- The Salton Sea

Planned Topics Include:

- Law of the River
- Drought conditions & contingency planning in the Colorado River Basin
- Lower Basin state perspectives – Arizona, California & Nevada
- Tribal water rights & use
- The Quantification Settlement Agreement (QSA)
- Warren H. Brock Storage Reservoir & lining the All-American Canal
- Binational water management
- Agricultural water use, drainage issues & salinity
- Urban use, history & development
- The Colorado River Basin Study
- Endangered species & the Multi-Species Conservation Program (MSCP)
- Salton Sea restoration
- Climate change

Tour Start & End Points:

- The tour starts at 7:30 a.m. on March 11 in Las Vegas and ends at Ontario International Airport in California at 6:30 p.m. on March 13.

The tour includes overnight stays in Lake Havasu City, AZ, and Winterhaven, CA, which are arranged by the Foundation and covered by the registration fee.

City of Needles, California
Request for Commission Action

The tour begins at the Hilton Garden Inn Las Vegas Strip South. Staff will drop off the Board Members in Las Vegas and pick them up at the Salton Sea to return to Needles.

Note: The tour is currently sold out; however, if any of the Board Members would like to attend, then staff will put them on the waitlist.

Fiscal Impact: General administration is $999 per individual

Environmental Impact: None

Recommended Action: Authorize Commissioners _____ to attend the Lower Colorado River Tour scheduled for March 11 – 13, 2026; on the waitlist.

Submitted By: Rainie Torrance, Utility Manager

City Manager Approval: Patrick J Martinez Date: 1/14/2026

Other Department Approval (when required): _____ Date: _____

City of Needles, California
Request for Commission Action

☐ CITY COUNCIL ☒ BOARD OF PUBLIC UTILITIES ☒ Regular ☐ Special

Meeting Date: January 20, 2026

Title: EUSI, LLC operational support services relating to the wastewater treatment facility and collection system November and December 2025

Background: See attached report

Fiscal Impact:

Environmental Impact:

Recommended Action: No action needed - information only

Submitted By: Kris Hendricks, EUSI LLC

City Manager Approval: Patrick J Martinez Date: 1/14/2026

Other Department Approval (when required): _____ Date: _____

EUSI, LLC Operational Support Services Relating
To the
Wastewater Treatment Facility and Collection System
November 2025

Mrs. Rainie Torrance,

Please find below a summary of our services provided associated with the operational support services for the wastewater treatment facilities for the month of November 2025.

- The daily average flow for the month of November 2025 was 0.456 MGD.
- Updated the November 2025 monthly monitoring report for the state, it will be completed once we have all of the lab results.
- Conducted in-house process control testing for the SBRs.
- Sent out the weekly, monthly, and annual samples as required by the monitoring permit.
- Tested the plant lift station and plant alarm callouts.
- Administrative coordination with finance and the administrative staff at 3rd street is ongoing.
- Inspected facility perimeter fences and percolation ponds.
- Operations staff decanted the digester to limit the amount of sludge that needed to be sent to the drying beds for further processing and ultimate removal to the off-site landfill.
- Completed routine monthly inspection of the Kubota tractor, the 4" trash pump, and the jetter.
- Preventive Maintenance Program is ongoing per operating hours of the various plant components.
- Completed the bar screen service and inspections throughout the month.
- Completed weekly inspection of the emergency generator prior to and during its weekly test runs.
- Met with Phillips Excavation to request a quote for a replacement cover for the River Road lift station wet well as the existing cover is deteriorating. We received a quote from Extreme Iron, a decision can be made once we obtain the quote from Phillips Excavation.
- Ordered a new lens for the sewer camera, in preparation for doing a camera inspection on the incoming gravity sewer line that feeds the plant.
- Ongoing communication with City staff regarding items associated with the overall wastewater system.
- Met with Simon Sewer to plan for the annual sewer cleaning project. They are expecting to complete the cleaning in December.
- Provided a plant tour for 2 of the Utility Board members on November 14th.

Supplemental repair services, exceptional event(s) during the month of November.

- November 1, 2025 operational staff was called out at ~1248 hours for a control panel alarm for an SBR #1 motive pump failure. Staff found the disconnect tripped and checked wire connections and reset the breaker and restored the pump to normal operating conditions. Staff was also called out to 817 Beach Dr. concerning odors, they met with the customer to discuss the issue. Staff will hang an odor block in a nearby manhole during normal business hours. 2.0 man hours, no charge for this call out or work activity.
- November 4, 2025 operational staff noted higher temperature on the middle leg heater for SBR #1 motive pump. Staff troubleshot and removed and cleaned the shoes inside the motor starter and the temperatures are much more balanced following the cleaning. 1 man hour, no charge for this work activity.
- November 6, 2025 operations staff was called out for a control panel alarm for a failed backflush valve. The valve took a little longer to close than the alarm set point. The valve was closed upon arrival. Staff will troubleshoot the valve further during normal business hours tomorrow. Staff replaced the solenoid control valve on November 7th. 1.0 man hour, no charge for this call out or work activity.
- November 15, 2025 City on-call staff was called out for a control panel alarm for filtrate pump #1 for a fail to run. Operational staff assisted City staff member through the alarm acknowledgment and clearing process. 1 man hour, no charge for this activity.

- November 18, 2025 Code enforcement called and requested that we check on and odor complaint at Verde Shores. Staff took our gas meter that measures for hydrogen sulfide and the meter did not detect any gas and there were no odors at the time of the inspection. 1 man hour, no charge for this activity.
- November 21, 2025 operations staff repaired the roof over the pump storage room. 2.0 man hours, no charge for this activity.
- November 24, 2025 while on site SBR #1 motive pump had a seal failure. Staff arranged for removal of the pump on November 25th. No charge as this response occurred during normal operating hours.
- November 25, 2025 operations staff with assistance from the electric company and their crane, removed the motive pump from SBR #1 and prepared it for sending off site for additional inspection as the ohm reading on the seal failure was a little lower than specification indicating a potential seal leak. This pump will be taken up to RPM, the authorized Hydromatic repair provider, once we get the other pump back. Staff removed the motive pump from SBR #2 that has been out of service and installed that in SBR #1. This pump will be removed and inspected sometime the week of December 1st. 7 man hours, no charge for this activity.

Should you have any questions regarding the monthly activity please feel free to contact me at 602-300-7946.

Sincerely,

Kris Hendricks, EUSI, LLC; Managing Member

EUSI, LLC Operational Support Services Relating
To the
Wastewater Treatment Facility and Collection System
December 2025

Mrs. Rainie Torrance,

Please find below a summary of our services provided associated with the operational support services for the wastewater treatment facilities for the month of December 2025.

- The daily average flow for the month of December 2025 was 0.431 MGD.
- Updated the December 2025 monthly monitoring report and compiled information for the annual report for the state, it will be completed once all the lab results have been received.
- Conducted in-house process control testing for the SBRs.
- Sent out the weekly and monthly samples as required by the monitoring permit.
- Tested the plant lift station and plant alarm callouts.
- Administrative coordination with finance and the administrative staff at 3rd street is ongoing.
- Inspected facility perimeter fences and percolation ponds.
- Operations staff decanted the digester to limit the amount of sludge that needed to be sent to the drying beds for further processing and ultimate removal to the off-site landfill.
- Drained digester to drying beds 17, 20, 21, and 22. Sludge will be removed once it has dried.
- Completed routine monthly inspection of the Kubota tractor, the 4" trash pump, and the jetter.
- Preventive Maintenance Program is ongoing per operating hours of the various plant components.
- Completed the bar screen service and inspections throughout the month.
- Completed weekly inspection of the emergency generator prior to and during its weekly test runs.
- Extreme Iron was given approval for the new River Road lift station cover. It is expected to take a couple of weeks to fabricate the new cover. Once it is completed, we will coordinate installation of the new cover.
- Simon Sewer was in town the week of December 15th to clean the main line coming into the treatment plant to help facilitate conducting a video of this line due to external corrosion that has been observed. City staff is working on a cleaning plan so that the annual sewer cleaning project can be completed prior to the end of the fiscal year.
- Staff installed the new lens for the sewer camera and completed a camera inspection on a portion of the incoming gravity sewer line that feeds the plant. The video was provided to the engineer to see what options we may have for repairing this section of pipe. There are some obstructions within the pipe that are not allowing the camera to traverse the full distance of the pipe. The line will require some additional cleaning to facilitate further video investigation and the team is looking at some options to allow for inspection of this line.
- Ongoing communication with City staff regarding items associated with the overall wastewater system.
- Picked up repaired motive pump and dropped off one that had a seal failure notification for further investigation.
- Staff participated in the CPR training on December 9th.

Supplemental repair services, exceptional event(s) during the month of November.

- December 3, 2025 operations staff made some minor repairs to the odor control blower for the motive wet well. 1.5 hrs, no charge for this activity.
- December 19, 2025 staff found Bazoobuth lift station was not turned back on following video inspection of the main line coming into the plant. This resulted in a back-up in the golf course bathrooms. The station was restored to operation and City and EUSI staff cleaned up the bathrooms returned them to service.
- December 26, 2025 operations staff installed the rebuilt Hydromatic pump in SBR #1 and changed the oil in the Fairbanks pump that was removed so it is ready as a stand-by/spare while the other pump is being inspected. 4 man hours for this activity, no charge.
- December 29, 2025 operations staff troubleshot pump #2 at Bazoobuth lift station as it had run twice the hours as pump number 1. Staff found a clogged discharge line on the air release valve that was not allowing that air to release from the pump. The line was unclogged and the air release valve was restored to normal operation. While onsite and testing pump #1 staff found the air release valve discharge line on pump #1 was also clogged. This line had a wipe stuck within co

of the pipe which kept the air from releasing from the pump. Staff replaced a portion of the line and restored that valve to proper operations. 8 man hours, no charge for this activity.

Should you have any questions regarding the monthly activity please feel free to contact me at 602-300-7946.

Sincerely,

Kris Hendricks, EUSI, LLC; Managing Member

City of Needles, California
Request for Commission Action

☐ CITY COUNCIL ☒ BOARD OF PUBLIC UTILITIES ☒ Regular ☐ Special

Meeting Date: January 20, 2026

Title: Present Perfected Rights Report – November 2025

Background:

CURRENT YEAR:
November 2026

	Current	YTD	% change prior year to current year YTD
Net Diversion	127.29	1,783.27	-13%
Measured Returns	40.73	459.00	
Unmeasured Returns	13.86	386.47	
Consumptive Use	**72.70**	**937.80**	**(based on consumptive use)**

PRIOR YEAR:
November 2025

Net Diversion	133.87	1,825.60	**% of PPR Remaining** **29%** *Based on CY25 Water Order of 2,528 diversion
Measured Returns	40.73	453.50	
Unmeasured Returns	25.07	291.22	
Consumptive Use	**68.07**	**1,080.88**	

PPR Limits 1,223	1,223
SCIA Agreement (145)	- 145
PPR Entitlement	1,078
LCWSP SCIA Limit	+ 527
2025 Consumption	1,605
2025 Diversion 2,261	

Recommended Action: No action needed - information only

Submitted By: Rainie Torrance, Utility Manager

City Manager Approval: Patrick J Martinez Date: 1/14/2026

Other Department Approval (when required): _____ Date: _____

Approved: ☐ Not Approved: ☐ Tabled: ☐ Other: ☐

Agenda Item: _____

CITY OF NEEDLES
WATER ACCOUNTING
MONTHLY CALCULATION SHEET
CALENDAR YEAR 2025

	Pumped (Acre-Feet)												
Diversions - Pumped from Wells	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
Well #8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
Well # 15 (formerly #10)	92.79	77.97	95.62	108.15	124.34	131.11	59.93	52.00	1.51	0.28	0.00		743.70
Well #11	0.00	0.00	0.00	0.00	0.00	0.00	83.48	102.56	122.38	112.39	116.72		537.53
Well #12	26.95	31.32	42.93	54.47	51.12	71.70	76.98	69.73	71.47	53.02	25.10		574.79
Sub-Total	**119.74**	**109.29**	**138.55**	**162.62**	**175.46**	**202.81**	**220.39**	**224.29**	**195.36**	**165.69**	**141.82**	**0.00**	**1,856.02**
Delivered to Ft. Mojave Indian Tribe (AZ)	11.04	0.00	0.00	0.00	0.01	0.10	0.07	1.00	0.00	0.00	10.55		22.77
Delivered to Ft. Mojave Indian Tribe (CA)	4.19	7.72	2.84	3.34	4.51	4.81	4.97	5.57	4.46	3.59	3.98		49.98
Sub-Total	**15.23**	**7.72**	**2.84**	**3.34**	**4.52**	**4.91**	**5.04**	**6.57**	**4.46**	**3.59**	**14.53**	**0.00**	**72.75**
City of Needles' Net Diversion	**104.51**	**101.57**	**135.71**	**159.28**	**170.94**	**197.90**	**215.35**	**217.72**	**190.90**	**162.10**	**127.29**	**0.00**	**1,783.27**
Uses of Water													
Commercial Accounts	19.24	38.81	26.97	49.08	52.58	61.18	60.22	62.72	56.27	41.44	43.36		511.87
Residential Accounts	33.12	28.35	35.60	50.75	57.50	54.26	58.70	70.74	49.07	51.82	54.20		544.11
Golf Course	17.76	31.32	42.93	54.47	51.12	71.70	76.98	69.73	71.47	53.02	25.10		565.60
Parks, Ballparks, Cemetery	5.38	3.09	4.64	4.97	9.73	10.76	19.45	14.54	14.09	15.81	4.63		107.09
Total	**75.50**	**101.57**	**110.14**	**159.27**	**170.93**	**197.90**	**215.35**	**217.73**	**190.90**	**162.09**	**127.29**	**0.00**	**1,728.67**

CALENDAR YEAR 2025

WASTEWATER TREATMENT PLANT

	Mean Flow	# Days	A/F	A/F Return
Jan	0.419	31	39.86	38.67
Feb	0.424	28	36.44	35.34
Mar	0.421	31	40.05	38.85
Apr	0.457	30	42.08	40.81
May	0.439	31	41.77	40.51
Jun	0.461	30	42.45	41.17
Jul	0.499	31	47.48	46.05
Aug	0.502	31	47.76	46.33
Sep	0.494	30	45.48	44.12
Oct	0.503	31	47.86	46.42
Nov	0.456	30	41.99	40.73
Dec		31	0.00	0.00
TOTAL	5.075	365	473.21	459.00

Daily mean flow x #days mo X 1,000,000 = gal/mo

divided by 7.48 divided by 43560 = A/F mo

CITY OF NEEDLES
WATER ACCOUNTING
MONTHLY CALCULATION SHEET
CALENDAR YEAR 2025

Diversions													
	Pumped (Acre-Feet)												
Pumped from Wells	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
Well #8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Well # 15 (FKA #10)	92.79	77.97	95.62	108.15	124.34	131.11	59.93	52.00	1.51	0.28	0.00	0.00	743.70
Well #11	0.00	0.00	0.00	0.00	0.00	0.00	83.48	102.56	122.38	112.39	116.72	0.00	537.53
Well #12	26.95	31.32	42.93	54.47	51.12	71.70	76.98	69.73	71.47	53.02	25.10	0.00	574.79
Sub-Total	**119.74**	**109.29**	**138.55**	**162.62**	**175.46**	**202.81**	**220.39**	**224.29**	**195.36**	**165.69**	**141.82**	**0.00**	**1,856.02**
Delivered to Ft. Mojave Indian Tribe (AZ)	11.04	0.00	0.00	0.00	0.01	0.10	0.07	1.00	0.00	0.00	10.55	0.00	22.77
Delivered to Ft. Mojave Indian Tribe (CA)	4.19	7.72	2.84	3.34	4.51	4.81	4.97	5.57	4.46	3.59	3.98	0.00	49.98
Sub-Total	**15.23**	**7.72**	**2.84**	**3.34**	**4.52**	**4.91**	**5.04**	**6.57**	**4.46**	**3.59**	**14.53**	**0.00**	**72.75**
City of Needles' Net Diversion	**104.51**	**101.57**	**135.71**	**159.28**	**170.94**	**197.90**	**215.35**	**217.72**	**190.90**	**162.10**	**127.29**	**0.00**	**1,783.27**

Return and Other Credits													
Measured Returns													
Sewer Plant's Rapid Infilitration Ponds[1]	38.67	35.34	38.85	40.81	40.51	41.17	46.05	46.33	44.12	46.42	40.73	0.00	459.00
Unmeasured Returns													
Percolation from Golf Course [2]	0.17	12.65	16.49	33.22	7.09	22.57	30.76	27.24	38.17	35.39	7.00	0.00	230.73
Percolation from Parks[3]	2.15	1.24	1.86	1.99	3.89	4.30	7.78	5.82	5.64	6.32	1.85	0.00	42.84
Percolation from Large Commercial Users[4]	0.46	0.93	0.65	1.18	1.26	1.47	1.45	1.51	1.35	0.99	1.04	0.00	12.28
System Losses[5]	29.01	0.00	25.57	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	54.61
Septic Tank Returns[6]	4.12	3.84	4.41	4.22	4.12	3.96	4.54	4.48	4.16	4.16	3.98	0.00	46.01
Total Unmeasured Returns	**35.91**	**18.66**	**48.98**	**40.61**	**16.37**	**32.30**	**44.53**	**39.04**	**49.32**	**46.87**	**13.86**	**0.00**	**386.47**
Total Returns	**74.58**	**54.00**	**87.83**	**81.42**	**56.88**	**73.47**	**90.58**	**85.37**	**93.44**	**93.29**	**54.59**	**0.00**	**845.47**

Footnotes:

1/Calculated as WWTP Total Discharge*0.97.

2/Calculated as Monthly Delivery to Golf Course*Efficiency-Monthly ET. Efficiency =0.9

3/Calculated as Delivery to Parks,Ballparks,Cemetry*0.40.

4/Calculated as 24% of Deliveries to Commercial Accounts*0.10.

5/Calculated as City of Needles' Net Diversions-Total Uses.

6/Total Annual UMRF from septic tanks = 50; assumes 210 septic units*0.6 AF/yr*0.40 (where 0.40 = UMRF Factor). Annual volume is distributed monthy using a monthly distribution factor.

Consumptive Use													
Diversion	104.51	101.57	135.71	159.28	170.94	197.90	215.35	217.72	190.90	162.10	127.29	0.00	1,783.27
Measured Returns	38.67	35.34	38.85	40.81	40.51	41.17	46.05	46.33	44.12	46.42	40.73	0.00	459.00
Unmeasured Returns	35.91	18.66	48.98	40.61	16.37	32.30	44.53	39.04	49.32	46.87	13.86	0.00	386.47
Consumptive Use	29.93	47.57	47.88	77.86	114.06	124.43	124.77	132.35	97.46	68.81	72.70	0.00	937.80

City of Needles
817 Third Street, Needles, California 92363
(760) 326-2113 • FAX (760) 326-6765
www.cityofneedles.com

MEMORANDUM

TO: HONORABLE MAYOR AND MEMBERS OF THE CITY COUNCIL

FROM: PATRICK J. MARTINEZ, CITY MANAGER

SUBJECT: WEEKLY MEMORANDUM

DATE: January 2, 2026

1. **Route 66 Centennial – Celebrating a Century on the Mother Road**
   2026 marks the 100th anniversary of historic Route 66, and the City of Needles is actively positioning itself as a must-stop destination at the gateway to California. As part of the Centennial kickoff, the City placed a Route 66 Centennial advertisement in *Memories from the Mother Road: Celebrating a Century of Route 66*, directing travelers to the Needles Visitor Center and highlighting Needles as an original Route 66 town. This targeted outreach is intentionally designed to drive Centennial-year travel into the community and convert pass-through traffic into local visitation. To guide and coordinate these efforts, the City Council has established a Route 66 Centennial Committee consisting of Mayor Jernigan, Vice Mayor Campbell, and Councilmember McCorkle. Local programming is advancing, including the Route 66 Info Fair on **February 14, 2026, from 9:00 a.m. to 2:00 p.m**. at El Garces, hosted by Friends of El Garces, and Route 66-themed elements incorporated into Art in the Park scheduled for **March 26–28**. Both events will include Route 66–themed classic car shows on Saturday, extending Centennial visibility through community programming while supporting tourism, economic activity, and long-term community pride.

2. **Route 66 Statewide & National Exposure – Tournament of Roses**
   The City of Needles received significant statewide and national exposure through its inclusion in the *Road to the Rose Parade* video series, commissioned by the Tournament of Roses. The City was featured as part of the San Bernardino County Route 66 segment, which highlights iconic communities along the Mother Road in the lead-up to the Rose Parade. Sponsored by Visit California and Discover Inland Empire, the segment features Mayor Janet Jernigan and reinforces Needles' role as California's eastern

gateway to Route 66. The video also showcases Fender's Motel, underscoring the importance of historic lodging and authentic Route 66 experiences. Filming occurred in early December, with distribution through Tournament of Roses and Discover Inland Empire digital and social media channels. This exposure complements the City's ongoing Route 66 Centennial advertising, events, and broader tourism strategy already underway. Click on this link to watch the video.

3. **Railcam Installation and Tourism Visibility**
   This week, City crews installed a new PTZ rail camera generously donated by SouthWest RailCams, further expanding real-time visibility of Needles to a national and international audience. Needles continues to attract strong viewership due to its historic rail corridor and rich local history, with increasing interest from viewers seeking to learn more about the community. The PTZ camera is hosted by the City of Needles and is publicly accessible through SouthWest RailCams' live platform. **As of November 2025**, the Needles East Camera recorded 33,513 views and 5,129 watch hours, while the Needles West Camera recorded 10,018 views and 1,376 watch hours, demonstrating sustained engagement. The installation supports City Council goals related to tourism promotion, historic awareness, and leveraging digital platforms to increase exposure and interest in Needles as a destination.

4. **Assemblymember Gonzalez Mobile Office Hours**
   Assemblymember Jeff Gonzalez will host Mobile Office Hours at El Garces on **Thursday, January 15**, from **12:00 p.m. to 3:00 p.m.**, providing residents with convenient, local access to state legislative assistance and resources without the need to leave the community. This outreach allows constituents to meet directly with the Assemblymember's office to receive support on state-related matters and services. The City of Needles appreciates Assemblymember Gonzalez's continued engagement and responsiveness to the needs of rural communities. The City extends its gratitude to Assemblymember Gonzalez and his staff for their ongoing support and commitment to serving the residents of Needles.

5. **Needles Pride Program – Lillyhill Roadway Repairs**
   This week, Public Works crews completed roadway repairs along Lillyhill Drive, addressing deteriorated pavement conditions to improve drivability and safety in a well-traveled residential corridor. The work reflects the City's responsive, field-driven approach to maintaining local streets and extending the life of existing infrastructure. Crews will continue targeted roadway maintenance throughout the community as conditions are identified and resources allow. These improvements support City Council goals by enhancing neighborhood quality of life, promoting safe and accessible streets, and demonstrating the City's

continued commitment to visible, day-to-day maintenance. Residents can report concerns by calling 760-326-5700 (press 9) or using the Needles Connect app on Google Play Store (Android) and Apple Store (iOS)**.** Together, we continue to make Needles a brighter and more vibrant place to live.

6. **Storm Preparedness & Weather Response**
   The City of Needles began the new year with a winter storm that brought steady precipitation throughout the week. City crews proactively prepared ahead of the storm by inspecting equipment, fueling vehicles, and placing staff on standby to ensure a timely response. Throughout the event, departments closely monitored conditions to protect public safety and maintain essential services. The primary operational impact was the temporary closure of the J Street Underpass due to water accumulation, which was implemented as a precautionary safety measure. No major damage to City infrastructure was reported, and no injuries occurred. Crews remained engaged through the week to monitor drainage conditions and ensure the underpass could be safely reopened.

7. **Community Partnership & Recreation Support – Elks Gratitude Grant**
   The City of Needles and its Recreation Services Department received generous community support through a Gratitude Grant awarded by the Elks National Foundation, with local sponsorship from the Needles Elks Lodge #1608. Exalted Ruler Brian Dooley presented two grant checks totaling $2,000 to support City recreation facilities. The funding included $1,250 for the Recreation Center and $750 for the Aquatic Center, directly benefiting youth programming and community recreation services. The checks were formally received by Jennifer Valenzuela, Recreation Services Manager. This contribution reflects the Elks' continued commitment to investing in local communities and supporting programs that serve families and youth. The City extends its sincere appreciation to the Needles Elks Lodge for their ongoing partnership and support of community recreation in Needles.

8. **Needles Little League Home Run Derby Fundraiser**
   The Needles Little League is hosting a Home Run Derby on **Saturday, January 24 at 12:00 p.m.** at Ed Parry Field as its final fundraiser ahead of the regular season. The all-ages, family-friendly event is intended to encourage broad community participation while raising funds for the Little League Shade Structure Project. The derby will feature a structured format with participant awards, an open snack bar, and live music by DJ Loke. The City supports the event, which aligns with City Council goals to promote youth recreation, strengthen community partnerships, and enhance community amenities that improve quality of life. If you have any questions please reach out to Josh Raley directly at 760-220-7886.

9. **Needles Sunday Market – Santa Fe Park**
   The Needles Sunday Market at Santa Fe Park continues to build momentum as a weekly destination that supports local entrepreneurs, activates public space, and encourages community gathering. Vendor participation remains strong, offering a growing mix of small-batch and specialty products that contribute to a lively, family-friendly atmosphere. The Market provides residents and visitors with a consistent opportunity to shop local while enjoying one of the City's central community spaces. The Needles Sunday Market is held every Sunday from **8:00 a.m. to 12:00 p.m.** and will continue through **March 31, 2026**. Interested vendors may contact Market Manager Patrick Lauterio at (760) 848-8289 or needlesfarmers@gmail.com.

10. **Community Events Calendar Now Live**
    The City's new website now features a **Community Events Calendar**—a single source for community events, civic meetings, and community programs. Local organizations are invited to submit or update events through the City Clerk's Office to keep the calendar current and inclusive. Contact **Candace Clark at cclark@cityofneedles.com** to participate. Residents can subscribe and sync the calendar to mobile devices for real-time updates, making it easier to stay informed and engaged.

1. ROUTE 66 CENTENNIAL

LIVE, WORK, & PLAY ON THE COLORADO RIVER

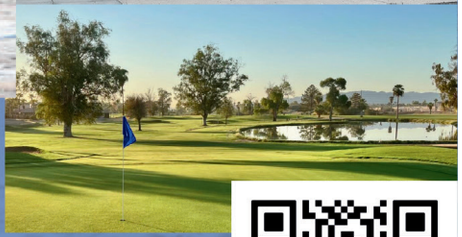
NEEDLES

CALIFORNIA

FOUNDED 1883

CELEBRATE ROUTE 66 CENTENNIAL WITH NEEDLES IN 2026

an original Route 66 town



CITY OF NEEDLES CALIFORNIA

NEEDLES VISITOR CENTER
950 Front St. Ste. 9
Needles, CA.. 92363

CITYOFNEEDLES.COM

#MAKENEEDLESYOURDESTINATION

Item 12.

2. NEEDLES TOURNAMENT OF ROSES

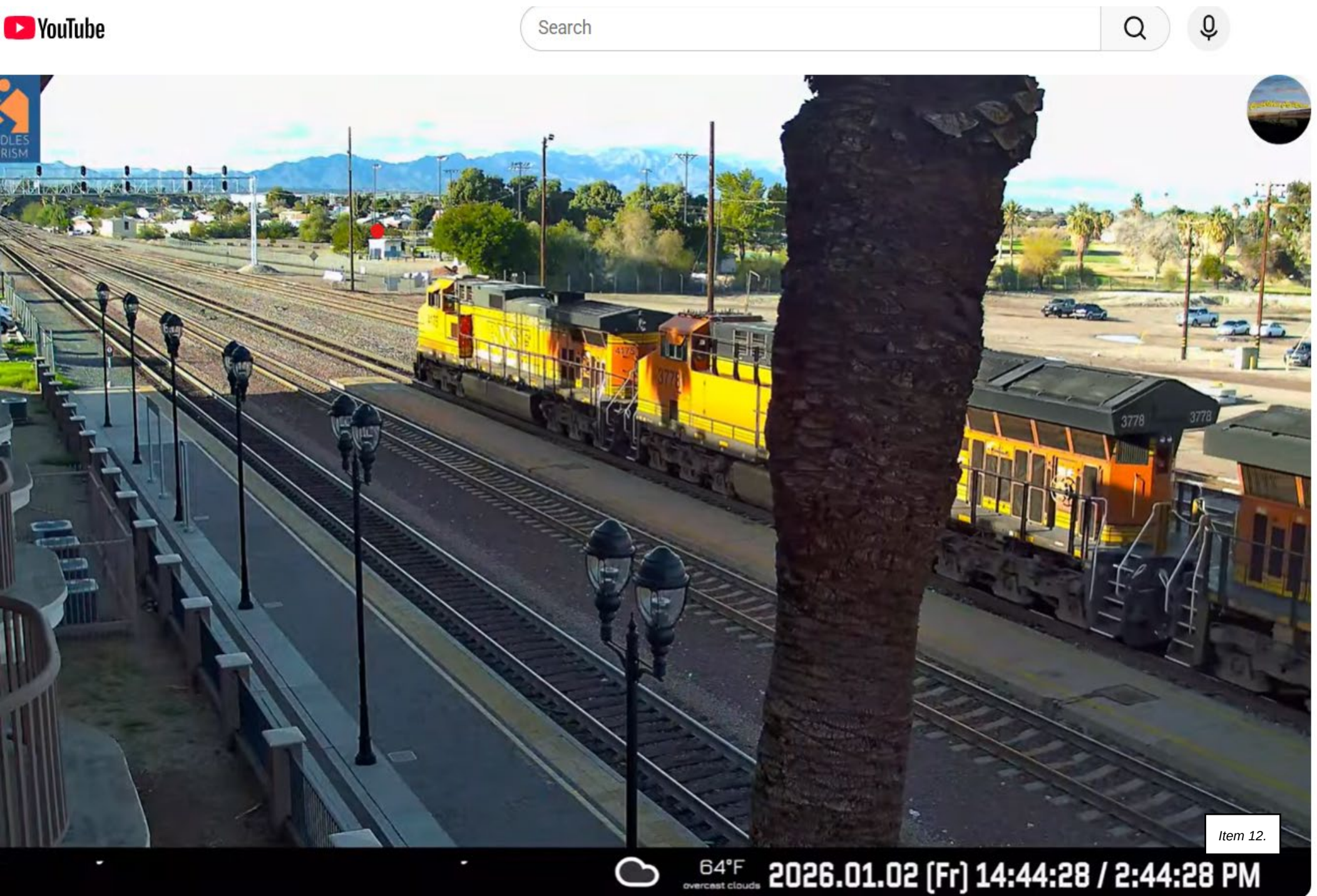
Road to the Rose Parade - Route 66

Tournament of Roses®
15.7K subscribers

Subscribe

21 Share Save Download

3. RAILCAM TOURISM VISIBILITY



5. NEEDLES PRIDE

7. ELKS DONATION RECREATION CENTER

Elks National Foundation. Inc.

Elks Needles Lodge #1608

Community Investment Program

Gratitude Grant

Exalted Ruler Brian Dooley presented two checks, $1,250 Rec Center, and $750 Aquatic Center, to Needles Recreation Services Manager Jennifer Valenzuela

8. NEEDLES LITTLE LEAGUE

NEEDLES
LITTLE LEAGUE

HOME RUN DERBY

SATURDAY, JANUARY 24 • 12:00 PM START

Ed Parry Field • NEEDLES, C.A

Come swing for the fences at the 2026 Needles Little League Home Run Derby! Open to all ages – from youth to adults!

Snack bar will be serving food.

Divisions

- 6 & Under
- 7–8
- 9–10
- 11–12
- 13–15
- 19+ Adult Division

(Legends Division 40+ if turnout allows)

REGISTRATION

Sign up early or register at the field starting 11:15 AM

Entry Fees

- Ages 6 & Under – $5
- Ages 7–12 – $10
- Ages 13–18 – $15
- Adults – $20

– Extra 10 swings – $5
– Second-chance swing – $2

Format

- 10–12 swings per hitter
- Swing-off for ties

Awards

- Movie tickets
- Snack bar bucks

City of Needles
817 Third Street, Needles, California 92363
(760) 326-2113 • FAX (760) 326-6765
www.cityofneedles.com

MEMORANDUM

TO: HONORABLE MAYOR AND MEMBERS OF THE CITY COUNCIL

FROM: PATRICK J. MARTINEZ, CITY MANAGER

SUBJECT: WEEKLY MEMORANDUM

DATE: January 9, 2026

1. **Needles Pride Program – Community Cleanup Day**
   As part of the City's ongoing Needles Pride Program, staff is coordinating a community cleanup at Duke Watkins Park to support neighborhood pride, cleanliness, and shared stewardship of public spaces. The cleanup will take place on **Saturday, January 17, 2026**, from **8:00 a.m. to 9:00 a.m.** at Duke Watkins Park, located near Flip Mendez Parkway and J Street. Residents are invited to join friends and neighbors in helping beautify the area; no registration is required. The City will provide cleanup supplies, including bags, pickers, and gloves. This effort reinforces the City's commitment to visible, grassroots improvements that encourage community engagement and complement recent investments in park infrastructure.

2. **Water Main and Manifold Improvements Project – Construction Update**
   The City of Needles' Water Main and Manifold Improvements Project has resumed, with the contractor back in town to complete remaining phases of this critical infrastructure investment. Work is currently underway along River Road, with crews also returning to complete improvements in the area of Monterey Avenue and Arizona Avenue. This project represents a $1.3 million investment authorized by the NPUA to replace deteriorated water distribution mains, service laterals, and key system components to improve reliability and long-term system performance. The upcoming scope includes replacement of the 6-inch distribution main on River Road near Park Drive and upgrades to the pipe manifold at the golf course maintenance yard. Photos of current construction activity are attached for Council's reference. This project is funded through emergency grant assistance from the State of California's Drinking Water State Revolving Fund, and the City appreciates the continued partnership of the State Water Resources Control Board in strengthening Needles' water infrastructure.

3. **Well No. 11 Treatment Plant Upgrade – System Reliability Enhancement**
   As part of the Well No. 11 Treatment Plant Upgrade Project, contractor Layne Christensen has completed a motor replacement at Well No. 11, significantly improving system reliability and operational redundancy. The replaced motor allows the City to retain the existing motor as a backup, ensuring both wells now have dedicated backup motors available if needed. This upgrade strengthens the City's ability to maintain uninterrupted water service and respond quickly to mechanical issues. The Well No. 11 Treatment Plant Project, which broke ground on **May 31, 2023**, represents an $8.9 million investment in modernizing Needles' water infrastructure and is now in its final stages of system calibration for startup. The facility will treat Well No. 11 and support Wells No. 12 and No. 15, improving water quality by addressing long-standing iron and manganese contamination. This project supports the City Council's goal of investing in critical infrastructure to ensure long-term system reliability, public health, and service continuity for the community.

4. **Public Works – Crack Seal Program and Street Maintenance Update**
   This week, Public Works crews continued implementation of the City's crack seal program as part of ongoing preventative maintenance efforts to extend the life of local streets. Crews completed crack sealing north of River Road and North K Street, as well as along Civic Center Drive adjacent to the Recreation Center. In addition, pothole repairs were completed on National Old Trails Road and Airport Road to address localized pavement failures and improve driving conditions. This work builds on the City's recent investment in crack seal equipment and reflects a proactive maintenance approach that protects prior roadway investments and reduces long-term repair costs. These visible improvements demonstrate the City's continued commitment to reinvesting in its streets, enhancing safety, and maintaining community pride. Refer to the attached images for a snapshot of work in progress. Residents can report concerns by calling 760-326-5700 (press 9) or using the Needles Connect app on Google Play Store (Android) and Apple Store (iOS)**.** Together, we continue to make Needles a brighter and more vibrant place to live.

5. **Flood Control Coordination – Graffiti Abatement near D Street Bridge**
   Following recent community complaints regarding graffiti on Flood Control facilities near the D Street Bridge—highly visible from D Street and Interstate 40—City staff coordinated with Flood Control to address vandalism within multiple culvert and channel areas in the vicinity. Flood Control crews responded and completed graffiti abatement efforts, improving the appearance of these highly visible structures and addressing community concerns. The City of Needles appreciates Flood Control's prompt response and continued

collaboration in maintaining shared infrastructure and public-facing areas. This coordination supports City Council goals related to community pride, public safety, and effective inter-agency partnerships. Refer to the attached photos for a snapshot of the completed work.

6. **Duke Watkins Park – Small Dog Park Lighting Improvement**
   This week, City electric crews successfully installed a new solar light at the Duke Watkins Park small dog park to improve visibility and enhance safety for park users. The lighting was added in response to recent vandalism in the nearby restroom facilities and to better illuminate access to the dog park. This targeted improvement builds on the City's recent investment in Duke Watkins Park and reflects a continued focus on maintaining public amenities following major capital improvements. The installation supports safer use of the park during early morning and evening hours while helping deter vandalism. This effort aligns with City Council goals related to public safety, park maintenance, and community pride. Refer to the attached image for a glimpse of the new infrastructure.

7. **City Website – Route 66 Centennial and Railcam Features**
   The City's redesigned website, launched in June 2025 in collaboration with Tripepi Smith, continues to serve as a key resource for residents, businesses, and visitors by improving access to City services, community information, and economic development materials. As a reminder to Council, the website is also being actively used as a tourism and outreach platform through two featured highlights now prominently available online. First, the Route 66 Centennial page supports the City's strategy to position Needles as a must-stop destination at the gateway to California ahead of the 100th anniversary in 2026, while providing a central hub for Centennial updates and local programming. Second, the site highlights the City's Railcam initiative, including the new PTZ camera donated by SouthWest RailCams, expanding real-time visibility of Needles to a national and international audience and strengthening digital tourism exposure. These features reinforce the City's ability to convert online interest into visitation and community engagement. This work supports City Council goals focused on promoting tourism, improving public relations, and strengthening the City's business-friendly image through modern communication tools.

8. **Community Events Calendar Now Live**
   The City's new website now features a **Community Events Calendar**—a single source for community events, civic meetings, and community programs. Local organizations are invited to submit or update events through the City Clerk's Office to keep the calendar current and inclusive. Contact **Candace Clark at cclark@cityofneedles.com** to participate. Residents can subscribe and sync

the calendar to mobile devices for real-time updates, making it easier to stay informed and engaged.

9. **Assemblymember Gonzalez Mobile Office Hours**
   As a reminder, Assemblymember Jeff Gonzalez will host Mobile Office Hours at El Garces on **Thursday, January 15 from 12:00 p.m. – 3:00 p.m**. This provides residents with convenient local access to state legislative assistance and resources without needing to travel outside the community. Constituents will have the opportunity to meet directly with the Assemblymember's office for support on state-related matters and services. The City of Needles appreciates Assemblymember Gonzalez's continued engagement and responsiveness to the needs of rural communities and extends its gratitude to him and his staff for their ongoing support.

10. **Needles Branch Library – Winter Programs and Community Activities**
    The Needles Branch Library has launched its winter programming schedule, offering a range of educational and enrichment activities for youth, adults, and families throughout January and February. Programs include weekly Craft Corner and Storytime for children ages 6–11, a Basic Computer Class for adults, and special events such as a Family Paint Night on **Tuesday, February 17**, at **5:30 p.m.**, and the nationwide "Read for the Record" storytime event on **Thursday, February 26**, at **3:00 p.m.** The Library will observe a brief off-session period from **February 15–28**, with limited programming during that time. These offerings provide accessible learning opportunities, promote literacy, and support family engagement within the community. This programming aligns with City Council goals focused on enhancing community amenities, supporting youth and families, and improving overall quality of life.

11. **Spring Youth Sports Registration Now Open**
    Spring youth sports registration is now underway, with sign-ups opening for Needles Little League Baseball and Colorado River Area Girls Softball (CRAGS) (see attached flyers for full details). Both programs will offer in-person registration assistance at the Needles Recreation Center beginning **January 12**. CRAGS will complete sign-ups in person, while Needles Little League Baseball registration is required to be completed online, with staff available onsite to assist families in completing the online registration form. These spring programs provide a positive opportunity for local youth to stay active, build skills, and develop teamwork while strengthening community pride. This effort supports the City Council's goal of promoting sports and recreational activities that enhance quality of life and attract visitors to the community. The City appreciates the volunteers, coaches, and board members who help make youth sports possible and encourages families to register early. Additional Needles Little League updates are available through the "Needles Little League" Facebook group.

12. **Youth Fundraiser Supporting Needles Recreation Center**
    Needles Eagles Aerie 2599 will host its annual youth fundraiser featuring a baked potato, soup, and salad bar to support the Needles Recreation Center and help purchase new All-Star basketball uniforms. The fundraiser will take place on **January 16, 2026** from **5:00 p.m. – 8:00 p.m.** at 729 Front Street, Needles, CA 92363. The event is open to members and guests only and will also include a 50/50 raffle. This effort reflects strong community partnership and directly supports the City Council's goal of promoting youth sports and recreational opportunities that enhance quality of life for Needles families. The City appreciates Needles Eagles Aerie 2599 for its continued support of local youth programs.

13. **Needles Elks Junior Golf League**
    Needles Elks Lodge #1608, in partnership with River Edge, Los Lagos, and Huukan Golf Courses, is offering a Junior Golf League for students in 6th through 9th grade at no cost to participants. The program provides local youth with an opportunity to learn the fundamentals of golf while gaining playing experience on multiple regional courses. The league will begin on **January 24, 2026**, and run through **March 2026**, concluding with a hosted luncheon for participating students and their immediate families. Course play will rotate among River Edge, Los Lagos, and Huukan Golf Courses, subject to availability. Families interested in participating may text registration information to 917-797-1205 or contact League Coordinator Brian Dooley at 917-882-9711. For River's Edge course-related questions, residents may contact Golf Professional JJ DeLeon at (760) 326-3931. This program supports the City Council's goal of promoting youth recreation, healthy activities, and strong community partnerships.

14. **Needles Sunday Farmers Market at Santa Fe Park**
    The Needles Sunday Farmers Market continues each week at Santa Fe Park, providing residents and visitors with an opportunity to shop local and support small businesses. Hosted by Tumbleweed Markets Inc., the market features a rotating mix of vendors offering fresh produce, baked goods, coffee, handmade items, flowers, and other local goods. The market is held every Sunday through **March 31, 2026** from **8:00 a.m. – 12:00 p.m.** at Santa Fe Park. The market is also welcoming new vendors, further expanding opportunities for local entrepreneurs and artisans. This effort supports the City Council's goal of promoting community engagement while strengthening local economic activity. Additional vendor information is available by contacting Market Manager Patrick Lauterio at (760) 848-8289 or needlesfarmers@gmail.com.

15. **Needles Women's Club Fundraiser – Turkey Soup Luncheon**
The Needles Women's Club will host its monthly fundraising luncheon on **Tuesday, January 13**, supporting programs that promote women's empowerment, youth activities, scholarships, and civic engagement. This month's menu features turkey soup, salad, cornbread, and dessert for $10. Orders may be placed online, with options for pickup or delivery within Needles. As a 501(c)(3) nonprofit, the Women's Club relies on community participation to continue its charitable and civic work. Residents are encouraged to enjoy a meal while supporting the positive impact the Women's Club continues to make in the community. Order information is available at https://bit.ly/TurkeyWC.

16. **Needles Animal Shelter – "Adopt a Pet, Don't Shop" Program Success**
The Needles Animal Shelter's "Adopt a Pet, Don't Shop" adoption campaign concluded successfully, resulting in **10 pets** being adopted into permanent homes and helping reduce shelter crowding during the holiday season. The campaign encouraged families to consider adoption as a meaningful way to support local animal welfare while providing animals the opportunity for a safe and caring home. Although the promotional period has ended, the Shelter remains at capacity and continues to encourage adoptions to support ongoing operations and animal care. The Shelter is open Monday–Friday from **8:00 a.m. – 2:00 p.m.**, and residents may call 760-326-4952 to schedule a visit or request adoption information. This effort supports the City Council's goal of strengthening community services and enhancing quality of life through responsible public stewardship. The City appreciates the community's support and compassion in helping animals find permanent homes.

17. **Society of St. Vincent de Paul – Open House & Pantry Dedication**
The City of Needles is pleased to share that the Society of St. Vincent de Paul will host an open house and dedication of its newly improved pantry, providing the community an opportunity to view recent facility upgrades and learn more about its services. The event will take place on **January 12, 2026**, from **5:00 p.m. – 6:00 p.m.**, at 839 Front Street, with refreshments available. This event reflects continued investment in community-based services that support individuals and families in need. The City appreciates St. Vincent de Paul's ongoing commitment to serving Needles residents and strengthening the local social safety net. RSVP information is available at george.deleon78@yahoo.com or (928) 299-9872.

1. NEEDLES PRIDE

SPRING INTO ACTION

Community Cleanup Day

Duke Watkins Park
Flip Mendez Pkwy/J Street
Saturday, January 17, 2026
8 AM – 9 AM

Join your friends and neighbors as we work together to clean our community. No registration required. The City will provide bags, pickers and gloves!

CITY OF NEEDLES CALIFORNIA

cityofneedles.com

3. WATERMAIN INFRASTRUCTURE

3. WELL NO. 11 INFRASTRUCTURE

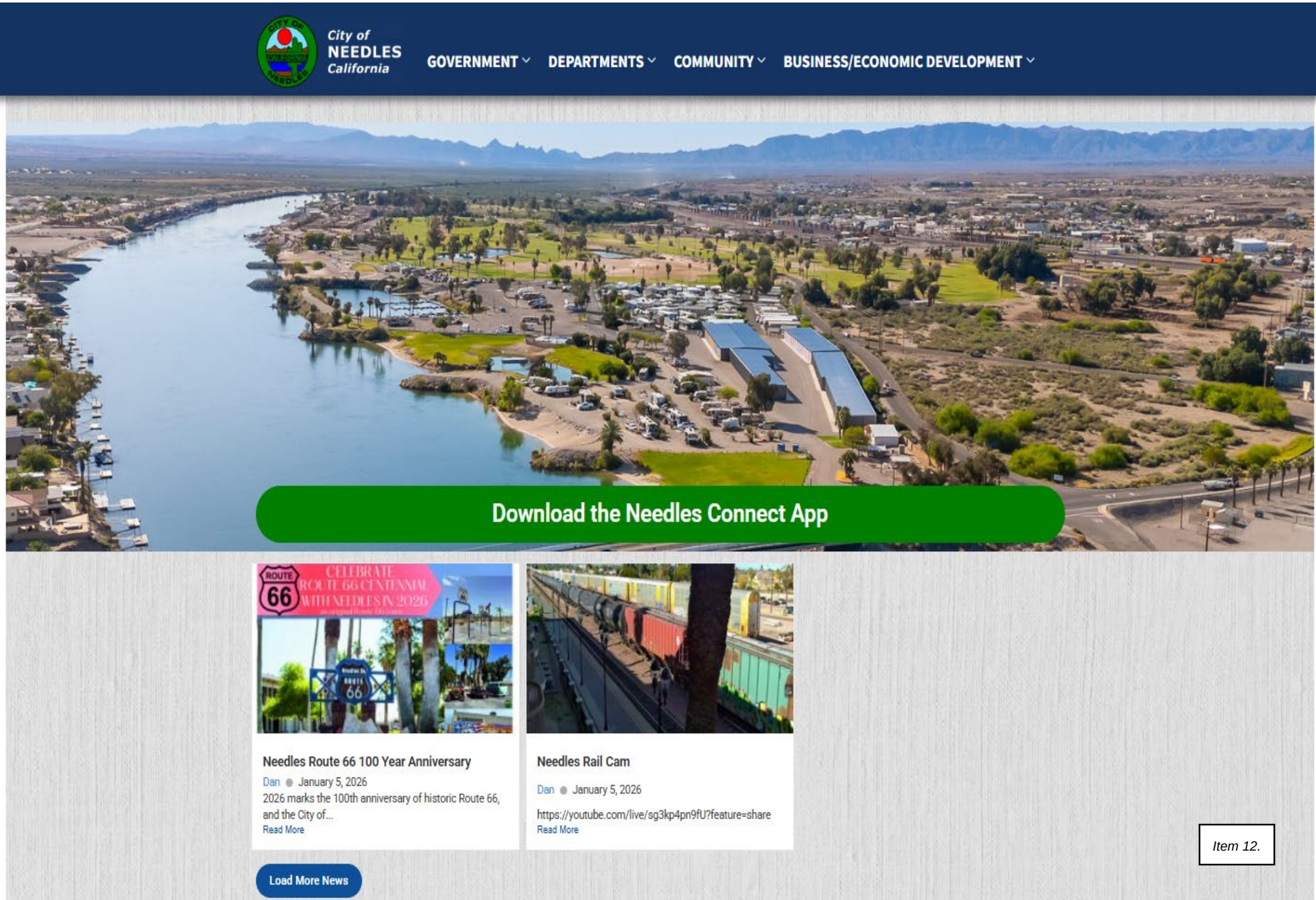
4. CRACK SEAL PROGRAM

5. FLOOD CONTROL COORDINATION

5. FLOOD CONTROL COORDINATION

6. DUKE WATKINS LIGHTING

7. CITY WEBSITE FEATURES



9. ASSEMBLYMEMBER OFFICE HOURS

JEFF GONZALEZ

36TH ASSEMBLY DISTRICT

Mobile Office HOURS

Thursday, JANUARY 15, 2026

12:00PM - 3:00PM

EL GARCES | 950 FRONT STREET, NEEDLES, CA 92363

10. NEEDLES LIBRARY PROGRAMS

NEEDLES
Branch Library

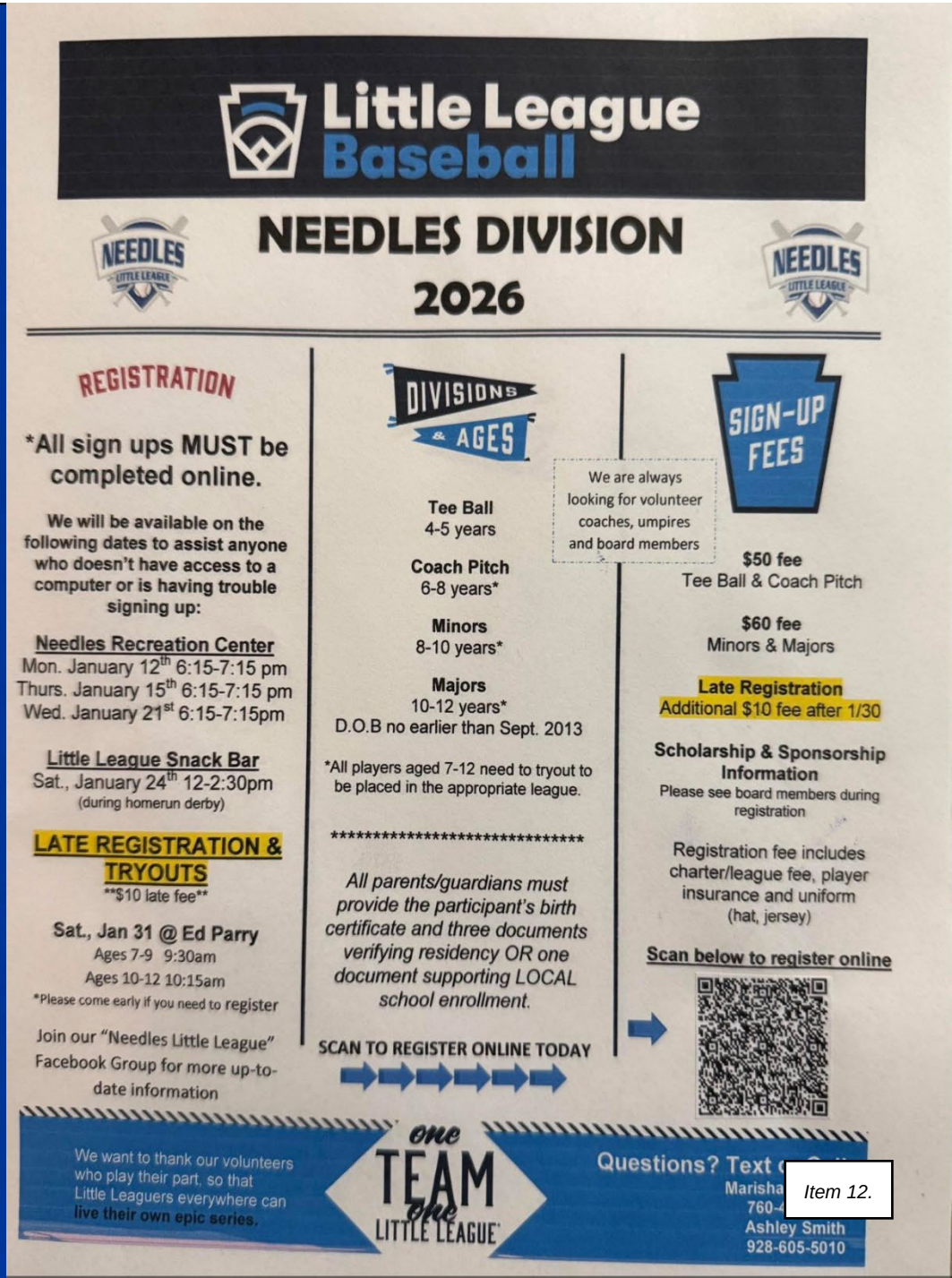
1111 Bailey Ave, Needles, CA 92363 • 760-326-9255

All County Library branches will be closed on Jan 19 & Feb 16

SESSION 1 (January 4–February 14)		
Kid Zone (6-11 years)		
Craft Corner Create wonderful themed projects and learn new skills using all sorts of artistic supplies.	Tuesdays	3:00 PM
Storytime The whole family can be part of the reading adventure at this wonderfully fun and engaging storytime with great stories, songs, rhymes, a craft, and more.	Wednesdays	1:30 PM
Adult Programs (18+ years)		
Basic Computer Class Adults are invited to an introduction to common computer tasks, from how to use a mouse and keyboard, to basic typing, internet, and email functions.	Mondays	4:00 PM
OFF SESSION (February 15–February 28)		
Kid Zone (6-11 years)		
Storytime The whole family can be part of the reading adventure at this wonderfully fun and engaging storytime with great stories, songs, rhymes, a craft, and more.	Wednesdays	1:30 PM
Special Events/Meetings		
Family Paint Event Encourage your inner artist at this step-by-step painting lesson and leave with a masterpiece of your own	Tuesday, Feb 17	5:30 PM
Read For the Record Join us for a special storytime as we try to set a new record high for this year's Jumpstart Read for the Record! We're joining millions of readers across the country to celebrate the importance of literacy! Stop on by and let library staff engage you with "See Marcus Grow" by Marcus Bridgewater!	Thursday, Feb 26	3:00 PM

SBCOUNTY.GOV

11. SPRING YOUTH SPORTS



12. FUNDRAISER EAGLES AERIE 2599

FOOD PRICES

POTATO, SOUP & SALAD COMBO — $15

POTATO & SOUP OR SALAD — $10

SOUP & SALAD -— $8

TRY ALL SOUPS —-$15

50/50 RAFFLE

TICKETS
$6 FOR 5

$20 FOR WING SPAN

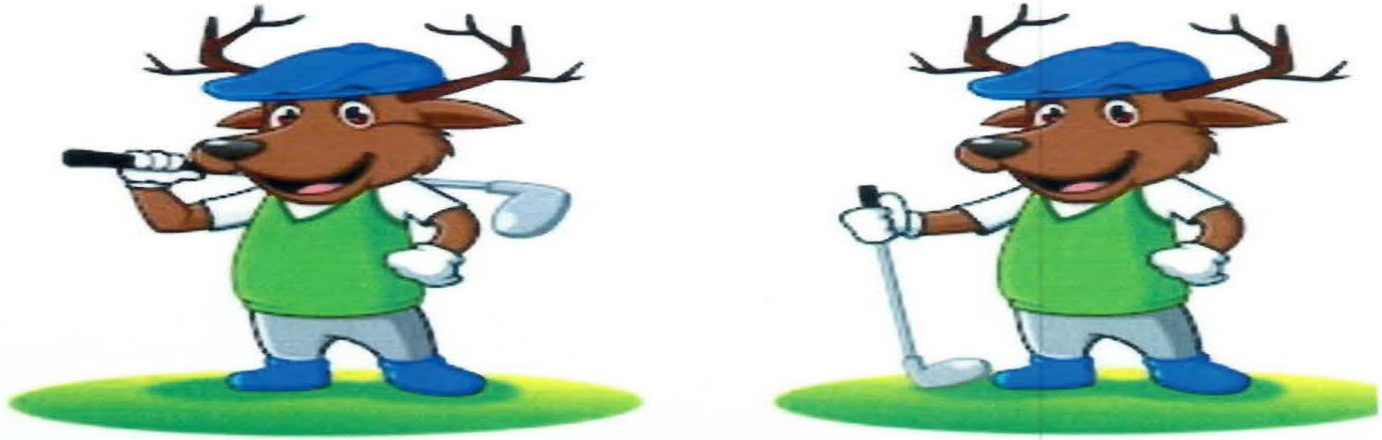
NEEDLES AERIE 2599 IS HOSTING OUR ANNUAL YOUTH FUNDRAISER BAKED POTATO, SOUP, AND SALAD BAR TO HELP SUPPORT THE CHARITY OF THE MONTH "NEEDLES REC CENTER" BY HELPIN BUY NEW ALL-STARS BASKETBALL UNIFORMS

MEMBERS & GUESTS ONLY

WHEN: JANUARY 16TH 2026 5:00PM-8:00PM

WHERE: 729 FRONT ST NEEDLES CA 92363

13. ELKS JUNIOR GOLF LEAGUE



NEEDLES ELKS LODGE #1608
JUNIOR GOLF LEAGUE

Needles Elks Lodge #1608 in association with River Edge, Los Lagos and Huukan Golf Courses is proud to present a Junior Golf League for students in 6th grade thru 9th grade.

This is an opportunity for students to learn about golf and get time on three beautiful courses in our local area.

There is no cost to the students for the league!

The students will play at each course three times between January and March and on the final day of the league, the Elks will host a luncheon for the students and their immediate families at the Lodge located at 10000 Lillyhill Drive Needles Ca. 92363.

The League will start on January 24, 2026, at the Rivers Edge Golf Course at noon PST. All Arizona courses start at 1PM Arizona time and Rivers Edge are at noon PST.

1/31/26 Los Lagos
2/21/26 Rivers Edge
3/14/26 Huukan
2/7/26/26 Huukan
2/28/26 Huukan
3/21/26 Rivers Edge
2/14/26 Los Lagos
3/7/26 Los Lagos

Locations are subject to change based on availability of the golf course.

TO SIGN UP PLEASE TEXT THE FOLLOWING INFORMATION TO 917-797-1205

Student Name
School Attending
Guardian(s) Name
Grade
Contact Number:
Age

Item 12.

For further information you may contact the League Coordinator:
Brian Dooley at 917-882-9711

15. NEEDLES WOMEN'S CLUB FUNDRAISER

TURKEY SOUP, SALAD, CORNBREAD & DESSERT

FUNDRAISER FOR NEEDLES WOMEN'S CLUB

TUESDAY, JANUARY 13

LUNCH & DESSERT ONLY $10

Order for pick up or delivery

https://bit.ly/TurkeyWC

Making a Difference in Needles

17. ST. VINCEMT DE PAUL OPEN HOUSE

SOCIETY of ST. VINCENT de PAUL U.S.A.

Open House

Before

After

* Come join us for the dedication of our new pantry and see the other improvements we have made to our facility.

Come and see behind the scenes.

We will be serving food and drinks to those that come.

January 12th, 2026, 5 to 6 p.m.

Saint Vincent De Paul

839 Front st. Needles CA 92363

RSVP to George.deleon78@yahoo.com

Cell 928-299-9872

Www.svdpneedles.org