



United States Department of the Interior



FISH AND WILDLIFE SERVICE

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In Reply Refer To:
FWS/R2/ES-ARD/2026-0053145

Ms. Carly Jerla
Post-2026 Program Manager
Bureau of Reclamation
Attn: BCOO-1000
Post Office Box 61470
Boulder City, Nevada 89006

Dear Ms. Jerla:

The U.S. Fish and Wildlife Service (Service) appreciates this opportunity to comment on the Bureau of Reclamation's (Reclamation) Draft Environmental Impact Statement (DEIS) on the Post-2026 Operational Guidelines and Strategies for Lake Powell and Lake Mead as posted in the Federal Register (FR) notice on January 16, 2026 (91 FR 2131). The Service prepared our comments as a Cooperating Agency and in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 *et seq.*). The Service appreciates the significant work Reclamation has put into this draft and looks forward to working together to develop a preferred alternative. The Service is also providing preliminary comments concerning compliance with the Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. 1531 *et seq.*) to assist with the development of the preferred alternative and will provide additional evaluation and comments once consultation is initiated. We encourage Reclamation to continue pre-consultation and technical assistance discussions with the Service.

Overall NEPA Comments

The attached comment matrix contains comments regarding specific sections in the DEIS. These comments are intended to improve the clarity of the final decision document as well as to communicate the Service's understanding of the Decision Making in Deep Uncertainty (DMDU) data used to compare alternative performances. The DEIS suggests that the Enhanced Cooperation and Maximum Operational Flexibility alternatives offer better outcomes by reducing risks to federally listed species and their habitats, as well as stabilizing the system. The Argonne National Laboratory and Western Area Power Administration's 2025 *Post-2026 Environmental Impacts Statement Rate Analysis for the Colorado River Storage Project* report,

as cited in the DEIS, also concludes that implementation of the Enhanced Cooperation or Maximum Operational Flexibility alternatives would result in maximum benefits to hydropower production, especially under dry hydrologic conditions. The Service's attached comments aim to emphasize operational elements within all alternatives that align with the Service's congressionally mandated mission, recognizing that Reclamation may draw from elements of all the alternatives to develop both a short-term operational plan and/or long-term operational guidelines and considering that many operational elements within the different alternatives may need separate Basin State agreements and/or legal authorizations to be implemented.

Range of Evaluated Hydrologic Conditions

Reclamation's NEPA analysis examines a wide range of potential future environmental scenarios, and from a NEPA perspective it is appropriate for Reclamation to review and disclose environmental impacts with all possible futures. The DEIS models future conditions based on historic hydrological conditions ranging from Wet to Critically Dry; while recognizing that the Basin is experiencing increased aridity and long-term drought, and that low-runoff conditions are expected in the future.

Studies within the Colorado Basin have shown snow-water equivalent (SWE) has declined by up to 23% since 2000, and projections indicate further decreases of up to 30% by mid-century. These combined effects, lower snowpack, earlier runoff, greater evapotranspiration, and soil moisture depletion, account for much of the observed decline in annual streamflow since 2000 and are expected to intensify under future warming scenarios. Therefore, the Service focused our review on Dry and Critically Dry hydrologic condition scenarios that are reasonably certain to occur through 2050, the timeframe anticipated in this document.

The modeled results presented in the DEIS for Wet and Very Wet hydrologic conditions anticipate and focus on very different threats to federal trust resources than the threats that may be encountered under those modeled as Average, Dry and Critically Dry conditions. The Service recommends that Reclamation caveat analyses in the DEIS that discuss impacts to federal trust resources under Wet and Very Wet hydrologic conditions with a statement of the likelihood that Lake Mead or Powell refilling to those higher elevations within the next 25 years. The Service notes that over 90% of the total water in the system originates upstream of Lake Powell. Even with 2017, 2019, and 2023 snowpack being well above 30-yr normals, Glen Canyon Dam Operations under the 2007 Interim Guidelines did not prevent Lake Powell elevations from reaching all-time lows in April 2022, February 2023, and February 2026. This leads the Service to conclude that even under consistent, multi-year wet conditions, it would take several years to refill Lakes Powell and Mead to elevations that would require listed species assessments to address the impacts of high lake elevations on inundating natural non-native fish barriers and critical habitat along the San Juan River and Colorado River inflows. Along with noting the low likelihood of high lake elevations in the DEIS, the Service requests that when Reclamation prepares Biological Assessments on a preferred alternative for consultation under the ESA, that they narrow the analysis to those Dry and Critically Dry scenarios that reflect conditions

anticipated under the timeframe of the proposed guideline implementation. Given the uncertainty in future consumptive uses and other system losses, the Service requests inclusion in the Biological Assessment of “worst-case” scenario modeling that would be most meaningful for evaluating effects to trust species and designated critical habitat.

Consideration of ESA Impacts System-wide in Developing an Action

The alternative that best aligns with the Service’s congressionally mandated mission for Post-2026 would minimize risks to federally listed species and their habitats, while stabilizing the system and avoiding the risk of dead pool. Management of the Colorado River system would ideally consider impacts from its headwaters to the delta, and contemplate impacts associated with inter-basin transfers as well as the river’s historical and current connection to the Salton Sea. This system approach is complicated by multiple Federal, Tribal, State, and other interests, jurisdictions, programmatic divisions and tradeoffs between uses and users. In reviewing the DEIS, the Service notes three areas of significant intersection with the ESA that will require continued close coordination between our Agencies as Reclamation develops short-term operational plans and long-term operational guidelines. The following comments focus on what the Service anticipates will be challenges to balancing consumptive uses with environmental effects.

Conserving ESA-listed Fish

The federally listed fish within the Colorado River are endemic to the Colorado River basin, meaning they are not found in any other river basins, and there has been significant investment by multiple stakeholders in their conservation. The DMDU analyses (Technical Appendix 8, Figures 8-7, 8-8, and 8-21 to 8-24) demonstrate that the Enhanced Coordination and Maximum Operational Flexibility alternatives offer the best protection of listed fish species, and the Executive Summary states that in dry hydrologic futures, Maximum Operational Flexibility and Enhanced Coordination are the most effective alternatives at preventing dead pool. One commonality between these two alternatives that has a great benefit to native fish and their habitat is that these alternatives lead to higher lake elevations at Lake Powell, which reduces entrainment of warm water invasive fish by design and results in cooler water temperatures from Glen Canyon Dam, which helps reduce the likelihood of establishment of non-native smallmouth bass (*Micropterus dolomieu*), below the dam. The Service has previously outlined the significant and imminent nature of the threat of smallmouth bass establishment to Reclamation in letters dated: September 27, 2023; November 3, 2023; January 12, 2024; and March 22, 2024.

Approximately 90% of all known federally listed humpback chub (*Gila cypha*) occur within the Grand Canyon reach of the Colorado River. The Service recently downlisted the humpback chub from “endangered” to “threatened” (86 FR 57588; November 17, 2021) due to the populations of humpback chub below Glen Canyon Dam being mostly free of impacts from predatory non-native fish, as well as the commitment to invasive fish removal efforts in the Upper Basin, including flow alterations at the Upper Basin dams. Establishment of this warm water predatory non-native invasive fish within the Grand Canyon reach would constitute a significant new threat to humpback chub and its designated critical habitat. Consistent with the Department of the

Interior's 2021-2025 Invasive Species Strategic Plan, it is imperative to address invasive species while they are early in the invasion process to prevent full establishment and spread (U. S. Department of Interior 2021). The Service has documented how quickly smallmouth bass can invade, become established, and impact federally listed aquatic species, from their invasion in the Upper Colorado River basin. It took less than 5 years following the initial invasion in 2002 for smallmouth bass to become established in hundreds of miles of river in the Upper Colorado River basin and similar smallmouth bass invasion and impacts patterns are documented worldwide. Management agencies have been mostly unsuccessful controlling these invasive fish even when expensive and intensive techniques were used. There is evidence from the Upper Colorado River Endangered Fish Recovery Program (UCREFRP) that smallmouth bass cannot co-exist with native fish species; the UCREFRP reports that in areas where smallmouth bass are present they observe no native juvenile or subadult chub species, postulating that predation from smallmouth bass halts recruitment of those native fish species (UCREFRP annual reports at www.coloradoriverrecovery.org/uc).

Another key operational element of the Enhanced Operations and Maximum Flexibility alternatives is the ability to utilize environmentally beneficial hydropower bypass flows when needed. Implementation of environmentally beneficial flows has been critically important to successfully decreasing warm water non-native invasive fish recruitment and mitigating the threat of their establishment below Glen Canyon Dam. From data presented in DEIS Figure 2-6, it appears that the coordinated operations of Lake Powell and Lake Mead is a key concept within the Enhanced Operations Alternative that is necessary to continue the implementation of environmentally beneficial flows in the near- and long-term, especially under drier hydrological conditions. The Service recommends that Reclamation ensure that operational elements are built into the selected preferred alternative that allow for continued successful implementation of flows that are environmentally beneficial to trust resources.

Protecting Water Deliveries to Lower Basin Conservation Areas

The Lower Colorado River Multi-Species Conservation Program's (LCR MSCP) is a unique and successful collaboration between 57 State, Federal, Tribal, and partner entities under ESA Sections 7 and 10(a)1(B) that provides the necessary conservation for 27 ESA listed and sensitive species. The LCR MSP is also the custodian of over 8,100 acres of conservation properties along the lower Colorado River, which have a variety of water right priorities. Providing water delivery assurances into the future for the continued management of these conservation lands is critical to ensuring continued ESA coverage for water development projects in the Lower Basin. As Reclamation develops operational guidelines, Reclamation will need to ensure that these actions continue to meet the existing requirements for the lower Colorado River (i.e., Conservation Areas in LCR MSCP's Habitat Conservation Plan) to ensure ESA Section 7 compliance and meet the commitments agreed to with the LCR MSCP partners.

The DEIS notes that an updated Hydrologic Engineering Center's River Analysis System (HEC RAS) model for the river below Hoover Dam is still pending completion. Completing the HEC RAS model is imperative to the Service because the model results will enable prediction and evaluation of potential impacts to LCR MSCP Conservation Areas and the Service's National Wildlife Refuge interests along the lower Colorado River. This information is essential for ESA

compliance. The DMDU analyses indicate there may be tradeoffs among alternatives and/or operational elements that prioritize storage of water at Lake Powell to minimize impacts to the unique federally listed fish populations within the Grand Canyon, and flow volumes within the lower Colorado River. It will be important to be able to evaluate and quantify those tradeoffs.

Evaluating Flow Reductions to the Salton Sea Resulting from Decreased Diversions at the All-American Canal

The DEIS does not assess potential impacts associated with Post-2026 operational guidelines at the Salton Sea, but rather points to existing NEPA analyses associated with the State of California's March 2024 Salton Sea Management Plan (SSMP) Long-Range Plan, which includes several project concepts to reduce adverse effects from the 2004 Quantification Settlement Agreement (QSA), as well as the Army Corps of Engineers (Corps) Imperial Streams and Salton Sea Ecosystem Restoration Feasibility Study. The Corps' feasibility study will evaluate some of the SSMP project concepts and provide recommendations to Congress (<https://www.spl.usace.army.mil/Portals/17/Salton-Sea-Placemat-English-Jan-2025.pdf>).

The Service notes that existing Biological Opinions associated with implementation of the QSA only analyze reductions in flow up to 4.4-million-acre feet per year (MAFY) for the California diversion allocation while a reduction of 1.47 MAFY of the allotment may be considered in California's SSMP Long-Range Plan based on a range of modeled inflows to the Salton Sea. While this management strategy may be analyzed under NEPA, the effects of those inflow reductions on federally endangered species have not been evaluated under Section 7 of the ESA. The Service provides additional details regarding existing ESA consultations at the Salton Sea in the attached comment matrix and encourages continued consultation and discussions with Reclamation on this issue.

Cooperating Agency Input on Reservoir Elevations in Developing Final Action Alternative

Reclamation has requested additional input from Cooperating Agencies on key reservoir elevations, risks associated with those elevations, tools that could be employed to mitigate or minimize risks, and input on how aggressively those critical lake elevations be protected. To that end, the Service notes that all alternatives presented in the DEIS demonstrate that Lake Mead and Hoover Dam benefit from being downstream of Lake Powell and Glen Canyon Dam, and Lake Mead is generally more robust and less vulnerable to lake elevations that drop below power pool or dead pool compared to Lake Powell. The DEIS also states that Reclamation has less experience operating in extreme low flow and low reservoir conditions as compared to operating in high flow, high reservoir conditions. Reclamation has gained experience, specifically at Glen Canyon Dam, operating with extremely low reservoir levels and flows since 2021. There has been significant learning around cavitation (low-pressure vapor bubbles form and implode, producing effects that cause pitting, erosion, vibration, noise, and efficiency loss) in the River Outlet Works (ROW) at low reservoir levels as well as operational rough zones in the hydropower turbines. Reclamation has also collected extensive information and worked with partners to develop in-depth models predicting forebay water quality parameters and how those parameters change with various influences. Further, there have been significant advances in non-

native fish entrainment monitoring and utilization of bypass flows mixed with hydropower production flows to change water temperatures below the dam to prevent the establishment of warm water invasive fish.

The DEIS and a February 2025 Reclamation Hydraulic Model Study emphasize that the ROWs were not designed to be utilized on a daily basis. Cavitation at lower lake levels has damaged the ROW tube, and Reclamation's report indicates restrictions on ROW release rates need to begin at lake elevations below 3550 feet. Cavitation damage, if not repaired, could lead to ROW failure and an inability to safely utilize the outlet tubes to pass water. The ROWs are also only capable of passing a limited amount of water when fully opened; reducing that flow to address cavitation further restricts water passage. Additionally, the discovery of rough zones in hydropower productions and the possibility of damage to turbines usage suggests that Lake Powell should be maintained at an elevation well above the lowest elevation experienced to date (3519 ft on April 14, 2023).

Monitoring data has shown that Lake Powell's elevation can drop extraordinarily fast in times of low inflows, from 5 ft per month (as evidenced multiple times in 2021 and 2022) to as much as the 10.6 ft drop observed between January 1 and February 28, 2021. This further demonstrates the potential for entrainment of non-native fish, particularly smallmouth bass, and the need for management that allows Reclamation to protect critical lake elevations quickly. The Service requests that Reclamation consider protecting higher elevations at Lake Powell whenever possible. Protecting an elevation of at least 3,530 ft would reduce the potential for non-native smallmouth bass entrainment. As the DEIS analysis shows maintaining higher lake elevation will also benefit infrastructure and hydropower operations. Minimizing entrainment would greatly reduce the need to employ other costly measures to address entrained non-native fish and their establishment below Glen Canyon Dam.

To this end, the Service suggests that operational plans and guidelines incorporate measures to encourage voluntary water storage at both reservoirs. As recognized in the DEIS and as observed this water year, the approaches utilized under the 2007 Interim Operational Guidelines would greatly benefit from increased flexibility relative to the changing hydrology in the Colorado River Watershed to reduce the potential for non-native fish entrainment and meet Reclamation's needs to balance water supply and demand and protect Colorado River hydropower infrastructure.

The current operational elements that allow the utilization of water from the Upper Colorado River Basin Colorado River Storage Project (CRSP) units as well as tools to constrain water releases from Lake Powell within the water year have been effective, but recent stress to infrastructure during critically low lake elevations questions whether these tools should be employed earlier than current RODs allow. Additionally, the new guidelines should include an approach to constrain annual releases from Lake Mead similar to the approaches utilized this year to constrain annual releases from Lake Powell.

The DEIS states that the Basic Coordination alternative is the only alternative that can be immediately implemented by the Secretary of the Interior under existing authorities, without any

further agreements from the 7 Basin States. The DEIS also demonstrates that had this alternative been implemented under the hydrologic conditions we have experienced over the last 20 years, its implementation would have resulted in dropping below power pool in 8 of the last 20 years. Considering the anticipated continued aridification and dry conditions we expect to occur and the data suggesting that Glen Canyon Dam could experience infrastructure failure if relying solely on ROWs, as well as the restriction in flow volume when relying on ROWs, the Service recommends Reclamation revisit this alternative design, if chosen, to protect a higher elevation than 3,500 ft at Lake Powell.

Thank you again for the opportunity to comment on the Post-2026 Operational Guidelines and Strategies for Lake Powell and Lake Mead. The Service recognizes the breadth of challenges facing Reclamation as you work to balance water availability with demand and hydropower production as well as federally listed species and habitat needs, while maintaining dam safety and integrity. We stand committed and ready to support Reclamation with all phases of the EIS.

We appreciate your ongoing commitment to interagency coordination. If we can be of further assistance, please contact Seth Willey, Assistant Regional Director, Ecological Services, at Seth_Willey@fws.gov or 918-408-0850. If you need any further clarification of our comments, please contact Deborah Williams, Colorado River Special Assistant, at Deborah_Williams@fws.gov or 575-517-6091.

Sincerely,

LESTON
JACKS

Regional Director

Digitally signed by LESTON
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Post 2026 Draft EIS - USFWS Comments
Public Comment Period Jan 16, 2026 through March 2, 2026

Comment #	Section #	Page #	Paragraph # on page or Table #	Comment
1	Executive Summary	ES-11	Table	The Service recommends updating the Basic Coordination Alternative to allow for releases below 7.0 from Glen Canyon Dam under certain conditions. This revision should reflect current operations like those in section 6(e) and specifically capture and model triggers where Reclamation would initiate additional consultation with the Basin States to safeguard critical infrastructure levels.
2	Executive Summary	ES-11	Table	The Service recommends that Reclamation add operational elements or flexibility to the Basic Coordination Alternative that would allow for voluntary storage in both reservoirs.
3	Executive Summary	ES-12		The Service recommends including information explaining why Reclamation chose to use a 10-year running hydrology average (as opposed to a 5-year or 3-year). Please consider justifying the differing maximum voluntary storage capacities by reservoir. If a uniform per-reservoir maximum is inappropriate, please explain why. Including an evaluation of how results would change if all alternatives used the same per-reservoir maximum but differed only in operational rules (delivery timing, usage conditions, and whether storage is "visible" or operationally neutral in shortage calculations) would be of value here.
4	Executive Summary	ES-13		
5	Executive Summary	ES-15	Figure ES-1	Please include anticipated (e.g., average) elevation ranges for Lake Mead and Lake Powell at total system storage levels of 60% and 80%. Please consider (1) identifying the Lower Basin Division States' preferred shortage allocation under the Supply-Driven alternative, pro rata or priority-based; (2) comparing the pro rata approach to a scaled-up version of the shortage distribution proposed in the States' Lower Basin alternative; and (3) explaining Reclamation's rationale for modeling both approaches and how public comment will inform the final choice among shortage-distribution options.
6	Executive Summary	ES-15	Figure ES-1	
7	Executive Summary	ES-18	Figure ES-4	The document could be strengthened with improved clarity, especially for the Supply-Driven alternative, on how the models handle years when Flaming Gorge (or other upper units) lack hydrologic recovery between years. Do the models assume reservoirs always have sufficient water to make Powell-support releases when triggers occur, or do they incorporate/require subsequent "wet" years to rebuild storage at Flaming Gorge and other upper units? Please consider explaining the recovery assumptions and their operational implications.
8	Executive Summary	ES-21	Figure ES-5	The Service would like to understand on what basis does this analysis define average natural flow as 12-14 MAF, and does the past decade's data support that range?
9	Executive Summary	ES-21	Figure ES-5	Please revise the figure; the red and orange lines are hard to distinguish.
10	Executive Summary	ES-23	Table ES-5	The Service requests that text is added explaining why the two supply-driven alternatives differ in vulnerability. If the only difference is how shortages are allocated among Lower Basin Division States (not the maximum shortage), why does the natural-flow threshold for reaching Mead's power pool differ? We believe that clarifying this nuance will help in designing the preferred alternative.
11	Executive Summary	es-23	Table ES-5	For ESA consultation, the Service requests analyses focused on the drier hydrologies consistent with the basin's long-term aridification. Several alternatives list "lowest river flows" in the table. It is unclear to us how to determine whether any of these flows would cause the river to go subsurface or dry in specific reaches at different shortage levels?
12	Executive Summary	ES-29		The Service would like to receive more clarity on the groundwater metric. Specifically how will changes be anticipated or modeled under the preferred alternative? The label "most likely to result in a groundwater change" lacks detail on the nature, magnitude, location, and timing of those changes. Please clarify expected impacts, including the risk of subsurface or dry reaches at specified shortage levels, to support ESA analysis.
13	Executive Summary	ES-31		The Service is questioning whether temperature at Pearce Ferry is a meaningful metric, given that reach is consistently warmer and unlikely to fall below native-fish thresholds unless Lake Powell returns to pre-2007 elevation an unlikely near-term scenario?
14	Executive Summary	ES-35		The discussion of "fundation" and critical habitat is unclear. The Service requests a reframing around habitat characteristics: lake-like (lentic) vs. river-like (lotic).
15	Executive Summary	ES-39		Please consider modifying this sentence to state "In developing the No Action Alternative, Reclamation carefully reviewed the 2007 Interim Guidelines Final EIS (2007 Final EIS)."
16	Chapter 2	2-6	3	The Service notes that this alternative states that it utilizes a maximum release of 10.8 maf to avoid scouring of sediments below Glen Canyon Dam (with an exception allowed under emergency flood conditions). The Service notes that this maximum release has significant environmental benefits and suggests that Reclamation considers this as a max flow release operational element for the final preferred alternative.
17	Chapter 2	2-10	2	
18	Chapter 2	2-11	4	The Service recommends that this paragraph recognize the learning by Reclamation. While Reclamation has less experience operating in extreme low flow conditions compared to high flow conditions, they have gained some experience since 2021 with low reservoir levels and flows, learning about low elevation, cavitation, vortexing, head pressure changes, and rough zones. The EIS should reflect this learning. It is important to understand how these factors affect infrastructure at each dam. The Service suggests including information on lake elevations where new issues have been found (like operational rough zones at Glen Canyon Dam) and provide context on current critical infrastructure lake elevations, indicating the need to operate at higher levels than the "power pool" to protect infrastructure if necessary.
19	Chapter 2	2-19	Figure 2.6	The Service notes that the ability to utilize environmentally beneficial flows are a key operational element of the Enhanced Operations and Maximum Flexibility alternatives. Implementation of environmentally beneficial flows has been critically important to successfully disadvantaging warm water nonnative invasive fish recruitment and mitigating the threat of their establishment below Glen Canyon Dam. From data presented in Figure 2-6, it appears that the coordinated operations of Lake Powell and Lake Mead is a key concept within the Enhanced Operations Alternative to be able to continue to implement environmentally beneficial flows in the near- and long-term, especially under drier hydrological conditions as are anticipated in the near term. The Service suggests that Reclamation ensures that operational elements are built into the chosen alternative that allow for continued successful implementation of environmentally beneficial flows.
20	Chapter 2	2-20	1	The Service requests that the DEIS explain why Reclamation chose to use a 10-year running average. Explaining this would help the Service better understand if changing this running average would modify the effects analysis for near-term operations.
21	Chapter 2	2-23	paragraph 1	It is unclear in this section what "firming" means and the Service suggests adding more information or context either in the paragraph itself or in the footnote to make this concept clearer to the public.
22	Chapter 2	2-11, 2-12	paragraph 1, 6	The Service appreciates Reclamation's acknowledgement of the limited timeframe of viability of implementing Basic Coordination or basic operations. The Service requests that Reclamation run a model with starting information as anticipated in the February 2026 24-month study and acknowledge or indicate how short-term the viability of these operations may be under anticipated starting conditions. Further, the Service requests Reclamation "identify the conditions under which further action would be required including adjustment of operations" as referred to in the paragraphs as well as what examples "additional authorities may be sought".
23	Chapter 3	3-51	1	Please consider adding a statement in this paragraph to explain how Reclamation determined that for the Lake Mead Dead Pool Vulnerability assessment, the driest 20-year average was the best predictor of undesirable performance.
24	Chapter 3	3-51	1	Please clearly highlight the flow thresholds at which each alternative becomes vulnerable. These are key indicators of sustainability for the public and Basin-state negotiators. The Service urges Reclamation to define standards for acceptable vulnerability (distinct from undesirable performance). While the draft EIS compares vulnerabilities, it does not specify what Reclamation considers acceptable for implementation; Reclamation should articulate those thresholds. This definition of vulnerability is central to risk tolerance under current and future conditions. The Service recommends providing clarification regarding how Reclamation selected the values for exposed shoreline (e.g., 125, 200, 300, and 400 square kilometers).
25	Chapter 3	3-79	3	
26	Chapter 3	3-80	2	The Service recommends correcting the typographic error in this paragraph where it refers to "Lake Powell" instead of Lake Mead (5th line).
27	Chapter 3	3-81	5, 6	The Service recommends briefly describing the source of the PM2.5 values or providing a citation as to where in TA-7 the reader can obtain more information regarding the values used in this paragraph.
28	Chapter 3	3-81	3	
29	Chapter 3	3-82	various	
30	Chapter 3	3-90		The Service recommends providing an explanation as to why the standard for dust emissions are different for Lake Mead and Lake Powell. Please verify the reference to the "Colorado River confluence" in the LCR MSCP reaches. This appears to be an error.

31	Chapter 3	3-92	3		The Service recommends clarifying which alternative is most successful at maintaining shoreline.
32	Chapter 3	3-93	2		The Service notes that the Enhanced and Maximum Operational Flexibility alternatives are the most robust alternatives presented in terms of drought (artificiality) and for preventing the spread of invasive, warm water fish. These are significant results and the Service identifies these alternatives as being the most environmentally beneficial.
33	Chapter 3	3-93	4		The Service notes that the Enhanced and Maximum Operational Flexibility alternatives are the most robust alternatives presented in terms of water quality (including dissolved oxygen and temperature) and perform the best in terms of supporting fish survival. The Service identifies these alternatives as being the most environmentally beneficial.
34	Chapter 3	3-94	3		The Service suggests adding additional context around the risk of inundating Pearce Ferry Rapids at 1,090 feet and the likelihood of reaching elevations 1,035 or 1,000. Given current hydrology and current trends it is not an equal risk of both outcomes and the public may not understand those these nuances. The Service also suggests providing more context; when was the last time Lake Mead was above elevation 1,090 and/or some equivalent of lake storage (MAF) at that lake elevation.
35	Chapter 3	3-96	2		From the Service's perspective, the most important action Reclamation can take is choose an alternative that includes elements that mitigate the establishment of nonnative species in Grand Canyon, below Glen Canyon Dam. The Enhanced Coordination and Maximum Operational Flexibility alternatives are most robust at discouraging the establishment of nonnative fish, especially smallmouth bass. Although these alternatives will also reduce native fish spawning and growth in areas maintained at cooler temperatures, the native fish will continue to spawn and grow in the warmer sections of the river. Each alternative involves tradeoffs, but the Service strongly supports river management decisions that are informed by biological science and minimize establishment of smallmouth bass over reductions in potential spawning and growth areas.
36	Chapter 3	3-96	3		The Service agrees with the statement that each alternative involves tradeoffs between supporting native endangered species, controlling nonnative fish, and maintaining recreational sport fisheries. The Service notes, however, that the most important way to benefit native fish (ESA listed or not) is to control for nonnative fish.
37	Chapter 3	3-10	Table 3-3		Completing the HEC-RAS model is critical to the Service. The model results will enable prediction and evaluation of potential impacts to LCR MSCP conservation areas and the Service's National Wildlife Refuge interests along the lower Colorado River, information essential for ESA analysis.
38	Chapter 3	3-23	1		The Service is questioning whether this section focus on the QSA (Quantification Settlement Agreement) as the primary driver of reduced Salton Sea inflows over the past 20 years, rather than other factors? Historically, the QSA reduced California diversions, especially to IID and CVID, driving the loss of flows, while future changes may be driven more by drought and conservation.
39	Chapter 3	3-23	5		The Service would like to stress the linkage between shortfalls, and Salton Sea inflows. It also cautions that impacts from further IID/CVID reductions may be difficult to apportion between federal discretion and private use decisions, as highlighted by LCR MSCP challenges in distinguishing ESA Section 7 vs. Section 10 responsibilities.
40	Chapter 3	3-28	4		The Service recommends defining the "limbrophe" in the text to increase clarity.
41	Chapter 3	3-106	3		The Service recommends including more than just presence/absence of native plants. Plant composition, stand age, and structure are all important considerations that benefit multiple species.
42	Chapter 3	3-107	4		There is a long discussion on which alternatives would result in vegetation communities most similar to "historical conditions" below Lake Mead. It is not clear how historical conditions are defined and the Service suggests clarifying whether this is related to pre-dam era, conditions prior to the 2007 Interim Guidelines, or another timeframe.
43	Chapter 3	3-114	last paragraph		In 3.10.2, the Service recommends clarifying the statement "wildlife species that are capable of moving longer distances would not be affected," as it contradicts the following sentence about increased energy expenditures. We recommend using terms like "insignificant" and discussing reduced habitat availability.
44	Chapter 3	3-162	4		Sentence reads: "With current generators, if the elevation drops below 1,035 feet, operating costs will exceed the value of the hydropower produced." With the understanding that the type of turbines differs for Glen Canyon Dam, the Service suggests that the document could be strengthened with mirror sentence in the Lake Powell section if a similar trigger elevation exists for Lake Powell.
45	Chapter 3	3-163	3		If both Davis and Parker Dams are considered "run of the river" operations and their storage volumes do not change, why are their combined reservoir volumes considered under some alternatives as a trigger for shortages or other actions?
46	Chapter 3	3-165	3		This section states that the Maximum Operational Flexibility and Enhanced Coordination alternatives are the best options for hydropower robustness despite larger shortages. The Service suggests that the analysis is due to longer sustainable operations with continued water shortages and feels it is important to explain this nuance to the public if hydropower production is an important consideration in determining a preferred alternative.
47	Chapter 3	3-165	4		The Draft EIS states that the Enhanced Coordination Alternative has the best performance for firm capacity. The Service recommends that this should be a consideration in determining a preferred alternative since the Enhanced Coordination Alternative also has the best performance for environmental benefits, dam integrity, and hydropower.
48	Chapter 3	3-171	2		The Service recommends adding an explanation as to why there is not a socioeconomic analysis for all seven basin states. Colorado and Wyoming appear missing from the analysis with no explanation.
49	Chapter 3	3-182	2		The economic analysis summary states that the No Action Alternative is the least economically impactful, with a maximum shortage of 0.6 maf. However, this appears to overlook that such a shortage is unsustainable and could lead to dead pool conditions under current hydrologic scenarios, resulting in severe economic impacts due to halted water deliveries. The Service recommends clearly disclosing this information.
50	Chapter 3	3-51, 3-52	4		The DEIS states "For all other Lower Basin entities, the Maximum Operational Flexibility Alternative imposes the largest maximum shortages, and the No Action Alternative imposes the lowest maximum shortages except for Nevada, where the CCS Comparative Baseline imposes the lowest maximum, closely followed by the No Action Alternative." Figure 3-14 shows that for Nevada the Cont. Current and No Action are both 0.03. If one value is supposed to be lower, this may need to be corrected.
51	Chapter 3	3-92 to 3-93	4 then 1		The Service requests clarification between the distinction of entrainment risk and establishment risk in this section. The Epepeheimer study shows entrainment increases sharply below elevation 3,530', yet the text states entrainment is "difficult to control" below 3,510'. There are no measures that control entrainment rather "Cool Mix" reduces establishment of fish that entrain, however, it does not address entrainment risk. When discussing entrainment vs. establishment, the Service politely asks including adult smallmouth bass fecundity as establishment can occur with a breeding pair and provide references (e.g., fecundity sources and Upper Basin/EK Reservoir work on the Yampa spillway). For Section 7 consultation, there must be differentiation of risk across warm-water invasive species.
52	Chapter 4	4-4	paragraph 1		Section 4-5 states that a biological assessment would be completed by spring 2026. Reclamation has not yet identified the decision that will be made based upon the DEIS. The Service will need a complete biological assessment that clearly describes the proposed action, the timeline for consultation, and fully analyzes potential effects to listed species and critical habitat. The Service recommends working with us to develop a timeline for Section 7(a)(2) consultation that we can share with the public in the Record of Decision.
53	Preparers	Preparers-3			Please revise the list of USFWS preparers to remove Dan Leavitt and Melissa Mata and add: Deborah Williams, Jess Newton, David Ward, Julie Stahl, Tilton Jones, Natalie Sanford, Shaula Hedwall, Daniel Bunting, Matt Boggie, and George McDonnell. Please utilize the RAT team member lists to associate these names with appropriate sections.
54	TA 3	3-34	paragraph 1		The Basic Coordination alternative has a median elevation "around 1,180 feet"; however, Table TA 3-7 for Basic Coordination / 12-14 maf is 1,080 feet. This is a 100-foot discrepancy between the text and the table.
55	TA 3	3-8	paragraph 1		The Service recommends adding "while still allowing for water releases and delivery to downstream water users" to the end of the second sentence in this paragraph OR clarifying that "modified operations" does not stop water releases, but implements reductions in flow.
56	TA 3	3-10	last paragraph		Figure TA 3-3 shows the natural flow at Lees Ferry Gaging Station 1906-2025, but the text referencing the figure says 1922-2025. The Service suggests replacing the text with 1906-1925 so that the figure and text match.
57	TA 3	3-13	paragraph 2		There is inconsistency in storage capacity at Lake Mead full pool: Page 3-13 states, "The total live storage capacity of Lake Mead at the full pool elevation of 1,219.6 feet is 26.12 maf (excluding 1.5 maf of flood control spool)." TA 3.2 (Page 3-30, paragraph 2) states, "The total live storage capacity of Lake Mead at the full pool elevation of 1,219.6 feet is 28.7 maf (excluding approximately 1.5 maf of Flood Control storage...)." .
58	TA 3	3-18	paragraph 2, Line 3		The Service recommends adding the average annual cfs/af from the Gila River as is done for all other major tributaries.
59	TA 3 And TA 10	3-116-117; 10-14	General		Because cuckoo populations along the LCR depend heavily on conservation areas, the analysis would benefit from a more detailed assessment of relative vulnerability of conservation areas under each alternative. Key questions to address include: (1) Which restoration areas are most at risk? (2) What options exist to maintain irrigation operations at these sites?
60	TA 4	4-9	Table TA 4-8		The Service recommends checking the math and units for footnote 3 for Table TA 4-8.
61	TA 5	5-7	paragraph 2		These statements appear to contradict each other. The text first states that the "proposed alternatives may modify the magnitude, timing, or variability of releases from Hoover Dam," and immediately follows with "the alternatives would not change Hoover Dam operations."
62	TA 6	6-8	5		The Service recommends that the DEIS provide a brief explanation as to why the point sources are not a typical concern and not considered further in the analysis.
63	TA 6	6-8	6		The Service recommends that the DEIS provide a brief explanation as to why perchlorate point sources are not a typical concern and not considered further in the analysis.
64	TA 6	6-28	4		The Service recommends checking to ensure that the text discussing Figure TA 6-11 matches the figure information. The text says, in the average flow category, medians and interquartile ranges of dissolved oxygen are from 7 - 8 mg/L; however, Figure TA 6-11 shows some medians as low as 6 mg/L and some 25th percentiles at or below 3 mg/L.

65	TA 8	8-33	paragraph 1	Under Lake Powell. It says "Surface area and longitudinal analyses were used to quantify changes in habitat extent for both lake and riverine environments, with data interpretation (e.g., lake elevation by alternative) using DMDU analysis (for additional details see TAZ)". Are potential changes in the channel's morphology considered in the model? Where can more information be found on this analysis? TA-3 doesn't include any information on DMDU. On pg. 34, there is more information under Lake Mead to SIB, stating "CRSS is...used to simulate how water moves through the Colorado River system under different flow, demand, and management scenarios," but no reference. It would be helpful to have clear references since there are numerous documents with extensive amounts of information.
66	TA 8	8-36		The Service believes that the technical appendices and correlated information would be more informative if the impacts are presented in order of importance and order of the significance of the impact to the affected resource. For example, on page 8-36 in the native fish section the document lists priorities of impacts and then the discussion of impacts starts with the least important priority. It would give more clarity if the discussion of impacts followed the priority list.
67	TA 8	8-36		The Service recommends TA 8.2.2 to clearly state why smallmouth bass are a significant threat to native fish and how warmer water releases from Glen Canyon Dam will aid in smallmouth bass establishment. Making this point is important to communicating why Impact Indicator 1 is a threat to native fish.
68	TA 8	8-42	Figure TA 8-4	The Service recommends editing this caption to read "3,666.5 feet".
69	TA 8	8-63	Last paragraph and last sentence paragraph 1	TA 8.2.3 states "The Enhanced Coordination Alternative has the lowest median (182) under the driest conditions of 20°C." Based on Figure TA 8-18, however, the lowest median appears to be around 100.
70	TA 8	8-80		The sentence referencing Figure TA 8-29 states "No Action Alternative (64 percent) of futures. . ." but the figure shows 66%. The Impact Threshold for Smallmouth Bass Entrainment in Figure TA 8-31 (i.e., Lake Powell is above 3,570 ft ≥ 60% of months) is inconsistent with the minimum performance level set in Section TA 8.2.2 (Issue 1), page 8-46, paragraph 1 (i.e., October 1 Lake Powell elevation ≥ 3,570 ft in at least 80% of years). Is this an artifact of one using a monthly timestep and the other using yearly timestep (the latter being lake elevation on Oct 1)? The Service recommends adjusting or clarifying as appropriate.
71	TA 8	8-84	Figure TA 8-31	The text lacks context on how cool mix flows prevent smaller smallmouth bass from entering penstocks and briefly mentions "entrainment modeling" without background details. The Service suggests that the document would be strengthened and offer better public understanding by explaining earlier in the document the impact of low lake elevations on smallmouth bass entrainment due to temperature. For example, lower water levels increase temperatures, allowing non-native fish to pass through penstocks, leading to downstream invasion and greater predation threats to native fish.
72	TA 8	8-3	Table TA 8-1	The Service recommends that Table TA 8-1 refer to "Havasu Creek" and "Bright Angel Creek" for consistency and so as not to mix these names up with Lake Havasu or Bright Angel Trail.
73	TA 8	8-12	Table TA 8-2	Table TA 8-2 states that fathead minnow, red shiner, and plains killifish are "Abundant as an introduced forage species" in "every" reach, but Section 8.1.3 (Page 8-18, second paragraph) states that fathead minnow, red shiner, and plains killifish are predominantly found downstream of the Little Colorado River confluence. This appears inconsistent if supposedly abundant across all reaches.
74	TA 8	8-17	paragraph 1	The text lacks context on how cool mix flows prevent smaller smallmouth bass from entering penstocks and briefly mentions "entrainment modeling" without background details. The Service suggests that the document would be strengthened and offer better public understanding by explaining earlier in the document the impact of low lake elevations on smallmouth bass entrainment due to temperature. For example, lower water levels increase temperatures, allowing non-native fish to pass through penstocks, leading to downstream invasion and greater predation threats to native fish.
75	TA 8	8-22	paragraph 2, Line 3	The Service recommends providing the citation for the bonytail observed in Lake Mead in 2020 as we do not have a record of this observation.
76	TA 8	All		The Service agrees with Reclamation that the two most important native fish Impact Indicators for Lake Powell are (1) increased numbers of smallmouth bass escaping through Glen Canyon Dam (GCD) and increased distribution of smallmouth bass downstream of the dam, and (2) [maintaining] Lake Powell elevation below 3,666.5 feet to sustain Plute Farms Waterfall as a nonnative fish barrier. This section also identifies a third Impact Indicator the "Reduction in Colorado pikeminnow and razorback sucker critical habitat in the Colorado River and San Juan River inflows to Lake Powell with increased elevation of Lake Powell." Please consider emphasizing their effects discussion in the EIS on the first two impact indicators at the beginning of this section. The Service recommends that the analysis of effects to designated critical habitat above Lake Powell address how changes in Lake Powell elevation affect the amount of riverine habitat as a potential stand-alone effect that is only likely to occur if Lake Powell refills. The Technical Appendix currently equates the over-inundation of critical habitat to smallmouth bass establishing below GCD and the inundation of Plute Farms Waterfall. This is incorrect and misleading regarding the effects Reclamation analyses in the DEIS. The Service requests the removal of text that conflates changes in length of available riverine habitat as being a similar threat as smallmouth bass and protection of Plute Farms Waterfall. The most important threat to native fish within the action area is the presence of non-native, piscivorous fish preying on native fish. The Service also requests sharing the potential effects on critical habitat due to changing reservoir levels, while focusing the threats/effects discussion on the potential establishment of non-native, particularly smallmouth bass.
77	TA 8	All		Technical Appendix 8 refers to the "mainstem" Colorado, while Chapters 1-4 and most of the other Technical Appendices use "mainstream" Colorado. The Service recommends that the entire DEIS and all appendices refer to the Colorado "mainstem" versus "mainstream". Throughout Technical Appendix 8, "Plute Farms" and "Plute Farms Waterfall" are referred to as "Palute." The Service recommends that Reclamation update the spelling of Plute in all text and figures in the appendix, while preserving the "Palute" spelling when referring to the tribe.
78	TA 8	All		The Grand Canyon boasts unique native and federally-listed fish populations. Minimizing impact on these species, especially the humpback chub and razorback sucker, is crucial. Figures TA 8-7, TA 8-8, and TA 8-21 to TA 8-24 indicate that the Enhanced Coordination and Max Flexibility alternatives offer the best protection. Conversely, the Basic Coordination or Supply Driven options could cause severe, potentially irreversible harm. Please consider identifying elements within the Enhanced Coordination and Max Flexibility Alternatives that assist with conservation of our trust resources.
79	TA 8	Figure TA 8-7, TA 8-8, TA 8-21 thru TAB-24		HFEs can influence annual vegetation cover and generally reduce woody plant encroachment by resetting successional stages through scouring and sediment deposition. However, the Service suggests adding citations to capture that the strength of this relationship depends on several factors, including sediment load and the timing, magnitude, and connectivity of HFEs, as well as species-specific flood tolerance and groundwater dynamics. The Service suggests a revision as to demonstrate frequent and longer HFEs tend to limit woody encroachment and be careful to not mislead effects that are context-dependent rather than universally true.
80	TA 9	9-24	last paragraph	Text establishes the median maximum annual change in HFE releases during WY 2008–2024 as 0.2445 maf and then states that to meet the minimum level of performance an alternative must have a year-to-year change "less than 0.23 maf" in 2 or more years. This 0.23 maf threshold does not match the stated median max (0.2445 maf) nor the value depicted in Figure TA 9-16, creating a narrative-figure mismatch in the criterion used for robustness. The Service suggests changing 0.23 to 0.2445 in the text, or to clarify where 0.23 maf came from (overall mean, overall median?) and why it was selected as the minimum level of performance.
81	TA 9	9-28	paragraph 1	This table is currently situated under the Lake Powell section but contains data for multiple reaches. Suggest moving the table to Section 9.1 for better alignment with its scope.
82	TA 9 Lake Powell	9-2	Table TA 9-1	This section references Table TA 9-1 to illustrate "The change from marsh to non-marsh." However, Table 9-1 does not present past conditions for comparison. The Service recommends including a figure showing historical and current vegetation changes to support this discussion.
83	TA 9 Hoover Dam to SIB	9-5	first paragraph after Table TA 9-3	How were the vegetation acres identified? Please include sources and a detailed description of the methodology. Vegetation data is critical for determining the affected environment. Underreporting vegetation could limit understanding of impacts and environmental consequences, potentially leading to increased adverse effects, misinterpretation of impacts, and improper mitigation measures.
84	TA 9 Lake Powell	9-2	TA 9-1 entire Section	This section states that "the modeled and estimated 45,000 cfs stage elevation" was used for identifying terrestrial habitat. No model is discussed in the affected environment section for this reach (TA 9.1.2). The Service recommends identifying the model that was applied. Was any manual verification of connected areas performed? Terrestrial habitat data is essential for determining the affected environment. Underreporting terrestrial habitat could limit understanding of impacts and environmental consequences, potentially leading to increased adverse effects, misinterpretation of impacts, and improper mitigation measures.
85	TA 9 Methodology, Glen Canyon Dam to Lake Mead	9-9	21-22	The section states that work was completed "to estimate current extent of marsh, woody riparian, and upland habitats," but does not describe any analysis for upland habitat. What analysis was conducted for upland habitat? Upland habitat is integral to determining the affected environment. Underreporting upland habitat could limit understanding of impacts and environmental consequences, potentially leading to increased adverse effects, misinterpretation of impacts, and improper mitigation measures.
86	TA 9 Methodology, Lake Powell	9-7	first paragraph of TA 9.2.1 Methodology, Lake Powell	The Service requests that more details on the methodology be provided. The reference to TA 9.1 does not sufficiently explain the selected dynamics. For example, even if short-term fluctuations affect the initial vegetation habitat structure require longer periods to establish. Limited or improper understanding of these dynamics could lead to increased adverse effects, misinterpretation of impacts, and inadequate mitigation.
87	TA 9 Methodology, Lake Powell	9-7	TA 9.2.1 entire section	The Service requests more detail on how the 10-year analysis period for marsh vegetation and the rolling 10-year period for woody riparian vegetation were selected be provided. The time frame of analysis influences results, which inform alternative selection and mitigation strategies. Timelines that do not capture the full vegetation life-cycle could lead to misinterpretation of impacts and improper mitigation. The section does not define selected thresholds, yet cites Figure TA 9-1 stating that the median of the maximum annual change is 30.71 ft. Figure TA 9-1 does not indicate its application to any specific vegetation type. It is unclear what analysis was completed, why it is considered representative of impacts, and how it informs decision-making. Please clarify these points to avoid misinterpretation and inadequate mitigation.
88	TA 9 Methodology, Lake Powell	9-7	last paragraph of page 9-7	The Service suggests including key prey species like cicadas (Hemiptera). In the first sentence, the Service recommends changing "slow-moving water" to "standing or slow-moving water".
89	TA 9 Methodology, Lake Powell	9-7	entire section	The Service recommends including factors that influence cuckoo habitat occupancy, such as habitat structure, patch size, and prey availability.
90	TA 10	10-3	last paragraph	The Service appreciates the reference to Table 9-4 here and thinks it was helpful to include it.
91	TA 10	10-4	last paragraph	
92	TA 10	10-5	last paragraph in birds section	
93	TA 10	10-16	Full	

94	10-15 to 10-17	General	Woody and marsh habitats, as well as conservation areas, are unevenly distributed across the reaches. The Service recommends evaluating alternatives with this in mind. From a riparian bird perspective, options that prioritize reaches with greater existing or potential habitat acreage are generally preferable. Additionally, the Service advises that an assessment on how each alternative may influence water allocation to conservation areas is important, as water availability directly affects their capacity to create and maintain habitat. Identifying which alternatives provide the greatest benefit in this regard would be valuable.
	TA 10		
95	10-15 to 10-17	General	Woody riparian areas do not necessarily provide suitable habitat for flycatchers; therefore, the Service recommends including additional discussion focused on this species to strengthen the analysis. Given that breeding flycatchers are currently rare within the action area, we recommend the evaluation consider whether habitat is more likely to develop in reaches where it is presently absent or persist near existing occurrences. Because flycatchers exhibit high site fidelity, alternatives that enhance habitat near established populations may offer greater benefits. For instance, Topock Marsh has consistently supported breeding flycatchers in recent years, so the analysis should assess whether alternatives that conserve or promote habitat in this vicinity are preferable to those favoring other reaches.
	TA 10		
96	10-15 to 10-17	General	In the context of the comment on line 42, the Service recommends addressing the changes in marsh and riparian habitats relative to patch size and habitat connectivity/fragmentation. A detailed analysis of the total extent of the area would enhance the discussion, particularly from a riparian bird perspective. For instance, cuckoos are less likely to colonize smaller, more isolated, and fragmented habitat patches. This highlights the importance of considering habitat size and connectivity in conservation efforts.
	TA 10		
97	15-32	paragraph 3	The text states that Figure TA 15-15, Figure TA 15-16, Figure TA 15-17, and Figure TA 15-18 "illustrate the power generation response of Glen Canyon Dam, Hoover Dam, Davis Dam, and Parker Dam powerplants respectively." This is incorrect. The actual generation figures are TA 15-16 (Glen Canyon), TA 15-17 (Hoover), TA 15-18 (Davis), and TA 15-19 (Parker); TA 15-15 is an August power capacity figure, not an energy-generation figure.
	TA 15		
98	16-8	paragraph 2	"Arizona farm earnings per farm worker, in 2022, were about \$35,000 (\$965.1 billion in farm earnings divided by 27,375 farm jobs)". The Service requests a review of the math. The Service believes this should be changed to "\$965.1 million".
	TA 16		
99	O-1	paragraph 2	This statement presents a potentially confusing claim without back-up data: "The Lower Basin shortage distribution method does not impact Upper Basin operations for the Supply-Driven Alternative." For transparency, the Appendix could briefly explain why modeling decouples these operations. The Service suggests adding a clarifying sentence or footnote explaining the modeling assumption that decouples the Upper Basin operations from Lower Basin shortage choice under Supply-Driven.
	Appendix O		
100	Salton Sea: QSA NEPA and Related Section 7 Consultations		Colorado River water allocations to California are the primary driver of water inflows to the Salton Sea and maintenance of Salton Sea water elevations. As noted in the draft Post-2026 Operational Guidelines and Strategies for Lake Powell and Lake Mead EIS (Post-2026 EIS), reductions in water allocations will result in reductions to agricultural drain water runoff that will impact Salton Sea elevations, which would likely impact air quality and shoreline wildlife habitat. Impacts to Salton Sea shoreline wildlife habitat would likely impact federally endangered species.
	Salton Sea: QSA NEPA and Related Section 7 Consultations		
101	Salton Sea: QSA NEPA and Related Section 7 Consultations		The Quantification Settlement Agreement (QSA) brought California back in line with their contractual 4.4 million acre-feet per year (AFY) Colorado River water allocation. This has resulted in significant reductions to irrigation drain water inflows to the Salton Sea (CH2M Hill 2015). Loss of water inflows has reduced the Salton Sea elevation by about 15 feet, which resulted in the exposure of 37,804 acres of playa to date (Formation Environmental 2025). Because irrigation drain water has been allowed to flow on the playa, several thousand acres of wetlands that support federally listed species have become established. Several NEPA and section 7 consultations (see below) were developed to analyze and mitigate for the adverse effects to federally endangered species from the QSA. The State of California's Salton Sea Management Plan (SSMP) Long-Range Plan includes several project concepts to reduce adverse effects from the QSA, post 2028. This document does not analyze effects to state or federally listed species. The Army Corps of Engineers (Corps) Imperial Streams and Salton Sea Ecosystem Restoration Feasibility Study will evaluate some of those project concepts and provide recommendations to Congress (https://www.spl.usace.army.mil/Portals/17/Salton-Sea-Placemat-English-Jan-2025.pdf). Once a project is selected by the Corps, which will not likely happen until late 2027 or early 2028, a NEPA document will be prepared for that future project.
	Salton Sea: QSA NEPA and Related Section 7 Consultations		
102	Salton Sea: QSA NEPA and Related Section 7 Consultations		Future Colorado River allocations identified in the draft Post-2026 EIS could further reduce the California allocation from 4.4 MAFY to 2.93 MAFY (a 1.47 MAFY reduction), which is based on the Enhanced Coordination Alternative. The draft Post-2026 EIR suggests the potential reduced allocation, and resulting impacts to the Salton Sea, are within the scope and range of Salton Sea inflows being considered in California's SSMP Long-Range Plan and an associated NEPA process by the Corps. First, while a reduction of 1.47 MAFY may be considered in California's SSMP Long-Range Plan based on a range of modeled inflows to the Salton Sea, the effects of those inflow reductions on federally endangered species has not been evaluated under section 7 of the Endangered Species Act of 1973, as amended. Second, a NEPA process associated with California's SSMP Long-Range Plan has not yet been initiated. To ensure any reductions in Colorado River water allocations that would reduce Salton Sea inflows over those evaluated in the QSA, and the resulting effects to federally endangered species that occupy the Salton Sea Basin are evaluated, please ensure the Post-2026 EIS includes a more detailed discussion of how impacts from post 2026 Colorado River water allocations are within the scope and range of Salton Sea inflows being considered in the SSMP Long-Range Plan and clarification that the proposed Corps NEPA process will address and align with post 2026 actions on the Colorado River. If impacts to endangered species due to Salton Sea inflow reductions resulting from decreases in California's Colorado River allocations from either the QSA or Post 2026 Colorado River Operating Procedures are not covered under existing NEPA, we recommend you include a discussion of those effects, and potential mitigation measures, in the Post-2026 EIS.
	Salton Sea: QSA NEPA and Related Section 7 Consultations		
103	Salton Sea: QSA NEPA and Related Section 7 Consultations		To date, impacts from portions of the QSA on federally endangered species occupying the Salton Sea and surrounding wetland habitats were analyzed in three NEPA documents: (1) the Environmental Impact Report/Environmental Impact Statement for the Imperial Irrigation District (IID) Water Conservation and Transfer Project and Habitat Conservation Plan, (2) the Salton Sea Species Conservation Habitat Project Environmental Impact Statement/Environmental Impact Report, and (3) the Environmental Assessment for Salton Sea Management Program Phase 1:10-Year Plan. Associated section 7 consultations for the projects identified in these NEPA documents were undertaken and resulted in three biological opinions, which covered take of endangered species for only a portion of the reductions in Colorado River water allocations for a specified period (see table below). Therefore, total effects from the QSA, and any additional reduction in water allocations post-2026 will likely affect listed species and consultation under section 7 may be prudent. In addition to the NEPA documents identified above, California issued a Program Environmental Impact Report under the California Environmental Quality Act that analyzed effects of the QSA, but a similar NEPA document was not issued.

Name	Date Issued	Time period covered	Colorado River Allocation Reduction Covered	Federal Action Agency
IID Water Conservation and Transfer Project biological opinion for the Bureau of Reclamation	December 2002	Until the IID HCP is permitted	~300,000 AFY.	Bureau of Reclamation
Salton Sea: QSA NEPA and Related Section 7 Consultations Summary of ESA Consultations (Sub Table)	March 2013	75 Years	None specified, but project anticipates covering about 4,000 acres of exposed playa due to reduction of water inflows. This represents about 5.7 percent of the 70,000 acres of possible exposed playa.	Army Corps of Engineers
Formal and Informal Section 7 Consultation for the Salton Sea 10-Year Management Program, Riverside and Imperial Counties, California	February 2023	75 Years	None specified, but project anticipates covering about 29,800 acres of exposed playa due to reduction of water inflows. This represents about 42.5 percent of the 70,000 acres of possible exposure over the life of the QSA.	Army Corps of Engineers