



September 8, 2020

Mr. Rick Baxter, Program Manager
Bureau of Reclamation, Provo Area Office
302 E. Lakeview Parkway
Provo, UT 84606

Submitted via email: lpp@usbr.gov

RE: Arizona Game and Fish Department comments on Lake Powell Pipeline Draft Environmental Impact Statement/Draft Resource Management Plan Amendment

Dear Mr. Baxter:

Under Title 17 of the Arizona Revised Statutes, the Arizona Game and Fish (Department), by and through the Arizona Game and Fish Commission (Commission), has jurisdictional authority to protect and conserve the state's wildlife resources, as well as safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations. In addition, the Department manages threatened and endangered species through Section 6 authorities and the Department's 10(a)1(A) permit. It is the mission of the Department to conserve Arizona's diverse fish and wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations. Under these authorities and management objectives, the Department appreciates the chance to provide input on the Lake Powell Pipeline Draft Environmental Impact Statement (DEIS)/Draft Resource Management Plan Amendment.

Legal Authorities and General Comments Overview

The Department understands that the Bureau of Reclamation (BOR) has developed conservation measures that mitigate *some* direct impacts to wildlife. Similarly, the Department recognizes BOR's incorporation and analysis of the state's "Species of Greatest Conservation Need" into the DEIS. Lastly, the Department's recent scoping letter on the project did request inclusion of "Species of Economic and Recreational Importance" into the DEIS. Although species with these designations were not specifically defined within the DEIS, it is clear that maintaining mule deer migration patterns and big game hunting were elements that were incorporated within the DEIS.

The Department does appreciate the informal cooperation and inclusion of Department data into the DEIS, such as wildlife population trends and the most current literature in the Appendix C-16: "General Fish and Wildlife" section. However, as the State's jurisdictional authority and expert on the management of the state's wildlife resources and wildlife related recreation, including aquatic invasive species, it is more appropriate for the Department to formally serve as a Cooperating Agency on this project. The Department had requested cooperating agency status

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for this project in our January 9, 2020 scoping letter and has not been granted this status, yet BOR continues to request data and information to support the DEIS analysis.

Lastly, there are several legal/regulatory framework references pertaining to the Commission that are highlighted throughout the DEIS. The Department's State Wildlife Action Plan (SWAP) is discussed within several sections of the DEIS. Quite simply, the SWAP outlines strategies and conservation actions to develop and implement programs that benefit wildlife and their habitats, including species that are not hunted or fished. While the plan addresses the full array of wildlife and habitats, it primarily focuses on identifying and managing habitat and "species of greatest conservation need" and "species of economic and recreational importance."

Upon review, the Department noticed several inaccuracies in the SWAP language and Commission authorities referenced within the DEIS. For example, within the "Aquatic Invasive Species" section on page 136 it states: "Arizona's State Wildlife Action Plan of 2012 provides a 10-year vision for achievement, subject to adaptive management and improvement along the way under the watchful eye of the Federal Energy Regulatory Commission and its partners, for shared success in wildlife conservation and management." This statement is inaccurate, the U.S. Fish and Wildlife (FWS) administers State Wildlife Grants, which are Federal grant funds for State wildlife agencies to address strategies and conservation actions identified within the State's Wildlife Action Plan (e.g., Arizona's State Wildlife Action Plan). A correct reference to the Commission's role with the SWAP can be found within the "Threatened and Endangered Species" section on page 177, which states: "Arizona's State Wildlife Action Plan of 2012 (AZGFD 2012) provides a 10-year vision for achievement, subject to adaptive management and improvement along the way under the watchful eye of the Arizona Game and Fish Commission and its partners for shared success in wildlife conservation and management." The Department requests the BOR change all SWAP references within the DEIS to reflect the page 177 language, which highlights the Commission's oversight of Arizona's SWAP.

Aquatic Impacts

During the scoping phase of this project, the Department provided comments to the BOR regarding the potential transport of nonnative fish from Lake Powell to the Virgin River watershed, and the potential transmission and dissemination of quagga mussels (*Dreissena rostriformis bugensis*) into the Virgin River. Although the BOR has analyzed Department concerns within the DEIS and created mitigation measures that address some of these concerns, the Department still has lingering concerns and requests that the BOR further clarify.

- The DEIS refers to the potential secondary mitigation measure of using chemical control of quagga mussels. If the primary mitigation measures of using screens and UV treatments fail, then this secondary treatment could occur throughout the pipeline and Sand Hollow Reservoir. The DEIS references limited fish mortality is expected for this secondary mitigation measure due to the anticipated chemical dosages. The Department accepts that the use of sodium hypochlorite or potassium chloride followed by neutralization with sodium bisulfite is one of the better secondary mitigation options, however, even sodium bisulfite has been known to cause fish kills due to its tendency to reduce pH and dissolved oxygen levels (Ryon et al. 2002). Current conditions in the

Virgin River include summer water temperatures that approach, and in places exceed, the critical thermal maxima of the resident native fishes, which is around 32-33° C (Kegerries et al. 2018). At such high temperatures, even slight changes in dissolved oxygen and water chemistry can be lethal to fish. The Department requests that the BOR identify and address the potential impact to native fish populations due to the likelihood for repeat chemical control and the downstream effect on pH and dissolved oxygen levels.

- In the DEIS, the proposed strategy scenario for managing quagga mussel infestation of Sand Hollow Reservoir and Quail Creek Reservoir, which are interconnected by a pipeline, is to chemically treat the Sand Hollow Reservoir and cut off all discharge into the river at the time of application. Quail Creek Reservoir drains directly into the Virgin River. The Department is concerned that if the treatment action would occur during the dry period of the summer, it could potentially dewater the river downstream from the Washington Fields Diversion. Through the Department's analysis of this scenario within the DEIS, the Virgin River in Arizona, upstream from the springs in the lower Virgin River Gorge (65.5 km of river), would have the potential to be completely dewatered and thus has the potential to harm or kill many rare and endangered fish. The Department requests that the BOR address this scenario within the DEIS, and specifically identify how the BOR will ensure the river is flowing at a level high enough to maintain adequate flows and tolerable temperatures (< 32 C) for native fish, even during a worst case scenario with quagga mussel treatment.
- The DEIS and Appendix C-12, "Aquatic Invasive Species" outlines the primary and secondary mitigation strategies to control quagga mussels and other aquatic invasive species. The strategies of using screens, filtration, and UV treatment (primary mitigation) and the use of chemical control (secondary mitigation) are described in detail as environmental protection measures within these sections. These mitigation measures have few case examples highlighted within these sections that illustrate effective usage of these environmental protection measures that can be used for comparison. The examples that are included are mainly in aquatic systems in the eastern US. To alleviate concerns for the potential to transport quagga mussels and other aquatic invasive species, the Department requests that the BOR identify and include relevant examples of similar scaled projects that utilize these interconnected environmental protection measures from aquatic systems in the *western US* that have been successful in eliminating the transport of quagga mussels. These examples would be best for stakeholders to evaluate the efficacy of the proposed mitigation strategies.

Terrestrial Impacts

As stated earlier, the Department recognizes the emphasis the DEIS has given to migratory wildlife and recreational opportunities. Both alternatives within the project footprint sit within the Kaibab-Paunsaugunt Mule Deer Migration Corridor (corridor) and the BOR has incorporated Utah's and Arizona's information on this corridor within the planning of the project. The Department still has specific comments and concerns related to terrestrial wildlife that are outlined below.

- The Department requests the BOR and its contractors coordinate with Department personnel for on-the-ground knowledge prior to implementing wildlife related timing restrictions that are outlined in the DEIS, Appendix C-16, and Appendix E. Similarly, the Department would like to discuss the work with all project partners and contractors prior to implementation.
- In Appendix E, Environmental Protection Measures B.5.80 outlines a plan that is to be developed after consulting with the Department and other appropriate agencies to turn water sources on or off to aid in animal distribution away from the construction areas. Due to wildlife utilizing waters mainly during times when active construction will not be occurring (i.e. night usage) and the fact that active construction already temporarily displaces wildlife to other water sources, it is rare for the Department to turn off a reliable source of water for wildlife. Water sources are spread across the arid landscape in northern Arizona and the Department prefers to keep as many waters on and flowing as possible, with the possible exception for short durations when water sources could be directly impacted within the construction footprint. The Department requests prior coordination if a water source must be turned off, the Department also requests that a temporary water source be made available as close in proximity to the reliable water source as possible.
- In Appendix E, Environmental Protection Measure B.5.79 references the use of temporary fencing to protect areas from wildlife and livestock grazing on the pipeline's right-of-way while vegetation is becoming re-established after construction activities conclude. This mitigation measure outlines that temporary fencing may be in place for an extended period of time while vegetation re-establishes. No metrics are offered in the environmental protection measure as to what vegetation threshold has to be reached to remove the temporary fencing. For example, if the project is using the Arizona Department of Environmental Quality standards for "final stabilization" of a site, in which stabilization is achieved when you have 70% of the pre-construction vegetation levels (in which noxious weeds do not count towards that threshold) recovered, then the removal of temporary fencing could be delayed for many months, or even years due to the ecosystem components and predominance of noxious weeds in the project area. The Department is concerned that having temporary fencing along large swaths of the pipeline right-of-way for long periods of time could impede the migratory corridor of mule deer and other terrestrial wildlife. The Department requests that the BOR identify a metric in the environmental protection measure that outlines the criteria when vegetative recovery will be met as well as metrics that trigger the temporary fencing removal.

As the State agency with jurisdictional authority for mandatory conditions and protocols to address the transport and introduction of aquatic invasive species identified under Arizona Revised Statutes (ARS) 17-255.02(1), the Department finds the the BORs DEIS inadequate to effectively eliminate the transport of Quagga mussels, the introduction into the Virgin River drainage, and the missing analysis for cumulative effects (i.e., Virgin River fishes, repeated treatments of Sand Hollow and Quail Creek reservoirs) of the proposed action. As such, the

Department requests that the BOR be required to establish a mitigation endowment fund managed by the Arizona Game and Fish Department, to compensate the state of Arizona for the loss of aquatic resources in the Virgin River and the long term management of aquatic invasive species due to this project. Additionally, the Department requests that the BOR include this mitigation endowment fund within the EIS and address each concern prior to finalizing the EIS. The Department looks forward to discussing the concerns and the opportunity to review the revised DEIS. Please contact Scott Poppenberger, Regional II Supervisor, at (928) 214-1240 or spoppenberger@azgfd.gov with any questions.

Sincerely,



Jim DeVos

Assistant Director, Wildlife Management Division

Cc: Brian Wooldridge, USFWS
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Literature Cited

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