

Comment #	Original Comment	Original UDWR Response	BLM Comment Disposition	UDWR Response
BLM General 21	1st paragraph: • 2nd line: Delete “ly managed” (it’s simply “private property”). • 6th line: Delete “can be expected.” 2nd paragraph: • 2nd line: Please use a more understandable term than “entrain.” (Same comment for all other places in this section that this term is used.)		Comment was not included in this table of responses	Changes made. Please see the attached Extended Narrative document for the response to BLM Comment No. General 21.
BLM General 22	4th and 5th lines on page: TDS and DO acronyms have already been defined, so don’t redefine them here.		Comment was not included in this table of responses	The second paragraph in Section 5.3.6.1.1, Chapter 5 of the PLP is removed from Section 5.3.6.1.1, Chapter 5, Exhibit E of the License Application. Relevant information about the results of Reclamation’s water quality modeling of Glen Canyon Dam releases are incorporated into the first paragraph in Section 5.3.6.1.1. Therefore, the acronyms referred to in the comment are no longer in the text of Section 5.3.6.1.1, Chapter 5, Exhibit E of the License Application.
BLM General 23	1st line of 2nd full paragraph: Six horizontal tunnels? Figure 5-101 only shows three. Please correct the discrepancy.		Comment was not included in this table of responses.	There is an apparent discrepancy between the text and Figure 5-101 (Figure 5-99 in the FLA) created by the perspective of the figure that is confusing to the reader who is not familiar with the project details. The figure shows a vertical cross sectional view parallel to the long axis of the tunnels and therefore only shows 3 of the tunnels - there is another tunnel at each elevation behind the tunnels shown, but out of view in the figure. This is described in the first paragraph in Section 5.3.6.1.2, Chapter 5, Exhibit E of the License Application. The text in the License Application Section 5.6.3.1.2 at page 5-245, second paragraph is revised as follows: “The intake is to be fitted with six separate horizontal diversion tunnels (Figure 5-99) that would provide the option for diverting water at various depths. Figure 5-99 shows a cross section of the horizontal tunnels parallel to their long axis (there are two tunnels at each of three elevations connecting to the two vertical shafts). This would allow for operational water quality control as well as providing some level of management oversight to avoid regions of the water body that may contain concentration of species (invertebrates, algae, etc.), that can be avoided by varying the diversion intake depth.
BLM General 24	4th-6th lines: Wouldn’t discharge for penstock maintenance only occur in dry washes (which would not affect aquatic resources, since none would be present, as outlined on page 5-249)? Please correct this apparent discrepancy.		Comment was not included in this table of responses	The discrepancy is corrected. Section 5.3.6.1.3, Chapter 5, Exhibit E of the License Application is revised as follows: The potential direct effects of the LPP involve the alignment and construction of the pipeline and penstock, and to a minor extent, the supporting facilities (pump stations, regulating tank, hydro stations, etc.) as they cross the perennial drainages in the area of potential effect. Penstock discharges would only occur in dry washes and as such would not affect aquatic resources. The discharge of water for pipeline maintenance purposes or through drain valves (minor amounts) or from a pipe breach or accident are evaluated as a potential source of effect on the existing aquatic resources
BLM General 25	Need to add a definition of “Ephemeral Stream.” Please use the definition contained within Technical Reference TR 1737-15 – Riparian Area Management: “Ephemeral: A stream that flows only in direct response to precipitation, and whose channel is above the water table at all times.”		Comment was not included in this table of responses	The definition of an ephemeral stream is added. The ninth sentence of Section 5.3.6.1, Chapter 5, Exhibit E of the License Application is revised as follows: An intermittent or ephemeral drainage is defined as a body of water flowing in a natural or man-made channel that contains water for brief periods of the year or one that flows only in direct response to precipitation and whose channel is above the water table at all times.
BLM General 26	2nd bullet on page: Insert “a” before “flowing stream”. 3rd bullet in 2nd bullet list: Please write out the full state name (don’t use abbreviations).		Comment was not included in this table of responses	Edits made. The sixth bullet in the fourth paragraph of Section 5.3.6.1.4, Chapter 5, Exhibit E of the License Application is revised to read: • Vegetation established in a channel bottom that could not occur in a flowing stream The third bullet in the sixth paragraph of Section 5.3.6.1.4, Chapter 5, Exhibit E of the License Application is revised to read: • Kanab Creek at Highway 89 Bridge in Fredonia, Arizona
BLM General 27	6th line of 1st paragraph: What “Lake” is referred to here ... Lake Mead or Lake Powell? Please clarify.		Comment was not included in this table of responses	Please see the attached Extended Narrative document for the response to BLM Comment No. General 27.
BLM General 28	2nd sentence of 3rd paragraph: Delete this sentence (referring to wilderness characteristics upstream of Kanab) ... this is irrelevant to the aquatic resources discussion here.		Comment was not included in this table of responses	Sentence referring to wilderness characteristics is deleted. The third paragraph in Section 5.3.6.1.6.3, Chapter 5, Exhibit E of the License Application is revised to read: Kanab Creek is the largest tributary canyon system to the Grand Canyon on the north side of the Colorado River. The lower reach through the Kaibab-Paiute Indian Reservation and downstream to the LPP area of potential effect is not considered to have the same recreational opportunities or support any aquatic resources.

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BLM 708	<p>1st line on page: Please edit as follows: "... including Buckskin Gulch is, in part, managed as a wilderness ..." 3rd line on page: Please edit as follows: "... not in a wilderness study area and would be adjacent to ..."</p> <p>11th line on page: Should be "floodplain" rather than "floodway."</p> <p>1st complete paragraph on page:</p> <ul style="list-style-type: none"> • 3rd line: End of line should read "... the Paria Canyon-Vermilion Cliffs Wilderness are". • 4th line: This statement is inaccurate (on the condition of the Paria River riparian area). Also, this is not correct terminology – the BLM (as well as USFS and NRCS) use "functioning condition" terminology" (i.e., "properly functioning," "functional-at risk," "non-functional," and "unknown"), not "impaired" – see Technical Reference TR 1737-15 – Riparian Area Management. 	<p>The suggested edits from the first, second, and third paragraphs of the above comment have been incorporated. The terminology used for riparian function analysis was identified in the approved study plan, which was developed in consultation with BLM and addressed BLM review comments.</p>	<p>Edit is fine. Edit is fine. Edit is fine This edit was not made. UDWR's comment is correct if referring to STREAM functionality. If referring to the condition of riparian areas, BLM reviewer is correct.</p>	<p>Although in the paragraph preceding the referenced text there is a brief description of the riparian environment at the Paria River crossing, the subject of this section is the aquatic resources in the stream and the referenced text is referring to the stream functionality, and not the riparian area functionality, and the associated aquatic resources. In order to make the "functionality" reference clear, the second sentence of the 3rd paragraph of Section 5.3.6.1.6.2, Chapter 5, Exhibit E of the License Application is revised as follows: The functionality of reaches of the river above the Paria Canyon wilderness (Primitive) areas is known to be impaired as a result of grazing and other human uses.</p>
BLM 714	<p>Earlier in this sub-section the upstream portions of Kanab Creek (above Kanab City) are discussed, but nothing very far downstream of the creek crossing is discussed ... and there are fish and other aquatic species present in these areas. Please add a discussion of aquatic resources in this portion of Kanab Creek.</p>	<p>There would be no measureable impacts on aquatic resources in the identified portion of the creek.</p>	<p>Reviewer understands that part of Kanab Creek is intermittent, but text should at least mention aquatic species, even if it's to say they are not present due to the ephemeral flows ... after all, this IS the aquatic species section.</p>	<p>Text added about aquatic resources. The third sentence in the fifth paragraph in Section 5.3.6.1.6.3, Chapter 5, Exhibit E of the License Application is revised to read: These drainages all show little evidence of regular surface flow and therefore aquatic resources are not present because of the ephemeral flows. The perennial reach of Kanab Creek extends approximately 1.6 miles downstream of the Highway 389 crossing. The Proposed Action crossing of Kanab Creek would occur approximately 13.5 miles downstream of the Highway 389 crossing.</p>
BLM 715	<p>4th/5th lines of 1st paragraph: Statement about the flow in the Virgin River being "substantial throughout the year" is inaccurate, at least for the part in Arizona. During the summer, large stretches of the river that are in the Virgin River Gorge go dry. Please correct this statement.)</p>	<p>The text has been revised to address the comment.</p>	<p>Deleting text was not the appropriate response ... correcting it was what should have been done. Please add (to what's now Section 5.3.6.1.6.4) to the end of the first paragraph: "Flow in the river downstream of the Utah/Arizona state line, while considered perennial, is intermittent at certain times of the year in Arizona."</p>	<p>Sentence regarding intermittent flow is added. The first paragraph in Section 5.3.6.1.6.4, Chapter 5, Exhibit E of the License Application is revised to read: The Virgin River is the most significant water resource Washington County. It is a perennial stream with wide variation in flow dependent on seasonal precipitation, climate and runoff throughout the year from its source in Utah to the Utah-Arizona state line. Flow in the river downstream of the Utah/Arizona state line, while considered perennial, is intermittent at certain times of the year in Arizona.</p>
BLM 716	<p>Rating list for key factors: This list (defining magnitude, extent, duration, and likelihood) applies to ALL resources analyzed in this chapter. Therefore, this list should be moved from here to the beginning of Chapter 5.</p> <p>3rd paragraph:</p> <ul style="list-style-type: none"> • 3rd line: Delete "downstream water users," (this is the "aquatic resources" section, not other water users). • Last sentence: Delete entire sentence – this is a "recreation resources" discussion, not "aquatic resources." 	<p>The suggested edits from the second paragraph of the above comment have been incorporated.</p>	<p>Comment was ignored. Please make the requested edit. (This rating list applies to ALL resources analyzed in Chapter 5, so should be moved to the beginning of the chapter, or it would need to be repeated for each of the 22 resources analyzed in this document.) Edit is fine Edit is fine</p>	<p>See the attached Extended Narrative document for the response to BLM comment No. 716.</p>
BLM 717	<p>Rating list for key factors: This list (defining magnitude, extent, duration, and likelihood) applies to ALL resources analyzed in this chapter. Therefore, this list should be moved from here to the beginning of Chapter 5.</p> <p>3rd paragraph:</p> <ul style="list-style-type: none"> • 3rd line: Delete "downstream water users," (this is the "aquatic resources" section, not other water users). • Last sentence: Delete entire sentence – this is a "recreation resources" discussion, not "aquatic resources." 	<p>UDWR's view is that the text with regards to the first part of the comment is appropriate. The text has been revised to address the second part of the comment.</p>	<p>UDWR's response is inadequate and inaccurate. Anything introduced in the Affected Env. Section MUST be analyzed and addressed in the Environmental Effects discussion. (This is a basic NEPA requirement.) Please incorporate the requested edit. Edit is fine</p>	<p>Please see the attached Extended Narrative document response to BLM Comment 716, for the response to BLM Comment No. 717</p>

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BLM 718	General Comment: Why is there no discussion of Kanab Creek, the Virgin River, and Sand Hollow Reservoir in this analysis, since they were introduced in Section 5.3.6.1.6? Please add this discussion (even if no impact, they should be mentioned).	UDWR's view is that the text is appropriate.	UDWR's response is inadequate and inaccurate. Anything introduced in the Affected Env. Section MUST be analyzed and addressed in the Environmental Effects discussion. (This is a basic NEPA requirement.) Please incorporate the requested edit.	Please see the response to BLM Comment No. 472 for an explanation of the differences between Exhibit E in the License Application and NEPA documents. Please see the Extended Narrative document for the response to BLM Comment No. 718.
BLM 719	General Comment: Why is there no discussion of Kanab Creek, the Virgin River, and Sand Hollow Reservoir in this analysis, since they were introduced in Section 5.3.6.1.6? Please add this discussion (even if no impact, they should be mentioned).	UDWR's view is that the text is appropriate.	UDWR's response is inadequate and inaccurate. Anything introduced in the Affected Env. Section MUST be analyzed and addressed in the Environmental Effects discussion. (This is a basic NEPA requirement.) Please incorporate the requested edit.	The response to BLM Comment No. 718 on the Proposed Action effects addresses BLM Comment No. 719. The Southeast Corner Alternative effects on aquatic resources would be the same as described for the Proposed Action in Section 5.3.6.2.2, Chapter 5, Exhibit E of the License Application.
BLM 720	General Comment: Why is there no discussion of Kanab Creek, the Virgin River, and Sand Hollow Reservoir in this analysis, since they were introduced in Section 5.3.6.1.6? Please add this discussion (even if no impact, they should be mentioned).	UDWR's view is that the text is appropriate.	UDWR's response is inadequate and inaccurate. Anything introduced in the Affected Env. Section MUST be analyzed and addressed in the Environmental Effects discussion. (This is a basic NEPA requirement.) Please incorporate the requested edit.	There is a discussion of the effects on the Virgin River in Section 5.3.6.2.5. A sentence is added to the end of Section 5.3.6.2.5, Chapter 5, Exhibit E of the License Application as follows: The No Lake Powell Water Alternative would have no effect on Kanab Creek or Sand Hollow Reservoir.
BLM 721	NEW SUB-SECTION: There needs to be a sub-section on analysis of impacts from the No Action Alternative (which is currently missing) – please add.	The text has been revised to address the comment.	Thank you for adding the new subsection, but it needs to explain why effects (it should be obvious to the reader, but we still need to describe it). And why would the effects under this alternative not be the same as with the No Lake Powell Water alternative? Seems like it should be.	The differences between the No Action Alternative and the No Lake Powell Water Alternative were discussed in the meeting between BLM and the proponent on March 17, 2017. Please see the response to BLM No. 667 in the attached Extended Narrative document for a partial response to BLM No. 721. An explanation of why there would be no effects is added. Section 5.3.6.2.6, Chapter 5, Exhibit E of the License Application is revised to read: The No Action Alternative would have no effect on aquatic resources in the LPP study area as there would be no federal action involving a water pipeline crossing of the Paria River and there would be no pipeline water releases to the Paria River which could risk aquatic biota transfer to the river. Existing aquatic resource conditions would continue to evolve subject to natural or other anthropogenic influences and factors.
BLM 722	7th line: BMP acronym has already been defined, so don't redefine it here. 1st bullet: Wouldn't this also apply to Kanab Creek? Please add this. 2nd bullet: What would be done with the sediment trapped by the silt fences and straw bales? Need to identify that here.	The text has been revised to address the comment.	Edit is fine. Edit is fine. This comment was not addressed.	The disposition of the trapped sediment is added. The second item in the bullet list of Section 5.3.6.3, Chapter 5, Exhibit E of the License Application revised as follows: • Silt fences and/or straw bales would be temporarily installed upstream or up-gradient of riparian areas to filter suspended sediments and bedload sediments to avoid sedimentation effects during construction. If necessary, silt fences and/or straw bales would be installed in series to control sediments and turbidity generated by construction activities. The silt fence that is removed would be disposed of in approved landfills. Sediment trapped by the silt fence would be incorporated into the backfill and spoil material and distributed across the ROW as part of surface restoration
BLM 722a	3rd complete bullet on page: Revise end of BMP to read "... an upland area at least ¼ mile from the stream channel in order to isolate potential contaminants and prevent spills on soil and prevent contaminating stream substrates." 4th complete bullet on page: End of line should read "... on upland areas at least ¼ mile from the stream channel within spill...". 5th complete bullet on page: Where would this "land applied" watering occur? Need to identify those area(s) NOW. 6th complete bullet on page: What would be done with the silt fence and the sediment that it traps? Need to identify that here. 1st line after bullet list: Delete "positive and ...- we should be giving an unbiased analysis of impacts, so simply state that there would be a short-term impacts.	The suggested edits from the first, second, fourth, and fifth paragraphs from the above comment have been incorporated. The land application would occur in areas approved by the landowners and/or administrators. Where the dewatering would be required and hence where the land application area(s) would be located are unknown at this time.	The part of comment about containment pad being at least ¼ mile from streams was not incorporated (and it needs to be). Also, need to change revised text from "... agencies should be notified ..." to "agencies would be notified". This comment was not incorporated. Add UDWR's explanation (in their response) on "land application areas" to the referenced BMP. Edit is fine Edit is fine	Please see the attached Extended Narrative document for the response to BLM Comment No. 722a.

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BLM 723	9th line on page: Which drainages would these water releases occur in? Need to identify those here in order to provide an accurate analysis of impacts to aquatic resources. Last paragraph in section: What about the No Action Alternative? That alternative needs to be addressed also.	See the portion of the response concerning land application in the response to BLM Comment 722a. Discussion of the No Action Alternative has been added to the text.	BLM's comment was on text regarding water releases into drainages, not on "land application," so the UDWR response does not address the comment. Add "because no pipeline and appurtenant facilities would be constructed" to the end of the added text.	Wording is added regarding the drainages where water releases would occur. The following sentence is added after the fourth sentence of the second to last paragraph of Section 5.3.6.3, Chapter 5, Exhibit E of the License Application: These occasional water releases from pipeline and penstock drains would occur at low points in the profile that would be determined during the design phase of the project. The releases would generally be into dry washes and therefore these occasional releases would have no effect on aquatic resources. BLM wording is added to No Action Alternative. The last sentence of the last paragraph of Section 5.3.6.3, Chapter 5, Exhibit E of the License Application is revised to read: No protection, mitigation, or enhancement measures would be undertaken as part of the No Action Alternative because no pipeline and appurtenant facilities would be constructed.
BLM 724	2nd sentence: Need to discuss/expand on this more ... what is the basis for this conclusion? (Right now it is an unsubstantiated claim.)	The cumulative effects of the No Lake Powell Water Alternative, which would eliminate residential outdoor watering, would reduce non-sewered return flows to the Virgin River throughout the St. George metropolitan area, which is analyzed in the final Alternatives Development study report. The reduced flow, combined with water diversions from the Virgin River, would have significant adverse cumulative effects on aquatic resources.	UDWR's response is inaccurate. See BLM comment on UDWR response to Comment #694.	The effects of the No Lake Powell Water Alternative were discussed during the meeting between BLM and UDWR on March 17, 2017. Based on these discussions we understand that BLM's primary concern is that USGS documents cited in the analysis of changes to urban groundwater recharge appear to contradict the conclusions of the groundwater impact analysis in the environmental report. The impact analysis for the alternative is based on localized recharge of the shallow subsurface soils in the vicinity of the urban irrigation and describes the potential effects of changes to this groundwater resource from the alternative. UDWR agrees with BLM that these site-specific changes in groundwater conditions are not in total agreement with conditions described in the two USGS reports. We recognize these differences do exist and suggest the cited USGS documents describe groundwater conditions at a different scale than is described in the impact analysis for the alternative as the reason for the differences. In addition to the response below, please refer to attached Extended Narrative document for the response to this comment and BLM comment No. 694. The following sentence is added as the first sentence of Section 5.3.6.4.4, Chapter 5, Exhibit E of the License Application: The effects of the No Lake Powell Water Alternative presented below are localized, anthropomorphic changes imposed in addition to other natural and man-made conditions described in other reports.
BLM 725	NEW SUB-SECTION: There needs to be a sub-section on analysis of impacts from the No Action Alternative (which is currently missing) – please add.	The text has been revised to address the comment.	Thank you for adding the new sub-section, but it needs to explain why effects (it should be obvious to the reader, but we still need to describe it). And why would the effects under this alternative not be the same as with the No Lake Powell Water alternative? Seems like it should be.	An explanation of the effects is added. Section 5.3.6.4.5, Chapter 5, Exhibit E of the License Application is revised to read: The No Action Alternative would have no measureable cumulative effects on aquatic resources in the LPP study area. No federal action authorizing diversion of water from the Colorado River would occur and thus existing conditions would continue to evolve subject to natural or other anthropogenic influences and factors. For an explanation of the differences between the No Action and No Lake Powell Water Alternatives please see the response to BLM Comment No. 667.
BLM 726	NEW SUB-SECTION: There needs to be a sub-section on analysis of impacts from the No Action Alternative (which is currently missing) – please add.	The text has been revised to address the comment.	Thank you for adding the new sub-section, but it needs to explain why effects (it should be obvious to the reader, but we still need to describe it). And why would the effects under this alternative not be the same as with the No Lake Powell Water alternative? Seems like it should be.	An explanation of effects is added. Section 5.3.6.5.5, Chapter 5, Exhibit E of the License Application is revised to read: The No Action Alternative would have no effect on aquatic resources in the LPP study area. No federal action authorizing diversion of water from the Colorado River would occur and thus existing conditions would continue to evolve subject to natural or other anthropogenic influences and factors. For an explanation of the differences between the No Action and No Lake Powell Water Alternatives please see the response to BLM Comment No. 667.

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BLM 732	<p>General comment: There is a lot of information presented for Apache Trout just to dismiss it later in the document. Seems that a No Effect determination could be made up front with enough rationale being presented to allow USFWS to make a determination of whether they agree with a No Effect (i.e. distribution and critical habitat as it relates to the project) without going into detail on life history and status, life history and ecology, etc. If this level of detail is required, then the following comments apply:</p> <p>Life History and Status: last sentence: "The USFWS (get rid of extra spacing) issued the Draft Apache Trout Recovery Plan, Second Revisions in 2007." Comment: It appears the Apache Trout Recovery Plan (Second Revision), August 2009 should be updated as the reference document. http://www.fws.gov/southwest/es/arizona/ApacheTrout.htm</p> <p>Distribution: Recommend defining and characterizing the distribution and critical habitat of the species in relation to the project and associated project features (i.e. proximity of habitats to the project. This narrows the focus down so the reader can see the crosswalk between presenting species and sets the analysis up with the rationale for dismissing the species because habitat/species is not expected to be impacted by the project/project features.</p> <p>For the Section 7 Consultation it is recommended to dismiss the No Effect species early on and obtain concurrence with USFWS through the Section 7 process; however, typically it is not necessary to go into great detail other than presenting the rationale for why we determined a project was No Effect to a species in the BA.</p>	<p>The document was organized and written in accordance with FERC guidance.</p>	<p>Response doesn't clarify how the comment was handled. If Apache Trout is maintained in the document, then recommend the additional changes be made (references to recovery plan and distribution of the species).</p>	<p>Per BLM a "No Effect" determination has been recommended. The text in Section 5.3.7.1.1.1, Chapter 5, Exhibit E of the License Application is revised to read: Apache trout (<i>Oncorhynchus apache</i>) is historically distributed in the Salt River drainage from east-central Arizona and in the Gila River drainage into west New Mexico. Its current range is reported to be confined to the White Mountains and only on the Fort Apache Indian Reservation. Apache trout have been reported outside their historic range in a number of streams, including a pure population in North Canyon on the Kaibab National Forest. The closest species occurrence is more than 40 miles south of the LPP alignment alternatives, and there is no critical habitat designated for Apache trout. A No Effect determination is recommended for Apache trout with regard to the LPP, based on the closest documented occurrence more than 40 miles south of the LPP and no critical habitat designated for the species.</p> <p>The remaining text referring to Apache trout in Section 5.3.7 Chapter 5, Exhibit E of the License Application is removed.</p>

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BLM 747	<p>Distribution – Several errors in the citations:</p> <ul style="list-style-type: none"> • Lines 3, 6 – “USFWS 2008o” is an incorrect citation – please correct. • Line 6 – Please rewrite the beginning of this sentence to read “The Three Lakes Canyon location is in ...” • Line 7 – Please add the base meridian to this legal description. • Line 7 – List of references (Sec. 5.3.7.6) has “USFWS 1995” as the Virgin River recovery plan ... is that the correct citation for Kanab ambersnail? <p>Life History and Ecology</p> <ul style="list-style-type: none"> • Line 4 – “USFWS 2010o” is an incorrect citation – please correct. 	The text has been revised to address the comment.	<p>1st bullet: Is “USFWS 2010” the correct citation? Also, the 1st “USFWS 2010 citation should be “USFWS 2010a” (since there is more than one “USFWS 2010” reference.</p> <p>2nd bullet: Per BLM Comment #746, is the Three Lakes population really Kanab ambersnail? Need to verify that.</p> <p>3rd/4th bullets: Okay</p>	<p>The references are added and the information verified. The paragraph referenced in the first bullet, Section 5.3.7.1.1.5, Chapter 5, Exhibit E of the License Application is revised with the correct citations and incorporates information from BLM Comment No. 746 as follows: Kanab ambersnail is a terrestrial land snail with a restricted distribution in Kane County, Utah and Coconino County, Arizona. The species inhabits perennially wet environments in seeps and springs draining sandstone or limestone cliffs with semi-aquatic vegetation (USFWS 1995a). The currently known distribution of the Kanab ambersnail is restricted to three locations: two springs within the Grand Canyon and springs located at Three Lakes approximately six miles north of Kanab, Utah (USFWS 1995a). The Three Lakes Canyon location is in Sections 19 and 30, Township 42 South, Range 6 West of the Salt Lake Meridian (USFWS 1995a). It should be noted that genetic testing subsequent to the publication of USFWS 1995a has shown the Three Lakes population not to be Kanab ambersnail but rather another ambersnail (BLM 2016).</p> <p>The "Life History and Ecology" paragraphs, Section 5.3.7.1.1.5, Chapter 5, Exhibit E of the License Application referenced in the fifth bullet is revised with the correct citations as follows:</p> <p>The Kanab Ambersnail is found in semi-aquatic vegetation watered by springs or seeps at the base of sandstone or limestone cliffs at an elevation of approximately 884 m (2,900 ft). It requires either shallow standing water or a perennially wet soil surface. Grass or sedge cover is also necessary (USFWS 1995a).</p> <p>The Kanab Ambersnail is vulnerable because of the rarity and small area of its habitat in the southwest and the small number of its populations. Threats include habitat alteration or destruction from development and heavy grazing; and possible illegal collecting; recreation; and high flows from Glen Canyon Dam affecting habitat in the Grand Canyon (USFWS 1995a).</p> <p>The following citation is added to Section 5.3.7.6, Chapter 5, Exhibit E of the License Application :</p> <p>US Bureau of Land Management (BLM). 2016. Comment No. 746 on the Lake Powell Pipeline Preliminary Licensing Proposal prepared by the Utah Division of Water Resources as part of FRRC Docket #P-12966. February, 2016.</p> <p>References added. Section 5.3.7.6, Chapter 5, Exhibit E of the License Application is revised to read: Miller, R.R. and C.L. Hubbs. 1960. The spiny-rayed cyprinid fishes (Plagopterini) of the Colorado River system. Misc. Publ. Univ. Michigan, Mus. Zool. 115:1-39, 3pls." as a separate reference.</p>
BLM 749	<p>Life History and Ecology</p> <ul style="list-style-type: none"> • NONE of the references cited are included in Sec. 5.3.7.6 – please add them. <p>Listing History and Status</p> <ul style="list-style-type: none"> • Lines 3, 4, 8-9: USFWS acronym has already been defined, so don't redefine it here. • Lines 8-9: There is no “USFWS 1998” citation included in Sec. 5.3.7.6 – what should the correct citation be? • Line 10: What about this species' status in Arizona? <p>Distribution</p> <ul style="list-style-type: none"> • Lines 2, 3: Should be “USFWS” (not “FWS”). This citation should be “USFWS 2002” (not “USFWS 1995”). 	The citations have been added to the list of references.	<p>While Miller and Hubbs 1960 was added to Sec. 5.3.7.6, it is lumped in with “Miller 1963” ... [please list it separately.]</p>	<p>References added. Section 5.3.7.6, Chapter 5, Exhibit E of the License Application is revised to read: Miller, R.R. and C.L. Hubbs. 1960. The spiny-rayed cyprinid fishes (Plagopterini) of the Colorado River system. Misc. Publ. Univ. Michigan, Mus. Zool. 115:1-39, 3pls." as a separate reference.</p>
BLM 750	<p>Distribution</p> <ul style="list-style-type: none"> • Lines 2, 3: Should be “USFWS” (not “FWS”). This citation should be “USFWS 2002” (not “USFWS 1995”). 	The text has been revised to address the comment.	<p>1st bullet: Edit not made (replace “the Fish and Wildlife Service” with “USFWS”).</p> <p>2nd bullet: Citation was not added to Sec. 5.3.7.6</p> <p>3rd/4th bullets: Okay</p>	<p>The second sentence of the first paragraph in Section 5.3.7.1.1.7, Chapter 5, Exhibit E of the License Application is revised to read: In March 1989, USFWS was petitioned by a consortium of environmental groups to list the razorback sucker as an endangered species.</p> <p>Section 7.3.7.6, Chapter 5, Exhibit E of the License Application is revised to read: _____. 1998. Razorback sucker (Xyrauchen texanus) Recovery Plan. Denver, Colorado. 81 pp.</p>
BLM 752	<p>Listing History and Status</p> <ul style="list-style-type: none"> • Lines 2, 3: Should be “USFWS” (not “FWS”). • Lines 12, 16: There is no “UDNR 2002” citation included in Sec. 5.3.7.6 – please add it. <p>General comment: Please add that this species (Virgin River chub) is a Wildlife Species of Concern” to Arizona Game and Fish Dept.</p>	The text has been revised to address the comment.	<p>1st/3rd bullets: Okay</p> <p>2nd bullet: Okay, except remove comma between “UDNR” and “2002”.</p>	<p>Edits made and "species of concern" added. The first paragraph in Section 5.3.7.1.1.8, Chapter 5, Exhibit E of the License Application is revised to read: On August 23, 1978, the USFWS proposed listing the Virgin River chub as endangered and designating critical habitat (43 FR 37668). The USFWS withdrew this proposal (45 FR 64853; September 30, 1980), due to the 1978 amendments to the Act. On June 24, 1986, the USFWS again proposed the listing as endangered and the designation of critical habitat for the Virgin River chub (51 FR 22949). The final rule to list the Virgin River chub as endangered was published on August 24, 1989 (54 FR 35305). The Recovery Plan for Virgin River Fishes was approved on April 19, 1995. The Virgin River Resource Management and Recovery Program was established in 2002 to implement actions to recover, conserve, enhance and protect native species, including the Virgin River chub, in the Virgin River Basin and to enhance the ability to provide adequate water supplies for sustaining human needs (UDNR 2002). The Recovery Action Plan includes the following objectives: describe baseline conditions, provide and protect instream flows, protect and enhance habitat, protect and enhance native species communities, maintain genetically appropriate brood stocks, determine ecological factors limiting abundance of native species, monitor habitat conditions and populations, and improve education and communication on resource issues (UDNR 2002). The species is listed as a species of concern to the Arizona Game and Fish Department according to the Arizona Natural Heritage Listing on the AGFD website.</p> <p>Section 5.3.7.6 Chapter 5, Exhibit E of the License Application is revised to read: Utah Department of Natural Resources (UDNR). 2002. Program Document for the Virgin River Resource Management and Recovery Program. UDNR, Salt Lake City. UT. 37pp.</p>

Comment #	Original Comment	Original UDWR Response	BLM Comment Disposition	UDWR Response
BLM 755	<p>Listing History and Status</p> <ul style="list-style-type: none"> • 8th and 13th lines on page: There is no “UDNR 2002” citation included in Sec. 5.3.7.6 – please add it. • General comment: Please add that this species (woundfin) is a Wildlife Species of Concern” to Arizona Game and Fish Dept Distribution • NONE of the references cited are included in Sec. 5.3.7.6 – please add them. • Line 13: Should be “1960s” (not “1960’s”). 	The text has been revised to address the comment.	<p>1st bullet: Okay, except remove comma between “UDNR” and “2002”.</p> <p>2nd/4th bullets: Okay 3rd bullet: Okay, except “Deacon and Bradley 1972” was not added to Sec. 5.3.7.6.</p>	The requested information is added. Please see the attached Extended Narrative document for the response to BLM Comment No. 755.
BLM 756	<p>Designated Critical Habitat</p> <ul style="list-style-type: none"> • All text in this paragraph (except the first sentence) is already present in Sec. 5.3.7.1.1.8, so don’t need to duplicate it here – simply reference back to that section. 	The text has been revised to address the comment.	Okay, except add “on the Virgin River floodplain” to the end of this revised text.	Phrase regarding the floodplain is added. The fourth paragraph in Section 5.3.7.1.1.9, Chapter 5, Exhibit E of the License Application is revised to read: The area designated as critical habitat for woundfin is the mainstem Virgin River and its 100-year floodplain, extending from the confluence of LaVerkin Creek to Halfway Wash, Nevada. Refer to the discussion in the Designated Critical Habitat portion of Section 5.3.7.1.1.8 for further information on the Virgin River floodplain.
BLM 759	<p>1st line on page: Flannelmouth sucker occurs in the Virgin River, so it DOES have a project nexus.</p> <p>3rd line on page: USGS acronym has already been defined in Ch. 5, so don’t redefine it here.</p>	<p>The Proposed Action has no impacts on the Virgin River.</p> <p>The suggested edit from the second paragraph of the above comment has been incorporated.</p>	<p>UDWR’s response is inaccurate. The fish DOES occur in the Virgin River, so it does have a project nexus. Note that UDWR has described/discussed other Virgin River fish species, making their response to this comment contradictory. This section should simply present information on species potentially affected. Please add information on this species related to the Virgin River.</p>	<p>Information on flannelmouth sucker is provided. The third paragraph in Section 5.3.7.1.2.1 Chapter 5, Exhibit E of the License Application is revised to read: Flannelmouth sucker has a potential project nexus because this native species has suitable habitat and occurs in the Virgin River. The Proposed Action and other LPP alignment alternatives would have no construction effects on the Virgin River and LPP water would be discharged into Sand Hollow Reservoir, approximately 4 miles east of the Virgin River. The No Lake Powell Water Alternative would involve construction and operation affecting the Virgin River. The Paria River has suitable habitat for flannelmouth sucker downstream from Highway 89 where the LPP alignment would cross the river. The Paria River is listed as a perennial stream by the USGS, however, the USGS streamflow records for the Paria River at Highway 89 demonstrate the river has periods during the summer months when there is no flow. The only potential effect of the temporary construction on the Paria River would be changes in water quality that could affect fish and habitat in downstream reaches. Construction of the pipeline crossing of the Paria River at Highway 89 would be performed during a period when there is no flow or low flow to avoid effects on surface water quality (turbidity and sediment transport).</p>
BLM 760	<p>2nd paragraph:</p> <ul style="list-style-type: none"> • 2nd line: This citation should be either “UDWR 2006a” or “UDWR 2006b” ... which is it? • 3rd line: Insert “the” before “bottom of stream”. • Lines 5-12: NONE of the references cited are included in Sec. 5.3.7.6 – please add them. <p>3rd paragraph:</p> <ul style="list-style-type: none"> • Delete 2nd sentence (the one beginning with “The Paria River is listed ...”) – this sentence is already in the previous section on flannelmouth sucker, so don’t need to repeat the same text here. 	The text has been revised to address the comment.	<p>1st/2nd/4th bullets: Okay</p> <p>3rd bullet: “Holden 1973” has still not been added to Sec. 5.3.7.6.</p>	The (Holden 1973) citation is incorrect. The correct citation is (Holden and Stalnaker 1975). The fifth sentence in the second paragraph in Section 5.3.7.1.2.2, Chapter 5, Exhibit E of the License Application is revised to read: In-stream distribution is often related to the presence of rocky substrate which they prefer (Holden and Stalnaker 1975).
BLM 763	<p>3rd paragraph: Please rewrite the first sentence of this paragraph to read “The species occurs in the Virgin River system in the southwestern corner of Utah and the northwestern corner of Arizona.”</p> <p>Note: This species also occurs in the Paria River in Arizona ... please add that.</p>	The suggested edit has been incorporated.	<p>Edit is fine. Add the following to the end of this section: “The species also occurs in the Paria River in Arizona, many miles downstream of the Lake Powell Pipeline project area.”</p>	The sentence requested has been added. The third paragraph in Section 5.3.7.1.2.4, Chapter 5, Exhibit E of the License Application is revised to read: The species occurs in the Virgin River system in the southwestern corner of Utah and the northwestern corner of Arizona. The species also occurs in the Paria River in Arizona, many miles downstream of the proposed LPP alignment crossing.

Comment #	Original Comment	Original UDWR Response	BLM Comment Disposition	UDWR Response
BLM 764	<p>1st two paragraphs on page: NONE of the references cited (except for the UDWR citation) are included in Sec. 5.3.7.6 – please add them. Please revise the UDWR citation to be “UDWR 2006a”.</p> <p>Please add the following sentence to the end of the first paragraph on the page (where the species’ status is discussed): “This species is considered a state Wildlife Species of Concern in Arizona.”</p>	The text has been revised to address the comment.	Comments were not incorporated.	<p>The correct section reference for BLM Comment No. 764 is believed to be Section 5.3.7.1.2.5. The references and the sentence are added. The sixth sentence in the first paragraph in Section 5.3.7.1.2.5, Chapter 5, Exhibit E of the License Application is revised to read: Although the species has a very restricted range, most of the crucial habitat has been protected under a Conservation Agreement, and the species is not currently listed as endangered because the Virgin Spinedace Conservation Agreement and Strategy (VSCAS) is in place (UDWR 2006a). Targeted actions completed under the VSCAS have resulted in Virgin spinedace occupying 89 percent of their historic habitat, and distribution has increased by 49.3 km above the baseline 1995 occupied habitat. In addition, Virgin spinedace have naturally extended their range 12.7 km beyond their historic habitat. This species is considered a state Wildlife Species of Concern in Arizona.</p> <p>Section 5.3.7.6, Chapter 5, Exhibit E of the License Application includes the references made in the first and second paragraphs of Section 5.3.7.1.2.5 and are provided as follows for BLM convenience:</p> <p>Addley, R.C. and T.B. Hardy. 1993. The current distribution of spinedace in the Virgin River basin. Report to Wash. Co. Water Conserv. Dist. Logan, UT.</p> <p>Angradi, T.R., J.S. Spaulding, and E.D. Koch. 1991. Diet and food utilization by the Virgin River spinedace, <i>Lepidomeda mollispinis</i>, and speckled dace, <i>Rhinichthys osculus</i>, in the Beaver Dam Wash, Utah. Southwestern Naturalist 26(2):157-170.</p> <p>Gregor, P.D. and J.E. Deacon. 1988. Food partitioning among fishes of the Virgin River. Copeia 1988(2):312-323.</p> <p>Rinne, W.E. 1971. The life history of <i>Lepidomeda mollispinis</i> (The Virgin River spinedace) a unique western cyprinid. M.S. Thesis, University of Nevada, Las Vegas.</p> <p>UDWR 2006a. Conservation and Management for Three Fish Species in Utah</p>
BLM 767	<p>Recommend a simple summary table with the following columns: Species/Status/Effects Determination (break out the species determination and critical habitat determinations)/Detailed Rationale</p>	Your comment has been noted.	Other than just noted though, they could say whether it is being incorporated?	<p>The requested summary table is incorporated into the appropriate section. Section 5.3.7.2.1.2, Chapter 5, Exhibit E of the License Application is a subsection describing the significance criteria identified for federal sensitive species and state/local agencies species of concern. The significance criteria are identified to determine if the effects of the Proposed Action and alternatives on sensitive aquatic species and their habitat would be significant or not significant.</p> <p>BLM Comment No. 770 requests the text of Section 5.3.7.2, Chapter 5, Exhibit E of the License Application be reorganized to more clearly present the results of the environmental effects analysis for special status aquatic species. Section 5.3.7.2, Chapter 5, Exhibit E of the License Application is reorganized as requested by BLM in BLM Comment No. 770 and is provided in the attached Extended Narrative document.</p>
BLM 768	<p>1st paragraph after bullet list, 5th line: “USFWS 2010o” is an incorrect citation – please correct. Is this comment referencing USFWS 2010p)?</p> <p>2nd paragraph after bullet list, 3rd line: In this usage, spelling should be “effect” (not “affect”).</p> <p>2nd paragraph after bullet list, 8th line: I think “USFWS 2010o” is an incorrect citation – please correct.</p> <p>3rd paragraph after bullet list, 5th line: I think “USFWS 2010o” is an incorrect citation – please correct.</p>	The text has been revised to address the comment.	<p>1st bullet: Okay, except note that “USFWS 2010” is an inaccurate presentation of a citation (because there is more than one “USFWS 2010” referenced document). One should be “USFWS 2010a,” the second “USFWS 2010b,” etc.</p> <p>2nd/3rd/4th bullets: Okay</p>	Please see the Extended Narrative document for the response to BLM Comment No. 768.

Comment #	Original Comment	Original UDWR Response	BLM Comment Disposition	UDWR Response
BLM 770	<p>Do not have a section on “Potential Effects and Alternatives Eliminated from Further Analysis.” Instead, organize this entire analysis the way the other resource sections are:</p> <p>5.3.7.2.2 Proposed Action</p> <p>5.3.7.2.2.1 Construction Effects</p> <p>5.3.7.2.2.2 Operations and Maintenance Effects</p> <p>5.3.7.2.2.3 Effects Determination</p> <p>5.3.7.2.3 Existing Highway Alternative</p> <p>5.3.7.2.3.1 Construction Effects</p> <p>5.3.7.2.3.2 Operations and Maintenance Effects</p> <p>5.3.7.2.3.3 Effects Determination</p> <p>5.3.7.2.4 Southeast Corner Alternative</p> <p>5.3.7.2.4.1 Construction Effects</p> <p>5.3.7.2.4.2 Operations and Maintenance Effects</p> <p>5.3.7.2.4.3 Effects Determination</p> <p>5.3.7.2.5 No Lake Powell Water Alternative</p> <p>5.3.7.2.5.1 Construction Effects</p> <p>5.3.7.2.5.2 Operations and Maintenance Effects</p> <p>5.3.7.2.5.3 Effects Determination</p> <p>5.3.7.2.6 No Action</p> <p>5.3.7.2.6.1 Construction Effects</p> <p>5.3.7.2.6.2 Operations and Maintenance Effects</p> <p>5.3.7.2.6.3 Effects Determination</p> <p>The “effects determination” sub-section for each alternative would then discuss the overall effects of each alternative (which is what will go into the Biological Assessment). Thus, all of the text in Sections 5.3.7.2.2.1 through 5.3.7.2.2.8 would be merged into the overall analysis of impacts by alternative, and each statement on “potential effects from LPP Project” features being “eliminated from further analysis” would be deleted.</p> <p>Note: There are no “transmission line alternatives” ... construction and operation of transmission lines is built into each of the separate alternatives.</p>	<p>The document was organized and written in accordance with FERC guidance.</p>	<p>Please reconsider this comment ... as presented, it makes NO sense and is not logical. Why would this section be organized differently from the other sections in this document? And why would the special status aquatics species have an impacts analysis on alternatives that are not analyzed?</p>	<p>Please see the Extended Narrative document for the response to BLM Comment No. 770.</p>

Comment #	Original Comment	Original UDWR Response	BLM Comment Disposition	UDWR Response
BLM 773	Virgin River Crucial habitat- this is the first time that "crucial" habitat has been discussed. Recommend identifying and characterizing crucial habitat for desert suck and Virgin spinedace in sections 5.3.7.1.2.4 and 5.3.7.1.2.5 respectively.	The document has been organized and written in accordance with FERC guidance.	Stating "the document has been organized and written in accordance with FERC guidance" does not clarify the use of crucial habitat- if crucial habitat is being used it should be discussed in sections 5.3.7.1.2.4 and 5.3.7.1.2.5 Anything discussed in Environmental Effects needs to have been introduced in Affected Environment. This is a basic requirement of a good NEPA analysis.	"Crucial habitat" as utilized for the desert sucker and the spinedace means stream environments important to various life stages o development of the species, but that carry no statutory or regulatory significance, and have not been defined on a map. The first sentence of the second paragraph of section 5.3.7.1.2.4, Chapter 5, Exhibit E of the License Application is revised to read: Crucial habitat (i.e. stream environments important to various life stages of development, but carry no statutory or regulatory significance) for desert sucker includes riffles, rapids and flowing streams with gravelly bottoms. The last sentence of the first paragraph of section 5.3.7.1.2.5, Chapter 5, Exhibit E of the License Application is revised to read: Although the species has a very restricted range, most of the crucial habitat (i.e. stream environments important to various life stages development but carry no statutory or regulatory significance) has been protected under a Conservation Agreement, and the species is not currently listed as endangered because the Conservation Agreement is in place (UDWR 2006). The following is added as the last two sentences in the first paragraph in Section 5.3.7.1.2.5, Chapter 5, Exhibit E of the License Application: Spinedace are found in small streams. They prefer cool, clean tributaries and inflow areas at larger streams and are not generally found in the mainstem of larger streams below 1,372 m (4,500 ft) elevation (USFWS 2017). Spinedace prefer deep pools and runs and are at home in both clear and turbid water (Oral communication: Steve Meismer, WCWCD, March 27, 2017). The following reference is provided for BLM convenience(USFWS 2017): https://www.fws.gov/southwest/es/arizona/Documents/Redbook/Virgin%20Spinedace%20RB.pdf
BLM 774	2nd complete bullet on page: What would be done with the silt fence and the sediment that it traps? Need to identify that here. 4th complete bullet on page: Revise end of BMP to read "... an upland area at least ¼ mile from the stream channel in order to isolate potential contaminants and prevent spills on soil and prevent contaminating stream substrates." 5th complete bullet on page: End of line should read "... on upland areas at least ¼ mile from the stream channel within spill ..." 6th complete bullet on page: Where would this "land applied" watering occur? Need to identify those area(s) NOW. 7th complete bullet on page: What would be done with the silt fence and the sediment that it traps? Need to identify that here. Last line on page: There is no "UBWR 2015a" citation included in Sec. 5.3.7.6 – please add it.	The suggested edits from the second and third paragraphs of the above comment have been incorporated. The land application would occur in areas approved by the landowners and/or administrators. Where the dewatering would be required and hence where the land application area(s) would be located are unknown at this time. The text has been revised to address the various items in the comment.	Edit is fine Edit is fine Edit is fine This comment was not addressed (see BLM's comment on this same issue raised in Comment #722a). Edit is fine There is still no associated citation listed in Sec. 5.3.7.6.	Please see the attached Extended Narrative document for the response to BLM Comment No. 774.
BLM 779	Proposed Action Analysis • 5th/6th lines: The sentence which begins "In the Proposed Action analysis the No Action alternative assumes ... makes no sense. Is this referring to the Proposed Action or No Action? No Action Alternative Analysis • Last sentence: This is an incomplete sentence ... please correct this. Summary of Potential Hydrological Effects • 1st line: Should be "... Proposed Action and No Action alternatives ..." (remember that the Proposed Action is an alternative too).	The text has been revised to address the comment.	1st bullet: Revision does not make sense ... this is the discussion on Proposed Action, not No Action. Thus, delete this paragraph. Then the beginning of the following paragraph should read: "The Proposed Action would divert 86,249 ac-ft of water ..." 2nd/3rd bullets: Okay	For clarification, the text referenced in BLM Comment No. 779 is found in Section 5.3.7.2.2.5 of the License Application which has replaced the PLP in the FERC licensing process. We agree that the location of the referenced text is confusing under the "Proposed Action Analysis" subsection. The referenced text was modified in the License Application by replacing "In the Proposed Action analysis..." with "In the No Action analysis...", but as BLM commented this paragraph does not belong under the "Proposed Action Analysis" subsection and is corrected by moving it to the "No Action Alternative Analysis" subsection. The 2nd paragraph under subsection "Proposed Action Analysis" in Section 5.3.7.2.2.5, Chapter 5, Exhibit E of the License Application is deleted and the 1st paragraph under subsection "No Action Alternative Analysis" in Section 5.3.7.2.2.5, Chapter 5, Exhibit E of the License Application is revised to read: The No Action alternative provides a baseline for comparison with the LPP action alternatives. The No Action alternative represents a projection of future conditions that could occur during the life of the proposed federal action without an action alternative being implemented. In the No Action analysis, the No Action alternative assumes that if the Lake Powell Pipeline is not developed, that water will not be developed somewhere else in the state. This analysis isolates the effect of adding a new project (Lake Powell Pipeline) to the mix of existing and reasonably foreseeable depletions in the Colorado River system. The No Action alternative assumes all Upper Basin depletions except those deemed reasonably foreseeable are held constant at 2015 depletion levels for the entire model run.

Comment #	Original Comment	Original UDWR Response	BLM Comment Disposition	UDWR Response
BLM 780	Entire page: If this information (summary of hydrologic effects from Lake Powell elevations and Glen Canyon Dam releases) is relevant to the discussion of impacts to special status aquatic species, just reference where all of this information was previously stated in this PLP (Sec. 5.3.3.2.2.1).	UDWR's view is that the text is appropriate as written.	Disagree with UDWR's response ... please incorporate the comment.	BLM's comment is incorporated. The PLP section referenced in BLM Comment No. 780 is found in in Section 5.3.7.2.2.5, Chapter 5, Exhibit E of the License Application which has replaced the PLP in the FERC licensing process. The text in subsection "Summary of Potential Hydrologic Effects - Lake Powell Elevations", Section 5.3.7.2.2.5, Chapter 5, Exhibit E of the License Application is deleted and replaced with the following See Section 5.3.3.2.2.1 for a discussion of the potential hydrologic effects on Lake Powell elevations as a result of the LPP or any of the alternatives. The text in subsection "Summary of Potential Hydrologic Effects - Glen Canyon Dam Releases", Section 5.3.7.2.2.5, Chapter 5, Exhibit E of the License Application is deleted and replaced with the following See Section 5.3.3.2.2.1 for a discussion of the potential hydrologic effects on Glen Canyon Dam releases as a result of the LPP or any of the alternatives.
BLM 781	Reclamation Water Quality Modeling Results and CRSS Salinity Modeling Methodology: This information is already discussed in the Water Quality section (5.3.4) so only SUMMARIZE the results here, rather than repeat it again.	The suggested edit has been incorporated into the text.	Comment was not incorporated.	For clarification, the information referenced in BLM Comment No. 782 is found in Section 5.3.7.2.2.5 of the License Application which has replaced the PLP in the FERC application process. And to further clarify, the contents of the PLP and the subsequent License Application provide baseline information and analysis that will be considered and potentially used in preparing the EIS, but these documents are not the NEPA document itself that will be prepared by FERC. For these baseline documents, instances of duplication of information are not as critical as they will be in the EIS when it is prepared. The comment is correct that Reclamation Water Quality Modeling Results and CRSS Salinity Modeling Methodology are discussed in Section 5.3.4. While there are similarities with the information presented in Section 5.3.4, this is the only location in Exhibit E of the License Application where certain detailed modeling information relevant to special status aquatic species is presented and is the appropriate location as it specifically relates to the environmental resource being discussed. And finally to clarify, the contents of the License Application provides baseline documentation that will be considered and potentially used in preparing the EIS, but it is not the NEPA document itself that will be prepared by FERC. Please see the response to BLM Comment No. 780 for a partial response to this comment.
BLM 782	CRSS Salinity Modeling Methodology and CE-QUAL-W2 Water Quality Modeling Methodology: This information is already discussed in the Water Quality section (5.3.4) so only SUMMARIZE the results here, rather than repeat it again.	The suggested edit has been incorporated into the text.	Comment was not incorporated.	Please see the response to BLM Comment 781 for the response to BLM Comment No. 782.
BLM 783	Water Quality Modeling Results (p. 5-288) through Glen Canyon Dam Releases (p. 5-290): All of this is identical text to that on page 5-220 – no need to repeat it here; simply summarize it as it relates to aquatic species.	UDWR's view is that the text is appropriate as written.	Disagree with UDWR's view that the text is appropriate as written." Please incorporate the comment.	Please see the response to BLM Comment No. 780 for the response to BLM Comment No. 783.
BLM 784	Merge both of these sections and move to Sec. 5.3.7.2.3,	The document was organized and written in accordance with FERC guidance.	Unlikely that FERC's guidance would be this specific. It makes no sense to discuss effects on species anywhere other than the "Proposed Action Effects" section. Please make the requested edit.	For clarification, the text referenced in BLM Comment No. 784 is found in Sections 5.3.7.2.2.6 and 5.3.7.2.2.7, Chapter 5, Exhibit E of the License Application which has replaced the PLP in the FERC licensing process. The text of the two sections is part of Section 5.3.7.2.2 which discusses alternatives and effects eliminated from further analysis. Specifically, the text describes the habitat of the two special status aquatic species as not being affected by the Proposed Action or any of the alternatives. If the project would have no effect on the resources because the habitat is not geographically proximate, then the text does not warrant being included in subsequent sections of the text where the effects on resources from the Proposed Action (Section 5.3.7.2.3 as proposed by BLM) and project alternatives are discussed. To further clarify, the contents of the PLP and the subsequent License Application provide baseline information and analysis that will be considered and potentially used in preparing the EIS, but these documents are not the NEPA document itself that will be prepared by FERC.
BLM 792	NEW SUB-SECTION: There needs to be a sub-section on analysis of impacts from the No Action Alternative (which is currently missing) – please add.	The text has been revised to address the comment.	Thank you for adding this new sub-section, but need to explain WHY none would be implemented.	An explanation of why no protection measures would be implemented is added. The following sentence is added to the end of Section 5.3.7.3.5, Chapter 5, Exhibit E of the License Application: The No Action Alternative involves no federal action being undertaken authorizing diversion of water from the Colorado River. As such, by definition no protection, mitigation, or enhancement measures would be implemented. The No Action Alternative provides a baseline upon which the LPP action alternatives can be compared.
BLM 793	NEW SUB-SECTION: There needs to be a sub-section on analysis of impacts from the No Action Alternative (which is currently missing) – please add.	The text has been revised to address the comment.	Thank you for adding this new sub-section, but need to explain WHY no cumulative effects.	An explanation of why no cumulative effects is added. The following sentence is added to the end of Section 5.3.7.4.5, Chapter 5, Exhibit E of the License Application: There would be no Federal action undertaken as part of the No Action Alternative and therefore there would be no cumulative effect on special status aquatic species.

Comment #	Original Comment	Original UDWR Response	BLM Comment Disposition	UDWR Response
BLM 794	<p>The discussion of the impacts to special status aquatic species and their habitats from the “No Lake Powell Water Alternative” contains the following statement: “The No Lake Powell Water Alternative would have long- term unavoidable adverse effects on special status aquatic species and their habitat resulting from the indirect action of restricting residential outdoor watering with potable water, which would eliminate groundwater recharge in the St.George metropolitan area that reports back to the river during the summer and fall months.” The assertion that eliminating residential watering would eliminate groundwater recharge also appears in other sections in Chapter 5 (Groundwater Resources-5.3.5, Wetland and Riparian Resources-5.3.9, Wildlife-5.3.11, Special Status Wildlife Species-5.3.12). This conclusion seems to directly contradict information found in at least two sources cited in the analysis: From Section 5.13C.7.1.1 in the Lake Powell Pipeline Phase I - Preliminary Engineering and Environmental Studies. UDWR (2009) – Appendix A in the Groundwater Resources Study Report: “Volumetrically, the primary flow remains northward toward the Virgin River and away from the groundwater table mound. The dominant northward flow direction precludes recharge from the Pine Valley Mountains, northwest of the reservoir area, considered the primary source of regional groundwater recharge (USGS 2000), the Hurricane Cliffs to the east, and the Virgin River to the north and west. This suggests that natural recharge in the vicinity of the reservoir occurs largely as a result of local precipitation within Sand Hollow.” (Emphasis added) And on page 51 in; USGS 2000. Geohydrology and Numerical Simulation of Ground-Water Flow in the Central Virgin River Basin of Iron and Washington Counties, Utah: Utah Department of Natural Resources Technical Publication No.116: “The Navajo and Kayenta aquifers are recharged primarily by infiltration of precipitation on the Navajo Sandstone and Kayenta Formation outcrop and seepage from streams crossing the outcrop. Additional sources of recharge include seepage from overlying and underlying formations, infiltration of unconsumed irrigation water, and seepage from Gunlock Reservoir.” (Emphasis added)</p>	<p>The Alternatives Development final study report has been updated to include data, scientific references, and analyses supporting the conclusions of the impacts analysis of the No Lake Powell Water Alternative. Eliminating residential outdoor water use would decrease non-sewered return flows to the Virgin River by 77 to 80 percent, in the range of 21 to 23 cfs continually, throughout the St. George metropolitan area.</p>	<p>Disagree with UDWR’s response. The final groundwater study report was updated with this language but this information was not included in the License Application. The study report uses these numbers to defend the conclusions regarding impacts to groundwater recharge due to the lack of residential landscape watering in the No Lake Powell Water Alternative. However, there is no citation or further explanation as to where these numbers come from. There is a list of about 23 references at the end of the report, but the reader should not be forced to figure out which reference these data came from by reading through each one when a simple citation can be inserted. Furthermore, there is no discussion as to why there seems to be a discrepancy between the two references cited in the original comment and whatever reference was used for the numbers in the UDWR response. This issue of significant decreases in groundwater recharge from the lack of landscape watering is mentioned in several other resource sections and seems to be the key argument for why there would be significant detrimental effects from the No Lake Powell Water Alternative. As such, a very strong argument needs to be made to back this assertion up, along with solid, verifiable data</p>	<p>The effects of the No Lake Powell Water Alternative were discussed during the meeting between BLM and UDWR on March 17 2017. Based on these discussions we understand that BLM’s primary concern is that USGS documents cited in the analysis of changes to urban groundwater recharge appear to contradict the conclusions of the groundwater impact analysis in the environmental report. The impact analysis for the alternative is based on localized recharge of the shallow subsurface soils in the vicinity of the urban irrigation and describes the potential effects of changes to this groundwater resource from the alternative. UDWR agrees with BLM that these site-specific changes in groundwater conditions are not in total agreement with conditions described in the two USGS reports. We recognize these differences do exist and suggest the cited USGS documents describe groundwater conditions at a broader scale than is described in the impact analysis for the alternative as the reason for the differences. In addition to the response below, please refer to attached Extended Narrative document for the response to this comment and BLM comment No. 694.</p> <p>The following sentence is added as the first sentence of sections 5.3.7.2.6 and 5.3.7.3.4, Chapter 5, Exhibit E of the License Application: The effects of the No Lake Powell Water Alternative presented below are localized, anthropomorphic changes imposed in addition to other natural and man-made conditions described in other reports.</p>
BLM 795	<p>NEW SUB-SECTION: There needs to be a sub-section on analysis of impacts from the No Action Alternative (which is currently missing) – please add.</p>	<p>The text has been revised to address the comment.</p>	<p>Thank you for adding this new sub-section, but need to explain WHY no unavoidable adverse effects.</p>	<p>An explanation of why there would be no unavoidable adverse effects is added. The following sentence is added to the end of Section 5.3.7.5.5, Chapter 5, Exhibit E of the License Application: There would be no Federal action undertaken as part of the No Action Alternative and therefore there would be no cumulative effect on special status aquatic species.</p>

Comment #	Original Comment	Original UDWR Response	BLM Comment Disposition	UDWR Response
BLM NewA			<p>Please note that the added (new) sub-section (No Action) has an incorrect section number (it should be "5.3.7.2.6.5" rather than "5.3.7.3"). Then the correct section title for 5.3.7.3 needs to be added ("Protection, Mitigation and Enhancement Measures").</p>	<p>There is an incorrect sub-section number for the referenced text but the correct sub-section number should be "5.3.7.2.7" rather than "5.3.7.2.6.5." The referenced text in Chapter 5, Exhibit E of the License Application is re-numbered as follows 5.3.7.2.7 No Action Alternative Effects.</p> <p>The No Action Alternative would have no effects on Virgin River chub and woundfin or their designated critical habitat. The No Action Alternative would have no effects on desert sucker and Virgin spinedace or their crucial habitat in the Virgin River corridor.</p> <p>5.3.7.3 Protection, Migration and Enhancement Measures</p>