

Narrows Project
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Comment

Number	Comment
1.01	Project facilities are described in Section 2.2.2, Proposed Action Alternative, of the final environmental impact statement (FEIS).
1.02	The text has been changed in section 3.6. Should the dam be approved for construction, it would be built to appropriate Federal or State seismic standards (i.e., Federal Guidelines for Dam Safety, Federal Emergency Management Agency [FEMA], 2005; and Requirements for the Design, Construction, and Abandonment of Dams, Utah Administrative Code [UAC] Rule R655-11, respectively).
1.03	Section 3.6, Geologic Resources, of the FEIS has been edited to include all seismic events including mining.
2.01	Comments addressed below in similar letter 3.
3.01	The mitigation measures would be included in construction contracts and other agreements to ensure their implementation. Mitigation measures would be concurrent with project construction. Should Reclamation fund the Narrows Project through the Small Reclamation Project Act (SRPA) loan program and and issue a license agreement for use of Federal land and environmental commitments are not kept, project funding and renewal of the license agreement could be withheld by the Bureau of Reclamation (Reclamation). In addition, the Section 404 permit issued by the U.S.Army Corps of Engineers (USACE) could restrict filling of the reservoir if environmental commitments are not met.
3.02	Mitigation measures were proposed and evaluated by an interagency team of water quality specialists. These measures rely, in part, on the assessments and estimates of a potential phosphorus reduction through stream restoration identified in the Scofield Reservoir total maximum daily load (TMDL), which was approved by the U.S. Environmental Protection Agency (EPA) September 1, 2000, according to Utah's 2006 305(b) report. The effectiveness of mitigation measures will be assessed by a water quality monitoring program. If identified improvements do not meet the required phosphorus load reduction target identified in the FEIS, then additional mitigation measures will be identified and implemented. Mitigation measures will be implemented prior to storage and diversion of water as part of the Proposed Action. The FEIS has been edited to include details of adaptive management regarding identification and implementation of mitigation measures. Additionally, from section 3.3, if the estimated phosphorus reduction of proposed mitigation measures does not equal or exceed the required reduction of 805 kilograms per year (kg/yr), then additional mitigation measures would be identified and implemented until the required reduction is reached.
3.03	Comment acknowledged. The EIS team complied with 40 Code of Federal Regulations (CFR) 1502.22 and acknowledges that some information is unavailable. To the extent there is available information, economic effects are analysed in Section 3.17, Economic and Social Resources.
3.04	The FEIS has been revised in section 3.12 to include the greater sage-grouse. Sage-grouse habitat lost due to the proposed project would be replaced by habitat improvements to other areas.

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- 3.05 Mitigation measures were developed by resource specialists and cooperating agencies with experience in addressing shortages to their resources. They were designed within the limits of the water rights and within the limits of land ownership. The low flow is defined by the water right and cannot be changed as a result of its effects. The low flow is an attempt to improve existing conditions where the stream goes dry at certain times of the year. Commitment to enforce mitigation measures and monitoring is described in the previous comment.
- 3.06 The environmental commitments reflect the necessity of long-term maintenance and inspection of water quality mitigation.
- 3.07 The water quality data presented in the SDEIS was the most current available through the EPA STORET Web site at the time of the writing and editing of the SDEIS (2010). As shown in the footnotes of tables 3-14, 3-15, 3-16, and 3-17, water quality data through 2007 is represented.
- 3.08 A water quality monitoring program will be developed and implemented as an environmental commitment if the project is approved. Monitoring will take place prior to implementation of the mitigation measures to identify specific locations of streambank improvements and to determine the reduction in phosphorus loading that the identified improvements will have. Water quality monitoring and identification of mitigation measures will be done in coordination with the Utah Division of Water Quality (UDWQ) and other Federal, State, and local agencies. Water quality monitoring will continue following implementation of the proposed mitigation measures to verify the effectiveness of those measures. The FEIS has been edited to clarify the commitment to water quality monitoring.
- 3.09 Section 3.3 of the FEIS identifies an annual phosphorus load reduction target of 805 kg/year. The load reduction was identified from the eutrophication study. Mitigation measures were proposed and evaluated by an interagency team of water quality specialists. Specific locations for mitigation will be identified by a water quality monitoring program. If identified improvements do not meet the required phosphorus load reduction target identified in the FEIS, then additional mitigation measures will be identified and implemented. Mitigation measures will be implemented prior to storage and diversion of water as part of the Proposed Action. The FEIS has been edited to include details of adaptive management regarding identification and implementation of mitigation measures.
- 3.10 Comment acknowledged. To the extent there is available information, economic effects are analyzed in section 3.17. All of the costs of the proposed project are included in the loan application appended to the FEIS (appendix J), which should sufficiently address this concern.
- 3.11 The criteria for approval of a loan under the SRPA and approval for the use of the land have been clarified and added to chapter 1. This is one of the criteria for approval of the SRPA loan and is used to evaluate the potential for the Sanpete Water Conservancy District (SWCD) to repay its obligation to the United States.

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- 3.12 SWCD does not anticipate revisions to the mitigation plan as part of the Section 404 permit process.
- 3.13 Section 3.14 identifies four potential mitigation areas—one proposed mitigation area along Mud Creek and three alternative mitigation areas between Fairview Lakes and Narrows Reservoir and Manti Meadows. SWCD is willing to look at other alternatives for mitigation including possible mitigation opportunities along Fish Creek or Gooseberry Creek (if available). The environmental impact statement (EIS) team believes that the proposed and alternative areas are enough options to have successful mitigation.
- 3.14 As described in chapter 2, a wide-array of alternatives was evaluated in an effort to identify the “Least Environmentally Damaging Practicable Alternative.” In that process, an attempt was made to identify off-channel reservoir sites. Unfortunately, no viable off-channel reservoir sites are located within the project area. SWCD will provide an explanation of the alternatives that were considered in the Section 404 permit.
- 3.15 The analysis was updated and included in the text under section 3.12. Reclamation and SWCD would cooperate in implementing the measures prescribed in the Spotted Frog Conservation Agreement and Strategy (Final 1998) should the project be approved and implemented.

All practical alternatives based on the outcome of the 1984 Agreement and the requirements for late season irrigation have been explored, and the Proposed Action satisfies those requirements. Reclamation considered the economic impact in the FEIS, and an economic analysis of alternatives is included in the loan application appended to the FEIS (appendix J).

- 3.16 If the project is approved, SWCD will comply with current USACE mitigation guidelines.
- 3.17 The conversion of water from irrigation to municipal and industrial use will occur in stages. It is unknown at this time when water will be needed and how much water will be needed.
- 3.18 Pursuant to Reclamation law and policy, SWCD will be required, in the license agreement, to develop and implement a water conservation plan. The plan will contain definite goals, +appropriate water conservation measures, and a time schedule for meeting the water conservation objectives. SWCD currently has a water conservation plan that will need to be updated to include this additional water. During the revision, Reclamation will make every effort to ensure that it is consistent with our requirements by providing input for the new plan.
- 4.01 The FEIS has been revised in section 3.12 to include the greater sage-grouse. Sage-grouse habitat lost due to the proposed project would be replaced by habitat improvements to other areas.

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- 4.02 The reference to mountain riparian habitat was added to Section 3.13, Vegetative Resources. The FEIS incorporates mitigation to fully compensate for adverse impacts to wetland resources.
- 4.03 Section 3.11, Wildlife, of the FEIS has been revised to include effects to migratory birds. Mitigative measures for these effects have been specified in the FEIS.
- 4.04 Mitigation measures have been appended to the FEIS to address this impact. As stated in Section 3.12, Threatened and Endangered Species, of the FEIS, “Prior to construction of the proposed project, greater sage-grouse habitat would be surveyed for any use by these birds. If active nests are found in the area, construction would be delayed until these birds have left their nests, probably in early June. A survey for golden eagle nest use would be conducted prior to construction. If active nests are found, construction activities within 0.5 miles of the nest would not be allowed from January 1–August 31.”
- 4.05 The Partners in Flight data were not added; instead, the Habitat Evaluation Procedure was used. Impacts to migratory bird species are covered in Section 3.11, Wildlife, of the FEIS.
- 4.06 Raptor protection measures have been incorporated into appendix G of the FEIS.
- 4.07 The rehabilitation of the existing Narrows Tunnel was not believed to cause additional environmental effects, and the action was completed while this FEIS was being finalized. No effects on habitat were observed or expected. This action was covered by a USDA Forest Service NEPA document.
- 4.08 All of the above features of the proposed project have been analyzed in the FEIS. They would have short-term negative impacts to wildlife habitat. These effects would occur during construction when wildlife would be displaced to other nearby similar habitats. Wildlife would continue to be affected until these areas are revegetated and restored to preproject conditions.
- 4.09 The FEIS has been revised to include effects to greater sage-grouse. Sage-grouse habitat lost, due to the proposed project, would be replaced by habitat improvements to other areas. The FEIS also incorporates mitigation to fully compensate for adverse impacts to wetland resources. The FEIS has been revised to include effects to migratory birds, and mitigative measures for these effects have been specified in the FEIS.
- 4.10 Climate change is discussed in sections 1.7 and 3.3. As stated there, climate change models have not been developed with sufficient detail or sensitivity to capture small projects such as the proposed Narrows Project, which involves storage and distribution of 5,400 acre-feet of water per year. Without downscaled models addressing climate change at this project level, at this time, a meaningful analysis of a small project cannot be achieved.

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- 4.11 Reclamation's purpose and need is described as considering approval of SWCD's SRPA loan application to build the Narrow's Project and SWCD's request for authorization to use withdrawn lands to construct and operate the proposed dam and reservoir (section 1.4 of the FEIS). SWCD has stated its primary purpose of the project is to supply additional irrigation water to lands that are serviceable and secondary to deliver water for municipal and industrial (M&I) purposes. The projections for Sanpete County show that additional M&I water may be needed in the future; however, there is no current plan for such a conversion. Based on the U.S. Department of the Interior (DOI) NEPA regulations, the lack of a definite plan or proposal for such a conversion means the M&I water conversion would not be reasonably foreseeable; therefore, analysis of such a conversion would be speculative. Based on this, SWCD has determined that it could convert irrigation water over to M&I uses based on that need if it materializes. Existing water supplies for the area are not sufficient to cover the anticipated needs.
- 4.12 A discussion has been added to Section 3.11, Wildlife, covering the possible use of the project area by eagles; and appropriate mitigation measures have been included in an appendix (appendix D).
- 4.13 A discussion has been added to the FEIS (section 3.12.3.2) covering the possible use of the project area by greater sage-grouse and appropriate mitigation measures. Sage-grouse habitat lost due to the proposed project would be replaced by habitat improvements to other areas.
- 4.14 The analysis was updated and included in the text under Section 3.12, Threatened and Endangered Species. Reclamation and SWCD would cooperate in implementing the measures prescribed in the Spotted Frog Conservation Agreement and Strategy (Final, 1998) should the project be approved and implemented.
- 4.15 Reclamation maintains that bluehead sucker (*Catostomus discobolus*) and flannelmouth sucker (*Catostomus Latipinnis*) would not be significantly affected by the proposed project. Peak streamflow in the Price River at Woodside would not be decreased appreciably.
- 4.16 The proposed mitigation replaces a quantity of habitat units for an equal or larger quantity of habitat units lost. The method used to evaluate the effects is a Habitat Evaluation Procedure—a “species habitat” approach to impact assessment and habitat quality. The program uses selected species as indicators to evaluate habitat for a host of other species, assuming that these indicator (evaluation) species are functioning units of part of an ecosystem. Impacts to a particular indicator species assume that there also would be impacts to the group of the species it represents. Habitat Suitability Indices (HSI) were ascertained for each evaluation (indicator) species. The project includes a comprehensive monitoring and maintenance program; and a list of detailed mitigation commitments, designed to ensure that the actual functions of the lost aquatic and wildlife habitat values are replaced by mitigation measures.
- 4.17 The conversion of upland habitat to wetland habitat is a mitigation measure for the proposed project. Reclamation considers these proposed actions as beneficial to wildlife since they replace important and less common wetland habitats that may be impacted by the proposed project.

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- 4.18 The FEIS specifies that these easements would be held by the United States. The precise mitigation and monitoring requirements to be adopted if the proposal is approved would be specifically described prior to construction.
- 4.19 Comment acknowledged. Averages are based on the 1960–2002 hydrologic period of record. The hydrologic analysis uses United States Geological Survey (USGS) stream gauge data, and a majority of the the USGS stream guage data was discontinued in 1989 and 2003. The additional effort to add 1 year of stream gauge data results in an insignificant improvement in the overall analysis.
- 4.20 The FEIS recognizes that flow reductions in Lower Gooseberry Creek and Fish Creek would negatively affect aquatic resources. These impacts are addressed through mitigation measures.
- 4.21 Change were made to Section 3.1, Water Resources. See also Section 3.14, Wetland Resources.
- 4.22 We updated section 3.1 to be more explanatory. The Proposed Action would impact only storage releases. Direct flow rights that have a senior priority date to the Narrows water rights would be unaffected by the project. During the spring filling period, Scofield Reservoir releases are typically made to prevent the over filling or to ensure downstream senior water rights are fully satisfied. During average and wet hydrological years, senior water rights are often satisfied by tributary flows below Scofield Reservoir and spring time releases from Scofield Reservoir are governed primarily by filling concerns for both the No Action and Proposed Action Alternatives. Under dry hydrologic conditions, tributary flows generally do not meet the required downstream direct flow rights, and additional releases from Scofield Reservoir are necessary under both the No Action and Proposed Action Alternatives.
- 4.23 We updated section 3.1 to be more explanatory. Please see the water resources section of the FEIS. Scofield Reservoir was enlarged to mitigate any potential adverse effects of the Proposed Action; therefore, any potential impacts are already mitigated in part by the reservoir enlargement.
- 4.24 Effects to the fishery above the proposed project are described in Section 3.10, Fisheries, of the FEIS.
- 4.25 Cutthroat trout mentioned in the FEIS are Yellowstone cutthroat trout, (*Oncorhynchus clarkii bouvieri*).
- 4.26 The FEIS has been updated and now identifies these areas as blue ribbon fisheries. Scofield Reservoir would be operated within the range of historic operations. Peak flows may be reduced in some years. Riparian and aquatic habitats and animals dependant on these habitats, including fish, would not be significantly affected by these changes.
- 4.27 Data used to evaluate habitat conditions is the most recent available. The Utah Division of Wildlife Resources has been and will be invited during implementation of the mitigation measures to provide any comments they may have on the proposed project, including providing more recent information if available.

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- 4.28 Section 3.10, Fisheries, indicates the proposed project likely would not negatively affect the fishery in Lower Fish Creek below Scofield Reservoir. The proposed project would not change the normal operation of Scofield Dam.
- 4.29 Scofield Reservoir would be operated within normal parameters. Affects to flows, attributable to the proposed project below Scofield Dam, would not significantly affect fish species.
- 4.30 The bed material of this reach of Cottonwood Creek consists of bedrock, boulders, and cobble that would remain stable under these flow conditions. Stream channel morphology would not be affected by the Proposed Action.
- 4.31 Minimum flows from the proposed dam would be released during filling and thereafter.
- 4.32 Reclamation considers that information concerning fish populations in effected waterbodies has been adequately collected and discussed in the FEIS. SWCD mitigation and monitoring requirements to be adopted if the proposal is approved will be specifically described prior to construction.
- 4.33 Table 3-11 of the FEIS specifies a 2-cubic-foot-per-second (cfs) winter release to Cottonwood Creek as a mitigation commitment.
- 4.34 The effects of the pipelines to wetlands is described in the Section 3.14, Wetland Resources.
- 4.35 This comment questions whether the SDEIS is correct in stating that these wetlands are “not unique to the area.” Reclamation concurs with the commenter in that riparian wetlands, in general, are unique because of their limited distribution. Further, the SDEIS was not stating that the wetlands, in general, are not unique. Rather, the SDEIS and the subsequent FEIS are merely stating that the wetlands found in the Gooseberry drainage are not unique to the area. Wetlands found in the Gooseberry drainage are common.
- 4.36 Section 2.2.2.2.3.4 of the FEIS clearly states that the alternative method of stabilizing and narrowing the Middle Gooseberry Creek channel by using earthmoving equipment was eliminated from further consideration. Instead, it lists a number of methods that will be used, such as cover logs, depositional structures, organic riprap treatments, rock clusters, rock deflectors, and rock weirs. These methods have proven to be successful in other locations, such as the middle Provo River stream restoration.
- 4.37 The status of willows in the creeks was added to the text.
- 4.38 For mitigation purposes, SWCD would follow the approved USACE Mitigation Guidelines. If the project is approved, SWCD would work with the USACE and U.S. Fish and Wildlife Service (Service) to find other alternatives that will ensure a permanent hydrology source to help with the establishment and success of the hydrolytic vegetation and not impair the wetland function.
- 4.39 Comment noted; but in the U.S. Army Corps of Engineers Mitigation and Monitoring Proposal Guidelines of December 30, 2004, there is no guidance to the effect that mitigation can’t be fulfilled on a different watershed. Further, the Manti Meadows is one of the alternative options for mitigation, not the proposed mitigation option that is adjacent to Mud Creek Area near Scofield Reservoir.

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- 4.40 We did not append the study conducted in 2009 by Franson Civil Engineers on the Effects of the Narrows Project on the Riparian Vegetation in Fish and Gooseberry Creeks, but it is part of the project record. It and other mitigation measures have been reviewed by Reclamation.
- 4.41 We tried to expand the analysis of direct effects rather than cumulative effects.
- 4.42 The gaining and losing characteristics of the streams within the project area suggested that as long as there is water availability, vegetation would not decrease, nor would there be any adverse effects to riparian vegetation.
- 4.43 The description of cumulative effects on water quality in the FEIS has been edited accordingly.
- 4.44 These sections were reviewed and edited as appropriate.
- 4.45 The Scofield Reservoir TMDL document is included in the FEIS bibliography. The West Colorado Watershed TMDL document, which includes the Price River watershed, has been included in the FEIS bibliography. These documents have been referenced in the description of cumulative effects on water quality.
- 5.01 The EIS team believes that the funds for all mitigation or avoidance measures would have to be included in either the funding provided by SWCD directly or through the Federal loan. We believe that the funds would come from the applicant and that they could not apply any revenues obtained from camping to pay for these costs.
- 5.02 This would have to be worked out between SWCD and the U.S. Department of Agriculture Forest Service (USDA Forest Service) or Reclamation.
- 5.03 Reclamation updated the information and included that which was readily available.
- 5.04 Reclamation disagrees that all mitigation must be done within the national forest boundary. The subject mitigation will be completed primarily within the area of project influence, which includes lands both inside and outside of the national forest boundary. In the USACE Mitigation and Monitoring Proposal Guidelines of December 30, 2004, there is no guidance to the effect that mitigation cannot be fulfilled on a different watershed.
- 5.05 The Service responded to Reclamation in writing during scoping, but did not request a new consultation. Reclamation considers that the Biological Opinion, prepared in 2000, adequately addresses impacts of the proposed project on threatened, endangered, and candidate species. The FEIS has considered other information regarding these species current listing, status, and ranges.
- 5.06 All data in the FEIS were reviewed by resource specialists and updated if deemed necessary based on the comments received and as new data became available.

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- 5.07 Averages are based on the 1960–2002 hydrologic period of record. The hydrologic analysis uses USGS stream gauge data, and a majority of the USGS stream gauge data was discontinued in 1989 and 2003. The additional effort to add 1 year of stream gauge data results in an insignificant improvement in the overall analysis.
- 5.08 Averages are based on the 1960–2002 hydrologic period of record. The hydrologic analysis utilizes USGS stream gauge data, and a majority of the USGS stream gauge data was discontinued in 1989 and 2003. The additional effort to add 1 year of stream gauge data results in an insignificant improvement in the overall analysis.
- 5.09 Price River flows below Scofield Reservoir that would impact the municipal water supply for Helper and Price were analyzed, and there was no significant difference from the flow analysis outlined in the FEIS. No further analysis is needed.
- 5.10 Negative impacts to aquatic resources are presented in the FEIS. All negative impacts to aquatic resources would be mitigated.
- 5.11 Based on the information gathered, the 1983 report referenced in the SDEIS is the most recent estimate of tributary phosphorus loading. It is worth noting that the Scofield Reservoir TMDL document, which was approved in 2000, references the same 1983 report for tributary phosphorus loading.
- 5.12 The document, *Scofield Reservoir Restoration through Phosphorus Control* (Judd, 1992) describes past efforts to reduce phosphorus loading to Scofield Reservoir. The time period is approximately 1984–1990. More recent restoration efforts on Mud Creek were completed in 2010 by the Utah Division of Wildlife Resources. Reclamation is not aware of other restoration efforts or their timeframe. As indicated in the response to comment 5.13 the Utah Division of Water Quality is not aware of a summary of other past restoration efforts.
- 5.13 According to the *2008 Non-Point Source Pollution Management Program Annual Report*, jointly prepared by the Utah Department of Environmental Quality and the Utah Department of Agriculture and Food, a grazing management project in the Scofield Reservoir drainage was estimated to reduce phosphorus loading by 500 kilograms. Monitoring of recent restoration efforts on Mud Creek, which were completed in 2010 by the Utah Division of Wildlife Resources using EPA 319 funds, is ongoing. The Utah Division of Water Quality was contacted regarding this question and is not aware of a summary or of results from other past restoration efforts.
- 5.14 The EIS team searched for additional data and most of those years were not available. Data that was available was added, and the FEIS was updated. The new data made no significant difference in the results.
- 5.15 The study period for flushing rates in Scofield Reservoir was 1960–2005, as depicted in figure 3-7.
- 5.16 The increase for in-lake phosphorus concentrations is described in section 3.3.3.2.2 of the SDEIS and is an increase of 10.8 percent (%) (from 0.0279 to 0.0309 milligrams per liter [mg/L]). This statement in the FEIS also has been edited.

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- 5.17 The referenced paragraph has been edited.
- 5.18 No, these items were not analyzed in this document. This comment is outside the scope of the FEIS.
- 5.19 This statement has been edited.
- 5.20 This statement has been edited.
- 5.21 This statement has been edited.
- 5.22 There are several potential mitigation sites considered in the FEIS. Some sites may or may not be available. SWCD is committed and required to meet their mitigation requirements through a combination of any sites available at the time of construction.
- 5.23 Reclamation concurs with the commenter that riparian wetlands, in general, are unique because of their limited distribution. Further, the SDEIS is not stating that the wetlands, in general, are not unique. Rather, the SDEIS is merely stating that the wetlands found in the Gooseberry drainage are not unique to the area. Wetlands found in the Gooseberry and Fish Creeks drainages are common.
- 5.24 The data and analysis are found in a study conducted in 2009 by Franson Civil Engineers.
- 5.25 The current outer bounds of the communities likely would be unchanged.
- 5.26 The Narrows FEIS has been updated to include the 2009 State Comprehensive Recreation Plan (SCORP).
- 5.27 The purpose of the 1979 survey was to, “inventory the primary impact area for cultural resources” and to “gather data for use in understanding the significance of high altitude areas in Utah and Basin-Plateau prehistory” (Singer 1979:2). The undertaking has not been initiated and would not be unless one of the action alternatives is selected.
- 5.28 Reclamation consulted with the State Historic Preservation Office (SHPO) in a letter dated September 10, 1997, and again on January 25, 2007, by phone. The SHPO concurred with the cultural resource commitments and agreed that they were adequate in complying with Reclamation’s responsibilities under Section 106 of the National Historic Preservation Act (NHPA) regarding cultural resource compliance with Section 106 of the NHPA associated with the Narrows Project (see appendix E). Again, the undertaking has not been initiated.
- 5.29 The FEIS has been edited to reflect the correct information.
- 5.30 This statement has been edited.
- 5.31 Should the project go forward and the design work on the dam be finalized, current seismic and landslide data would be reviewed to aid with mitigation and design. Additional geologic field evaluation and assessment of the dam and reservoir site will be performed to address the proximal active faults associated with the site and will further characterize the earth materials underlying the dam site, reservoir, and reservoir rim. Designs would incorporate maximum accelerations associated with natural and/or manmade seismic events that are determined or probable that could potentially occur in the area. Mitigation for other potential geologic hazards also would be integrated into the design.

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- 5.32 The tunnel capacity is 60 cfs. However, in 2.2.2.2.5, a commitment is made to shut off the tunnel when the flow at the mouth of the Cottonwood Creek canyon exceeds 100 cfs (including natural flow from the Cottonwood Creek drainage and Narrows Project water delivered through the tunnel). This only would happen during high runoff events such as snowmelt or thunderstorms. The 2-year peak flow in Cottonwood Creek is about 100 cfs. That is the flow that the stream can accommodate without causing flooding or damage to the channel.
- 5.33 The 1968 average year was determined by ranking water volume for each year from 1960–2002 and choosing the corresponding median volume of water. Modeling methodology are disclosed in a new appendix (appendix I) that describes the modeling in detail.
- 5.34 The Migratory Bird Treaty Act and the Endangered Species Act were considered in the FEIS. The list you are referring to are those that were determined to have no effect from the proposed action.
- 5.35 See section 4.5 of the FEIS.
- 5.36 Figure 1-1 shows results of a USGS water use trends study in the desert Southwest. The counties listed are those used in the study as an example of water use in Utah. Effects on Carbon County resources were considered by the EIS team throughout the FEIS.
- 5.37 The justification of the Narrows Project is to provide needed water and enable SWCD to act on its non-Federal Narrows Project water right. The justification for the Narrows Project is not to be 'different' from other developed recreation areas but to help offset the projected future pressure from an increasing population. Fishing and recreation are not "needs" in the sense that, standing alone, they would warrant construction of a dam. In the FEIS, these functions are described in section 1.4 as “additional benefits.”
- 5.38 The new route is not fully designed; however, the agency or agencies with legal jurisdiction would be granting the easement or whatever permit would be required.
- 5.39 The responsibility for operation and maintenance (O&M) oversight, which includes all facility inspections, as well as oversight of dam safety, would fall under the purview of the Utah State Engineer’s office.
- 5.40 Since the Narrows Reservoir is not a Federal project, it is unclear who would manage the recreation or if fees would be collected. These specific details would need to be negotiated among the interested parties and those agencies with jurisdiction.
- 5.41 The impacts of the Narrows Project are most pronounced near the reservoir. Effects to the fishery are in Section 3.10, Fisheries.
- 5.42 The restoration of streamflow in the Gooseberry Creek tributaries is meant as partial mitigation for impacts to fishery below the proposed reservoir.

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- 5.43 Yes, private land would have to be acquired. See section 2.2. It should be noted that the Small Reclamation Projects Act requires that the sponsor have all necessary title to lands or easements necessary for the project prior to initiating construction. Also, as stated in the Fish and Wildlife Coordination Act (FWCA) Report, it is the Sanpete Water Conservancy District's intention to totally mitigate all impacts, where possible, and to the extent possible, to find mitigation measures that could be implemented "in place" and/or "in kind." The recommendations of the Service include a comprehensive monitoring and maintenance program and a list of detailed mitigation commitments that will be designed to ensure that aquatic and wildlife habitat replacement values are being met.
- 5.44 Reclamation disagrees that all mitigation must be done within the national forest boundary. The subject mitigation will be completed primarily within the area of project influence, which includes lands both inside and outside of the national forest boundary. In the USACE Mitigation and Monitoring Proposal Guidelines of December 30, 2004, there is no guidance to the effect that mitigation cannot be fulfilled on a different watershed.
- 5.45 It is SWCD's intention to totally mitigate all impacts, where possible, and to the extent possible, to find mitigation measures that could be implemented "in place" and "in kind."
- 5.46 The EIS team suggests that Reclamation, SWCD, and the USDA Forest Service would probably need to enter into an agreement concerning mitigation. There would be a loss of instream flows in certain streams.
- 5.47 Wetland mitigation for the Narrows Project does not need to be exclusively on USDA Forest Service lands. The subject mitigation will be completed primarily within the area of project influence, which could be lands both inside and outside USDA Forest Service lands.
- 5.48 There currently is not an estimated construction date. The costs of the project are disclosed in the loan application that the proponent submitted, appended to the FEIS (appendix J).
- 5.49 Wetland mitigation for the Narrows Project does not need to be exclusively on USDA Forest Service lands. The subject mitigation will be completed primarily within the area of project influence, which could be lands both inside and outside USDA Forest Service lands. USACE Mitigation and Monitoring Proposal Guidelines of December 30, 2004, there is no guidance to the effect that mitigation cannot be fulfilled on a different watershed.
- 5.50 The area was inventoried in 1979; additional inventory would be required should the undertaking be approved.
- 5.51 The Service responded to Reclamation in writing during scoping but did not request a new consultation. Reclamation considers that the biological opinion prepared in 2000 adequately addresses impacts of the proposed project on threatened, endangered, and candidate species. The FEIS has considered other information regarding these species current listing, status, and ranges.
- 5.52 See response 5.51 above.
- 5.53 The source for this information is the *I qqugdgtt{ 'Pcttqy u'Fco 'Rtqlgev'Hkuj 'cpf 'Y kf rldg' Eqqtflpcvqap 'Cev'Tgrqtv'of* October 1994. This report was prepared by the Service with assistance from the Utah Department of Natural Resources, Division of Wildlife Resources.

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- 5.54 The impacts of developing Narrows water rights to the water available to downstream water rights are addressed in Section 3.2, Water Rights.
- 5.55 To the extent that these effects are predictable, they are disclosed in Section 3.10, Fisheries. It is known that Cottonwood Creek has an armored channel with an armoring layer consisting of cobbles and boulders. This section also indicates that flows less than the dominant discharge do not provide enough velocity and tractive force to move the material in the armoring layer. Therefore, the channel and associated aquatic habitat should remain stable while carrying flows less than the dominant discharge.
- 5.56 This statement only refers to sport fish.
- 5.57 The source for this information is the *I qqugdgtt{ "Pcttqy u'Fco 'Rtqlgev.'Hkuj "cpf 'Y kf rldg" Eqqtflpcvkqp "CevTgrqtv* of October 1994. This report was prepared by the Service with assistance from the Utah Department of Natural Resources, Division of Wildlife Resources.
- 5.58 A listing of fish populations found in the various creeks has been added to the FEIS in Section 3.10, Fisheries.
- 5.59 The specific response of the fishery in the proposed reservoir has some uncertainties. Effects were predicted based on general knowledge of the species and habitat.
- 5.60 Section 3.14, Wetland Resources, of the FEIS explains why the discrepancies occurred and the rationale for using the higher number of acres for mitigation purposes.
- 5.61 Wetland mitigation for the Narrows Project does not need to be exclusively on USDA Forest Service lands. The subject mitigation will be completed primarily within the area of project influence, which could be lands both inside and outside USDA Forest Service lands. USACE Mitigation and Monitoring Proposal Guidelines of December 30, 2004, there is no guidance to the effect that mitigation cannot be fulfilled on a different watershed.
- 5.62 An memorandum of agreement (MOA) would be developed only to resolve adverse effects to any historic properties found within the area of potential effects (APE) for the Proposed Action. The text in the SDEIS related to the criteria necessary to warrant the development of an MOA and the protocols to be included in a potential MOA was inconsistent. The text in the FEIS was updated to reflect the accurate purpose of a potential MOA or a programmatic agreement (PA) wherein inventory would be stipulated.
- 5.63 In accordance with 36 CFR 800.6(c)(2)(iii), Reclamation would invite any party that assumes a responsibility under the MOA to be a signatory. Reclamation may decide to invite tribes or any number of additional parties to be signatories or consulting parties based on the responsibilities laid out in the MOA or PA.
- 5.64 The text in the FEIS was changed to reflect the agreement documents or consultation process that would occur should the undertaking proceed.
- 5.65 The cultural resource commitment includes re-surveying areas inventoried over 10 years ago. Consequently, it is anticipated that the entire APE would be inventoried to current standards.
- 5.66 Should the dam be built, the Federal or State seismic standards at the time of design and construction would have to be met. At the time the FEIS was written, 5.5 was the standard.

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- 5.67 The text to Section 3.16, Cultural Resources, was altered to reflect tribal involvement.
- 5.68 Class I and Class III inventories covering the entire APE of the proposed project would be conducted in accordance with 36 CFR Part 800 or alternative procedures worked out in a Programmatic Agreement.
- 5.69 The SHPO agreed that Reclamation's environmental commitments, including the commitment regarding the inventory and evaluation of the Narrows Tunnel, met the standards for Section 106 of the NHPA. As such, the commitment will remain in the FEIS. Further, as a result of the required Class I and Class III cultural resource inventories of the entire APE, a determination of the significance and NRHP eligibility of the Narrows Tunnel and any other features of the tunnel delivery system on Gooseberry Creek would be made.
- 5.70 The reservoir release scenario that mimics the natural flow regime does provide late season irrigation. Different operational or release strategies change the presumptions of SWCD's purpose and need, which is that the existing land users in Sanpete County need and want additional water in late season. In the absence of some form of storage, water available in the early season would not be available for late-season use; only direct flows would be available for late season irrigation. Those flows currently are insufficient. There are no reservoirs in the project area to store early season water. Therefore, the early season water would not be available to offset late season shortages. Also, the reason for analyzing different sized reservoirs was to enable USACE to determine the Least Environmentally Damaging Practicable Alternative (LEDPA). New text was added to Section 1.6 in response to this and other comments.
- 5.71 Mitigation for the Narrows Project does not need to be exclusively on USDA Forest Service lands. Wildlife mitigation will be completed primarily within the area of project influence, which could be lands both inside and outside USDA Forest Service lands. In the USACE Mitigation and Monitoring Proposal Guidelines of December 30, 2004, there is no guidance to the effect that mitigation cannot be fulfilled on a different watershed.
- 5.72 Predicted effects to fisheries resources are found in Section 3.10, Fisheries, of the FEIS. SWCD would be responsible for funding and acquiring all lands and easements and also for funding, constructing, and maintaining all improvements, as well as for mitigation monitoring. The mitigation package was developed by an interagency, interdisciplinary team with specific expertise in their respective fields. The precise mitigation and monitoring requirements specifically will be described prior to project construction.
- 5.73 There may be some incidental loss of fish from Narrows Reservoir through the tunnel, but the UDWR would compensate for these losses through stocking practices.
- 5.74 The proposed mitigation replaces a quantity of habitat units for an equal or larger quantity of habitat units.
- 5.75 The proposed mitigation replaces a quantity of habitat units for an equal or larger quantity of habitat units.

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- 5.76 Proposed mitigation measures common to the action alternatives are described in chapter 2 and appendix G, but additional mitigation and monitoring requirements could be developed per this and other comments prior to project design and construction. SWCD would be responsible for development and implementation of all mitigation measures.
- 5.77 The 300 acre-feet to be used for purposes such as flushing flows is not intended to fully mitigate for impacts to this reach by itself. SWCD would determine the time and quantity of water to be released in cooperation with the UDWR to maximize benefit. Other measures, such as acquiring fencing and improving fishery habitat on other stream reaches, are also part of the mitigation proposal for this project.
- 5.78 Proposed mitigation measures common to the action alternatives are described in chapter 2 and appendix G, but additional mitigation and monitoring requirements could be developed per this and other comments prior to project design and construction. SWCD would be responsible for development and implementation of all mitigation measures.
- 5.79 Wetland mitigation for the Narrows Project does not need to be exclusively on USDA Forest Service lands. The subject mitigation will be completed primarily within the area of project influence, which could be lands both inside and outside USDA Forest Service lands. In the USACE Mitigation and Monitoring Proposal Guidelines of December 30, 2004, there is no guidance to the effect that mitigation cannot be fulfilled on a different watershed.
- 5.80 Text has been added to section 2.2.2.2.3.10 to emphasize that the minimum pool is 2,500 acre-feet of water with a surface area of 144 acres.
- 5.81 The EIS team believes that implementation of the wetland mitigation at the area west of Lower Gooseberry Reservoir would be practical for mitigation. The water planned for mitigation purposes is an existing diversion now used for pasture irrigation. This pasture would be "converted to wetland by moderate re-contouring" to allow for a higher degree of water retention from the existing irrigation water.
- 5.82 The EIS team does not believe that the reasonable and prudent alternative in the Service's (2000) biological opinion would require an action or a reconsultation from the USDA Forest Service. The reasonable and prudent alternative to the proposal is ongoing work of the Recovery Implementation Program (RIP). There may be NEPA analyses that might be required, such as an amendment to the Forest Plan, or some kind of future tiering off this FEIS.
- 5.83 Monthly averages are a reasonable way to display the modeling outputs. Modeling information is available in the project files at the Provo Area Office. Limitations of the models are disclosed in a new appendix (appendix I) that describes the modeling in detail.
- 5.84 Resource specialists believe the effects on fisheries were adequately disclosed. Also, mitigation and monitoring are part of the action alternatives.

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- 5.85 Analysis of the possible changes to wetlands due to flow modifications are described in sections 3.13 and 3.14.
- 6.01 The reference has been removed from the bibliography.
- 7.01 Comment noted.
- 8.01 You are correct that Congress has not appropriated funds for various SRPA projects over past years. The SRPA program is not currently an active program within Reclamation; however, the policy decision made in 1994 was to grandfather in a few of the projects. This is one of those projects. However, Reclamation is not proposing to fund this out of its budget—it would take a special appropriation.
- 8.02 The loan program (as of its published guidelines in 1990) does have a limit of \$50 million. If approved by the loan factors, the costs that are being included in the FEIS are costs from the most recent revision of the loan application.
- 8.03 The Narrows Tunnel was rehabilitated in 2011, independent of the Narrows Project. The conservation is ongoing; the problem is that conservation alone will not increase the volume of water that Sanpete County farmers desire during the late season.
- 8.04 There will be effects to the trout fishery, and there could be a negative effect on tourism related to the sport fishery. However, based on the updated Section 3.15, Recreation and Visuals, in the FEIS, the losses to that industry should be offset by the increases due to the new boating and reservoir-angling opportunities.
- 9.01 During the design phase of the dam, Reclamation will consult with the Utah Department of Transportation (UDOT) to ensure that the State highway across the dam meets engineering safety standards. Along the top of a dam, Reclamation usually requires two 12-foot lanes and a 4-foot berm with concrete barriers. Modifications can be approved to allow 2-foot berms with concrete barriers.
- 9.02 Reclamation generally allows a 66- to 100-foot right-of-way unless the terrain is very steep and requires a larger cut and fill. In this case, a 200-foot right-of-way is considered excessive.
- 9.03 Comment acknowledged, but State highways are used for “haul roads” all of the time.
- 9.04 A detailed estimate will be included in the loan application.
- 9.05 According to the FEIS, section 3.18, SWCD will purchase or lease any private land needed for the project, which includes compensation for damages (impacts).
- 10.01 If the project is approved, all necessary requirements relating to discharge from the dam will be met to obtain certification from UDWQ. The predicted water quality effects section of the FEIS (section 3.3.3) has been updated to address predicted water quality effects of discharges from the Narrows Dam.

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- 10.02 UAC R317-8 contains the general provisions and definitions related to a Utah Pollution Discharge Elimination System (UPDES) permit which fall under Section 402 of the Clean Water Act. EPA has long held that discharges from dams are exempt from Section 402 of the Clean Water Act and the National Pollution Discharge Elimination System (or UPDES in Utah) permit program. Reclamation holds that this project is not required to meet effluent limitations in UAC R317-8. However, Reclamation believes that since the discharge will meet downstream water quality standards found in UAC R317-2, it also will meet discharge requirements of UAC R317-8.
- 10.03 Mitigation measures were proposed and evaluated by an interagency team of water quality specialists. The identified reduction target is 805 kilograms per year (kg/yr) for phosphorus levels to reach preproject conditions. If identified improvements do not meet the required phosphorus load reduction target identified in section 3.3 of the FEIS, then additional mitigation measures will be identified and implemented. Reclamation contends that the requirements set forth by the TMDL for phosphorus reduction do not require that mitigation for this project assume responsibility for completing phosphorus reduction targets of the TMDL. Rather, Reclamation believes that the purpose of mitigation for the Proposed Action is to reduce and limit impacts. Mitigation measures to reduce phosphorus loading to Scofield Reservoir will maintain phosphorus levels at preproject conditions so as not to have an adverse impact on water quality, including the approved TMDL.
- 10.04 Franson-Noble Engineering conducted a eutrophication study of the project. This study determined that overall water quality in Scofield Reservoir would be degraded by the Proposed Action without mitigation. Mitigation measures to offset this potential impact are described in section 3.3.3.2.6. Lowered water quality standards (e.g., water temperature, phosphorous loading) can affect the aquatic food chain within the reservoir. If water quality effects are slight, then their effect to the food chain would be slight as well.
- 10.05 Reclamation contends that the requirements set forth by the TMDL for phosphorus reduction do not require that mitigation for this project assume responsibility for completing phosphorus reduction targets of the TMDL. Rather, Reclamation believes that the purpose of mitigation for the Proposed Action is to reduce and limit impacts. Mitigation measures to reduce phosphorus loading to Scofield Reservoir will maintain phosphorus levels at pre-project conditions so as not to have an adverse impact on water quality including the approved TMDL. The determination of phosphorus load reduction for the mitigation measures was made based on water quality data from 1978–2005. Reclamation believes this represents current data.
- 10.06 The proposed project entails a relatively small, high altitude dam and reservoir. The temperature of releases from such a facility is not expected to deviate very far from those naturally occurring. The multilevel release structure (unusual for a small, high altitude reservoir) would simply provide a means of fine tuning such aspects of release operations. Warmer water could be released during colder periods of the year, and somewhat cooler water could be released during summer months to maintain optimum downstream temperatures for the fishery.

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- 10.07 The FEIS has been updated to address potential impacts of cyanobacteria.
- 10.08 A water quality monitoring program is included as an environmental commitment and will be developed and implemented if the project is approved and a record of decision is issued. Monitoring will take place prior to implementation of the mitigation measures to identify specific locations of streambank improvements and to determine the reduction in phosphorus loading that the identified improvements will have. Water quality monitoring and identification of mitigation measures will be done in coordination with the Utah Division of Water Quality and other Federal, State, and local agencies. Water quality monitoring will continue following implementation of the proposed mitigation measures to verify the effectiveness of those measures. If identified improvements do not meet the required phosphorus load reduction target identified in the FEIS, then additional mitigation measures will be identified and implemented.
- 10.09 The FEIS has been edited to address potential impacts related to construction activity. Section 3.3.3.2 of the FEIS documents the measures that would be taken to minimize construction-related impacts. Fish spawning may be impaired due to increased sedimentation and turbidity within streams. Best management practices would be followed during any construction or rehabilitation activities to reduce sedimentation and turbidity increases. As shown in table 3-7, adult and juvenile cutthroat trout habitat in a specific month may be reduced; while in other months, available habitat may be increased.
- 10.10 Required permits are listed in Section 1.8, Permits, Authorizations, and Agreements, of the FEIS. This section was checked with the list provided by UDWQ and edited as appropriate.
- 10.11 The EIS team agrees that the estimated evaporation for Narrows Reservoir is high. The team re-ran the reservoir operation studies with the reduced evaporation rates recommended by the UDWQ but found that the differences in project yield and in downstream flows were very minor. Using the higher evaporation rates produces slightly conservative results. Therefore, the team chose to continue to use the operation studies and flow values described in the FEIS.
- 10.12 See response to 10.11 above.
- 10.13 Water quality effects on Cottonwood Creek and the San Pitch River are discussed in section 3.3.3.2.5 of the FEIS.
- 10.14 Section 3.12 of the FEIS incorporates updated information and effects analysis for all Endangered Species Act (ESA) listed or otherwise sensitive species within the project area.

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- 10.15 The method used to evaluate the project is known as the Habitat Evaluation Procedure—a “species habitat” approach to impact assessment and habitat quality. The program uses selected species as indicators to evaluate habitat for a host of other species, assuming that these indicator (evaluation) species are functioning units of part of an ecosystem. Impacts to a particular indicator species assume that there also would be impacts to the group of the species it represents. Habitat Suitability Indices (HSI) were ascertained for each evaluation (indicator) species. The project includes a comprehensive monitoring and maintenance program and a list of detailed mitigation commitments, designed to ensure that the actual functions of the lost wildlife habitat values are replaced by mitigation measures.
- 10.16 See section 3.12.4. The bluehead sucker and the flannelmouth sucker exist in the Price River below the Farnham Diversion Dam, which is approximately 3 miles southeast of Wellington, Utah. This structure effectively eliminates upstream fish migration. Reaches of the Price River below this structure are a significant distance from the proposed Narrows Dam. Effects to flows associated with this project would be attenuated to the point of insignificance as measured at the Farnham Diversion Dam. Therefore, the proposed project would have no effect on these fish species.
- 10.17 A position paper entitled “The Upper Colorado River Endangered Fish Recovery Program’s Position on the Role of the Price River in Recovery of Endangered Fish and the Need for Flow Management” was drafted during 2011. The results of the draft study included having the RIP describe flow conditions they believe are conducive to Colorado pikeminnow use of the lower Price River, to investigate opportunities to protect existing flows, and to avoid dewatering the lower Price River. The report is being finalized at this time. Instream flow requirements are a function of Utah water law and beyond the scope of this FEIS.
- 10.18 Reclamation does not expect the project to have appreciable or material effect on either spawning or fish habitat in the lower Price River.
- 10.19 Any lands acquired for mitigation purposes would be outside of lands owned or controlled for mitigation of other projects by the State of Utah. Sanpete County will make sure that their mitigation requirements are made whole to implement the project. This is a requirement in the mitigation measures appendix (appendix G).
- 10.20 Reclamation considers increased habitat and its possible effect of increasing wildlife populations as a project benefit. Depredation by wild ungulates is outside the projects mitigation responsibility.
- 10.21 As shown in table 3-7, adult and juvenile cutthroat trout habitat in a specific month may be reduced, while in other months, available habitat may be increased.
- 11.01 Comment noted.
- 12.01 Comment noted.
- 13.01 Comment noted.
- 14.01 Comment noted.
- 15.01 Comment noted.

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- 16.01 Comment noted.
- 17.01 Section 1.8 of the FEIS has been edited as appropriate.
- 18.01 Comment noted.
- 19.01 Comment noted.
- 20.01 Comment noted.
- 21.01 Data in the FEIS has been reviewed by resource specialists and determined to be adequate. Data has been updated in the FEIS. The water quality data presented in the FEIS was the most current available through the EPA STORET Web site at the time of the writing and editing of the FEIS. As shown in the footnotes of tables in the water quality section, data through 2007 are represent are represented. The eutrophication study and evaluation of phosphorus levels were based on data through 2005.
- 21.02 Water quality impacts from the Proposed Action are evaluated in section 3.3 of the FEIS.
- 21.03 Should the dam be built, the Federal or State seismic standards at the time of design and construction would have to be met. At the time the FEIS was written, 5.5 was the standard.
- 21.04 The available cost data will be in the loan application appended to the FEIS (appendix J). The EIS team complied with 40 CFR 1502.22 and acknowledges that some information is unavailable.
- 21.05 Reclamation considered the economic impact of the project in the FEIS. SWCD's ability to repay would be determined by the loan application criteria, which is appended to the FEIS (appendix J).
- 21.06 The purpose and need is stated in section 1.4 of the FEIS.
- 22.01 Effects on Carbon County resources were considered by the EIS team throughout the FEIS. See section 3.2.2.2 of the FEIS. The effect on Carbon County of the diversion of 5,400 acre-feet annually out of the basin likely will be minimal for the following reasons. First, the Scofield Dam was not designed to use the transbasin diversion water. The Narrows Reservoir would store flows associated with spring runoff that would otherwise be unable to be stored legally in Scofield Reservoir. As a result, the diversion of 5,400 acre-feet to Sanpete County would not result in a loss of an equivalent amount in reservoir yield. The reduced yield in Scofield Reservoir is much smaller. Second, the water diverted from Carbon County first will be removed from its least productive uses (e.g., the cultivation of marginal lands). As a result, the loss in revenue will be minimized. Third, the Colorado River Water Quality Improvement Program is sponsoring the construction of various pipelines in Carbon County in an effort to reduce salt loading. These projects will result in water savings that will offset the effect of the transbasin diversion. Finally, the water scheduled for transbasin diversion to Sanpete County under the 1984 Compromise Agreement was only available for use in Carbon County on a temporary basis. Under appropriate water management practices, it should not be earmarked for a permanent use—such as municipal use or fire protection. As temporary water, it should be used only for irrigation.
- 22.02 To the extent there is available information, economic effects are analysed in section 3.17.
- 22.03 Public safety is under section 3.19. Air quality concerns are addressed in section 3.4, and water quality issues are discussed in section 3.3.
- 22.04 Comment acknowledged and incorporated into section 3.1.

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22.05 A water rights section was added to the FEIS in response to this and other water right comments. See section 3.2. This comment indicates that the downstream river systems below the Narrows Project are over appropriated and the Narrows Project would inappropriately interfere with the Carbon County water users. Section 3.3.3 of the FEIS evaluates the impacts of proposed alternatives to the water available to downstream water rights in the Gooseberry Creek, Fish Creek, Cottonwood Creek, Price River, Green River, and San Pitch River systems.

The comment suggests that Sanpete should not develop their water rights if the basin is over appropriated or if it would impair existing junior developed Carbon County water rights. The State Engineer attempts to allocate sufficient water rights to fully use the State's water resourced during the high runoff periods and wet years, with the understanding that junior water rights will be cut as streamflows decrease in late summer months or during droughts years. Section 3.3.3.2 of the SDEIS found that, during 77% of the years modeled, the controlled releases from Scofield Reservoir would remain unaltered, it is reasonable to believe there is sufficient undeveloped water in the Gooseberry basin for the Narrows Project.

This comment suggests that, because the Carbon County water users developed their water rights first, they should be given a higher priority to the Gooseberry Creek water than the Sanpete County water users. Utah Water Law sets the priority between water rights to the date the right was first placed to beneficial use (for rights prior to 1903) or when application was first file for the water.

23.01 Comment noted.

24.01 Comment noted.

25.01 Comment noted.

26.01 Comment noted.

27.01 Comment noted.

28.01 Comment noted.

29.01 Comment noted.

30.01 Comment noted.

31.01 Comment noted.

32.01 Comment noted.

33.01 The comments are repeated from comments submitted by Price River Water Improvement District. Please see responses to letter 56.

34.01 Comment noted.

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- 35.01 Comment noted.
- 36.01 Comment noted.
- 37.01 Comment noted.
- 38.01 Comment noted.
- 39.01 Comment noted.
- 40.01 Comment noted.
- 41.01 Comment noted.
- 42.01 Comment noted.
- 43.01 Comment noted.
- 44.01 Comment noted.
- 45.01 Comment noted.
- 46.01 Comment noted.
- 47.01 Comment noted.
- 48.01 Comment noted.
- 49.01 Comment noted.
- 50.01 Comment noted.
- 51.01 Reclamation disagrees with the assertion that the DEIS should have been re-scoped and then re-issued. Reclamation made diligent efforts to involve the public in the NEPA process, particularly during initial scoping. The public has had the opportunity to provide input on the issues that are addressed in the FEIS, and the public has had the opportunity to comment on the prior drafts of the EIS. Reclamation's scoping procedures are described in Section 4.3, Public Involvement and Scoping.
- 51.02 The November 25, 2003, Federal Register Notice of Intent identifies what is being updated in the SDEIS. It states that the SDEIS will incorporate comments received on the DEIS in 1998 as well as new information received since that time. Reclamation has addressed and incorporated comments received on the 1998 DEIS and engaged in written and oral communication with the interested public, including its cooperating agencies, and other State and Federal regulatory agencies throughout the NEPA process.
- 51.03 Total organic carbon (TOC) data collected by the Utah Division of Water Quality have been added to Section 3.3, Water Quality.
- 51.04 Reclamation has received from SWCD its application for a SRPA loan build the Narrows Project and a request for authorization to use withdrawn lands to construct and operate the proposed dam and reservoir. Reclamation will complete NEPA compliance. In compliance with the DOI NEPA regulations at 43 CFR 46.420, Reclamation's need for action is to approve or deny the loan application. SWCD's purpose and need is different than Reclamation's. Following 43 CFR 46.420(a)(2), Reclamation considered the needs and goals of SWCD as well as the public interest. SWCD's purpose and need is defined because, in analyzing the impacts, a purpose and need statement usually explains who wants what and where, how, and why they want to do it.
- 51.05 Given Reclamation's action of approving or denying the loan application and use of Federal land, the range of alternatives was defined, in part, to meet SWCD's application and proposal and enable USACE to determine the LEDPA. The SDEIS defines selection criteria in section 2.1 of the FEIS for actions that are "reasonable" given the SRPA loan program.

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- 51.06 Reclamation's action is described in section 1.4. This range of actions for Reclamation meets the legal and regulatory definition of a reasonable range of alternatives based on the SRPA. The USACE and SWCD will have to complete regulatory processes defined under Section 404 and other sections of the Clean Water Act (CWA) should the loan be approved and the proponents proceed with their action.
- 51.07 This alternative would meet the purpose of and the need for the project, but it is not a feasible option for several reasons described in section 2.3.13.1 of the FEIS.
- 51.08 Reclamation's action described in section 1.4 of the FEIS is deciding whether or not to approve the loan application from SWCD and use of Federal land. Nothing precludes Carbon County from making an offer to SWCD or others to purchase water rights. Such an offer is beyond the scope of this action.
- 51.09 Climate change and greenhouse gas emissions are discussed in sections 1.7 and 3.3 of the FEIS. Note that we did not perform a quantitative greenhouse gas emission analysis due to the lack of a model sensitive enough to measure impacts from the amount of water being diverted.
- 51.10 During the writing and editing of the SDEIS document, the most current available information regarding Scofield Reservoir's trophic state was from the *Utah 2006 Integrated Report Volume I – 305(b) Assessment*. At the writing of this response, the most current available information regarding the trophic state was from the *Part 2 Draft 2010 Utah Integrated Report Water Quality Assessment 305(b) Report*. The FEIS (section 3.3.3) has been updated to reflect the most current information.
- 51.11 Climate change is discussed in section 1.7. As stated there, climate change models have not been developed with sufficient detail or sensitivity to capture small projects such as the proposed Narrows Project, which involves storage and distribution of 5,400 acre-feet of water per year. At this time without downscaled models addressing climate change at this project level, a meaningful analysis of a small project cannot be achieved.
- 51.12 The EIS team believes greenhouse gas emissions from the construction would be well below EPA's threshold for quantitative analysis of 25 million metric tons of carbon dioxide (CO₂) equivalent. Should construction proceed, the proponent may be able to provide such data for a quantitative analysis, and this would probably be required by the Utah Department of Environmental Quality.
- 51.13 Comment acknowledged. Economic effects are analyzed in section 3.17 of the FEIS. All of the costs of the proposed project are included in the loan application appended to the FEIS (appendix J) and should sufficiently address this concern.

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- 51.14 The updated loan application along with the analyses in the FEIS will be evaluated to determine whether SWCD meets the requisite financial and economic factors for a SRPA loan and approval of land use.
- 51.15 The Federal and State guidelines for dam design (Federal Guidelines for Dam Safety, FEMA, 2005; and Requirements for the Design, Construction, and Abandonment of Dams, Utah Administrative Code (UAC) Rule R655-11, respectively) will be considered in final design. These were not introduced to the EIS because of the expected time lag between issuance of the document and the probable date of final design. Should the loan and use of the land be approved and the proponents proceed, they would have to bring the design up to standards. Final design is not required in an EIS.
- 51.16 A water rights section (section 3.2) has been added, and the description and analysis of water resources within the affected environment and environmental consequences section has been updated per this and other comments. Effects on Carbon County resources were considered by the EIS team throughout the document. See response to 51.52.
- 51.17 Reclamation and the proponents have consulted with the USACE as required under the CWA and the agency's regulations and policies; however, additional consultation with the USACE and with the Utah Division of Water Quality would be required should the proponents proceed with their proposal.
- 51.18 The wetland delineation history, section 3.14, was altered in response to this comment. Should the proponents proceed with their project, consultation and coordination with the USACE and the Utah Division of Water Quality would be required.
- 51.19 Should the proponents proceed, they would have to consult with the USACE and ensure that the mitigation plan is acceptable to them.
- 51.20 In section 3.16, Reclamation clarified that a Federal undertaking has not been initiated; and therefore, the 36 CFR 800 process is not yet required. Reclamation does not need to conduct an inventory as stated in this comment but rather, given the requirements of NEPA, to project the likely effects to historic properties and Indian sacred sites should the undertaking be initiated. A commitment to comply with 36 CFR 800 would be in the mitigation measures.
- 51.21 Reclamation considers that the Fish and Wildlife Coordination Act prepared in 1997 adequately addresses impacts of the proposed project on fish and wildlife resources, and it proposes appropriate mitigation.
- 51.22 Information about candidate species was added to the FEIS per a letter from the Service. Reclamation considers that the biological opinion prepared in 2000 adequately addresses impacts of the proposed project on ESA species. Furthermore, the Service did not request additional Section 7 consultation during scoping. The FEIS has considered other information regarding these species current listing, status, and ranges.
- 51.23 The FEIS has been revised in section 3.12 to include effects to greater sage-grouse. Sage-grouse habitat lost due to the proposed project would be replaced by habitat improvements to other areas.

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- 51.24 No known populations of Ute Ladies'-tresses exist in the project area.
- 51.25 The water quality impacts identified during scoping were the potential for increased sedimentation during construction, increased phosphorus loading, and increased eutrophication in Scofield Reservoir. These impacts and proposed mitigation are discussed in section 3.3, and some of the discussion has been modified to address similar comments. Permits are addressed in section 1.8 of the SDEIS, including those related to water quality. It will be the responsibility of the project sponsor to obtain all required permits as determined by Federal, State, and local agencies.
- 51.26 Section 3.3 of the FEIS addresses the water quality impacts of the proposed project, including impacts to downstream waters. Proposed mitigation measures for these impacts are discussed.
- 51.27 The SDEIS has been edited to reflect the impacts the project may have on the potable water supply in Scofield Reservoir. Implementation of proposed mitigation measures is expected to reduce phosphorus levels to preproject conditions, which also are expected to maintain algal growth at preproject conditions. Drinking water treatment costs would not be expected to be affected if water quality is maintained at preproject conditions. Additionally, Scofield Reservoir was enlarged to mitigate any potential adverse effects of the Proposed Action; therefore, any potential impacts already are mitigated in part by the reservoir enlargement.
- 51.28 Construction-related water quality impacts are identified in section 3.3 of the FEIS. The potential for these impacts would be temporary and would be minimized through appropriate best management practices. All construction would be subject to obtaining and complying with any required permits.
- 51.29 The USACE will determine if the water quality analysis is sufficient.
- 51.30 The comment from Dr. Max Morgan was addressed when it was received in the DEIS and is repeated here. Mr. Kevin W. Brown, director of the Utah Division of Drinking Water, investigated in detail the concern expressed by Dr. Max Morgan about the treated drinking water from Scofield Reservoir during the 1992 drought year. The concern was whether the apparent increase in gastrointestinal disease was caused by either residual bacterial coliforms in the treated water or the superchlorination that was necessary to render the water safe. The State thoroughly reviewed all the required monitoring (chlorine residual and coliform counts) by the water treatment entities. There were no documented problems with the treated water, nor was the water superchlorinated, because it was not needed. Likewise, neither the State nor local Health Departments documented any increased gastrointestinal illnesses during that time period.
- 51.31 Total organic carbon (TOC) data collected by the Utah Division of Water Quality from 1979–1991 does not support this assertion. TOC data collected at Scofield Reservoir indicated that higher concentrations were present in the reservoir during 1980–1981 and 1984–1985 when the reservoir was near capacity. Data collected during 1989–1991, when the reservoir's capacity was much less, have lower TOC concentrations. Similar patterns for TOC data are observed for data collected from the Price River above Willow Creek (STORET ID 7932810). The SDEIS acknowledges that the Narrows Project would concentrate phosphorus in Scofield Reservoir, which could lead to increased algae blooms. Mitigation measures will reduce phosphorus concentrations to preproject levels, which would also serve to maintain algae blooms at preproject levels.

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- 51.32 The water quality section (3.3) of the FEIS has been updated to address concerns by this and other comments. Mitigation measures are proposed to offset adverse impacts to water quality. Mitigation measures were proposed and evaluated by an interagency team of water quality specialists. Similar mitigation measures also were proposed as part of the Scofield Reservoir TMDL, and specific locations and practices were likewise left unidentified. Specific locations for mitigation will be identified by a water quality monitoring program. If identified improvements do not meet the required phosphorus load reduction target identified in the SDEIS, then additional mitigation measures will be identified and implemented. Mitigation measures will be implemented prior to storage and diversion of water as part of the Proposed Action. The FEIS has been edited to include details of adaptive management regarding identification and implementation of mitigation measures. The USACE will determine if the FEIS is adequate and covers impacts and proposed mitigation measures sufficient to issue permits they oversee.
- 51.33 An updated loan application is appended to the FEIS (appendix J) and is available to the public and decisionmakers.
- 51.34 In Utah, there are two mechanisms for protected streamflow. First, the acquired Fairview water rights could be transferred to the Utah Division of Wildlife Resources and then changed to serve as instream flow rights; or secondly, the point of diversion for the acquired water rights could be moved downstream. Using the water downstream would require the water to stay in the critical reaches of Gooseberry Creek.
- 51.35 The Recovery Implementation Program's recommendations are incorporated into section 3.12 (Threatened and Endangered Species) of the FEIS. The Service issued a final Biological Opinion for the Narrows Project that relies on the RIP as the reasonable and prudent alternative for depletion impacts. The RIP determines what actions to take and funds these actions with the depletion payment made by SWCD under the Section 7 consultation agreement process. Additional consultation could happen anytime during the life of the project.
- A position paper entitled "The Upper Colorado River Endangered Fish Recovery Program's Position on the Role of the Price River in Recovery of Endangered Fish and the Need for Flow Management" was drafted during 2011. The results of the draft study included having the RIP describe flow conditions they believe are conducive to Colorado pikeminnow use of the lower Price River, to investigate opportunities to protect existing flows, and to avoid dewatering the lower Price River. The report is being finalized at this time. Instream flow requirements are a function of Utah water law and beyond the scope of this FEIS.
- 51.36 Section 1.8 has been updated to include all required permits anticipated for the project.
- 51.37 Reclamation made the decision to keep some of the lands in this area under withdrawal. Reclamation has the authority to issue licenses, permits, or other land use out grants on its withdrawn lands under Section 10 of the Reclamation Project Act of 1939 (53 Stat. 1187, 43 U.S.C. 485a).
- 51.38 Reclamation anticipates executing a land use agreement for the use of the withdrawn lands for this project. The details of that agreement have yet to be determined.

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- 51.39 The 2006 *Eutrophication Study*, prepared by Franson Noble Engineering for the Bureau of Reclamation, was done according to Reclamation's *Guidelines for Studies of Potential Eutrophication*. Reclamation has reviewed and verified the results of the study and accepts those results as the basis of the water quality analysis for the SDEIS.
- 51.40 The combination of the FEIS and the Fish and Wildlife Coordination Act prepared in 1997 adequately address impacts of the proposal on fish and wildlife resources and proposes appropriate mitigation. Reclamation considers that the Fish and Wildlife Coordination Act prepared in 1997 adequately addresses impacts of the proposed project on fish and wildlife resources, and it proposes appropriate mitigation.
- 51.41 Current lists of endangered, threatened, and/or sensitive species were used in the preparation of the FEIS.
- 51.42 In section 3.16, Reclamation clarified that a Federal undertaking has not been initiated; and therefore, the 36 CFR 800 process is not yet required. Reclamation does not need to conduct an inventory as stated in this comment but rather, given the requirements of NEPA, to project the likely effects to historic properties and Indian sacred sites should the undertaking be initiated. A commitment to comply with 36 CFR 800 would be in the mitigation measures.
- 51.43 An environmental commitment requiring Reclamation to conduct consultations with the appropriate SHPO, tribes, and additional consulting parties has been added to the FEIS. Consultation with Indian tribes and other consulting parties would be required should the undertaking be initiated.
- 51.44 Reclamation believes it has adequately scoped this environmental analysis and notes that the scoping process has continued throughout the process, even though there was a formal end to the scoping period in June 2010. Over the years, Reclamation has made diligent efforts to involve the public in the NEPA process, including scoping and providing the public opportunity to comment and raise concerns at public hearings. The public has been provided notice of the availability of environmental documents and given the opportunity to comment.
- Public hearings were held in Price and Manti in April 2010 during a 63-day comment period ending June 2010. Reclamation received 693 comment letters. All comments received were taken into consideration, along with all prior public comments related to this project in preparing the FEIS. It should be noted that the Proposed Action and predicted impacts have not changed significantly throughout the entire scoping process.
- 51.45 Reclamation has an agreement with SWCD in which SWCD will advance a maximum of \$950,000 to cover all Reclamation costs associated with the preparation of the FEIS. It includes employee time, travel, publishing, etc. The cost estimate was calculated by both Reclamation and SWCD. Reclamation was advanced its portion of the cost estimate, and SWCD has taken care of its own financial obligations to its consultants. All costs incurred in this project are included in the projects costs. Reclamation will not reimburse SWCD for any costs incurred with the project with the exception of any unexpended funds advanced to Reclamation under the preparation of the FEIS.

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- 51.46 Exhibit A. All comments submitted during scoping and the comment period up to publication of the 1998 Final EIS and the 2010 SDEIS have been fully considered and, where appropriate, incorporated into the document. Exhibit A of your comment letter was a letter from the USACE to Richard Noble on April 2, 1991. These concerns were fully considered in the publication of the SDEIS and need no further comment.
- 51.47 Exhibit B. All comments submitted during scoping and the comment period up to publication of the 1998 Final EIS and the 2010 SDEIS have been fully considered and, where appropriate, incorporated into the document. Exhibit B of your comment letter was a letter from the USACE to Richard Noble on October 7, 1992. These concerns were fully considered in the publication of the SDEIS and need no further comment.
- 51.48 Exhibit C. All comments submitted during scoping and the comment period up to publication of the 1998 Final EIS and the 2010 SDEIS have been fully considered and, where appropriate, incorporated into the document. Exhibit C of your comment letter was a letter from the USACE to Richard Noble on July 21, 1994. These concerns were fully considered in the publication of the SDEIS and need no further comment.
- 51.49 Exhibit D. All comments submitted during scoping and the comment period up to publication of the 1998 Final EIS and the 2010 SDEIS have been fully considered and, where appropriate, incorporated into the document. Exhibit D of your comment letter is a letter from the USACE to the Service on July 20, 1994. Reclamation does not respond to questions submitted to the Service; however, these concerns were fully considered in the publication of the SDEIS and need no further comment.
- 51.50 Exhibit E of your comment letter is a letter from the USACE to Reclamation on December 30, 1997, on a preliminary draft EIS. The FEIS has been revised, and further analysis has been initiated to address these comments in the 1998 Final EIS and in the 2010 SDEIS and need no further comment.
- 51.51 Exhibit F, comment noted.
- 51.52 Exhibit G of your comment letter are letters and figures from Robert Murdock to the CWCD on March 18, 1994, to Reclamation on April 5, 1994, and to the Utah Division of Water Rights on December 12, 1994, on the Operational Study of Scofield and Narrows Reservoirs. The operational studies have been updated, and the FEIS has been revised to address these comments.
- 51.53 Exhibit H of your comment letter is a study prepared by Western Wetland Systems and submitted during the review of the 1998 Draft EIS. All comments submitted during scoping and the comment period up to publication of the 1998 Final EIS and the 2010 SDEIS have been fully considered and, where appropriate, incorporated into the FEIS.
- 51.54 Section 1. All comments submitted during scoping and the comment period up to publication of the 1998 Final EIS and the 2010 SDEIS have been fully considered and, where appropriate, incorporated into the document. Section 1 of your comment letter was address to the USACE on May 14, 1998. These concerns were fully considered in the publication of the SDEIS and need no further comment. Furthermore, the USACE did not submit any comments or concerns during the 60-day public comment period, which ended June 1, 2010.

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- 51.55 Section 2. All comments received during scoping and the comment period up to publication of the 1998 Final EIS and the 2010 SDEIS have been fully considered and, where appropriate, incorporated in the document. Comments that require further clarification are addressed below.
- 51.56 Reclamation has received from SWCD its application for a SRPA loan build the Narrows Project and a request for authorization to use withdrawn lands to construct and operate the proposed dam and reservoir. Reclamation will complete NEPA compliance. In compliance with the DOI NEPA regulations at 43 CFR 46.420, Reclamation's need for action is to approve or deny the loan application. SWCD's purpose and need is different than Reclamation's. Following 43 CFR 46.420(a)(2), Reclamation considered the needs and goals of SWCD as well as the public interest. SWCD's purpose and need is defined because, in analyzing the impacts, a purpose and need statement usually explains who wants what and where, how, and why they want to do it.
- 51.57 The Federal action is described in chapter 1. Reclamation examined different sizes of reservoirs to ensure a reasonable range of action alternatives was analyzed and enable USACE to determine the LEDPA. The purpose and need section was clarified in response to this and other comments.
- 51.58 Section 3.14 of the FEIS identifies the wetlands to be impacted and their functions and values. Wetland mitigation measures are included in the project alternatives to mitigate for impacts to wetlands. The wetland mitigation measures would provide similar wildlife habitat values lost due to the inundation of the reservoir.
- 51.59 Wetland mitigation is extensively explored in section 3.14 of the FEIS.
51.60
- The FEIS acknowledges there might be adverse impacts on water quality in lower Gooseberry Reservoir and Scofield Reservoir, and specific measures are identified and planned to mitigate any possible impact on water quality. The most significant measures that address water quality include the following: 1) providing a multiple-level outlet at the proposed Narrows Dam, 2) stabilizing stream banks along middle Gooseberry Creek, 3) providing winter releases to lower Gooseberry Reservoir, and 4) reducing external phosphorus loading to Scofield Reservoir. The improvements will be jointly designed on a site-specific basis, and joint approval by the agencies listed will ensure that the most effective measures will be selected. The improvements for the State Restoration Program were initially effective, but landowners are not continuing to support the measures. This proposed program will be more effective because it will include purchase and management by agencies committed to its fulfillment.
- 51.61 The discussion of proposed mitigation of water quality in the FEIS has been edited to address these concerns. See section 3.3. The measures discussed were proposed and evaluated by an interagency team of water quality specialists. Reclamation believes the discussion of these issues is accurate and adequate and indeed would be effective.

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- 51.62 Proposed mitigation measures common to the action alternatives are described in chapter 2 and appendix G, but additional mitigation and monitoring requirements could be developed per this and other comments prior to project design and construction. SWCD would be responsible for development and implementation of all mitigation measures.
- 51.63 Drinking water concerns are addressed in the change to section 3.3 about Scofield Reservoir.
- 51.64 Predicted effects to fisheries resources are found in Section 3.10, Fisheries, of the FEIS. SWCD would be responsible for funding and acquiring all lands and easements and also for funding, constructing, and maintaining all improvements, as well as for mitigation monitoring. The mitigation package was developed by an interagency, interdisciplinary team with specific expertise in their respective fields. The precise mitigation and monitoring requirements specifically will be described prior to project construction.
- 51.65 Scofield Reservoir was enlarged to mitigate potential adverse effects of the Proposed Action; therefore, any potential impacts already are mitigated in part by the reservoir enlargement. The EIS team believes the new facility will go a long way to compensate for loss of recreation. SWCD is committed to mitigate impacts, and mitigation will be an ongoing effort before, during, and after construction of the dam facilities.
- 51.66 Comment noted. Recreational use is described in section 3.15.
- 51.67 The Service issued a final biological opinion for the Narrows Project that relies on the RIP as the reasonable and prudent alternative for depletion impacts. The RIP determines what actions to take and funds these actions with the depletion payment made by SWCD under the Section 7 consultation agreement process. Additional consultation can happen any time during the life of the project.
- 51.68 The proposed project identifies reasonable actions to reduce or eliminate impacts to the aquatic species such as the spotted frog. Existing aquatic habitats are identified and discussed in section 3.12 of the FEIS. Reclamation is supportive of conservation efforts and several proposed mitigation efforts in the FEIS that are designed to benefit the spotted frog and other aquatic species.
- 51.69 Reclamation considered the economic impacts of the project in the FEIS. The cost:benefit data and assessment of effects are specifically those required to evaluate the loan application under the SRPA. The loan application is appended to the FEIS (appendix J), and the factors for evaluating the loan are and the factors for evaluating the loan were added to chapter 1.
- 51.70 Effects on Carbon County resources were considered by the EIS team throughout the FEIS. See section 3.2.2.2 of the FEIS. The effect on Carbon County of the diversion of 5,400 acre-feet annually out of the basin likely will be minimal for the following reasons. First, the Scofield Dam was not designed to use the transbasin diversion water. The Narrows Reservoir would store high flows associated with spring runoff that would otherwise be unable to be stored legally in Scofield Reservoir. As a result, the diversion of 5,400 acre-feet to Sanpete County would not result in a loss of an equivalent amount in reservoir yield. The reduced yield in Scofield Reservoir is much smaller. Second, the water diverted from Carbon County first will be removed from its least productive uses (e.g., the cultivation of marginal lands). As a result, the loss in revenue will be minimized. Third, the Colorado River Water Quality Improvement Program is sponsoring the construction of various pipelines in Carbon County in an effort to reduce salt loading. These projects will result in water savings that will offset the effect of the transbasin diversion. Finally, the water scheduled for transbasin diversion to Sanpete County under the 1984 Compromise Agreement was only available for use in Carbon County on a temporary basis. Under appropriate water management practices, it should not be earmarked for a permanent use—such as municipal use or fire protection. As temporary water, it should be used only for irrigation.

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- 51.71 The Murdock study was addressed in the FEIS in response to this and other comments. The EIS team believes the model used to predict impacts is adequate and effective in identifying actual impacts of the proposed project. Modeling information is available in the project files at the Provo Area Office. Limitations of the models are disclosed in a new appendix (appendix I) that describes the modeling in detail.
- 51.72 Earthquake hazards are addressed in the FEIS for this specific site. There are Federal and State guidelines for dam design (Federal Guidelines for Dam Safety, FEMA, 2005; and Requirements for the Design, Construction, and Abandonment of Dams, UAC Rule R655-11, respectively). These were not introduced to the FEIS because of the expected time lag between issuance of the document and the probable date of final design. Should the proponents proceed, they would have to bring the design up to standards. Final design is not required in an EIS.
- 51.73 The salinity control program related to the Narrows Project being a participating project in the Colorado River Storage Project was added to Section 3.3, Water Quality.
- 51.74 Section 3–Section 8: All comments submitted during scoping and the comment period up to publication of the 1998 Final EIS and the 2010 SDEIS have been fully considered and, where appropriate, incorporated into the document. Section 1 of your comment letter was addressed to the USACE on May 14, 1998. These concerns were fully considered in the publication of the SDEIS and need no further comment. Furthermore, the USACE did not submit any comments or concerns during the 60-day public comment period, which ended June 1, 2010.
- 52.01 Comment noted.
- 53.01 Comment noted.
- 54.01 Comment noted.
- 55.01 The Spring Glen Canal Company water rights appear to be senior to those for the Narrows Project. The Narrows Project water right would be regulated by the Utah State Engineer according to their priority dates. Senior downstream water rights can require upstream junior rights to cease diversions (starting with the most junior) to allow sufficient streamflow to fully satisfy them. However, senior water rights cannot require junior upstream storage rights to release previously stored water as long as that water storage occurred during a time period when these junior storage rights were in priority.

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- 56.01 Comment noted; the public health and safety section (3.19) was expanded to highlight public health issues related to drinking water.
- 56.02 Mitigation measures proposed to offset adverse impacts to water quality on Scofield Reservoir are discussed in section 3.3 of the FEIS. Proposed mitigation measures would reduce phosphorus levels and eutrophication potential to preproject conditions. Algal growth and dissolved oxygen are linked to phosphorus concentrations. Maintaining reservoir phosphorus concentrations at preproject conditions through proposed mitigation measures also is expected to maintain algal growth and dissolved oxygen levels at preproject conditions.
- 56.03 Implementation of proposed mitigation measures (section 3.3 of the FEIS) is expected to reduce phosphorus levels to preproject conditions, which also are expected to maintain algal growth at preproject conditions.
- 56.04 Scofield Reservoir was enlarged to mitigate any potential adverse effects of the Proposed Action; therefore, any potential impacts are already mitigated in part by the reservoir enlargement.
- 56.05 The FEIS acknowledges that negative effects would occur to fisheries of certain stream reaches within the proposed project area. The FEIS has designed mitigation measures to compensate for these effects.
- 56.06 The SDEIS disclosed the effects to water quality from Scofield Reservoir, the fishery, and the effects on the Price River Water Improvement District. The EIS team could not find any evidence that treatment costs would change for the Price River Water Improvement District's users. Nor did the team find any evidence that there would be additional treatments required should the project be implemented.
- 57.01 This sentence was deleted from the Executive Summary and Section 3.1, Water Resources.
- 57.02 Water users are entitled to divert water in accordance with their existing water rights. Concerns regarding SWCD's current use of its water rights is outside the scope of this FEIS and should be directed to the Utah State Engineer and the appointed river commissioner. The State Engineer has jurisdiction over the amounts and legality of any transbasin diversions referenced in the comment.
- 57.03 You are correct that the 1984 agreement allows for a 14,500-acre-foot active storage capacity with the storage above 10,000 acre-feet being for instream flow purpose.
- 57.04 Implementation of proposed mitigation measures (section 3.3) is expected to reduce phosphorus levels to preproject conditions that also are expected to maintain algal growth at preproject conditions.

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- 57.05 The North Sanpete water users are entitled to develop whatever valid water rights they may have under Utah Water Law. The water rights involved in the Narrows Project are governed by provision of the 1984 Compromise Agreement mediated and signed by the State Engineer. See section 3.2 of the FEIS
- 58.01 Comment noted.
- 59.01 Comment noted.
- 60.01 Comment noted.
- 61.01 Comment noted.
- 62.01 Comment noted.
- 63.01 Comment noted.
- 64.01 Comment noted.
- 65.01 Reclamation's action is deciding whether to approve the loan application and the use of Federal land (see chapter 1 for clarification). Several alternatives considered were determined to be unviable (section 2.3 of the FEIS). In general, alternatives considered and eliminated from further study did not meet Reclamation's criteria for providing a SRPA loan or licensing the use of Federal land. It is important to note that, in addition to not meeting Reclamation's purpose and need, these alternatives did not meet SWCD's water development objectives.
- 65.02 The SRPA loan program guidelines (1990:5) state that Reclamation's role is to assure the Secretary that the project is feasible from a financial, engineering, and environmental point of view and that the loan constitutes a reasonable risk for the United States. With this FEIS and the updated loan application, appended to the FEIS (appendix J), Reclamation plans to make this assessment.
- 65.03 The purpose and need were clarified in chapter 1.
- 65.04 Both water quality and water resources have been updated based on the comment-response process
- 65.05 The updated loan application, along with the analyses in the FEIS, will be evaluated to determine whether SWCD meets the requisite financial and economic factors for a SRPA loan and approval of land use.
- 65.06 See other responses regarding inability to find a downscaled model of climate change at the watershed level. Climate change is discussed in section 1.7 of the FEIS.
- 65.07 SWCD would be responsible for the mitigation measures, should the loan be approved and the use of land allowed. The migration measures are described in the FEIS, but additional negotiations with interested parties likely would be required.

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- 65.08 The USDA Forest Service is a cooperating agency because they do have jurisdiction by law, as well as expertise. As such, they could adopt this FEIS if they have a decision to make, such as reclassifying the land uses; but they can adopt it only if they are satisfied with its adequacy. If they decide that the FEIS is inadequate or wrong and they have a decision to make, they would have to prepare a supplement to the FEIS, replacing or adding any needed information about land use or other issues, and they would have to circulate the supplement before taking action. Of course, they would have to issue their own record of decision. See 40 CFR 1506.3.
- 65.09 The criteria for approval of a loan under the SRPA and approval for the use of the land have been clarified and added to chapter 1. Reclamation considered the economic impact of the project in the FEIS. The decision of economic repayment capacity will be analyzed when the SRPA loan application is reviewed, in conjunction with the FEIS.
- 65.10 The loan application has been updated and appended to the FEIS (appendix J). Reclamation's loans engineers will follow the SRPA loan program guidance (1990) to determine whether the loan will be approved.
- 65.11 Given that Reclamation is making a decision on approving the loan and use of Federal land, Reclamation's purpose and need is considering approval of SWCD's SRPA loan application to build the Narrows Project and SWCD's request for authorization to use withdrawn lands to construct and operate the proposed dam and reservoir. The range of alternatives to be analyzed in the FEIS is defined in chapter 1. Chapter 1 has been updated to clarify that Reclamation examined a range of reservoir sizes to ensure that a reasonable range of alternatives were considered and enable USACE to determine the LEDPA.
- 65.12 See section 2.3.1.1 in the FEIS for reasons the Direct Diversion Without Reservoir was eliminated from further study.
- 65.13 See section 2.3.3.1 in the FEIS for reasons the Conservation Without Development of Other Water Supplies was eliminated from further study. Conservation will not provide the necessary amount of water for late season irrigation.
- 65.14 Given the difficult concessions made by both parties in reaching the 1984 Agreement and the long history of this disagreement, the SDEIS was correct in stating "Modification of the 1984 Compromise Agreement appears very unlikely considering the historical attitudes of the parties involved." See section 2.3.5.1 in the FEIS for additional reasons the Valley Damsite Alternative was eliminated from further study.
- 65.15 Water quality impacts to Scofield Reservoir from the Proposed Action are described in section 3.3. Mitigation measures for the adverse impacts to water quality on Scofield Reservoir are discussed in appendix F and as part of the description of the action alternatives. According to the Scofield TMDL prepared by the Utah Division of Water Quality, blue-green algae in the reservoir is caused by excessive nutrients such as phosphorus. Mitigation measures that reduce phosphorus to preproject conditions also should limit blue-green algae to preproject conditions.

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- 65.16 Surface water temperature data collected in July and August by the Utah Division of Water Quality on Scofield Reservoir between 1981 and 2007 does not show differences in temperature between low storage and high storage years. Summer surface water temperatures are primarily determined by solar input and wind mixing. Surface water temperatures would be expected to be similar between the Proposed Action and the No Action Alternative. The Proposed Action will reduce the volume of the hypolimnion and metalimnion of Scofield Reservoir due to the reduced storage. Reduction in volume in these zones will result in warmer temperatures through the entire water column during the summer. Discussion of these changes has been included in the FEIS.
- 65.17 The temperature of releases from the proposed reservoir are not expected to deviate far from those naturally occurring temperatures. The multilevel release structure (unusual for a small, high altitude reservoir) would provide a means of fine tuning such aspects of release operations. Warmer water could be released during colder periods of the year, and somewhat cooler water could be released during summer months to maintain optimum downstream temperatures for the fishery.
- 65.18 The water resources section (Section 3.1, Water Resources) has been updated using available information. It addresses all of these concerns with available data. Averages are based on the 1960–2002 hydrologic period of record. The hydrologic analysis uses USGS stream gauge data, and a majority of the USGS stream gauge data was discontinued in 1989 and 2003. The additional effort to add 1 year of stream gauge data results in an insignificant improvement in the overall analysis.
- 65.19 The updated loan application, along with the analyses in the FEIS, will be evaluated to determine whether SWCD meets the requisite financial and economic factors for a SRPA loan and approval of land use.
- 65.20 The mitigation measures would be included in construction contracts and other agreements to ensure their implementation. Mitigation measures would be concurrent with project construction. Should Reclamation fund the Narrows Project through the SRPA loan program and issue a license agreement for use of Federal land and environmental commitments are not kept, project funding and renewal of the license agreement could be withheld by Reclamation. In addition, the 404 Permit issued by USACE could restrict filling of the reservoir if environmental commitments are not met.
- 65.21 This is included in the FEIS to give a brief overview of where SWCD intends to get funding.
- 65.22 The SRPA loan application, appended to the FEIS (appendix J), includes the financial analysis. Ability to pay economic analysis in the FEIS and other financial and economic considerations will be taken into account when deciding whether or not to approve the loan and use of the land.

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- 65.23 Climate change is addressed in section 1.7 of the FEIS. According to section 1.7, “Reclamation has undertaken steps to model the effects of climate change on water delivery systems on a regional basis and for its larger reservoirs, such as Lake Powell and Flaming Gorge Reservoir. To date, however, models have not been developed with sufficient detail or sensitivity to capture small projects such as the proposed Narrows Project, which involves storage and distribution of 5,400 acre-feet of water per year. Historic Utah records indicate that both temperatures and precipitation in Utah (<http://www.ncdc.noaa.gov/oa/climate/research/cag3/ut.html>) have been increasing. However, without verified models addressing climate change at this project level, Reclamation concludes that, at this time, data and modeling tools are not yet developed to the point that meaningful analysis of a small project can be achieved.” The 5,400 acre-feet of water annually diverted is a very small amount of water and well within the error of existing climate change models. Furthermore, published USGS streamflow data is generally considered to have an accuracy of within 5–10%. The flow reduction model used in the FEIS is unbiased and defensible.
- 65.24 Reclamation believes the proposed mitigation is reasonable to remediate the adverse impacts of the project consistent with the mitigation strategies described in the Council on Environmental Quality (CEQ) regulations.
- 65.25 Mitigation measures were proposed and evaluated by an interagency team of water quality specialists. Streambank restoration as a means of reducing phosphorus loading in the Scofield Reservoir watershed were also identified by the Utah Division of Water Quality in the Scofield Reservoir TMDL. Specific locations for mitigation will be identified by a water quality monitoring program. If identified improvements do not meet the required phosphorus load reduction target identified in the FEIS, then additional mitigation measures will be identified and implemented. The stream stabilization/restoration program implemented by the State under the Clean Lakes Program initially was successful until the local landowners stopped supporting the effort and deliberately nullified the success of the program. That is the reason, this time, that the land will be acquired and managed by agencies that will support the program and ensure the effectiveness of these mitigation measures.
- 65.26 The FEIS recognizes these as adverse impacts to water quality at Scofield Reservoir and, therefore, as adverse impacts to recreation. Mitigation measures for these adverse impacts to water quality on Scofield Reservoir are discussed in the FEIS and appendix G.

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- 65.27 Phosphorus loading into Scofield Reservoir would be reduced by 105 kg/yr by the Proposed Action without any mitigation. Section 3.3 of the FEIS also points out that, even with this reduction in total load phosphorus, concentrations in Scofield Reservoir would increase due to reduced dilution created by the depletion of water in the Gooseberry Creek watershed. Due to the acknowledged increase in phosphorus concentration, which is considered an adverse impact, specific mitigation measures are proposed to offset this impact. These measures would reduce phosphorus loading to Scofield Reservoir by 805 kg/yr.
- 65.28 Section 3.3 of the FEIS has been edited to reflect the potential for adverse impacts to water quality from the Proposed Action.
- 65.29 Section 3.3 of the FEIS identifies an annual phosphorus load reduction target of 805 kg/year. The load reduction was identified from the eutrophication study. Mitigation measures on 9.5 miles of tributaries to Scofield Reservoir were proposed and evaluated by an interagency team of water quality specialists. For the Mud Creek watershed, 6½ miles of mitigation measures were identified. Specific locations for mitigation will be identified by a water quality monitoring program. If identified improvements do not meet the required phosphorus load reduction target identified in the FEIS, then additional mitigation measures will be identified and implemented. While Mud Creek only contributes 29% of the total phosphorus load to Scofield Reservoir, this equates to 1,950 kg/yr. The Scofield Reservoir TMDL also identified stream restoration in the Mud Creek watershed that would reduce phosphorus loading by an estimated 500 kg/yr.
- 65.30 The measures discussed were proposed and evaluated by an interagency team of water quality specialists. Reclamation believes the modified discussion of these issues is accurate and adequate and would indeed be effective.
- 65.31 The proposed mitigation measures are to offset water quality impacts of the Proposed Action by maintaining phosphorus levels at preproject conditions in Scofield Reservoir.
- 65.32 Proposed mitigation measures will maintain water quality in Scofield Reservoir at preproject conditions by reducing phosphorus loading. The Scofield Reservoir was enlarged to mitigate any potential adverse effects of the Narrows Project; therefore, any potential impacts are already mitigated in part by the reservoir enlargement.
- 65.33 Other comments are noted, no response required.

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- 66.01 The operating agreement between Fairview Lakes and Narrows Reservoir would be executed to facilitate instream flows above the Narrows Reservoir. This agreement likely would specify the release of Fairview Lake water when needed to meet instream flow targets and would involve the recapture this water in the Narrows Reservoir for later use by Fairview Lakes water right holders. Given the extra storage in Narrows Reservoir for instream flow purposes, it is unlikely that this exchange of water would reduce the water available for transbasin diversion at the Narrows Tunnel or increase the project water costs. An operating agreement is not necessary for the regulation of water rights since Fairview Lakes is both upstream of and has senior right to the Narrows Reservoir. Additionally, no agreement is necessary to protect Fairview Lake deliveries through the Narrows Reservoir as this is the responsibility of the local river commissioner.
- 66.02 The modified release of water from Fairview Lakes into the Gooseberry tributaries is not an issue with the operation or construction of the Narrows Project, except as mitigation for the inundated stream fishery and possibly the wetlands; but further discussions between UDWR and the water users certainly could address this issue. At the present time, there are no mitigation measures associated with this release. Just as the Narrows Project is required to comply with the requirements of Section 404 of the Clean Water Act, other developments also would be required to comply. The USACE, in carrying out its regulatory responsibility, would ensure that wetlands are protected and impacts are mitigated.
- 66.03 The SRPA loan review process calls for Reclamation's loan engineer to review six financial and economic indicators that will be used to determine the overall loan risk and category. A description of these was added to chapter 1. The new loan application is appended to the FEIS (appendix J) so the public can review it.
- 66.04 Narrows Tunnel was rehabilitated in 2011 independently of the Narrows Project. The tunnel is not part of the Central Utah Project.
- 66.05 SWCD believes that there is a reasonable expectation that willing sellers of land and water would be found and that the mitigation could be implemented as proposed. Land owners of proposed mitigation sites previously have been contacted, and many have expressed interest in participating.
- 66.06 Under the SRPA (Public Law 84-984), up to 50% of costs allocated to fish and wildlife are nonreimbursable. The remaining 50% is anticipated to come from a State grant.
- 66.07 The loan application provided by SWCD and attached to the FEIS will update these costs.
- 66.08 Any Federal funding for this project would be contingent upon appropriations from Congress.
- 66.09 The Narrows Project is being evaluated based on the SRPA loan indicators; and the efficiencies of providing water is factored into the analysis in the FEIS. Also, the Central Utah Project's facilities do not provide water to Sanpete County for late season irrigation.

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- 66.10 The SRPA program guidelines (1990:Appendix 5) require land classification (land suitability) studies. This requirement is for a soil scientist to determine the suitability of the land resources for sustained irrigation, considering the factors of land productivity, land development costs, and costs of production. These costs are to be factored into the farm budget, which is a primary indicator of whether or not the loan and use of the land would be approved. There are lands that might not be suitable for irrigation; and these, as stated in the comment, might not be eligible to receive project water. Also, conservation through retirement of irrigation lands would not provide late season irrigation.
- 66.11 The Recovery Implementation Program's recommendations are incorporated into section 3.12 (Threatened and Endangered Species) of the FEIS. The Service issued a final Biological Opinion for the Narrows Project that relies on the RIP as the reasonable and prudent alternative for depletion impacts. The RIP determines what actions to take and funds these actions with the depletion payment made by SWCD under the Section 7 consultation agreement process. Additional consultation could happen any time during the life of the project.

A position paper entitled "The Upper Colorado River Endangered Fish Recovery Program's Position on the Role of the Price River in Recovery of Endangered Fish and the Need for Flow Management" was drafted during 2011. The results of the draft study included having the RIP describe flow conditions they believe are conducive to Colorado pikeminnow use of the lower Price River, to investigate opportunities to protect existing flows, and to avoid dewatering the lower Price River. The report is being finalized at this time. Instream flow requirements are a function of Utah water law and beyond the scope of this FEIS.

- 66.12 The non-Federal Narrows Project water right will be regulated by the Utah State Engineer according to their priority dates. According to section 3.2.1 of the FEIS, "the conditions of the 1984 Compromise Agreement, which were incorporated into the January 7, 1985, approval of these applications to appropriate, subordinated certain Price River Water Users Association's water rights to the Narrows Project, limited the annual transbasin diversion and storage allowed by the Narrows Project, and specified how stored water from Scofield Reservoir would be used to satisfy the downstream water rights that are senior to the Narrows Project."
- 66.13 The total phosphorus load to Scofield Reservoir will decrease as a result of the Proposed Action, but the in-lake phosphorus concentration will increase due to depletions. Due to the acknowledged increase in phosphorus concentration, which is considered an adverse impact, specific mitigation measures are proposed to offset this impact. These measures are discussed in section 3.3 of the FEIS and will reduce phosphorus loading to Scofield Reservoir by 805 kg/yr. Water clarity may be affected by decreased storage in Scofield Reservoir. Additional discussion has been added to the FEIS discussing these potential effects. Scofield Reservoir was enlarged to mitigate any potential adverse effects of the Narrows Project; therefore, any potential impacts are already mitigated in part by the reservoir enlargement.

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- 66.14 Implementation of proposed mitigation measures (section 3.3 of the FEIS) is expected to reduce phosphorus levels to preproject conditions, which is also expected to maintain water quality at preproject conditions.
- 66.15 Addressing this concern would require reoperation of Scofield Reservoir, which is outside the scope of the FEIS. The operational decisions are Carbon County's, and we recommend that the Stonefly Society work directly with the county regarding in-stream flows.
- 66.16 Comment noted. Certainly, if the Narrows Project is constructed and operated, certain operational issues may arise. It will be important for parties to cooperate regarding such issues. See the analysis of hydrology and water rights in sections 3.1 and 3.2 of the FEIS.
- 66.17 The EIS team found that the differences in project yield and in downstream flows were very minor. Operation studies and flow values are described in section 3.1.2 of the FEIS.
- 66.18 Possible impacts from increased recreation were considered (the reason for special design of buffer zones and all recreation facilities would be constructed to USDA Forest Service standards), as well as impacts on eutrophication and temperature in Scofield Reservoir and possible overall water quality impacts to the stream system.
- 66.19 The FEIS states that SWCD would be responsible to enter into a MOA with UDWR and other appropriate agencies for all fishery measures. Reclamation would not be responsible for the costs of mitigation; that would be SWCD's responsibility should the project be implemented.

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- 67.01 The EIS team added a description of the loan factors. The data is appended to the FEIS in the loan application (appendix J).
- 67.02 These data were updated. An updated economic analysis is included in the loan application appended to the FEIS (appendix J).
- 67.03 Climate change is discussed in section 1.7 of the FEIS. To date, global climate change models or even the Colorado River Basin models have not been downscaled to provide the detail or sensitivity that would be required for the proposed Narrows Project. Without models downscaled to the level of the watershed, Reclamation concluded that, at this time, data and modeling tools are not yet developed to the point that meaningful analysis of how climate change might affect the hydrology of this project can be achieved.
- 67.04 Additional discussion of the gastrointestinal effects was added to the public health and safety section (3.19) because of this and other comments. Potential outbreaks of gastrointestinal illnesses during drought periods were described by Dr. Max Morgan. They were addressed when it was received in the DEIS and is repeated here. Mr. Kevin W. Brown, director of the Utah Division of Drinking Water, investigated in detail the concern expressed by Dr. Max Morgan about the treated drinking water from Scofield Reservoir during the 1992 drought year. The concern was whether the apparent increase in gastrointestinal disease was caused by either residual bacterial coliforms in the treated water or the superchlorination that was necessary to render the water safe. The State thoroughly reviewed all the required monitoring (chlorine residual and coliform counts) by the water treatment entities. There were no documented problems with the treated water, nor was the water superchlorinated, because it was not needed. Likewise, neither the State nor local health departments documented any increased gastrointestinal illnesses during that time period.
- 67.05 A water rights section was added to the FEIS in response to this and other water right comments. See section 3.2. This comment indicates that the downstream river systems below the Narrows Project are over appropriated, and the Narrows Project would inappropriately interfere with the Carbon County water users. Section 3.3.3 of the FEIS evaluates the impacts of proposed alternatives to the water available to downstream water rights in the Gooseberry Creek, Fish Creek, Cottonwood Creek, Price River, Green River, and San Pitch River systems.
- 67.06 The text has been changed in section 3.6. Should the dam be approved for construction, it would be built to appropriate Federal or State seismic standards (i.e., Federal Guidelines for Dam Safety, Federal Emergency Management Agency [FEMA], 2005; and Requirements for the Design, Construction, and Abandonment of Dams, Utah Administrative Code [UAC] Rule R655-11, respectively).
- 67.07 Wetland effects were updated in the FEIS. See section 3.14. Impacts to wetlands will be mitigated to the extent possible.

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- 67.08 The loss of any elk calving area would be relatively small compared to the total area useful for calving in the immediate vicinity of the project. Habitats lost due to proposed construction activities would be fully mitigated as outlined in the FEIS.
- 67.09 The dispersed recreational classification of the project area would not change should the project be approved and implemented. There would be some changes in recreational use; however, these are disclosed in section 3.15.
- 67.10 While it is possible that the values described in this comment would not rise to the level of significance for the *National Register of Historic Places*, cultural resource surveys and evaluations would be required as part of the environmental commitments in the Narrows FEIS. These commitments must be met prior to initiation of final design and construction of the Narrows Project. During the surveys, cultural resources within the area of potential effects of the project would be identified and recorded. If any of these cultural resources are determined to be historic properties (as defined in 36 CFR 800.16(l)) that are significant for their association with important persons or events in local history, and if they would be adversely impacted, then mitigation or “resolution of effects” would be required.
- 67.11 Impacts to reservoir fisheries are based on the average reservoir surface area. The impact indicator on reservoir fisheries is the change in surface area in Scofield Reservoir. Effects to Scofield Reservoir from the proposed project are discussed in section 3.10 in the FEIS.
- 67.12 Implementation of proposed mitigation measures is expected to reduce phosphorus levels to preproject conditions that also are expected to maintain water quality at preproject conditions. Fish kills at Scofield Reservoir have been reported in 14 out of 46 years (1960–2005). An examination of each year with reported fish kills does not show a correlation with low-water events. Many of the years with reported fish kills were years in which Scofield Reservoir was at or near full capacity.
- 67.13 Comment noted. Certainly, if the Narrows Project is constructed and operated, certain operational issues may arise. It will be important for parties to cooperate regarding such issues. See the analysis of hydrology and water rights in sections 3.1 and 3.2 of the FEIS.
- 67.14 The predicted effects of the Proposed Action on phosphorus and eutrophication are based on an eutrophication study conducted by Franson-Noble Engineering. There is no method available to predict numbers of fish that would be killed. Efforts are proposed to reduce phosphorus loading by minimizing upstream phosphorous sources. This mitigation is intended to minimize fish kills under project conditions through reductions in phosphorus and subsequent water quality improvements.

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- 67.15 The loan factors that will be used to evaluate the loan application have been added to chapter 1, and the loan application itself is appended to the FEIS (appendix J). This provides the economic analysis of costs and benefits, per the SRPA program.
- 67.16 The effects on southwestern willow flycatcher are disclosed in the threatened and endangered section, and the biological assessment that was submitted to the U.S. Fish and Wildlife Service.
- 67.17 Adverse modification to critical habitat was assessed in the biological assessment submitted to the U.S Fish and Wildlife Service
- 67.18 SWCD conducted a survey for the spotted frog in historic habitat in the Sanpete Valley. Two frogs were found near Oak Creek at the northern terminus of the proposed water delivery pipeline. It was concluded that the project is not likely to have an adverse effect on the spotted frog; therefore, no special mitigation or conservation measures were developed. Reclamation and SWCD will cooperate in implementing the measures prescribed in the Spotted Frog Conservation Agreement and Strategy (Final 1998).
- 67.19 This is included in the loan application appended to the FEIS (appendix J).
- 68.01 Comment noted.
- 69.01 Comment noted.
- 70.01 Comment noted.
- 71.01 Price River flows below Scofield Reservoir that would impact the municipal water supply for Helper and Price were analyzed, and there was no significant difference from the flow analysis outlined in the FEIS. No further flow analysis is needed. Mr. Kevin W. Brown, director of the Utah Division of Drinking Water, investigated in detail the concern expressed by Dr. Max Morgan about the treated drinking water from Scofield Reservoir during the 1992 drought year. The concern was that the apparent increase in gastrointestinal disease was caused by either residual bacterial coliforms in the treated water or the superchlorination that was necessary to render the water safe. The State thoroughly reviewed all the required monitoring (chlorine residual and coliform counts) by the water treatment entities. There were no documented problems with the treated water, nor was the water superchlorinated, because it was not needed. Likewise, neither the State nor local Health Departments documented any increased gastrointestinal illnesses during that time period.

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- 72.01 Price River flows below Scofield Reservoir that would impact the municipal water supply for Helper and Price were analyzed, and there was no significant difference from the flow analysis outlined in the FEIS. No further flow analysis is needed. Mr. Kevin W. Brown, director of the Utah Division of Drinking Water, investigated in detail the concern expressed by Dr. Max Morgan about the treated drinking water from Scofield Reservoir during the 1992 drought year. The concern was that the apparent increase in gastrointestinal disease was caused by either residual bacterial coliforms in the treated water or the superchlorination that was necessary to render the water safe. The State thoroughly reviewed all the required monitoring (chlorine residual and coliform counts) by the water treatment entities. There were no documented problems with the treated water, nor was the water superchlorinated, because it was not needed. Likewise, neither the State nor local Health Departments documented any increased gastrointestinal illnesses during that time period.
- 73.01 Comment noted.
- 74.01 Comment noted.
- 75.01 According to section 3.18 of the FEIS, SWCD will purchase or lease any private land needed for the project, which includes compensation for damages (impacts). There will be a loss of animal unit months (AUMs) that is acknowledged in this section.
- 75.02 Such arrangements would need to be negotiated between SWCD and the USDA Forest Service. Again, SWCD has committed to compensate for losses.
- 75.03 The pipeline is designed to dissipate the energy and reduce any impact to the existing stream. Natural high spring flows greatly exceed the volume capacity of the tunnel.
- 75.04 Canal automation is discussed in section 2.2.2.2.2.5 of the FEIS. It is the responsibility of SWCD to operate and maintain the tunnel; and, therefore, they would become responsible for automation and ensuring that the releases are accurate and reliable.
- 76.01 Comment noted.
- 77.01 Comment noted.
- 78.01 Comment noted.
- 79.01 Comment noted.
- 80.01 Comment noted. Information about Scofield Reservoir is considered in the Section 3.1, Water Resources.
- 80.02 Your concern with replacement power and potential increased costs to rate payers is noted.
- 80.03 Ensuring cost-effective and long-term water supplies to its customers is part of Reclamation's mission. We understand the concern.
- 81.01 The costs in the FEIS are indexed from previous estimates. Also, the loan application should be updated with more current costs.
- 81.02 We assume this comment is in response to SWCD's proposal to purchase land from willing sellers. Should the project proceed, SWCD would have to offer fair market value to the potentially interested sellers.

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- 81.03 Text was changed in section 3.6. Should the dam be approved for construction, it would be built to appropriate Federal or State seismic standards—for example, *Federal Guidelines for Dam Safety*, FEMA, 2005; and Requirements for the Design, Construction, and Abandonment of Dams, UAC Rule R655-11, respectively.
- 81.04 The design standards at the time of construction would be implemented.
- 81.05 The EIS team believes that it disclosed the impacts to water rights and wildlife. Section 3.2, Waters Rights, a new water rights section, was added. Wildlife effects are described in section 3.11.
- 82.01 Comment noted.
- 83.01 Comment noted.
- 84.01 Comment noted.
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- 117.01 Comment noted.
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- 153.01 Comment noted.
- 154.01 Comment noted.
- 155.00 Comment noted.
- 156.01 Hydropower is beyond the scope of Reclamation's action. However, if feasible, such a power plant would provide additional public benefit and enhance the benefits and costs for the Narrows Project. Because the dam, reservoir, and pipeline are owned by SWCD, it would be their responsibility to engage in hydropower investigation and apply for the appropriate licenses and permits.
- 157.01 Comment noted.

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158.01 Comment noted.
159.01 Comment noted.
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- 202.01 Comment noted.
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- 230.01 Comment noted.
- 231.01 Comment noted.
- 232.01 Comment noted.
- 233.01 Comment noted.
- 234.01 The EIS team considers that information concerning fish populations in effected water bodies has been adequately collected and discussed in the SDEIS. Detailed genetic profiles and population dynamics are not needed since the proposed project is unlikely to affect fish population dynamics or genetic profiles. Existing aquatic habitats are identified and discussed in section 3.10. Several proposed mitigation efforts are directed at these species.
- 234.02 Cutthroat trout population management is carried out by UDWR. The proposed project will not interfere with UDWR fish population management goals and objectives.
- 234.03 The EIS team considers the UDWR fisheries classification system appropriate for use in the FEIS.
- 235.01 Comment noted.
- 236.01 Comment noted.

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- 237.01 Comment noted.
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- 262.01 Comment noted.
- 263.01 Comment noted.
- 264.01 Because the Utah State Engineer allocates sufficient water rights to use the State's water resources during normal and wet years, it is reasonably anticipated that many water rights would be out of priority and cut off during an extremely dry period.
- 264.02 Comment acknowledged.
- 264.03 Comment acknowledged.
- 264.04 The loan application is updated and appended to the FEIS (appendix J).
- 264.05 The costs of an acre-foot of water are part of the loan application.
- 264.06 This comment says that water rights have been over allocated by the State of Utah. Section 3.3.3 of the FEIS evaluates the impacts of proposed alternatives to the water available to downstream water rights in the Gooseberry Creek, Fish Creek, Cottonwood Creek, Price River, Green River, and San Pitch River systems.

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- 264.07 The mechanism for allocating Utah’s water resources during drought years is by the priority date of the competing water rights, as mandated by Utah water law. Occasionally, water users will meet together to try to limit the impact of competing water rights as was done by SWCD, CWCD, and Price River Water Users Association (PRWUA) when the 1984 Compromise Agreement was formulated.
- 264.08 The loan application does require an analysis of cost. The loan application, with the inclusion of economic or financial data required to process the loan, is appended to the FEIS (appendix J).
- 265.01 Comment noted.
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- 279.01 Comment noted.
- 280.01 According to Section 3.18, Land Resources, SWCD would purchase any private land needed for the project and compensate for damages (impacts).
- 281.01 Comment noted.
- 282.01 Comment noted.
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- 298.01 Comment noted.

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- 299.01 Comment noted.
- 300.01 Comment noted.
- 301.01 We do not have an explicit description of the individual diversions as requested in this comment. The Service has identified these diversions as one of the reasons there are endangered fish in the Colorado River Basin. Our description of the endangered fish in the Green River at the confluence with the Price is where the effect of these historic diversions is found in the FEIS. We note that the RIP, described in section 3.12, serves as the reasonable and prudent alternative under the ESA to mitigate for these existing baseline diversions.
- 301.02 The instability of the sediment in the project area is acknowledged in Section 3.6, Geologic Resources, as is also the total capacity of 60 cfs, which is far below the natural high flow of the creek.
- 302.01 Comment noted.
- 303.01 Comment noted.
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- 335.01 The high water level follows the 8,690-foot-mean-sea-level (msl) contour line approximately 500 feet from your cabin site. Your cabin is located at approximately 8,728 feet msl, 38 vertical feet above the highest reservoir water level. The reservoir will not encroach any of your private land or access road. The high water level will occur when the reservoir is completely full following spring runoff. The reservoir water level will reach the high water mark in the spring of most years; and as the reservoir is drawn down, the water level will fall well below the high water mark and remain there most of the year. There is not expected to be any effect to the existing spring above your cabin, the septic tank, cabin settling, your private land, and access to your cabin.
- 335.02 Same response as 335.01.
- 335.03 Same response as 335.01.
- 335.04 The wetlands near your cabin above the high water level will remain the same. The EIS team does not expect a significant change in the mosquito population and therefore the risk of encountering West Nile virus will remain the same.
- 335.05 It should have no effect on your access; however, SWCD will acquire private lands if needed for the project, which includes compensation for loss of access or providing comparable access.
- 335.06 According to Section 3.18, Land Resources, SWCD will purchase or lease any private land needed for the project, which includes compensation for grazing damages (impacts).
- 335.07 Same response for 335.06.
- 335.08 SWCD will evaluate and compensate for all impacts to private landowners. No restrictions to cabin use is expected.
- 336.01 Comment noted.
- 337.01 Comment noted.
- 338.01 Comment noted.
- 339.01 Comment noted.
- 340.01 Comment noted.
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356.01 Comment noted.
357.01 Comment noted.
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399.01 Comment noted.

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- 400.01 Comment noted.
- 401.01 Comment noted.
- 402.01 Comment noted.
- 403.01 Comment noted.
- 404.01 Comment noted.
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- 406.01 Comment noted.
- 407.01 Comment noted.
- 408.01 Comment noted.
- 409.01 Comment noted.
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- 411.01 Comment noted.
- 412.01 Comment noted.
- 413.01 Comment noted.
- 414.01 Comment noted.
- 415.01 Comment noted.
- 416.01 Comment noted.
- 417.01 Comment noted.
- 418.01 Comment noted.
- 419.01 It is possible to get leakage from a reservoir along a fault zone and into coal. A mitigation measure has been added to study this potential. A reservoir study that would require drilling to assess the likely seepage rate into the fault zones has been added to appendix G. Depending on the type of bedrock involved in the faulting, the zone could be either composed of crushed rock, which is quite permeable, or clayey gouge, which is not so permeable. The overlying material is also very important. If the faults are located in a sequence of sandstone, it would be possible for seepage along the fault and through the overlying material. If a layer of thick clay was found in the basin, it would effectively cap the faults and fissures in the reservoir basin and prevent seepages from the reservoir. Permeability testing in the overburden and in the fault zone would be evaluated to assess the seepage rates.
- 419.02 Evaporation for Narrows Reservoir was analyzed in the reservoir operation studies. We found that the differences in project yield and in downstream flows were very minor. Operation studies and flow values are described in the section 3.1.2 of the FEIS.
- 419.03 See response 419.01.
- 419.04 Under the Utah Relocation Assistance Act of 1972, as amended, if private land owners are impacted by SWCD's acquisition, then the cabins or structures would need to be appraised; and, in general under State law, the land owners would be entitled to relocation benefits. These benefits would include payment of fair market value for the properties. For purposes of the NEPA process, Reclamation did not hire a title company to research actual ownership in the 366 acres that SWCD indicated it would acquire if the project was implemented. This would be SWCD's responsibility if the project goes forward.

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- 419.05 In the short term, it is anticipated that the visual impact of exposed mud flat or shoreline would be negligible due to steeper topography and the duration and angle of view. But the text of the visual resources section was modified to indicate that the presence of the reservoir would alter the view.
- 419.06 Generally, only public lands or lands viewed from public lands are given visual quality objective (VQO) ratings.
- 419.07 Reclamation as the lead Federal agency in this undertaking would have to consult with the State Historic Preservation Officer on the eligibility of any property within the area of potential effects, as described in section 3.16 of the FEIS. Should the cabin be located within the area of potential effects of the SWCD undertaking, it is old enough for listing on the *National Register of Historic Place*. In addition to age, the cabin would have to be evaluated against four criteria at 36 CFR 60.4. The criteria are: A, associated with events that have made a significant contribution to the broad patterns of our history; B, associated with the lives of persons significant in our past; C, embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or D, have yielded, or may be likely to yield, information important in history. In addition to meeting one or more of these significance criteria, the cabin would have to retain some or all of the aspects of integrity to be eligible for listing on the *National Register of Historic Places*.
- 419.08 The NEPA process does not require completion of the 36 CFR 800 process, but rather, consideration of the potential effects on historic properties (see sections 4.2.3 and 3.16). Reclamation's responsible official would need to commit to completion of the 36 CFR 800 process but is not required to actually complete the required inventories and assessments prior to making a decision.
- 419.09 The effects to private landowners are considered in Section 3.15, Recreation and Visuals, and Section 3.18, Land Resources.
- 419.10 The Executive Summary and the water resources sections were made consistent with respect to the drawdowns.
- 419.11 The high water mark is at elevation 8,690 ft. Please see section 3.1 of the FEIS.
- 419.12 Utah State Law requires SWCD to appraise the values and pay fair market value. The project would not be "killed" if there are disagreements.
- 419.13 These costs were not calculated; the recreational user day calculations were strictly based on a full pool.
- 419.14 An additional map has been added to address this comment
- 419.15 The FEIS has been edited to address this comment. The dam will be constructed to meet seismic code, which will have no effect on mineable coals.

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- 419.16 While we have not done an analysis of the Narrow Project reservoir specifically, we have surveyed nine other Reclamation reservoirs in the past 3 years in northern Utah. Our findings indicate that on our larger rivers in northern Utah, the average we are seeing in terms of reservoir sedimentation has been on the order of 4% over a 70-year life of the reservoir. The assumption can be made that, for streams and rivers at the higher elevations, sedimentation rates will be lower than for reservoirs at lower elevations.
- 419.17 Hazardous is a term applied to a substance that poses substantial or potential threats to public health or the environment. Cobalt concentrations discussed for the project area were reported in the National Geochemical Database from the National Uranium Resource Evaluation Survey. The project area shows amounts as high as 30 parts per million (ppm) and as low as 15 ppm, with samples in the surrounding region at 17 ppm and lower. Cobalt concentrations discussed would be considered a nutrient or trace. A trace amount in a sample has an average concentration of less than 100 ppm measured in atomic count, or less than 100 micrograms per gram. The median lethal dose (LD₅₀) value of soluble cobalt salts has been estimated to be between 80 and 500 milligrams per kilogram. Thus, for a 50-kilogram person, the LD₅₀ would be about 10 grams. Alkaline or neutral has no bearing on the hazardous nature of cobalt. Cobalt in nature is typically not a contaminant of concern and is an essential nutrient, needed by all animals including humans. It is a key constituent of cobalamin, also known as vitamin B₁₂. Clarification has been added to the FEIS regarding this.
- 419.18 Trace elements amended in section 3.9.
- 419.19 Trace elements amended in section 3.9.
- 419.20 Trace elements amended in section 3.9.
- 419.21 Trace elements amended in section 3.9.
- 419.22 Surface water temperatures are primarily determined by solar input and wind mixing. Mitigation measures, described in the FEIS, will reduce phosphorus loading and keep phosphorus concentrations at preproject conditions.
- 419.23 It is common to subtract out those surface acres less than 5 feet deep; however, this was not done for this study because Reclamation's recreation specialists used Reclamation's *Water Recreation Opportunity Spectrum (WROS) User's Guidebook* calculations of boating capacity. The guidebook bases its calculations on maximum pool—regardless of depth.
- 420.01 Comment noted.
- 421.01 Comment noted.
- 422.01 Comment noted.
- 423.01 Comment noted.
- 424.01 Comment noted.
- 425.01 Comment noted.
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- 431.01 Comment noted.
- 432.01 Comment noted.
- 433.01 Comment noted.
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- 454.01 Comment noted.
- 455.01 Comment noted.
- 456.01 SWCD would be responsible for mitigation and compensation. The actual mitigation measures would need to be negotiated with the individual land and water right holders.

- 456.02 Fencing of private lands may be a mitigation option.
- 457.01 Comment noted.
- 458.01 Comment noted.
- 459.01 Comment noted.
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- 472.01 Comment noted.
- 473.01 Comment noted.
- 474.01 Comment noted.
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- 503.01 Comment noted.
- 504.01 Comment noted.
- 505.01 Comment noted.
- 506.01 Comment noted.
- 507.01 Comment noted.
- 508.01 Comment noted.
- 509.01 Comment noted.
- 510.01 We anticipate no discrepancies between the FEIS and the loan application.
- 510.02 The recreational user days were recalculated by recreation specialists. See section 3.15.

- 510.03 Visitation statistics were provided by the Utah Division of State Parks and Recreation. There is undoubtedly error in the statistics for Scofield Reservoir, as there are in all visitor counts.

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- 510.04 The recreational impacts were recalculated, but there were no firm data to use for the fishing days on Upper Fish Creek, Lower Fish Creek, and the Price River below Scofield Reservoir.
- 510.05 This is net income for Sanpete County; it does not reflect any changes in Carbon County.
- 510.06 Section 3.1, Water Resources, was edited to try and clarify the situation.
- 510.07 Carbon County operates Scofield Reservoir, but we anticipate they will continue to operate as they have in their historic range of releases to the Price River.
- 510.08 See response 510.07.
- 510.09 Conservation pools are commonly applied to Reclamation reservoirs as a means to establish a minimum level that the reservoir would not be drawn below as a means to conserve the fishery resource. Agreements would be made with partnering agencies to establish this pool.
- 510.10 A position paper entitled “The Upper Colorado River Endangered Fish Recovery Program’s Position on the Role of the Price River in Recovery of Endangered Fish and the Need for Flow Management” was drafted during 2011. The results of the draft study included having the RIP describe flow conditions they believe are conducive to Colorado pikeminnow use of the lower Price River, to investigate opportunities to protect existing flows and to avoid dewatering the lower Price River. The report is being finalized at this time. Instream flow requirements are a function of Utah water law and beyond the scope of this FEIS.
- 510.11 The setback would be from the high water line on the west side of the reservoir. The high water line would be the normal operating level of the spillway. The north and east sides of the reservoir are USDA Forest Service public lands that are already protected, and the south side is developed private property.
- 510.12 The proposed Narrows Project relies on the Upper Colorado River Endangered Fish Recovery Program as the reasonable and prudent alternative for depletion impacts. The RIP determines what actions to take with payments made to them under the Section 7 consultation agreement process.
- 510.13 Water resource data were checked for accuracy and updated as appropriate.
- 510.14 According to the Scofield Reservoir TMDL approved by EPA in 2000, phosphorus is the primary pollutant of concern leading to water quality impairment. Mitigation measures for the adverse impacts to water quality on Scofield Reservoir are discussed in Section 3.3, Water Quality. Proposed mitigation measures would reduce phosphorus levels to preproject conditions.
- 510.15 Water resource data were checked for accuracy and updated as appropriate.
- 510.16 Yes, there will still be greater demand than supply for Sanpete County, even if the project is built.
- 510.17 The mitigation measures would be included in construction contracts and other agreements to ensure their implementation. Mitigation measures would be concurrent with project construction. Should Reclamation fund the Narrows Project through the SRPA loan program and issue a license agreement for use of Federal land and environmental commitments are not kept, project funding and renewal of the license agreement could be withheld by Reclamation. In addition, the 404 Permit issued by the U.S. Army Corps of Engineers could restrict filling of the reservoir if environmental commitments are not met.

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- 510.18 SWCD's proposal is for the larger reservoir; however, as clarified in chapter 1, Reclamation looked at whether a mid-sized or small reservoir would be reasonable alternatives to the proposed larger reservoir.
- 510.19 Constructing a road over a dam is an option. The Department of Homeland Security discourages constructing roads over high profile dams where large populations of people live below the dam. If properly designed and constructed, a road over a smaller dam is not a major concern.
- 510.20 On-farm conservation measures would be enforced by SWCD as part of the water subscription process (i.e., when irrigators submit an application to SWCD for project water, they would need to demonstrate that they have implemented water conservation practices on their farms). This would be verified by SWCD. However, this does not mean that all of the irrigated land within the project area would need to implement efficiency measures. Only those desiring a supplemental irrigation supply from the project.
- 510.21 Effects to fisheries in Scofield Reservoir and Lower Fish Creek are discussed in section 3.10 of the FEIS.
- 510.22 The mitigation measures would be included in construction contracts and other agreements to ensure their implementation. Mitigation measures would be concurrent with project construction. Should Reclamation fund the Narrows Project through the SRPA loan program and issue a license agreement for use of Federal land and environmental commitments are not kept, project funding and renewal of the license agreement could be withheld by Reclamation. In addition, the 404 Permit issued by the U.S. Army Corps of Engineers could restrict filling of the reservoir if environmental commitments are not met.
- 510.23 Measuring devices for Sanpete County were installed based on the 1984 Compromise Agreement.
- 510.24 The table is using the most updated numbers. The text has been changed to reflect this.
- 510.25 The purpose of the farm and crop data in this section of the FEIS is to give a socioeconomic overview of the areas involved. It is reasonable to use county-level data for this information.
- 510.26 The tunnel was rehabilitated in 2011; it was separated from the proposal.
- 510.27 It would be the responsibility of SWCD to operate and maintain the dam and reservoir. To some degree, approval of the loan would consider these factors.
- 510.28 The factors under which the loan would be reviewed and approved were clarified and added to the FEIS.
- 510.29 The Narrows Project would have minimal effects on the Price River. Historically, Carbon County has shut off the releases from Scofield Reservoir every year. The frequency or degree to which this would occur in the future is likely to continue. They have not made a commitment to change this historical operation.
- 510.30 Minimum flows would be released from the proposed reservoir, but no minimum flows have been established below Scofield Dam. Instream flows are a Utah water law issue and are beyond the scope of this FEIS.
- 511.01 Comment noted.
- 512.01 Comment noted.
- 513.01 Comment noted.
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517.01 Comment noted.
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561.01 Comment noted.
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- 605.01 Comment noted.
- 606.01 Comment noted.
- 607.01 See other responses to seismic concerns.
- 608.01 Comment noted.
- 609.01 Comment noted.
- 610.01 Comment noted.
- 611.01 Comment noted.
- 612.01 Comment noted.
- 613.01 Comment noted.
- 614.01 Comment noted.
- 615.01 Comment noted.
- 616.01 Comment noted.
- 617.01 Comment noted.
- 618.01 Comment noted.
- 619.01 Comment noted.
- 620.01 Appendix B of the SDEIS was “Identification and Evaluation of Potential Dam Sites.” This appendix does not contain water quality information and was not used in the assessment of water quality effects of the Proposed Action. Section 3.3 is now the water quality section in the FEIS.
- 620.02 Reclamation acknowledges that the probability of fish kills may be increased due to implementation of the proposed project. However, new reservoir habitat would be created by the project, thus compensating for any adverse impacts to Scofield Reservoir and the fishery.
- 620.03 Mitigation measures for the adverse impacts to water quality on Scofield Reservoir are discussed in section 3.3. Mitigation measures proposed would reduce phosphorus levels to preproject conditions. According to the Scofield TMDL prepared by the Utah Division of Water Quality blue-green algae in the reservoir is caused by excessive nutrients such as phosphorus. Mitigation measures, which reduce phosphorus to preproject conditions, also should limit blue-green algae to preproject conditions.
- 620.04 An in-depth review of available water quality data and related reports was performed prior to preparing an eutrophication study that evaluated post-project phosphorus levels and changes to eutrophication potential of the reservoir.
- 620.05 Differences in precipitation are reflected in the yield statistics within the hydrology section of the FEIS (see section 3.1). Further, the differences also are reflected in anticipated average yields of water rights described in the water rights section (see section 3.2.2.2). Carbon County is a party to the 1984 Compromise Agreement and, as a result, likely has adjusted its water resource planning to the future diversion of water under that Agreement.
- 620.06 SWCD would be responsible to see that these measuring devices are maintained and accurate. According to their proposal, remote control of the Narrows Tunnel operating gate would be provided to automatically regulate the releases through the tunnel. These controls would be coupled to an automated stream gauging station on Cottonwood Creek near the mouth of the canyon. The streamflow in Cottonwood Creek would be monitored constantly by these controls.

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- 620.07 The control, management, and monitoring of Utah's water rights are outside of the scope of this FEIS. These functions are the responsibility of the Utah State Engineer and his staff. All flow measurements would be monitored by the River Commissioner to ensure that the Narrows Project would be operated in a manner consistent with its underlying water rights. If the loan and use of Federal land is approved and the project implemented, Carbon County water right holders who have concerns regarding the administration of the Narrows Project water rights should bring those concerns to the attention of the Utah State Engineer. The State Engineer is responsible for administering Utah's water rights and could examine if there has been inappropriate interference between the Sanpete County and Carbon County water rights. In addition to the State Engineer, Carbon County water right holders could seek relief from the Utah Courts if they feel their water rights have been inappropriately impaired by the Sanpete County's water rights.
- 620.08 The mitigation measures would be included in construction contracts and other agreements to ensure their implementation. Mitigation measures would be concurrent with project construction. Should Reclamation fund the Narrows Project through the SRPA loan program and issue a license agreement for use of Federal land and environmental commitments are not kept, project funding and renewal of the license agreement could be withheld by Reclamation. In addition, the 404 Permit issued by the USACE could restrict filling of the reservoir if environmental commitments are not met.
- 620.09 The type of measurement devices installed likely would be determined during the final design and construction of the project. Additionally, it is possible that these measurement devices may be changed and upgraded during the years the project is operational. Regardless of the measurement devices used, the State Engineer would require these devices to be reasonably accurate and to be placed at all important points of diversion and rediversion. The flow measurements recorded from these devices would be conveyed to the river commissioner and will be summarized in the Commissioner's Annual Report. In addition to the requirements of the State Engineer, section 2.2.on design and operations states that automated flow measurement devices would be installed to collect data in real time using radio or satellite communications. These devices would measure flow at the following locations: discharges from Fairview Lakes, discharge from Narrows Dam to Gooseberry Creek, flow of Gooseberry Creek at USDA Forest Service campground, discharge from Narrows Tunnel, and flow of Cottonwood Creek near the mouth of the canyon. These data would be made available to the public on an Internet Web site.
- 620.10 All flow measurements would be monitored by the River Commissioner to ensure that the Narrows Project is operated in a manner consistent with its underlying water rights.

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- 620.11 Concern is expressed regarding the removal of the past diversion structures to prevent excess water diversions. It appears this concern is a result of some confusion over the fact that the Narrows Project would divert an additional 5,400-acre-foot diversion above and beyond the existing diversions being made by Sanpete County water right holders. All water diversions would continue to be regulated by the State Engineer to ensure that they are consistent with the water rights involved. Additionally, the water diverted under the Narrows Project would be consistent to the conditions of the 1984 Compromise Agreement.
- 620.12 The costs in the FEIS are indexed from previous estimates. Reclamation considered the economic impacts in the FEIS with available data at the time of writing. Updated costs are included in the SRPA loan application appended to the FEIS (appendix J).
- 620.13 The text was changed in section 3.6. Should the dam be approved for construction, it would be built to appropriate Federal or State seismic standards—for example, *Federal Guidelines for Dam Safety*, FEMA, 2005; and Requirements for the Design, Construction, and Abandonment of Dams, UAC Rule R655-11, respectively.
- 620.14 Implementation of proposed mitigation measures is expected to reduce phosphorus levels to preproject conditions, which also are expected to maintain algal growth at preproject conditions.
- 621.01 Comment noted.
- 622.01 Comment noted.
- 623.01 Comment noted.
- 624.01 Comment noted.
- 625.01 Comment noted.
- 626.01 Comment noted.
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- 647.01 Comment noted.
- 648.01 Comment noted.
- 649.01 Comment noted.
- 650.01 Comment noted.
- 651.01 Comment noted.
- 652.01 Comment noted.
- 653.01 Comment noted.
- 654.01 Comment noted.
- 655.01 Comment noted.
- 656.01 Comment noted.
- 657.01 Comment noted.
- 658.01 Purpose and need was clarified per this comment.
- 658.02 The organization for chapter 3 was reordered; it is now physical, natural (by trophic level), cultural, and socioeconomic.
- 658.03 The reference was added in several sections.
- 659.01 Comment noted.
- 660.01 Comment noted.
- 661.01 Comment noted.
- 662.01 Comment noted.
- 663.01 Comment noted.
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- 668.01 Comment noted.
- 669.01 Comment noted.
- 670.01 Comment noted.
- 671.01 Comment noted.
- 672.01 Comment noted.
- 673.01 Our hydrologists do not believe this is possible.
- 674.01 Comment noted.
- 675.01 Duplicate comments in letter 75.
- 676.01 Comment noted.
- 677.01 Comment noted.
- 678.01 Comments are addressed in similar letter 80.
- 679.01 Comment noted.
- 680.01 Comment noted.
- 681.01 Comment noted.
- 682.01 Sandra did not provided documentation to Reclamation. See section 3.2. Reclamation consulted with the State engineer to identify the existing water right.
- 683.01 Comment noted.
- 684.01 Comment noted. See section 1.4.1 of the FEIS.

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- 684.02 The statement in the FEIS that impacts to water quality are minor has been edited.
- 684.03 The effects to Carbon County's drinking water system are believed to be negligible. See Section 3.3, Water Quality.
- 684.04 Recreational user days were recalculated. See section 3.15.
- 684.05 Updated information is in the appended loan application (appendix J). In compliance with the U.S. Department of the Interior NEPA regulations at 43 CFR 46.125, bureaus must consider all costs to obtain information. These costs include monetary costs as well as other nonmonetized costs when appropriate, such as social costs, delays, opportunity costs, and nonfulfillment or nontimely fulfillment of statutory mandates.
- 684.06 The water quality data presented in the EIS was the most current available through the EPA STORET Web site at the time of the writing and editing of the document in 2010. As shown in the footnotes of tables in the water quality section at 3.3, data through 2007 are represented. The eutrophication study and evaluation of phosphorus levels was based on data through 2005.
- 684.07 Implementation of proposed mitigation measures is expected to reduce phosphorus levels to preproject conditions, which also are expected to maintain algal growth at preproject conditions. Drinking water treatment costs would not be expected to be affected if water quality is maintained at preproject conditions. Additionally, Scofield Reservoir was enlarged to mitigate any potential adverse effects of the Proposed Action; therefore, any potential impacts are already mitigated in part by the reservoir enlargement.
- 685.01 This is a duplicate letter; see letter 81.
- 686.01 Reclamation believes it has adequately scoped this environmental analysis and notes that the scoping process has continued throughout the process, even though there was a formal end to the scoping period. Over the years, Reclamation has made diligent efforts to involve the public in the NEPA process, including scoping, providing the public opportunity to comment and raise concerns at public hearings. The public has been provided notice of the availability of environmental documents and given the opportunity to comment.
- 686.02 Section 4.3 of the FEIS describes how previous comments were addressed and incorporated into the FEIS. After the 1995 Record of Decision was rescinded, a new DEIS was prepared, beginning in 1996, and was published in 1998. Comments were received on that DEIS (and public hearings were held to receive comments); those comments were analyzed and responded to, and the 1998 DEIS was revised based on input from those comments. Since a decision was made in 2003 to prepare this SDEIS in lieu of publishing a FEIS based on the 1998 DEIS, it should be noted that the SDEIS does capture revisions made earlier based on public comments and input.

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- 686.03 Prior to design of the Narrows Dam and appurtenant structures, a seismic study, as outlined in the Federal and Utah State Guidelines, would be conducted for the dam and reservoir site that reflects the current standard of care prescribed. Additional geologic field evaluation and assessment of the dam and reservoir site would be completed that addresses the proximal active faults associated with the site, and further characterizes the earth materials underlying the dam site, reservoir, and reservoir rim to evaluate engineering properties to ensure adequate design of features associated with the dam and reservoir. Designs would incorporate maximum accelerations associated with natural and/or manmade seismic events that are determined or probable that could potentially occur in the area. Mitigation for other potential geologic hazards also would be integrated into design. An environmental commitment has been added to appendix G of the FEIS requiring this seismic study.
- 686.04 The loan application is updated by SWCD and appended to this FEIS (appendix J). At the time it was prepared and this EIS written, the requirement was only 5.5 on the Richter Scale. Should the loan and use of the land be approved and the project proceed, as noted in comment 1.02, the final design would need to meet the standards at that time.
- 686.05 The purpose and need section has been clarified to explain that Reclamation's action is making a decision on the loan application and use of Federal land. In addition, Reclamation analyzed the size of the reservoir to ensure a reasonable range of alternatives and to enable USACE to determine the LEDPA. SWCD's proposal is to build a reservoir to store its water supply—this is not Reclamation's proposal. The aquifer recharge alternative was provided to SWCD, and analyzed in the SDEIS. The USACE is a cooperating agency on this NEPA analysis, and they will be responsible for compliance related to the Clean Water Act and the 404 Permit.
- 686.06 Effects on Carbon County resources were considered by the EIS team throughout the FEIS. See section 3.2.2.2 of the FEIS. The effect on Carbon County of the diversion of 5,400 acre-feet annually out of the basin likely will be minimal for the following reasons. First, the Scofield Dam was not designed to use the transbasin diversion water. The Narrows Reservoir would store flows associated with spring runoff that would otherwise be unable to be stored legally in Scofield Reservoir. As a result, the diversion of 5,400 acre-feet to Sanpete County would not result in a loss of an equivalent amount in reservoir yield. The reduced yield in Scofield Reservoir is much smaller. Second, the water diverted from Carbon County first will be removed from its least productive uses (e.g., the cultivation of marginal lands). As a result, the loss in revenue will be minimized. Third, the Colorado River Water Quality Improvement Program is sponsoring the construction of various pipelines in Carbon County in an effort to reduce salt loading. These projects will result in water savings that will offset the effect of the transbasin diversion. Finally, the water scheduled for transbasin diversion to Sanpete County under the 1984 Compromise Agreement was only available for use in Carbon County on a temporary basis. Under appropriate water management practices, it should not be earmarked for a permanent use—such as municipal use or fire protection. As temporary water, it should be used only for irrigation.

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Appendix H - Responses

- 686.07 Climate change is discussed in section 1.7, issue 20 of the FEIS. As stated there, climate change models have not been developed with sufficient detail or sensitivity to capture small projects such as the proposed Narrows Project, which involves storage and distribution of only 5,400 acre-feet of water per year. At this time without downscaled models addressing climate change at this project level, a meaningful analysis of a small project cannot be achieved. Reclamation is working on climate change modeling for the entire Colorado River Basin.
- 687.01 Water quality impacts to Scofield Reservoir from the Proposed Action are described in section 3.3.
- 687.02 The FEIS discloses the effects to water quality from Scofield Reservoir, the fishery, and the effects on the Price River Water Improvement District. The EIS team could not find any evidence that treatment costs would change for the water users, nor did the team find any evidence that there would be additional treatments required should the project be implemented.
- 688.01 Comment noted.
- 689.01 Comment noted; no response required because this is an ongoing effect of chlorine treatment.
- 689.02 The Narrows Project's underlying water rights and the corresponding sources and amounts of water are described in sections 1.3 and 3.2 of the FEIS. The non-Federal Narrow's water rights have a 1941 priority date that makes them senior to the Flaming Gorge Reservoir, Central Utah Project, and many other water rights in the Colorado River Basin.
- 690.01 Water quality is evaluated and discussed in section 3.3 of the FEIS. Mitigation measures for the adverse impacts to water quality on Scofield Reservoir are discussed as well. Mitigation measures proposed would reduce phosphorus levels and eutrophication potential to preproject conditions. Anaerobic conditions develop as oxygen is depleted from the water column, typically near the bottom. The proposed alternative reduces the volume of the reservoir, on average, which also would decrease stratification. When the reservoir is not stratified, the likelihood of anaerobic or anoxic conditions are reduced.
- 690.02 Total organic carbon data collected by the Utah Division of Water Quality from 1979–1991 does not support this conclusion. TOC data collected at Scofield Reservoir indicated higher concentrations were present in the reservoir during 1980–1981 and 1984–1985 when the reservoir was near capacity. Data collected during 1989–1991, when the reservoir's capacity was much less, have lower TOC concentrations. Similar patterns for TOC data are observed for data collected from the Price River above Willow Creek (STORET ID 7932810).
- 690.03 Comment noted; the public safety section was expanded to highlight public health issues related to drinking water.
- 690.04 The FEIS has been edited in section 3.3 to reflect the impacts increased phosphorus would have on other resources, including culinary water. Also, the use of municipal drinking water was addressed in Section 3.19, Public Safety.
- 691.01 Comments addressed in similar letter 620.
- 692.01 Comment noted.
- 693.01 Comments addressed in similar letter 67.